



PAVEMENT DATA REPORT

GEA-006-3.51 (PID 110950)
SR-6 and SR-44, CHARDON, OHIO

SME Project Number: 092062.16
APRIL 12, 2024





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Kirtland, OH 44094-8501

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www.sme-usa.com

April 12, 2024

Mr. Kyle J. Dohlen, PE
Transportation Engineer
Planning and Engineering
ODOT District 12
5500 Transportation Boulevard
Garfield Heights, Ohio 44125

Via E-Mail: Kyle.Dohlen@dot.ohio.gov

RE: GEA-006-3.51 - Pavement Cores
VAR-District 12/District 3 Subs Inv for Pvmt & Bridges
Chardon, Ohio
PID No. 110950
Task D-12-16

Dear Mr. Dohlen:

The attached data report presents the results of our pavement exploration for GEA-006-3.51 (SR-6 and SR-44) in Chardon, Ohio.

If you have questions, please feel free to call.

Sincerely,

SME

A handwritten signature in blue ink that reads "Brendan P. Lieske".

Brendan P. Lieske, PE
Senior Consultant/Project Manager

Enclosure: SME Pavement Data Report Dated: April 12, 2024

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1. INTRODUCTION

This data report presents the results of our pavement exploration for the GEA-006-3.51 (SR-6 and SR-44) project in Chardon, Ohio. Existing conditions were evaluated by performing pavement coring at 13 locations, designated X-001-0-24 to X-013-0-24. This exploration was performed in general accordance with the current ODOT Specifications for Geotechnical Explorations and SME's proposal, dated February 13, 2024. The pavement core samples were taken to our Kirtland laboratory for visual classification. No recommendations were requested from ODOT at this time.

2. RECONNAISSANCE

SME visited the project site on March 20, 2024, to perform site reconnaissance and mark the core locations. The total project length is approximately five miles, in and around the city of Chardon, Ohio. Through the project extents, the roadways within the project limits consist of two or three-lane, asphalt paved roads.

3. EXPLORATION

Pavement conditions were identified by a field exploration program consisting of 13 pavement cores designated X-001-0-24 to X-013-0-24. SME visited the site on March 28, 2024. And March 29, 2024, to perform our field exploration. Coring equipment consisted of a six-inch diameter core barrel with water. We cored the pavement until we reached the underlying base material. Where base material was present, we obtained a sample for visual classification and measured its thickness. The core holes were patched with asphalt cold patch. The approximate core locations are shown below and on the attached *Core Location Diagrams*. The before and after photographs of the core locations are shown in Figures 1 through 26.

Core samples were marked with the location number after each sample was obtained. Aggregate base samples were placed in clean glass jars and marked with project number, core number, and layer thickness. The samples were taken to our Kirtland laboratory where they were visually classified.



FIGURE NOS. 1 & 2: Before and after photographs of X-001-0-24.



FIGURE NOS. 3 & 4: Before and after photographs of X-002-0-24.



FIGURE NOS. 5 & 6: Before and after photographs of X-003-0-24.



FIGURE NOS. 7 & 8: Before and after photographs of X-004-0-24.



FIGURE NOS. 9 & 10: Before and after photographs of X-005-0-24.



FIGURE NOS. 11 & 12: Before and after photographs of X-006-0-24.



FIGURE NOS. 13 & 14: Before and after photographs of X-007-0-24.



FIGURE NOS. 15 & 16: Before and after photographs of X-008-0-24.



FIGURE NOS. 17 & 18: Before and after photographs of X-009-0-24.



FIGURE NOS. 19 & 20: Before and after photographs of X-010-0-24.



FIGURE NOS. 21 & 22: Before and after photographs of X-011-0-24.



FIGURE NOS. 23 & 24: Before and after photographs of X-012-0-24.



FIGURE NOS. 25 & 26: Before and after photographs of X-013-0-24.

4. FINDINGS

Table 1 below shows a summary of the conditions encountered. See the attached *Pavement Core Photo Log* for detailed information for each core.

TABLE 1: EXISTING PAVEMENT LAYER THICKNESS SUMMARY

CORE NO.	ASPHALT THICKNESS (IN) ¹	CONCRETE THICKNESS (IN) ¹	BRICK THICKNESS (IN) ¹	AGGREGATE BASE THICKNESS (IN)
X-001-0-24	13.75	--	--	11.5
X-002-0-24	13	--	--	8.5
X-003-0-24	14	--	--	--
X-004-0-24	5.5	--	4.25	--
X-005-0-24	6.5	--	3	3.5
X-006-0-24	5.75	8	--	--
X-007-0-24	12	--	--	8
X-008-0-24	12	--	--	9
X-009-0-24	6.25	8.75	--	--
X-010-0-24	7.25	--	4.25	--
X-011-0-24	10.5	--	--	9
X-012-0-24	12	--	--	7
X-013-0-24	5	7	--	--
MIN	5	7	3	3.5
MAX	14	8.75	4.25	11.5
AVG	9.5	8	3.75	7.5

1. Layer thickness measurements are rounded to the nearest one-quarter inch.

Each sample location where concrete was encountered was observed to have 0.25 to 0.75-inch diameter reinforcing steel. The aggregate base encountered at the sample locations consisted of recycled concrete and slag as well as crushed limestone.

5. SIGNATURES

PREPARED BY:

Brian Mercado

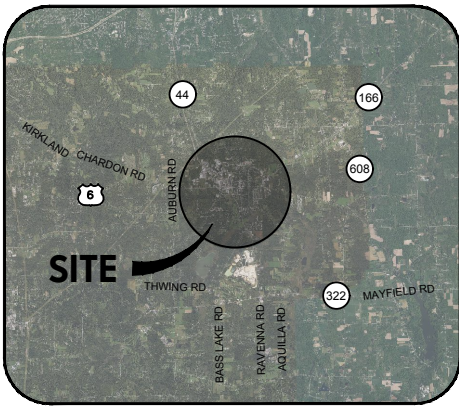
Brian A. Mercado
Staff Engineer

REVIEWED BY:

Brendan Lieske

Brendan P. Lieske, PE
Senior Consultant

APPENDIX A
CORE LOCATION DIAGRAM
PAVEMENT CORE PHOTO LOG



LOCATION MAP

NOT TO SCALE

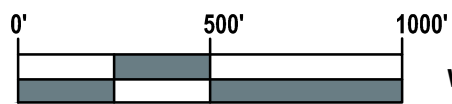


LEGEND

 APPROXIMATE CORE LOCATION

NOTE:

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO WITH AN IMAGE DATE OF 11-06-2021.



