

SUBGRADE EXPLORATION

LAK-90-6.99

PID 116955

Interstate 90 Pavement Rehabilitation



Submitted to ODOT District 12
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1 Executive Summary

This report presents the results of our geotechnical exploration for the proposed pavement replacement and widening along a 6-mile corridor of Interstate 90 (I-90) in Lake County, Ohio.

The improvements proposed by ODOT District 12 along the project alignment include full-depth removal and replacement of the existing pavement along East and Westbound lanes of I-90, the interchange ramps at State Route 306 and State Route 615, and the ramps to and from the existing Concord Township rest areas. The project will also include construction of temporary cross-over ramps at either end of project to allow for maintenance of traffic during construction.

The subsurface exploration was performed in a single phase in March and April 2023. The exploration included 117 soil borings and 105 pavement cores along the existing freeway lanes, ramps, and proposed crossover ramp areas in the median. All borings and pavement cores were drilled by AECOM's subcontractor, RII between March 20 and April 20, 2023. All borings were drilled using a CME 55 truck-mounted drill rig (SN 386345) with 4-inch outer-diameter solid-stem augers. The samples were obtained by Standard Penetration Testing (SPT) with a split-spoon sampler, in general accordance with the SGE and ASTM D1586. The SPT hammer on this CME drill rig was calibrated on March 21, 2022, with a resulting average energy ratio of 87.0%. An AECOM or RII geotechnical engineer was present on site during drilling and sampling to provide general oversight, collect soil and pavement core samples, and log the soil borings in accordance with ODOT SGE requirements.

The subgrade soils along the project alignment consist mostly of fine-grained materials with the most common soil types being silt and clay (ODOT class A-6a), and sandy silt (A-4a), and silty clay (A-6b). Other minor soil types encountered in the subgrade soils included gravel (A-1-a), gravel with sand (A-1-b), gravel with sand and silt (A-2-4), gravel with sand, silt, and clay (A-2-6), coarse and fine sand (A-3a), silt (A-4b), and silty clay (A-6b), clay (A-7-6).

Sulfate content tests were performed for approximately one sample in each subgrade boring in accordance with ODOT Supplemental Specification 1122. Of the 117 total samples tested, 111 had sulfate contents below 3000 ppm, 2 had sulfate contents between 3000 and 5000 ppm, and 4 had sulfate contents exceeding 5000 ppm.

Subgrade analysis was performed for the project in accordance with ODOT Geotechnical Design Manual Section 600. One subgrade analysis spreadsheet was prepared using data from borings performed in the current geotechnical exploration and the geohazard exploration performed in November 2022 (see Section 4.1). Overall, it is estimated that approximately 40% of the total subgrade area may be unstable to low shear strength or high moisture, and 6% is unsuitable due to presence of A-4b soils, A-8a soils, or shallow bedrock.

Given the heavy traffic volumes within the project corridor, the project scope for full-depth pavement replacement (which will expose and make subgrades accessible across the project), and considering that maintenance efforts within the project limits have historically been fairly intensive, AECOM recommends a global approach to subgrade stabilization using primarily cement stabilization (CMS Item 206) with proof rolling, undercut, and replace performed only as needed where cement stabilization is not appropriate due to high soil sulfate contents.

2 Introduction

This report presents the results of our geotechnical exploration for the proposed pavement rehabilitation, widening, and culvert rehabilitations along Interstate 90 (I-90) within Lake County, Ohio. AECOM was contracted by the Ohio Department of Transportation (ODOT), to perform the subsurface exploration and geotechnical data reporting as outlined in our Subconsultant Service Agreement for this project.

The information derived from our exploration and analysis is assembled in this report and includes a description of the results of our field exploration, laboratory testing program and a graphic presentation of the boring logs. The report also provides analysis and recommendations in support of the design and construction of the proposed improvements to I-90.

2.1 Site Location

The project site is located along Interstate 90 in Lake County within the corporation limits of Mentor, Willoughby, and Kirtland Hills, and the township limits of Concord Township, Ohio. The project limits begin just west of the State Route (SR) 306 interchange and ends near the bridge carrying Morley Road over I-90. The project alignment is approximately 5.9 miles in total length. The eastbound and westbound lanes of I-90 have separate alignments and stationing for the full extents of the project. Approximate project limits along I-90 Eastbound range from 1395+00 to 1775+00, and along I-90 Westbound from 5503+00 to 5888+00.

2.2 Project Understanding

The improvements proposed along the project alignment include the following, as shown in the Stage 3 Submittal plans:

- Full-depth removal and replacement of the existing pavement along East and Westbound lanes of I-90; replacement pavement section will consist of the following buildup from subgrade to surface: 1) 6 inches aggregate base (ODOT CMS Item 304); 2) 9-1/2 inches asphalt concrete base (Item 302); 3) 1-3/4 inches asphalt concrete intermediate course (Item 442); and 4) 1-1/2 inches asphalt concrete surface course (Item 442); total pavement section thickness including aggregate base is 18-3/4 inches (1.56 ft);
- Full-depth removal and replacement of pavement along the interchange ramps at State Route 306 and State Route 615 and the ramps to and from the existing Concord Township rest areas; replacement pavement section for all ramps will consist of the following buildup from subgrade to surface: 1) 6 inches aggregate base (Item 304) and 2) 12 inches Portland cement concrete pavement (Item 452); total pavement section thickness including aggregate base is 18 inches (1.50 ft);
- Construction of six temporary cross-over ramps and two sets of temporary pavement widening to allow for maintenance of traffic during construction. All temporary pavements will consist of the following buildup from subgrade to surface: 1) 6 inches stabilized crushed aggregate (Item 411) and 2) pavement for maintaining traffic, Class A (Item 615). The locations of the temporary crossover ramps had not yet been finalized at the time of the subsurface exploration performed in 2023.
- No permanent roadway widening is proposed as part of this project, so the roadway width along both bounds will undergo little to no change between existing and final conditions. Furthermore, it is understood that only minor adjustments will be made to the roadway profile grade across the project limits – the difference between proposed and existing pavement surface grades are anticipated to be less than 1 foot.

3 Geology and Observations of the Project

3.1 General Project Setting

The project alignment is located in a predominantly suburban area of Lake County. The project alignment passes through the municipalities of Willoughby, Mentor, and Kirtland Hills, with the eastern portion of the alignment passing through Concord Township.

The terrain along the project alignment is generally level with occasional shallow sloping grades. The I-90 freeway is crossed over by nine roadway bridges within the project limits. The land on either side of the existing freeway is generally wooded to mostly wooded. The east and westbound lanes are separated by an approximately 160-ft wide median that is grass-covered to partially wooded. Land use adjacent to the freeway includes light residential and light commercial.

Vehicular traffic along the project alignment includes passenger vehicles as well as heavy trucks. Traffic volumes are generally moderate to heavy (annualized Average Daily Traffic volume varying from about 59,000 to about 85,000 vehicles per day across the project limits). Within the project limits, I-90 carries 3 lanes of traffic in both directions in the western half of the alignment, reducing to 2 lanes in each direction in the eastern half of the alignment.

At the time of the field exploration (March-April 2023), the existing pavement along the project alignment appeared to be in moderate to good condition with some joint cracking visible on the pavement surface. Major asphalt patchwork repairs appear to have been performed at numerous locations throughout the main I-90 driving lanes.

3.2 Site Geology

The LAK-90-6.99 project site is located in the western portion of Lake County within the Erie Lake Plain physiographic region of Ohio. The Erie Lake Plain is generally characterized as a the “edge of very low-relief Ice-Age lake basin separated from modern Lake Erie by shoreline cliffs” with “major streams in deep gorges” (ODGS, “Physiographic Regions of Ohio” 1998).

Natural surficial soils along the project alignment generally include lacustrine sand, beach-ridge sand, and end moraine till deposits (ODGS, “Quaternary Geology of Ohio 500K” 2006). These glacial and lake deposits include both granular (sand and gravel) and fine-grained (silt and clay) materials (ODGS, “Surficial Geology of Ohio 24K Stack Map” 2006). The bedrock formation underlying the project site is the Devonian-age Ohio Shale formation (ODGS, “1:24,000-scale Bedrock Geology Polygons of Ohio” 2006).

3.3 Historical Explorations

A subsurface exploration consisting of 106 soil borings was performed in the vicinity of this project alignment by Resource International, Inc. in 2003 in support of the LAK-90-6.71 project. The results of the exploration are generally consistent with the geologic records summarized above. Surficial soils included both coarse-grained (ODOT classes A-1-b, A-2-4, A-2-6, and A-3a) soils and fine-grained (ODOT classes A-4a, A-4b, A-6a, A-6b, and A-7-6) soils. Shale bedrock was encountered within approximately in the eastern third of the alignments.

In the 2003 investigation, a subgrade analysis was performed in accordance with Geotechnical Bulletin 1 (GB-1) as the bulletin existed at that time. In the results of the analysis, approximately 14,000 ft (2.5 miles) of the LAK-90-6.71 alignment subgrade was designated unsuitable and recommended to be undercut and replaced. The subgrade deficiencies identified in the 2003 investigation were presumably addressed during construction of the LAK-90-6.71 project.

A recent investigation for a slope repair project at the Westbound Concord Rest Area (LAK-90-12.39, PID 111517) was completed by WSP and S&ME, Inc. This investigation included some borings which are pertinent to the current project. A summary of those borings is subsequently provided in Section 4 of this report.

A nearby pavement replacement project along State Route 2 in Lake County was completed in 2010. Improvements for that project included cement-stabilization of the upper 12 inches of the subgrade. Following completion of the pavement reconstruction, significant pavement cracking due to subgrade heaving was observed. Further investigation connected the subgrade heave to chemical interactions between the Portland cement used in the subgrade stabilization and naturally occurring sulfate compounds in the soil (Weir et al. 2014). Requirements for sulfate content testing of subgrade soil samples have since been implemented by ODOT. Owing to its proximity to the original State Route 2 project which prompted closer scrutiny of sulfate content in subgrade soils, the subsurface exploration for the LAK-90-6.99 project has necessarily include sulfate testing of the currently existing subgrade.

4 Exploration

4.1 Field Exploration

The subsurface exploration was performed in a single phase in March and April 2023. The exploration included 117 soil borings and 105 pavement cores along the existing freeway lanes, ramps, and proposed crossover ramp areas in the median. The six borings drilled along the proposed crossover ramps were B-112-0-23 through B-117-0-23.

Borings and pavement cores were selected by AECOM and then located in the field by representatives from AECOM's subcontractor Resource International, Inc. (RII), prior to beginning the subsurface exploration. Prior to the start of drilling activities, the Ohio Utilities Protection Service was notified, and boring locations were verified as clear of utility conflicts.

All borings and pavement cores were drilled by AECOM's subcontractor, RII between March 20 and April 20, 2023. In order to safely access the boring locations within the existing roadways, it was necessary to set up temporary work zones in accordance with the ODOT Temporary Traffic Control Manual (TTCM). Work zone setup and traffic control measures were provided by RII's subcontractor, RoadSafe.

Pavement cores were drilled and collected at each of the 105 borings located within existing pavement using a 4-inch diameter core bit. Cores were photographed and logged. A log of the pavement cores with photos included is provided in Appendix D.

All borings were considered "subgrade" borings and performed in general accordance with ODOT SGE Section 303.3 (Type A). Each soil boring was drilled to a depth of 10.0 ft below existing grade with four 18-inch SPT samples collected continuously for 6 ft, with the final sample collected at 8.5 to 10.0.

All borings were drilled using a CME 55 truck-mounted drill rig (SN 386345) with 4-inch outer-diameter solid-stem augers. For each soil boring, representative soil samples were collected from the for classification and/or testing. The samples were obtained by Standard Penetration Testing (SPT) with a split-spoon sampler, in general accordance with the SGE and ASTM D1586. A 140-pound automatic SPT hammer falling 30 inches was used for sampling. The SPT hammer on this CME drill rig was calibrated on March 21, 2022, with a resulting average energy ratio of 87.0%.

Boring B-085-0-23 was initially drilled to a depth of 5.5 ft below existing grade. The boring was abandoned at that depth due to mechanical issues and redrilled as B-085-1-23 offset approximately 5 feet to the east to the full planned depth of 10.0 ft below existing grade.

An AECOM or RII geotechnical engineer was present on site during drilling and sampling to provide general oversight, collect soil and pavement core samples, and log the soil borings in accordance with ODOT SGE requirements.

4.2 Laboratory Testing

An AECOM geotechnical engineer selected SPT samples for laboratory testing. Selected soil samples were transported to the Resource International, Inc. soils laboratory in Columbus, Ohio where they were tested for classification index properties in accordance with applicable ASTM

standards and for sulfate content testing in accordance with ODOT Supplemental Specification 1122. The laboratory-testing program included the type and number of tests presented in Table 4-1, which were assigned in general accordance with guidance given in ODOT's Geotechnical Design Manual, Section 600.

Table 4-1: Summary of Laboratory Tests

TEST SPECIFICATION	REFERENCE STANDARD	NUMBER OF TESTS
Natural Moisture Content	ASTM D2216	486
Atterberg Limits	ASTM D4318	231
Particle Size Analysis – Sieve	ASTM D6913	239
Particle Size Analysis – Hydrometer	ASTM D7928	224
Organic Content	ASTM D2974	9
Sulfate Content	ODOT SS1122	117

Pertinent test results are summarized in Section 5 of this report. Lab results are presented in the borings logs in Appendix B.

4.3 Historic Boring Information

Some boring information from the LAK-90-12.39 (PID 111517) slope repair project is pertinent to the current project and has been incorporated into our evaluations. These borings were performed in November 2022 along the existing ramp from the Concord Township Rest Area to I-90 Westbound. The exploration was performed by S&ME, Inc. with engineering analysis and recommendations issued by WSP. Three borings were drilled within the existing pavement of the ramp to depths of 30 to 35 ft below existing grade. The borings were drilled on November 28-29, 2022, by S&ME's subcontract Ohio TestBor, Inc using a Mobile B-57 truck-mounted drill rig and 3.25" inner-diameter hollow-stem augers. SPT samples were collected using a calibrated automatic SPT hammer. A summary of the three geohazard borings from this exploration are provided in Table 4-2 below.

Table 4-2: Summary of Subgrade Boring Locations

Exploration ID	Date Drilled	Reference Alignment	Station	Offset	Surface Elevation (ft NAVD88)
B-012-0-22	11/29/2022	Ramp S: Rest Area to I-90 WB	5836+33	50.5' LT	912.3
B-013-0-22	11/29/2022	Ramp S: Rest Area to I-90 WB	5837+14	57.4' LT	911.3
B-014-0-22	11/28/2022	Ramp S: Rest Area to I-90 WB	5838+13	68.0' LT	908.8

5 Findings

5.1 Subsurface Conditions

The following sections provide a general summary of the subsurface conditions encountered in the subsurface exploration for the LAK-90-6.99 project. Detailed logs of each boring with the lab testing results included on the boring log as prepared in accordance with SGE standards are provided in Appendix B.

5.1.1 Existing Pavement and Base

The pavement sections encountered along the project alignment had significant variations throughout the different lanes, ramps, and sections of the project alignments. Table 5-1 below presents a general summary of the existing pavement and base conditions encountered in the pavement core locations. Pavement section details for each individual drilling location are provided in Appendices B and D with the photographs of the pavement cores presented in Appendix D.

Table 5-1: Pavement Section Summary

Alignment/Lanes	Station Range	General Pavement Description	Base Description
I-90 Eastbound, Driving Lanes	B.O.W. – 1636+50	10 to 15 inches concrete with occasional three-layer buildup present similar to 1636+50 – E.O.W.	2 to 10 inches Crushed Limestone
I-90 Eastbound, Driving Lanes	1636+50 – E.O.W.	Consistent three-layer buildup: 9 to 13-1/2" Concrete; 1 to 1-1/2" Asphalt; 9-1/2" to 10-1/2" Concrete.	2 to 8 inches Sand and Gravel
I-90 EB and WB, Paved Shoulders	Entire Length	12 to 15 inches Concrete.	5 to 12 inches Crushed Limestone
I-90 Eastbound, Driving Lanes	B.O.W. – 5742+50	9 to 15 inches concrete with occasional three-layer buildup present similar to 5742+50 – E.O.W.	0 to 6 inches Sand and Gravel or Crushed Limestone
I-90 Eastbound, Driving Lanes	5742+50 – E.O.W.	Consistent three-layer buildup: 9 to 13-1/2" Concrete; 1 to 1-1/2" Asphalt; 9-1/2" to 10-1/2" Concrete.	3.5 to 8 inches Sand and Gravel
Ramps	All Ramps	9 to 14 inches Concrete.	3 to 7 inches Sand and Gravel or Crushed Limestone

Very dense subgrade soils were encountered occasionally throughout the project area, particularly in borings B-043-0-22 to B-049-0-22 (approximate station ranges 1600+00 to 1625+00 in the eastbound lanes and 5710+00 to 5735+00 in the westbound lanes). These soils were identified as possible chemically treated subgrade, possibly treated with cement or other cementitious material as part of a previous roadway improvement project.

5.1.2 Subgrade Soils

The subgrade soils along the project alignment consist mostly of fine-grained materials with the most common soil types being silt and clay (ODOT class A-6a, 46% of the total number of subgrade samples), sandy silt (A-4a, 18%), and silty clay (A-6b, 6%). Other soil types encountered in the subgrade soils included gravel (A-1-a, 1%), gravel with sand (A-1-b, 5%), gravel with sand and silt (A-2-4, 3%), gravel with sand, silt, and clay (A-2-6, 3%), coarse and fine sand (A-3a, 4%), silt (A-4b, 2%), and clay (A-7-6, 2%).

Shale bedrock was encountered in borings along the eastern portion of the alignment, starting with boring B-059-0-23 and extending to the eastern end. Depth to the top of shale bedrock ranges between 2.8 ft and 7 ft below the existing pavement surface.

SPT N60 values in the subgrade materials ranged from 4 to 144 blows per foot (bpf) with an average of 30 bpf. Hand penetrometer readings in the cohesive subgrade materials ranged from 1.0 to greater than 4.5 tons per square foot (tsf) with an average of 3.85 tsf. Of the samples within 7.5 ft of the existing pavement surface, 61% had hand penetrometer readings exceeding 2.0 tsf, 5% between 1.0 and 2.0 tsf and 1% less than 1.0 tsf.

5.2 Groundwater

Groundwater was encountered in about 20 out of 117 borings, generally within the upper 6 ft of the boring depth. In many cases, indications of water were observed in the samples as borings were being drilled, but the boreholes were observed to be dry at the time of backfilling. These observations indicate that shallow perched groundwater is present sporadically across the project limits. Groundwater levels in low-lying areas and/or near streams may be expected to roughly coincide with the water level in the stream or other surface water sources. Water levels should be expected to vary seasonally and based on amount and intensity of rainfall and/or agricultural irrigation.

5.3 Laboratory Test Results

5.3.1 Soil Classification Testing

A full set of classification tests was performed on 228 of the split-spoon samples to verify and/or refine the visual classifications performed during the subsurface exploration. A summary of the mechanical classification (based on lab test results) and visual classifications (based only on visual inspection during drilling) for the entire project is provided in Table 5-2 below:

Table 5-2: Summary of Soil Classification

ODOT Classification	Number Classified by Lab Test Results (Mechanical)	Number Classified by Visual Inspection Only
A-1-a (Gravel)	1	4
A-1-b (Gravel with Sand)	14	22
A-2-4 (Gravel with Sand and Silt)	5	19

ODOT Classification	Number Classified by Lab Test Results (Mechanical)	Number Classified by Visual Inspection Only
A-2-6 (Gravel with Sand, Silt, and Clay)	2	8
A-3 (Fine Sand)	0	1
A-3a (Coarse and Fine Sand)	16	22
A-4a (Sandy Silt)	47	73
A-4b (Silt)	7	3
A-6a (Silt and Clay)	97	154
A-6b (Silty Clay)	26	13
A-7-6 (Clay)	13	12
A-8a (Organic Silt)	0	1
Rock	0	72
TOTAL	228	404

5.3.2 Results of Sulfate Testing

Sulfate content tests were performed for approximately one sample in each subgrade boring in accordance with ODOT Supplemental Specification 1122. Sulfate contents for this project ranged from 80 to 7840 ppm with an average of 1023 ppm. Of the 117 total samples tested, 111 had sulfate contents below 3000 ppm, 2 had sulfate contents between 3000 and 5000 ppm, and 4 had sulfate contents exceeding 5000 ppm. Results of the sulfate testing are presented on individual boring logs in Appendix B and a tabulated summary of sulfate testing results is presented in its entirety in Appendix E.

6 Analyses and Recommendations

6.1 Subgrade Analysis

Subgrade analysis was performed for the project in accordance with ODOT Geotechnical Design Manual Section 600. One subgrade analysis spreadsheet was prepared using data from borings performed in the current geotechnical exploration and the geohazard exploration performed in November 2022 (see Section 4.1). The subgrade analysis spreadsheets are included in Appendix C.

The subgrade analysis indicates that improvements to the subgrade should be anticipated. There are three types of conditions which indicate that improvements will be necessary:

- Sections of potentially unstable subgrade where low SPT N60-values, low hand penetrometer (HP) readings, and/or high moisture content were noted in the soil borings which indicate possible unstable areas of subgrade. The analysis flagged about 25 of 117 borings for possible subgrade undercuts due to unstable soils, with undercut depths most typically of 12-inches, but varying from 12-inches to 18-inches;
- Sections of subgrade where A-4b-type (soils containing 50 percent or more silt-sized particles) were encountered within 36 inches of the proposed subgrade elevation. The analysis flagged 3 out of 117 borings for undercuts related to unsuitable soil subgrade, with undercut depths between 24 and 36 inches.
- Section of subgrade where shallow bedrock is encountered within 6 inches of the proposed subgrade elevation (ODOT GDM 610.5). The analysis flagged 2 out of 117 borings for undercuts related to bedrock in the subgrade, with undercut depths of 6 inches to remove the bedrock.

Overall, it is estimated that approximately 40% of the total subgrade area may be unstable and 6% is unsuitable due to presence of A-4b soils, or shallow bedrock.

A total of six borings (B-112-0-23 through B-117-0-23) were drilled in the locations of the temporary crossovers assumed at the time. The final locations for Crossover Ramps 1 and 2, which was moved from its original planned location, do not have any borings in their vicinity. Subgrade analysis for Ramps 3 and 4 was performed using borings B-035-0-23 through B-039-0-23. Subgrade analysis for Ramps 5 and 6 was performed using borings B-115-0-23 through B-117-0-23.

Tables 6-1 through 6-3 present the boring locations and subgrade areas identified as potentially unstable or unsuitable by the subgrade analysis spreadsheet.

Table 6-1: Subgrade Analysis Results – I-90 Eastbound

Boring(s)	Alignment	Approx. Station Range	Approx. Length (ft)	Problem
<u>Unstable Subgrade</u>				
B-023-0-23	I-90 EB	1521+00 – 1529+00	800	Unstable (HP & Mc)
B-040-0-23	I-90 EB	1585+00 – 1593+00	800	Unstable (N60 & Mc)
B-055-0-23	I-90 EB	1640+50 – 1648+50	800	Unstable (N60)
B-071-0-23	I-90 EB	1705+00 – 1713+00	850	Unstable (N60)
B-075-0-23	I-90 EB	1720+50 – 1726+50	600	Unstable (N60)
B-078-0-23	I-90 EB	1732+50 – 1738+50	600	Unstable (N60 & Mc)
<u>Unsuitable Subgrade</u>				
B-042-0-23	I-90 EB	1593+25 – 1600+75	800	Unsuitable (A-4b) (Lab confirmed)
B-059-0-23	I-90 EB	1656+75 – 1664+75	800	Unsuitable (A-4b) (Lab confirmed)
B-063-0-23	I-90 EB	1673+00 – 1681+00	800	Unsuitable (Rock)
B-067-0-23	I-90 EB	1689+50 – 1697+50	800	Unsuitable (Rock)

Table 6-2: Subgrade Analysis Results – I-90 Westbound

Boring(s)	Alignment	Approx. Station Range	Approx. Length (ft)	Problem
<u>Unstable Subgrade</u>				
B-004-0-23	I-90 WB	5566+00 – 5573+00	700	Unstable (HP & Mc)
B-039-0-23 B-041-0-23	I-90 WB	5695+00 – 5712+00	1700	Unstable (N60)
B-045-0-23	I-90 WB	5718+75 – 5726+75	800	Unstable (HP & Mc)
B-064-0-23 B-066-0-23	I-90 WB	5791+00 – 5799+00	800	Unstable (N60)
B-074-0-23 B-076-0-23	I-90 WB	5830+50 – 5838+50	800	Unstable (N60 & Mc)
B-081-0-23 B-090-0-23	I-90 WB	5854+50 – 5864+50	800	Unstable (N60)
<u>Unsuitable Subgrade</u>				
B-050-0-23	I-90 WB	5734+50 – 5742+50	800	Unsuitable (A-4b) (Lab confirmed)
B-068-0-23	I-90 WB	5806+50 – 5818+50	1200	Unsuitable (A-4b) (Lab confirmed)

Table 6-3: Subgrade Analysis Results – Ramps

Boring(s)	Alignment	Approx. Station Range	Approx. Length (ft)	Problem
<i>Unstable Subgrade</i>				
B-092-0-23	Ramp N (I-90 EB to SR-306)	1467+50 – 1473+50	600	Unstable (HP & Mc)
B-101-0-23	Ramp D (SR-615 to I-90 EB)	1567+00 – 1572+00	500	Unstable (N60 & Mc)
B-103-0-23 B-104-0-23	Ramp B (SR-615 to I-90 WB)	Entire Ramp	1400	Unstable (N60 & Mc)
B-105-0-23 B-106-0-23	Ramp A (I-90 WB to SR-615)	Entire Ramp	1200	Unstable (N60 & HP)
B-108-0-23	Ramp Q (I-90 EB to Rest Area)	1700+00 – 1705+00	500	Unstable (N60)

Table 6-4: Subgrade Analysis Results – Temporary Crossovers

Boring(s)	Alignment	Approx. Station Range	Problem
B-035-0-23 B-038-0-23 B-039-0-23	Crossovers 3 and 4	Entire Ramp	Unstable (N60 & Mc)

6.2 Geotechnical Recommendations

The following subsections provide geotechnical recommendations for design and construction of the pavement improvements consisting of full-depth replacement and for areas to receive new pavement.

6.2.1 Subgrade Recommendations

The subgrade analysis indicates that unstable or unsuitable subgrades requiring improvement may be present across approximately 46% of the project alignment. Given the heavy traffic volumes within the project corridor, the project scope for full-depth pavement replacement (which will expose and make subgrades accessible across the project), and considering that maintenance efforts within the project limits have historically been fairly intensive, AECOM recommends a global approach to subgrade treatment. The recommended subgrade treatment approach is chemical stabilization in accordance with ODOT CMS Item 206. Recommendations for this approach is provided in the subsection below.

6.2.1.1 Recommendations For Chemical Subgrade Stabilization

While the improvements recommended in the previous section are anticipated to result in acceptable subgrade improvement, more substantial chemical stabilization is also an option for

this project and would result in more competent, reliable and durable subgrades. Although costs for chemical stabilization will be higher, we recommend that it be carefully considered. Potential methods for global stabilization include undercutting of subgrade materials and replacement with imported granular material and chemical stabilization. The ODOT GDM Section 605 states: “For all Interstates and other divided highways with four or more lanes more than 1-mile in project length, chemically stabilize the subgrade for the entire project (global stabilization)”. This project meets these criteria, so chemical stabilization is the optimal method. The following recommendations are provided for global chemical stabilization:

- The recommended chemical additive is cement for this project. A majority of the subgrade soils are low to medium plasticity fine-grained materials, so lime or lime kiln dust are not ideal. Furthermore, the laboratory testing indicates the vast majority of subgrades across the project site have low or moderate sulfate content (less than 3,000 ppm). Only 6 samples (out of about 120) had sulfate content above 3,000 and only 4 samples had sulfate content above 5,000 ppm (the limit at which ODOT considers to cause risk of subgrade heave due to chemical interaction between sulfate compounds in the soil and Portland cement).
- Based on the subgrade analysis, a stabilization depth of 12 inches is recommended for all areas designated for cement stabilization and a depth of 14 inches for cement stabilization areas where A-4b (silt) soils are present.
- Bench scale laboratory testing should be performed, to establish the design proportion of the cement binder. Clayey soils (A-6a, A-6b, and A-7-6 classifications) were most often flagged as unstable in the subgrade analysis, so samples utilized in the bench scale testing should emphasize these material types. Testing should be performed and documented in accordance with Supplemental Specification 1120.
- Construction of the stabilization should be in accordance with CMS Item 206, and should include a proof roll in accordance with CMS Item 204 across the entire subgrade no less than 7 calendar days after chemical stabilization is completed, to verify subgrade stability.
- The specific portions of the project alignment designated for cement stabilization are provided in Table 6-5 below.

Table 6-5: Cement Stabilization Recommendations

Alignment	Station Range	Approx. Length (ft)	Cement Stabilization Depth (in)
I-90 EB	1437+80 – 1593+25	15545	12
I-90 EB	1593+25 – 1664+75	7150	14
I-90 EB	1664+75 – 1672+75	800	12
I-90 EB	1681+00 – 1689+50	850	12
I-90 EB	1697+50 – 1760+50	6300	12

Alignment	Station Range	Approx. Length (ft)	Cement Stabilization Depth (in)
I-90 WB	5550+35 – 5734+50	18415	12
I-90 WB	5734+50 – 5818+50	8400	14
I-90 WB	5818+50 – 5864+50	4600	12
Ramps N, P, M, C, D, B, A, R, S and T	Entire Ramp	15040	12

6.2.1.2 Recommendations For Subgrade Improvement By Undercut and Recomaction

Certain limited areas of the project will have specific subgrade treatment needs, that are in lieu of the global subgrade stabilization method recommended above.

One set of areas requiring specific subgrade treatment includes areas where bedrock was encountered within 6 inches of the proposed subgrade elevation. Subgrade treatment in these areas should consist of undercutting to the specified depth, placement of a non-woven geotextile meeting CMS Item 712.09 Type D requirements at the base of the undercut, and then backfilling of the undercut with imported Granular Material Type B (meeting CMS 703.16 requirements). Placement and compaction should be per Item 204.03.

The second area requiring specific subgrade treatment consists of subgrade soils where potential unstable conditions may occur and require stabilization, but where sulfate contents greater than 5,000 ppm were measured, eliminating chemical stabilization from consideration. In this area, the undercut and recompact method described in Section 6.2.1.3 below should be used.

We recommend that, as a minimum, all subgrades across the project be improved by undercut and recompaction methods. The recommended improvement should consist of the following steps:

1. Existing pavement (and any base material) should be removed to expose the underlying subgrade.
2. All subgrades across the project should be undercut to a depth of 12-inches below the bottom of proposed pavement section. The excavated soils should be appropriately moisture conditioned (such as by air drying, mixing of wetter and drier materials, etc.) and then recompacted back in place in accordance with CMS Item 204.03.
3. The compacted subgrade surface should be proof rolled in accordance with CMS Item 204.06. Areas that fail a proof roll should be undercut a second time, in this instance to a depth of at least 18-inches below the bottom of the proposed pavement section. A non-woven geotextile meeting CMS Item 712.09 Type D requirements should be placed at the base of the undercut. The undercut should then be backfilled with imported

material meeting the requirements of Item 703.16 Granular Material Type B. Placement and compaction should be per Item 204.03.

Pay quantities for the undercut and replacement (Step 2 above) should be provided in the project's General Summary. The following table summarizes the locations and extents of these specific treatment areas:

Table 6-6: Specific Subgrade Treatment Areas

Alignment	Station Range	Approx. Length (ft)	Problem	Recommended Improvement Method
I-90 EB	1672+75 – 1681+00	800	Unsuitable (Rock)	Undercut and Replace 6 inches
I-90 EB	1689+50 – 1697+50	800	Unsuitable (Rock)	Undercut and Replace 6 inches
I-90 WB	5864+50 – End of Work	2350	High Sulfate Content	See Section 6.2.1.2
Ramp L	Entire Ramp	1878	High Sulfate Content	See Section 6.2.1.2
Ramp Q	Entire Ramp	1696	High Sulfate Content Unstable (Mc, N60 and HP)	See Section 6.2.1.2
Crossover Ramps	All Ramps	6000	Unstable (Mc and N60)	See Section 6.2.1.2

6.2.1.3 Subgrade Preparation for Temporary Crossover Ramps

Based on the borings drilled in the vicinity of the proposed temporary crossover ramps, the subgrade in those areas may require stabilization, particularly Crossover Ramps 3 and 4 (see Table 6-4 above). It is understood that the three sets of temporary crossover ramps will be constructed prior to the start of the main pavement reconstruction, and the project design team has determined that it will be impractical to mobilize cement stabilization equipment for the relatively short period of construction for the crossover ramps. Therefore, it is recommended that the subgrade be stabilized as needed for all ramps following the requirements of CMS Items 204.03, 204.04, 615.03, and 615.05, with undercut and replacement performed in accordance with Section 6.2.1.2 above.

6.2.2 Pavement Design Recommendations

AECOM provides the following recommendations for the design of the pavement section(s) for the project:

- Provided that one of the recommended subgrade treatment options described in Section 6.2.1 above is fully implemented, a California Bearing Ratio (CBR) of 7 may be assumed for pavement design.

- The coring and sampling program revealed that only a small thickness (generally less than 5-inches) of aggregate base course is present under most of the existing pavement across the project. In some borings no base course was observed. We recommend that the entire project be provided with at least 6 to 8-inches of Item 304 base.
- Adequate drainage is one of the most critical variables in both the life and performance of pavement. The necessity of maintaining adequate drainage is heightened considering that the majority of the subgrade soil that will support new pavement on this project are fine-grained, low permeability materials that are prone to soften upon water infiltration. The roadway geometry should be pitched or crowned such that positive surface drainage is maintained away from the pavement and a roadway underdrain system should be incorporated in the project design.

6.2.3 Engineered Fills

At the time of this report, significant earthwork related to embankment construction or profile raise is not expected. However, engineered fills may be required on an as-needed basis for limited grading, construction of cross-overs, and for backfilling undercuts.

All fill should be selected, placed, and compacted in accordance with ODOT CMS Item 203. In general, soils harvested from the site in excavation areas should be suitable for reuse as fill, but moisture conditioning of some on-site soils may be required and should be anticipated. It is further noted that a limited amount of Silt materials (A-4b) were encountered in some of the soil borings. A-4b materials should not be placed within three feet (vertically) of any pavements. These materials will need to be identified and segregated or will need to be suitably mixed with soils of other classifications prior to reuse. In addition for project construction that may occur within the median or beyond the existing shoulders, all topsoil and vegetative cover should be stripped to expose the subgrade materials that do not exhibit organic components, prior to placement of any fills. Organic materials such as topsoil may be temporarily stored onsite and later reused if directed by the Engineer.

7 Limitations

This geotechnical investigation was performed in accordance with the standard of care commonly used as state-of-practice in our profession. Specifically, our services have been performed in accordance with generally accepted principles and practices of the geological and geotechnical engineering profession. This warranty is in lieu of all other warranties, either express or implied.

The data presented herein represent the conditions encountered at the specific locations and at the specific times at which our exploration took place. It should be noted that variations in soil and rock stratigraphy and characteristics and groundwater conditions between exploration locations, that may become evident during construction, are possible.

The geotechnical information presented in this report is based on the data collected for this project. The geotechnical information presented in this report should not be used for other projects or purposes. Conclusions made from these data by others are their responsibility. Our services were provided in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representation is intended. Background information, design basis, and other data have been furnished to AECOM by third parties, which AECOM has used in preparing this report. AECOM has relied on this information as furnished.

8 References

Ohio Division of Geological Survey (ODGS) (1998). “Physiographic Regions of Ohio.” Ohio Department of Natural Resources. Map Scale 1:2,100,000.

Sager H., Flanagan, M. M., Sears, B. K., and Dusina, B. C. (June 2023). “LAK-90-12.39 Slope Repair, Landslide Exploration Report.” WSP USA and S&ME, Inc. Ohio Department of Transportation, PID 111517.

Resource International, Inc. (July 2003). LAK-90-6.71 Soil Profile Sheets. Ohio Department of Transportation.

Christensen, W. L. (November 2003). “LAK-90-6.71, PID 5774, Design CBR & Pre-Stage 1 Review.” Ohio Department of Transportation.

Weir, M., Mandell, A., Farver, J. (January 2014). “Role of Sulfates on Highway Heave in Lake County, Ohio.” Ohio Department of Transportation, Office of Statewide Planning and Research. State Job No. 134694. FHWA Report No. FHWA/OH-2014/4.

Ohio Department of Transportation (July 2024). “Geotechnical Design Manual (GDM)”

Appendix A

Summary of Soil Boring and Pavement Core Locations

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HORIZONTAL
SCALE IN FEET

A horizontal scale bar with a black border. It is divided into four segments: a black segment from 0 to 50, a white segment from 50 to 100, a black segment from 100 to 150, and a white segment from 150 to 200. The numbers 0, 50, 100, and 200 are printed below the bar at their respective positions.

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BEGINNING TO STA. 1411+50

DESIGN AGENCY



DESIGNER

MJT

REVIEWER

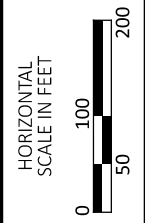
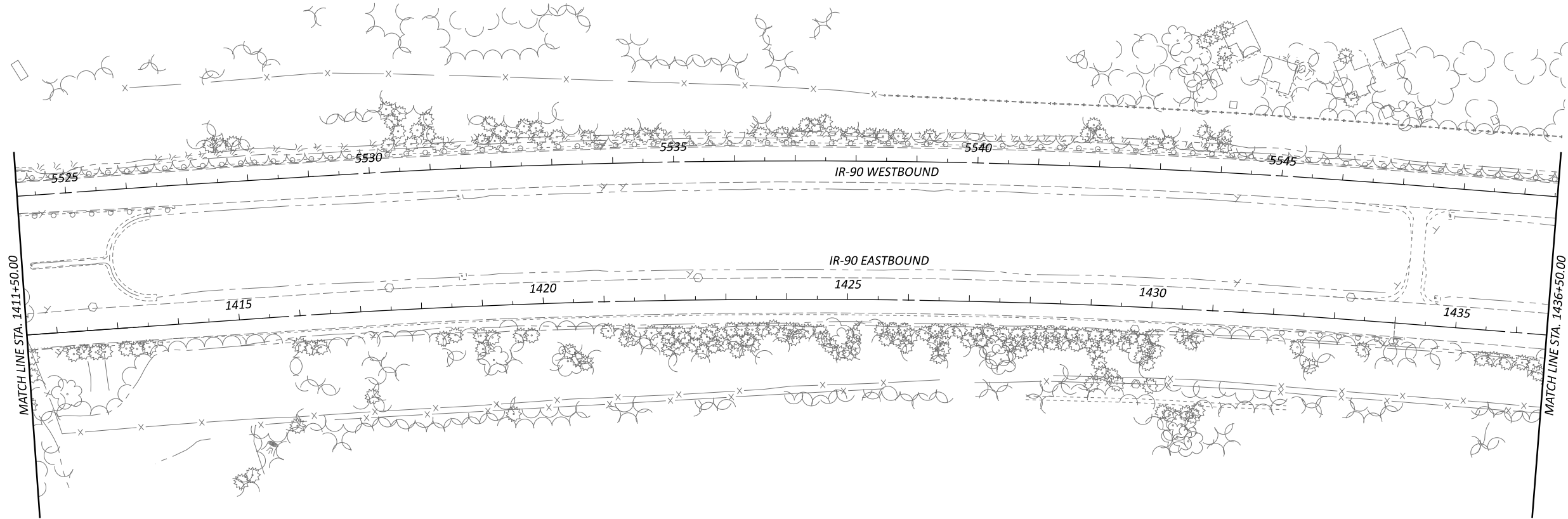
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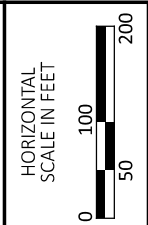
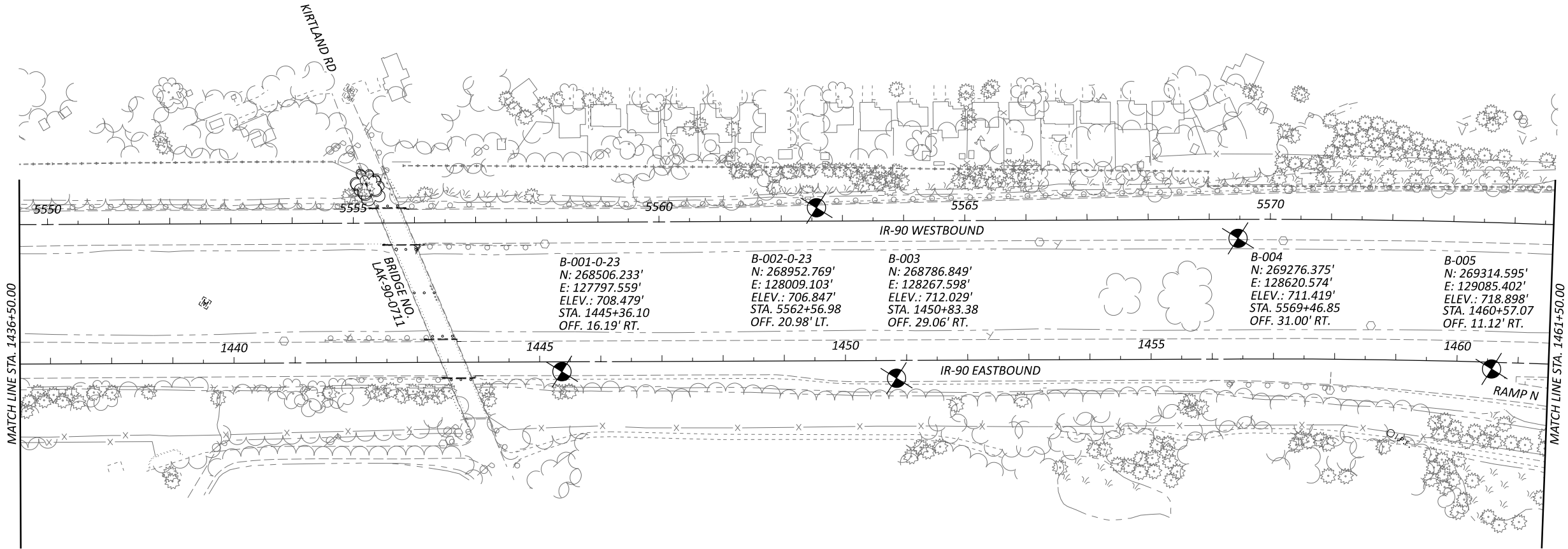
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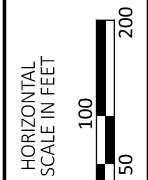
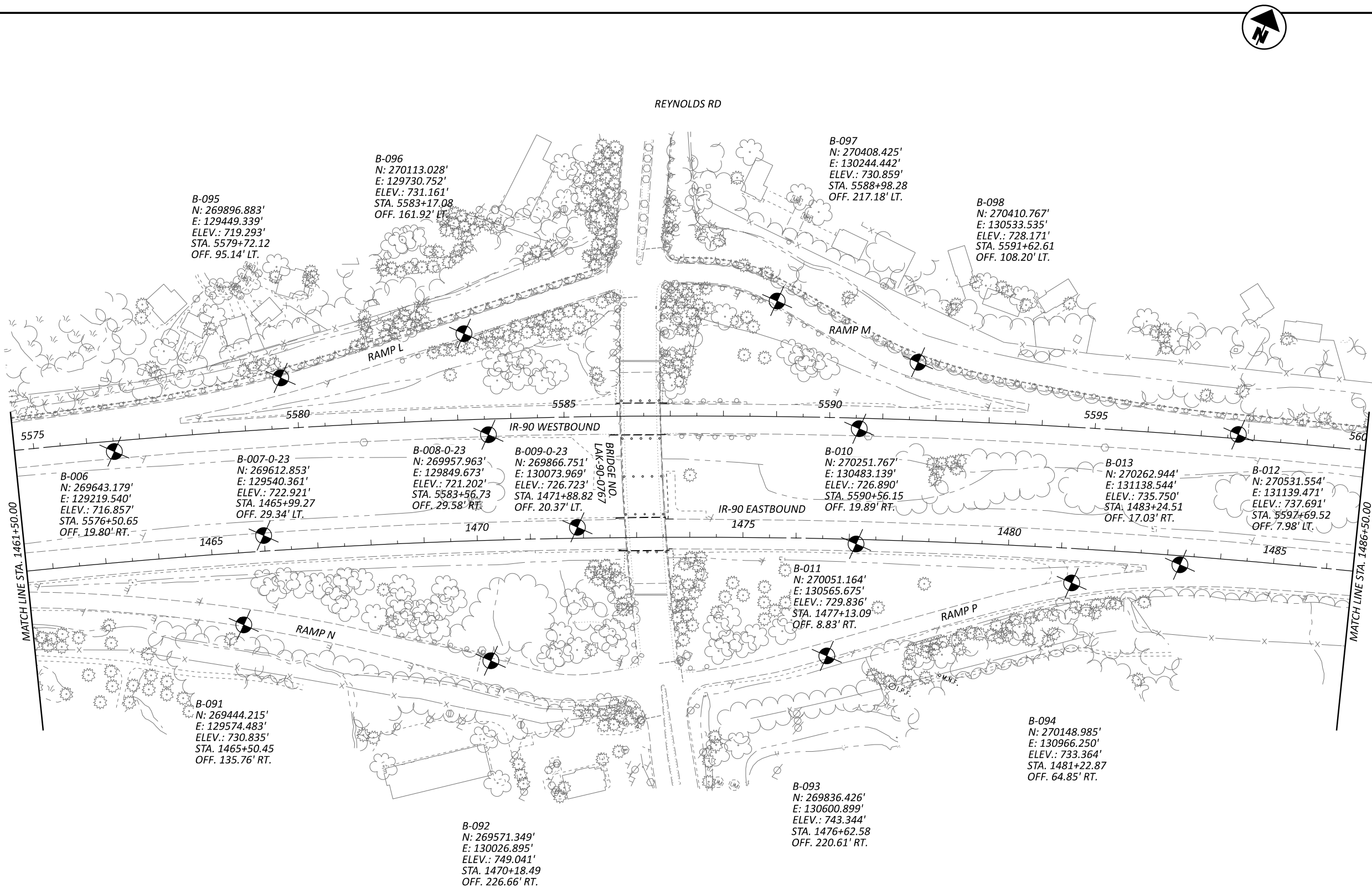
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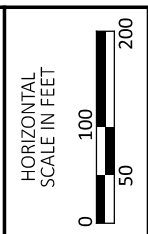
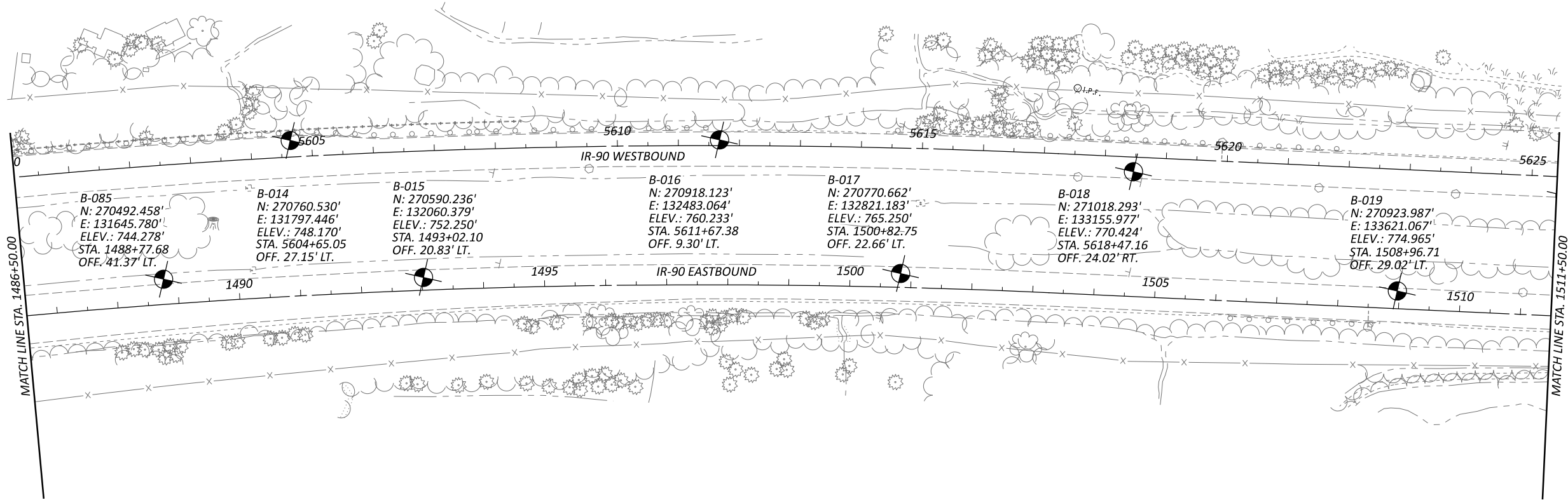
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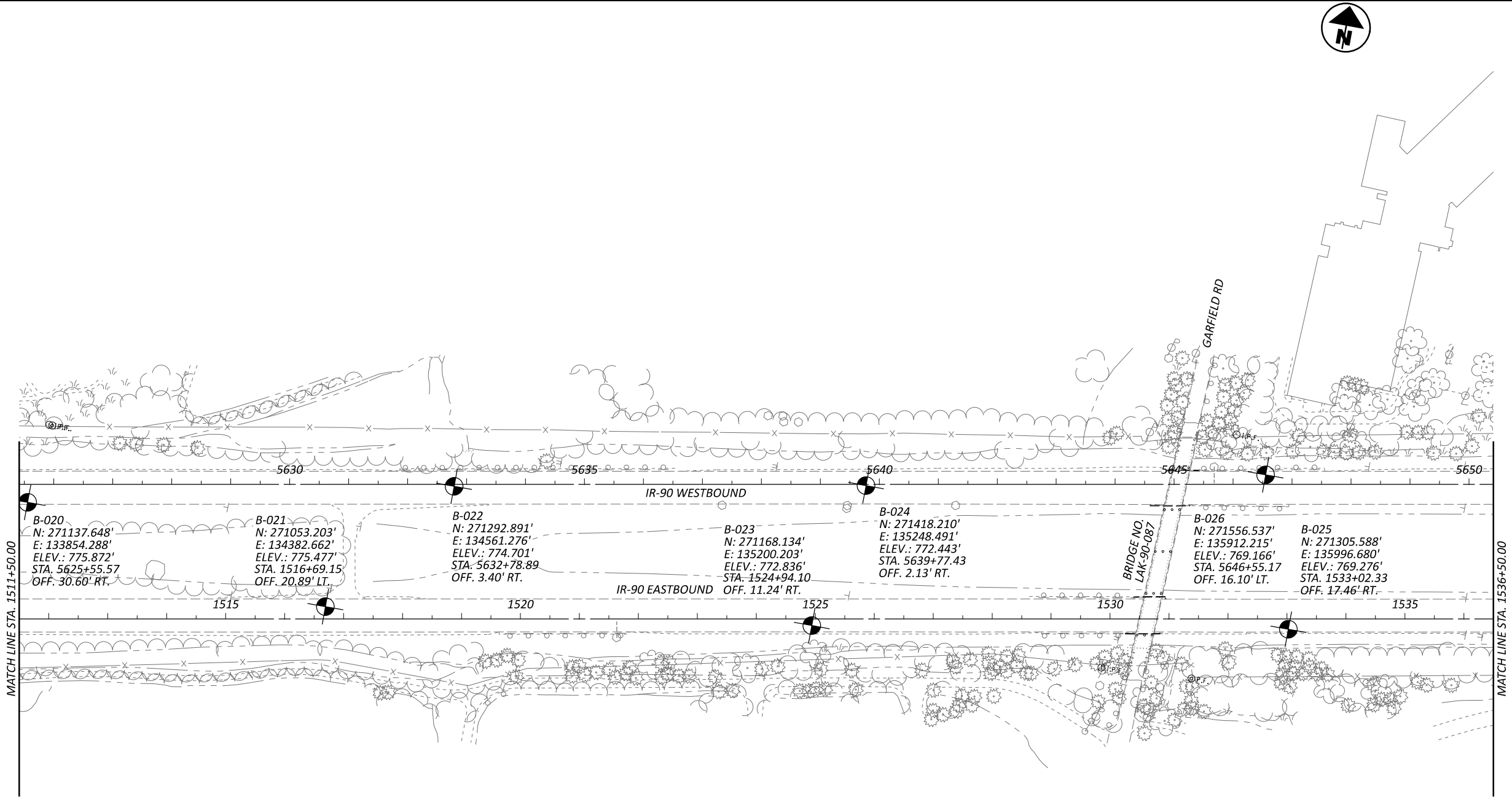
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DESIGN AGENCY

