DICKINSON WRIGHT PLLC

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COLUMBUS, OH 43215-3192
TELEPHONE: (614) 744-2570
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CHRISTINE M.T. PIRIK
CPirik@dickinsonwright.com
(614) 591-5461

September 22, 2022

Ms. Tanowa Troupe, Secretary
Ohio Power Siting Board
Docketing Division
180 East Broad Street, 11th Floor
Columbus, OH 43215

Re: Case No. 20-931-EL-BGN
In the Matter of the Application of Fox Squirrel Solar, LLC for a Certificate of Environmental Compatibility and Public Need to Construct a Solar-Powered Electric Generation Facility in Madison County, Ohio.

Case No. 21-1031-EL-BGA
In the Matter of the Application of Fox Squirrel Solar, LLC for a Boundary Amendment to it Certificate in Case No. 20-931-EL-BGN

Compliance with Condition 30 and 8 – Transportation Plans and Permits

Dear Ms. Troupe:

Fox Squirrel Solar, LLC ("Applicant") is certified to construct a solar-powered electric generation facility in Madison County, Ohio, in accordance with the orders issued by the Ohio Power Siting Board ("OPSB") in the above-referenced cases.

At this time, the Applicant is filing the attached Transportation Plans in compliance with Condition 30 of the OPSB's July 15, 2021 Order in Case No. 20-931-EL-BGN. In addition, the Applicant is filing the attached Transportation Permits in compliance with Condition 8 of the OPSB's July 15, 2021 Order in Case No. 20-931-EL-BGN. The Transportation Plans were provided to OPSB Staff on September 14, 2022 and the Transportation Permits were provided to OPSB Staff on September 20, 2022.

We are available, at your convenience, to answer any questions you may have.

Respectfully submitted,

/s/ Christine M.T. Pirik
Christine M.T. Pirik (0029759)
Matthew C. McDonnell (0090164)
Dickinson Wright PLLC
180 East Broad Street, Suite 3400
Columbus, Ohio 43215
(614) 591-5461
cpirik@dickinsonwright.com
mmcdonnell@dickinsonwright.com
Attorneys for Fox Squirrel Solar, LLC

cc: Grant Zeto
Mark Bellamy
Theresa White
Randall Schumacher
Jon Pawley

4894-1712-9779 [95732-2]

Fox Squirrel Solar, LLC
Case No. 20-931-EL-BGN
Case No. 21-1031-EL-BGA

Attachment 1
Roadway Use and Maintenance Agreement

August 9, 2022

DICKINSON WRIGHT PLLC

MADISON COUNTY, OHIO

ROADWAY USE AND MAINTENANCE AGREEMENT

This Roadway Use and Maintenance Agreement ("**RUMA**") is entered into as of this 9th day of August, 2022 (the "**Effective Date**") by and between the Madison County Board of Commissioners, a political subdivision in the State of Ohio whose mailing address is 1 North Main Street, London, Ohio 43140 (the "**County**"); and Fox Squirrel Solar LLC, a Delaware limited liability company whose mailing address is 15445 Innovation Drive, San Diego, California 92128 (hereinafter "**Operator**"). The County and Operator are sometimes hereinafter referred to individually as a "Party" and collectively as the "Parties."

WHEREAS, Operator is proposing to develop, construct, operate and maintain an approximately 577 megawatt solar-powered electric generation facility, including associated substation facilities and improvements, located in Pleasant, Range, and Oak Run Townships, in Madison County, Ohio (the "**Project**").

WHEREAS, Operator is also seeking qualification of the Project for an exemption from the taxation of tangible personal property and real property under Ohio Revised Code Section ("R.C.") 5727.75, which requires, among other things, the Operator to "repair all roads, bridges, and culverts affected by construction as reasonably required to restore them to their preconstruction condition, as determined by the county engineer in consultation with the local jurisdiction responsible for the roads, bridges and culverts."