GRAPHIC SCALE: 1" = 500'



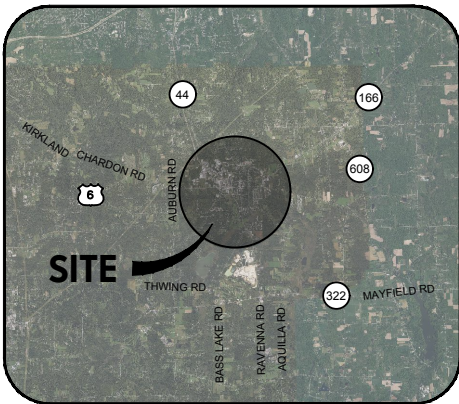
No.	Revision Date	Date	04-11-2024
		Drawn By	CRC/JAB
		Designed By	BAM
		Scale	AS NOTED
		Project	092062.16

CORE LOCATION DIAGRAM
GEA-006-3.51
SR-6 AND SR-44,
CHARDON, OHIO



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Figure No. 27



LOCATION MAP

NOT TO SCALE

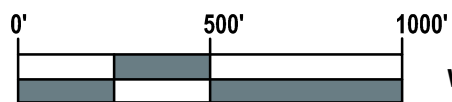


LEGEND

 APPROXIMATE CORE LOCATION

NOTE:

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO WITH AN IMAGE DATE OF 11-06-2021.



GRAPHIC SCALE: 1" = 500'



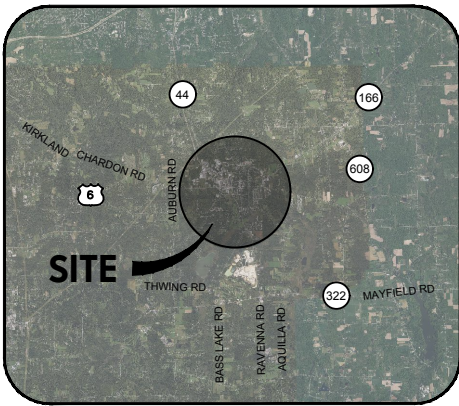
No.	Revision Date	Date	04-11-2024
		Drawn By	CRC/JAB
		Designed By	BAM
		Scale	AS NOTED
		Project	092062.16

CORE LOCATION DIAGRAM
GEA-006-3.51
SR-6 AND SR-44,
CHARDON, OHIO



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Figure No. 28



LOCATION MAP

NOT TO SCALE

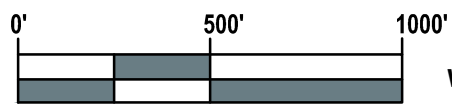


LEGEND

 APPROXIMATE CORE LOCATION

NOTE:

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO WITH AN IMAGE DATE OF 11-06-2021.



GRAPHIC SCALE: 1" = 500'



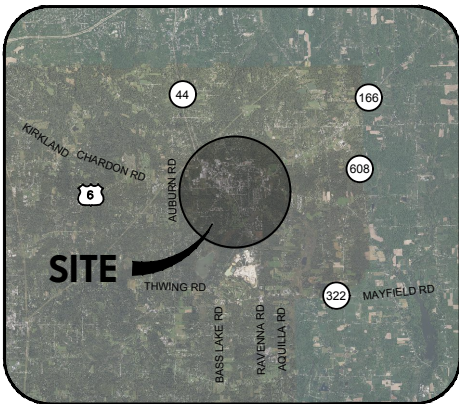
No.	Revision Date	Date	04-11-2024
		Drawn By	CRC/JAB
		Designed By	BAM
		Scale	AS NOTED
		Project	092062.16

CORE LOCATION DIAGRAM
GEA-006-3.51
SR-6 AND SR-44,
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Figure No. 29



LOCATION MAP

NOT TO SCALE

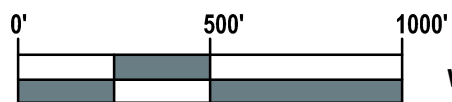


LEGEND

 APPROXIMATE CORE LOCATION

NOTE:

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO WITH AN IMAGE DATE OF 11-06-2021.



GRAPHIC SCALE: 1" = 500'



No.	Revision Date	Date	04-11-2024
		Drawn By	CRC/JAB
		Designed By	BAM
		Scale	AS NOTED
		Project	092062.16