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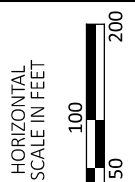
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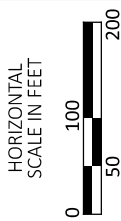
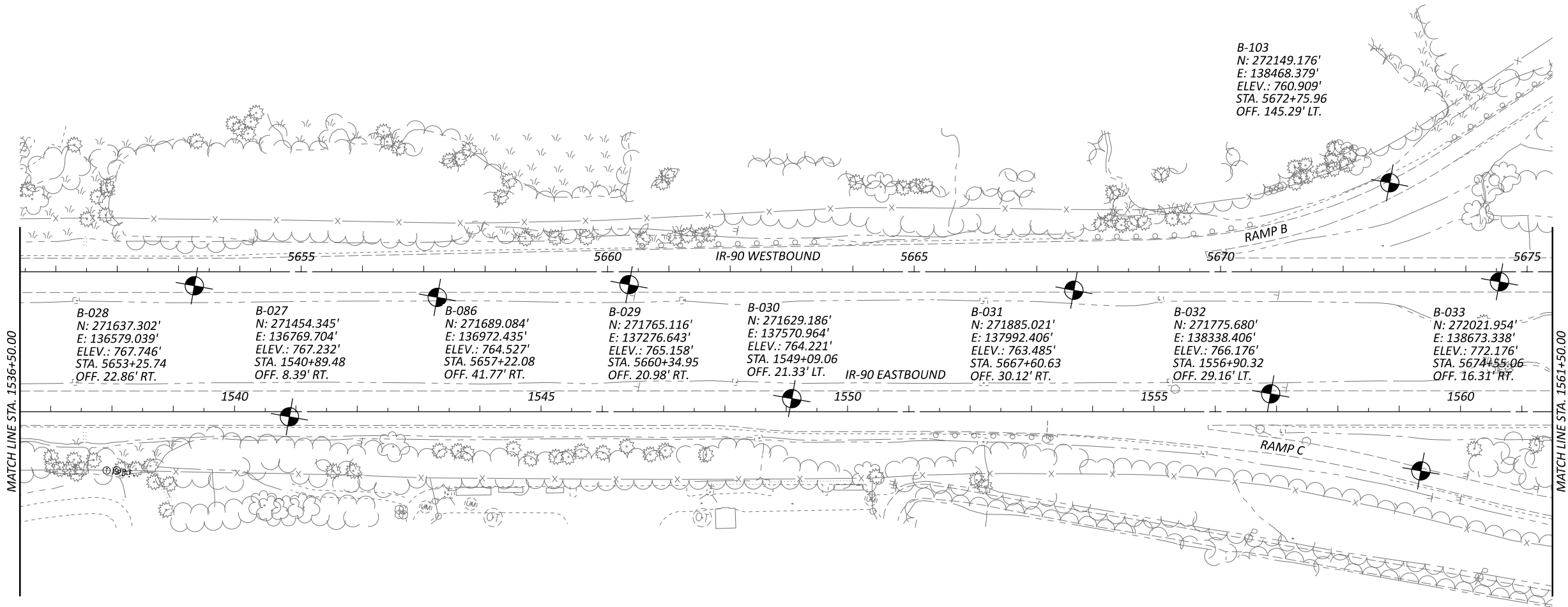
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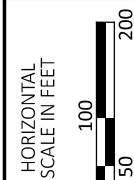
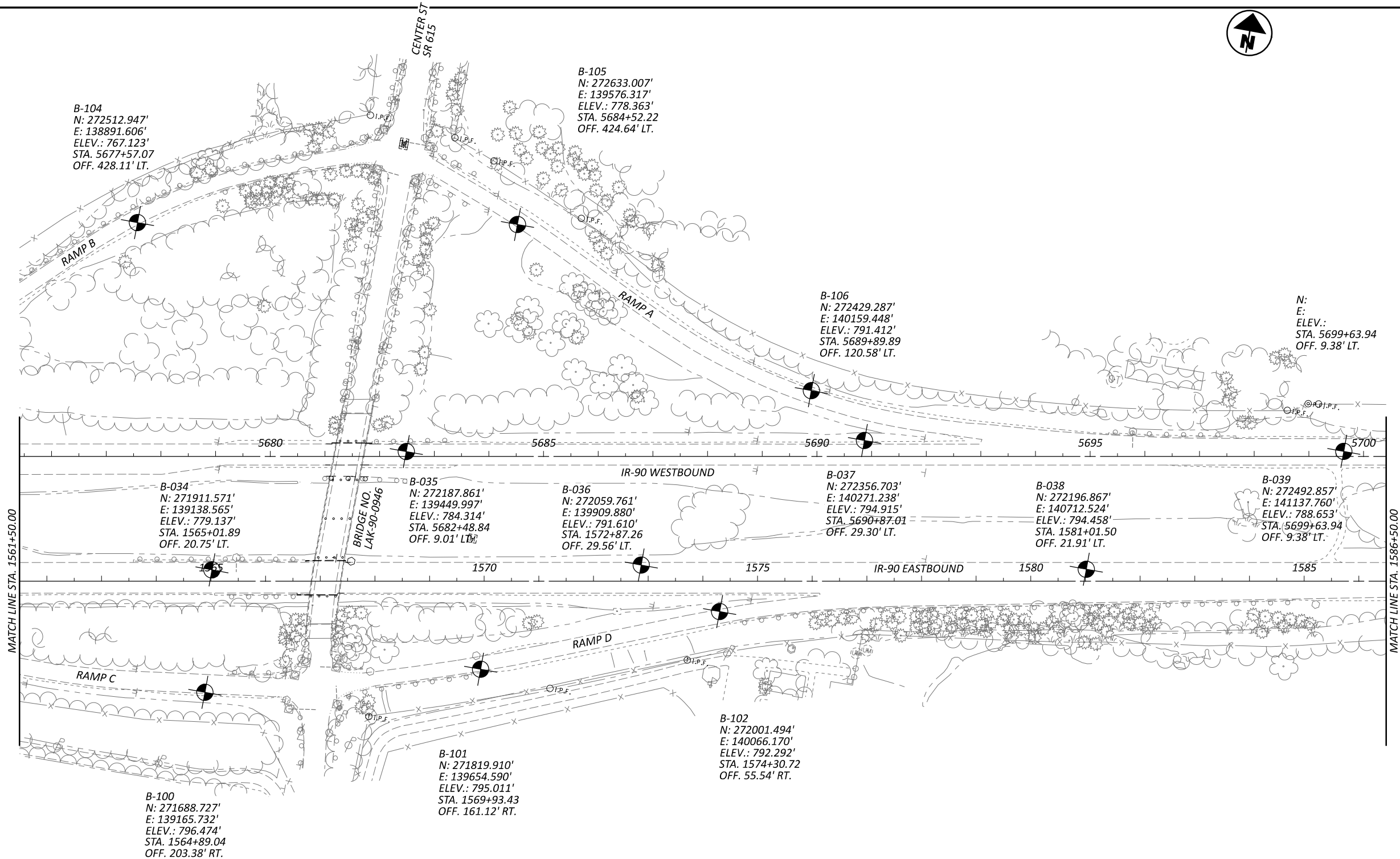
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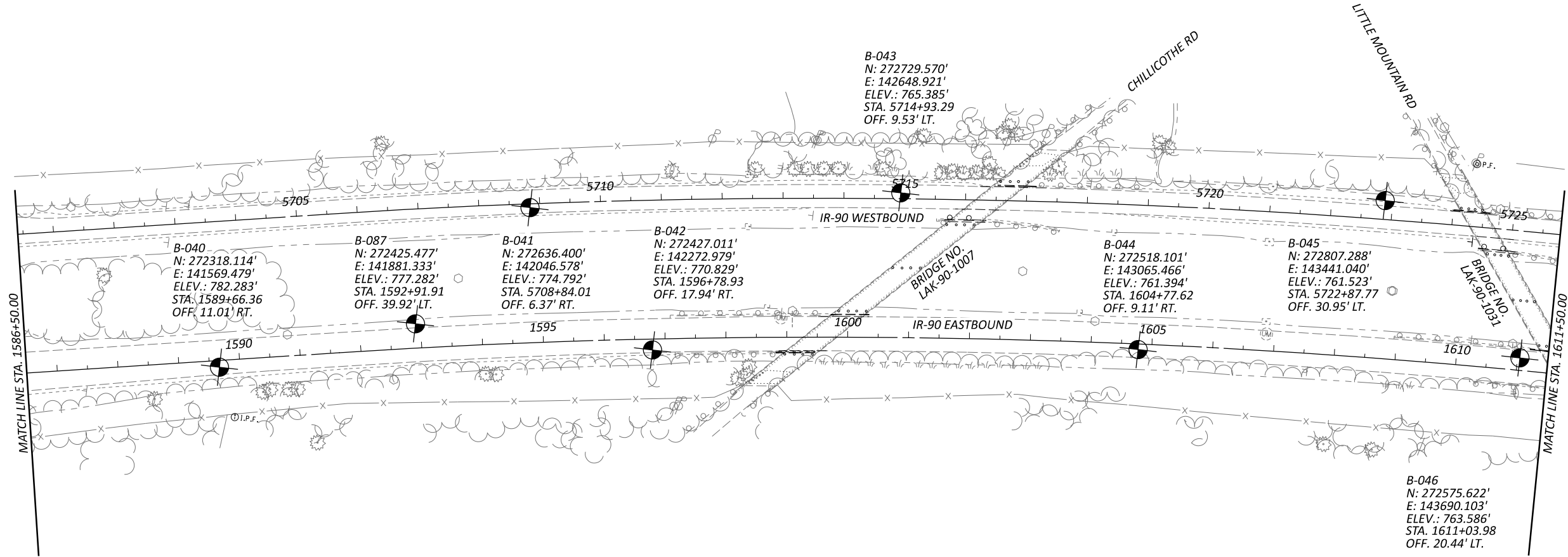
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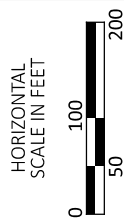
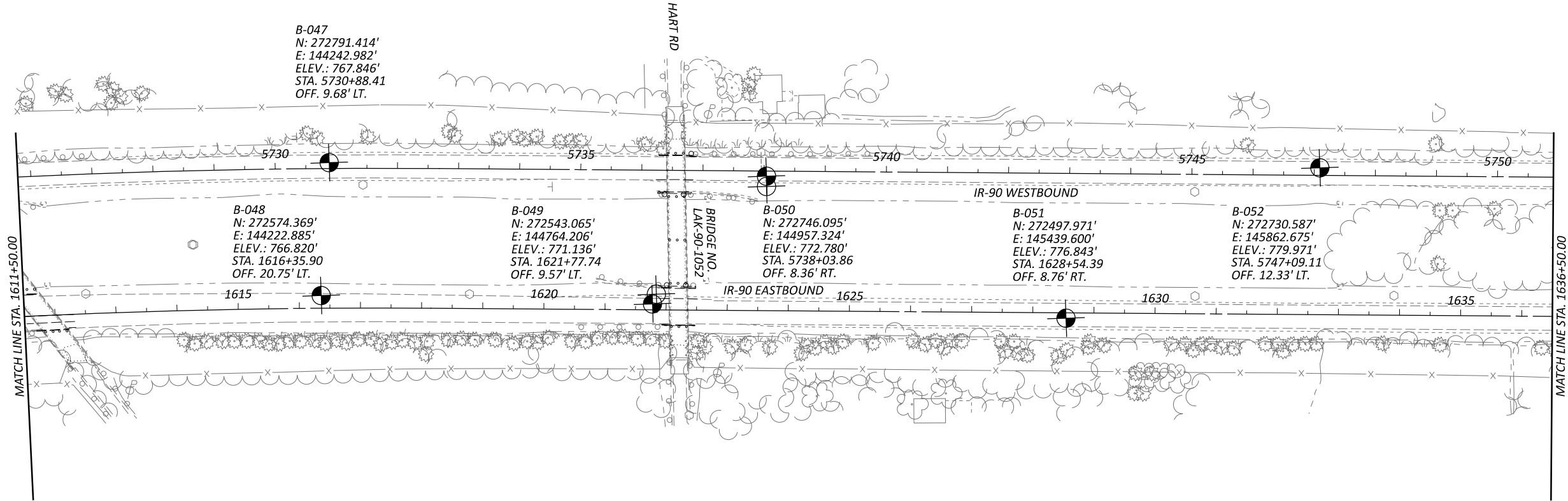
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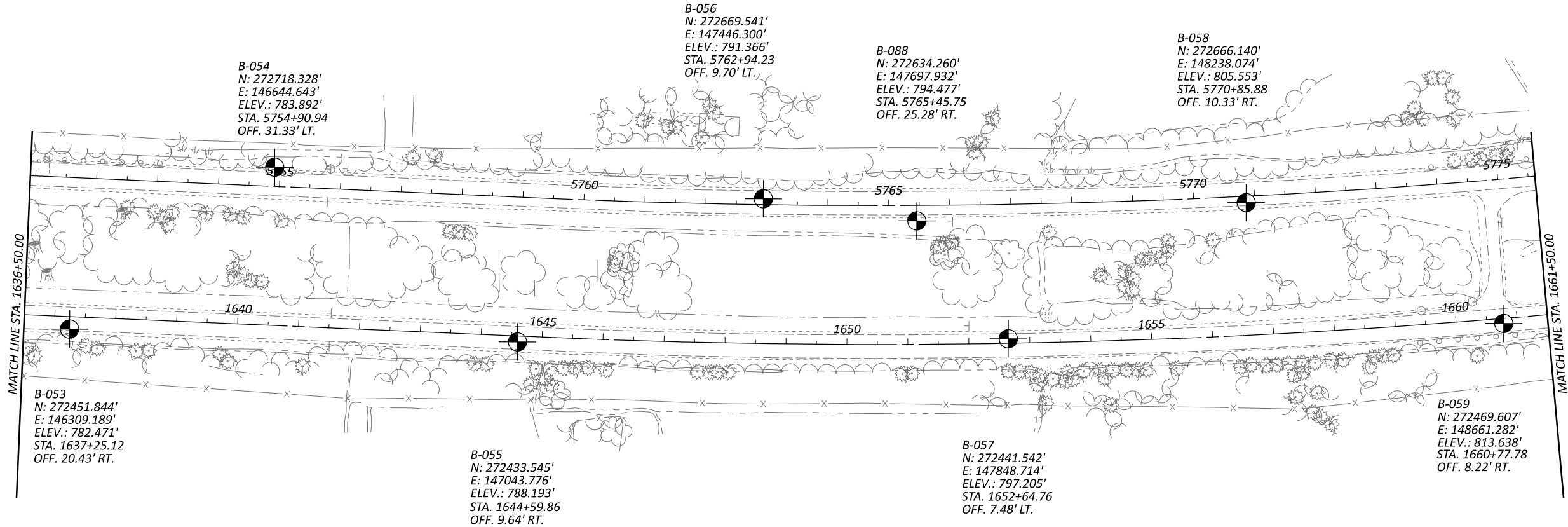
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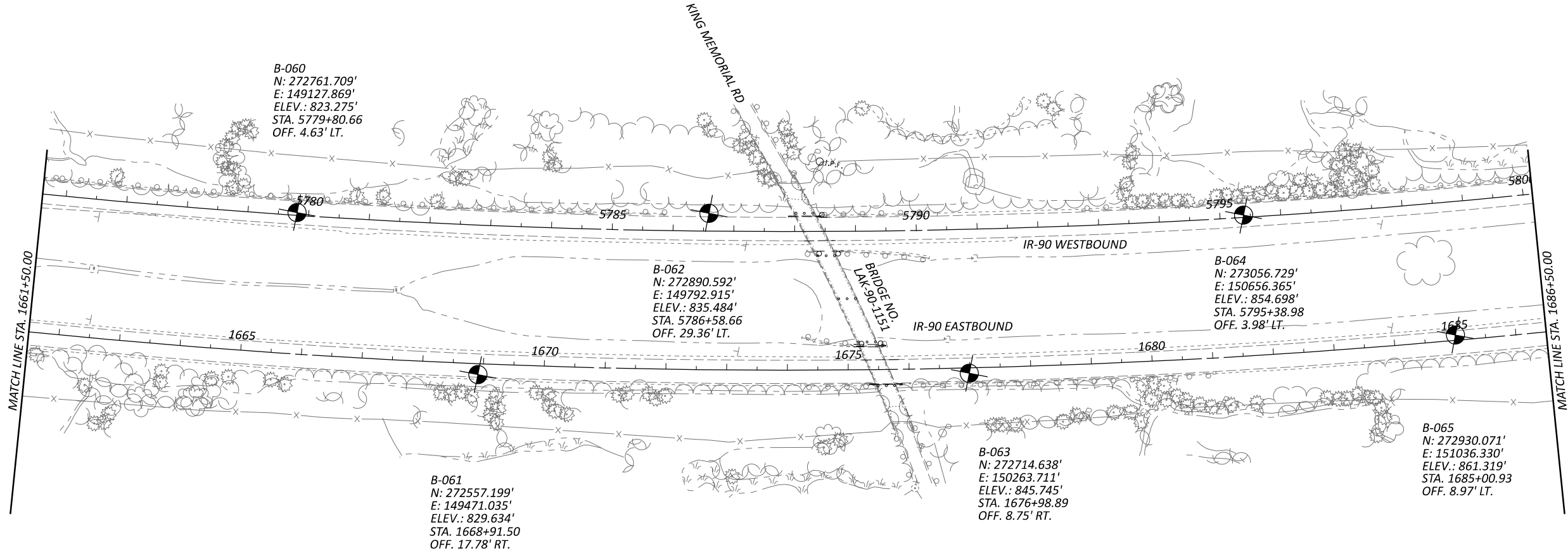
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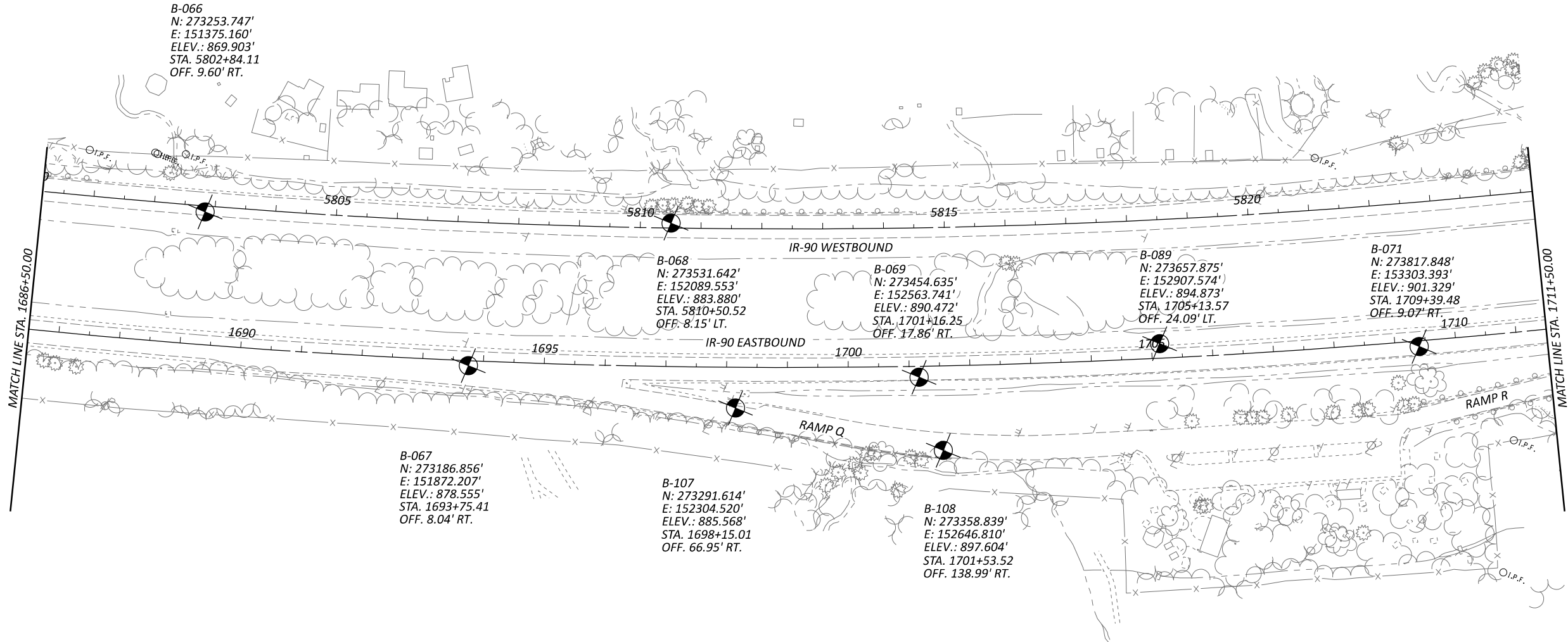
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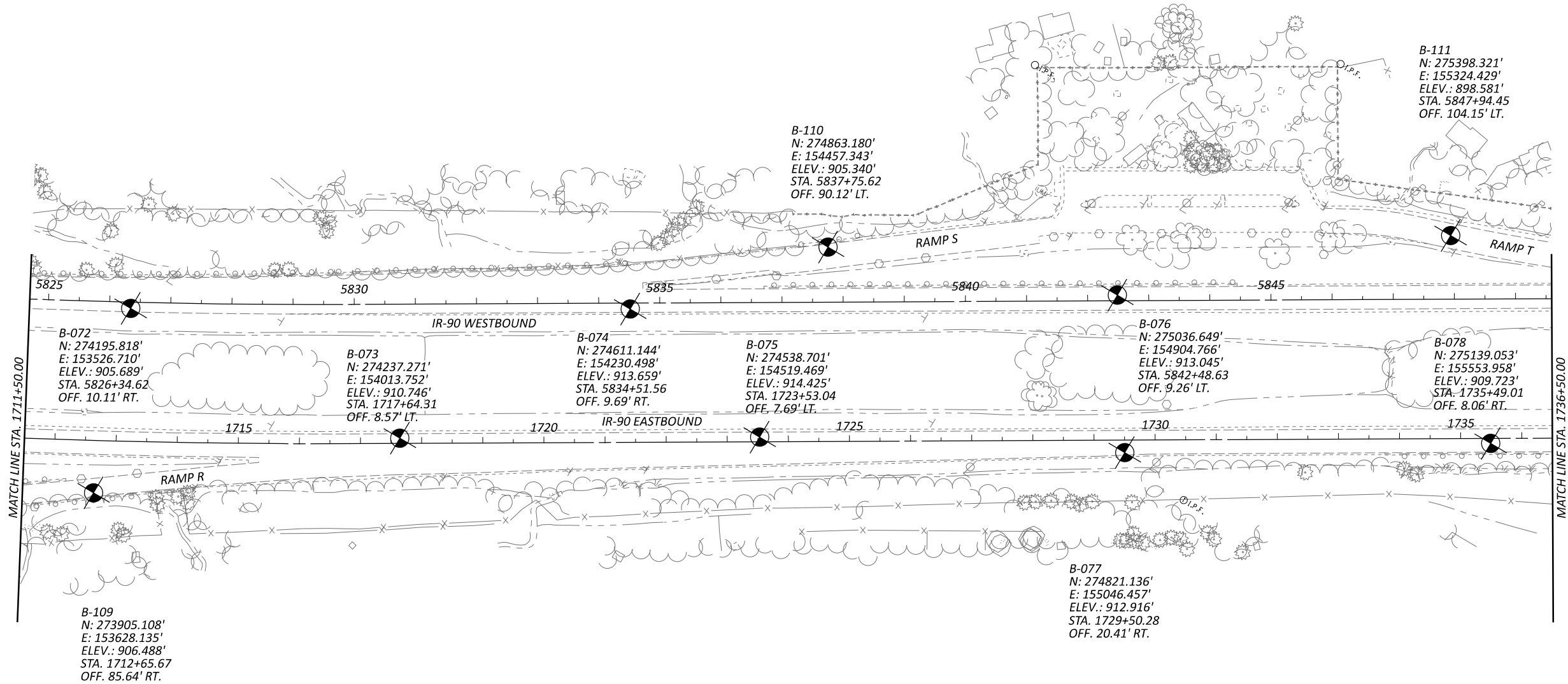
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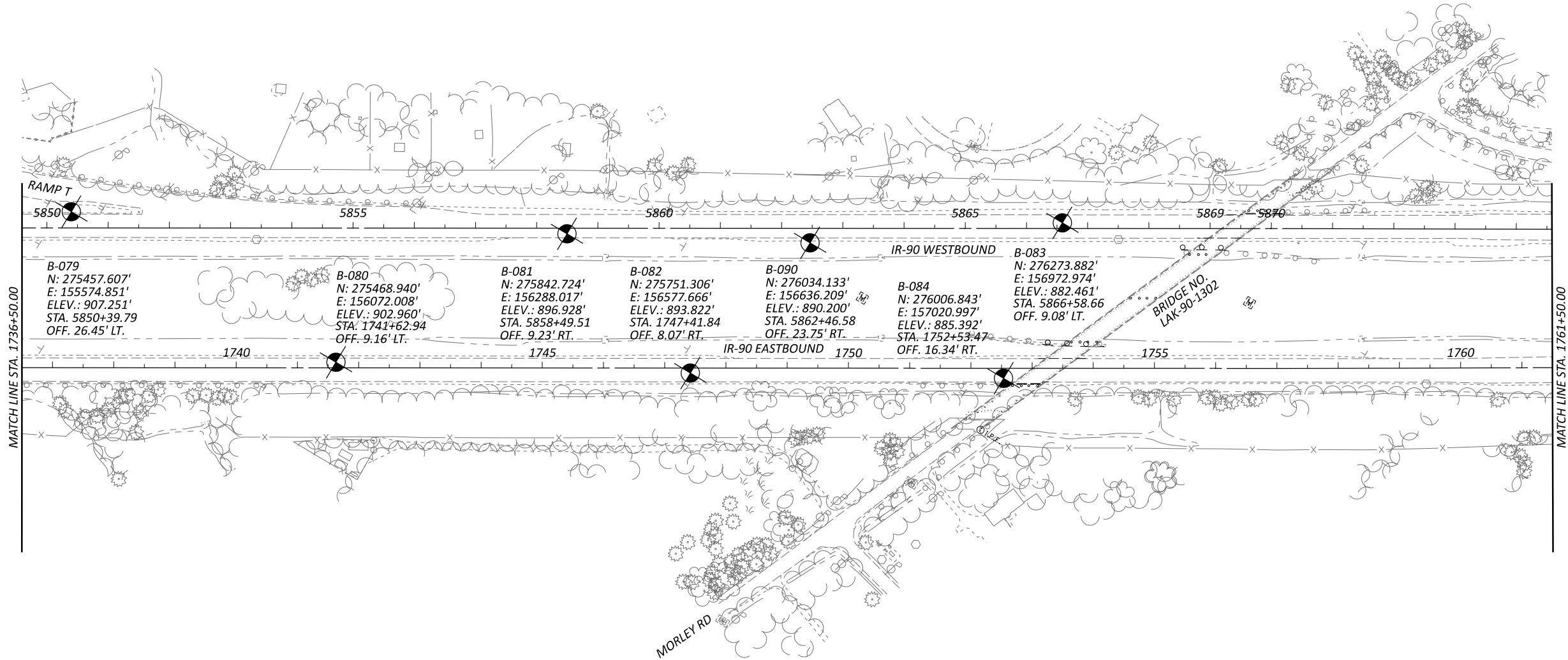
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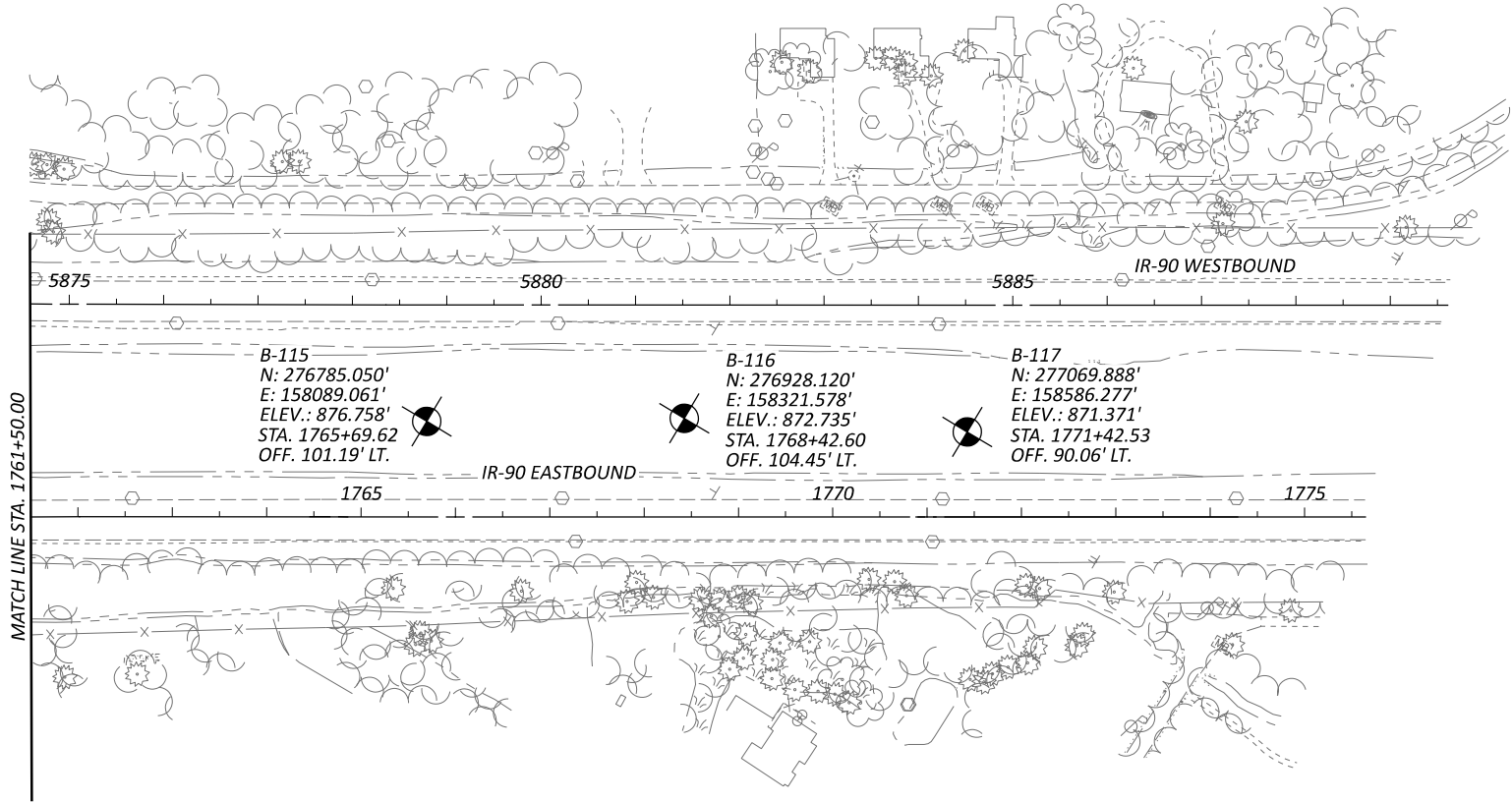
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STA. 1761+50 TO ENDING

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MAW 06/23/23

PROJECT ID

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TOTAL

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Appendix B

Logs of Soil Borings

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1445+36, 16' RT.		EXPLORATION ID B-001-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 708.5 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/20/23 END: 3/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.212493, -89.096547			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.2' - CONCRETE (14.0")	708.5																		
0.4' - AGGREGATE BASE (5.0")	707.3	1																	
HARD, BROWNISH GRAY, SANDY SILT , TRACE CLAY, LITTLE FINE GRAVEL, MOIST.	706.9																		
		2	13 15 12	39	67	SS-1	4.50	14	22	23	- 41 -	21	13	8	8	A-4a (1)	390		
	705.5	3																	
		4	11 11 11	32	72	SS-2	-	14	41	34	- 11 -	NP	NP	NP	15	A-1-b (0)	-		
MEDIUM LOOSE TO DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT AND CLAY, WET.		5	7 9 9	26	100	SS-3	-	-	-	-	-	-	-	-	16	A-1-b (V)	-		
	703.0																		
	702.5	6	3 3 5	12	67	SS-4	-	-	-	-	-	-	-	-	16	A-1-b (V)	-		
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE FINE GRAVEL, WET.		7																	
	700.5	8																	
		9	5 6 10	23	94	SS-5	-	-	-	-	-	-	-	-	-	A-3a (V)	-		
	698.5	10																	
EOB																			

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 6.0' AND @ 5.5' AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NOT RECORDED

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5562+58, 22' LT.		EXPLORATION ID B-002-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 706.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.213759, -89.095913														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
1.2' - CONCRETE (13.75")		706.8																		
0.3' - AGGREGATE BASE (3.0")		705.6	1																	
DENSE, REDDISH GRAY, COARSE AND FINE SAND, SOME SILT, LITTLE FINE GRAVEL, WET.		705.3																		
			2	14 12 10	32	61	SS-1	-	18	27	29	23	3	NP	NP	NP	12	A-3a (0)	300	
MEDIUM DENSE, GRAY, COARSE AND FINE SAND, LITTLE SILT, TRACE FINE GRAVEL, WET.		703.8	3	8																
			4	8 8	23	61	SS-2	-	-	-	-	-	-	-	-	-	19	A-3a (V)	-	
			5	4 5 7	17	67	SS-3	-	2	4	78	15	1	NP	NP	NP	20	A-3a (0)	-	
MEDIUM DENSE TO DENSE, GRAY, SILT, SOME FINE SAND, WET.		700.8	6	9																
			7	12 13	36	61	SS-4	-	2	0	20	74	4	NP	NP	NP	18	A-4b (8)	-	
			8																	
			9	4 5 7	17	56	SS-5	-	-	-	-	-	-	-	-	-	17	A-4b (V)	-	
		696.8	10																	
			EOB																	
NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 3.0' AND @ 4.5' AT DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1450+83, 29' RT.		EXPLORATION ID B-003-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 712.0 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/20/23 END: 3/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.213358, -89.094945			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.5")	712.0																		
0.4' - AGGREGATE BASE (4.75")	710.9	1																	
HARD, BROWNISH GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, MOIST.	710.5																		
		2	31 21 17	55	33	SS-1	-	-	-	-	-	-	-	-	8	A-4a (V)	320		
MEDIUM DENSE, BROWNISH GRAY, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, WET.	709.0	3																	
		4	10 5 6	16	78	SS-2	-	26	30	21	-	23	-	NP	NP	NP	10	A-1-b (0)	-
		5	7 7 9	23	75	SS-3	-	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	-
		6																	
		7	8 5 4	13	89	SS-4	-	29	23	30	-	18	-	NP	NP	NP	11	A-1-b (0)	-
	704.5																		
MEDIUM DENSE, BROWNISH GRAY, GRAVEL , LITTLE SAND, TRACE SILT, WET.	704.0	8																	
	703.5																		
	703.0	9	8 12 16	41	100	SS-5A	-	-	-	-	-	-	-	-	-	-	-	A-1-a (V)	-
MEDIUM DENSE, GRAY, SILTY SAND , TRACE FINE GRAVEL, WET.	702.0																		
		10				SS-5B	-	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	-
	EOB																		

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 8.5' AND @ 7.5' AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99_RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5569+47, 31' RT.		EXPLORATION ID B-004-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 711.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/13/23 END: 4/13/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.214771, -89.093817			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.0")	711.4																		
MEDIUM STIFF TO VERY STIFF, BROWN AND GRAY, SANDY SILT , LITTLE CLAY, LITTLE FINE GRAVEL, DAMP.	710.3	1																	
		2	10 5 4	13	83	SS-1	3.50	12	17	25	30	16	25	16	9	12	A-4a (2)	120	
	707.9	3	6			SS-2A	1.00	-	-	-	-	-	-	-	-	15	A-4a (V)	-	
MEDIUM DENSE, GRAY, COARSE AND FINE SAND , SOME SILT, LITTLE FINE GRAVEL, TRACE CLAY, VERY MOIST.	706.9	4	6 6	17	100	SS-2B	-	-	-	-	-	-	-	-	-	12	A-3a (V)	-	
MEDIUM DENSE, DARK GRAY, COARSE AND FINE SAND , SOME SILT, LITTLE FINE GRAVEL, TRACE CLAY, VERY MOIST TO WET.	706.9	5	7 8 10	26	61	SS-3	-	16	27	30	22	5	NP	NP	NP	14	A-3a (0)	-	
		6																	
		7	2 5 7	17	67	SS-4	-	-	-	-	-	-	-	-	-	20	A-3a (V)	-	
	703.4	8																	
DENSE, GRAY, SANDY SILT , TRACE FINE GRAVEL, WET.		9	5 17 21	55	100	SS-5	-	-	-	-	-	-	-	-	-	18	A-4a (V)	-	
	701.4	10																	
EOB																			

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 4.5' AND WAS DRY AT DRILLING COMPLETION.