WHEREAS, in connection with the development, construction, operation and maintenance of the Project, it is expected that Operator and Operator's employees, suppliers, contractors, subcontractors, agents, and representatives, as well as their respective employees, agents, and representatives (collectively, "**Operator's Representatives**") will need to transport equipment and materials over and/or use certain roads, bridges, culverts, berms, shoulders, roadside ditches, guardrails, traffic control devices, and road markings/striping owned, operated and controlled by the County and which are identified on Exhibit A ("**Designated Roads**"), and the County hereby agrees to permit the above activities on the terms and conditions set forth herein;

WHEREAS, the Parties wish to enter into this RUMA to set forth their mutual understanding and agreement regarding the activities described herein, financial security to be provided by Operator, and certain other issues relating to the use of Designated Roads by Operator and Operator's Representatives in connection with the construction of the Project.

NOW THEREFORE, in consideration of the good faith performance by each Party of the mutual covenants hereinafter set forth, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

RD

ROADWAYS

ROAD STUDY AND APPROVALS:

With respect to the portion of any Designated Road that is identified in Exhibit A, the Operator will, at its expense, be required to determine the load capacity that will be required to accommodate any increased traffic for the Project. Operator will then be required to core the existing pavement at reasonable intervals determined by the County Engineer and determine the existing load capacity; provided, however, that if any other project has previously performed geotechnical investigations of the same Designated Road that meet the requirements of this Agreement, the Operator shall be entitled to rely on such information and shall not be required to independently perform a new investigation.

If the existing load capacity is less than Ninety Percent (90%) of the needed load capacity, the Operator must determine appropriate mitigations to be carried out prior to the use of that portion of the Designated Road for the construction of the Project. If the existing load capacity is greater than or equal to Ninety Percent (90%) of the needed load capacity, then no mitigation is necessary.

All calculations and designs shall be stamped by a professional engineer licensed in the State of Ohio. Additionally, the Operator shall hire an independent third-party professional camera crew and videographer and will create a detailed video record and textual narrative of the pre-existing condition of such Designated Road (the "**Road Condition Report**"). The Operator shall deliver the Road Condition Report to the County Engineer prior to the earlier of (i) Operator commencement of any improvement to such Designated Road or (ii) any use of such Designated Road for the operation of a motor vehicle or other equipment weighing more than ten (10) tonnes. The County Engineer or their designee may participate reasonably in production of the Road Condition Report; provided, that such participation shall not unreasonably delay the production of the Road Condition Report. The County Engineer shall have ten (10) business days after delivery to review the Road Condition Report. The County Engineer shall be deemed to have accepted the Road Condition Report except to the extent that, and only with respect to specifically stated objections on particular Designated Roads as to which, the County Engineer reasonably determines that the Road Condition Report is not a complete and accurate depiction of the pre-existing condition of the Designated Roads. If the County Engineer makes such a determination, the County Engineer shall, within such ten (10) business day period, provide in writing its specific objections to portions of the Road Condition Report detailing such determination, whereupon the Operator may provide reasonable further documentation of the condition of the Designated Roads. If the Operator disagrees with the County Engineer's determination, the County Engineer and Operator shall promptly meet to confer and attempt to reach agreement; provided further, that failure of the Operator and the County Engineer to reach agreement with respect to the condition of the portion of the Designated Roads to which the County Engineer has specifically objected shall not prevent the Operator from using other Designated Roads or portions thereof for which the Road Condition Report has been accepted by the County Engineer or delay the County Engineer's granting of any further permits, authorizations, or consents, except to the extent that construction of the Project would produce an immediate, material and adverse effect on any portions of the Designated Roads for which the Road Condition Report has not been accepted by the County Engineer.

If the County Engineer does not give written notice of any objection to the completeness and accuracy of the Road Condition Report within ten (10) business days, the Road Condition Report shall be deemed accepted by the County Engineer. For the sake of clarity, no approval of the County or the County Engineer

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other than any approval required under this paragraph is necessary prior to use of any such Designated Road by Operator or Operator's Representatives. Any new segments of county roads or township roads, or new bridges, to be included as part of this RUMA after the Effective Date shall be approved by the County Engineer (which approval shall not be unreasonably withheld, conditioned, or delayed) and incorporated into this RUMA as an amended Exhibit A.