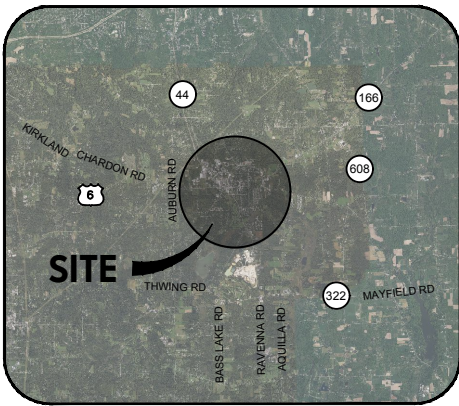
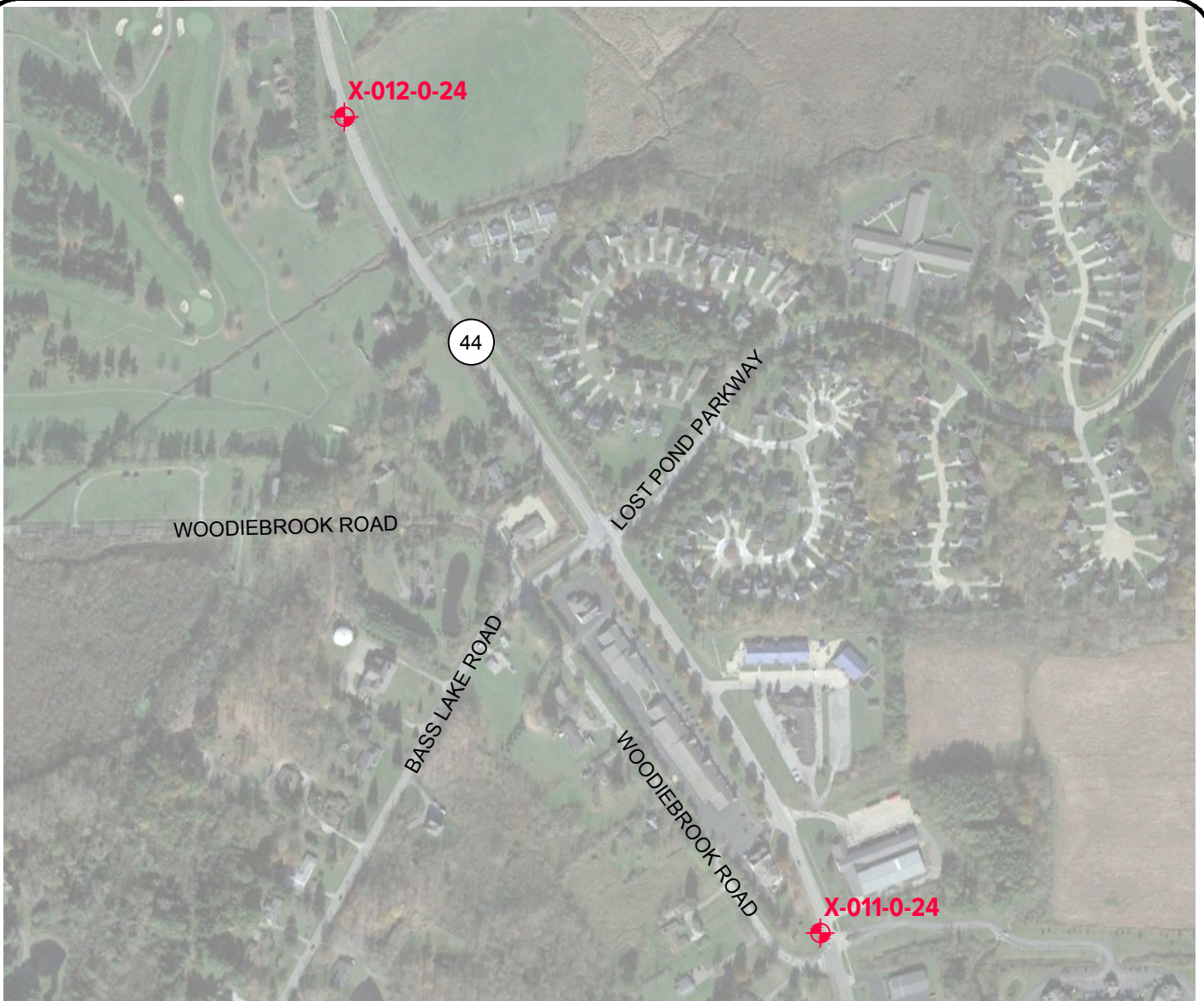
CORE LOCATION DIAGRAM

**GEA-006-3.51
SR-6 AND SR-44,
CHARDON, OHIO**



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Figure No. 30



LOCATION MAP

NOT TO SCALE



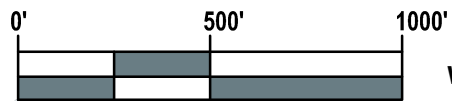
LEGEND



APPROXIMATE CORE LOCATION

NOTE:

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO WITH AN IMAGE DATE OF 11-06-2021.



GRAPHIC SCALE: 1" = 500'



No.	Revision Date	Date	04-11-2024
		Drawn By	CRC/JAB
		Designed By	BAM
		Scale	AS NOTED
		Project	092062.16

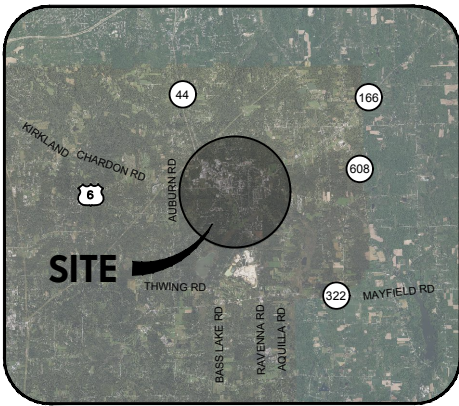
CORE LOCATION DIAGRAM

**GEA-006-3.51
SR-6 AND SR-44,
CHARDON, OHIO**



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Figure No. 31



LOCATION MAP

NOT TO SCALE



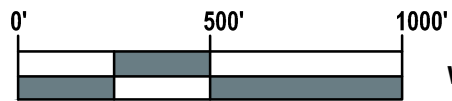
LEGEND



APPROXIMATE CORE LOCATION

NOTE:

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO WITH AN IMAGE DATE OF 11-06-2021.