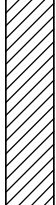
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1460+57, 11' RT.		EXPLORATION ID B-005-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 718.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/20/23 END: 3/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.214972, -89.092168			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.8' - CONCRETE (10.0")	718.9																		
0.1' - ASPHALT (1.0")	718.1																		
0.9' - CONCRETE (10.0")	718.0	1																	
0.3' - AGGREGATE BASE (4.0")	717.1																		
VERY STIFF, GRAY, SANDY SILT , SOME CLAY, LITTLE FINE GRAVEL, MOIST.	716.8	2				SS-1A	-	-	-	-	-	-	-	-	-	-	-	-	
			5																
			6	20	56	SS-1B	3.00	10	13	28	26	23	23	13	10	12	A-4a (3)	890	
	715.4	3	8																
HARD, BROWN TO BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, VERY MOIST TO MOIST.		4	7	23	61	SS-2	4.50	10	12	19	29	30	29	14	15	18	A-6a (7)	-	
			7																
		5																	
		6	40	62	56	SS-3	4.50	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
			27																
		6	16																
		7	12	54	89	SS-4	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
			18																
			19																
	710.6	8																	
VERY DENSE, GRAY, GRAVEL WITH SAND AND SILT , VERY MOIST.																			
		9	22	75	100	SS-5	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	-	
			26																
			26																
	708.9	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL	
										GR	CS	FS	SI	CL	LL	PL	PI					
1.1' - CONCRETE (13.5")		716.9																				
0.5' - AGGREGATE BASE (6.0")		715.8		1																		
		715.3																				
HARD, BROWN, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST.		712.4		2	12 9 9	26	61	SS-1A	-	-	-	-	-	-	-	-	-	10	-			
							SS-1B	4.5+	-	-	-	-	-	-	-	11	A-6a (V)	410				
				3																		
				4	7 7 8	22	83	SS-2	4.5+	1	4	16	42	37	29	16	13	15	A-6a (9)	-		
MEDIUM DENSE TO DENSE, BROWN TO GRAY, COARSE AND FINE SAND , LITTLE SILT, LITTLE CLAY, TRACE FINE GRAVEL, VERY MOIST TO WET.		706.9		5	9 11 13	35	100	SS-3	-	-	-	-	-	-	-	-	-	15	A-3a (V)	1500		
				6																		
				7	10 8 7	22	100	SS-4	-	5	2	62	19	12	NP	NP	NP	14	A-3a (0)	-		
				8																		
				9	6 7 9	23	83	SS-5	-	-	-	-	-	-	-	-	-	18	A-3a (V)	-		
				10																		
		708.9	W																			
		706.9	EOB																			

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 8.0' AND WAS DRY AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1465+99, 29' LT.		EXPLORATION ID B-007-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 722.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/27/23 END: 3/27/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.215883, -89.090624			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (12.75")	722.9																		
1.0' - AGGREGATE BASE (12.0")	721.8	1																	
MEDIUM DENSE, GRAY, GRAVEL WITH SAND AND SILT , MOIST. -TRACE ASPHALT FRAGMENTS AND ORGANIC ODOR IN SS-1	720.8	2	9	9	23	78	SS-1A	-	-	-	-	-	-	-	-	-	-	-	
VERY STIFF, GRAY WITH ORANGE, SILT AND CLAY , AND COARSE TO FINE SAND, LITTLE FINE GRAVEL	719.9	3	22	14	38	44	SS-1B	-	45	20	14	-	21	-	-	-	9	A-2-4 (V)	140
VERY STIFF, DARK BROWN TO BROWN, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	718.4	4	10	10	28	56	SS-2	4.5+	11	13	25	26	25	26	14	12	11	A-6a (4)	-
VERY STIFF, GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	718.0	5	10	10	28	56	SS-3A	4.00	-	-	-	-	-	-	-	-	12	A-4a (V)	-
VERY STIFF, GRAY TO BROWN, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	716.9	6	4	8	26	100	SS-3B	3.50	6	9	21	33	31	26	15	11	13	A-6a (6)	-
		7	4	8	26	100	SS-4	4.00	-	-	-	-	-	-	-	-	-	A-4a (V)	-
		8																	
		9	6	10	35	100	SS-5	4.00	-	-	-	-	-	-	-	-	-	A-4a (V)	-
	712.9	10																	
EOB																			

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 2.6' AND WAS DRY AT DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5583+57, 30' RT.		EXPLORATION ID B-008-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 721.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/13/23 END: 4/13/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.216894, -89.089614														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		721.2							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.25")																				
		720.1	1																	
HARD, BROWNISH GRAY TO BROWN, SANDY SILT, LITTLE CLAY, LITTLE TO TRACE FINE GRAVEL, MOIST.				50/2"	-	0	SS-1	-	-	-	-	-	-	-	-	-	-		-	
			2																	
			3																	
			4	11 11 12	33	89	SS-2	4.5+	15	21	21	26	17	24	15	9	11	A-4a (2)	-	
			5	11 13 15	41	61	SS-3	4.5+	-	-	-	-	-	-	-	-	14	A-4a (V)	-	
			6																	
			7	13 15 15	44	61	SS-4	-	4	12	39	26	19	21	15	6	14	A-4a (2)	-	
		713.2	8																	
VERY STIFF, BROWNISH GRAY, SANDY SILT, TRACE TO LITTLE CLAY, TRACE FINE GRAVEL, MOIST.			9	6 7 9	23	100	SS-5	3.00	-	-	-	-	-	-	-	-	20	A-4a (V)	-	
		711.2	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: <u>LAK-90-6.99</u>		DRILLING FIRM / OPERATOR: <u>RII / LH</u>		DRILL RIG: <u>CME 55 (386345)</u>		STATION / OFFSET: <u>1471+89, 20' LT.</u>		EXPLORATION ID <u>B-009-0-23</u>	
TYPE: <u>SUBGRADE</u>		SAMPLING FIRM / LOGGER: <u>AECOM / EB</u>		HAMMER: <u>AUTOMATIC</u>		ALIGNMENT: <u>I-90 EB</u>			
PID: <u>116955</u> SFN: <u>N/A</u>		DRILLING METHOD: <u>4.5" CFA</u>		CALIBRATION DATE: <u>3/21/22</u>		ELEVATION: <u>726.7 (MSL)</u> EOB: <u>10.0 ft.</u>		PAGE 1 OF 1	
START: <u>3/27/23</u> END: <u>3/27/23</u>		SAMPLING METHOD: <u>SPT</u>		ENERGY RATIO (%): <u>87</u>		LAT / LONG: <u>40.216689, -89.088788</u>			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.5")	726.7																		
0.8' - AGGREGATE BASE (10.0")	725.6	1																	
VERY DENSE, GRAY, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, MOIST -TRACE ASPHALT FRAGMENTS AND ORGANIC ODOR IN SS-1	724.8	2	9	17	52	100	SS-1A	-	-	-	-	-	-	-	-	-	-	-	-
	723.7	3	19	19			SS-1B	-	50	19	10	13	8	NP	NP	NP	12	A-1-b (0)	260
		4	19	12	13	36	56	SS-2	4.50	-	-	-	-	-	-	-	12	A-6a (V)	-
		5	6	6	10	23	50	SS-3	4.00	-	-	-	-	-	-	-	17	A-6a (V)	-
-SS-4: LOI = 2.2%	718.7	6	8																
		7	9	9	26	72	SS-4	2.25	10	13	20	32	25	27	16	11	16	A-6a (5)	-
DENSE, BROWN, GRAVEL WITH SAND AND SILT , MOIST	716.7	8																	
	9	6	10	14	35	83	SS-5	-	-	-	-	-	-	-	-	-	A-2-4 (V)	-	
		10																	

EOB

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5590+56, 20' RT.		EXPLORATION ID B-010-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 726.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/13/23 END: 4/13/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.217827, -89.087431			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.2' - CONCRETE (14.5")	726.9																		
VERY DENSE, BROWN, SANDY SILT , LITTLE TO SOME FINE GRAVEL, DAMP.	725.7	1																	
-POSSIBLE LIME OR CEMENT TREATED	724.4	2	50/4"	-	100	SS-1	-	-	-	-	-	-	-	-	-	13	A-4a (V)	220	
HARD, BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		3																	
		4	6 9 11	29	89	SS-2	4.5+	4	8	13	43	32	31	18	13	18	A-6a (9)	-	
-TRACE ORGANICS IN SS-3; LOI = 1.7%		5	11 13 15	41	56	SS-3	4.50	-	-	-	-	-	-	-	-	13	A-6a (V)	-	
	720.9	6																	
HARD TO STIFF, BROWN TO BROWNISH GRAY, SILT AND CLAY , AND TO SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST		7	12 13 16	42	78	SS-4	4.5+	5	23	19	33	20	28	16	12	14	A-6a (4)	-	
		8																	
		9	9 7 9	23	100	SS-5A	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
-ROOT FIBERS IN SS-5B; LOI = 3.8%						SS-5B	1.50	1	7	25	49	18	29	18	11	24	A-6a (7)	-	
	716.9	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1477+13, 9' RT.		EXPLORATION ID B-011-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 729.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/20/23 END: 3/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.217295, -89.087082														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
1.1' - CONCRETE (14.0")		729.8																		
0.2' - AGGREGATE BASE (2.0")		728.7	1																	
VERY DENSE, BROWNISH GRAY, GRAVEL WITH SAND AND SILT, MOIST		728.5																		
-POSSIBLE LIME OR CEMET TREATED		727.9	2	50/5"	-	80	SS-1	-	-	-	-	-	-	-	-	-	18	A-2-4 (V)	-	
HARD, BROWN, SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3																	
			4	8	8	35	100	SS-2	4.50	5	5	7	36	47	33	17	16	16	A-6b (10)	910
		725.3	5	6	12	36	89	SS-3	4.50	7	6	11	41	35	28	16	12	16	A-6a (9)	-
			6																	
			7	14	18	55	100	SS-4	4.50	-	-	-	-	-	-	-	19	A-6a (V)	-	
			8																	
			9	8	8	22	100	SS-5	4.50	-	-	-	-	-	-	-	-	A-6a (V)	-	
		719.8	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5597+70, 8' LT.		EXPLORATION ID B-012-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 737.7 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/10/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.218729, -89.085163														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		737.7							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.0' - CONCRETE (12.0")																				
		736.7																		
0.1' - ASPHALT (1.5")		736.6	1																	
0.8' - CONCRETE (9.5")		735.8																		
0.4' - AGGREGATE BASE (5.0")		735.4	2																	
VERY STIFF, BROWNISH GRAY TO BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3	3	13	61	SS-1	4.00	2	6	8	43	41	29	17	12	14	A-6a (9)	320	
			4	4																
			5	3	9	50	SS-2	2.25	-	-	-	-	-	-	-	-	18	A-6a (V)	-	
		731.7																		
MEDIUM DENSE, GRAY, FINE SAND, MOIST.		731.2	6	5			SS-3A	2.75	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
				7	22	100	SS-3B	-	-	-	-	-	-	-	-	-	10	A-3 (V)	-	
			7	8			SS-3C	2.50	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
STIFF TO VERY STIFF, BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			8	9																
				5	16	100	SS-4	2.00	2	7	11	39	41	31	17	14	18	A-6a (10)	-	
-TRACE ROOTS IN SS-4			9	6																
				7	25	78	SS-5	2.00	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
		727.7	10	10																
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1483+25, 17' RT.		EXPLORATION ID B-013-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 735.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/20/23 END: 3/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.217993, -89.085094														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
		735.8							GR	CS	FS	SI	CL	LL	PL	PI				
1.3' - CONCRETE (15.25")		734.5	1																	
0.2' - AGGREGATE BASE (2.75")		734.3																		
VERY DENSE, BROWNISH GRAY, GRAVEL WITH SAND, TRACE SILT, MOIST			2	50/3"	-	100	SS-1	-	-	-	-	-	-	-	-	-	A-1-b (V)	-		
HARD TO VERY STIFF, BROWNISH GRAY TO GRAY, SILT AND CLAY, SOME TO TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOSIT.		732.8	3																	
			4	10 14 14	41	100	SS-2	4.50	6	11	10	34	39	30	17	13	16	A-6a (9)	940	
			5	11 13 13	38	90	SS-3	4.50	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
			6																	
			7	13 15 14	42	83	SS-4	3.00	1	3	5	43	48	29	16	13	18	A-6a (9)	-	
			8																	
			9	5 5 8	19	100	SS-5	3.00	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		725.8	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5604+65, 27' LT.		EXPLORATION ID B-014-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 748.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/10/23 END: 4/10/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.219494, -89.082879														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
1.1' - CONCRETE (13.0")		748.3																		
		747.2	1																	
0.4' - AGGREGATE BASE (5.0")		746.8																		
DENSE, BROWNISH GRAY, COARSE AND FINE SAND , SOME SILT, LITTLE FINE GRAVEL, LITTLE CLAY, MOIST.			2	9 11 12	33	56	SS-1	-	14	28	26	20	12	19	16	3	25	A-3a (0)	500	
		745.3	3																	
VERY STIFF TO HARD, DARK GRAY TO BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			4	5 4 7	16	56	SS-2	4.50	-	-	-	-	-	-	-	-	10	A-6a (V)	100	
			5	5 5 6	16	61	SS-3	2.75	5	12	15	33	35	31	17	14	17	A-6a (8)	-	
			6																	
			7	5 6 8	20	67	SS-4	2.50	-	-	-	-	-	-	-	-	18	A-6a (V)	-	
			8																	
			9	7 9 11	29	100	SS-5	4.50	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
		738.3	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1493+02, 21' LT.		EXPLORATION ID B-015-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 752.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/29/23 END: 3/29/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.219080, -89.081892														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		752.3							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (13.75")																				
		751.1	1																	
0.6' - AGGREGATE BASE (4.25")																				
		750.5					SS-1A	-	-	-	-	-	-	-	-	-	-	A-1-a (V)	-	
VERY STIFF TO HARD, GRAY, SANDY SILT, SOME CLAY, LITTLE TO TRACE FINE GRAVEL, MOIST. -SAND AND GRAVEL SEAMS @ 2.3'			2	6 7 10	25	78	SS-1B	4.5+	15	13	16	34	22	26	16	10	14	A-4a (4)	580	
			3																	
			4	9 10 13	33	56	SS-2	3.75	5	12	15	40	28	24	14	10	12	A-4a (7)	-	
			5	9 8 10	26	72	SS-3	4.50	-	-	-	-	-	-	-	-	13	A-4a (V)	-	
			6																	
			7	9 10 12	32	78	SS-4	4.50	-	-	-	-	-	-	-	-	13	A-4a (V)	-	
			8																	
			9	8 10 11	30	100	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
		742.3	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5611+67, 9' LT.		EXPLORATION ID B-016-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 760.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/10/23 END: 4/10/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.220065, -89.080470														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
1.1' - CONCRETE (13.0")		760.2																		
		759.1	1																	
0.1' - ASPHALT (1.5")		759.0																		
0.8' - CONCRETE (9.75")		758.2	2																	
MEDIUM DENSE, DARK BROWN, GRAVEL WITH SAND AND SILT, DAMP.																				
-SS-1: LOI = 1.4%			3	6	25	100	SS-1	-	24	24	19	18	15	22	17	5	9	A-2-4 (0)	540	
		756.2	4	7																
MEDIUM DENSE, DARK BROWN, GRAVEL WITH SAND, SILT, AND CLAY, DAMP.																				
-SS-2: LOI = 1.8%			5	8	25	100	SS-2	-	30	26	16	12	16	39	16	23	9	A-2-6 (2)	-	
			6	8																
			7	7	19	0	SS-3	-	-	-	-	-	-	-	-	-	-		-	
		753.2		6																
HARD, BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			8	5	23	56	SS-4	4.5+	2	6	13	38	41	29	17	12	16	A-6a (9)	-	
			9	7																
			10	11	33	83	SS-5	4.5+	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
		750.2		10																
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99			DRILLING FIRM / OPERATOR: RII / LH			DRILL RIG: CME 55 (386345)			STATION / OFFSET: 1500+83, 23' LT.			EXPLORATION ID B-017-0-23								
TYPE: SUBGRADE			SAMPLING FIRM / LOGGER: AECOM / EB			HAMMER: AUTOMATIC			ALIGNMENT: I-90 EB											
PID: 116955 SFN: N/A			DRILLING METHOD: 4.5" CFA			CALIBRATION DATE: 3/21/22			ELEVATION: 765.2 (MSL) EOB: 10.0 ft.			PAGE 1 OF 1								
START: 3/29/23 END: 3/29/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 87			LAT / LONG: 40.219730, -89.079224											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		765.2							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (13.75")																				
		764.0	1																	
0.3' - AGGREGATE BASE (4.25")		763.7																		
VERY STIFF, GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, SOME FINE GRAVEL, MOIST.			2	9	8	23	72	SS-1	4.00	24	19	13	27	17	29	17	12	16	A-6a (2)	540
		762.2	3	6	6	19	89	SS-2	4.00	28	12	13	25	22	32	16	16	16	A-6b (4)	-
VERY STIFF, GRAY, SILTY CLAY , SOME COARSE TO FINE SAND, SOME FINE GRAVEL, MOIST.			4	7																
		760.7	5	6	8	26	61	SS-3	4.00	-	-	-	-	-	-	-	-	17	A-6a (V)	-
			6																	
			7	7	10	33	72	SS-4	4.5+	-	-	-	-	-	-	-	-	16	A-6a (V)	-
			8																	
			9	9	10	32	100	SS-5	4.50	-	-	-	-	-	-	-	-	A-6a (V)	-	
		755.2	10	12																
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5618+47, 24' RT.		EXPLORATION ID B-018-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 770.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/13/23 END: 4/13/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.220478, -89.078095			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.2' - CONCRETE (14.0")	770.4																		
0.6' - AGGREGATE BASE (7.5")	769.2	1																	
VERY LOOSE TO MEDIUM DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, MOIST.	768.6	2	11 10 8	26	61	SS-1A	-	-	-	-	-	-	-	-	-	9		-	
		3				SS-1B	-	45	19	18	12	6	NP	NP	NP	7	A-1-b (0)	400	
		4	5 1 2	4	44	SS-2	-	43	21	17	12	7	NP	NP	NP	6	A-1-b (0)	-	
-PLASTIC PIPE FRAGMENTS IN SS-2	765.9																		
HARD, BROWN TO GRAY, SANDY SILT , SOME CLAY, TRACE FINE GRAVEL, MOIST.		5	5 8 7	22	50	SS-3	4.50	-	-	-	-	-	-	-	-	11	A-4a (V)	-	
		6																	
		7	9 11 12	33	67	SS-4	4.5+	9	14	14	33	30	26	16	10	13	A-4a (6)	-	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , MOIST.	762.4	8																	
-TRACE ROOT FIBERS IN SS-5	760.4	9	9 9 8	25	100	SS-5	-	-	-	-	-	-	-	-	-	9	A-3a (V)	-	
		10																	
EOB																			

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 6.0' AND WAS DRY AT DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1508+97, 29' LT.		EXPLORATION ID B-019-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 774.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/29/23 END: 3/29/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.220316, -89.076409														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		774.9							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (14.25")																				
		773.7	1																	
0.5' - AGGREGATE BASE (5.75")		773.2					SS-1A	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	-	
VERY STIFF TO HARD, GRAY TO GRAYISH BROWN, SILT AND CLAY, SOME TO LITTLE COARSE TO FINE SAND, LITTLE TO TRACE FINE GRAVEL, MOIST.			2	10 5 8	19	72	SS-1B	4.50	11	10	12	39	28	28	17	11	18	A-6a (7)	300	
			3																	
			4	7 8 9	25	72	SS-2	4.50	8	7	11	41	33	29	17	12	16	A-6a (9)	-	
			5	5 6 12	26	72	SS-3	1.75	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
			6																	
HARD, BROWN TO GRAY, SANDY SILT, LITTLE FINE GRAVEL, TRACE CLAY, MOIST.		768.9																		
-SANDSTONE FRAGMENTS IN SS-4			7	11 11 14	36	78	SS-4	4.50	-	-	-	-	-	-	-	-	13	A-4a (V)	-	
		766.9																		
MEDIUM DENSE, BROWN, SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, MOIST TO WET.			8																	
		764.9	9	5 7 8	22	100	SS-5	-	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
			10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5625+56, 31' RT.		EXPLORATION ID B-020-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 775.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/13/23 END: 4/13/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.220953, -89.075634														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
		775.9							GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.5")		774.8	1																	
0.4' - AGGREGATE BASE (5.0")		774.4																		
HARD, BROWN TO GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			2	6	5	19	67	SS-1	4.50	6	14	13	36	31	29	16	13	14	A-6a (8)	1100
			3	8	10															
			4	11	30	67		SS-2	4.5+	-	-	-	-	-	-	-	-	14	A-6a (V)	-
-SEAMS OF SAND AND GRAVEL @ 5.1' TO 5.3'			5	12	16	51	100	SS-3	4.5+	-	-	-	-	-	-	-	-	10	A-6a (V)	-
		769.9	6																	
HARD, BROWN, SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, MOIST.			7	16	12	30	67	SS-4	4.50	16	20	12	29	23	27	17	10	8	A-4a (3)	-
			8																	
			9	7	8	22	100	SS-5A	4.50	-	-	-	-	-	-	-	-	10	A-4a (V)	-
VERY STIFF, BROWN AND DARK GRAY, SANDY SILT, LITTLE CLAY, LITTLE FINE GRAVEL, MOIST		766.4																		
-ROOT FIBERS PRESENT IN SS-5B		765.9	EOB	10				SS-5B	-	-	-	-	-	-	-	-	-	18	A-4a (V)	-
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1516+69, 21' LT.		EXPLORATION ID B-021-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 775.5 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/30/23 END: 3/30/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.220827, -89.073724			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.5")	775.5																		
0.6' - AGGREGATE BASE (7.0")	774.4	1																	
HARD, BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, SOME FINE GRAVEL, DAMP. -ROOT FIBERS IN SS-1	773.8					SS-1A	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	-	
	772.5	2	7 6 5	16	78	SS-1B	4.5+	22	12	14	30	22	32	19	13	14	A-6a (5)	200	
HARD, BROWNISH GRAY, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		3	3 4 6	15	100	SS-2	4.5+	2	4	9	42	43	39	19	20	20	A-6b (12)	-	
	769.5	5	7 8 10	26	100	SS-3	4.5+	-	-	-	-	-	-	-	-	16	A-6b (V)	-	
HARD TO VERY STIFF, BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST. -ROOT FIBERS IN SS-4		6	10 12 14	38	83	SS-4	4.5+	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
		8																	
	765.5	9	5 7 9	23	100	SS-5	3.25	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5632+79, 3' RT.		EXPLORATION ID B-022-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 774.7 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/7/23 END: 4/7/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.221520, -89.073151														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.1' - ASPHALT PATCH (1.5")		774.6																		
0.7' - CONCRETE (8.0")		773.9																		
0.1' - ASPHALT (1.25")		773.8	1																	
0.8' - CONCRETE (10.25")		773.0																		
0.4' -AGGREGATE BASE (5.0")		772.6	2																	
HARD, GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.							SS-1A	-	-	-	-	-	-	-	-	-	-	-	-	
			3	3	12	61	SS-1B	4.50	5	9	12	46	28	29	17	12	15	A-6a (9)	550	
			4	3	2	9	0	SS-2	-	-	-	-	-	-	-	-	-	-	-	
		769.7	5	5	6	22	67	SS-3	4.50	4	9	13	49	25	31	19	12	15	A-6a (9)	-
			6	6	9															
			7	6	6	17	100	SS-4	2.00	-	-	-	-	-	-	-	18	A-6a (V)	-	
			8																	
			9	8	8	25	89	SS-5	3.00	-	-	-	-	-	-	-	-	A-6a (V)	-	
		764.7	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1524+94, 11' RT.		EXPLORATION ID B-023-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 772.7 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.221311, -89.070836			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI					
0.9' - CONCRETE (10.5")	772.7																			
0.1' - ASPHALT (1.0")	771.8	1																		
0.7' - CONCRETE (8.5")	771.7																			
0.7' - CONCRETE (8.5")	771.0																			
0.6' - AGGREGATE BASE (8.0")	770.4	2																		
STIFF, BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	769.2	3	4	2	3	7	61	SS-1	1.50	7	11	15	34	33	31	16	15	17	A-6a (8)	660
MEDIUM STIFF, BROWNISH GRAY, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST	767.7	4	1	2	4	9	100	SS-2	1.00	2	4	12	41	41	38	19	19	25	A-6b (12)	-
MEDIUM STIFF TO VERY STIFF, BROWNISH GRAY, CLAY , AND SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST	764.4	5	3	6	7	19	81	SS-3	1.00	0	1	6	37	56	45	20	25	24	A-7-6 (15)	-
		6	8	7	9	23	81	SS-4	2.50	-	-	-	-	-	-	-	-	20	A-7-6 (V)	-
		7																		
		8																		
VERY STIFF, BROWN, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	762.7	9	6	7	9	23	100	SS-5	3.00	-	-	-	-	-	-	-	-	-	A-4a (V)	-
		10																		
EOB																				

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5639+77, 2' RT.		EXPLORATION ID B-024-0-23														
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB																
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 772.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1														
START: 4/7/23 END: 4/7/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.222005, -89.070731																
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL		
										GR	CS	FS	SI	CL	LL	PL	PI	WC				
0.1' - ASPHALT PATCH (1.5")		772.3																				
0.7' - CONCRETE (7.75")		771.6																				
0.1' - ASPHALT (1.0")		771.5	1																			
0.9' - CONCRETE (10.0")																						
		770.6																				
0.3' - AGGREGATE BASE (4.0")		770.3	2				SS-1A	-	-	-	-	-	-	-	-	-	-		-			
VERY STIFF TO HARD, GRAYISH BROWN TO BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3	3	12	56	SS-1B	3.00	5	6	12	44	33	33	18	15	16	A-6a (10)	610			
			4	4	16	50	SS-2	4.50	6	7	12	48	27	31	18	13	15	A-6a (9)	-			
			5																			
			6	5	15	89	SS-3	3.00	-	-	-	-	-	-	-	-	-	24	A-6a (V)	-		
			7	4	15	83	SS-4	2.75	-	-	-	-	-	-	-	-	-	21	A-6a (V)	-		
			8																			
			9	10	36	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	-	A-6a (V)	-		
			10	12																		
		762.4	EOB	10																		
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																						
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																						

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1533+02, 17' RT.		EXPLORATION ID B-025-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 769.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.221852, -89.068029														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		769.3							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (14.5")		768.1	1																	
0.3' - AGGREGATE BASE (3.5")		767.8																		
VERY DENSE, BROWNISH GRAY, GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST -CONCRETE FRAGMENTS IN SS-1 -POSSIBLE LIME OR CEMENT TREATED		766.3	2	28 50/5"	-	82	SS-1	-	16	36	23	19	6	NP	NP	NP	19	A-1-b (0)	520	
HARD, BROWNISH GRAY, SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, MOIST.		764.8	3	5																
			4	8 10	26	100	SS-2	4.50	6	9	11	39	35	27	17	10	17	A-4a (8)	-	
HARD, BROWNISH GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		761.3	5	6 8 12	29	100	SS-3	4.50	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
			6																	
			7																	
			8																	
HARD, GRAY, SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.		759.3	9	7 9	23	100	SS-4	4.50	-	-	-	-	-	-	-	-	13	A-4a (V)	-	
			10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99			DRILLING FIRM / OPERATOR: RII / LH			DRILL RIG: CME 55 (386345)			STATION / OFFSET: 5646+55, 16' LT.			EXPLORATION ID B-026-0-23		
TYPE: SUBGRADE			SAMPLING FIRM / LOGGER: AECOM / EB			HAMMER: AUTOMATIC			ALIGNMENT: I-90 WB					
PID: 116955 SFN: N/A			DRILLING METHOD: 3.5" SSA			CALIBRATION DATE: 3/21/22			ELEVATION: 769.1 (MSL) EOB: 10.0 ft.			PAGE 1 OF 1		
START: 4/7/23 END: 4/7/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 87			LAT / LONG: 40.222522, -89.068398					

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.25")	769.1																		
VERY DENSE, BROWN, GRAVEL WITH SAND AND SILT, DAMP.	768.0	1																	
	766.6	2	33 50/4"	-	100	SS-1	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	400	
VERY STIFF, BROWN, SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, MOIST.	764.6	3	8																
	764.6	4	4 5	13	44	SS-2	3.00	8	13	13	42	24	30	20	10	17	A-4a (6)	-	
STIFF, BROWN, SILT AND CLAY, SOME COARSE TO FINE SAND, SOME FINE GRAVEL, MOIST.	763.1	5	4 3 4	10	50	SS-3	2.00	24	18	16	26	16	29	16	13	13	A-6a (2)	-	
HARD, BROWN, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	763.1	6	4																
	763.1	7	5 9	20	78	SS-4	4.5+	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
	763.1	8																	
-SHALE FRAGMENTS IN SS-5	759.1	9	7 8 12	29	100	SS-5	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
	759.1	10																	
EOB																			

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 5.1' AND WAS DRY AT DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1540+89, 8' RT.		EXPLORATION ID B-027-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 767.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.222419, -89.065310														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.9' - CONCRETE (10.5")		767.3																		
		766.4																		
0.1' - ASPHALT (1.25")		766.3	1																	
0.8' - CONCRETE (9.5")		765.5																		
VERY STIFF TO HARD, BROWNISH GRAY TO BROWN, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			2																	
				1																
				2	12	71	SS-1	4.00	4	8	12	39	37	30	17	13	15	A-6a (9)	670	
				3	6															
				4	7	33	72	SS-2	4.50	4	10	14	41	31	27	16	11	16	A-6a (8)	-
					10															
				5	13															
					15															
				6	20	58	100	SS-3	4.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-
					20															
			7																	
				7																
				13	42	100	SS-4	4.50	-	-	-	-	-	-	-	13	A-6a (V)	-		
				16																
			8																	
			9																	
				21																
				23	68	100	SS-5	4.50	-	-	-	-	-	-	-	-	A-6a (V)	-		
				24																
		757.3	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5653+26, 23' RT.		EXPLORATION ID B-028-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB															
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 767.7 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1													
START: 4/13/23 END: 4/13/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.222880, -89.066039															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL	
		767.7							GR	CS	FS	SI	CL	LL	PL	PI	WC				
1.2' - CONCRETE (14.75")																					
		766.4	1																		
0.4' - AGGREGATE BASE (5.0")		766.0					SS-1A	-	-	-	-	-	-	-	-	-	12		-		
STIFF TO HARD, BROWN TO GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			2	10 8 7	22	72	SS-1B	3.50	5	12	15	37	31	29	16	13	16	A-6a (8)	460		
			3																		
			4	7 6 6	17	72	SS-2	3.75	3	8	13	43	33	31	17	14	17	A-6a (10)	-		
			5	6 7 9	23	72	SS-3	1.75	-	-	-	-	-	-	-	-	-	18	A-6a (V)	-	
			6																		
			7	7 10 12	32	61	SS-4	4.5+	-	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
			8																		
			9	12 14 16	44	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
			10																		
		757.7	EOB																		
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																					

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5660+35, 21' RT.		EXPLORATION ID B-029-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 765.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.223374, -89.063583			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.3' - CONCRETE (15.5")	765.2																		
	763.9	1																	
STIFF, BROWNISH GRAY, SANDY SILT , LITTLE FINE GRAVEL, LITTLE CLAY, MOIST.		2	7 6 6	17	28	SS-1	2.00	18	19	14	31	18	26	16	10	17	A-4a (3)	600	
	762.2	3																	
VERY STIFF, BROWNISH ORANGE, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		4	5 5 6	16	83	SS-2	2.75	2	5	11	46	36	35	18	17	23	A-6b (11)	-	
	760.7	5	6 8 11	28	94	SS-3	4.50	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
HARD, BROWN, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		6																	
		7	12 15 19	49	78	SS-4	4.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
		8																	
		9	7 9 13	32	100	SS-5	4.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
	755.2	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - A\COMP\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: <u>LAK-90-6.99</u>		DRILLING FIRM / OPERATOR: <u>RII / LH</u>		DRILL RIG: <u>CME 55 (386345)</u>		STATION / OFFSET: <u>5667+61, 30' RT.</u>		EXPLORATION ID <u>B-031-0-23</u>	
TYPE: <u>SUBGRADE</u>		SAMPLING FIRM / LOGGER: <u>RII / IS</u>		HAMMER: <u>AUTOMATIC</u>		ALIGNMENT: <u>I-90 WB</u>			
PID: <u>116955</u> SFN: <u>N/A</u>		DRILLING METHOD: <u>3.5" SSA</u>		CALIBRATION DATE: <u>3/21/22</u>		ELEVATION: <u>763.5 (MSL)</u> EOB: <u>10.0 ft.</u>		PAGE <u>1 OF 1</u>	
START: <u>4/12/23</u> END: <u>4/12/23</u>		SAMPLING METHOD: <u>SPT</u>		ENERGY RATIO (%): <u>87</u>		LAT / LONG: <u>40.223853, -89.061061</u>			

MATERIAL DESCRIPTION AND NOTES	ELEV. 763.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.0")	762.4	1																	
HARD, BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	760.5	2	7 6 6	17	83	SS-1	4.50	8	12	13	36	31	29	16	13	13	A-6a (8)	590	
VERY STIFF TO HARD, BROWNISH GRAY TO BROWNISH ORANGE, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	757.5	3	5 5 7	17	89	SS-2	4.50	4	5	11	43	37	34	18	16	20	A-6b (10)	-	
	757.5	4																	
	757.5	5	4 7 10	25	83	SS-3	3.00	-	-	-	-	-	-	-	-	20	A-6b (V)	-	
HARD, BROWN, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	753.5	6	7 12 13	36	100	SS-4	4.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
	753.5	7																	
	753.5	8																	
	753.5	9	11 11 14	36	94	SS-5	4.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
	753.5	10																	

EOB

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1556+90, 29' LT.		EXPLORATION ID B-032-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB															
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 766.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1													
START: 3/30/23 END: 3/30/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.223622, -89.059794															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL	
									GR	CS	FS	SI	CL	LL	PL	PI	WC				
1.0' - CONCRETE (12.25")		766.2																			
		765.2	1																		
0.5' - AGGREGATE BASE (5.75")		764.7																			
HARD, BROWN AND GRAY TO GRAY, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			2	4	19	50	SS-1	4.5+	10	8	11	39	32	28	17	11	15	A-6a (8)	420		
			3	5																	
			4	8	29	100	SS-2	4.5+	-	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
			5	13																	
			6	16	52	100	SS-3	4.5+	8	7	10	39	36	31	17	14	15	A-6a (10)	-		
			7	15																	
			8	18	57	100	SS-4	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	-		
			9	21																	
		758.2																			
VERY STIFF, BROWN AND GRAY, SANDY SILT , LITTLE FINE GRAVEL, TRACE CLAY, MOIST.			8																		
			9	8																	
			10	11	33	72	SS-5	4.00	-	-	-	-	-	-	-	-	-	A-4a (V)	-		
		756.2	EOB																		
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																					

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5674+55, 16' RT.		EXPLORATION ID B-033-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 772.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.224365, -89.058665			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.2' - CONCRETE (14.5")	772.2																		
	771.0	1																	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, LITTLE FINE GRAVEL, TRACE CLAY, MOIST.		2	10 8 6	20	83	SS-1	-	12	25	37	18	8	NP	NP	NP	13	A-3a (0)	1300	
	769.2	3																	
HARD TO MEDIUM STIFF, BROWN TO BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		4	6 5 5	15	72	SS-2	-	3	9	13	40	35	30	17	13	17	A-6a (9)	-	
		5	5 5 6	16	94	SS-3	4.50	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
		6																	
		7	6 5 6	16	78	SS-4	1.00	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
		8																	
		9	5 5 6	16	94	SS-5	2.00	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
	762.2	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1565+02, 21' LT.		EXPLORATION ID B-034-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 779.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/30/23 END: 3/30/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.224158, -89.056973														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		779.2							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.5")																				
		778.1	1																	
0.4' - AGGREGATE BASE (4.5")		777.7																		
HARD, BROWNISH GRAY, SILT AND CLAY, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.			2	10 10 6	23	72	SS-1	4.50	-	-	-	-	-	-	-	-	14	A-6a (V)	640	
-GRAVEL WITH SAND SEAM @ 2.3'		776.2	3																	
HARD, BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.			4	4 8 11	28	89	SS-2	4.25	14	6	8	36	36	34	19	15	17	A-6a (9)	-	
		774.7																		
HARD TO VERY STIFF, BROWN AND GRAY, SILTY CLAY, SOME FINE GRAVEL, TRACE COARSE TO FINE SAND, MOIST.			5	10 12 16	41	61	SS-3	4.50	23	4	6	32	35	34	18	16	17	A-6b (9)	-	
			6																	
			7	13 15 17	46	89	SS-4	4.50	-	-	-	-	-	-	-	-	18	A-6b (V)	-	
			8																	
			9	7 8 11	28	100	SS-5	2.75	-	-	-	-	-	-	-	-	-	A-6b (V)	-	
		769.2	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5682+49, 9' LT.		EXPLORATION ID B-035-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 784.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/6/23 END: 4/7/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.224979, -89.055936														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		784.3							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.0")																				
		783.2	1																	
0.3' - AGGREGATE BASE (3.75")		782.9																		
VERY DENSE TO MEDIUM DENSE, BROWNISH GRAY, SANDY SILT , TRACE FINE GRAVEL, DAMP.			2	47 50/3"	-	67	SS-1	-	-	-	-	-	-	-	-	-	16	A-4a (V)	1500	
-SANDSTONE FRAGMENTS IN SS-1																				
		780.7	3	9			SS-2A	4.5+	9	11	19	38	23	26	16	10	11	A-4a (5)	-	
MEDIUM DENSE, GRAYISH BROWN, GRAVEL WITH SAND , LITTLE SILT, DAMP.		780.2	4	10 10	29	78	SS-2B	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	-	
HARD, BROWN WITH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.							SS-2C	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
			5	6 10	23	100	SS-3	4.50	6	13	15	41	25	30	18	12	15	A-6a (7)	-	
			6																	
			7	17 11 13	35	50	SS-4	4.50	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
			8																	
			9	6 7 10	25	94	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		774.3	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1572+87, 30' LT.		EXPLORATION ID B-036-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 791.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/30/23 END: 3/30/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.224723, -89.054259														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
1.1' - CONCRETE (13.75")		791.6																		
		790.5	1																	
0.4' - AGGREGATE BASE (4.25")		790.1																		
HARD, BROWNISH GRAY, SANDY SILT , SOME FINE GRAVEL, SOME CLAY, MOIST.		788.6	2	13 8 9	25	72	SS-1	4.5+	25	7	16	32	20	24	15	9	13	A-4a (3)	2000	
VERY STIFF TO HARD, BROWN AND BROWNISH GRAY, SILTY CLAY , SOME FINE GRAVEL, TRACE COARSE TO FINE SAND, MOIST.			3	3																
			4	5 8	19	78	SS-2	4.5+	32	2	6	25	35	40	18	22	17	A-6b (10)	-	
			5	6 9 10	28	72	SS-3	3.50	-	-	-	-	-	-	-	-	17	A-6b (V)	-	
			6																	
			7	9 12 13	36	67	SS-4	4.50	-	-	-	-	-	-	-	-	18	A-6b (V)	-	
		783.6																		
HARD, BROWN, SANDY SILT , LITTLE FINE GRAVEL, LITTLE CLAY, MOIST.			8																	
-WET SAND SEAM @ 9.0'			9	6 10 12	32	100	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
		781.6	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5690+87, 29' LT.		EXPLORATION ID B-037-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 795.5 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/6/23 END: 4/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.225581, -89.053044														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
1.1' - CONCRETE (13.5")		795.5																		
		794.4	1																	
0.5' - AGGREGATE BASE (6.0")		793.9																		
MEDIUM DENSE, BROWN, COARSE AND FINE SAND, LITTLE SILT, LITTLE FINE GRAVEL, TRACE CLAY, WET.			2	10 10 6	23	67	SS-1A	-	-	-	-	-	-	-	-	-	-	-	-	
		792.5					SS-1B	-	17	28	32	19	4	NP	NP	NP	11	A-3a (0)	-	
HARD, BROWNISH GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			3	7																
-POSSIBLE GYPSUM CRYSTALS THROUGHOUT			4	9 15	35	67	SS-2	4.5+	5	11	17	42	25	27	16	11	14	A-6a (7)	1500	
		789.5	5	11 9 7	23	78	SS-3	4.5+	-	-	-	-	-	-	-	-	10	A-6a (V)	480	
DENSE, BROWN, SANDY SILT, LITL TE CLAY, TRACE FINE GRAVEL, DAMP.			6	10																
		787.5	7	12 11	33	61	SS-4	-	-	-	-	-	-	-	-	-	11	A-4a (V)	-	
HARD, BROWN WITH GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			8																	
		785.5	9	8 11 13	35	100	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
			10																	
EOB																				
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1581+02, 22' LT.		EXPLORATION ID B-038-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 794.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/30/23 END: 3/30/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.225262, -89.051431			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.2' - CONCRETE (14.5")	794.6																		
0.3' - AGGREGATE BASE (3.5")	793.4	1																	
MEDIUM DENSE, GRAY, GRAVEL WITH SAND, SILT, AND CLAY, MOIST.	793.1																		
		2	9	9	26	6	SS-1	-	-	-	-	-	-	-	-	10	A-2-6 (V)	220	
MEDIUM DENSE, BROWNISH GRAY, GRAVEL WITH SAND, SILT, AND CLAY, MOIST.	791.6	3	5	6	20	72	SS-2	4.50	43	8	14	17	18	28	15	13	15	A-2-6 (1)	-
	790.1	4	6	8															
HARD, BROWNISH GRAY TO DARK BROWNISH GRAY, SILT AND CLAY, SOME FINE GRAVEL, SOME COARSE TO FINE SAND, MOIST.		5	4	4	15	94	SS-3	4.50	27	8	16	24	25	31	16	15	16	A-6a (5)	-
		6	8	11	33	33	SS-4	4.50	-	-	-	-	-	-	-	-	19	A-6a (V)	-
		7	12																
		8																	
-POSSIBLE GYPSUM CRYSTALS IN SS-5		9	6	8	23	100	SS-5	4.25	-	-	-	-	-	-	-	-	-	A-6a (V)	-
	784.6	10	8	8															
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5699+64, 9' LT.		EXPLORATION ID B-039-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 788.7 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/6/23 END: 4/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.226162, -89.049991			

MATERIAL DESCRIPTION AND NOTES	ELEV. 788.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.9' - CONCRETE (10.5")	787.8																		
0.1' - ASPHALT (1.25")	787.7	1																	
0.8' - CONCRETE (10.25")	786.9																		
0.2' - AGGREGATE BASE (2.0")	786.7	2																	
HARD, DARK BROWN AND GRAY, SILT AND CLAY , AND COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	785.2	3	2	2	6	61	SS-1	4.5+	8	14	25	34	19	26	14	12	13	A-6a (4)	1800
HARD, BROWN TO BROWNISH GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, MOIST.	783.7	4	5	7	23	61	SS-2	4.50	5	12	31	36	16	24	14	10	12	A-4a (3)	-
MEDIUM DENSE, BROWNISH GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, MOIST	782.2	5	6	7	22	67	SS-3	4.00	5	20	38	25	12	NP	NP	NP	12	A-4a (0)	-
HARD, BROWN TO DARK BROWN AND GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, MOIST.	780.4	7	4	7	22	100	SS-4	4.5+	-	-	-	-	-	-	-	-	-	A-4a (V)	-
VERY STIFF, BROWN, SILT , LITTLE FINE SAND, TRACE FINE GRAVEL, MOIST.	778.7	8																	
		9	10	9	26	100	SS-5	1.75	-	-	-	-	-	-	-	-	-	A-4b (V)	-
		10																	

EOB

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1589+66, 11' RT.		EXPLORATION ID B-040-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB															
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 783.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1													
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.225766, -89.048405															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL	
									GR	CS	FS	SI	CL	LL	PL	PI	WC				
0.9' - ASPHALT (10.75")		783.3																			
		782.4																			
0.1' - ASPHALT (1.25")		782.3	1																		
0.7' - CONCRETE (9.75")																					
		781.5																			
VERY STIFF TO HARD, GRAY, BROWNISH GRAY AND BROWN, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			2																		
				1																	
				2	2	6	54	SS-1	4.50	6	13	21	34	26	25	14	11	15	A-6a (5)	1200	
				3																	
				4	5																
					4	13	69	SS-2	4.50	8	13	20	36	23	27	15	12	18	A-6a (6)	-	
					5																
					7																
					9	25	69	SS-3	4.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
					6																
			7																		
				6																	
			8																		
			9																		
				6																	
				7																	
				7	20	94	SS-5	2.25	-	-	-	-	-	-	-	-	16	A-6a (V)	-		
-FINE SAND SEAMS IN SS-5																					
		773.3	EOB	10																	