ROAD USE:

In connection with the development, construction, operation, and maintenance of the Project, the County hereby acknowledges and agrees that Operator and Operator's Representatives may use the Designated Roads at any time, seven (7) days a week, 365 days a year, starting on the Effective Date. Notwithstanding the foregoing, Operator will endeavor, to the extent practical, to use the Designated Roads in a manner and at times to minimize the impact to and inconvenience of the traveling public.

PRE-PROJECT ROAD MODIFICATIONS:

If the County Engineer and Operator mutually determine that any modifications and/or improvements are reasonably necessary to accommodate the transport of heavy equipment, materials, and/or multiple heavy loads, Operator agrees to submit stamped engineering drawings to the County Engineer for review and approval prior to commencement of the modifications and improvements, which approval shall not be unreasonably withheld, conditioned or delayed. County consents to all such modifications and improvements approved by the County Engineer.

REDUCED LOAD AND SPEED LIMITS:

Pursuant to R.C. 5577.07 and 5577.071, the County may reduce the maximum weight of vehicles and loads, or the maximum speed, on Designated Roads. Nothing in this RUMA relieves Operator or Operator's Representatives from adhering to such reduction designations.

DAMAGES AND REPAIRS:

In the event it is established by the County Engineer that Operator or Operator's Representatives directly caused any damage to the Designated Roads during the hauling of materials or equipment to the Project site, Operator shall repair (or cause to be repaired) such damage so that the Designated Roads are as close as reasonably practicable to the condition that existed immediately prior to such damage occurring.

The County Engineer may request that Operator engage a third-party inspector to inspect the Designated Roads for the County Engineer no more than once every three months during the Project's construction or after any transport of a load greater than fifteen (15) tonnes on the Designated Roads. Repair work by Operator shall be completed based upon standards set forth in the Ohio Department of Transportation's latest Construction and Materials specifications). Following completion of any such repairs, the County Engineer and Operator shall jointly inspect the repair to confirm that it has been completed to the reasonable satisfaction of the County Engineer. The County understands and agrees that Operator is not responsible for any damage to any of the Designated Roads that is not caused by Operator or Operator's Representatives.

COMPLETION OF THE PROJECT:

After completion of the Project, the County Engineer will inspect the Designated Roads for damage caused by Operator within thirty (30) days of receiving notice of completion of the Project from the Operator. The County Engineer will provide a good faith list of damages, if any, caused by Operator or Operator's Representatives, and Operator shall make the necessary repairs based on applicable standards set forth

in the Ohio Department of Transportation's latest Construction and Materials specifications. Necessary repairs will result in the Designated Roads' return to, as close as reasonably practicable, to the condition that existed prior to Operator's use under this RUMA, normal wear and tear excepted; provided, however, Operator shall not be required to resurface an entire road as part of this RUMA.

Operator shall provide written notice to the County Engineer that any necessary repair work has been completed. Upon receipt of the repair completion notice, the County Engineer will have thirty (30) days to accept or reject the above work based upon applicable engineering standards. If the County Engineer tenders a rejection notice, Operator will promptly make the necessary repairs as identified in the rejection notice, or to the extent Operator disagrees as to the need for additional repairs, provide a written explanation as to why such repairs are not necessary. If no repairs are required or following the resolution and completion of any additional repairs and the County Engineer's acceptance of the repairs, any Party may terminate this Agreement by providing written notice of such termination to the other Parties.

BASIC TERMS OF ROAD USE

OBEY ALL TRAFFIC LAWS:

All vehicles driven by Operator or Operator's Representatives shall: (i) abide by applicable speed limits as posted, or if not posted, as otherwise applicable; and (ii) comply with all reasonable requests of the County Engineer to take necessary precautions to timely remove dirt, mud, dust, and debris carried onto the Designated Roads by trucks and trailers hauling material to/from the Project.

SIGNAGE:

During construction of the Project, Operator or Operator's Representatives shall be responsible for placing and maintaining signage on the Designated Roads in compliance with applicable provisions of the Ohio Manual of Uniform Traffic Control Devices.