GRAPHIC SCALE: 1" = 500'



No.	Revision Date	Date	04-11-2024
		Drawn By	CRC/JAB
		Designed By	BAM
		Scale	AS NOTED
		Project	092062.16

CORE LOCATION DIAGRAM

**GEA-006-3.51
SR-6 AND SR-44,
CHARDON, OHIO**



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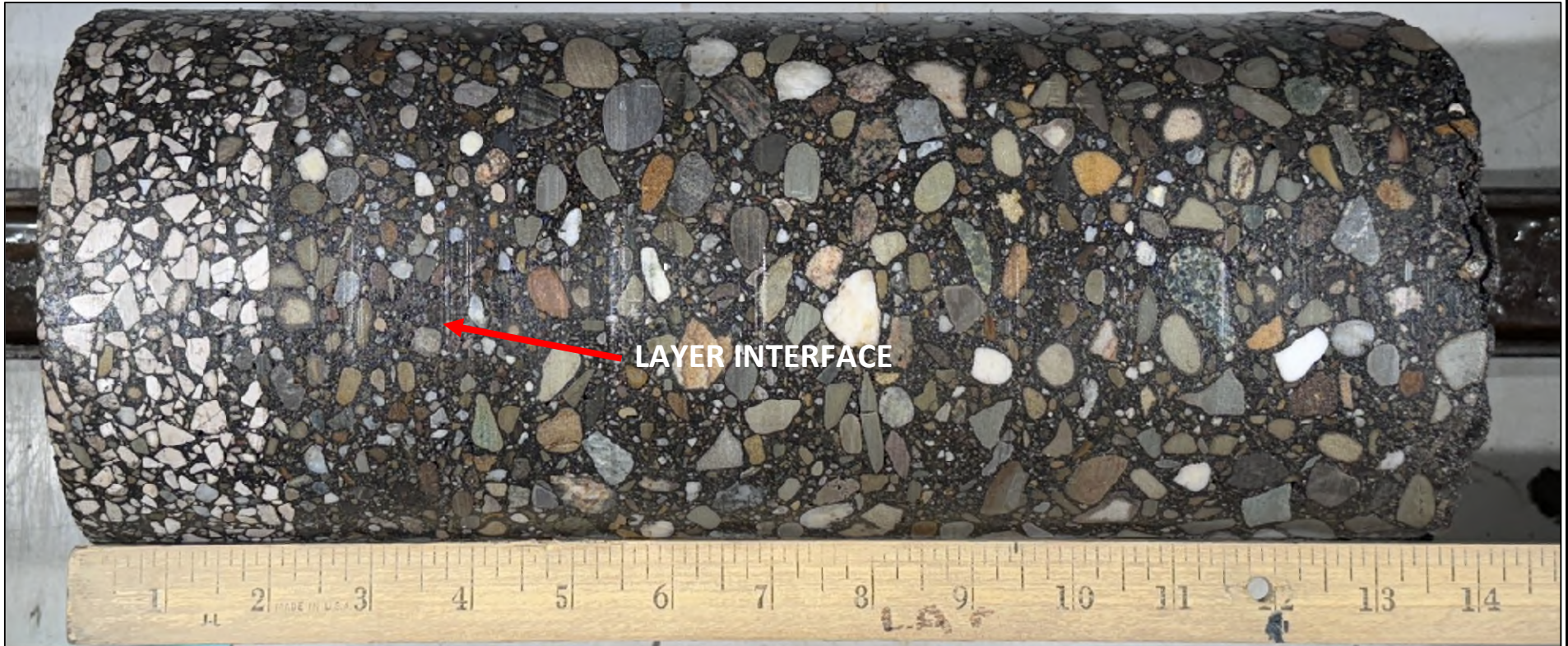
Figure No. 32



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-001-0-24



LAYER INTERFACE

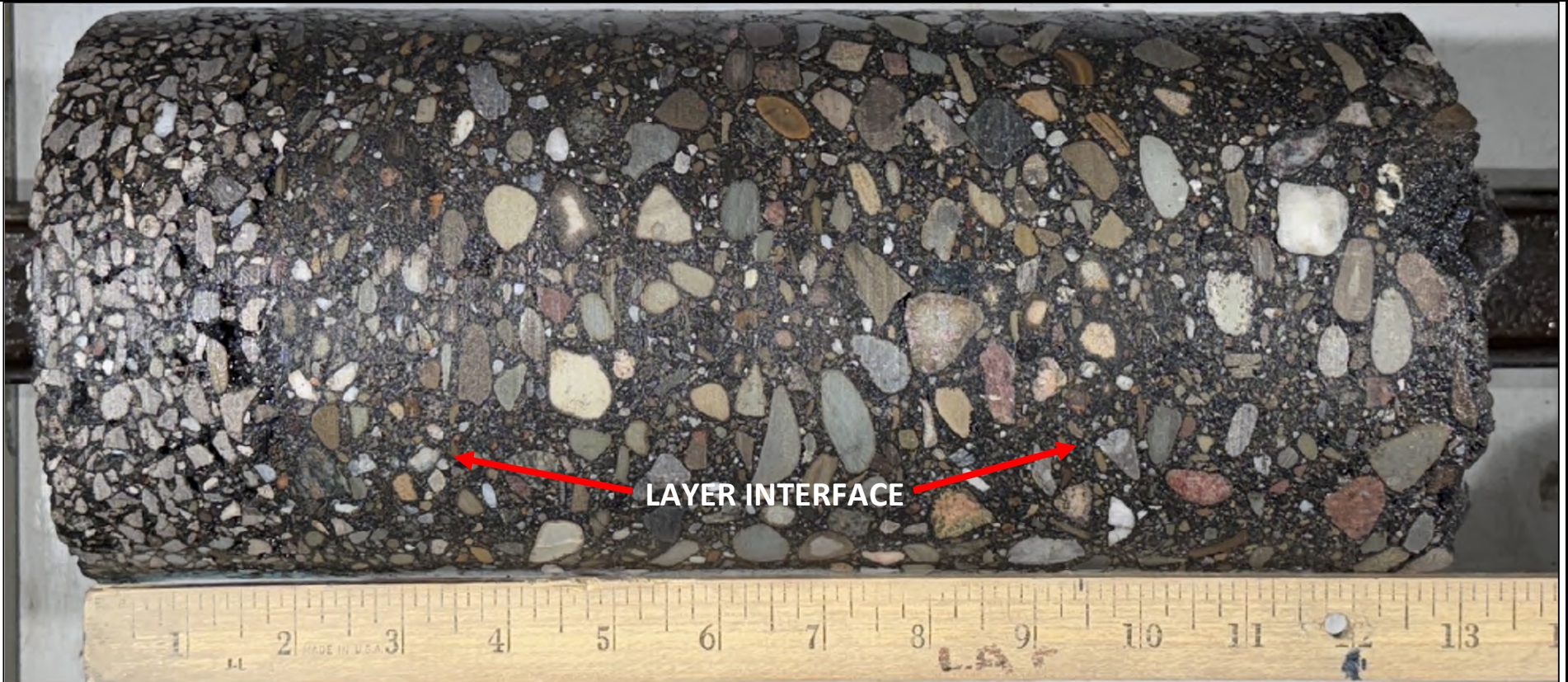
Layer Thickness, in.	Description	Comments
2.25	ASPHALT: Surface Course	- 13.75 inches of pavement total - Asphalt sections observed to be intact
1.75	ASPHALT: Surface Course	
9.75	ASPHALT: Intermediate Course	
11.5	AGGREGATE BASE: Recycled Concrete, Limestone, and Slag	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-002-0-24