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5708+84, 6' RT.		EXPLORATION ID B-041-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 774.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.226742, -89.046784			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.9' - CONCRETE (10.5")	774.8																		
0.1' - ASPHALT (1.25")	773.9																		
0.8' - CONCRETE (10.25")	773.8	1																	
0.4' - AGGREGATE BASE (4.75")	773.0																		
0.4' - AGGREGATE BASE (4.75")	772.6	2				SS-1A	-	-	-	-	-	-	-	-	-	-	-	-	
STIFF, BROWNISH GRAY, SANDY SILT , SOME CLAY, TRACE FINE GRAVEL, MOIST.			2	3	7	44	SS-1B	2.00	8	12	18	40	22	22	17	5	13	A-4a (5) 1800	
	771.3	3																	
LOOSE, BROWN, COARSE AND FINE SAND , LITTLE FINE GRAVEL, LITTLE SILT, TRACE CLAY, MOIST.			3	3	10	56	SS-2	-	19	27	29	16	9	18	13	5	16	A-3a (0) -	
	769.8	4																	
HARD TO VERY STIFF, GRAY, SANDY SILT , SOME CLAY, TRACE FINE GRAVEL, DAMP TO MOIST.			4	6	19	50	SS-3	4.50	4	12	13	38	33	26	16	10	11	A-4a (7) -	
		5																	
		6																	
		7																	
		8																	
		9																	
		10																	
	764.8	EOB																	

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 3.5' AND WAS DRY AT DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\BODEN\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1596+79, 18' RT.		EXPLORATION ID B-042-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 770.7 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.226216, -89.045920														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		770.7							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (14.75")																				
		769.5	1																	
0.5' - AGGREGATE BASE (5.25")		769.0																		
VERY DENSE, BROWNISH GRAY, SANDY SILT, LITTLE CLAY, DAMP.			2	24 50/3"	-	89	SS-1	-	-	-	-	-	-	-	-	-	15	A-4a (V)	1900	
		767.7																		
VERY STIFF TO HARD, GRAY, SILT, LITTLE TO SOME COARSE TO FINE SAND, LITTLE TO SOME CLAY, MOIST			3	7																
			4	20 20	58	72	SS-2	4.50	0	0	15	72	13	NP	NP	NP	12	A-4b (8)	-	
			5	5 6 10		23	SS-3	3.75	4	5	17	51	23	20	15	5	13	A-4b (8)	-	
		764.7	6																	
STIFF, GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			7	5 6 9		22	SS-4	2.00	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
			8																	
			9	4 3 6		13	SS-5	1.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		760.7	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:16 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5714+93, 10' LT.		EXPLORATION ID B-043-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 765.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/6/23 END: 4/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227121, -89.044658			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.0' - CONCRETE (12.0")	765.4																		
0.3' - AGGREGATE BASE (3.0")	764.4	1																	
VERY DENSE, GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, MOIST. -POSSIBLE LIME OR CEMENT TREATED	764.1																		
		2	50/5"	-	100	SS-1	-	-	-	-	-	-	-	-	-	15	A-4a (V)	1900	
	762.9																		
STIFF TO VERY STIFF, GRAY, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		3	5																
		4	5	5	15	78	SS-2	3.25	3	3	5	47	42	30	17	13	17	A-6a (9)	-
		5	3	4	12	89	SS-3	2.50	1	2	4	53	40	30	17	13	19	A-6a (9)	-
		6																	
		7	5	6	19	100	SS-4	2.00	-	-	-	-	-	-	-	-	20	A-6a (V)	-
		8																	
	756.0	9	3	4	12	100	SS-5A	2.00	-	-	-	-	-	-	-	-	-	A-6a (V)	-
MEDIUM STIFF, GRAY, SANDY SILT , WET.	755.4																		
		10					SS-5B	1.00	-	-	-	-	-	-	-	-	-	A-4a (V)	-
		EOB																	

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 9.4' AND WAS DRY AT DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1604+78, 9' RT.		EXPLORATION ID B-044-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 761.5 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.226627, -89.043114														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		761.5							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.5")																				
		760.4	1																	
0.4' - AGGREGATE BASE (4.0")		760.0																		
HARD, GRAY, SANDY SILT, TRACE CLAY, TRACE FINE GRAVEL, MOIST			2	8	75	78	SS-1	4.50	5	37	19	29	10	NP	NP	NP	22	A-4a (1)	1800	
-POSSIBLE LIME OR CEMENT TREATED		758.5		30 22																
STIFF TO HARD, GRAY, SILT AND CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3	4																
			4	4	17	78	SS-2	4.50	2	2	4	46	46	28	17	11	18	A-6a (8)	-	
			5	5	19	89	SS-3	2.50	-	-	-	-	-	-	-	-	20	A-6a (V)	-	
			6	8																
			7	2	16	100	SS-4	3.50	-	-	-	-	-	-	-	-	18	A-6a (V)	-	
			8	5																
			9	6																
		751.5	10	2	17	100	SS-5	1.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
			EOB	4																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

PROJECT: LAK-90-6.99	DRILLING FIRM / OPERATOR: RII / LH	DRILL RIG: CME 55 (386345)	STATION / OFFSET: 5722+88, 31' LT.	EXPLORATION ID B-045-0-23
TYPE: SUBGRADE	SAMPLING FIRM / LOGGER: AECOM / EB	HAMMER: AUTOMATIC	ALIGNMENT: I-90 WB	
PID: 116955 SFN: N/A	DRILLING METHOD: 3.5" SSA	CALIBRATION DATE: 3/21/22	ELEVATION: 762.2 (MSL) EOB: 10.0 ft.	PAGE 1 OF 1
START: 4/6/23 END: 4/6/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 87	LAT / LONG: 40.227461, -89.041842	

[illegible]

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1611+04, 20' LT.		EXPLORATION ID B-046-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 763.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/31/23 END: 3/31/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.226913, -89.040899			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.25")	763.4																		
0.4' - AGGREGATE BASE (4.75")	762.3	1																	
761.9																			
VERY DENSE, GRAY, SANDY SILT , SOME CLAY, TRACE FINE GRAVEL, MOIST. -POSSIBLE LIME OR CEMENT TREATED	760.9	2	42 50/2"	-	50	SS-1	-	-	-	-	-	-	-	-	-	17	A-4a (V)	880	
HARD, GRAYISH BROWN, SANDY SILT , SOME CLAY, LITTLE FINE GRAVEL, DAMP.		3																	
		4	5 7 8	22	89	SS-2	4.5+	9	13	16	30	32	24	15	9	9	A-4a (5)	-	
	758.4	5	5 7 5	17	100	SS-3A	4.50	10	17	23	30	20	24	17	7	11	A-4a (3)	-	
STIFF, GRAY, SILTY CLAY , TRACE FINE SAND, MOIST. -WET SAND AND GRAVEL SEAM @ 5.4'	757.4	6				SS-3B	1.25	-	-	-	-	-	-	-	-	-	A-6b (V)	-	
MEDIUM DENSE, GRAY, COARSE AND FINE SAND , SOME SILT, WET.		7	6 5 3	12	56	SS-4	-	-	-	-	-	-	-	-	-	20	A-3a (V)	-	
	755.4	8																	
STIFF, GRAY, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FIEN GRAVEL, MOIST.		9	1 2 2	6	50	SS-5	1.50	-	-	-	-	-	-	-	-	-	A-6b (V)	-	
	753.4	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

[illegible]

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 7.0' AND WAS DRY AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99			DRILLING FIRM / OPERATOR: RII / LH			DRILL RIG: CME 55 (386345)			STATION / OFFSET: 1616+36, 21' LT.			EXPLORATION ID B-048-0-23		
TYPE: SUBGRADE			SAMPLING FIRM / LOGGER: AECOM / EB			HAMMER: AUTOMATIC			ALIGNMENT: I-90 EB			PAGE 1 OF 1		
PID: 116955 SFN: N/A			DRILLING METHOD: 3.5" SSA			CALIBRATION DATE: 3/21/22			ELEVATION: 766.8 (MSL) EOB: 10.0 ft.					
START: 4/2/23 END: 4/2/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 87			LAT / LONG: 40.227020, -89.038996					

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI					
1.1' - CONCRETE (13.75")	766.8																			
0.6' - AGGREGATE BASE (7.0")	765.7	1																		
VERY DENSE TO LOOSE, GRAY, COARSE AND FINE SAND , TRACE CLAY, TRACE SILT, TRACE FINE GRAVEL, DAMP TO WET.	765.1	2	50/5"	-	100	SS-1A SS-1B	-	-	-	-	-	-	-	-	-	-	-	10	A-3a (V)	1600
		3																		
		4	7																	
		4	4 5	13	100	SS-2	-	1	27	58	5	9	NP	NP	NP	7	A-3a (0)	-		
		5	4	3	9	56	SS-3	-	1	18	68	3	10	NP	NP	NP	23	A-3a (0)	-	
		6																		
		7	4	4 3	10	72	SS-4	-	-	-	-	-	-	-	-	-	-	A-3a (V)	-	
		8																		
		9	2	3	4	10	89	SS-5	-	-	-	-	-	-	-	-	-	A-3a (V)	-	
	766.8	EOB	10																	

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 4.6' AND WAS DRY AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

[illegible]

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 6.4' AND WAS DRY AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5738+04, 8' RT.		EXPLORATION ID B-050-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 772.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227641, -89.036419			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.5")	772.8																		
	771.7	1																	
0.4' - AGGREGATE BASE (5.0")	771.3																		
HARD, BROWNISH GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	769.8	2	12 14 15	42	50	SS-1	4.50	9	18	34	23	16	17	12	5	8	A-4a (1)	720	
MEDIUM DENSE, BROWNISH GRAY, SILT , AND CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	768.3	3	12 11 10	30	61	SS-2	-	1	0	1	61	37	24	16	8	17	A-4b (8)	-	
STIFF TO VERY STIFF, GRAY, SILT AND CLAY , TRACE COARSE TO FINE SAND, MOIST.		5	7 8 12	29	67	SS-3	2.50	0	0	2	49	49	28	17	11	24	A-6a (8)	-	
		6																	
		7	8 6 5	16	39	SS-4	1.75	-	-	-	-	-	-	-	-	24	A-6a (V)	-	
		8																	
	764.8																		
	763.5	9	6 5 5	15	100	SS-5A	2.00	-	-	-	-	-	-	-	-	21	A-6a (V)	-	
MEDIUM DENSE, GRAY, GRAVEL WITH SAND AND SILT , WET.	762.8	10				SS-5B	-	-	-	-	-	-	-	-	-	17	A-2-4 (V)	-	
		EOB																	

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 8.0' AND WAS DRY AT DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1628+54, 9' RT.		EXPLORATION ID B-051-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 776.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227061, -89.034631														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI				
1.2' - CONCRETE (14.25")		776.8																		
		775.6	1																	
0.3' - AGGREGATE BASE (4.25")		775.3																		
MEDIUM DENSE TO VERY DENSE, BROWN TO BROWNISH GRAY, COARSE AND FINE SAND , LITTLE TO TRACE FINE GRAVEL, LITTLE SILT, TRACE CLAY, MOIST TO WET			2	16 19 19	55	67	SS-1	-	18	25	32	-	25	-	NP	NP	NP	10	A-3a (0)	1900
			3																	
			4	16 17 13	44	100	SS-2	-	-	-	-	-	-	-	-	-	-	7	A-3a (V)	-
			5	15 12 11	33	100	SS-3	-	-	-	-	-	-	-	-	-	-	7	A-3a (V)	-
			6																	
		770.0																		
MEDIUM STIFF, BROWN, SANDY SILT , TRACE CLAY, TRACE FINE GRAVEL, MOIST TO WET			7	6 6 7	19	50	SS-4A	-	8	20	51	14	7	NP	NP	NP	15	A-3a (0)	-	
							SS-4B	1.00	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
		768.8	8																	
MEDIUM DENSE, BROWNISH GRAY, GRAVEL WITH SAND AND SILT , WET.			9	5 5 6	16	100	SS-5	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	-	
			10																	
		766.8	EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5747+09, 12' LT.		EXPLORATION ID B-052-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 780.0 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/6/23 END: 4/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227784, -89.033182			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.8' - CONCRETE (9.5")	780.0																		
0.1' - ASPHALT (1.25")	779.2																		
0.8' - CONCRETE (9.75")	779.1	1																	
0.5' - AGGREGATE BASE (6.0")	778.3																		
	777.8	2				SS-1A	-	-	-	-	-	-	-	-	-		-		
HARD, BROWN, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			5																
			6	20	56	SS-1B	4.5+	6	10	13	45	26	28	16	12	13	A-6a (8)	720	
	776.5	3	8																
HARD, BROWNISH GRAY, SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, DAMP.			8			SS-2	4.5+	7	12	21	40	20	25	15	10	10	A-4a (5)	-	
			11	39	89														
	775.0	4	16																
DENSE TO MEDIUM DENSE, BROWNISH GRAY, COARSE AND FINE SAND, LITTLE SILT, LITTLE FINE GRAVEL, DRY			14			SS-3	-	-	-	-	-	-	-	-	-	2	A-3a (V)	-	
			17	49	100														
		6	17																
			15	36	50	SS-4	-	-	-	-	-	-	-	-	-	-	A-3a (V)	-	
			15																
		7	10																
		8																	
		9	6	23	67	SS-5	-	-	-	-	-	-	-	-	-	-	A-3a (V)	-	
			7																
			9																
	770.0	10																	
		EOB																	

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1637+25, 20' RT.		EXPLORATION ID B-053-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 782.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/21/23 END: 3/21/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227113, -89.031513			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (14.0")	782.6																		
0.3' - AGGREGATE BASE (3.25")	781.5	1																	
MEDIUM DENSE, GRAY, GRAVEL WITH SAND AND SILT, LITTLE CLAY, MOIST.	781.2	2	6 8 9	25	67	SS-1	-	23	21	26	18	12	20	13	7	12	A-2-4 (0)	580	
MEDIUM DENSE, GRAY, GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST	779.6	3	12 10 9	28	100	SS-2	-	34	28	20	11	7	NP	NP	NP	11	A-1-b (0)	-	
		4																	
		5	4 6 5	16	100	SS-3	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	-	
	776.6	6	5																
VERY STIFF, GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		7	7 9	23	83	SS-4	3.50	-	-	-	-	-	-	-	-	21	A-6a (V)	-	
		8																	
		9	6 7 10	25	100	SS-5	3.00	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
-SILT SEAMS IN SS-5																			
	772.6	EOB	10																

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5754+91, 31' LT.		EXPLORATION ID B-054-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 784.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/6/23 END: 4/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227873, -89.030394			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.3' - CONCRETE (15.25")	784.9																		
	783.6	1																	
0.4' - AGGREGATE BASE (5.0")	783.2					SS-1A	-	-	-	-	-	-	-	-	-		-		
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT AND CLAY, MOIST.	782.7	2	10 8 6	20	56	SS-1B	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	660	
HARD, MOTTLED BROWN AND GRAY, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		3				SS-1C	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		4	7 8 8	23	44	SS-2	4.5+	7	9	6	55	23	30	18	12	15	A-6a (9)	-	
VERY STIFF, GRAY WITH BROWN AND BLACK, SANDY SILT , LITTLE CLAY, LITTLE FINE GRAVEL, DAMP TO MOIST.	780.4	5	9 7 8	22	61	SS-3	3.00	16	14	16	38	16	30	20	10	15	A-4a (4)	-	
	778.9	6																	
DENSE, BROWN, GRAVEL WITH SAND AND SILT , MOIST		7	9 11 13	35	56	SS-4	-	-	-	-	-	-	-	-	-	11	A-2-4 (V)	-	
	776.9	8																	
HARD, BROWN AND ORANGE, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		9	5 6 6	17	89	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
	774.9	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1644+60, 10' RT.		EXPLORATION ID B-055-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 788.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 3/23/23 END: 3/23/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227214, -89.028884														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		788.3							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.0' - CONCRETE (12.0")		787.3																		
0.1' - ASPHALT (1.0")		787.2	1																	
0.8' - CONCRETE (9.5")		786.4																		
LOOSE, BROWN, GRAVEL WITH SAND, SILT, AND CLAY, WET.		786.0	2				SS-1A	-	-	-	-	-	-	-	-	-	-	A-2-6 (V)	-	
HARD, BROWNISH GRAY AND BROWN, SILTY CLAY, AND COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		784.8	3	1 2 4	9	78	SS-1B	4.50	9	9	29	27	26	31	13	18	16	A-6b (7)	740	
VERY STIFF TO HARD, BROWN, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			4	3 5 9	20	44	SS-2	4.5+	8	9	15	33	35	30	16	14	15	A-6a (8)	-	
			5																	
			6	5 7 11	26	28	SS-3	4.00	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
			7	3 5 6	16	72	SS-4	3.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
			8																	
			9	7 7 11	26	100	SS-5	4.00	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		778.3	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5762+94, 10' LT.		EXPLORATION ID B-056-0-23														
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB																
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 791.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1														
START: 4/6/23 END: 4/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227942, -89.027511																
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL		
										GR	CS	FS	SI	CL	LL	PL	PI	WC				
0.8' - CONCRETE (9.5")		791.4																				
0.1' - ASPHALT (1.25")		790.6																				
0.8' - CONCRETE (9.75")		790.5	1																			
		789.7																				
MEDIUM DENSE, BROWN, GRAVEL WITH SAND, TRACE TO LITTLE SILT, WET. 0.7' - AGGREGATE BASE (8.5")		789.0	2				SS-1A	-	-	-	-	-	-	-	-	-	-		-			
HARD, BROWNISH GRAY, SILT AND CLAY. SOME TO LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3	4	5	15	61	SS-1B	4.5+	6	12	16	44	22	28	16	12	13	A-6a (7)	360		
			4	5	7	19	72	SS-2	4.5+	3	7	12	49	29	32	18	14	15	A-6a (10)	-		
			5																			
			6	10	11	14	36	61	SS-3	4.5+	-	-	-	-	-	-	-	-	13	A-6a (V)	-	
			7	9	7	5	17	94	SS-4	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
			8																			
			9	15	13	17	44	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
			10																			
		781.4	EOB																			
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																						
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																						

[illegible]

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 9.6' AND WAS DRY AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5770+86, 10' RT.		EXPLORATION ID B-058-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 805.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.228096, -89.024682														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		805.6							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (14.0")																				
		804.5	1																	
0.1' - ASPHALT (1.5")		804.4																		
0.9' - CONCRETE (10.0")																				
		803.5	2																	
0.3' - AGGREGATE BASE (4.0")		803.2																		
VERY STIFF TO HARD, BROWNISH ORANGE TO BROWNISH GRAY, SILT AND CLAY, LITTLE TO SOME COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, MOIST TO DAMP.			3	2	12	44	SS-1	2.50	10	10	9	40	31	30	18	12	15	A-6a (8)	340	
			4	4																
			5	3	13	72	SS-2	3.50	10	14	7	42	27	33	18	15	13	A-6a (9)	-	
-SANDSTONE FRAGMENTS IN SS-2			6	5	25	44	SS-3	4.5+	-	-	-	-	-	-	-	-	12	A-6a (V)	-	
			7	7																
			8	10	20	100	SS-4	2.50	-	-	-	-	-	-	-	-	13	A-6a (V)	-	
-TRACE ROOT FIBERS IN SS-4			9	7																
			10	9	28	100	SS-5	2.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
		795.6	EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1660+78, 8' RT.		EXPLORATION ID B-059-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 813.6 (MSL) EOB: 9.33 ft.		PAGE 1 OF 1												
START: 3/23/23 END: 3/23/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227645, -89.023119														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.5")		813.6																		
0.1' - ASPHALT (1.25")		812.5	1																	
0.9' - CONCRETE (10.0")		812.4																		
MEDIUM DENSE, GRAYISH BROWN, GRAVEL WITH SAND, WET.		811.5	2				SS-1A	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	-	
VERY STIFF, GRAYISH BROWN, BROWN, AND RED, SILT, SOME CLAY, LITTLE FINE TO COARSE SAND, MOIST.		811.1		4	30	72	SS-1B	3.25	0	10	8	51	31	27	17	10	14	A-4b (8)	320	
SHALE, GRAY, HIGHLY TO SEVERELY WEATHERED, WEAK.		810.1	3	4 17			SS-2	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			4	15 49 50	144	50	SS-3	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			5																	
			6	4 36 50/4"	-	63	SS-4	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			7	41 50/5"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			8																	
			9	35 50/4"	-	100		-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
		804.3	EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99_RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5779+81, 5' LT.		EXPLORATION ID B-060-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 823.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/5/23 END: 4/6/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.228540, -89.021530														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		823.3							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.8' - CONCRETE (9.75")		822.5																		
0.1' - ASPHALT (1.25")		822.4	1																	
0.8' - CONCRETE (9.75")		821.6																		
0.4' - AGGREGATE BASE (5.0")		821.2	2				SS-1A	-	-	-	-	-	-	-	-	-	-			
HARD, GRAY AND BROWNISH GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE TO TRACE FINE GRAVEL, DAMP.				3	16	44	SS-1B	4.50	11	15	14	42	18	28	17	11	12	A-6a (5)	330	
			3	5	6															
			4	5	7	25	78	SS-2	4.5+	6	14	11	49	20	30	18	12	14	A-6a (8)	-
			4	5	7	10														
		818.0	5				SS-3A	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
VERY DENSE, BROWNISH ORANGE AND GRAY, GRAVEL, DAMP.				32	106	67	SS-3B	-	-	-	-	-	-	-	-	-	5	A-1-a (V)	-	
-SHALE FRAGMENTS AND COBBLES IN SS-3B		816.8	6	47	26															
HARD, BROWNISH ORANGE, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			7	18	45	72	SS-4	4.5+	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
-SHALE FRAMENTS IN SS-4			7	15	16															
		815.0	8																	
SHALE, MOTTLED BROWN AND GRAY, SEVERELY WEATHERED.			TR																	
		813.3	9	38	106	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			9	41	32															
			10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
GR	CS	FS	SI	CL	LL	PL	PI														
1.1' - CONCRETE (13.25")		829.7																			
0.9' - AGGREGATE BASE (10.0")		828.6		1																	
MEDIUM DENSE, GRAY, GRAVEL WITH SAND AND SILT , WET. -SHALE FRAGMENTS IN SS-1B		827.7		2	10 9 4	19	72	SS-1A	-	-	-	-	-	-	-	-	-		-		
HARD, BROWNISH ORANGISH GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP. -SHALE FRAGMENTS IN SS-2A		826.7		3				SS-1B	-	22	22	27	17	12	NP	NP	NP	10	A-2-4 (0)	480	
SHALE , GRAY TO BROWNISH GRAY AND ORANGE, HIGHLY WEATHERED, WEAK.		826.5	-TR					SS-2A	4.25	-	-	-	-	-	-	-	-	14	A-4a (V)	-	
				14 30 42	104	94	SS-2B	-	-	-	-	-	-	-	-	12	Rock (V)	-			
				15 27 50/5"	-	29	SS-3	-	-	-	-	-	-	-	-	Rock (V)	-				
				50/5"	-	100	SS-4	-	-	-	-	-	-	-	-	Rock (V)	-				
				7																	
				8																	
		821.0	-FOR		50/3"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RIL.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5786+59, 29' LT.		EXPLORATION ID B-062-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 836.5 (MSL) EOB: 8.66 ft.		PAGE 1 OF 1												
START: 4/5/23 END: 4/5/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.228998, -89.019178														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		836.5							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.3' - CONCRETE (15.25")																				
		835.2	1																	
0.5' - AGGREGATE BASE (6.0")																				
		834.7																		
VERY DENSE, BROWNISH GRAY, SANDY SILT, LITTLE FINE GRAVEL, MOIST			2	19 50/3"	-	100	SS-1A	-	-	-	-	-	-	-	-	-	-	14	A-4a (V)	4000
							SS-1B	-	-	-	-	-	-	-	-	-				
-POSSIBLE LIME OR CEMENT TREATED			3	50/3"	-	100	SS-2	-	-	-	-	-	-	-	-	-	11	A-4a (V)	-	
		832.5																		
SHALE, BROWN TO GRAY, MODERATELY TO HIGHLY WEATHERED, WEAK.			4																	
				50/3"	-	100	SS-3	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			5																	
			6																	
			7	29 37 48	123	100	SS-4	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			8																	
		827.8	EOB	50/2"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1676+99, 9' RT.		EXPLORATION ID B-063-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 846.1 (MSL) EOB: 8.58 ft.		PAGE 1 OF 1												
START: 3/24/23 END: 3/24/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.228643, -89.017462														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		846.1							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.5")																				
		845.0	1																	
0.1' - ASPHALT (1.25")		844.9																		
0.8' - CONCRETE (9.75")		844.1	2																	
MEDIUM DENSE, BROWN, SANDY SILT, SOME FINE GRAVEL, LITTLE CLAY, MOIST.		842.9	3	9	26	94	SS-1A	-	21	20	23	24	12	20	14	6	12	A-4a (0)	440	
				7																
				11			SS-1B	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
SHALE, GRAY, HIGHLY WEATHERED, VERY WEAK.			4	12	-	44	SS-2	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
				50/3"																
			5																	
			6																	
			7																	
			8																	
		837.5	EOB	50/1"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

[illegible]

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1685+01, 9' LT.		EXPLORATION ID B-065-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 861.4 (MSL) EOB: 8.8 ft.		PAGE 1 OF 1												
START: 4/3/23 END: 4/3/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.229390, -89.014759														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		861.4							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.7' - CONCRETE (8.5")		860.7																		
0.1' - ASPHALT (1.25")		860.6	1																	
0.9' - CONCRETE (10.25")		859.7																		
0.5' - AGGREGATE BASE (6.0")		859.1	2				SS-1A	-	-	-	-	-	-	-	-	-	-		-	
VERY STIFF, GRAY WITH BROWN AND ORANGE, SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			3	3	12	72	SS-1B	4.00	5	7	5	40	43	39	21	18	17	A-6b (11)	540	
-SHALE FRAGMENTS IN SS-2			4	11	17	25	SS-2	4.00	-	-	-	-	-	-	-	-	16	A-6b (V)	-	
SHALE, BROWNISH ORANGE AND GRAY, HIGHLY WEATHERED, WEAK.		856.4	5	50/5"	-	100	SS-3	-	-	-	-	-	-	-	-	-	10	Rock (V)	-	
			6																	
			7	50/4"	-	100	SS-4	-	-	-	-	-	-	-	-	-	9	Rock (V)	-	
			8																	
		852.7	EOB	50/3"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5802+84, 10' RT.		EXPLORATION ID B-066-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 869.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.230347, -89.013636														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		869.9							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.25")																				
		868.8	1																	
0.1' - ASPHALT (1.5")		868.7																		
0.8' - CONCRETE (10.0")		867.9	2																	
0.5' - AGGREGATE BASE (6.0")		867.4																		
HARD, BROWNISH ORANGE AND GRAY, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST. -TRACE ORGANICS IN SS-1			3	2	9	50	SS-1	4.25	4	5	5	45	41	37	19	18	16	A-6b (11)	1100	
			4	5																
			5	9	30	100	SS-2	4.5+	5	6	6	52	31	34	9	25	12	A-6b (14)	-	
		864.4																		
HARD, BROWNISH ORANGE, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP. -SHALE FRAGMENTS IN SS-3			6	16	90	78	SS-3	4.5+	-	-	-	-	-	-	-	-	10	A-4a (V)	-	
				28																
				34																
		862.9	TR	7																
SHALE, BROWN AND GRAY, HIGHLY WEATHERED, WEAK.				50/5"	-	100	SS-4	-	-	-	-	-	-	-	-	-	8	Rock (V)	-	
			8																	
			9	16	58	100	SS-5	-	-	-	-	-	-	-	-	-	18	Rock (V)	-	
				19																
		859.9	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

MATERIAL DESCRIPTION AND NOTES	ELEV. 878.6	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI				
1.0' - CONCRETE (12.5")																				
0.1' - ASPHALT (1.5")	877.6		1																	
0.9' - CONCRETE (10.25")	877.5																			
	876.6		2																	
LOOSE, GRAYISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, MOIST 0.3' - AGGREGATE BASE (3.0") HARD, BROWNISH GRAY, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	876.3			1	17	72	SS-1A	-	54	15	16	- 15 -	-	-	-	11		-		
				3			SS-1B	2.00	7	9	8	43	33	31	16	15	17	A-6a (10)	570	
					9		SS-1C	-	-	-	-	-	-	-	-	-	12	A-6a (V)	-	
			4	5	20	42	SS-2	-	-	-	-	-	-	-	-	-	A-6a (V)	-		
			5																	
				32			SS-3	-	-	-	-	-	-	-	-	-	A-6a (V)	-		
				50/5"	-	100														
	872.6	TR	6																	
SHALE , GRAY AND BROWN AND ORANGE, HIGHLY WEATHERED, VERY WEAK.			7	48		100	SS-4	-	-	-	-	-	-	-	-	-	Rock (V)	-		
				50/3"																
			8																	
	869.7	FOR		50/4"	-	100	SS-5	-	-	-	-	-	-	-	-	-	Rock (V)	-		

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99_RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5810+51, 8' LT.		EXPLORATION ID B-068-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 883.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/5/23 END: 4/5/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.231254, -89.011159			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			W.C.	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.8' - CONCRETE (9.75")	883.9																		
0.1' - ASPHALT (1.25")	883.1																		
0.9' - CONCRETE (10.0")	883.0	1																	
0.6' - AGGREGATE BASE (7.0")	882.1																		
	881.5	2				SS-1A	-	-	-	-	-	-	-	-	-		-		
VERY STIFF, BROWNISH GRAY, SILT , SOME CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	880.4	3	2 3	7	72	SS-1B	3.00	5	7	5	55	28	30	22	8	12	A-4b (8)	240	
VERY STIFF, BROWNISH GRAY, CLAY , AND SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		4	3 3	9	17	SS-2	2.50	1	3	2	44	50	46	21	25	21	A-7-6 (15)	-	
	878.9	5																	
VERY STIFF TO HARD, MOTTLED BROWN AND GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		6	4 6	19	56	SS-3	4.25	-	-	-	-	-	-	-	-	23	A-6a (V)	-	
		7	6 8	23	67	SS-4	4.00	-	-	-	-	-	-	-	-	18	A-6a (V)	-	
		8																	
		9	7 9	25	50	SS-5	3.75	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
	873.9	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RIL.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1701+16, 18' RT.		EXPLORATION ID B-069-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 890.5 (MSL) EOB: 8.92 ft.		PAGE 1 OF 1	
START: 3/24/23 END: 3/24/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.231140, -89.009445			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.2' - CONCRETE (14.75")	890.5																		
0.8' - AGGREGATE BASE (9.0")	889.3	1																	
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, WET.	888.5	2	9	8	19	78	SS-1A	-	-	-	-	-	-	-	-	-	-	-	
	887.5	3	8	5			SS-1B	-	32	21	29	-	18	-	-	-	9	A-1-b (V)	130
HARD, GRAY AND ORANGE, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	887.0	4	4	8	23	72	SS-2A	4.50	3	11	7	32	47	37	19	18	19	A-6b (11)	-
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, WET.	886.0	4	8	8			SS-2B	-	33	25	27	9	6	NP	NP	NP	8	A-1-b (0)	-
MEDIUM DENSE, BROWNISH GRAY, GRAVEL WITH SAND AND SILT , MOIST	885.5	5	7	7	20	72	SS-3A	1.50	-	-	-	-	-	-	-	-	-	A-2-4 (V)	-
MEDIUM DENSE, DARK BROWN TO BROWN, GRAVEL WITH SAND , TRACE SILT, WET.	884.5	6	7	7			SS-3B	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	-
LOOSE, BROWN, GRAVEL WITH SAND , TRACE SILT, WET.	884.5	6	5	3	7	39	SS-4	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	-
	882.5	7																	
SHALE , GRAY WITH BROWN AND ORANGE, HIGHLY WEATHERED, VERY WEAK.	881.6	8																	
		TR																	
		EOB	50/5"	-	100		SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-

NOTES: GROUNDWATER WAS ENCOUNTERED INITIALLY @ 6.0'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5818+59, 22' RT.		EXPLORATION ID B-070-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 895.8 (MSL) EOB: 8.75 ft.		PAGE 1 OF 1												
START: 4/5/23 END: 4/5/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.232318, -89.008619														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		895.8							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.0' - CONCRETE (12.5")																				
		894.8																		
0.3' - AGGREGATE BASE (3.0")		894.5	1																	
HARD, DARK BROWN, SANDY SILT , LITTLE TO SOME CLAY, LITTLE TO TRACE FINE GRAVEL, DAMP.			2	10 7 4	16	44	SS-1	-	12	21	22	29	16	23	15	8	10	A-4a (2)	<100	
		892.8	3																	
HARD, DARK BROWN, SANDY SILT , LITTLE TO SOME CLAY, LITTLE TO TRACE FINE GRAVEL, DAMP.			4	5 5 6	16	61	SS-2	4.50	7	8	3	48	34	30	21	9	14	A-4a (8)	-	
			5	5 9 14	33	89	SS-3	-	-	-	-	-	-	-	-	-	12	A-4a (V)	-	
-SHALE FRAGMENTS IN SS-3		889.8	6	37 50/4"	-	60	SS-4	-	-	-	-	-	-	-	-	-	9	Rock (V)	-	
SHALE, GRAY TO DARK GRAYISH ORANGE, HIGHLY WEATHERED, WEAK.			7																	
			8																	
		887.0	EOB	50/3"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1709+39, 9' RT.		EXPLORATION ID B-071-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 901.3 (MSL) EOB: 8.92 ft.		PAGE 1 OF 1												
START: 3/26/23 END: 3/26/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.232286, -89.006900														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		901.3							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.5")																				
		900.2	1																	
0.1' - ASPHALT (1.25")		900.1																		
0.9' - CONCRETE (10.5")																				
		899.2	2																	
LOOSE, BROWN, GRAVEL WITH SAND AND SILT, WET.		898.5		3	7	67	SS-1A	-	36	24	28	- 12	-	-	-	-	14	A-2-4 (V)	-	
VERY STIFF, GRAY, SILTY CLAY, SOME FINE GRAVEL, TRACE COARSE TO FINE SAND, MOIST.			3	2 3			SS-1B	2.75	35	5	4	29	27	33	17	16	15	A-6b (7)	700	
		897.7	TR																	
SHALE, GRAY TO DARK GRAY, HIGHLY WEATHERED, WEAK.			4	5	88	72	SS-2	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
				28 33																
			5																	
				40 50/5"	-	100	SS-3	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			6																	
			7	23 48 50/3"	-	93	SS-4	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			8																	
		892.4	EOB	50/5"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99			DRILLING FIRM / OPERATOR: RII / LH			DRILL RIG: CME 55 (386345)			STATION / OFFSET: 5826+35, 10' RT.			EXPLORATION ID B-072-0-23								
TYPE: SUBGRADE			SAMPLING FIRM / LOGGER: AECOM / EB			HAMMER: AUTOMATIC			ALIGNMENT: I-90 WB											
PID: 116955 SFN: N/A			DRILLING METHOD: 3.5" SSA			CALIBRATION DATE: 3/21/22			ELEVATION: 905.7 (MSL) EOB: 10.0 ft.			PAGE 1 OF 1								
START: 4/11/23 END: 4/11/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 87			LAT / LONG: 40.233366, -89.006204											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		905.7							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.25")																				
		904.6	1																	
0.1' - ASPHALT (1.25")		904.5																		
0.9' - CONCRETE (10.0")																				
		903.6	2																	
0.2' - AGGREGATE BASE (2.0")		903.4					SS-1A	-	-	-	-	-	-	-	-	-	-		-	
VERY STIFF, BROWN, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3	2 11 23	49	56	SS-1B	3.75	9	10	8	32	41	34	18	16	21	A-6b (10)	960	
		902.2																		
VERY STIFF TO STIFF, BROWNISH GRAY AND BROWN, CLAY , AND SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			4	2 2 2	6	28	SS-2	2.25	5	6	5	35	49	47	19	28	20	A-7-6 (17)	-	
			5																	
			6	4 6 7	19	50	SS-3	2.25	-	-	-	-	-	-	-	-	22	A-7-6 (V)	-	
			7	1 3 2	7	28	SS-4	2.50	-	-	-	-	-	-	-	-	20	A-7-6 (V)	-	
			8																	
			9	5 6 6	17	50	SS-5	2.00	-	-	-	-	-	-	-	-	16	A-7-6 (V)	-	
		895.7	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1717+64, 9' LT.		EXPLORATION ID B-073-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 910.8 (MSL) EOB: 9.2 ft.		PAGE 1 OF 1												
START: 4/3/23 END: 4/3/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.233579, -89.004476														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		910.8							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.8' - CONCRETE (9.75")		910.0																		
0.1' - ASPHALT (1.25")		909.9	1																	
0.9' - CONCRETE (10.5")		909.0																		
0.5' - AGGREGATE BASE (6.0")		908.5	2				SS-1A	-	-	-	-	-	-	-	-	-	-		-	
HARD, GRAYISH BROWN, SILTY CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		907.3	3	2 4 5	13	56	SS-1B	4.00	4	11	18	37	30	38	18	20	16	A-6b (10)	580	
MEDIUM DENSE TO LOOSE, BROWN, SANDY SILT, TRACE FINE GRAVEL, TRACE CLAY, MOIST			4	5 7 9	23	100	SS-2	-	3	25	32	39	1	NP	NP	NP	22	A-4a (1)	-	
			5	6																
			6	6 7	19	50	SS-3	-	2	19	30	46	3	NP	NP	NP	23	A-4a (3)	-	
			7	2 2 2	6	67	SS-4	-	-	-	-	-	-	-	-	-	23	A-4a (V)	-	
			8																	
		901.8		23 50/2"	-	100	SS-5A	-	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
SHALE, DARK GRAY, MODERATELY WEATHERED, WEAK.		901.6	9				SS-5B	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 5.0' AND WAS DRY AT DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5834+52, 10' RT.		EXPLORATION ID B-074-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB															
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 913.7 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1													
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.234647, -89.003801															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL	
										GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.8' - CONCRETE (10.0")		913.7																			
0.1' - ASPHALT (1.0")		912.9																			
0.9' - CONCRETE (10.5")		912.8	1																		
0.3' - AGGREGATE BASE (4.0")		911.9																			
VERY STIFF, BROWN, SANDY SILT , AND CLAY, TRACE FINE GRAVEL, MOIST.		911.6	2				SS-1A	-	-	-	-	-	-	-	-	-	12		-		
				3	4	10	39	SS-1B	2.25	8	8	6	39	39	26	16	10	18	A-4a (8)	640	
		910.2	3		3																
				3	6		13	61	SS-2	4.50	2	4	4	41	49	47	20	27	20	A-7-6 (16)	-
			4																		
			5		6																
			6		7	23	50	SS-3	3.50	-	-	-	-	-	-	-	-	19	A-7-6 (V)	-	
			7		3																
			8		3	12	67	SS-4	3.75	-	-	-	-	-	-	-	-	21	A-7-6 (V)	-	
			9																		
			10		9																
					11																
					14	36	100	SS-5	4.25	-	-	-	-	-	-	-	-	24	A-7-6 (V)	-	
		903.7	EOB	10																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																					

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1723+53, 8' LT.		EXPLORATION ID B-075-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 914.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/3/23 END: 4/3/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.234506, -89.002749														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.9' - CONCRETE (10.5")		914.4																		
0.1' - ASPHALT (1.0")		913.5																		
0.8' - CONCRETE (10.5")		913.4	1																	
0.2' - AGGREGATE BASE (3.0")		912.6																		
VERY STIFF, BROWNISH GRAY, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST. -TRACE ROOT FIBERS IN SS-1		912.4	2																	
				2	9	28	SS-1	2.75	7	7	10	38	38	40	20	20	18	A-6b (12)	560	
		910.9	3	4																
VERY STIFF, BROWNISH GRAY, CLAY , AND SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			4	3	22	61	SS-2	3.75	4	3	4	43	46	45	21	24	19	A-7-6 (15)	-	
		909.4	5	5	10															
HARD, BROWNISH GRAY AND ORANGE, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			6	9	36	56	SS-3	4.5+	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
			7	10	32	50	SS-4	4.5+	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
			8	10	12															
			9	12	59	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
-SHALE FRAGMENTS IN SS-5				15	26															
		904.4	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5842+49, 9' LT.		EXPLORATION ID B-076-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 913.0 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/4/23 END: 4/5/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.235949, -89.001506														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		913.0							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.9' - CONCRETE (10.0")		912.1																		
0.1' - ASPHALT (1.25")		912.0	1																	
0.8' - CONCRETE (10.0")		911.2																		
0.4' - AGGREGATE BASE (5.0")		910.8	2				SS-1A	-	-	-	-	-	-	-	-	-	-		-	
VERY STIFF, GRAY WITH BROWN, SILT AND CLAY , LITTLE TO SOME COARSE TO FINE SAND, TRACE TO LITTLE FINE GRAVEL, MOIST TO DAMP.				2	2	6	44	SS-1B	2.75	2	8	6	50	34	34	20	14	18	A-6a (10)	500
			3																	
			4	3	2	6	72	SS-2	4.00	14	15	6	45	20	31	19	12	14	A-6a (7)	-
			5																	
			6	4	7	16	89	SS-3	2.75	-	-	-	-	-	-	-	21	A-6a (V)	-	
MEDIUM DENSE, BROWN AND GRAY, GRAVEL WITH SAND, SILT, AND CLAY , MOIST.		906.5																		
			7	5	6	19	67	SS-4	-	-	-	-	-	-	-	-	14	A-2-6 (V)	-	
		904.8	8																	
HARD, BROWN WITH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.																				
			9	7	9	32	33	SS-5	4.50	-	-	-	-	-	-	-	-	A-6a (V)	-	
		903.0	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1729+50, 20' RT.				EXPLORATION ID B-077-0-23										
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB				PAGE 1 OF 1										
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 913.0 (MSL) EOB: 9.92 ft.														
START: 3/26/23 END: 3/26/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.235388, -89.000943														
MATERIAL DESCRIPTION AND NOTES		ELEV. 913.0	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
1.1' - CONCRETE (13.0")		911.9	1																	
0.5' - AGGREGATE BASE (6.0")		911.4																		
MEDIUM DENSE TO VERY LOOSE, DARK BROWN TO BROWN, GRAVEL WITH SAND, TRACE CLAY, TRACE SILT, MOIST		910.0		2	5 7 7	20	67	SS-1A	-	-	-	-	-	-	-	-	-	-	-	
								SS-1B	-	43	18	21	8	10	NP	NP	NP	11	A-1-b (0)	240
MEDIUM DENSE TO VERY LOOSE, DARK BROWN TO BROWN, GRAVEL WITH SAND AND SILT, TRACE TO LITTLE CLAY		910.0		3	5															
				4	5 3	12	44	SS-2	-	-	-	-	-	-	-	-	-	11	A-2-4 (V)	-
-SHALE FRAGMENTS IN SS-2 AND SS-3		908.5																		
				5	1 1 2	4	61	SS-3	-	-	-	-	-	-	-	-	-	16	A-2-4 (V)	-
LOOSE, BROWN, GRAVEL WITH SAND, TRACE SILT, WET.		907.0		6																
		906.3			2			SS-4A	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	-
SHALE, BROWNISH GRAY, HIGHLY WEATHERED, WEAK.		906.3	TR	2 17	28	78	SS-4B	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			8																	
			9	32 46 50/5"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
		903.0	EOB																	