ROAD CLOSURE NOTICE FOR REPAIRS:

This RUMA shall not prohibit the County from closing Designated Roads to any vehicle or combination of vehicles if such closing is authorized by law and is deemed necessary for public safety. In the event it becomes necessary for any of the Designated Roads to be closed for any reason relating to the construction of the Project, Operator shall provide reasonable advance notice of any such closure to County Engineer. Notwithstanding the foregoing, Operator shall provide no less than seven (7) days advance notice of any such closure when reasonably practicable. Operator shall furnish all materials reasonably necessary to close any of the Designated Roads as a result of the construction of the Project. Operator shall designate a person to coordinate the transportation related activities of Operator related to the Project.

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PERFORMANCE ASSURANCE BOND:

Prior to commencement of transportation of major equipment or materials to the Project, carrying loads in excess of fifteen (15) tonnes, on routes designated in Exhibit A, Operator shall post a bond or other surety (the "**Performance Bond**") to cover the cost of any damages directly caused to the Designated Roads by Operator or Operator's Representatives, and which are not remedied in accordance with the terms and conditions in this RUMA.

The amount of the Performance Bond shall be **Two Million Seven Hundred Fifteen Thousand Dollars and No Cents ($2,715,000.00)**

Notwithstanding anything contained herein to the contrary, it is hereby agreed that the maximum amount of Operator's liability and obligation with respect to its obligations hereunder shall not exceed the amount of the Performance Bond (whether paid directly by Operator, as a result of drawing upon the Performance Bond, or otherwise).

The Performance Bond may be posted in the form of: (i) a surety bond made payable to the Madison County Board of Commissioners and issued by a corporation licensed to do business in Ohio; (ii) an irrevocable letter of credit, parental guarantee or other form of financial security reasonably acceptable to the County; or (iii) cash escrow. The Performance Bond shall remain in full force and effect during the term of this RUMA and shall be immediately released upon the completion of any necessary repair work under this RUMA, following construction of Operator's Project.

DRAW CONDITIONS:

The County may draw upon the Performance Bond only if and to the extent that Operator fails or refuses to promptly perform repairs, or to pay the cost of performing repairs, as set forth in this RUMA, and after all of the following draw conditions have been satisfied: (i) the County certify that Operator failed or refused to perform required repairs or to pay the cost of performing repairs required under this RUMA in a reasonable period of time; (ii) the County certify that that the County performed such repairs (or caused such repair work to be performed); (iii) the County certify that the County incurred expenses for the performance of such repair work; and (iv) the County actually submitted details of such expenses to Operator without payment rendered. Any funds drawn upon by the County under the Performance Bond to cover such expenses shall be subject to all defenses available to the surety under law.

If the County draws upon the Performance Bond, the County shall provide a full accounting of the amount of the draw(s) and the cost of repairs to Operator.

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GENERAL PROVISIONS

INDEMNITY AND HOLD HARMLESS:

Operator shall indemnify, defend, and hold the County as well as their officials, officers, and employees harmless from any and all losses, claims, costs, expenses, judgments, suits, actions, proceedings, and damages, including reasonable attorneys' fees (collectively, "**Claims**") involving personal injury, death or damage to property and arising out of the performance or non-performance of the terms of this RUMA by Operator, except this indemnity provision shall not apply to the extent such Claims arise from or relate to the negligence or intentional misconduct of the County and their respective officials, officers, employees, and/or agents.

ASSIGNMENT:

This RUMA may not be assigned without the written consent of the other Parties, which consent shall not be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, Operator may assign all or any portion of its rights under this RUMA to any lender, mortgagee, investor, parent-subsidiary or other affiliated entity, all of which may be done without obtaining the consent of the other signatories to this RUMA.

GOVERNING LAW-STATE OF OHIO:

This RUMA shall be governed by and construed in accordance with the laws of the State of Ohio, without regard to conflict of laws provisions in such state. A federal or state court in Ohio having jurisdiction in Madison County, Ohio shall decide any disputes arising under this RUMA.

PREYAILING WAGE:

As it relates to any road repair work completed under this RUMA, Operator is required to comply with Ohio's prevailing wage requirements as applicable under Ohio law; however, the County shall be solely responsible for providing the prevailing wage coordinator.