LAYER INTERFACE

Layer Thickness, in.	Description	Comments
2	ASPHALT: Surface Course	- 13 inches of pavement total - Asphalt sections observed to be intact
1.5	ASPHALT: Intermediate Course	
6	ASPHALT: Intermediate Course	
3.5	ASPHALT: Intermediate Course	
8.5	AGGREGATE BASE: Recycled Slag and Limestone	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-003-0-24



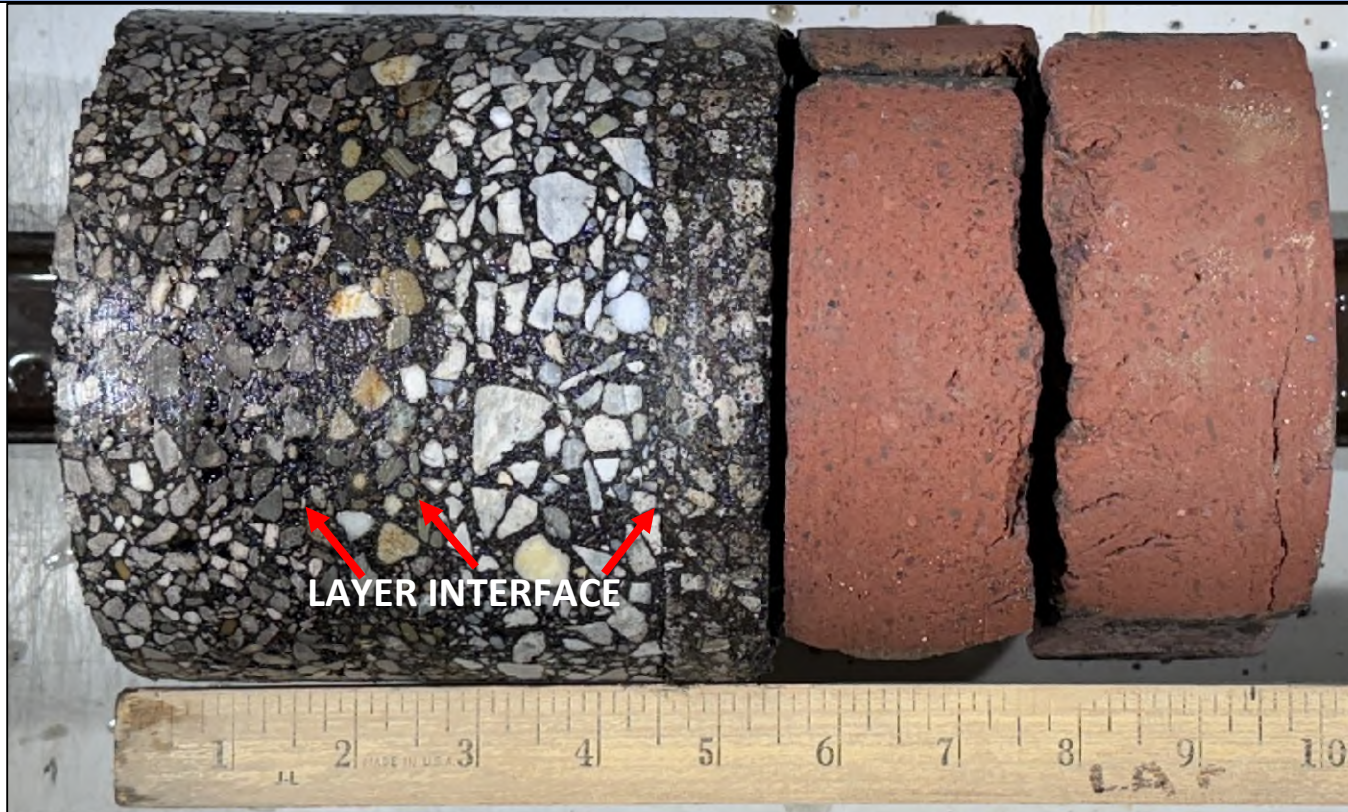
Layer Thickness, in.	Description	Comments
2.5	ASPHALT: Surface Course	- 14 inches of pavement total - Asphalt sections observed to be intact
2	ASPHALT: Surface Course	
9.5	ASPHALT: Intermediate Course	
--	NO AGGREGATE BASE ENCOUNTERED	



GEA-006-3.51 - Pavement Cores
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X-004-0-24