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 4.5' AND WAS DRY AT DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99_RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1735+49, 8' RT.		EXPLORATION ID B-078-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 909.7 (MSL) EOB: 9.46 ft.		PAGE 1 OF 1												
START: 3/27/23 END: 3/27/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.236362, -88.999216														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		909.7							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.8' - CONCRETE (10.0")		908.9																		
0.1' - ASPHALT (1.5")		908.8	1																	
0.9' - CONCRETE (10.0")		907.9																		
LOOSE, BROWN, GRAVEL WITH SAND AND SILT, WET.		907.3	2				SS-1A	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	-	
VERY STIFF TO HARD, BROWNISH GRAY TO BROWN/ORANGE/GRAY, CLAY, SOME SILT, TRACE TO LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST TO DAMP.			3	2	13	67	SS-1B	4.25	0	3	2	32	63	45	21	24	22	A-7-6 (15)	320	
			4	4	7	23	SS-2	4.50	6	6	5	33	50	43	22	21	13	A-7-6 (13)	-	
-SHALE FRAGMENTS IN SS-2 AND SS-3			5																	
			6	7	12	38	SS-3	3.25	-	-	-	-	-	-	-	-	22	A-7-6 (V)	-	
		903.2	TR																	
SHALE, BROWNISH GRAY AND ORANGE, SEVERELY WEATHERED, WEAK.			7	9	14	64	SS-4	-	-	-	-	-	-	-	-	-	16	Rock (V)	-	
			8																	
			9	36	50	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
		900.3	EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99_RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5850+40, 26' LT.		EXPLORATION ID B-079-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 907.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/4/23 END: 4/4/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.237219, -88.999213														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		907.6							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (14.0")		906.4	1																	
0.5' - AGGREGATE BASE (6.0")		905.9					SS-1A	-	-	-	-	-	-	-	-	-	-		-	
VERY STIFF, GRAYISH BROWN, SANDY SILT, LITTLE CLAY, LITTLE FINE GRAVEL, MOIST.		904.6	2	7 5 5	15	61	SS-1B	-	15	19	17	33	16	22	14	8	15	A-4a (3)	490	
VERY STIFF, BROWNISH ORANGE AND GRAY, SILTY CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		903.1	3	4																
			4	3 3	9	44	SS-2	2.50	4	4	5	45	42	38	21	17	22	A-6b (11)	-	
HARD TO VERY STIFF, MOTTLED BROWN AND GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			5	7 8 13	30	100	SS-3	4.5+	-	-	-	-	-	-	-	-	13	A-6a (V)	-	
			6																	
			7	10 11 12	33	61	SS-4	3.50	-	-	-	-	-	-	-	-	19	A-6a (V)	-	
			8																	
-SHALE FRAGMENTS IN SS-5		897.6	9	5 5 5	15	89	SS-5	3.00	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
			10																	
EOB																				
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1741+63, 9' LT.		EXPLORATION ID B-080-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 903.0 (MSL) EOB: 8.83 ft.		PAGE 1 OF 1												
START: 4/3/23 END: 4/3/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.237371, -88.997453														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		903.0							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.9' - CONCRETE (11.0")		902.1																		
0.1' - ASPHALT (1.25")		902.0	1																	
0.8' - CONCRETE (10.0")		901.2																		
0.4' - AGGREGATE BASE (5.0")		900.7	2				SS-1A	-	-	-	-	-	-	-	-	-	-		-	
VERY STIFF, MOTTLED BROWN AND GRAY, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		899.5	3	2 4 7	16	39	SS-1B	3.25	8	8	7	48	29	31	19	12	13	A-6a (9)	100	
SHALE, BROWNISH GRAY TO GRAY AND ORANGISH GRAY, HIGHLY WEATHERED, WEAK.			4	14 29 50/5"	-	71	SS-2	-	-	-	-	-	-	-	-	-	12	Rock (V)	-	
			5	33 50/4"	-	100	SS-3	-	-	-	-	-	-	-	-	-	8	Rock (V)	-	
			6																	
			7	50/5"	-	100	SS-4	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			8																	
		894.2	EOB	50/4"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5858+50, 9' RT.		EXPLORATION ID B-081-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 896.9 (MSL) EOB: 9.33 ft.		PAGE 1 OF 1	
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.238438, -88.996781			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.9' - CONCRETE (11.0")	896.9																		
0.1' - ASPHALT (1.25")	896.0																		
0.8' - CONCRETE (9.75")	895.9	1																	
0.4' - AGGREGATE BASE (5.0")	895.0																		
	894.6	2				SS-1A	-	-	-	-	-	-	-	-	-	12		-	
VERY STIFF TO HARD, BROWNISH RED TO BROWN, CLAY, SOME TO AND SILT, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST TO DAMP.		3	2	10	67	SS-1B	3.50	3	4	4	33	56	48	22	26	20	A-7-6 (16)	960	
		4	6	23	94	SS-2	4.5+	1	1	1	38	59	47	23	24	19	A-7-6 (15)	-	
		5	7																
		6	13	39	56	SS-3	4.5+	-	-	-	-	-	-	-	-	18	A-7-6 (V)	-	
		7	14																
SHALE, BROWNISH RED, HIGHLY WEATHERED, WEAK.	890.4	TR																	
		7	10	52	100	SS-4	-	-	-	-	-	-	-	-	-	13	Rock (V)	-	
		8	14																
	887.6	9	41	-	100	SS-5	-	-	-	-	-	-	-	-	-	10	Rock (V)	-	
			50/4"																

EOB

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1747+42, 8' RT.		EXPLORATION ID B-082-0-23																													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB																															
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 893.8 (MSL) EOB: 8.58 ft.		PAGE 1 OF 1																													
START: 3/27/23 END: 3/27/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.238247, -88.995722																															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL																	
		893.8							GR	CS	FS	SI	CL	LL	PL	PI																					
0.9' - CONCRETE (10.75")		892.9	TR	4	5 20	36	89	SS-1A	-	29	23	33	- 15	-	-	-	15	A-2-4 (V)	-																		
0.2' - ASPHALT (2.0")		892.7																																			
0.7' - CONCRETE (9.75")		892.0																																			
LOOSE, BROWN, GRAVEL WITH SAND AND SILT, WET.		891.3																																			
SHALE, BROWNISH GRAY, HIGHLY WEATHERED, VERY WEAK.																					3				SS-1B	-	-	-	-	-	-	-	-	-	Rock (V)	540	
																					4	28 50/6"	-	87	SS-2	-	-	-	-	-	-	-	-	9	Rock (V)	-	
																					5	50/4"	-	100	SS-3	-	-	-	-	-	-	-	-	9	Rock (V)	-	
																					6																
			7	50/4"	-	100	SS-4	-	-	-	-	-	-	-	-	9	Rock (V)	-																			
		8																																			
		885.2	EOB	50/1"	-	100	SS-5	-	-	-	-	-	-	-	-	-	Rock (V)	-																			
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																																					

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5866+59, 9' LT.		EXPLORATION ID B-083-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 882.5 (MSL) EOB: 8.08 ft.		PAGE 1 OF 1	
START: 4/4/23 END: 4/4/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.239759, -88.994449			

MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI				
1.0' - CONCRETE (12.25")		882.5																		
0.3' - AGGREGATE BASE (3.0")		881.5	1																	
VERY DENSE, BROWN-GRAY, GRAVEL WITH SAND, MOIST		881.2																		
-POSSIBLE LIME OR CEMENT TREATED			2	11 6 50/4"	-	25	SS-1	-	-	-	-	-	-	-	-	-	15	A-1-b (V)	5500	
HARD, BROWN, ORANGE, AND GRAY, SILT AND CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		879.5	3	21 19 24	62	83	SS-2	4.50	3	2	4	52	39	35	20	15	11	A-6a (10)	-	
SHALE, ORANGISH GRAY TO GRAY, HIGHLY WEATHERED, VERY WEAK.		878.0	4																	
			5	29 47 50/4"	-	56	SS-3	-	-	-	-	-	-	-	-	-	12	Rock (V)	-	
			6	50/3"	-	100	SS-4	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			7																	
		874.4	8	60/1"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
EOB																				

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:17 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1752+53, 16' RT.		EXPLORATION ID B-084-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB															
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 885.3 (MSL) EOB: 8.67 ft.		PAGE 1 OF 1													
START: 3/27/23 END: 3/27/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.239037, -88.994206															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL	
										GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (14.5")		885.3																			
0.6' - AGGREGATE BASE (7.0")		884.1	1																		
VERY DENSE, BROWN, GRAVEL WITH SAND, SOME SILT, TRACE CLAY, MOIST		883.5					SS-1A	-	-	-	-	-	-	-	-	-	-	A-1-b (V)	-		
SHALE, GRAY, HIGHLY WEATHERED, WEAK.		882.8	2	18 36 18	78	100	SS-1B	-	31	23	22	20	4	NP	NP	NP	18	A-1-b (0)	1600		
							SS-1C	-	-	-	-	-	-	-	-	-	-	Rock (V)	-		
			3																		
			4	14 24 35	86	100	SS-2	-	-	-	-	-	-	-	-	-	-	7	Rock (V)	-	
			5	50/5"	-	100	SS-3	-	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
			6																		
			7																		
			8																		
		876.6	EOB	50/2"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-		
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																					

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99			DRILLING FIRM / OPERATOR: RII / LH			DRILL RIG: CME 55 (386345)			STATION / OFFSET: 1488+83, 41' LT.			EXPLORATION ID B-085-1-23										
TYPE: SUBGRADE			SAMPLING FIRM / LOGGER: AECOM / EB			HAMMER: AUTOMATIC			ALIGNMENT: I-90 EB													
PID: 116955 SFN: N/A			DRILLING METHOD: 4.5" CFA			CALIBRATION DATE: 3/21/22			ELEVATION: 744.4 (MSL) EOB: 10.0 ft.			PAGE 1 OF 1										
START: 3/29/23 END: 3/29/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 87			COORD: Not Recorded													
MATERIAL DESCRIPTION AND NOTES			ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL	
			744.4							GR	CS	FS	SI	CL	LL	PL	PI					
0.8' - TOPSOIL (9.0")			743.6																			
VERY STIFF TO HARD, DARK BROWN TO GRAYISH BROWN, SANDY SILT , SOME FINE GRAVEL, SOME CLAY, DAMP. -TRACE ORGANICS IN SS-1				1	3	17	100	SS-1	4.00	-	-	-	-	-	-	-	-	14	A-4a (V)	1800		
				2	4	8																
				3	5	45	89	SS-2	4.5+	26	22	12	20	20	24	16	8	6	A-4a (1)	-		
HARD, GRAY, SANDY SILT , AND CLAY, TRACE FINE GRAVEL, DAMP.			740.4	4	8																	
				5	9	29	100	SS-3	4.5+	4	7	10	41	38	25	16	9	12	A-4a (8)	-		
				6	11	35	100	SS-4	4.25	-	-	-	-	-	-	-	-	12	A-4a (V)	-		
				7																		
				8																		
				9	8	28	100	SS-5	4.5+	-	-	-	-	-	-	-	-	A-4a (V)	-			
			734.4	EOB	10																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																						
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																						

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5657+22, 42' RT.		EXPLORATION ID B-086-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB															
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 764.5 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1													
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.223103, -89.064648															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL	
		764.5							GR	CS	FS	SI	CL	LL	PL	PI					
0.5' - TOPSOIL (6.0")		764.0																			
HARD, DARK BROWN TO BROWN, SILT AND CLAY, LITTLE TO SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			1	3	5	7	17	83	SS-1	4.50	-	-	-	-	-	-	-	15	A-6a (V)	<100	
-SHALE FRAGMENTS IN SS-1			2																		
			3	6	9	11	29	100	SS-2	4.50	4	7	11	50	28	30	18	12	15	A-6a (9)	-
			4																		
			5	9	11	13	35	44	SS-3	4.50	4	10	12	47	27	30	17	13	15	A-6a (9)	-
		759.0																			
VERY STIFF TO HARD, BROWN AND DARK BROWN TO BROWNISH GRAY, SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.			6	15	19	21	58	94	SS-4	2.50	-	-	-	-	-	-	-	12	A-4a (V)	-	
			7																		
			8																		
			9	12	16	19	51	100	SS-5	4.50	-	-	-	-	-	-	-	13	A-4a (V)	-	
		754.5	EOB	10																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																					

[illegible]

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5765+46, 25' RT.		EXPLORATION ID B-088-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 794.5 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.227902, -89.026602														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
0.5' - TOPSOIL (6.0")		794.5																		
HARD, BROWNISH GRAY TO BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		794.0	1	8	30	100	SS-1	4.5+	-	-	-	-	-	-	-	-	9	A-6a (V)	640	
			2	9 12																
			3	7 8 9	25	56	SS-2	4.50	4	8	8	55	25	31	17	14	11	A-6a (10)	-	
			4																	
-TRACE ROOT FIBERS IN SS-3			5	5 6	16	44	SS-3	4.5+	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
		789.0	6	8 10 11	30	100	SS-4	4.25	0	3	7	67	23	34	20	14	20	A-6a (10)	-	
			7																	
			8																	
			9	5 7	17	100	SS-5	2.50	-	-	-	-	-	-	-	-	32	A-6a (V)	-	
		784.5	10																	
			EOB																	
NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 8.0' AND WAS DRY AT DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 1705+14, 24' LT.		EXPLORATION ID B-089-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 895.2 (MSL) EOB: 8.75 ft.		PAGE 1 OF 1												
START: 4/3/23 END: 4/3/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.231767, -89.008271														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		895.2							GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.5' - TOPSOIL (6.0")		894.7																		
LOOSE, BROWNISH GRAY, SANDY SILT , LITTLE CLAY, LITTLE FINE GRAVEL, MOIST. -TRACE ROOT FIBERS IN SS-1A		893.7	1	4	7	20	100	SS-1A	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
HARD, BROWNISH GRAY AND ORANGE, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		892.7	2	7				SS-1B	4.5+	5	12	6	45	32	34	19	15	13	A-6a (V)	760
HARD, GRAYISH BROWN, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP. -SHALE FRAGMENTS IN SS-2		891.2	3	17	24	91	61	SS-2	4.5+	3	11	5	50	31	36	21	15	12	A-6a (10)	-
39			4	39	50/4"	-	100	SS-3	-	-	-	-	-	-	-	-	-	Rock (V)	-	
50/5"			5																	
50/3"			6																	
50/3"			7																	
50/3"			8																	
50/3"		886.4	EOB	50/3"	-	100	SS-5	-	-	-	-	-	-	-	-	-	-	Rock (V)	-	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RIL.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 5862+47, 24' RT.		EXPLORATION ID B-090-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: I-90 WB			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 890.2 (MSL) EOB: 8.92 ft.		PAGE 1 OF 1	
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.239034, -88.995588			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.5' - TOPSOIL (6.0")	890.2																		
HARD, BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.	889.7	1	3	10	89	SS-1	4.5+	12	13	16	37	22	28	16	12	12	A-6a (6)	780	
HARD, GRAYISH ORANGE, SILTY CLAY , TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	887.7	2	5	55	67	SS-2	4.5+	2	4	2	53	39	37	19	18	14	A-6b (11)	-	
-SHALE FRAGMENTS IN SS-2	886.2	3	14	24															
SHALE , GRAYISH ORANGE TO GRAY, HIGHLY TO MODERATELY WEATHERED, WEAK.	886.2	4	32		80	SS-3	-	-	-	-	-	-	-	-	-	7	Rock (V)	-	
	881.3	5	50/1"	-	100	SS-4	-	-	-	-	-	-	-	-	-	4	Rock (V)	-	
	881.3	6																	
	881.3	7																	
	881.3	8																	
	881.3	EOB	50/5"	-	100	SS-5	-	-	-	-	-	-	-	-	-	5	Rock (V)	-	

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 2465+55, 7' RT.		EXPLORATION ID B-091-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: RAMP N			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 730.7 (MSL) EOB: 10.5 ft.		PAGE 1 OF 1	
START: 3/19/23 END: 3/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.215429, -89.090457			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (12.75")	730.7																		
	729.6	1																	
HARD, BROWNISH GRAY TO GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.		2	14 27 15	61	72	SS-1	4.50	-	-	-	-	-	-	-	-	15	A-4a (V)	1400	
		3																	
		4	10 9 9	26	74	SS-2	4.50	-	-	-	-	-	-	-	-	12	A-4a (V)	-	
	726.2	5																	
VERY STIFF TO HARD, GRAY TO BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST TO DAMP.		6	7 9 12	30	86	SS-3	3.50	4	6	15	41	34	29	16	13	14	A-6a (9)	-	
		7																	
		8	5 12 12	35	100	SS-4	4.50	5	6	18	37	34	29	16	13	13	A-6a (8)	-	
		9																	
	721.7	10	6 6 6	17	100	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
STIFF, GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.																			
	720.2		6 9 11	29	100	SS-6	1.50	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99_RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 2470+23, 35' LT.		EXPLORATION ID B-092-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: RAMP N														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 749.1 (MSL) EOB: 10.5 ft.		PAGE 1 OF 1												
START: 3/19/23 END: 3/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.215870, -89.088876														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		749.1							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.0")																				
		748.0	1																	
0.8' - AGGREGATE BASE (9.0")																				
		747.2																		
STIFF, GRAY, SANDY SILT, SOME CLAY, TRACE FINE GRAVEL, MOIST			2	6	23	78	SS-1A	-	-	-	-	-	-	-	-	-	-			
				7			SS-1B	1.50	-	-	-	-	-	-	-	-	17	A-4a (V)	280	
			3																	
			4	4	12	64	SS-2	2.00	4	12	36	24	24	20	12	8	19	A-4a (3)	-	
		744.6																		
VERY STIFF TO HARD, GRAY TO BROWNISH GRAY, SILTY CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST TO DAMP.			5	6	28	68	SS-3	4.00	1	5	9	37	48	37	18	19	17	A-6b (12)	-	
			6																	
			7	6	26	64	SS-4	4.50	-	-	-	-	-	-	-	-	17	A-6b (V)	-	
				9																
			8	6	25	100	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-6b (V)	-	
		740.1																		
HARD, BROWN, SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.			9	8	44	83	SS-6	4.50	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
			10																	
		738.6																		
EOB																				
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99			DRILLING FIRM / OPERATOR: RII / LH			DRILL RIG: CME 55 (386345)			STATION / OFFSET: 2476+49, 4' RT.			EXPLORATION ID B-093-0-23		
TYPE: SUBGRADE			SAMPLING FIRM / LOGGER: RII / IS			HAMMER: AUTOMATIC			ALIGNMENT: RAMP P			PAGE 1 OF 1		
PID: 116955 SFN: N/A			DRILLING METHOD: 4.5" CFA			CALIBRATION DATE: 3/21/22			ELEVATION: 743.4 (MSL) EOB: 10.5 ft.					
START: 3/19/23 END: 3/19/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 87			LAT / LONG: 40.216715, -89.086899					

MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.25")		743.4																		
		742.3	1																	
0.4' - AGGREGATE BASE (5.0")		741.9																		
VERY DENSE, BROWNISH GRAY, SANDY SILT , LITTLE CLAY, LITTLE FINE GRAVEL, DAMP.			2	50/6"	-	100	SS-1	-	-	-	-	-	-	-	-	19	A-4a (V)	-		
-POSSIBLE LIME OR CEMENT TREATED																				
		740.4	3																	
VERY STIFF TO HARD, BROWN AND GRAY, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			4	6 8 10	26	100	SS-2	4.50	3	5	7	43	42	30	18	12	17	A-6a (9)	-	
			5	7 10 12	32	75	SS-3	4.50	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
			6																	
			7	6 7 9	23	94	SS-4	4.50	6	4	6	39	45	29	16	13	17	A-6a (9)	-	
			8	6 5 7	17	61	SS-5	2.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
			9																	
			10	7 10 10	29	89	SS-6	3.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		732.9	EOB																	

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 2481+28, 20' LT.		EXPLORATION ID B-094-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: RAMP P														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 733.4 (MSL) EOB: 9.5 ft.		PAGE 1 OF 1												
START: 3/19/23 END: 3/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.217646, -89.085679														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		733.4							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.5")																				
		732.3	1																	
0.5' - AGGREGATE BASE (5.5")		731.8																		
VERY DENSE, BROWNISH GRAY, GRAVEL WITH SAND AND SILT, MOIST			2	50/4"	-	100	SS-1	-	-	-	-	-	-	-	-	-	-	A-2-4 (V)	-	
		729.9	3	50/0"	-		SS-1A	-	-	-	-	-	-	-	-	-	-		-	
HARD TO STIFF, GRAY, SILT AND CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP TO MOIST			4	7	6	19	56	SS-2B	4.50	3	3	4	45	45	31	18	13	14	A-6a (9)	-
-SANDSTONE FRAGMENTS IN SS-2B			5																	
			6	9	11	30	72	SS-3	4.50	-	-	-	-	-	-	-	16	A-6a (V)	-	
-FINE SAND SEAMS IN SS-4			7	3	6	19	94	SS-4	2.50	0	2	3	47	48	30	17	13	21	A-6a (9)	-
			8																	
			9	5	7	20	100	SS-5	1.50	-	-	-	-	-	-	-	20	A-6a (V)	-	
		723.9																		
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RIL.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 4579+80, 5' LT.		EXPLORATION ID B-095-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP L			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 719.3 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.216642, -89.091026			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.0")	719.3																		
0.6' - AGGREGATE BASE (7.0")	718.2	1																	
VERY STIFF TO HARD, GRAY TO BROWNISH GRAY, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.	717.6					SS-1A	-	-	-	-	-	-	-	-	-	8		-	
		2	11 8 7	22	61	SS-1B	4.5+	-	-	-	-	-	-	-	-	9	A-6a (V)	-	
		3																	
		4	5 6 8	20	72	SS-2	4.5+	2	5	14	54	25	28	16	12	13	A-6a (9)	-	
		5	6 6 6	17	67	SS-3	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
-TRACE ORGANICS IN SS-4 -SS-4: LOI = 3.9%		6	7 9 10	28	72	SS-4	4.00	2	4	14	48	32	35	20	15	24	A-6a (10)	-	
	711.3	8																	
MEDIUM DENSE, BROWNISH GRAY, GRAVEL WITH SAND AND SILT , WET.		9	4 6 6	17	94	SS-5	-	-	-	-	-	-	-	-	-	15	A-2-4 (V)	-	
	709.3	10																	
EOB																			

NOTES: GROUNDWATER ENCOUNTERED INITIALLY @ 6.0' AND WAS DRY AT DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 4583+34, 19' RT.		EXPLORATION ID B-096-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP L														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 731.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.217292, -89.090080														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
		731.2							GR	CS	FS	SI	CL	LL	PL	PI				
1.0' - CONCRETE (12.0")																				
		730.2																		
0.3' - AGGREGATE BASE (3.0")		729.9	1																	
HARD, BROWN TO DARK BROWNISH GRAY, SANDY SILT, TRACE TO LITTLE CLAY, TRACE FINE GRAVEL, DAMP.			2	25 32 16	70	72	SS-1	4.50	8	23	25	39	5	33	25	8	11	A-4a (2)	1500	
			3																	
-POSSIBLE GYPSUM CRYSTALS IN SS-2			4	6 7 9	23	89	SS-2	4.5+	-	-	-	-	-	-	-	-	12	A-4a (V)	7800	
			5	7 8 8	23	67	SS-3	4.5+	8	13	23	42	14	22	15	7	12	A-4a (4)	-	
			6																	
-LARGE STONE FRAGMENTS IN SS-4			7	7 8 11	28	83	SS-4	4.5+	-	-	-	-	-	-	-	-	9	A-4a (V)	-	
			8																	
			9	6 6 8	20	100	SS-5	4.5+	-	-	-	-	-	-	-	-	12	A-4a (V)	-	
		721.2	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 4588+62, 18' RT.		EXPLORATION ID B-097-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP M														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 730.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/4/23 END: 4/4/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.218206, -89.088325														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		730.8							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.25")																				
		729.7	1																	
0.3' - AGGREGATE BASE (3.0")		729.4																		
VERY DENSE, GRAYISH BROWN, SANDY SILT, LITTLE FINE GRAVEL, TRACE CLAY, DAMP.			2	17 29 43	104	67	SS-1	-	12	28	18	34	8	37	27	10	16	A-4a (1)	1200	
		727.8	3																	
HARD, BROWNISH GRAY, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			4	9 6 8	20	50	SS-2	4.50	3	4	8	42	43	31	18	13	17	A-6a (9)	-	
			5	6 7 7	20	56	SS-3	4.50	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
			6																	
			7	6 9 11	29	56	SS-4	4.50	-	-	-	-	-	-	-	-	17	A-6a (V)	-	
			8																	
			9	5 8 9	25	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		720.8	10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 459+16, 8' LT.		EXPLORATION ID B-098-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP M			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 728.2 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/4/23 END: 4/4/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.218273, -89.087294			

MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.0")		728.2																		
		727.1	1																	
0.4' - AGGREGATE BASE (5.0")		726.7																		
VERY DENSE, GRAY, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, WET.			2	17 50/2"	-	100	SS-1	-	29	39	11	17	4	NP	NP	NP	12	A-1-b (0)	1200	
-POSSIBLE LIME OR CEMENT TREATED																				
HARD, BROWN AND BROWNISH GRAY TO ORANGISH GRAY, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		725.7	3	5																
			4	7 9	23	56	SS-2	4.5+	3	8	12	38	39	29	17	12	14	A-6a (9)	-	
			5	7 8	22	78	SS-3	4.5+	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
			6	9																
			7	10 12	32	67	SS-4	4.50	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
			8																	
			9	7 10 10	29	100	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		718.2	EOB	10																

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 2565+05, 5' RT.		EXPLORATION ID B-099-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: RAMP C														
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 778.9 (MSL) EOB: 10.5 ft.		PAGE 1 OF 1												
START: 3/19/23 END: 3/19/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.223427, -89.058191														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		778.9							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.0' - CONCRETE (12.5")																				
		777.9	1																	
0.5' - AGGREGATE BASE (6.0")		777.4																		
LOOSE TO MEDIUM DENSE, GRAY, GRAVEL, SOME FINE TO COARSE SAND, TRACE SILT, MOIST			2	5	13	39	SS-1	-	-	-	-	-	-	-	-	-	-	A-1-a (V)	300	
			3																	
			4	3	10	50	SS-2	-	67	13	6	-	14	-	NP	NP	NP	9	A-1-a (0)	-
		774.4																		
HARD, BROWNISH GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			5	8	39	72	SS-3	4.50	2	9	12	41	36	31	17	14	17	A-6a (10)	-	
			6																	
			7	10	38	100	SS-4	4.50	-	-	-	-	-	-	-	-	18	A-6a (V)	-	
		771.4																		
HARD, BROWN, SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.			8	16	39	83	SS-5	4.50	-	-	-	-	-	-	-	-	18	A-4a (V)	-	
			9																	
			10	13	59	56	SS-6	4.50	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
		768.4																		
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENIONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 2559+39, 15' LT.		EXPLORATION ID B-100-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: RAMP C			
PID: 116955 SFN: N/A		DRILLING METHOD: 4.5" CFA		CALIBRATION DATE: 3/21/22		ELEVATION: 796.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 3/20/23 END: 3/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.223554, -89.056817			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.7' - CONCRETE (8.75")	796.4																		
0.3' - AGGREGATE BASE (3.0")	795.7																		
VERY DENSE, BROWN AND DARK BROWN, COARSE AND FINE SAND , SOME SILT, LITTLE FINE GRAVEL, TRACE CLAY, WET. -POSSIBLE LIME OR CEMENT TREATED	795.4	1																	
		2	28 31 32	91	100	SS-1	-	13	33	19	28	7	NP	NP	NP	24	A-3a (0)	330	
	793.4	3																	
VERY STIFF TO HARD, BROWN, SANDY SILT , SOME CLAY, TRACE FINE GRAVEL, MOIST.		4	8 8 10	26	75	SS-2	4.00	7	12	15	40	26	26	16	10	14	A-4a (6)	-	
		5	6 8 9	25	100	SS-3	4.50	-	-	-	-	-	-	-	-	16	A-4a (V)	-	
		6																	
		7	10 11 13	35	100	SS-4	4.50	-	-	-	-	-	-	-	-	-	A-4a (V)	-	
	788.4	8																	
HARD, BROWN, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		9	11 12 18	44	100	SS-5	4.50	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
	786.4	10																	
EOB																			

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 4672+96, 4' LT.		EXPLORATION ID B-103-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP B														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 760.9 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/4/23 END: 4/4/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.224671, -89.059431														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
0.8' - CONCRETE (10.0")		760.9																		
0.7' - AGGREGATE BASE (8.0")		760.1																		
		759.4	1																	
HARD, BROWN AND DARK BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		757.9	2	3 4 4	12	28	SS-1	4.50	5	6	10	41	38	31	18	13	17	A-6a (9)	900	
HARD, BROWN AND DARK BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3	7 9 10	28	67	SS-2	4.5+	3	7	10	42	38	31	18	13	17	A-6a (9)	-	
			4																	
			5	8 11 13	35	100	SS-3	4.5+	-	-	-	-	-	-	-	-	14	A-6a (V)	-	
			6																	
			7	11 21 36	83	78	SS-4	4.5+	-	-	-	-	-	-	-	-	16	A-6a (V)	-	
			8																	
			9	14 23 36	86	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		750.9	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 4678+54, 16' RT.		EXPLORATION ID B-104-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP B															
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 767.1 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1													
START: 4/4/23 END: 4/4/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.225754, -89.058017															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL	
		767.1							GR	CS	FS	SI	CL	LL	PL	PI					
0.8' - CONCRETE (9.75")		766.3																			
0.3" - AGGREGATE BASE (4.0")		766.0	1																		
LOOSE, GRAY, GRAVEL WITH SAND, SILT, AND CLAY, MOIST.		764.1	2	3	3	9	28	SS-1	-	-	-	-	-	-	-	-	11	A-2-6 (V)	1600		
HARD, GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		762.6	3	3	7	22	61	SS-2	4.5+	8	11	16	29	36	31	18	13	15	A-6a (7)	-	
VERY STIFF, GRAY, SANDY SILT, LITTLE CLAY, TRACE FINE GRAVEL, DAMP.		762.0	4	3	7	8															
MEDIUM DENSE, GRAY, GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST		757.1	5	5	7	14	30	72	SS-3A	3.00	-	-	-	-	-	-	-	-	A-4a (V)	-	
			6	7	7	14	23	67	SS-3B	-	38	23	17	17	5	NP	NP	NP	7	A-1-b (0)	-
			7	7	7	9			SS-4	-	-	-	-	-	-	-	-	7	A-1-b (V)	-	
			8																		
			9	8	4	7	16	44	SS-5	-	-	-	-	-	-	-	-	-	A-1-b (V)	-	
			10																		
		EOB																			
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																					

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 4689+80, 5' LT.		EXPLORATION ID B-106-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP A			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 791.4 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/4/23 END: 4/4/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.225786, -89.053467			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
1.1' - CONCRETE (13.0")	791.4																		
0.3' - AGGREGATE BASE (4.0")	790.3 790.0	1																	
VERY STIFF, BROWN AND BROWNISH GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	788.4	2	3 3 4	10	44	SS-1	2.25	8	16	29	30	17	26	19	7	15	A-4a (2)	2000	
STIFF, GRAY, BROWN, AND ORANGE, SILT AND CLAY , AND COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST	786.9	3	2 3 5	12	56	SS-2	1.25	1	7	37	24	31	27	13	14	21	A-6a (6)	-	
HARD, GRAYISH BROWN TO BROWNISH GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.	783.4	5	4 5 9	20	100	SS-3	4.50	-	-	-	-	-	-	-	-	18	A-4a (V)	-	
		6																	
		7	9 10 12	32	67	SS-4	4.50	-	-	-	-	-	-	-	-	18	A-4a (V)	-	
HARD, BROWN, SILT AND CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.	781.4	8																	
		9	7 10 14	35	100	SS-5	4.5+	-	-	-	-	-	-	-	-	-	A-6a (V)	-	
		EOB	10																

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONEDRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 - RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 2698+28, 15' LT.		EXPLORATION ID B-107-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP Q														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 885.5 (MSL) EOB: 8.0 ft.		PAGE 1 OF 1												
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.230640, -89.010339														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
1.1' - CONCRETE (13.75")		885.5																		
		884.4	1																	
HARD, LIGHT BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			2	8 8 11	28	78	SS-1	4.50	6	7	6	53	28	31	17	14	11	A-6a (10)	560	
		882.5	TR 3																	
SHALE, BROWN, HIGHLY WEATHERED, WEAK.			4	28 39 50/3"	-	100	SS-2	-	-	-	-	-	-	-	-	-	9	Rock (V)	-	
			5	41 50/2"	-	100	SS-3	-	-	-	-	-	-	-	-	-	7	Rock (V)	-	
			6	50/3"	-	100	SS-4	-	-	-	-	-	-	-	-	-	5	Rock (V)	-	
AUGER REFUSAL @ 8.0'			7																	
		877.5	EOB 8																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 2701+77, 2' RT.		EXPLORATION ID B-108-0-23	
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: AECOM / EB		HAMMER: AUTOMATIC		ALIGNMENT: RAMP Q			
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 897.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1	
START: 4/11/23 END: 4/11/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.230895, -89.009123			

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	SO4 ppm	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI				
0.4' - ASPHALT (4.5")	897.6																		
0.4' - CONCRETE (4.5")	897.2																		
0.4' - AGGREGATE BASE (5.0")	896.8																		
0.4' - AGGREGATE BASE (5.0")	896.4	1				SS-1A	-	-	-	-	-	-	-	-	-	11		-	
HARD TO STIFF, BROWNISH GRAY, SILTY CLAY , SOME TO TRACE COARSE TO FINE SAND, LITTLE TO TRACE FINE GRAVEL, DAMP TO MOIST.		2	6	5	12	44	SS-1B	4.50	11	14	9	41	25	35	18	17	14	A-6b (9)	640
		3	3	2	7	50	SS-2	1.75	5	5	4	49	37	38	20	18	20	A-6b (11)	-
		4	3	3	9	89	SS-3	3.00	-	-	-	-	-	-	-	-	21	A-6b (V)	-
		5	3	3															
-TRACE ROOT FIBERS IN SS-3	892.1																		
HARD, BROWNISH GRAY AND ORANGE, CLAY , TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		6	9	11	36	100	SS-4	4.5+	2	2	2	41	53	50	25	25	19	A-7-6 (16)	-
		7																	
SHALE , MOTTLED BROWN, SEVERELY WEATHERED.	889.6	TR	8																
		9	13	17	52	100	SS-5	-	-	-	-	-	-	-	-	-	14	Rock (V)	-
	887.6	EOB	10																

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99			DRILLING FIRM / OPERATOR: RII / LH			DRILL RIG: CME 55 (386345)			STATION / OFFSET: 4837+76, 7' LT.			EXPLORATION ID B-110-0-23								
TYPE: SUBGRADE			SAMPLING FIRM / LOGGER: RII / IS			HAMMER: AUTOMATIC			ALIGNMENT: RAMP S											
PID: 116955 SFN: N/A			DRILLING METHOD: 3.5" SSA			CALIBRATION DATE: 3/21/22			ELEVATION: 905.3 (MSL) EOB: 10.0 ft.			PAGE 1 OF 1								
START: 4/12/23 END: 4/12/23			SAMPLING METHOD: SPT			ENERGY RATIO (%): 87			LAT / LONG: 40.235383, -89.003058											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		905.3							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.2' - CONCRETE (14.0")																				
		904.1	1																	
VERY DENSE, BROWN, SANDY SILT, LITTLE FINE GRAVEL, TRACE CLAY, MOIST.			2	21 30 41	103	-	SS-1	-	13	26	21	32	8	NP	NP	NP	19	A-4a (1)	1900	
			3																	
			4	19 23 31	78	-	SS-2	4.50	-	-	-	-	-	-	-	-	13	A-4a (V)	-	
		900.8																		
HARD, BROWN, CLAY, AND SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			5	21 24 30	78	-	SS-3	4.50	3	8	3	45	41	48	22	26	15	A-7-6 (16)	-	
			6																	
			7	17 20 26	67	-	SS-4	4.50	-	-	-	-	-	-	-	-	12	A-7-6 (V)	-	
			8																	
			9	31 40 43	120	-	SS-5	4.50	-	-	-	-	-	-	-	-	13	A-7-6 (V)	-	
		895.3	EOB	10																
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / LH		DRILL RIG: CME 55 (386345)		STATION / OFFSET: 4847+90, 8' RT.		EXPLORATION ID B-111-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / IS		HAMMER: AUTOMATIC		ALIGNMENT: RAMP T														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 898.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/12/23 END: 4/12/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 87		LAT / LONG: 40.237025, -89.000104														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
		898.6							GR	CS	FS	SI	CL	LL	PL	PI	WC			
1.1' - CONCRETE (13.5")		897.5	1																	
VERY DENSE, BROWNISH GRAY, AND ORANGE, GRAVEL WITH SAND AND SILT, TRACE CLAY, DAMP.		895.6	2	21 36 30	96	89	SS-1	-	18	34	15	27	6	39	32	7	16	A-2-4 (0)	1800	
HARD, BROWNISH GRAY, SILT AND CLAY, TRACE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.		894.1	3	31 39 50/5"	-	100	SS-2	4.50	2	3	5	49	41	36	21	15	11	A-6a (10)	-	
SHALE, GRAY, HIGHLY WEATHERED, WEAK.		889.8	4	41 50/5"	-	100	SS-3	-	-	-	-	-	-	-	-	-	13	Rock (V)	-	
			5	42 50/3"	-	100	SS-4	-	-	-	-	-	-	-	-	-	7	Rock (V)	-	
			6																	
			7																	
			8																	
			9	50/3"	-	100	SS-5	-	-	-	-	-	-	-	-	-	10	Rock (V)	-	
			10																	
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. PAVEMENT PATCHED WITH CONCRETE.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGENION\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99_RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / TG		DRILL RIG: DIEDRICH D-50 (# 313)		STATION / OFFSET: 1397+07, 118' LT.		EXPLORATION ID B-112-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / MJ		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 631.8 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/20/23 END: 4/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 86.4		LAT / LONG: 40.204008, -89.109821														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI	WC		
0.3' - TOPSOIL (3.5")		631.8																		
VERY STIFF TO HARD, GRAY, SILT AND CLAY, SOME COARSE TO FINE SAND, LITTLE TO TRACE FINE GRAVEL, DAMP TO MOIST.		631.5																		
			1	3																
			2	4 5	13	78	SS-1	4.5+	10	14	9	34	33	33	19	14	13	A-6a (8)	1900	
			3																	
			4	1 2 6	12	61	SS-2	2.50	8	12	15	28	37	29	16	13	14	A-6a (7)	-	
-SHALE FRAGMENTS THROUGHOUT			5																	
			6	4																
			7	7 9	23	61	SS-3	4.5+	-	-	-	-	-	-	-	-	10	A-6a (V)	-	
			8																	
HARD, GRAY, SANDY SILT, SOME CLAY, LITTLE FINE GRAVEL, DAMP.		623.8																		
			9	14 15 12	39	100	SS-4	4.5+	17	19	19	18	27	23	14	9	7	A-4a (2)	-	
-SHALE FRAGMENTS IN SS-4																				
		621.8																		
			10																	
			EOB																	
NOTES: SEEPAGE @ 6.0'. GROUNDWATER WAS NOT ENCOUNTERED AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																				

PROJECT: LAK-90-6.99	DRILLING FIRM / OPERATOR: RII / TG	DRILL RIG: DIEDRICH D-50 (# 313)	STATION / OFFSET: 1399+44, 87' LT.	EXPLORATION ID B-113-0-23
TYPE: SUBGRADE	SAMPLING FIRM / LOGGER: RII / MJ	HAMMER: AUTOMATIC	ALIGNMENT: I-90 EB	
PID: 116955 SFN: N/A	DRILLING METHOD: 3.5" SSA	CALIBRATION DATE: 3/21/22	ELEVATION: 635.3 (MSL) EOB: 10.0 ft.	PAGE 1 OF 1
START: 4/20/23 END: 4/20/23	SAMPLING METHOD: SPT	ENERGY RATIO (%): 86.4	LAT / LONG: 40.204407, -89.109143	

[illegible]

NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS. .

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / TG		DRILL RIG: DIEDRICH D-50 (# 313)		STATION / OFFSET: 1402+58, 87' LT.		EXPLORATION ID B-114-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / MJ		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 636.1 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/20/23 END: 4/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 86.4		LAT / LONG: 40.205018, -89.108347														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.4' - TOPSOIL (4.5")		636.1																		
VERY STIFF, GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, LITTLE FINE GRAVEL, DAMP.		635.7	1	3	9	72	SS-1	2.50	18	16	14	22	30	35	23	12	19	A-6a (4)	1700	
			2	3																
		633.1	3																	
MEDIUM DENSE, DARK GRAY, GRAVEL WITH SAND AND SILT , SOME CLAY, DAMP.			4	8	20	100	SS-2	-	19	22	27	9	23	28	22	6	14	A-2-4 (0)	-	
-ASPHALT FRAGMENTS IN SS-2			5	9																
		630.6	6																	
HARD, DARK GRAY, SANDY SILT , LITTLE CLAY, TRACE FINE GRAVEL, DAMP.			7	8	39	100	SS-3	4.5+	-	-	-	-	-	-	-	-	7	A-4a (V)	-	
			8	11																
			9	16	46	100	SS-4	4.5+	-	-	-	-	-	-	-	-	8	A-4a (V)	-	
		626.1	10	16																
			EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / TG		DRILL RIG: DIEDRICH D-50 (# 313)		STATION / OFFSET: 1765+70, 101' LT.		EXPLORATION ID B-115-0-23													
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / MJ		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB															
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 877.0 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1													
START: 4/20/23 END: 4/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 86.4		LAT / LONG: 40.241390, -88.990595															
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL	
									GR	CS	FS	SI	CL	LL	PL	PI	WC				
0.4' - TOPSOIL (4.5")		877.0																			
VERY STIFF, DARK BROWN, SILT AND CLAY, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		876.6	1																		
-ASPHALT FRAGMENTS THROUGHOUT			2	3	4	10	78	SS-1	3.75	5	7	11	34	43	36	22	14	21	A-6a (10)	340	
		874.0	3																		
HARD, GRAYISH BROWN, SILTY CLAY, LITTLE COARSE TO FINE SAND, LITTLE FINE GRAVEL, MOIST.			4	4	6	7	19	75	SS-2	4.5+	11	6	7	32	44	37	21	16	21	A-6b (10)	-
-ASPHALT FRAGMENTS THROUGHOUT			5																		
		871.5	6																		
HARD, BROWN, SILT AND CLAY, SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			7	5	6	7	19	100	SS-3	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	-
			8																		
		867.0	9	7	8	10	26	100	SS-4	4.5+	-	-	-	-	-	-	-	-	23	A-6a (V)	-
			10																		
			EOB																		
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																					

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99.RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / TG		DRILL RIG: DIEDRICH D-50 (# 313)		STATION / OFFSET: 1768+43, 104' LT.		EXPLORATION ID B-116-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / MJ		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 873.0 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/20/23 END: 4/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 86.4		LAT / LONG: 40.241825, -88.989806														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.4' - TOPSOIL (5.5")		873.0																		
HARD, DARK BROWN, SILTY CLAY , LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		872.6																		
-ASPHALT FRAGMENTS IN SS-1			1																	
			2	3	5	12	83	SS-1	4.5+	4	7	10	31	48	37	20	17	18	A-6b (11)	320
		870.0																		
VERY STIFF, BROWNISH GRAY, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			3																	
-SILT SEAMS IN SS-2			4	4	5	16	100	SS-2	3.75	4	9	16	33	38	30	17	13	16	A-6a (8)	-
		867.5																		
HARD, BROWN TO BROWNISH ORANGE, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			6																	
			7	3	4	16	100	SS-3	4.5+	-	-	-	-	-	-	-	-	14	A-6a (V)	-
			8																	
			9	3	5	22	100	SS-4A	4.5+	-	-	-	-	-	-	-	-	16	A-6a (V)	-
		863.5																		
		863.0	W					SS-4B	4.00	-	-	-	-	-	-	-	-	15	A-6a (V)	-
			EOB	10																
NOTES: SEEPAGE @ 9.5'. GROUNDWATER WAS NOT ENCOUNTERED AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																				

STANDARD ODOT LOG W/ SULFATES (8.5 X 11) - OH DOT.GDT - 7/22/26 08:18 - C:\USERS\RIK BOGEN\ONE\DRIVE - AECOM\PROJECTS\ODOT LAK-90\GINT\LAK-90-6.99 RII.GPJ

PROJECT: LAK-90-6.99		DRILLING FIRM / OPERATOR: RII / TG		DRILL RIG: DIEDRICH D-50 (# 313)		STATION / OFFSET: 1771+43, 90' LT.		EXPLORATION ID B-117-0-23												
TYPE: SUBGRADE		SAMPLING FIRM / LOGGER: RII / MJ		HAMMER: AUTOMATIC		ALIGNMENT: I-90 EB														
PID: 116955 SFN: N/A		DRILLING METHOD: 3.5" SSA		CALIBRATION DATE: 3/21/22		ELEVATION: 871.6 (MSL) EOB: 10.0 ft.		PAGE 1 OF 1												
START: 4/20/23 END: 4/20/23		SAMPLING METHOD: SPT		ENERGY RATIO (%): 86.4		LAT / LONG: 40.242265, -88.988894														
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	SO4 ppm	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI	WC			
0.4' - TOPSOIL (5.0")		871.6																		
HARD, BROWN, CLAY , AND SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.		871.2	1	6	22	72	SS-1	4.5+	3	6	15	41	35	41	20	21	18	A-7-6 (13)	320	
			2	6	9															
		868.6	3																	
HARD, BROWN, CLAY , AND SILT, LITTLE COARSE TO FINE SAND, TRACE FINE GRAVEL, DAMP.			4	4	20	89	SS-2	4.25	-	-	-	-	-	-	-	-	16	A-7-6 (V)	-	
			5	6	8															
		866.6	6																	
HARD, BROWN, SILT AND CLAY , SOME COARSE TO FINE SAND, TRACE FINE GRAVEL, MOIST.			7	5	23	100	SS-3	4.5+	4	10	14	41	31	29	17	12	15	A-6a (8)	-	
			8	6	10															
			9	7	32	100	SS-4	4.5+	-	-	-	-	-	-	-	-	15	A-6a (V)	-	
			10	10	12															
		861.6	EOB																	
NOTES: GROUNDWATER WAS NOT ENCOUNTERED DURING OR AFTER DRILLING COMPLETION.																				
ABANDONMENT METHODS, MATERIALS, QUANTITIES: BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS.																				

Drawing Path: T:\Columbus-1170\Projects\2022\22170059B_WSP_LAK-90-2.93_Cleveland OH\4 GEO\CAD\Construction\Plan of Borings.dwg



NOTE: AERIAL IMAGERY COURTESY
OF OGRIP, OBTAINED SPRING 2017.

LEGEND



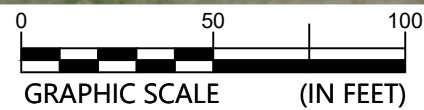
B-001-0-22 BORING NUMBER
AND LOCATION



H-001-0-22 HAND SAMPLE
BORING NUMBER
AND LOCATION



D-001-0-22 DCP SOUNDING NUMBER
AND LOCATION



GRAPHIC SCALE (IN FEET)



Plan of Borings

Geohazard Exploration
LAK-90-12.93 Landslide
Mentor, Lake County, Ohio

SCALE:

GRAPHIC

DATE:

04-03-2023

PROJECT NUMBER

22170059B

FIGURE NO.