AMENDMENTS TO AGREEMENT:

This RUMA shall constitute the complete and entire RUMA between the Parties with respect to the subject matter hereof. No prior statement or agreement, oral or written, shall alter or modify the written terms herein. This RUMA may be amended only by written RUMA properly executed by the Parties.

AUTHORITY:

Operator hereby represents and warrants that this RUMA has been duly authorized, executed and delivered on behalf of Operator. The County hereby represents and warrants that this RUMA has been duly authorized, executed and delivered on behalf of the County.

BD

NOTICES:

All notices, requests, demands and other communications required or permitted to be given by the parties hereunder shall be in writing and shall be delivered in person, by mail, e-mail or facsimile to the address of the intended recipient as set forth below:

MADISON COUNTY

Bryan D. Dhume, P.E., P.S. Madison County Engineer 825 US 42 NE

London, Ohio 43140

Phone: (740) 852-9404

Fax: (740) 852-9530

E-mail: engineer@madison.ohio.gov

OPERATOR

Attn: David Warner, Project Manager Phone: 647-523-3035

E-mail: David.Warner@edf-re.com

With copy to: Jeffrey.Gillie@edf-re.com

In addition to the written communications detailed above, the parties agree that the individuals referenced above shall be the contact persons for any verbal communications regarding any concerns/issues that are associated with this RUMA.

RIGHTS AND WAIVERS:

The failure of a Party to exercise any right under this RUMA shall not, unless otherwise provided or agreed to in writing, be deemed a waiver thereof; nor shall a waiver by a Party of any provision herein be deemed a waiver of any future compliance therewith, and such provisions shall remain in full force and effect.

SEVERABILITY:

If any provision of this RUMA proves to be illegal, invalid, or unenforceable, the remainder of this RUMA will not be affected, impaired or invalidated by such finding and shall remain in full force and effect. To the extent practicable, any provision of this RUMA that proves to be illegal, invalid, or unenforceable, shall be replaced with language as similar as possible to accurately reflect the intentions of the Parties and be legal, valid and enforceable.

COUNTERPARTS:

This RUMA may be executed in any number of counterparts, each of which shall be deemed an original, with the same effect as if the signatures thereto and hereto were upon one and the same counterpart, and all such counterparts together shall constitute one and the same instrument. Delivery of an executed counterpart of a signature page to this RUMA by facsimile, .pdf or electronic mail shall be as effective as personal delivery of an originally signed counterpart to this RUMA.

SUCCESSORS AND ASSIGNS:

This RUMA shall inure to the benefit of and shall be binding upon the Parties hereto, their respective successors, permitted assignees, and legal representatives.

BA

LIMITATION ON DAMAGES:

Notwithstanding any provision in this RUMA to the contrary, in no event shall the Parties be liable (including, without limitation under any indemnity hereunder) for any special, punitive, indirect, incidental or consequential damages (including, without limitation, any claims for lost profits and/or lost business opportunity) in connection with this RUMA, and all such damages are hereby waived.

[Signatures on the following pages]

BD

IN TESTIMONY WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers as of the day and year first above written.

FOX SQURREL SOLAR LLC

By: Kathryn L. O'Hair

Name: Kathryn L. O'Hair, Vice President

Date: 08/25/2022

MADISON COUNTY ENGINEER

By:

Name:

Date:

MADISON COUNTY BOARD OF COMMISSIONERS

By:

Name:

Date:

By:

Name:

Date:

By:

Name:

Date:

IN TESTIMONY WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers as of the day and year first above written.

FOX SQURREL SOLAR LLC

By:

Name:

Date:

MADISON COUNTY ENGINEER

By:

Name: Bryan Dhume

Date: 8-9-22

MADISON COUNTY BOARD OF COMMISSIONERS

By: Chris Wallace / Commissioner

Name:

Date: 8.9.2022

By: Mark Forrest / Commissioner

Name: Mark Forrest

Date: 8.9.2022

By: Dr. Tony Xenikis / Commissioner

Name:

Date: 8.9.2022

BD

APPROVED AS TO FORM

MADISON COUNTY PROSECUTOR

By: 