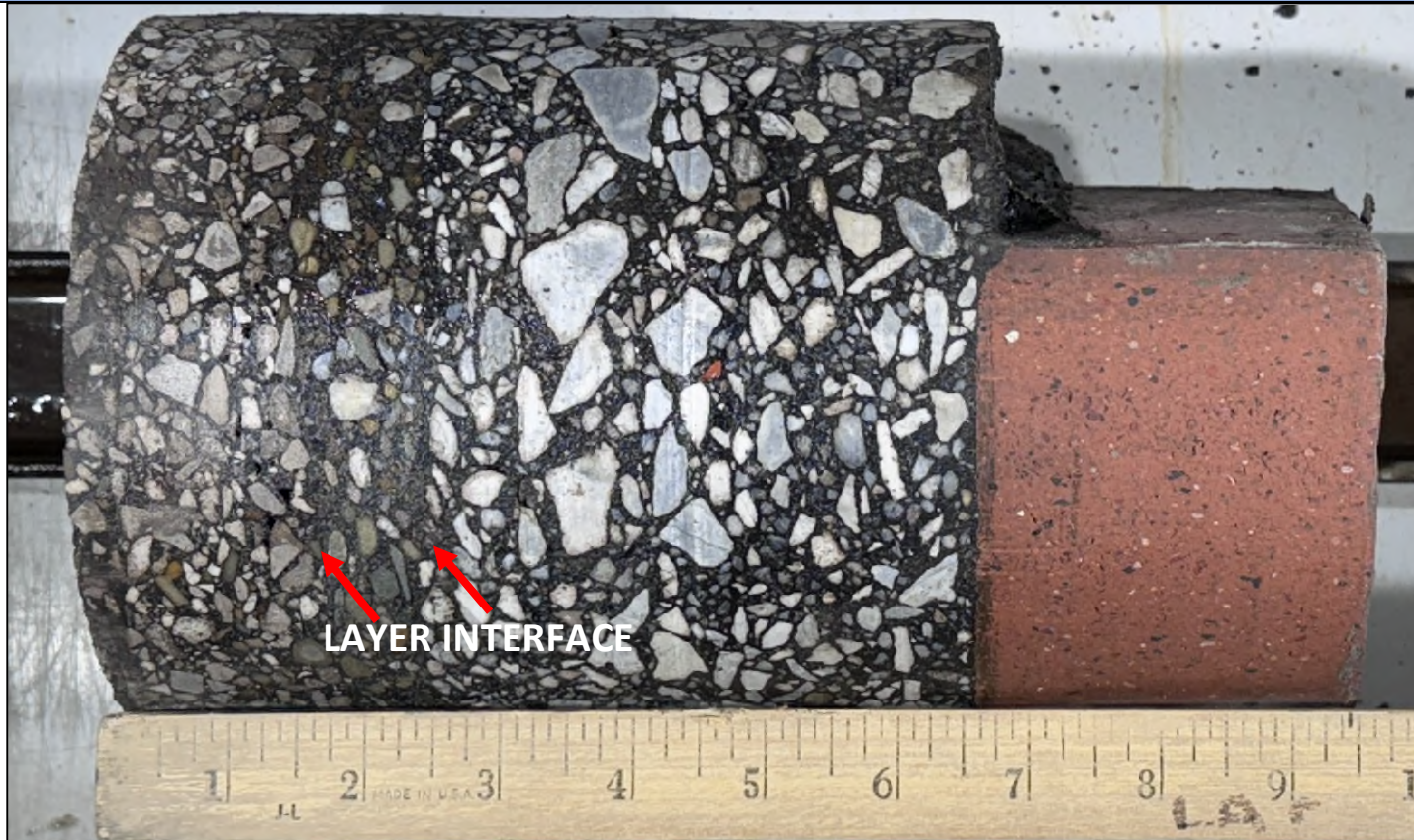
Layer Thickness, in.	Description	Comments
2.5	ASPHALT: Surface Course	- 9.75 inches of pavement total - Asphalt sections observed to be intact - Delaminated from brick layer
1	ASPHALT: Surface Course	
1.5	ASPHALT: Intermediate Course	
0.5	ASPHALT: Surface Course	
4.25	RED BRICK	- Transverse break through center - Brick separated from mortar
--	NO AGGREGATE BASE ENCOUNTERED	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-005-0-24



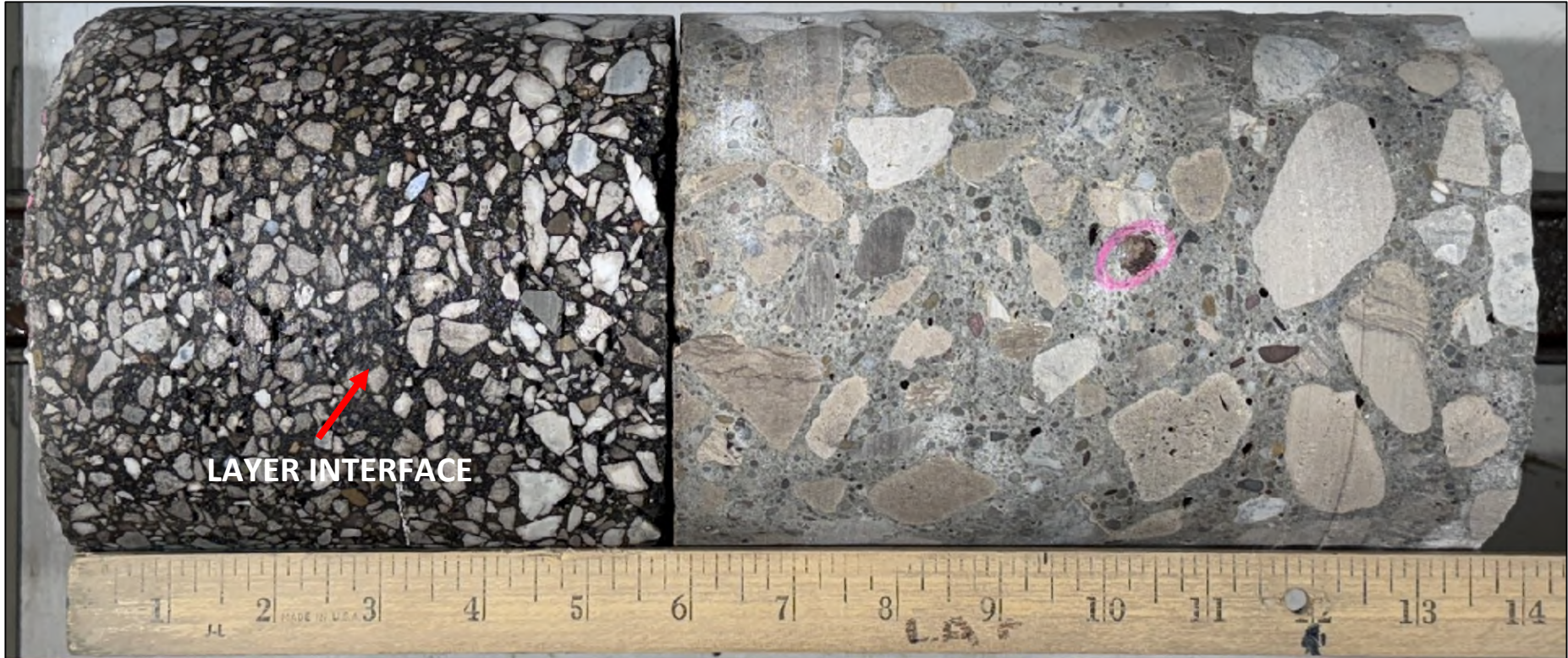
Layer Thickness, in.	Description	Comments
2	ASPHALT: Surface Course	- 9.5 inches of pavement total - Asphalt sections observed to be intact
0.5	ASPHALT: Surface Course	
4	ASPHALT: Intermediate Course	
3	RED BRICK	- Brick separated from mortar
3.5	AGGREGATE BASE: Solidified Slag	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-006-0-24