2

EXPLANATION OF SYMBOLS AND TERMS USED ON BORING LOGS FOR SAMPLING AND DESCRIPTION OF SOIL

SAMPLING DATA

-  - Indicates sample was attempted within this depth interval.
- 2 - The number of blows required for each 6-inch increment of penetration of a "Standard" 2-inch O.D. split-barrel sampler, driven a distance of 18 inches by a 140-pound hammer freely falling 30 inches (SPT). The raw "blowcount" or "N" is equal to the sum of the second and third 6-inch increments of penetration.
- 3
- 5
- N₆₀ - Corrected Blowcount = [(Drill Rod Energy Ratio) / (0.60 Standard)] X N
- SS - Split-barrel sampler, any size.
- ST - Shelby tube sampler, 3" O.D., hydraulically pushed.
- R - Refusal of sampler in very-hard or dense soil, or on a resistant surface.
- 50-4" - Number of blows (50) to drive a split-barrel sampler a certain distance (4 inches), other than the normal 6-inch increment.

DEPTH DATA

- W - Depth of water or seepage encountered during drilling.
- ▽ - Depth to water in boring at the end of drilling (EOD).
- ▼ 5 days - Depth to water in monitoring well or piezometer in boring a certain number of days (5) after termination of drilling.
- TR - Depth to top of rock.

SOIL DESCRIPTIONS

Soils have been classified in general accordance with Section 603 of the most recent ODOT SGE, and described in general accordance with Section 602, including the use of special adjectives to designate approximate percentages of minor components as follows:

<u>Adjective</u>	<u>Percent by Weight</u>
trace	1 to 10
little	10 to 20
some	20 to 35
"and"	35 to 50

The following terms are used to describe density and consistency of soils:

<u>Term (Granular Soils)</u>	<u>Blows per foot (N₆₀)</u>
Very-loose	Less than 5
Loose	5 to 10
Medium-dense	11 to 30
Dense	31 to 50
Very-dense	Over 50
<u>Term (Cohesive Soils)</u>	<u>Qu (tsf)</u>
Very-soft	Less than 0.25
Soft	0.25 to 0.5
Medium-stiff	0.5 to 1.0
Stiff	1.0 to 2.0
Very-stiff	2.0 to 4.0
Hard	Over 4.0

EXPLANATION OF SYMBOLS AND TERMS USED ON BORING LOGS FOR SAMPLING AND DESCRIPTION OF ROCK

SAMPLING DATA

Rock Quality Designation (RQD) is expressed as a percentage and is obtained by summing the total length of all core pieces which are at least 4 inches long and then dividing this sum by, either, the total length of core run or the length of the core run in a particular bedrock stratum. The RQD value is reported as a percentage in the "SPT/RQD" column. It has been found that there is a reasonably good relationship between the RQD value and the general quality of rock for engineering purposes. This relationship is shown as follows:

<u>RQD - %</u>	<u>General Quality</u>
0 - 25	Very-poor
25 - 50	Poor
50 - 75	Fair
75 - 90	Good
90 - 100	Excellent

ROCK HARDNESS

Recovered bedrock samples are described in general accordance with Section 605 of the 2007 ODOT SGE and subsequent revisions, where necessary. The following terms are used to describe rock hardness:

<u>Term</u>	<u>Meaning</u>
Very Weak	Rock can be excavated readily with the point of a pick and carved with a knife. Pieces 1 inch or greater in thickness can be broken by finger pressure. Can be scratched with a fingernail.
Weak	Rock can be grooved or gouged readily by a knife or pick, and can be excavated in small fragments with moderate blows from a pick point. Small, thin pieces may be broken with finger pressure.
Slightly Strong	Rock can be grooved or gouged 0.05 inches deep with firm pressure from a knife or pick point, and can be excavated in small chips to pieces of 1 inch maximum size using hard blows from the point of a geologist's pick.
Moderately Strong	Rock can be scratched with a knife or pick. Grooves or gouges to 1/4 inch deep can be excavated by hard blows of a geologist's pick. Requires moderate hammer blows to detach a hand specimen.
Strong	Rock can be scratched with a knife or pick only with difficulty. Requires hard hammer blows to detach a hand specimen. Sharp and resistant edges are present on hand specimens.
Very Strong	Rock cannot be scratched by a knife or sharp pick. Breaking of hand specimens requires repeated hard blows of a geologist's hammer.
Extremely Strong	Rock cannot be scratched by a knife or sharp pick. Chipping of hand specimens requires repeated hard blows of a geologist's hammer.



PROJECT: LAK-90-12.39 SLIDE		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 247+93, 170' LT		EXPLORATION ID												
TYPE: LANDSLIDE		SAMPLING FIRM / LOGGER: S&ME / M. KHAN		HAMMER: CME AUTOMATIC		ALIGNMENT: IR-90		B-012-0-22												
PID: 111517 BR ID: N/A		DRILLING METHOD: 3-1/4" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 912.3 (MSL) EOB: 29.5 ft.		PAGE												
START: 11/29/22 END: 11/29/22		SAMPLING METHOD: SPT		ENERGY RATIO (%): 90*		LAT / LONG: 41.653587 N, 81.285450 W		1 OF 1												
MATERIAL DESCRIPTION AND NOTES		ELEV. 912.3	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)	ATTERBERG		ODOT CLASS (GI)	BACK FILL							
CONCRETE - 13 INCHES		911.2	W 907.8																	
GRANULAR BASE - 17 INCHES		909.8		1																
FILL: Medium-dense brown COARSE AND FINE SAND, little fine to coarse gravel, little silt, trace clay, moist.		907.3		2																
				3																
				4	4	18	56	SS-1	-	19	22	36	14	9	-	-	-	14	A-3a (V)	
				5	7	5														
				6	3	9	100	SS-2	1.5-2.0	-	-	-	-	-	-	-	-	26	A-7-6 (V)	
				7	1	8	100	SS-3	1.5-2.0	9	5	4	33	49	43	23	20	23	A-7-6 (13)	
				8	2	3														
				9	1	6	44	SS-4	1.0-1.5	-	-	-	-	-	-	-	-	18	A-7-6 (V)	
			10	1	9	72	SS-5	1.5-2.5	-	-	-	-	-	-	-	-	18	A-7-6 (V)		
		901.3	11	2	4															
			12	5	8	26	78	SS-6	4.5+	-	-	-	-	-	-	-	12	A-6b (V)		
			13	3	10	32	78	SS-7	4.5+	-	-	-	-	-	-	-	13	A-6b (V)		
			14	8	13	54	72	SS-8	4.5+	-	-	-	-	-	-	-	10	A-6b (V)		
			15	8	23															
			16	8	28	95	100	SS-9	4.5+	1	4	8	43	44	37	21	16	10	A-6b (10)	
			17	13	34															
@ SS-10 few shale and sandstone fragments		893.8	18	13	50-5"	-	100	SS-10	4.5+	-	-	-	-	-	-	-	10	A-6b (V)		
			19	18	38	132	100	SS-11	4.5+	-	-	-	-	-	-	-	9	A-6b (V)		
			20	22	44															
			21	22	50-3"	-	100	SS-12	4.5+	-	-	-	-	-	-	-	9	A-6b (V)		
			22	25	50	-	100	SS-13	4.5+	-	-	-	-	-	-	-	10	A-6b (V)		
			23	25	50-5"	-	100	SS-14	4.5+	6	2	5	41	46	40	23	17	10	A-6b (11)	
		888.3	TR	24	25	50-5"														
				25	23	50-5"	-	100	SS-15	-	-	-	-	-	-	-	8	Rock (V)		
				26	27	50-5"	-	100	SS-16	-	-	-	-	-	-	-	6	Rock (V)		
				27	27	50-5"														
				28	27	50-3"	-	100	SS-17	-	-	-	-	-	-	-	7	Rock (V)		
				29	27	50-3"														
		882.8	EOB	29	50-4"	-	100	SS-18	-	-	-	-	-	-	-	-	3	Rock (V)		
NOTES: SEE ABOVE.																				
ABANDONMENT METHODS. MATERIALS. QUANTITIES: PLASTIC HOLE PLUG DEVICE: SOIL CUTTINGS MIXED WITH BENTONITE																				

S&ME JOB: 22170059B



PROJECT: LAK-90-12.39 SLIDE		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 248+73, 178' LT		EXPLORATION ID											
TYPE: LANDSLIDE		SAMPLING FIRM / LOGGER: S&ME / M. KHAN		HAMMER: CME AUTOMATIC		ALIGNMENT: IR-90		B-013-0-22											
PID: 111517 BR ID: N/A		DRILLING METHOD: 3-1/4" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 911.3 (MSL) EOB: 34.9 ft.		PAGE											
START: 11/29/22 END: 11/29/22		SAMPLING METHOD: SPT / ST		ENERGY RATIO (%): 90*		LAT / LONG: 41.653717 N, 81.285212 W		1 OF 2											
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL
		911.3							GR	CS	FS	SI	CL	LL	PL	PI	WC		
CONCRETE - 12-1/2 INCHES		910.3	1																
GRANULAR BASE - 18 INCHES		908.8	2																
FILL: Medium-dense brown COARSE AND FINE SAND, some fine to coarse gravel, little silt, trace clay, moist.			3																
@ 5' cobbles.		906.1	4	5	7	21	67	SS-1	-	22	23	37	12	6	-	-	-	12	A-3a (V)
			5	2	7			SS-2A	-	-	-	-	-	-	-	-	-	12	A-3a (V)
FILL: Stiff to very-stiff brown mottled with gray SILTY CLAY, little fine to coarse sand, trace fine gravel, few medium-stiff and hard zones, iron oxide staining, damp.			6	2	4	9	67	SS-2B	-	-	-	-	-	-	-	-	-	23	A-6b (V)
			7	2	4	9	83	SS-3	1.5-3.0	-	-	-	-	-	-	-	-	23	A-6b (V)
			8	2	4														
			9	2	3	8	67	SS-4	2.5-3.0	-	-	-	-	-	-	-	-	22	A-6b (V)
			10				67	ST-5	3.0-4.5	8	6	7	33	46	39	22	17	19	A-6b (11)
			11	3															
			12	3	4	11	78	SS-6	4.0-4.5	-	-	-	-	-	-	-	-	21	A-6b (V)
		897.3	13	2	4	12	33	SS-7	0.5-1.0	-	-	-	-	-	-	-	-	21	A-6b (V)
Stiff to very-stiff brown mottled with gray SILT AND CLAY, some fine to coarse gravel, little fine to coarse sand, damp to moist.			14	2															
			15	2	3	11	67	SS-8	1.5-3.5	-	-	-	-	-	-	-	-	15	A-6a (V)
			16	2	3	9	72	SS-9	1.5-2.5	-	-	-	-	-	-	-	-	16	A-6a (V)
			17	2	3														
			18	2	6	12	94	SS-10	2.0-3.5	35	7	6	28	24	36	21	15	13	A-6a (5)
			19	2	4	12	72	SS-11	1.0-3.5	-	-	-	-	-	-	-	-	22	A-6a (V)
Very-stiff to hard gray mottled with brown CLAY, "and" silt, trace fine to coarse sand, trace fine gravel, few roots, damp.		891.3	20	3															
			21	3	4	15	94	SS-12	3.0-4.5	-	-	-	-	-	-	-	-	30	A-7-6 (V)
			22	3	5	17	89	SS-13	3.5-4.5	-	-	-	-	-	-	-	-	20	A-7-6 (V)
			23	2	6														
			24	2	3	12	100	SS-14	2.5-3.5	3	4	3	44	46	45	25	20	21	A-7-6 (13)
			25	3	5														
			26	3	7	21	67	SS-15	2.0-3.5	-	-	-	-	-	-	-	-	16	A-7-6 (V)
			27	5	7														
		883.8	27	11	30	62	100	SS-16A	4.5+	-	-	-	-	-	-	-	-	13	A-7-6 (V)
			28	20				SS-16B	-	-	-	-	-	-	-	-	-	17	A-7-6 (V)
SHALE, gray, highly to severely weathered, very weak.			28	50-2"			75	SS-17	-	-	-	-	-	-	-	-	-	9	Rock (V)
			29	50-2"			100	SS-18	-	-	-	-	-	-	-	-	-	11	Rock (V)



PID: 111517	BR ID: N/A	PROJECT: LAK-90-12.39 SLIDE	STATION / OFFSET: 248+73, 178' LT					START: 11/29/22		END: 11/29/22		PG 2 OF 2		B-013-0-22							
MATERIAL DESCRIPTION AND NOTES			ELEV. 881.3	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
											GR	CS	FS	SI	CL	LL	PL	PI			
SHALE, gray, highly to severely weathered, very weak. (continued)				876.4	W 876.8 EOB	31	43 50-5"	-	100	SS-19	-	-	-	-	-	-	-	-	10	Rock (V)	< \ / >
						32	25 50-2"	-	100	SS-20	-	-	-	-	-	-	-	-	6	Rock (V)	< \ / >
						33															< \ / >
						34															< \ / >
							50-5"	-	100	SS-21	-	-	-	-	-	-	-	-	-	11	Rock (V)
NOTES: - Seepage encountered at 29' during drilling. - Groundwater encountered at 34.5' during drilling. - Water measured at 27' inside augers at completion of drilling.																					
NOTES: SEE ABOVE.																					
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLASTIC HOLE PLUG DEVICE; SOIL CUTTINGS MIXED WITH BENTONITE																					



PROJECT: LAK-90-12.39 SLIDE		DRILLING FIRM / OPERATOR: OTB / C. SVITAK		DRILL RIG: OTB MOBILE B-57		STATION / OFFSET: 249+72, 189' LT		EXPLORATION ID													
TYPE: LANDSLIDE		SAMPLING FIRM / LOGGER: S&ME / M. KHAN		HAMMER: CME AUTOMATIC		ALIGNMENT: IR-90		B-014-0-22													
PID: 111517 BR ID: N/A		DRILLING METHOD: 3-1/4" HSA		CALIBRATION DATE: 12/22/22		ELEVATION: 908.8 (MSL) EOB: 30.0 ft.		PAGE													
START: 11/28/22 END: 11/28/22		SAMPLING METHOD: SPT		ENERGY RATIO (%): 90*		LAT / LONG: 41.653884 N, 81.284922 W		1 OF 1													
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS		SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL	
		908.8								GR	CS	FS	SI	CL	LL	PL	PI	WC			
CONCRETE - 14 INCHES		907.6	1																		
GRANULAR BASE - 16 INCHES		906.3	2																		
FILL: Medium-dense brown and gray GRAVEL, trace fine to coarse sand, trace silt, trace clay, dry.		903.8	3																		
			4		2	4	14	72	SS-1	-	86	2	4	7	1	NP	NP	NP	5	A-1-a (0)	
			5		2	5															
			6		2	3	9	67	SS-2	1.5-3.5	-	-	-	-	-	-	-	20	A-6b (V)		
			7		2	3	8	72	SS-3	2.0-3.5	-	-	-	-	-	-	-	20	A-6b (V)		
			8		2	3															
			9		2	3	8	72	SS-4	2.0-3.5	-	-	-	-	-	-	-	22	A-6b (V)		
			10		2	3	9	44	SS-5	2.0-3.0	-	-	-	-	-	-	-	17	A-6b (V)		
			11		2	3															
			12		2	4	11	89	SS-6	1.0-3.0	16	7	7	35	35	38	22	16	A-6b (9)		
			13		2	4	9	78	SS-7	1.5-3.0	-	-	-	-	-	-	-	20	A-6b (V)		
		894.8	14		1	2	6	67	SS-8	1.0-2.0	-	-	-	-	-	-	-	15	A-7-6 (V)		
			15		2	2															
			16		2	3	9	89	SS-9	0.5-2.0	-	-	-	-	-	-	-	15	A-7-6 (V)		
			17		2	3															
			18		2	2	6	78	SS-10	1.0-2.0	-	-	-	-	-	-	-	15	A-7-6 (V)		
			19		2	2															
			20		2	3	8	89	SS-11	1.0	-	-	-	-	-	-	-	21	A-7-6 (V)		
			21		4	4	15	67	SS-12	0.5-1.0	-	-	-	-	-	-	-	17	A-7-6 (V)		
			22		2	4	12	100	SS-13	2.5-3.0	6	3	5	42	44	42	25	17	A-7-6 (11)		
			23		2	4															
			24		2	4	12	94	SS-14	0.5-2.5	-	-	-	-	-	-	-	25	A-7-6 (V)		
		883.8	25		2	36	-	100	SS-15A	1.5-2.5	-	-	-	-	-	-	-	17	A-7-6 (V)		
SHALE, brown, highly to severely weathered, very weak.			25		36	50-2'			SS-15B	-	-	-	-	-	-	-	-	6	Rock (V)		
			26		50-2'		50		SS-16	-	-	-	-	-	-	-	-	0	Rock (V)		
			27																		
			28		10	16	78	94	SS-17	-	-	-	-	-	-	-	-	7	Rock (V)		
NOTES: - No seepage or groundwater encountered during drilling.			29		20	36															
		878.8	29		20	50	-	100	SS-18	-	-	-	-	-	-	-	-	7	Rock (V)		
NOTES: SEE ABOVE.		EOB																			
ABANDONMENT METHODS. MATERIALS. QUANTITIES: PLASTIC HOLE PLUG DEVICE: SOIL CUTTINGS MIXED WITH BENTONITE																					

S&ME JOB: 22170059B



PROJECT: <u>LAK-90-12.39 SLIDE</u>		DRILLING FIRM / OPERATOR: <u>S&ME / K. HARPER</u>		DRILL RIG: <u>HAND AUGER</u>		STATION / OFFSET: <u>249+06, 253' LT</u>		EXPLORATION ID	
TYPE: <u>LANDSLIDE</u>		SAMPLING FIRM / LOGGER: <u>S&ME / M. KHAN</u>		HAMMER: <u>HAND SAMPLING</u>		ALIGNMENT: <u>IR-90</u>		H-013-1-22	
PID: <u>111517</u> BR ID: <u>N/A</u>		DRILLING METHOD: <u>HAND AUGER</u>		CALIBRATION DATE: <u>N/A</u>		ELEVATION: <u>887.3 (MSL)</u> EOB: <u>6.0 ft.</u>		PAGE	
START: <u>2/1/23</u> END: <u>2/1/23</u>		SAMPLING METHOD: <u>SPT</u>		ENERGY RATIO (%): <u>9</u>		LAT / LONG: <u>41.653941 N, 81.285251 W</u>		1 OF 1	

MATERIAL DESCRIPTION AND NOTES	ELEV. 887.3	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
Very-stiff brown CLAY , "and" silt, little fine to coarse sand, trace fine gravel, many roots, few wood fragments, moist.			9	17	5	67	SS-1	2.5-3.5	6	4	7	41	42	43	26	17	30	A-7-6 (11)	<L> >L>
			8	18															<L> >L>
				19	7	44	SS-2	3.0	4	4	8	39	45	51	28	23	32	A-7-6 (15)	<L> >L>
@ 3.0' to 4.5' some silt			9	30															<L> >L>
				20	9	33	SS-3	3.0	4	6	7	35	48	-	-	-	29	A-7-6 (V)	<L> >L>
@ 4.5' to 6.0' trace fine to coarse sand			11	40															<L> >L>
				22	12	39	SS-4	2.5	1	1	4	44	50	44	24	20	28	A-7-6 (13)	<L> >L>
	881.3	EOB	6	59															<L> >L>

NOTES:
- No seepage or groundwater was encountered during sampling.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: NATURAL HOLE COLLAPSE

Appendix C

Subgrade Analysis

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

PLAN SUBGRADES
Geotechnical Design Manual Section 600LAK-90-6.99
116955

6 miles of freeway and ramp pavement replacement

AECOM

Prepared By: Erik J. Bogen, P.E.
Date prepared: Tuesday, February 24, 2026AECOM
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NO. OF BORINGS: 120

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL.	Cut Fill
1	B-001-0-23	I-90 EB	144536	16	Rt	CME 55 SN 386345	87	708.5	706.2	2.2 C
2	B-002-0-23	I-90 WB	556258	22	Lt	CME 55 SN 386345	87	706.8	705.1	1.7 C
3	B-003-0-23	I-90 EB	145083	29	Rt	CME 55 SN 386345	87	712.0	709.6	2.4 C
4	B-004-0-23	I-90 WB	556947	31	Rt	CME 55 SN 386345	87	711.4	710.0	1.4 C
5	B-005-0-23	I-90 EB	146057	11	Rt	CME 55 SN 386345	87	718.9	716.7	2.2 C
6	B-006-0-23	I-90 WB	557651	20	Rt	CME 55 SN 386345	87	716.9	714.9	1.9 C
7	B-007-0-23	I-90 EB	146599	29	Lt	CME 55 SN 386345	87	722.9	720.3	2.6 C
8	B-008-0-23	I-90 WB	558357	30	Rt	CME 55 SN 386345	87	721.2	719.4	1.8 C
9	B-009-0-23	I-90 EB	147189	20	Lt	CME 55 SN 386345	87	726.7	724.1	2.6 C
10	B-010-0-23	I-90 WB	559056	20	Rt	CME 55 SN 386345	87	726.9	725.0	1.9 C
11	B-011-0-23	I-90 EB	147713	9	Rt	CME 55 SN 386345	87	729.8	727.6	2.2 C
12	B-012-0-23	I-90 WB	559770	8	Lt	CME 55 SN 386345	87	737.7	735.1	2.6 C
13	B-013-0-23	I-90 EB	148325	17	Rt	CME 55 SN 386345	87	735.8	733.6	2.1 C
14	B-014-0-23	I-90 WB	560465	27	Lt	CME 55 SN 386345	87	748.3	746.4	1.8 C
15	B-015-0-23	I-90 EB	149302	21	Lt	CME 55 SN 386345	87	752.3	749.7	2.6 C
16	B-016-0-23	I-90 WB	561167	9	Lt	CME 55 SN 386345	87	760.2	757.9	2.3 C
17	B-017-0-23	I-90 EB	150083	23	Lt	CME 55 SN 386345	87	765.2	762.6	2.5 C
18	B-018-0-23	I-90 WB	561847	24	Rt	CME 55 SN 386345	87	770.4	768.7	1.7 C
19	B-019-0-23	I-90 EB	150897	29	Lt	CME 55 SN 386345	87	774.9	773.2	1.6 C
20	B-020-0-23	I-90 WB	562556	31	Rt	CME 55 SN 386345	87	775.9	774.2	1.7 C
21	B-021-0-23	I-90 EB	151669	21	Lt	CME 55 SN 386345	87	775.5	773.5	1.9 C
22	B-022-0-23	I-90 WB	563279	3	Rt	CME 55 SN 386345	87	774.7	772.6	2.1 C
23	B-023-0-23	I-90 EB	152494	11	Rt	CME 55 SN 386345	87	772.7	770.8	1.8 C
24	B-024-0-23	I-90 WB	563977	2	Rt	CME 55 SN 386345	87	772.4	770.3	2.1 C
25	B-025-0-23	I-90 EB	153302	17	Rt	CME 55 SN 386345	87	769.3	767.4	1.9 C
26	B-026-0-23	I-90 WB	564655	16	Lt	CME 55 SN 386345	87	769.1	767.2	1.8 C
27	B-027-0-23	I-90 EB	154089	8	Rt	CME 55 SN 386345	87	767.3	765.2	2.1 C
28	B-028-0-23	I-90 WB	565326	23	Rt	CME 55 SN 386345	87	767.7	765.6	2.1 C
29	B-029-0-23	I-90 WB	566035	21	Rt	CME 55 SN 386345	87	765.2	763.2	1.9 C
30	B-030-0-23	I-90 EB	154909	21	Lt	CME 55 SN 386345	87	764.3	762.4	1.9 C
31	B-031-0-23	I-90 WB	566761	30	Rt	CME 55 SN 386345	87	763.5	761.9	1.6 C
32	B-032-0-23	I-90 EB	155690	29	Lt	CME 55 SN 386345	87	766.2	764.6	1.6 C
33	B-033-0-23	I-90 WB	567455	16	Rt	CME 55 SN 386345	87	772.2	770.2	1.9 C
34	B-034-0-23	I-90 EB	156502	21	Lt	CME 55 SN 386345	87	779.2	777.2	1.9 C
35	B-035-0-23	I-90 WB	568249	9	Lt	CME 55 SN 386345	87	784.3	782.3	2.0 C
36	B-036-0-23	I-90 EB	157287	30	Lt	CME 55 SN 386345	87	791.6	789.7	1.9 C
37	B-037-0-23	I-90 WB	569087	29	Lt	CME 55 SN 386345	87	795.5	793.8	1.7 C
38	B-038-0-23	I-90 EB	158102	22	Lt	CME 55 SN 386345	87	794.6	792.5	2.0 C
39	B-039-0-23	I-90 WB	569964	9	Lt	CME 55 SN 386345	87	788.7	786.6	2.0 C
40	B-040-0-23	I-90 EB	158966	11	Rt	CME 55 SN 386345	87	783.3	779.9	3.3 C
41	B-041-0-23	I-90 WB	570884	6	Rt	CME 55 SN 386345	87	774.8	772.7	2.1 C
42	B-042-0-23	I-90 EB	159679	18	Rt	CME 55 SN 386345	87	770.7	768.7	2.0 C
43	B-043-0-23	I-90 WB	571493	10	Lt	CME 55 SN 386345	87	765.4	763.1	2.2 C
44	B-044-0-23	I-90 EB	160478	9	Rt	CME 55 SN 386345	87	761.5	759.2	2.2 C
45	B-045-0-23	I-90 WB	572288	31	Lt	CME 55 SN 386345	87	762.2	759.9	2.2 C

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL.	Cut Fill
46	B-046-0-23	I-90 EB	161104	20	Lt	CME 55 SN 386345	87	763.4	761.2	2.2 C
47	B-047-0-23	I-90 WB	573088	10	Lt	CME 55 SN 386345	87	767.8	765.6	2.2 C
48	B-048-0-23	I-90 EB	161636	21	Lt	CME 55 SN 386345	87	766.8	765.0	1.8 C
49	B-049-0-23	I-90 WB	162178	10	Lt	CME 55 SN 386345	87	771.2	769.1	2.1 C
50	B-050-0-23	I-90 EB	573804	8	Rt	CME 55 SN 386345	87	772.8	770.7	2.0 C
51	B-051-0-23	I-90 EB	162854	9	Rt	CME 55 SN 386345	87	776.8	774.3	2.5 C
52	B-052-0-23	I-90 WB	574709	12	Lt	CME 55 SN 386345	87	780.0	777.7	2.2 C
53	B-053-0-23	I-90 EB	163725	20	Rt	CME 55 SN 386345	87	782.6	780.8	1.8 C
54	B-054-0-23	I-90 WB	575491	31	Lt	CME 55 SN 386345	87	784.9	783.0	1.9 C
55	B-055-0-23	I-90 EB	164460	10	Rt	CME 55 SN 386345	87	788.3	786.1	2.2 C
56	B-056-0-23	I-90 WB	576294	10	Lt	CME 55 SN 386345	87	791.4	789.3	2.0 C
57	B-057-0-23	I-90 EB	165265	7	Lt	CME 55 SN 386345	87	797.3	795.0	2.3 C
58	B-058-0-23	I-90 WB	577086	10	Rt	CME 55 SN 386345	87	805.6	803.1	2.4 C
59	B-059-0-23	I-90 EB	166078	8	Rt	CME 55 SN 386345	87	813.6	811.0	2.6 C
60	B-060-0-23	I-90 WB	577981	5	Lt	CME 55 SN 386345	87	823.3	821.1	2.1 C
61	B-061-0-23	I-90 EB	166892	18	Rt	CME 55 SN 386345	87	829.7	828.3	1.4 C
62	B-062-0-23	I-90 WB	578659	29	Lt	CME 55 SN 386345	87	836.5	834.5	1.9 C
63	B-063-0-23	I-90 EB	167699	9	Rt	CME 55 SN 386345	87	846.1	843.5	2.5 C
64	B-064-0-23	I-90 WB	579539	4	Lt	CME 55 SN 386345	87	854.7	852.4	2.3 C
65	B-065-0-23	I-90 EB	168501	9	Lt	CME 55 SN 386345	87	861.4	859.5	1.9 C
66	B-066-0-23	I-90 WB	580284	10	Rt	CME 55 SN 386345	87	869.9	867.5	2.4 C
67	B-067-0-23	I-90 EB	169375	8	Rt	CME 55 SN 386345	87	878.6	876.0	2.5 C
68	B-068-0-23	I-90 WB	581051	8	Lt	CME 55 SN 386345	87	883.9	881.7	2.1 C
69	B-069-0-23	I-90 EB	170116	18	Rt	CME 55 SN 386345	87	890.5	888.1	2.3 C
70	B-070-0-23	I-90 EB	581859	22	Rt	CME 55 SN 386345	87	895.8	893.3	2.4 C
71	B-071-0-23	I-90 EB	170939	9	Rt	CME 55 SN 386345	87	901.3	898.8	2.5 C
72	B-072-0-23	I-90 WB	582635	10	Rt	CME 55 SN 386345	87	905.7	903.4	2.3 C
73	B-073-0-23	I-90 EB	171764	9	Lt	CME 55 SN 386345	87	910.8	908.0	2.8 C
74	B-074-0-23	I-90 WB	583452	10	Rt	CME 55 SN 386345	87	913.7	911.6	2.0 C
75	B-075-0-23	I-90 EB	172353	8	Lt	CME 55 SN 386345	87	914.4	912.5	1.9 C
76	B-076-0-23	I-90 WB	584249	9	Lt	CME 55 SN 386345	87	913.0	911.0	2.0 C
77	B-077-0-23	I-90 EB	172950	20	Rt	CME 55 SN 386345	87	913.0	911.7	1.2 C
78	B-078-0-23	I-90 EB	173549	8	Rt	CME 55 SN 386345	87	909.7	907.2	2.5 C
79	B-079-0-23	I-90 WB	585040	26	Lt	CME 55 SN 386345	87	907.6	905.9	1.7 C
80	B-080-0-23	I-90 EB	174163	9	Lt	CME 55 SN 386345	87	903.0	900.6	2.4 C
81	B-081-0-23	I-90 WB	585850	9	Rt	CME 55 SN 386345	87	896.9	895.1	1.8 C
82	B-082-0-23	I-90 EB	174742	8	Rt	CME 55 SN 386345	87	893.8	891.9	1.9 C
83	B-083-0-23	I-90 EB	586659	9	Lt	CME 55 SN 386345	87	882.5	880.3	2.1 C
84	B-084-0-23	I-90 EB	175253	16	Rt	CME 55 SN 386345	87	885.3	883.3	1.9 C
85	B-085-1-23	I-90 EB	148883	41	Lt	CME 55 SN 386345	87	744.4	742.9	1.5 C
86	B-086-0-23	I-90 WB	565722	42	Rt	CME 55 SN 386345	87	764.5	763.0	1.5 C
87	B-087-0-23	I-90 EB	159292	40	Lt	CME 55 SN 386345	87	777.3	775.8	1.5 C
88	B-088-0-23	I-90 WB	576546	25	Rt	CME 55 SN 386345	87	794.5	793.0	1.5 C
89	B-089-0-23	I-90 EB	170514	24	Lt	CME 55 SN 386345	87	895.2	893.7	1.5 C
90	B-090-0-23	I-90 WB	586247	24	Rt	CME 55 SN 386345	87	890.2	888.7	1.5 C

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL.	Cut Fill
91	B-091-0-23	RAMP N	246555	7	Rt	CME 55 SN 386345	87	730.7	729.2	1.5 C
92	B-092-0-23	RAMP N	247023	35	Lt	CME 55 SN 386345	87	749.1	747.6	1.5 C
93	B-093-0-23	RAMP P	247649	4	Rt	CME 55 SN 386345	87	743.4	741.9	1.5 C
94	B-094-0-23	RAMP P	248128	20	Lt	CME 55 SN 386345	87	733.4	731.9	1.5 C
95	B-095-0-23	RAMP L	457980	5	Lt	CME 55 SN 386345	87	719.3	717.8	1.5 C
96	B-096-0-23	RAMP L	458334	19	Rt	CME 55 SN 386345	87	731.2	729.7	1.5 C
97	B-097-0-23	RAMP M	458862	18	Rt	CME 55 SN 386345	87	730.8	729.3	1.5 C
98	B-098-0-23	RAMP M	45916	8	Lt	CME 55 SN 386345	87	728.2	726.7	1.5 C
99	B-099-0-23	RAMP C	256505	5	Rt	CME 55 SN 386345	87	778.9	777.4	1.5 C
100	B-100-0-23	RAMP C	255939	15	Lt	CME 55 SN 386345	87	796.4	794.9	1.5 C
101	B-101-0-23	RAMP D	256982	3	Rt	CME 55 SN 386345	87	795.0	793.5	1.5 C
102	B-102-0-23	RAMP D	257431	15	Lt	CME 55 SN 386345	87	792.3	790.8	1.5 C
103	B-103-0-23	RAMP B	467296	4	Lt	CME 55 SN 386345	87	760.9	759.4	1.5 C
104	B-104-0-23	RAMP B	467854	16	Rt	CME 55 SN 386345	87	767.1	765.6	1.5 C
105	B-105-0-23	RAMP A	468359	16	Rt	CME 55 SN 386345	87	778.4	776.9	1.5 C
106	B-106-0-23	RAMP A	468980	5	Lt	CME 55 SN 386345	87	791.4	789.9	1.5 C
107	B-107-0-23	RAMP Q	269828	15	Lt	CME 55 SN 386345	87	885.5	884.0	1.5 C
108	B-108-0-23	RAMP Q	270177	2	Rt	CME 55 SN 386345	87	897.6	896.1	1.5 C
109	B-109-0-23	RAMP R	271265	4	Rt	CME 55 SN 386345	87	906.6	905.1	1.5 C
110	B-110-0-23	RAMP S	483776	7	Lt	CME 55 SN 386345	87	905.3	903.8	1.5 C
111	B-111-0-23	RAMP T	484790	8	Rt	CME 55 SN 386345	87	898.6	897.1	1.5 C
112	B-112-0-23	TEMP CROSSOVER	139707	118	Lt	CME 55 SN 386345	87	631.8		
113	B-113-0-23	TEMP CROSSOVER	139944	87	Lt	CME 55 SN 386345	87	635.3		
114	B-114-0-23	TEMP CROSSOVER	140258	87	Lt	CME 55 SN 386345	87	636.1		
115	B-115-0-23	TEMP CROSSOVER	176570	101	Lt	CME 55 SN 386345	87	877.0		
116	B-116-0-23	TEMP CROSSOVER	176843	104	Lt	CME 55 SN 386345	87	873.0		
117	B-117-0-23	TEMP CROSSOVER	177143	90	Lt	CME 55 SN 386345	87	871.6		
118	B-012-0-22	RMP R.A. TO 90 WB				MOBILE B-57	90	0.0		
119	B-013-0-22	RMP R.A. TO 90 WB				MOBILE B-57	90	0.0		
120	B-014-0-22	RMP R.A. TO 90 WB				MOBILE B-57	90	0.0		

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
1	B 001-0 23	SS-1	1.5	3.0	-0.7	0.8	39	12	4.5	21	13	8				8	10	A-4a	8	390					
		SS-2	3.0	4.5	0.8	2.3	32			NP	NP	NP				15	6	A-1-b	0						
		SS-3	4.5	6.0	2.3	3.8	26									6	A-1-b	0							
		SS-4	6.0	7.5	3.8	5.3	12									6	A-1-b	0							
2	B 002-0 23	SS-1	1.5	3.0	-0.2	1.3	32	17		NP	NP	NP	23	3	26	12	10	A-2-4	0	300					
		SS-2	3.0	4.5	1.3	2.8	23								19	8	A-3a	0							
		SS-3	4.5	6.0	2.8	4.3	17			NP	NP	NP	15	1	16	20	8	A-3a	0						
		SS-4	6.0	4.5	4.3	2.8	36			NP	NP	NP	74	4	78	18	11	A-4b	8						
3	B 003-0 23	SS-1	1.5	3.0	-0.9	0.6	55	13								8	10	A-4a	8	320					
		SS-2	3.0	4.5	0.6	2.1	16			NP	NP	NP				10	6	A-1-b	0						
		SS-3	4.5	6.0	2.1	3.6	23									10	6	A-1-b	0						
		SS-4	6.0	7.5	3.6	5.1	13			NP	NP	NP				11	6	A-1-b	0						
4	B 004-0 23	SS-1	1.5	3.0	0.1	1.6	13	13	1	25	16	9	30	16	46	12	14	A-6a	2	120		HP		12"	
		SS-2B	3.5	4.5	2.1	3.1	17								15	10	A-2-4	0		Mc					
		SS-3	4.5	6.0	3.1	4.6	26			NP	NP	NP	22	5	27	12	10	A-2-4	0						
		SS-4	6.0	7.5	4.6	6.1	17								14	8	A-3a	0							
5	B 005-0 23	SS-1	2.0	3.5	-0.2	1.3	20	20	3	23	13	10	26	23	49	12	10	A-4a	3	890					
		SS-2	3.5	5.0	1.3	2.8	23		4.5	29	14	15	29	30	59	18	14	A-6a	7		Mc				
		SS-3	5.0	6.5	2.8	4.3	62		4.5							14	14	A-6a	10						
		SS-4	6.5	8.0	4.3	5.8	54		4.5								14	A-6a	10						
6	B 006-0 23	SS-1B	1.6	3.0	-0.3	1.1	26	22	4.5							11	14	A-6a	10	410					
		SS-2	3.0	4.5	1.1	2.6	22		4.5	29	16	13	42	37	79	15	14	A-6a	9						
		SS-3	4.5	6.0	2.6	4.1	35		3.5							15	14	A-6a	10	1500					
		SS-4	6.0	7.5	4.1	5.6	22			NP	NP	NP	19	12	31	14	11	A-4a	0						
7	B 007-0 23	SS-1B	2.1	3.0	-0.5	0.4	23	23								9	10	A-2-4	0	140					
		SS-2	3.0	4.5	0.4	1.9	38		4.5	26	14	12	26	25	51	11	14	A-6a	4						
		SS-3A	4.5	4.9	1.9	2.3	28		3.5							12	10	A-4a	8						
		SS-3B	4.9	6.0	2.3	3.4	26		4	26	15	11	33	31	64	13	14	A-6a	6						
8	B 008-0 23	SS-2	3.0	4.5	1.2	2.7	50	30	4.5	24	15	9	26	17	43	11	14	A-6a	2						
		SS-3	4.5	6.0	2.7	4.2	33		4.5							14	14	A-6a	10						
		SS-4	6.0	8.5	4.2	6.7	41			21	15	6	26	19	45	14	10	A-4a	2						
		SS-5	8.5	10.0	6.7	8.2	44		3							20	14	A-6a							
9	B 009-0 23	SS-1B	1.9	3.0	-0.7	0.4	52	23		NP	NP	NP	13	8	21	12	10	A-2-6	0	260					
		SS-2	3.0	4.5	0.4	1.9	36		4.5							12	14	A-6a	10						
		SS-3	4.5	6.0	1.9	3.4	23		4							17	14	A-6a	10			Mc			
		SS-4	6.0	7.5	3.4	4.9	26		2.25	27	16	11	32	25	57	16	11	A-4a	5						

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable		
10	B 010-0 23	SS-1	1.5	3.0	-0.4	1.2	50	29								13	10	A-4a	8	220		Mc				
		SS-2	3.0	4.5	1.2	2.7	29		4.5	31	18	13	43	32	75	18	14	A-6a	9			Mc				
		SS-3	4.5	6.0	2.7	4.2	41		4.5							13	14	A-6a	10							
		SS-4	6.0	7.5	4.2	5.7	42		4.5	28	16	12	33	20	53	14	14	A-6a	4							
11	B 011-0 23	SS-1	1.5	1.4	-0.7	-0.8	50	30								18	10	A-2-4	0	910						
		SS-2	3.0	4.5	0.8	2.3	35		4.5	33	17	16	36	47	83	16	16	A-6b	10							
		SS-3	4.5	6.0	2.3	3.8	36		4.5	28	16	12	41	35	76	16	14	A-6a	9							
		SS-4	6.0	7.5	3.8	5.3	55		4.5							19	14	A-6a	10							
12	B 012-0 23	SS-1	2.5	4.0	-0.1	1.5	13	9	4	29	17	12	43	41	84	14	14	A-6a	9	320						
		SS-2	4.0	6.0	1.5	3.5	9		2.25							18	14	A-6a	10			N ₆₀ & Mc				
		SS-3B	6.0	6.5	3.5	4.0	22		2.5							10	8	A-3	0							
		SS-4	6.5	8.5	4.0	6.0	16		2	31	17	14	39	41	80	18	14	A-6a	10							
13	B 013-0 23	SS-1	1.5	1.8	-0.6	-0.3	50	30								6	A-1-b	0	940							
		SS-2	3.0	4.5	0.9	2.4	41		4.5	30	17	13	34	39	73	16	14	A-6a	9							
		SS-3	4.5	6.0	2.4	3.9	38		4.5							17	14	A-6a	10							
		SS-4	6.0	7.5	3.9	5.4	42		3	29	16	13	43	48	91	18	14	A-6a	9							
14	B 014-0 23	SS-1	1.5	3.0	-0.3	1.2	33	16		19	16	3	20	12	32	25	10	A-2-4	0	500		Mc				
		SS-2	3.0	4.5	1.2	2.7	16		4.5							10	14	A-6a	10	100						
		SS-3	4.5	6.0	2.7	4.2	16		2.75	31	17	14	33	35	68	17	14	A-6a	8							
		SS-4	6.0	7.5	4.2	5.7	20		2.5							18	14	A-6a	10							
15	B 015-0 23	SS-1B	1.8	3.0	-0.8	0.4	25	6	4.5	26	16	10	34	22	56	14	11	A-4a	4	580		Mc				
		SS-2	3.0	4.5	0.4	1.9	33		3.75	24	14	10	40	28	68	12	10	A-4a	7							
		SS-3	4.5	6.0	1.9	3.4	6		4.5							13	10	A-4a	8			N ₆₀ & Mc				
		SS-4	6.0	7.5	3.4	4.9	32		4.5							13	10	A-4a	8							
16	B 016-0 23	SS-1	2.5	4.0	0.2	1.7	25	19		22	17	5	18	15	33	9	10	A-2-6	0	540						
		SS-2	4.0	5.5	1.7	3.2	25			39	16	23	12	16	28	9	10	A-2-6	2							
		SS-3	5.5	7.0	3.2	4.7	19									10	A-2-6	4								
		SS-4	7.0	8.5	4.7	6.2	23		4.5	29	17	12	38	41	79	16	14	A-6a	9							
17	B 017-0 23	SS-1	1.5	3.0	-1.0	0.5	23	19	4	29	17	12	27	17	44	16	14	A-6a	2	540						
		SS-2	3.0	4.5	0.5	2.0	19		4	32	16	16	25	22	47	16	16	A-6b	4							
		SS-3	4.5	6.0	2.0	3.5	26		4							17	14	A-6a	10			Mc				
		SS-4	6.0	7.5	3.5	5.0	33		4.5							16	14	A-6a	10							
18	B 018-0 23	SS-1B	1.8	3.0	0.1	1.3	26	4		NP	NP	NP	12	6	18	7	6	A-1-b	0	400						
		SS-2	3.0	4.5	1.3	2.8	4			NP	NP	NP	12	7	19	6	6	A-1-b	0							
		SS-3	4.5	6.0	2.8	4.3	22		4.5							11	14	A-6a	10							
		SS-4	6.0	7.5	4.3	5.8	33		4.5	26	16	10	33	30	63	13	14	A-6a	6							