Name: Nick Adkins

Date: 8/9/22

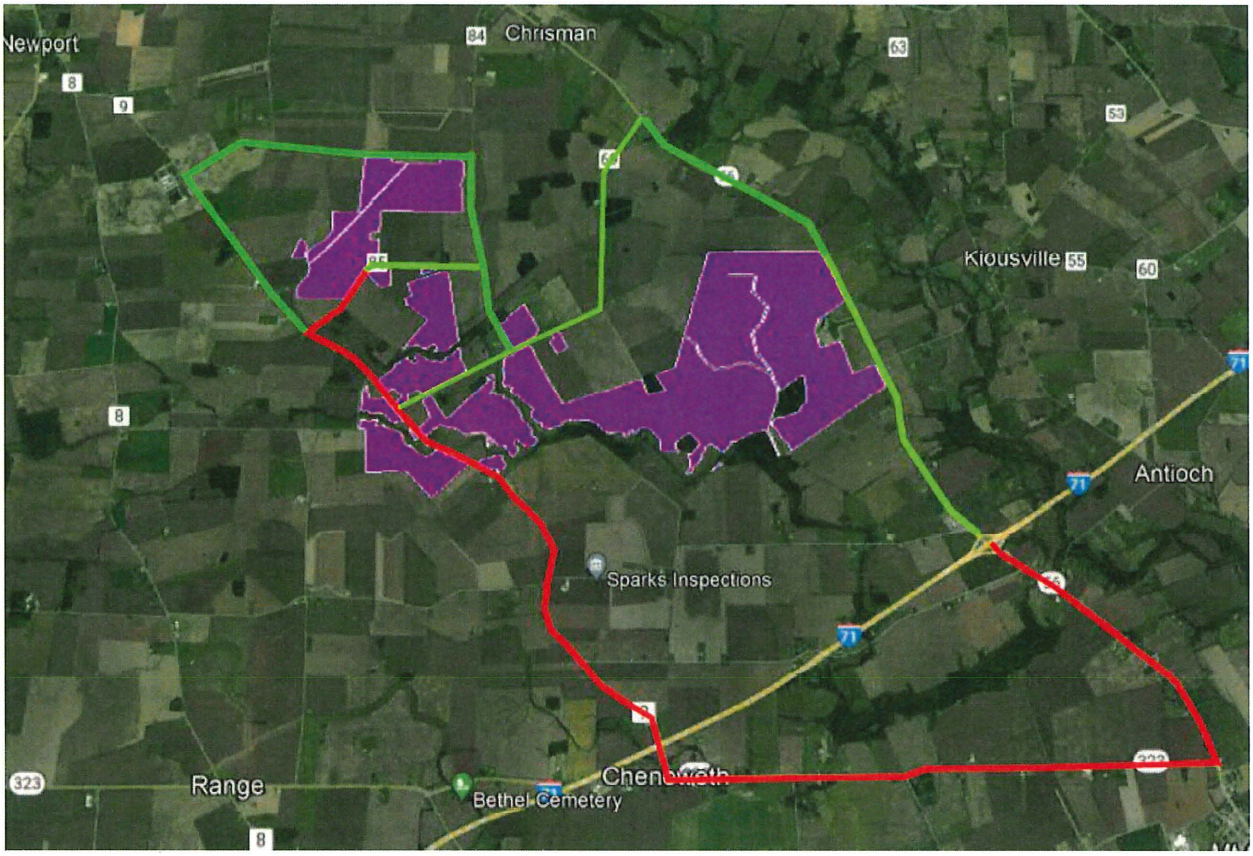
BC

EXHIBIT A – DESIGNATED ROADS

FOX SQUIRREL SOLAR PROJECT AREA

MPT = Main Power Transformer (only on red road below)

General Construction = non-heavy haul and general contracting traffic road (on red or green road below)