Layer Thickness, in.	Description	Comments
3.5	ASPHALT: Surface Course	- 13.75 inches of pavement total - Asphalt sections observed to be intact - Delaminated from concrete layer
1	ASPHALT: Surface Course	
1.25	ASPHALT: Intermediate Course	
8	REINFORCED CONCRETE	- Concrete section observed to be intact - ≈0.25-inch diameter reinforcing steel observed about 4.25 inches below top of concrete (circled)
--	NO AGGREGATE BASE ENCOUNTERED	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-007-0-24



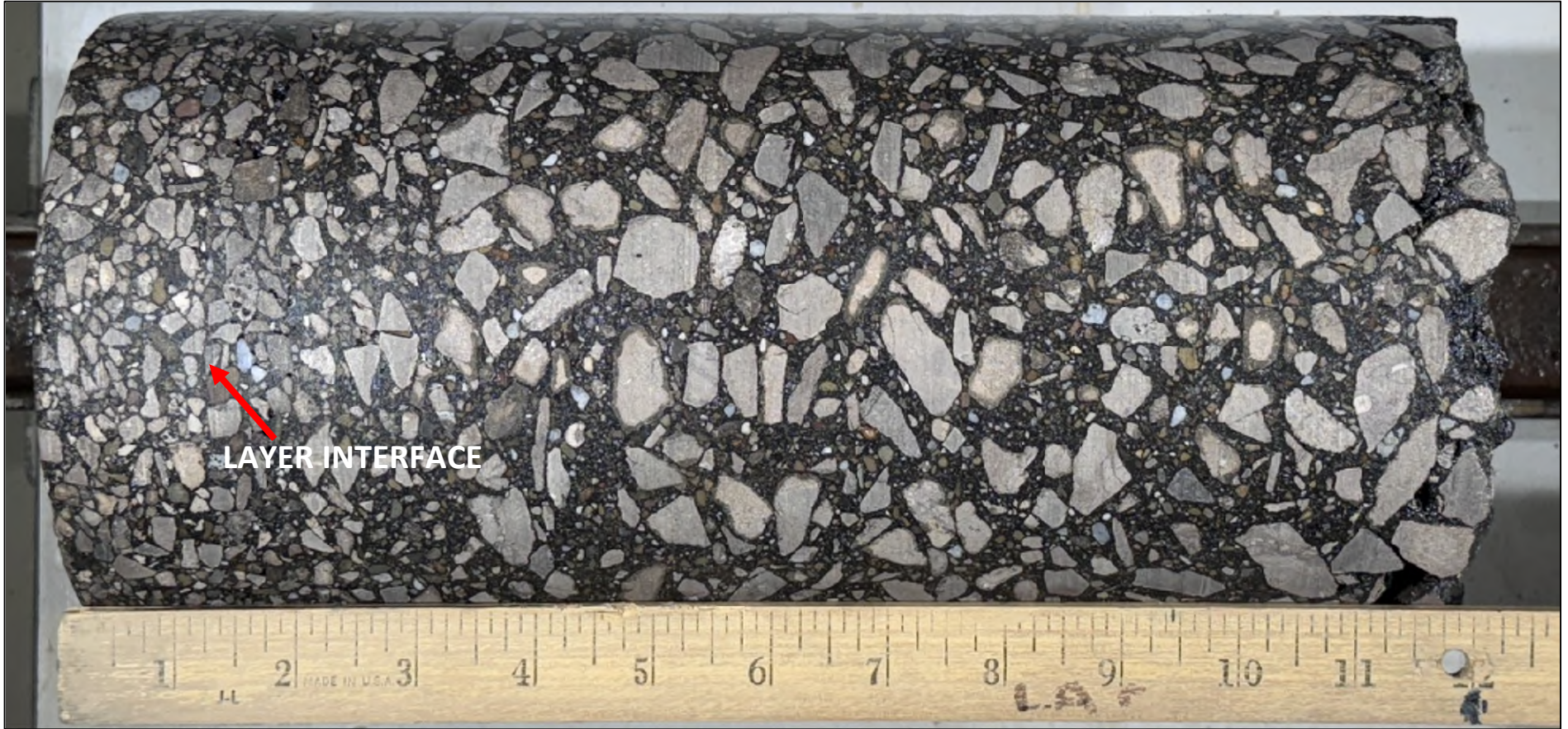
Layer Thickness, in.	Description	Comments
1.5	ASPHALT: Surface Course	- 12 inches of pavement total - Asphalt sections observed to be intact - Delaminated in intermediate layer at 4.75 inches
2	ASPHALT: Surface Course	
8.5	ASPHALT: Intermediate Course	
8	AGGREGATE BASE: Crushed Limestone	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-008-0-24



Layer Thickness, in.	Description	Comments
1.5	ASPHALT: Surface Course	- 12 inches of pavement total - Asphalt sections observed to be intact
2	ASPHALT: Surface Course	
8.5	ASPHALT: Intermediate Course	
9	AGGREGATE BASE: Crushed Limestone	