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)		
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable	
19	B 019-0 23	SS-1B	1.7	3.0	0.1	1.4	19	19	4.5	28	17	11	39	28	67	18	14	A-6a	7	300		Mc				
		SS-2	3.0	4.5	1.4	2.9	25		4.5	29	17	12	41	33	74	16	14	A-6a	9							
		SS-3	4.5	6.0	2.9	4.4	26		1.75							16	14	A-6a	10							
		SS-4	6.0	7.5	4.4	5.9	36		4.5							13	14	A-6a	10							
20	B 020-0 23	SS-1	1.5	3.0	-0.2	1.3	19	19	4.5	29	16	13	36	31	67	14	14	A-6a	8	1100						
		SS-2	3.0	4.5	1.3	2.8	30		4.5							14	14	A-6a	10							
		SS-3	4.5	6.0	2.8	4.3	51		4.5							10	14	A-6a	10							
		SS-4	6.0	7.5	4.3	5.8	30			27	17	10	29	23	52	8	10	A-2-6	3							
21	B 021-0 23	SS-1B	1.7	3.0	-0.2	1.1	16	15	4.5	32	19	13	30	22	52	14	14	A-6a	5	200						
		SS-2	3.0	4.5	1.1	2.6	15		4.5	39	19	20	42	43	85	20	16	A-6b	12			Mc				
		SS-3	4.5	6.0	2.6	4.1	26		4.5							16	16	A-6b	16							
		SS-4	6.0	7.5	4.1	5.6	38		4.5							17	14	A-6a	10							
22	B 022-0 23	SS-1B	2.1	3.5	0.0	1.4	12	9	4.5	29	17	12	46	28	74	15	14	A-6a	9	550						
		SS-2	3.5	5.0	1.4	2.9	9									14	A-6a	10			N ₆₀					
		SS-3	5.0	6.5	2.9	4.4	22		4.5	31	19	12	49	25	74	15	14	A-6a	9							
		SS-4	6.5	8.0	4.4	5.9	17		2							18	14	A-6a	10							
23	B 023-0 23	SS-1	2.0	3.5	0.2	1.7	7	7	1.5	31	16	15	34	33	67	17	14	A-6a	8	660			HP & Mc		15"	
		SS-2	3.5	5.0	1.7	3.2	9		1	38	19	19	41	41	82	25	16	A-6b	12			HP & Mc				
		SS-3	5.0	6.5	3.2	4.7	19		1	45	20	25	37	56	93	24	18	A-7-6	15							
		SS-4	6.5	8.0	4.7	6.2	23		2.5							20	18	A-7-6	16							
24	B 024-0 23	SS-1B	2.1	3.5	0.0	1.4	12	12	3	33	18	15	44	33	77	16	14	A-6a	10	610						
		SS-2	3.5	5.0	1.4	2.9	16		4.5	31	18	13	48	27	75	15	14	A-6a	9							
		SS-3	5.0	6.5	2.9	4.4	15		3							24	14	A-6a	10							
		SS-4	6.5	8.0	4.4	5.9	15		2.75							21	14	A-6a	10							
25	B 025-0 23	SS-1	1.5	2.4	-0.4	0.5	50	26		NP	NP	NP	19	6	25	19	6	A-1-b	0	520						
		SS-2	3.0	4.5	1.1	2.6	26		4.5	27	17	10	39	35	74	17	12	A-4a	8			Mc				
		SS-3	4.5	6.0	2.6	4.1	29		4.5							16	14	A-6a	10							
		SS-4	8.5	10.0	6.6	8.1	23		4.5							13	10	A-4a								
26	B 026-0 23	SS-1	1.5	2.3	-0.3	0.5	50	10								10	A-2-4	0	400							
		SS-2	3.0	4.5	1.2	2.7	13		3	30	20	10	42	24	66	17	15	A-4a	6							
		SS-3	4.5	6.0	2.7	4.2	10		2	29	16	13	26	16	42	13	14	A-6a	2							
		SS-4	6.0	7.5	4.2	5.7	20		4.5							14	14	A-6a	10							
27	B 027-0 23	SS-1	2.0	3.5	-0.1	1.4	12	12	4	30	17	13	39	37	76	15	14	A-6a	9	670						
		SS-2	3.5	5.0	1.4	2.9	33		4.5	27	16	11	41	31	72	16	14	A-6a	8							
		SS-3	5.0	6.5	2.9	4.4	28		4.5							15	14	A-6a	10							
		SS-4	6.5	8.0	4.4	5.9	42		4.5							13	14	A-6a	10							

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
28	B 028-0 23	SS-1B	1.7	3.0	-0.4	0.9	22	17	3.5	29	16	13	37	31	68	16	14	A-6a	8	460					
		SS-2	3.0	4.5	0.9	2.4	17		3.75	43	33	10	31	17	48	17	28	A-6a	3						
		SS-3	4.5	6.0	2.4	3.9	23		1.75							18	14	A-6a	10						
		SS-4	6.0	7.5	3.9	5.4	32		4.5							15	14	A-6a	10						
29	B 029-0 23	SS-1	1.5	3.0	-0.4	1.1	17	16		26	16	10	31	18	49	17	11	A-4a	3	600		Mc			
		SS-2	3.0	4.5	1.1	2.6	16			35	18	17	46	36	82	23	16	A-6b	11		Mc				
		SS-3	4.5	6.0	2.6	4.1	28		4.5							16	14	A-6a	10						
		SS-4	6.0	7.5	4.1	5.6	49		4.5							15	14	A-6a	10						
30	B 030-0 23	SS-1B	1.6	3.0	-0.3	1.1	16	16	4.5	27	17	10	40	32	72	15	12	A-4a	7	640		Mc			
		SS-2	3.0	4.5	1.1	2.6	26		4.5	29	17	12	40	31	71	16	14	A-6a	8						
		SS-3	4.5	6.0	2.6	4.1	38		4.25							15	14	A-6a	10						
		SS-4	6.0	7.5	4.1	5.6	41		4.5							15	14	A-6a	10						
31	B 031-0 23	SS-1	1.5	3.0	-0.1	1.4	17	17	4.5	29	16	13	36	31	67	13	14	A-6a	8	590					
		SS-2	3.0	4.5	1.4	2.9	17		4.5	34	18	16	43	37	80	20	14	A-6a	10		Mc				
		SS-3	4.5	6.0	2.9	4.4	25		3							20	14	A-6a	10						
		SS-4	6.0	7.5	4.4	5.9	36		4.5							15	14	A-6a	10						
32	B 032-0 23	SS-1	1.5	3.0	-0.1	1.4	19	19	4.5	28	17	11	39	32	71	15	14	A-6a	8	420					
		SS-2	3.0	4.5	1.4	2.9	29		4.5	31	17	14	39	36	75	14	14	A-6a	10						
		SS-3	4.5	6.0	2.9	4.4	52		4.5							15	14	A-6a	10						
		SS-4	6.0	7.5	4.4	5.9	57		4.5							15	14	A-6a	10						
33	B 033-0 23	SS-1	1.5	3.0	-0.4	1.1	20	15		NP	NP	NP	18	8	26	13	10	A-2-4	0	1300		Mc			
		SS-2	3.0	4.5	1.1	2.6	15			30	17	13	40	35	75	17	14	A-6a	9		Mc				
		SS-3	4.5	6.0	2.6	4.1	16		4.5							16	14	A-6a	10						
		SS-4	6.0	7.5	4.1	5.6	16		1							16	14	A-6a	10						
34	B 034-0 23	SS-1	1.5	3.0	-0.4	1.1	23	23	4.5							14	14	A-6a	10	640					
		SS-2	3.0	4.5	1.1	2.6	28		4.25	34	19	15	36	36	72	17	14	A-6a	9		Mc				
		SS-3	4.5	6.0	2.6	4.1	41		4.5	34	18	16	32	35	67	17	16	A-6b	9						
		SS-4	6.0	7.5	4.1	5.6	46		4.5							18	16	A-6b	16						
35	B 035-0 23	SS-1/2A	1.5	3.6	-0.5	1.6	50	23								16	10	A-4a	8	1500		Mc			
		SS-2B	3.6	4.1	1.6	2.1	29		4.5	26	16	10	38	23	61	11	6	A-1-b	0						
		SS-3	4.1	6.0	2.1	4.0	23		4.5	30	18	12	41	25	66	15	14	A-6a	7						
		SS-4	6.0	7.5	4.0	5.5	35		4.5							17	14	A-6a	10						
36	B 036-0 23	SS-1	1.5	3.0	-0.4	1.1	25	19	4.5	24	15	9	32	20	52	13	10	A-4a	3	2000		Mc			
		SS-2	3.0	4.5	1.1	2.6	19		4.5	40	18	22	25	35	60	17	16	A-6b	10						
		SS-3	4.5	6.0	2.6	4.1	28		3.5							17	16	A-6b	16						
		SS-4	6.0	7.5	4.1	5.6	36		4.5							18	16	A-6b	16						

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
37	B 037-0 23	SS-1B	1.6	3.0	-0.1	1.3	23	23		NP	NP	NP	19	4	23	11	8	A-3a	0						
		SS-2	3.0	4.5	1.3	2.8	35		4.5	27	16	11	42	25	67	14	14	A-6a	7	1500					
		SS-3	4.5	6.0	2.8	4.3	23		4.5							10	14	A-6a	10	480					
		SS-4	6.0	7.5	4.3	5.8	33									11	10	A-4a	8						
38	B 038-0 23	SS-1	1.5	3.0	-0.5	1.0	26	15								10	10	A-2-6	4	220					
		SS-2	3.0	4.5	1.0	2.5	20		4.5	28	15	13	17	18	35	15	10	A-2-6	1		Mc				
		SS-3	4.5	6.0	2.5	4.0	15		4.5	31	16	15	24	25	49	16	14	A-6a	5						
		SS-4	6.0	7.5	4.0	5.5	33		4.5							19	14	A-6a	10						
39	B 039-0 23	SS-1	2.0	3.5	0.0	1.5	6	6	4.5	26	14	12	34	19	53	13	14	A-6a	4	1800		N ₆₀		18"	
		SS-2	3.5	5.0	1.5	3.0	23		4.5	24	14	10	36	16	52	12	10	A-4a	3						
		SS-3	5.0	6.5	3.0	4.5	22		4	NP	NP	NP	25	12	37	12	11	A-4a	0						
		SS-4	6.5	8.0	4.5	6.0	22		4.5																
40	B 040-0 23	SS-1	2.0	3.5	-1.3	0.2	6	6	4.5	25	14	11	34	26	60	15	14	A-6a	5	1200		N ₆₀		18"	
		SS-2	3.5	5.0	0.2	1.7	13		4.5	27	15	12	36	23	59	18	14	A-6a	6		N ₆₀ & Mc		12"		
		SS-3	5.0	6.5	1.7	3.2	25		4.5							15	14	A-6a	10						
		SS-4	6.5	8.0	3.2	4.7	25		4.5							13	14	A-6a	10						
41	B 041-0 23	SS-1B	2.2	3.5	0.1	1.5	7	7	2	22	17	5	40	22	62	13	12	A-4a	5	1800		N ₆₀		15"	
		SS-2	3.5	5.0	1.5	3.0	10			18	13	5	16	9	25	16	8	A-3a	0						
		SS-3	5.0	6.5	3.0	4.5	19		4.5	26	16	10	38	33	71	11	14	A-6a	7						
		SS-4	6.5	8.0	4.5	6.0	19		4							12	14	A-6a	10						
42	B 042-0 23	SS-1	1.5	2.3	-0.5	0.3	50	22								15	10	A-4a	8	1900		Mc			
		SS-2	3.5	5.0	1.5	3.0	58		4.5	NP	NP	NP	72	13	85	12	11	A-4b	8		A-4b				
		SS-3	5.0	6.5	3.0	4.5	23		3.75	20	15	5	51	23	74	13	10	A-4b	8						
		SS-4	6.5	8.0	4.5	6.0	22		2							17	14	A-6a	10						
43	B 043-0 23	SS-1	1.5	3.0	-0.7	0.8	50	12								15	10	A-4a	8	1900		Mc			
		SS-2	3.0	4.5	0.8	2.3	15		3.25	30	17	13	47	42	89	17	14	A-6a	9			Mc			
		SS-3	4.5	6.0	2.3	3.8	12		2.5	30	17	13	53	40	93	19	14	A-6a	9						
		SS-4	6.0	7.5	3.8	5.3	19		2							20	14	A-6a	10						
44	B 044-0 23	SS-1	1.5	3.0	-0.7	0.8	75	16	4.5	NP	NP	NP	29	10	39	22	11	A-4a	1	1800		Mc			
		SS-2	3.0	4.5	0.8	2.3	17		4.5	28	17	11	46	46	92	18	14	A-6a	8			Mc			
		SS-3	4.5	6.0	2.3	3.8	19		2.5							20	14	A-6a	10						
		SS-4	6.0	7.5	3.8	5.3	16		3.5							18	14	A-6a	10						
45	B 045-0 23	SS-1	1.6	3.0	-0.6	0.8	50	10								18	10	A-4a	8	4300		Mc			
		SS-2	3.0	4.5	0.8	2.3	13		1.5							18	10	A-4a	8			HP & Mc		12"	
		SS-3	4.5	6.0	2.3	3.8	10		1.5	24	17	7	46	45	91	20	12	A-4a	8						
		SS-4	6.0	7.5	3.8	5.3	23		2.5	32	18	14	48	46	94	21	14	A-6a	10						



#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
46	B 046-0 23	SS-1	1.5	2.2	-0.7	0.0	50	12							17	10	A-4a	8	880						
		SS-2/3A	3.0	5.0	0.8	2.8	22		4.5	24	15	9	30	32	62	11	10	A-4a	5						
		SS-3B	5.0	6.0	2.8	3.8	17		1.25								16	A-6b	16						
		SS-4	6.0	7.5	3.8	5.3	12								20	8	A-3a	0							
47	B 047-0 23	SS-1B	1.7	2.0	-0.5	-0.2	29	12	4.5							10	A-4a	8							
		SS-1C	2.0	3.0	-0.2	0.8	29			NP	NP	NP	18	4	22	8	8	A-3a	0	320					
		SS-2	3.0	4.5	0.8	2.3	23			NP	NP	NP	15	11	26	13	8	A-3a	0						
		SS-3	4.5	6.0	2.3	3.8	12								18	8	A-3a	0							
48	B 048-0 23	SS-1B	1.7	1.9	-0.1	0.1	50	9							10	8	A-3a	0	1600						
		SS-2	3.0	4.5	1.2	2.7	13			NP	NP	NP	5	9	14	7	8	A-3a	0						
		SS-3	4.5	6.0	2.7	4.2	9			NP	NP	NP	3	10	13	23	8	A-3a	0						
		SS-4	6.0	7.5	4.2	5.7	10									8	A-3a	0							
49	B 049-0 23	SS-1B	1.6	2.2	-0.5	0.1	50	19							9	10	A-4a	8	1900						
		SS-2A	3.0	3.5	0.9	1.4	42									10	A-2-4	0							
		SS-2B	3.5	4.5	1.4	2.4	42			19	13	6	46	21	67	11	10	A-4a	6						
		SS-3	4.5	6.0	2.4	3.9	19		2.25	27	11	16	59	40	99	24	16	A-6b	10						
50	B 050-0 23	SS-1	1.5	3.0	-0.5	1.0	42	16		17	12	5	23	16	39	8	10	A-4a	1	720					
		SS-2	3.0	4.5	1.0	2.5	30			24	16	8	61	37	98	17	11	A-4b	8		A-4b	Mc	30"		
		SS-3	4.5	6.0	2.5	4.0	29		2.5	28	17	11	49	49	98	24	14	A-6a	8						
		SS-4	6.0	7.5	4.0	5.5	16		1.75							24	14	A-6a	10						
51	B 051-0 23	SS-1	1.5	3.0	-1.0	0.6	55	19		NP	NP	NP				10	8	A-3a	0	1900					
		SS-2	3.0	4.5	0.6	2.1	44									7	8	A-3a	0						
		SS-3	4.5	6.0	2.1	3.6	33									7	8	A-3a	0						
		SS-4	6.0	6.8	3.6	4.4	19			NP	NP	NP	14	7	21	15	8	A-3a	0						
52	B 052-0 23	SS-1B	2.2	3.5	0.0	1.3	20	20	4.5	28	16	12	45	26	71	13	14	A-6a	8	720					
		SS-2	3.5	5.0	1.3	2.8	39		4.5	25	15	10	40	20	60	10	10	A-4a	5						
		SS-3	5.0	6.5	2.8	4.3	49									2	8	A-3a	0						
		SS-4	6.5	8.0	4.3	5.8	36									8	A-3a	0							
53	B 053-0 23	SS-1	1.5	3.0	-0.3	1.2	25	16		20	13	7	18	12	30	12	10	A-2-4	0	580					
		SS-2	3.0	4.5	1.2	2.7	28			NP	NP	NP	11	7	18	11	6	A-1-b	0						
		SS-3	4.5	6.0	2.7	4.2	16									14	6	A-1-b	0						
		SS-4	6.0	7.5	4.2	5.7	23		3.5							21	14	A-6a	10						
54	B 054-0 23	SS-1B	1.7	2.2	-0.2	0.3	20	20								10	6	A-1-b	0	660					
		SS-1C	2.2	3.0	0.3	1.1	20		4.5								14	A-6a	10						
		SS-2	3.0	4.5	1.1	2.6	23		4.5	30	18	12	55	23	78	15	14	A-6a	9						
		SS-3	4.5	6.0	2.6	4.1	22		3	30	20	10	38	16	54	15	15	A-4a	4						

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
55	B 055-0 23	SS-1B	2.3	3.5	0.1	1.3	9	9	4.5							16	16	A-6b	16	740		N ₆₀		12"	
		SS-2	3.5	5.0	1.3	2.8	20		4.5	31	13	18	27	26	53	15	14	A-6a	7						
		SS-3	5.0	6.5	2.8	4.3	26		4	30	16	14	33	35	68	16	14	A-6a	8						
		SS-4	6.5	8.0	4.3	5.8	16		3.5							15	14	A-6a	10						
56	B 056-0 23	SS-1B	2.4	3.5	0.4	1.5	15	15	4.5	28	16	12	44	22	66	13	14	A-6a	7	360					
		SS-2	3.5	5.0	1.5	3.0	19		4.5	32	18	14	49	29	78	15	14	A-6a	10						
		SS-3	5.0	6.5	3.0	4.5	36		4.5							13	14	A-6a	10						
		SS-4	6.5	8.0	4.5	6.0	17		4.5							15	14	A-6a	10						
57	B 057-0 23	SS-1	2.0	3.5	-0.3	1.2	13	13	4.5	24	13	11	41	22	63	13	14	A-6a	6	280					
		SS-2	3.5	5.0	1.2	2.7	16		4.5	27	17	10	46	17	63	16	12	A-4a	6			Mc			
		SS-3	5.0	6.5	2.7	4.2	19		3.5							18	14	A-6a	10						
		SS-4	6.5	8.0	4.2	5.7	13		1.75							20	14	A-6a	10						
58	B 058-0 23	SS-1	2.5	4.0	0.1	1.6	12	12	2.5	30	18	12	40	31	71	15	14	A-6a	8	340					
		SS-2	4.0	5.5	1.6	3.1	13		3.5	33	18	15	42	27	69	13	14	A-6a	9						
		SS-3	5.5	7.0	3.1	4.6	25		4.5							12	14	A-6a	10						
		SS-4	7.0	8.5	4.6	6.1	20		2.5							13	14	A-6a	10						
59	B 059-0 23	SS-1B	2.5	3.5	-0.1	0.9	30	30	3.25	27	17	10	51	31	82	14	12	A-4b	8	320	A-4b				
		SS-2	3.5	5.0	0.9	2.4	144									0	Rock	0		Rock		29"			
		SS-3	5.0	6.5	2.4	3.9	50									0	Rock	0							
		SS-4	6.5	7.4	3.9	4.8	50									0	Rock	0							
60	B 060-0 23	SS-1B	2.1	3.5	0.0	1.4	16	16	4.5	28	17	11	42	18	60	12	14	A-6a	5	330					
		SS-2	3.5	5.0	1.4	2.9	25		4.5	30	18	12	49	20	69	14	14	A-6a	8						
		SS-3B	5.3	6.5	3.2	4.4	106									5	6	A-1-a	0						
		SS-4	6.5	8.0	4.4	5.9	45		4.5							16	14	A-6a	10						
61	B 061-0 23	SS-1B	2.0	3.0	0.6	1.6	13	13		NP	NP	NP	17	12	29	10	10	A-2-4	0	480					
		SS-2A	3.0	3.2	1.6	1.8	104		4.25							14	10	A-4a	8			Mc			
		SS-2B	3.2	4.5	1.8	3.1	104									12	0	Rock	0		Rock	Mc	38"		
		SS-3	4.5	5.9	3.1	4.5	50									0	Rock	0							
62	B 062-0 23	SS-1B	1.8	2.3	-0.1	0.4	50	30								14	10	A-4a	8	4000		Mc			
		SS-2	3.0	3.3	1.1	1.4	50									11	10	A-4a	8						
		SS-3	4.5	4.8	2.6	2.9	50									0	Rock	0							
		SS-4	6.0	7.5	4.1	5.6	123									0	Rock	0							
63	B 063-0 23	SS-1A	2.0	3.2	-0.5	0.7	26	26		20	14	6	24	12	36	12	10	A-4a	0	440					
		SS-2	3.5	4.3	1.0	1.8	50									0	Rock	0		Rock		21"			
		SS-3	5.0	5.2	2.5	2.7	50									0	Rock	0							
		SS-4	6.5	6.7	4.0	4.2	50									0	Rock	0							

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
64	B 064-0 23	SS-1B	2.4	3.5	0.1	1.2	10	7	2.75	29	17	12	47	26	73	14	14	A-6a	8	690		N ₆₀		12"	
		SS-2	3.5	5.0	1.2	2.7	15		2.25	30	18	12	57	24	81	15	14	A-6a	9						
		SS-3	5.0	6.5	2.7	4.2	9								12	10	A-2-6	4							
		SS-4	6.5	8.0	4.2	5.7	7		2.5							17	14	A-6a	10						
65	B 065-0 23	SS-1B	2.3	3.5	0.4	1.6	12	12	4	39	21	18	40	43	83	17	16	A-6b	11	540					
		SS-2	3.5	5.0	1.6	3.1	61		4							16	16	A-6b	16						
		SS-3	5.0	5.4	3.1	3.5	50								10	0	Rock	0			Mc				
		SS-4	6.5	6.8	4.6	4.9	50								9	0	Rock	0							
66	B 066-0 23	SS-1	2.5	4.0	0.1	1.6	9	9	4.25	37	19	18	45	41	86		16	A-6b	11	1100		N ₆₀		12"	
		SS-2	4.0	5.5	1.6	3.1	30		4.5	34	9	25	52	31	83		16	A-6b	14						
		SS-3	5.5	7.0	3.1	4.6	90		4.5							10	A-4a	8							
		SS-4	7.0	7.4	4.6	5.0	50									0	Rock	0							
67	B 067-0 23	SS-1B	2.3	2.8	-0.2	0.3	17	17	2	31	16	15	43	33	76	17	14	A-6a	10	570		Mc			
		SS-1C	2.8	3.5	0.3	1.0	90								12	14	A-6a	10							
		SS-2	3.5	5.0	1.0	2.5	50									14	A-6a	10							
		SS-3	5.0	5.9	2.5	3.4	50									14	A-6a	10							
68	B 068-0 23	SS-1B	2.4	3.5	0.3	1.4	7	7	3	30	22	8	55	28	83	12	17	A-4b	8	240	A-4b	N ₆₀	16"	15"	
		SS-2	3.5	5.0	1.4	2.9	9		2.5	55	28	27	44	50	94	21	25	A-7-6	18			N ₆₀			
		SS-3	5.0	6.5	2.9	4.4	19		4.25							0	Rock	0							
		SS-4	6.5	8.0	4.4	5.9	23		4							0	Rock	0							
69	B 069-0 23	SS-1B	2.0	3.0	-0.3	0.7	19	19								9	6	A-1-b	0	130					
		SS-2A	3.0	3.5	0.7	1.2	23		4.5	37	19	18	32	47	79	19	16	A-6b	11			Mc			
		SS-2B	3.5	4.5	1.2	2.2	23			NP	NP	NP	9	6	15	8	6	A-1-b	0						
		SS-3A	4.5	5.0	2.2	2.7	20		1.5								10	A-2-4	0			HP			
70	B 070-0 23	SS-1	1.5	3.0	-0.9	0.6	16	16		23	15	8	29	16	45	10	10	A-4a	2	100					
		SS-2	3.0	4.5	0.6	2.1	16		4.5	30	21	9	48	34	82	14	16	A-4a	8						
		SS-3	4.5	6.0	2.1	3.6	33								12	10	A-4a	8							
		SS-4	6.0	6.8	3.6	4.4	50								9	0	Rock	0							
71	B 071-0 23	SS-1A	2.1	2.8	-0.4	0.3	7	7								14	10	A-2-4	0			N ₆₀ & Mc		15"	
		SS-1B	2.8	3.6	0.3	1.1	7		2.75	33	17	16	29	27	56	15	16	A-6b	7	700		N ₆₀		15"	
		SS-2	3.6	5.1	1.1	2.6	88									0	Rock	0		Rock		31"			
		SS-3	5.1	6.0	2.6	3.5	50									0	Rock	0							
72	B 072-0 23	SS-1B	2.3	3.5	0.0	1.3	49	6	3.75	34	18	16	32	41	73	21	16	A-6b	10	960		Mc			
		SS-2	3.5	5.0	1.3	2.8	6		2.25	47	19	28	35	49	84	20	18	A-7-6	17			N ₆₀			
		SS-3	5.0	6.5	2.8	4.3	19		2.25							22	18	A-7-6	16						
		SS-4	6.5	8.0	4.3	5.8	7		2.5							20	18	A-7-6	16						

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)		
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable	
73	B 073-0 23	SS-1B	2.3	3.5	-0.5	0.8	13	6	4	38	18	20	37	30	67	16	16	A-6b	10	580						
		SS-2	3.5	5.0	0.8	2.3	23			NP	NP	NP	39	1	40	22	11	A-4a	1			Mc				
		SS-3	5.0	6.5	2.3	3.8	19			NP	NP	NP	46	3	49	23	11	A-4a	3							
		SS-4	6.5	8.0	3.8	5.3	6								23	10	A-4a	8								
74	B 074-0 23	SS-1B	2.1	3.5	0.1	1.5	10	10	2.25	26	16	10	39	39	78	18	14	A-6a	8	640			N ₆₀ & Mc		12"	
		SS-2	3.5	5.0	1.5	3.0	13		4.5	47	20	27	41	49	90	20	15	A-6a	10			N ₆₀ & Mc				
		SS-3	5.0	6.5	3.0	4.5	23		3.5							19	14	A-6a	10							
		SS-4	6.5	8.0	4.5	6.0	12		3.75							21	14	A-6a	10							
75	B 075-0 23	SS-1	2.0	3.5	0.1	1.6	9	9	2.75	40	20	20	38	38	76	18	16	A-6b	12	560			N ₆₀		12"	
		SS-2	3.5	5.0	1.6	3.1	22		3.75	45	21	24	43	46	89	19	18	A-7-6	15							
		SS-3	5.0	6.5	3.1	4.6	36		4.5							17	14	A-6a	10							
		SS-4	6.5	8.0	4.6	6.1	32		4.5							16	14	A-6a	10							
76	B 076-0 23	SS-1B	2.2	3.5	0.2	1.5	6	6	2.75	34	20	14	50	34	84	18	15	A-6a	10	500			N ₆₀ & Mc		18"	
		SS-2	3.5	5.0	1.5	3.0	6		4	31	19	12	45	20	65	14	14	A-6a	7			N ₆₀				
		SS-3	5.0	6.5	3.0	4.5	16		2.75							21	14	A-6a	10							
		SS-4	6.5	8.0	4.5	6.0	19									14	10	A-2-6	4							
77	B 077-0 23	SS-1B	1.6	3.0	0.4	1.8	20	8		NP	NP	NP	8	10	18	11	6	A-1-b	0	240						
		SS-2/3	3.0	6.0	1.8	4.8	8									16	10	A-2-4	0							
		SS-4A	6.0	6.7	4.8	5.5	28									15	6	A-1-b	0							
		SS-4B	6.7	7.5	5.5	6.3	28									0	Rock									
78	B 078-0 23	SS-1A	2.0	2.4	-0.5	-0.1	13	13									10	A-2-4	0							
		SS-1B	2.4	3.5	-0.1	1.0	13		4.25	45	21	24	32	63	95	22	18	A-7-6	15	320			N ₆₀ & Mc			12"
		SS-2	3.5	5.0	1.0	2.5	23		4.5	43	22	21	33	50	83	13	19	A-7-6	13							
		SS-3	5.0	6.5	2.5	4.0	38		3.25							22	18	A-7-6	16							
79	B 079-0 23	SS-1B	1.7	3.0	0.0	1.3	15	9		22	14	8	33	16	49	15	10	A-4a	3	490			Mc			
		SS-2	3.0	4.5	1.3	2.8	9		2.5	38	21	17	45	42	87	22	16	A-6b	11			N ₆₀ & Mc				
		SS-3	4.5	6.0	2.8	4.3	30		4.5							13	14	A-6a	10							
		SS-4	6.0	7.5	4.3	5.8	33		3.5							19	14	A-6a	10							
80	B 080-0 23	SS-1B	2.3	3.5	-0.1	1.1	16	16	3.25	31	19	12	48	29	77	13	14	A-6a	9	100						
		SS-2	3.5	4.9	1.1	2.5	50									12	0	Rock	0		Rock	Mc				
		SS-3	5.0	5.8	2.6	3.4	50									8	0	Rock	0			Mc				
		SS-4	6.5	6.9	4.1	4.5	50									0	Rock	0								
81	B 081-0 23	SS-1B	2.3	3.5	0.5	1.7	10	10	3.5	48	22	26	33	56	89	20	19	A-7-6	16	960			N ₆₀		12"	
		SS-2	3.5	5.0	1.7	3.2	23		4.5	47	23	24	38	59	97	19	20	A-7-6	15							
		SS-3	5.0	6.5	3.2	4.7	39		4.5							18	18	A-7-6	16							
		SS-4	6.5	8.0	4.7	6.2	52									13	0	Rock	0							

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
82	B 082-0 23	SS-1A	2.0	2.5	0.1	0.6	36	30								15	10	A-2-4	0	540		Mc			
		SS-1B	2.5	3.5	0.6	1.6	50										0	Rock	0		Rock				
		SS-2	3.5	4.5	1.6	2.6	50									9	0	Rock	0		Rock	Mc	32"		
		SS-3	5.0	5.3	3.1	3.4	50									9	0	Rock	0			Mc			
83	B 083-0 23	SS-1	1.5	2.8	-0.6	0.7	50	30								15	6	A-1-b	0	5500					
		SS-2	3.0	4.5	0.9	2.4	62		4.5	35	20	15	52	39	91	11	15	A-6a	10						
		SS-3	4.5	5.8	2.4	3.7	50									12	0	Rock	0						
		SS-4	6.0	6.3	3.9	4.2	50										0	Rock	0						
84	B 084-0 23	SS-1B	1.8	2.5	-0.1	0.6	78	30		20	4	16	NP	NP		18	6	A-1-b	0	1600					
		SS-1C	2.5	3.0	0.6	1.1	78										0	Rock	0		Rock				
		SS-2	3.0	4.5	1.1	2.6	86									7	0	Rock	0		Rock	Mc	31"		
		SS-3	4.5	4.9	2.6	3.0	50										0	Rock	0						
85	B 085-1 23	SS-1	1.0	2.5	-0.5	1.0	17	17	4							14	10	A-4a	8	1800		Mc			
		SS-2	2.5	4.0	1.0	2.5	45		4.5	24	16	8	20	20	40	6	11	A-4a	1						
		SS-3	4.0	5.5	2.5	4.0	29		4.5	25	16	9	41	38	79	12	11	A-4a	8						
		SS-4	5.5	7.0	4.0	5.5	35		4.25							12	10	A-4a	8						
86	B 086-0 23	SS-1	1.0	2.5	-0.5	1.0	17	17	4.5							15	14	A-6a	10	100					
		SS-2	2.5	4.0	1.0	2.5	29		4.5	30	18	12	50	28	78	15	14	A-6a	9						
		SS-3	4.0	5.5	2.5	4.0	35		4.5	30	17	13	47	27	74	15	14	A-6a	9						
		SS-4	5.5	7.0	4.0	5.5	58		2.5							12	10	A-4a	8						
87	B 087-0 23	SS-1	1.0	2.5	-0.5	1.0	38	20	2.5							17	14	A-6a	10			Mc			
		SS-2	2.5	4.0	1.0	2.5	38			NP	NP	NP	26	7	33	10	8	A-3a	0						
		SS-3/4A	4.0	6.3	2.5	4.8	36		3.5	20	18	2	80	17	97	15	13	A-4b	8	1400					
		SS-4B	6.3	7.0	4.8	5.5	20		4.25								14	A-6a	10						
88	B 088-0 23	SS-1	1.0	2.5	-0.5	1.0	30	16	4.5							9	14	A-6a	10	640					
		SS-2	2.5	4.0	1.0	2.5	25		4.5	31	17	14	55	25	80	11	14	A-6a	10						
		SS-3	4.0	5.5	2.5	4.0	16		4.5							14	14	A-6a	10						
		SS-4	5.5	7.0	4.0	5.5	30		4.25	34	20	14	67	23	90	20	15	A-6a	10						
89	B 089-0 23	SS-1A	1.0	1.5	-0.5	0.0	20	20									10	A-4a	8						
		SS-1B	1.5	2.5	0.0	1.0	20		4.5	34	19	15	45	32	77	13	14	A-6a	10	760					
		SS-2	2.5	4.0	1.0	2.5	91		4.5	36	21	15	50	31	81	12	16	A-6a	10						
		SS-3	4.0	4.8	2.5	3.3	50										0	Rock	0						
90	B 090-0 23	SS-1	1.0	2.5	-0.5	1.0	10	10	4.5	28	16	12	37	22	59	12	14	A-6a	6	780		N ₆₀		12"	
		SS-2	2.5	4.0	1.0	2.5	55		4.5	37	19	18	53	39	92	18	14	A-6a	10			Mc			
		SS-3	4.0	4.8	2.5	3.3	50										0	Rock	0						
		SS-4	5.5	5.6	4.0	4.1	50										0	Rock	0						

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
91	B 091-0 23	SS-1	1.5	3.0	0.0	1.5	61		4.5							15	10	A-4a	8	1400		Mc			
		SS-2	3.0	4.5	1.5	3.0	26		4.5							12	10	A-4a	8						
		SS-3	4.5	6.0	3.0	4.5	30		3.5	29	16	13	41	34	75	14	14	A-6a	9						
		SS-4	6.0	7.5	4.5	6.0	35	26	4.5	29	16	13	37	34	71	13	14	A-6a	8						
92	B 092-0 23	SS-1B	1.9	3.0	0.4	1.5	23		1.5							17	10	A-4a	8	280		HP & Mc		12"	
		SS-2	3.0	4.5	1.5	3.0	12		2	20	12	8	24	24	48	19	10	A-4a	3			N ₆₀ & Mc			
		SS-3	4.5	6.0	3.0	4.5	28		4	37	18	19	37	48	85	17	16	A-6b	12						
		SS-4	6.0	7.5	4.5	6.0	26	12	4.5							17	16	A-6b	16						
93	B 093-0 23	SS-1	1.5	2.0	0.0	0.5	50									19	10	A-4a	8			Mc			
		SS-2	3.0	4.5	1.5	3.0	26		4.5	30	18	12	43	42	85	17	14	A-6a	9			Mc			
		SS-3	4.5	6.0	3.0	4.5	32		4.5							15	14	A-6a	10						
		SS-4	6.0	7.5	4.5	6.0	23	23	4.5	29	16	13	39	45	84	17	14	A-6a	9						
94	B 094-0 23	SS-1	1.0	1.3	-0.5	-0.2	50										10	A-2-4	0						
		SS-2	3.5	5.0	2.0	3.5	19		4.5	31	18	13	45	45	90	14	14	A-6a	9						
		SS-3	5.0	6.5	3.5	5.0	30		4.5							16	14	A-6a	10						
		SS-4	6.5	8.0	5.0	6.5	19	19	2.5	30	17	13	47	48	95	21	14	A-6a	9						
95	B 095-0 23	SS-1B	1.7	3.0	0.2	1.5	22		4.5							9	14	A-6a	10						
		SS-2	3.0	4.5	1.5	3.0	20		4.5	28	16	12	54	25	79	13	14	A-6a	9						
		SS-3	4.5	6.0	3.0	4.5	17		4.5							15	14	A-6a	10						
		SS-4	6.0	7.5	4.5	6.0	28	17	4	35	20	15	48	32	80	24	15	A-6a	10						
96	B 096-0 23	SS-1	1.5	3.0	0.0	1.5	70		4.5	33	25	8	39	5	44	11	20	A-4a	2	1500					
		SS-2	3.0	4.5	1.5	3.0	23		4.5							12	10	A-4a	8	7800					
		SS-3	4.5	6.0	3.0	4.5	23		4.5	22	15	7	42	14	56	12	14	A-6a	4						
		SS-4	6.0	7.5	4.5	6.0	28	23	4.5							9	14	A-6a	10						
97	B 097-0 23	SS-1	1.5	3.0	0.0	1.5	104			37	27	10	34	8	42	16	22	A-4a	1	1200					
		SS-2	3.0	4.5	1.5	3.0	20		4.5	31	18	13	42	43	85	17	14	A-6a	9			Mc			
		SS-3	4.5	6.0	3.0	4.5	20		4.5							16	14	A-6a	10						
		SS-4	6.0	7.5	4.5	6.0	29	20	4.5							17	14	A-6a	10						
98	B 098-0 23	SS-1	1.5	2.2	0.0	0.7	50			NP	NP	NP	17	4	21	12	6	A-1-b	0	1200					
		SS-2	3.0	4.5	1.5	3.0	23		4.5	29	17	12	38	39	77	14	14	A-6a	9						
		SS-3	4.5	6.0	3.0	4.5	22		4.5							16	14	A-6a	10						
		SS-4	6.0	7.5	4.5	6.0	32	22	4.5							14	14	A-6a	10						
99	B 099-0 23	SS-1	1.5	3.0	0.0	1.5	13										6	A-1-a	0	300					
		SS-2	3.0	4.5	1.5	3.0	10			NP	NP	NP				9	6	A-1-a	0						
		SS-3	4.5	6.0	3.0	4.5	39		4.5	31	17	14	41	36	77	17	14	A-6a	10						
		SS-4	6.0	7.5	4.5	6.0	38	10	4.5							18	10	A-4a	8						

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
100	B	SS-1	1.5	3.0	0.0	1.5	91	25		NP	NP	NP	28	7	35	24	8	A-3a	0	330					
	100-0	SS-2	3.0	4.5	1.5	3.0	26		4	26	16	10	40	26	66	14	11	A-4a	6			Mc			
	23	SS-3	4.5	6.0	3.0	4.5	25		4.5							16	10	A-4a	8						
		SS-4	6.0	7.5	4.5	6.0	35		4.5								10	A-4a	8						
101	B	SS-1	1.5	3.0	0.0	1.5	6	6	2	34	18	16	26	23	49	27	16	A-6b	5	200		N ₆₀ & Mc		18"	
	101-0	SS-2	3.0	4.5	1.5	3.0	48		4.5							14	10	A-4a	8			Mc			
	23	SS-3	4.5	6.0	3.0	4.5	17		1	32	18	14	25	21	46	17	14	A-6a	3						
		SS-4	6.0	7.5	4.5	6.0	15		3.5							19	10	A-4a	8						
102	B	SS-1B	1.7	3.0	0.2	1.5	26	13	4.5	33	18	15	40	30	70	16	14	A-6a	9	200					
	102-0	SS-2	3.0	4.5	1.5	3.0	30		2.75	26	19	7	47	10	57	15	14	A-4a	4						
	23	SS-3A	4.5	4.9	3.0	3.4	50			25	20	5				14	15	A-4a	8						
		SS-3B/4	4.9	6.7	3.4	5.2	13										6	A-1-b	0						
103	B	SS-1	1.5	3.0	0.0	1.5	12	12	4.5	31	18	13	41	38	79	17	14	A-6a	9	900		N ₆₀ & Mc		12"	
	103-0	SS-2	3.0	4.5	1.5	3.0	28		4.5	31	18	13	42	38	80	17	14	A-6a	9			Mc			
	23	SS-3	4.5	6.0	3.0	4.5	35		4.5							14	14	A-6a	10						
		SS-4	6.0	7.5	4.5	6.0	83		4.5							16	14	A-6a	10						
104	B	SS-1	1.5	3.0	0.0	1.5	9	9								11	10	A-2-6	4	1600		N ₆₀		12"	
	104-0	SS-2	3.0	4.5	1.5	3.0	22		4.5	31	18	13	29	36	65	15	14	A-6a	7						
	23	SS-3A	4.5	5.1	3.0	3.6	30		3								10	A-4a	8						
		SS-3B	5.1	6.0	3.6	4.5	30			NP	NP	NP	17	5	22	7	6	A-1-b	0						
105	B	SS-1	1.5	3.0	0.0	1.5	29	6	1.5								14	A-6a	10	1500		HP		12"	
	105-0	SS-2	3.0	4.5	1.5	3.0	6		2.5	28	16	12	25	21	46	16	14	A-6a	3			N ₆₀			
	23	SS-3	4.5	6.0	3.0	4.5	10		2							15	14	A-6a	10						
		SS-4	6.0	7.5	4.5	6.0	13		2.5							16	14	A-6a	10						
106	B	SS-1	1.5	3.0	0.0	1.5	10	10	2.25	26	19	7	30	17	47	15	14	A-4a	2	2000		N ₆₀		12"	
	106-0	SS-2	3.0	4.5	1.5	3.0	12		1.25	27	13	14	24	31	55	21	14	A-6a	6			HP & Mc			
	23	SS-3	4.5	6.0	3.0	4.5	20		4.5							18	10	A-4a	8						
		SS-4	6.0	7.5	4.5	6.0	32		4.5							18	10	A-4a	8						
107	B	SS-1	1.5	3.0	0.0	1.5	28	28	4.5	31	17	14	53	28	81	11	14	A-6a	10	560					
	107-0	SS-2	3.0	4.3	1.5	2.8	50									9	0	Rock	0		Rock	Mc			
	23	SS-3	4.5	5.2	3.0	3.7	50									7	0	Rock	0						
		SS-4	6.0	6.3	4.5	4.8	50									5	0	Rock	0						
108	B	SS-1B	1.2	2.5	-0.3	1.0	12	7		35	18	17	41	25	66	14	16	A-6b	9	640					
	108-0	SS-2	2.5	4.0	1.0	2.5	7			38	20	18	49	37	86	20	16	A-6b	11			N ₆₀ & Mc		15"	
	23	SS-3	4.0	5.5	2.5	4.0	9									21	16	A-6b	16						
		SS-4	5.5	7.0	4.0	5.5	36			50	25	25	41	53	94	19	22	A-7-6	16						

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _C	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
109	B	SS-1	1.5	3.0	0.0	1.5	38	30		NP	NP	NP	14	0	14	9	6	A-1-b	0	5800					
	109-0	SS-2A	3.0	3.6	1.5	2.1	51		4	43	21	22	35	47	82	17	18	A-7-6	13						
	23	SS-2B	3.6	4.5	2.1	3.0	51								2	0	Rock	0							
		SS-3	4.5	5.9	3.0	4.4	50								8	0	Rock	0							
110	B	SS-1	1.5	3.0	0.0	1.5	103	30		NP	NP	NP	32	8	40	19	11	A-4a	1	1900		Mc			
	110-0	SS-2	3.0	4.5	1.5	3.0	78		4.5							13	10	A-4a	8			Mc			
	23	SS-3	4.5	6.0	3.0	4.5	78		4.5	48	22	26	45	41	86	15	19	A-7-6	16						
		SS-4	6.0	7.5	4.5	6.0	67		4.5							12	18	A-7-6	16						
111	B	SS-1	1.0	3.0	-0.5	1.5	96	30		39	32	7	27	6	33	16	27	A-4a	0	1800					
	111-0	SS-2	3.0	4.4	1.5	2.9	50		4.5	36	21	15	49	41	90	11	16	A-6a	10						
	23	SS-3	4.5	5.4	3.0	3.9	50									13	0	Rock	0						
		SS-4	6.0	6.8	4.5	5.3	50									7	0	Rock	0						
112	B	SS-1	1.0	2.5			13		4.5	33	19	14	34	33	67	13	14	A-6a		1900					
	112-0	SS-2	3.5	5.0			12		2.5	29	16	13	28	37	65	14	14	A-6a							
	23	SS-3	6.0	7.5			23		4.5							10	14	A-6a							
		SS-4	8.5	10.0			39		4.5	23	14	9	18	27	45	7	10	A-4a							
113	B	SS-1	1.0	2.5			17		4.5	32	18	14	28	41	69	15	14	A-6a		5500					
	113-0	SS-2	3.5	5.0			9		4.5							11	14	A-6a							
	23	SS-3	6.0	7.5			35		4.5	23	15	8	17	39	56	9	10	A-4a							
		SS-4	8.5	10.0			56		4.5							8	10	A-4a							
114	B	SS-1	1.0	2.5			9		2.5	35	23	12	22	30	52	19	18	A-6a		1700					
	114-0	SS-2	3.5	5.0			20		4.5	28	22	6	9	23	32	14	10	A-2-4							
	23	SS-3	6.0	7.5			39		4.5							7	10	A-4a							
		SS-4	8.5	10.0			46		4.5							8	10	A-4a							
115	B	SS-1	1.0	2.5			10		3.75	36	22	14	34	43	77	21	17	A-6a		340					
	115-0	SS-2	3.5	5.0			19		4.5	37	21	16	32	44	76	21	16	A-6b							
	23	SS-3	6.0	7.5			19		4.5							15	14	A-6a							
		SS-4	8.5	10.0			26		4.5							23	14	A-6a							
116	B	SS-1	1.0	2.5			12		4.5	37	20	17	31	48	79	18	16	A-6b		320					
	116-0	SS-2	3.5	5.0			16		3.75	30	17	13	33	38	71	16	14	A-6a							
	23	SS-3	6.0	7.5			16		4.5							14	14	A-6a							
		SS-4A	8.5	9.7			22		4.5							16	14	A-6a							
117	B	SS-1	1.0	2.5			22		4.5	41	20	21	41	35	76	18	18	A-7-6		320					
	117-0	SS-2	3.5	5.0			20		4.25							16	18	A-7-6							
	23	SS-3	6.0	7.5			23		4.5	29	17	12	41	31	72	15	12	A-4a							
		SS-4	8.5	10.0			32		4.5							15	10	A-4a							

PID: 116955

County-Route-Section: LAK-90-6.99

No. of Borings: 120

Geotechnical Consultant: AECOM

Prepared By: Erik J. Bogen, P.E.