GEA-006-3.51 - Pavement Cores
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X-009-0-24



Layer Thickness, in.	Description	Comments
2	ASPHALT: Surface Course	- 15 inches of pavement total
1	ASPHALT: Surface Course	- Transverse break through core at 2.5 inches
1	ASPHALT: Surface Course	
2.25	ASPHALT: Intermediate Course	
8.75	REINFORCED CONCRETE	- Concrete section observed to be intact - ≈0.25-inch diameter reinforcing steel observed about 5.5 inches below top of concrete (circled)
--	NO AGGREGATE BASE ENCOUNTERED	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-010-0-24



Layer Thickness, in.	Description	Comments
1.75	ASPHALT: Surface Course	- 11.5 inches of pavement total
3	ASPHALT: Surface Course	
2.5	ASPHALT: Intermediate Course	- Deterioration around perimeter of core from 5.75 inches to top of brick layer
4.25	RED BRICK	- Brick separated from mortar
--	NO AGGREGATE BASE ENCOUNTERED	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

SME Project #: 092062.16
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X-011-0-24



Layer Thickness, in.	Description	Comments
2.25	ASPHALT: Surface Course	- 10.5 inches of pavement total
8.25	ASPHALT: Intermediate Course	- Approx. 1-inch thick broken portion on one side of core (shown) - Deterioration around perimeter of core from 9.5 to 10.5 inches
9	AGGREGATE BASE: Recycled Slag and Limestone	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-012-0-24



Layer Thickness, in.	Description	Comments
2.5	ASPHALT: Surface Course	- 12 inches of pavement total
9.5	ASPHALT: Intermediate Course	- Broken portion from 9.75 to 12 inches
7	AGGREGATE BASE: Recycled Slag and Limestone	



GEA-006-3.51 - Pavement Cores
SR-6 and SR-44, Chardon, Ohio

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X-013-0-24



LAYER INTERFACE

Layer Thickness, in.	Description	Comments
2	ASPHALT: Surface Course	- 12 inches of pavement total - Asphalt section observed to be intact
1	ASPHALT: Surface Course	- Delaminated from concrete layer
2	ASPHALT: Intermediate Course	
7	REINFORCED CONCRETE	- Concrete layer observed to be intact - ≈0.75-inch diameter reinforcing steel observed about 3 inches below top of concrete (circled)
--	NO AGGREGATE BASE ENCOUNTERED	

APPENDIX B

GENERAL COMMENTS

GENERAL COMMENTS

BASIS OF GEOTECHNICAL REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practices to assist in the design and/or evaluation of this project. If the project plans, design criteria, and other project information referenced in this report and utilized by SME to prepare our recommendations are changed, the conclusions and recommendations contained in this report are not considered valid unless the changes are reviewed, and the conclusions and recommendations of this report are modified or approved in writing by our office.

The discussions and recommendations submitted in this report are based on the available project information, described in this report, and the geotechnical data obtained from the field exploration at the locations indicated in the report. Variations in the soil and groundwater conditions commonly occur between or away from sampling locations. The nature and extent of the variations may not become evident until the time of construction. If significant variations are observed during construction, SME should be contacted to reevaluate the recommendations of this report. SME should be retained to continue our services through construction to observe and evaluate the actual subsurface conditions relative to the recommendations made in this report.

In the process of obtaining and testing samples and preparing this report, procedures are followed that represent reasonable and accepted practice in the field of soil and foundation engineering. Specifically, field logs are prepared during the field exploration that describe field occurrences, sampling locations, and other information. Samples obtained in the field are frequently subjected to additional testing and reclassification in the laboratory and differences may exist between the field logs and the report logs. The engineer preparing the report reviews the field logs, laboratory classifications, and test data and then prepares the report logs. Our recommendations are based on the contents of the report logs and the information contained therein.

REVIEW OF DESIGN DETAILS, PLANS, AND SPECIFICATIONS

SME should be retained to review the design details, project plans, and specifications to verify those documents are consistent with the recommendations contained in this report.

REVIEW OF REPORT INFORMATION WITH PROJECT TEAM

Implementation of our recommendations may affect the design, construction, and performance of the proposed improvements, along with the potential inherent risks involved with the proposed construction. The client and key members of the design team, including SME, should discuss the issues covered in this report so that the issues are understood and applied in a manner consistent with the owner's budget, tolerance of risk, and expectations for performance and maintenance.

FIELD VERIFICATION OF GEOTECHNICAL CONDITIONS

SME should be retained to verify the recommendations of this report are properly implemented during construction. This may avoid misinterpretation of our recommendations by other parties and will allow us to review and modify our recommendations if variations in the site subsurface conditions are encountered.

PROJECT INFORMATION FOR CONTRACTOR

This report and any future addenda or other reports regarding this site should be made available to prospective contractors prior to submitting their proposals for their information only and to supply them with facts relative to the subsurface evaluation and laboratory test results. If the selected contractor encounters subsurface conditions during construction, which differ from those presented in this report, the contractor should promptly describe the nature and extent of the differing conditions in writing and SME should be notified so that we can verify those conditions. The construction contract should include provisions for dealing with differing conditions and contingency funds should be reserved for potential problems during earthwork and foundation construction. We would be pleased to assist you in developing the contract provisions based on our experience.

The contractor should be prepared to handle environmental conditions encountered at this site, which may affect the excavation, removal, or disposal of soil; dewatering of excavations; and health and safety of workers. Any Environmental Assessment reports prepared for this site should be made available for review by bidders and the successful contractor.

THIRD PARTY RELIANCE/REUSE OF THIS REPORT

This report has been prepared solely for the use of our Client for the project specifically described in this report. This report cannot be relied upon by other parties not involved in the project, unless specifically allowed by SME in writing. SME also is not responsible for the interpretation by other parties of the geotechnical data and the recommendations provided herein.



*Passionate People Building
and Revitalizing our World*