Date prepared: 2/24/2026

Chemical Stabilization Options		
320	Rubblize & Roll	Option
206	Cement Stabilization	Option
	Lime Stabilization	No
206	Depth	NA

Excavate and Replace Stabilization Options	
Global Geotextile Average(N60L): Average(HP):	12" 0"
Global Geogrid Average(N60L): Average(HP):	0" 0"

Design CBR	7
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% Samples within 6 feet of subgrade			
$N_{60} \leq 5$	0%	$HP \leq 0.5$	0%
$N_{60} < 12$	10%	$0.5 < HP \leq 1$	1%
$12 \leq N_{60} < 15$	7%	$1 < HP \leq 2$	5%
$N_{60} \geq 20$	67%	$HP > 2$	60%
M+	17%		
Rock	7%		
Unsuitable	11%		

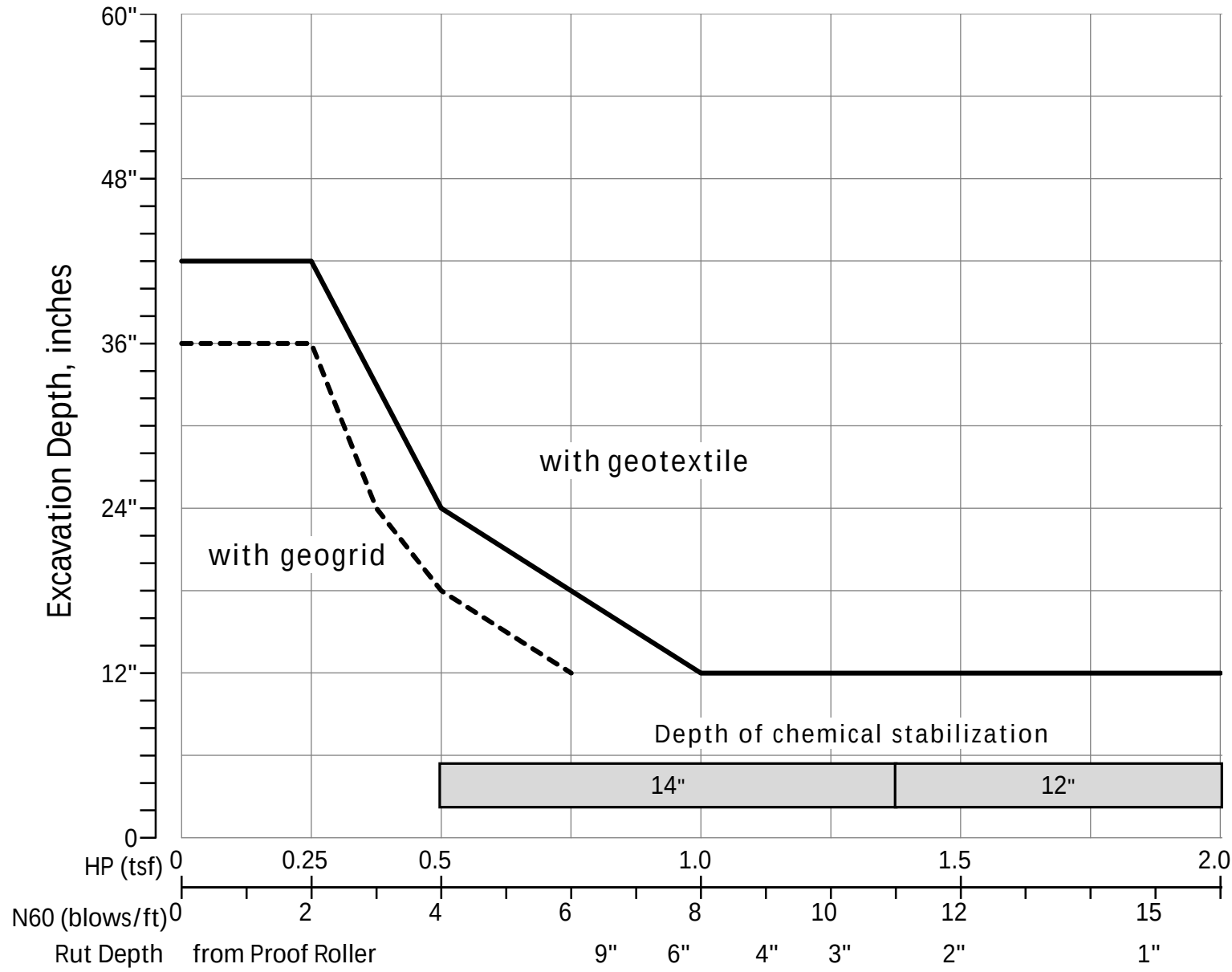
Excavate and Replace at Surface	
Average	0"
Maximum	0"
Minimum	0"

% Proposed Subgrade Surface	
Unstable & Unsuitable	37%
Unstable	33%
Unsuitable	5%

	N_{60}	N_{60L}	HP	LL	PL	PI	Silt	Clay	P 200	M_C	M_{OPT}	GI
Average	31	16	3.82	30	17	13	36	27	63	15	12	7
Maximum	144	30	4.50	55	33	28	80	63	99	27	28	18
Minimum	4	4	1.00	17	4	2	3	0	13	2	0	0

Classification Counts by Sample																			Totals
ODOT Class	Rock	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7	A-3	A-3a	A-4a	A-4b	A-5	A-6a	A-6b	A-7-5	A-7-6	A-8a	A-8b	
Count	41	3	23	14	0	10	0	1	21	76	7	0	193	30	0	17	0	0	436
Percent	9%	1%	5%	3%	0%	2%	0%	0%	5%	17%	2%	0%	44%	7%	0%	4%	0%	0%	100%
% Rock Granular Cohesive	9%	34%										57%							100%
Surface Class Count	20	2	19	16	0	7	0	0	16	60	5	0	114	25	0	10	0	0	294
Surface Class Percent	7%	1%	6%	5%	0%	2%	0%	0%	5%	20%	2%	0%	39%	9%	0%	3%	0%	0%	100%

Fig. 600-1 – Subgrade Stabilization



VERRIDE TABLE

Calculated Average	New Values	Check to Override
3.82	3.50	☐ HP
16.29	16.00	☐ N60L

Average HP

Average N_{60L}



The subgrade analysis workbook consists of five worksheets. Each worksheet functions independently. In all of the worksheets the fields are color coded as follows:

- Every yellow highlighted field indicates a field to be entered by the user.
- Every salmon field is to indicate a problem/issue.
- Every gray or green field is a heading/informational field.

IMPORTANT: The sequence of filling out the data needs to be followed as outlined below:

1. Cover Sheet: this worksheet is designed for the purpose of entering the project information.
Enter all the following fields:

County-Route-Section	This includes the county, route, section number assigned to the project.
PID	the Project Identification Number
Project Description	See Cover Sheet for list of example details
Geotechnical Consultant	The Geotechnical Consultant performing the analysis.
Prepared By	The preparer of the subgrade analysis
Date prepared	The date the analysis is performed.
Contact Information	Name, address, telephone #, and email address
No. of Borings	Enter the total number of borings within the alignment that is being analyzed.

2. Boring Logs Entry Worksheet: this worksheet has a programming code that will run in the background every time the sheet is activated and will make the sheet unresponsive for less than a minute. The code is designed to read the total number of borings from the cover sheet and generate the needed number of fields.

- a. All yellow highlighted fields are user's entry.
- b. ODOT has developed a text table export from gINT (*GB 1 Borings Log Entry Tab*) that will allow for copy and paste of all highlighted fields with the exception of proposed subgrade elevation. The designer must provide a proposed subgrade elevation in order for the spreadsheet to function properly.
- c. The Cut/Fill field is a calculated field that, based on the difference between the boring elevation and the proposed subgrade elevation, will highlight the cell either gray and adds the letter "C" to the end in a cut situation or highlights the cell in light purple and adds the letter "F" to the end in a fill situation.
- d. Every duplicate boring ID will be highlighted in salmon background and red text.
- e. **IMPORTANT:** After entering all the borings' information, the user must click "Add Subgrade Analysis Entry Fields" button. This will generate all the required fields in the "Subgrade Analysis" Worksheet.

3. Subgrade Analysis Worksheet:

- a. The boring number and boring ID is read from the "Boring Logs Entry Worksheet" excluding every boring that has six feet or more of fill.
- b. All yellow highlighted fields are to be entered by the user and salmon highlighted fields indicates a problem or issue.
- c. Every sample that has a Sulfate Content greater than or equal to 3000 will be highlighted in light salmon background. Every sample that has a Sulfate Content greater than or equal to 8000 will be highlighted in darker salmon background. **Refer to Section 605 of the Geotechnical Design Manual for the latest guidance regarding high sulfate soils.**

d. Unsuitable/Unstable:

- i. Unsuitable samples that are within 3 feet of the top of subgrade will be highlighted with salmon background and the class will be showing in this field.
- ii. Unstable Samples that are within 3 feet of top of subgrade will be highlighted with salmon background and text to indicate the problem as follows:

Criterion	Stabilization Need Check	Text displayed in the field
A-1-a, A-1-b, A-3, or A-3a Soil Class	No Stabilization is needed	
$HP \geq 1.875$	No Stabilization is needed	
$N_{60} \geq 15$	No Stabilization is needed	
$1.875 \geq HP \geq 1.5$ and $M_c \geq \text{Opt. } M_c + 3$	Unstable Subgrade	HP & Mc
$15 \geq N_{60} \geq 12$ and $M_c \geq \text{Opt. } M_c + 3$	Unstable Subgrade	N_{60} & Mc
$HP \leq 1.5$	Unstable Subgrade	HP
$N_{60} \leq 12$	Unstable Subgrade	N_{60}

- iii. The field is formulated to check for HP first and check for N_{60} second.

e. Excavate and Replace (Item 204) is going to be calculated based on the subgrade depth for each sample indicating an unsuitable or unstable problem.

f. Recommendation:

- i. Geotextile Option is calculated and rounded to a multiple of 3 inches based on the subgrade depth for every sample indicating an unsuitable or unstable problem.
- ii. GEOGRID Option is only offered in case of unstable subgrade problem and if the geotextile option indicates the need to excavate greater than 12 inches.

PLEASE NOTE: The Problem, Excavate & Replace, and Recommendation Fields are the responsibility of the Designer. These fields are being enhanced to attempt to capture the ODOT philosophy regarding the subgrade stabilization chart, but are considered still under development. If there are discrepancies between the spreadsheet output and the stabilization chart - the chart governs in conjunction with engineering judgement. Please contact Steve Taliaferro at stephen.taliaferro@dot.ohio.gov if you have any questions.

PLEASE NOTE: It is the Designer's responsibility to identify the most representative data when samples have been separated into multiple specimen (say 1.5 to 2.3 feet and 2.3 to 3.0 feet). The spreadsheet is not capable at this time of addressing this issue within a direct data export from gINT.

4. Results Summary:

All fields in this sheet are password protected and are either calculated or read from the other worksheets.

5. Graph Worksheet:

This worksheet is designed to read the average N_{60L} and the average HP from the Cover Sheet and plot a blue line for Average HP and orange line for Average N_{60L} on GDM Figure 600-1 – Subgrade Stabilization. The Override Table can be used to enter HP and/or N_{60L} values that are different than the calculated averages. The Override values will change the global undercut recommendation in the Results Summary.

Appendix D

Pavement Core Photo Logs

Project Name:
LAK-90-6.99**Site Location:**
Lake County, OH**PID.:**
116955**Core No.**
B-001-0-23**Date:**
3/20/2023**Core Profile:**

14" Concrete

*Photo not available at time of report.***Core No.**
B-002-0-23**Date:**
4/11/2023**Core Profile:**

13-3/4" Concrete



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-003-0-23	Date: 3/20/2023	Photo not available at time of report.
Core Profile: 13" Concrete		

Core No. B-004-0-23	Date: 4/13/2023
Core Profile: 13" Concrete	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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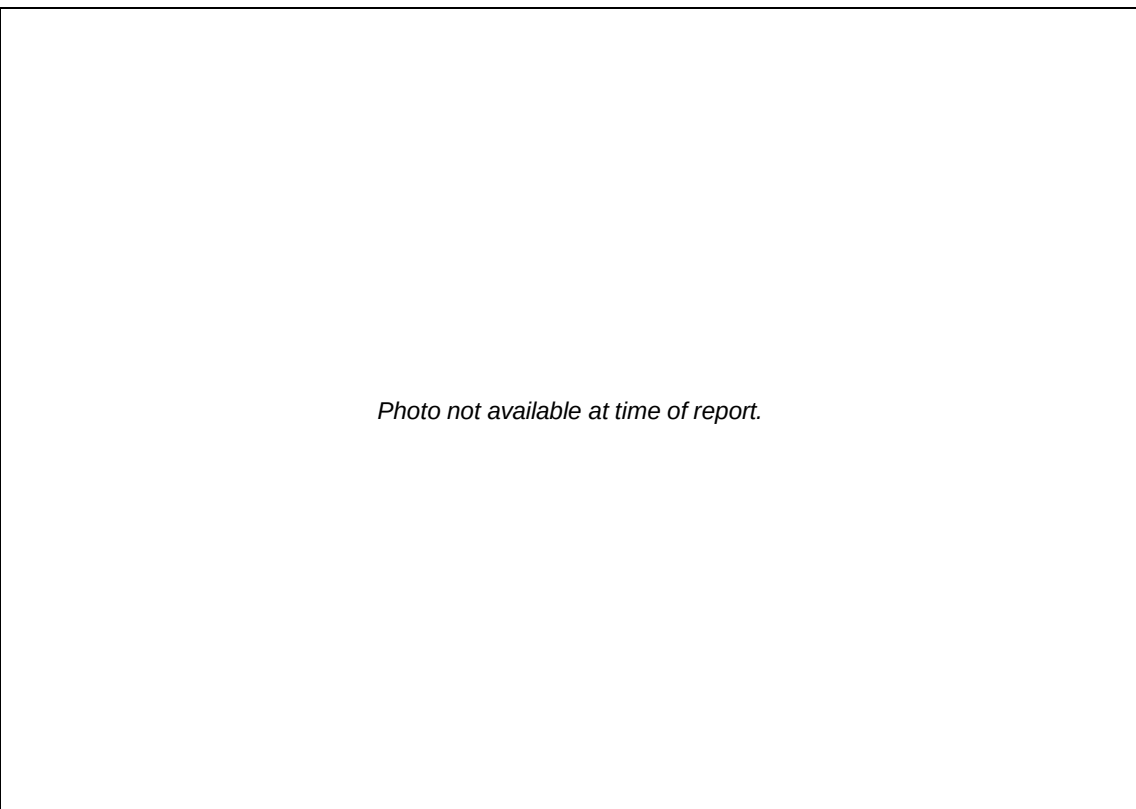
Core No. B-005-0-23	Date: 3/20/2023	
Core Profile: 10" Concrete 1" Asphalt 10" Concrete 4" Aggregate Base		

Photo not available at time of report.

Core No. B-006-0-23	Date: 4/13/2023
Core Profile: 13-1/2" Concrete	

A photograph of a cylindrical concrete core sample. The sample is light gray with dark, irregular spots and inclusions. It is marked with the identifier "B-006" in yellow paint. A wooden folding ruler is placed horizontally above the sample, showing measurements in inches from 1 to 14. The sample is resting on a dark, textured surface with a diamond plate pattern. A portion of a yellow and blue circular object is visible on the right edge.



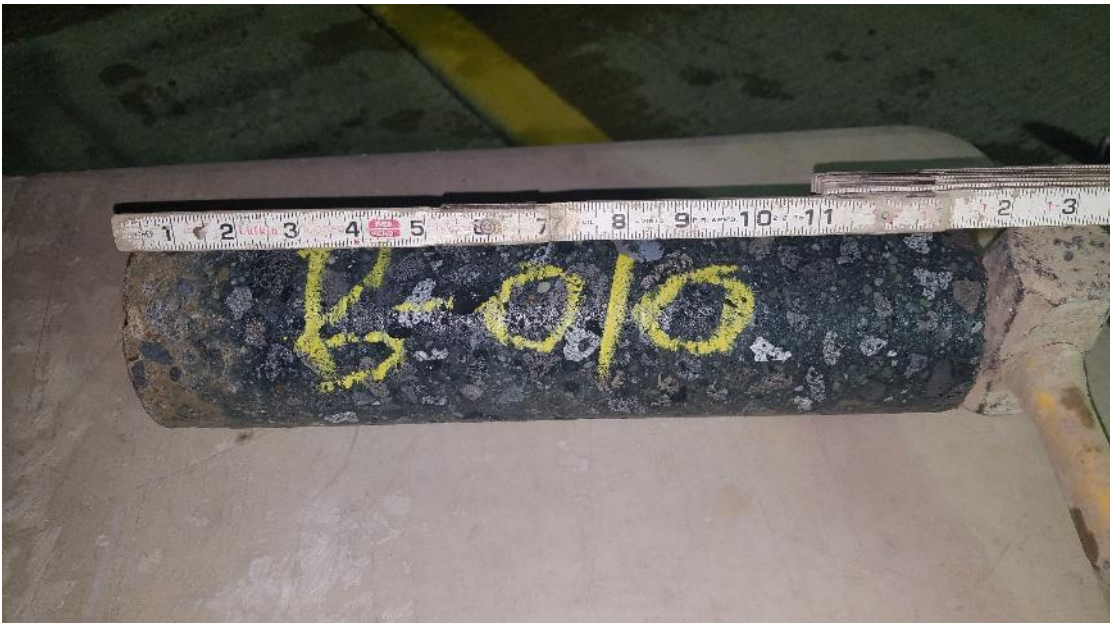
Project Name:
LAK-90-6.99**Site Location:**
Lake County, OH**PID.:**
116955**Core No.**
B-007-0-23**Date:**
3/20/2023**Core Profile:**12-3/4" Concrete
12" Aggregate Base**Core No.**
B-008-0-23**Date:**
4/13/2023**Core Profile:**

13-1/4" Concrete



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-009-0-23	Date: 3/20/2023	
Core Profile: 13-1/2" Concrete 10" Aggregate Base		

Core No. B-010-0-23	Date: 4/13/2023	
Core Profile: 14-1/2" Concrete		

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-011-0-23	Date: 3/20/2023	<i>Photo not available at time of report.</i>
Core Profile: 14" Concrete		

Core No. B-012-0-23	Date: 4/10/2023
Core Profile: 12" Concrete 1-1/2" Asphalt 9.5" Concrete 5" Aggregate base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-013-0-23	Date: 3/20/2023	<i>Photo not available at time of report.</i>
Core Profile: 15-1/4" Concrete 2-3/4" Aggregate Base		

Core No. B-014-0-23	Date: 4/10/2023
Core Profile: 13" Concrete 5" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-015-0-23	Date: 3/29/2023
Core Profile: 13-3/4" Concrete 4-1/4" Aggregate Base	

A photograph of a cylindrical concrete core sample. The sample is dark grey/black on the outside, showing aggregate, and lighter grey on the inside, showing concrete. A white label with "B-015" and "PC-1" is attached to the left side. A wooden measuring tape is placed horizontally above the sample, showing measurements from 1 to 14 inches. The sample is resting on a wooden surface. A cardboard box with "S/S JAR" is visible in the background.

Core No. B-016-0-23	Date: 4/10/2023
Core Profile: 13" Concrete 1-1/2" Asphalt 9-3/4" Concrete	

A photograph of a concrete core sample, labeled "B-016" in yellow paint. The core is a cylindrical section of pavement, showing three distinct layers: a top layer of concrete, a middle layer of asphalt, and a bottom layer of concrete. A measuring tape is placed horizontally above the core to provide a scale. In the background, there is a cardboard box with the text "#15114 15x17x4" and a circular seal. A hammer is also visible in the background.

Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-017-0-23

Date:
3/29/2023

Core Profile:

13-3/4" Concrete
4-1/4" Aggregate Base



Core No.
B-018-0-23

Date:
4/13/2023

Core Profile:

14" Concrete
7.5" Aggregate Base



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-019-0-23	Date: 3/29/2023
Core Profile: 14-1/4" Concrete 5-3/4" Aggregate Base	



Core No. B-020-0-23	Date: 4/13/2023
Core Profile: 13-1/2" Concrete 5" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-021-0-23	Date: 3/30/2023
Core Profile: 13-1/2" Concrete	



Core No. B-022-0-23	Date: 4/7/2023
Core Profile: 1-1/2" Asphalt Patch 8" Concrete 1-1/4" Asphalt 10-1/4" Concrete 5" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-023-0-23	Date: 3/21/2023	<i>Photo not available at time of report.</i>
Core Profile: 10-1/2" Concrete 1" Asphalt 8-1/2" Concrete 8" Aggregate Base		

Core No. B-024-0-23	Date: 4/7/2023
Core Profile: 1-1/2" Asphalt Patch 7-3/4" Concrete 1" Asphalt 10" Concrete 4" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-025-0-23	Date: 3/21/2023	<i>Photo not available at time of report.</i>
Core Profile: 14-1/2" Concrete 3-1/2" Aggregate Base		

Core No. B-026-0-23	Date: 4/7/2023
Core Profile: 13-1/2" Concrete	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-027-0-23	Date: 3/21/2023	
Core Profile: 10-1/2" Concrete 1-1/4" Asphalt 9-1/2" Concrete		

Photo not available at time of report.

Core No. B-028-0-23	Date: 4/13/2023
Core Profile: 14-3/4" Concrete 5" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-029-0-23	Date: 4/12/2023	<i>Photo not available at time of report.</i>
Core Profile: 15-1/2" Concrete		

Core No. B-030-0-23	Date: 3/30/2023
Core Profile: 13-3/4" Concrete 6" Aggregate Base	

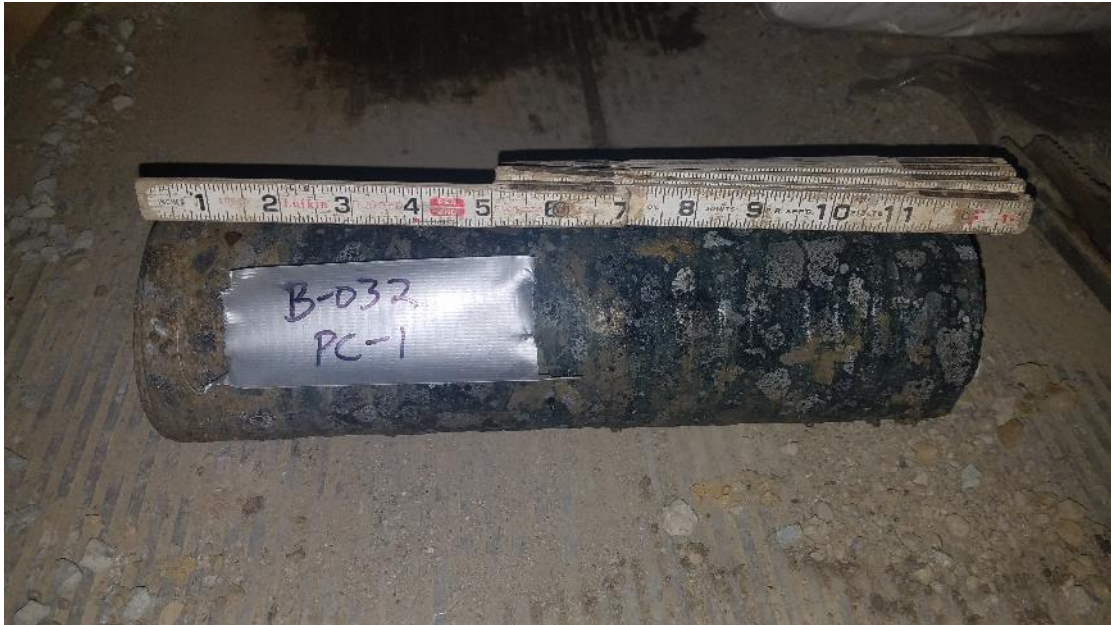


Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-031-0-23	Date: 4/12/2023	
Core Profile: 13" Concrete		

Photo not available at time of report.

Core No. B-032-0-23	Date: 3/30/2023
Core Profile: 12-1/4" Concrete 5-3/4" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-033-0-23	Date: 4/12/2023	
Core Profile: 14-1/2" Concrete		

Photo not available at time of report.

Core No. B-034-0-23	Date: 3/30/2023
Core Profile: 13-1/2" Concrete 4-1/2" Aggregate Base	



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-035-0-23

Date:
4/6/2023

Core Profile:



Core No.
B-036-0-23

Date:
3/30/2023

Core Profile:

13-3/4" Concrete
4-1/4" Aggregate Base



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-037-0-23	Date: 4/6/2023
Core Profile: 13-1/2" Concrete 6" Aggregate Base	

A photograph of a cylindrical concrete core sample. The core is dark and textured, showing aggregate and rebar. It is labeled "B-037" in yellow paint. A ruler is placed above the core for scale, showing it is approximately 11 inches long. The core is resting on a wooden surface. A yellow bucket is visible in the background.

Core No. B-038-0-23	Date: 3/30/2023
Core Profile: 14-1/2" Concrete 3-1/2" Aggregate Base	

A photograph of a cylindrical concrete core sample. The core is dark grey and shows a rough, aggregate-rich texture. A white label with black text "B-038" and "PC-1" is attached to the side. A wooden ruler is placed horizontally above the core, showing measurements in inches. The core is resting on a wooden surface, and a concrete aggregate base is visible below it.

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-039-0-23	Date: 4/6/2023
Core Profile: 10-1/2" Concrete 1-1/4" Asphalt 10-1/4" Concrete 2" Aggregate Base	



Core No. B-040-0-23	Date: 3/21/2023	
Core Profile: 10-3/4" Concrete 1-1/4" Asphalt 9-3/4" Concrete		 <

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-041-0-23	Date: 4/12/2023
Core Profile: 10-1/2" Concrete 1-1/4" Asphalt 10-1/4" Concrete 4-3/4" Aggregate Base	

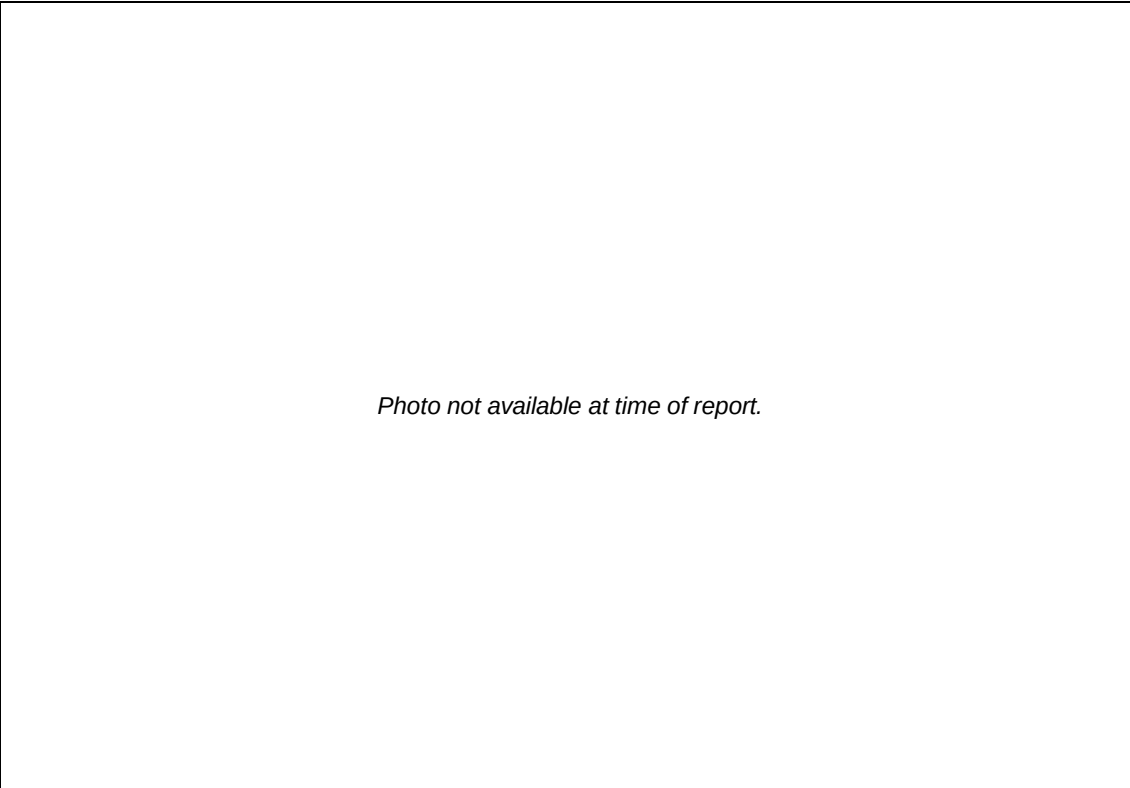


Core No. B-042-0-23	Date: 3/21/2023	
Core Profile: 14-3/4" Concrete 5-1/4" Aggregate Base		

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-043-0-23	Date: 4/6/2023
Core Profile: 12" Concrete 3" Aggregate Base	



Core No. B-044-0-23	Date: 3/21/2023	
Core Profile: 13-1/2" Concrete 4" Aggregate Base		

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-045-0-23	Date: 4/6/2023	
Core Profile: 15-1/4" Concrete 4" Aggregate Base		

Core No. B-046-0-23	Date: 3/31/2023	
Core Profile: 13-1/4" Concrete 4-3/4" Aggregate Base		

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-047-0-23	Date: 4/6/2023
Core Profile: 1-3/4" Asphalt Patch 13" Concrete 5" Aggregate Base	



Core No. B-048-0-23	Date: 4/2/2023
Core Profile: 13-3/4" Concrete 7" Aggregate Base	



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-049-0-23

Date:
4/2/2023

Core Profile:

15-1/2" Concrete
4" Aggregate Base



Core No.
B-050-0-23

Date:
4/12/2023

Core Profile:

13-1/2" Concrete
5" Aggregate Base



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-051-0-23	Date: 3/21/2023	Core Profile: 13-1/4" Concrete 4-1/4" Aggregate Base <i>Photo not available at time of report.</i>

Core No. B-052-0-23	Date: 4/6/2023
Core Profile: 9-1/2" Concrete 1-1/4" Asphalt 9-3/4" Concrete 6" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-053-0-23	Date: 3/21/2023	<i>Photo not available at time of report.</i>
Core Profile: 14" Concrete 3-1/4" Aggregate Base		

Core No. B-054-0-23	Date: 4/6/2023
Core Profile: 15-1/4" Concrete 5" Aggregate base	



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-055-0-23

Date:
3/23/2023

Core Profile:

12" Concrete
1" Asphalt
9-1/2" Concrete



Core No.
B-056-0-23

Date:
4/6/2023

Core Profile:

9-1/2" Concrete
1-1/4" Asphalt
9-3/4" Concrete



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-057-0-23	Date: 4/3/2023
Core Profile: 10" Concrete 1" Asphalt 10" Concrete 2-1/2" Aggregate Base	



Core No. B-058-0-23	Date: 4/12/2023
Core Profile: 14" Concrete 1-1/2" Asphalt 10" Concrete 4" Aggregate Base	



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-059-0-23

Date:
3/23/2023

Core Profile:

13-1/2" Concrete
1-1/4" Asphalt
10" Concrete



Core No.
B-060-0-23

Date:
3/23/2023

Core Profile:

9-3/4" Concrete
1-1/4" Asphalt
9-3/4" Concrete
5" Aggregate Base



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-061-0-23	Date: 3/24/2023	
Core Profile: 13-1/4" Concrete 10" Aggregate Base		

Core No. B-062-0-23	Date: 4/5/2023	
Core Profile: 15-1/4" Concrete 6" Aggregate Base		

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-063-0-23	Date: 3/24/2023
Core Profile: 13-1/2" Concrete 1-1/4" Asphalt 9-3/4" Concrete	



Core No. B-064-0-23	Date: 4/5/2023
Core Profile: 12-1/2" Concrete 1-1/2" Asphalt 9-1/2" Concrete 5" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-065-0-23	Date: 4/3/2023
Core Profile: 8-1/2" Concrete 1-1/4" Asphalt 10-1/4" Concrete 6" Aggregate Base	



Core No. B-066-0-23	Date: 4/12/2023
Core Profile: 13-1/4" Concrete 1-1/2" Asphalt 10" Concrete 6" Aggregate base	



Project Name:
LAK-90-6.99**Site Location:**
Lake County, OH**PID.:**
116955**Core No.**
B-067-0-23**Date:**
3/24/2023**Core Profile:**

12-1/2" Concrete
1-1/2" Asphalt
10-1/4" Concrete

**Core No.**
B-068-0-23**Date:**
4/5/2023**Core Profile:**

9-3/4" Concrete
1-1/4" Asphalt
10" Concrete
7" Aggregate Base



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-069-0-23	Date: 3/24/2023
Core Profile: 14-3/4" Concrete 9" Aggregate Base	

A photograph of a concrete core sample. The sample is a dark, cylindrical piece of material, likely concrete, resting on a wooden surface. A white label with the text "B-069" and "PC-1" is attached to the side of the sample. A wooden ruler is placed horizontally above the sample, showing a length of approximately 14.75 inches. To the right of the sample, there is a roll of red tape. The background shows a wooden floor and a yellow object.

Core No. B-070-0-23	Date: 4/5/2023
Core Profile: 12-1/2" Concrete 3" Aggregate Base	



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-071-0-23

Date:
3/26/2023

Core Profile:

13-1/2" Concrete
1-1/4" Asphalt
10-1/2" Concrete



Core No.
B-072-0-23

Date:
4/11/2023

Core Profile:

13-1/4" Concrete
1-1/4" Asphalt
10" Concrete
2" Aggregate Base



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-073-0-23

Date:
4/3/2023

Core Profile:

9-3/4" Concrete
1-1/4" Asphalt
10-1/2" Concrete
6" Aggregate Base



Core No.
B-074-0-23

Date:
4/11/2023

Core Profile:

10" Concrete
1" Asphalt
10-1/2" Concrete
4" Aggregate Base



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-075-0-23	Date: 4/3/2023
Core Profile: 10-1/2" Concrete 1" Asphalt 10-1/2" Concrete 3" Aggregate Base	



Core No. B-076-0-23	Date: 4/4/2023
Core Profile: 10" Concrete 1-1/4" Asphalt 10" Concrete 5" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-077-0-23	Date: 3/26/2023
Core Profile: 13" Concrete 6" Aggregate Base	



Core No. B-078-0-23	Date: 3/27/2023
Core Profile: 10" Concrete 1-1/2" Asphalt 10" Concrete	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-079-0-23	Date: 4/4/2023
Core Profile: 14" Concrete 6" Aggregate Base	



Core No. B-080-0-23	Date: 4/3/2023
Core Profile: 11" Concrete 1-1/4" Asphalt 10" Concrete 5" Aggregate Base	



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-081-0-23

Date:
4/11/2023

Core Profile:

11" Concrete
1-1/4" Asphalt
9-3/4" Concrete
5" Aggregate Base



Core No.
B-082-0-23

Date:
3/27/2023

Core Profile:

10-3/4" Concrete
2" Asphalt
9-3/4" Concrete



Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-083-0-23

Date:
4/4/2023

Core Profile:

12-1/4" Concrete
3" Aggregate Base



Core No.
B-084-0-23

Date:
3/27/2023

Core Profile:

14-1/2" Concrete
7" Aggregate Base





PAVEMENT CORE PHOTO LOGS

Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-091-0-23

Date:
3/19/2023

Core Profile:

12-3/4" Concrete

Photo not available at time of report.

Core No.
B-092-0-23

Date:
3/19/2023

Core Profile:

13" Concrete
9" Aggregate Base

Photo not available at time of report.



PAVEMENT CORE PHOTO LOGS

Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-093-0-23

Date:
3/19/2023

Core Profile:

13-1/4" Concrete
5" Aggregate Base

Photo not available at time of report.

Core No.
B-094-0-23

Date:
3/19/2023

Core Profile:

13-1/2" Concrete
5-1/2" Aggregate Base

Photo not available at time of report.

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-095-0-23	Date: 4/11/2023
Core Profile: 13" Concrete 7" Aggregate Base	



Core No. B-096-0-23	Date: 4/11/2023
Core Profile: 12" Concrete 3" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-097-0-23	Date: 4/4/2023	
Core Profile: 13-1/4" Concrete 3" Aggregate Base		

Core No. B-098-0-23	Date: 4/4/2023	
Core Profile: 13" Concrete 5" Aggregate Base		



PAVEMENT CORE PHOTO LOGS

Project Name:
LAK-90-6.99

Site Location:
Lake County, OH

PID.:
116955

Core No.
B-099-0-23

Date:
3/19/2023

Core Profile:

12-1/2" Concrete
6" Aggregate Base

Photo not available at time of report.

Core No.
B-100-0-23

Date:
3/20/2023

Core Profile:

8-3/4" Concrete
3" Aggregate Base

Photo not available at time of report.

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-101-0-23	Date: 3/20/2023	
Core Profile: 9-1/4" Concrete 4" Aggregate Base		

Photo not available at time of report.

Core No. B-102-0-23	Date: 3/27/2023
Core Profile: 14-1/4" Concrete 6" Aggregate Base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-103-0-23	Date: 4/4/2023
Core Profile: 10" Concrete 8" Aggregate Base	



Core No. B-104-0-23	Date: 4/4/2023
Core Profile: 9-3/4" Concrete 4" Aggregate Base	

A photograph of a cylindrical concrete core sample. The core is light gray with visible aggregate. It is marked with yellow paint that reads "B-104". A wooden ruler is placed horizontally above the core, showing measurements from 1 to 11 inches. The core is resting on a corrugated metal surface. In the background, there is a black plastic bag and some other construction materials.

Project Name:
LAK-90-6.99**Site Location:**
Lake County, OH**PID.:**
116955**Core No.**
B-105-0-23**Date:**
4/4/2023**Core Profile:**9" Concrete
9" Aggregate Base**Core No.**
B-106-0-23**Date:**
4/4/2023**Core Profile:**13" Concrete
4" Aggregate Base

Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-107-0-23	Date: 3/20/2023
Core Profile: 13-3/4" Concrete	



Core No. B-108-0-23	Date: 4/11/2023
Core Profile: 4-1/2" Asphalt 4-1/2" Concrete 5" Aggregate base	



Project Name: LAK-90-6.99	Site Location: Lake County, OH	PID.: 116955
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Core No. B-109-0-23	Date: 3/20/2023
Core Profile: 12-3/4" Concrete 5" Aggregate Base	



Core No. B-110-0-23	Date: 4/12/2023	
Core Profile: 14" Concrete		

Photo not available at time of report.

Appendix E

Summary Tabulation of Soil Sulfate Testing

Summary of Soil Sufate Testing, PID 116955, LAK-90-6.99

Boring	Top Depth (ft)	Bottom Depth (ft)	SO4 (ppm)
B-001-0-23	1.5	3.0	393
B-002-0-23	1.5	3.0	300
B-003-0-23	1.5	3.0	320
B-004-0-23	1.5	3.0	120
B-005-0-23	2.1	3.5	893
B-006-0-23	4.5	6.0	1460
B-006-0-23	1.6	3.0	413
B-007-0-23	2.1	3.0	140
B-009-0-23	1.9	3.0	260
B-010-0-23	1.5	1.8	220
B-011-0-23	3.0	4.5	907
B-012-0-23	2.5	4.0	320
B-013-0-23	3.0	4.5	940
B-014-0-23	1.5	3.0	500
B-014-0-23	3.0	4.5	100
B-015-0-23	1.8	3.0	580
B-016-0-23	2.5	4.0	540
B-017-0-23	1.5	3.0	540
B-018-0-23	1.8	3.0	400
B-019-0-23	1.7	3.0	300
B-020-0-23	1.5	3.0	1120
B-021-0-23	1.7	3.0	200
B-022-0-23	2.1	3.5	547
B-023-0-23	2.0	3.5	660
B-024-0-23	2.1	3.5	613
B-025-0-23	1.5	2.4	520
B-026-0-23	1.5	2.3	400
B-027-0-23	2.0	3.5	667
B-028-0-23	1.7	3.0	460
B-029-0-23	1.5	3.0	600
B-030-0-23	1.6	3.0	553
B-031-0-23	1.5	3.0	593
B-032-0-23	1.5	3.0	420
B-033-0-23	1.5	3.0	1347
B-034-0-23	1.5	3.0	640
B-035-0-23	1.5	2.3	1520
B-036-0-23	1.5	3.0	1953
B-037-0-23	3.0	4.5	1500
B-037-0-23	4.5	6.0	480
B-038-0-23	1.5	3.0	220
B-039-0-23	2.0	3.5	1800

B-040-0-23	2.0	3.5	1160
B-041-0-23	2.2	3.5	1820
B-042-0-23	1.5	2.3	1880
B-043-0-23	1.5	1.9	1880
B-044-0-23	1.5	3.0	1807
B-045-0-23	1.6	2.3	4347
B-046-0-23	1.5	2.2	880
B-047-0-23	2.0	3.0	320
B-048-0-23	1.7	1.9	1633
B-049-0-23	1.6	2.2	1873
B-050-0-23	1.5	3.0	720
B-051-0-23	1.5	3.0	1887
B-052-0-23	2.2	3.5	720
B-053-0-23	1.5	3.0	580
B-054-0-23	1.7	2.2	660
B-055-0-23	2.3	3.5	740
B-056-0-23	2.4	3.5	360
B-057-0-23	2.0	3.5	280
B-058-0-23	2.5	4.0	340
B-059-0-23	2.5	3.5	320
B-060-0-23	2.1	3.5	333
B-061-0-23	2.0	3.0	480
B-062-0-23	1.8	2.3	4000
B-063-0-23	2.0	3.2	440
B-064-0-23	2.4	3.5	687
B-065-0-23	2.3	3.5	540
B-066-0-23	2.5	4.0	1060
B-067-0-23	2.3	2.8	573
B-068-0-23	2.4	3.5	240
B-069-0-23	2.0	3.0	133
B-070-0-23	1.5	3.0	80
B-071-0-23	2.8	3.5	700
B-072-0-23	2.3	3.5	960
B-073-0-23	2.3	3.5	580
B-074-0-23	2.1	3.5	640
B-075-0-23	2.0	3.5	560
B-076-0-23	2.2	3.5	500
B-077-0-23	1.6	3.0	240
B-078-0-23	2.4	3.5	320
B-079-0-23	1.7	3.0	493
B-080-0-23	2.3	3.5	100
B-081-0-23	2.3	3.5	960
B-082-0-23	2.5	3.5	540
B-083-0-23	1.5	2.8	5493

B-084-0-23	1.8	2.5	1593
B-085-1-23	1.0	2.5	1760
B-086-0-23	1.0	2.5	80
B-087-0-23	1.6	2.0	1400
B-088-0-23	1.0	2.5	640
B-089-0-23	1.5	2.5	760
B-090-0-23	1.0	2.5	780
B-091-0-23	1.5	3.0	1440
B-092-0-23	1.9	3.0	280
B-096-0-23	3.0	4.5	7840
B-096-0-23	1.5	3.0	1520
B-097-0-23	1.5	3.0	1220
B-098-0-23	1.5	2.2	1240
B-099-0-23	1.5	3.0	300
B-100-0-23	1.5	3.0	333
B-101-0-23	1.5	3.0	200
B-102-0-23	1.7	3.0	200
B-103-0-23	1.5	3.0	900
B-104-0-23	1.5	3.0	1600
B-105-0-23	1.5	3.0	1533
B-106-0-23	1.5	3.0	1953
B-107-0-23	1.5	3.0	560
B-108-0-23	1.2	2.5	640
B-109-0-23	1.5	3.0	5840
B-110-0-23	1.5	3.0	1947
B-111-0-23	1.5	3.0	1800
B-112-0-23	1.0	2.5	1920
B-113-0-23	1.0	2.5	5467
B-114-0-23	1.0	2.5	1700
B-115-0-23	1.0	2.5	340
B-116-0-23	1.0	2.5	320
B-117-0-23	1.0	2.5	320

Appendix F

Certification of Geotechnical Plan Review



AECOM
1300 East 9th Street
Suite 500
Cleveland, OH 44144

Date:
July 24, 2026

Mr. Andrew Chudzik, P.E.
Geotechnical Engineer
ODOT Office of Geotechnical Engineering
1980 West Broad Street, Mail Stop 5090
Columbus, OH 43223

**Subject: Certification of Geotechnical Plan Review – Final
LAK-90-6.99
PID 116955**

Dear Ms. Kenzig,

As the Geotechnical Engineer of Record for the subject project, I certify that I have reviewed the Final plans for the subject project.

Respectfully,

A handwritten signature in black ink that reads "Erik J. Bogen". The signature is written in a cursive, flowing style.

Erik J. Bogen, P.E.
Geotechnical Engineer

cc: Michael Woodring, P.E. (AECOM)