MPT route and General Construction

General Construction

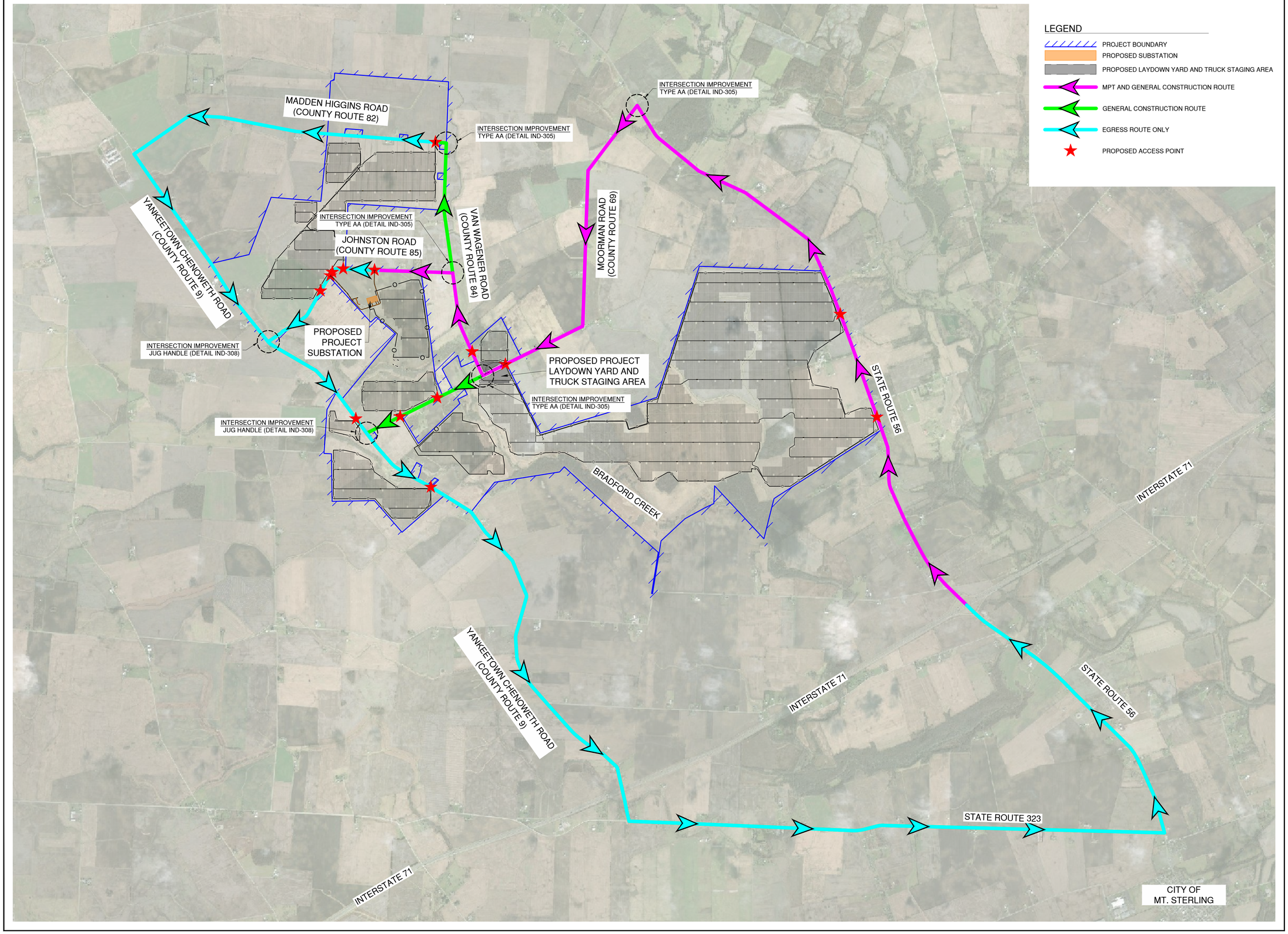
Fox Squirrel Solar, LLC
Case No. 20-931-EL-BGN
Case No. 21-1031-EL-BGA

Attachment 2
Delivery Flow Plan

Blattner Energy

July 26, 2022

DICKINSON WRIGHT PLLC



FOX SQUIRREL SOLAR, LLC.

Madison County, Ohio

Rev.	Date	Description	By
0	07/26/2022	ISSUED FOR CONSTRUCTION	TLB

eDF renewables
15445 Innovation Dr
San Diego, CA 92128

BLATTNER ENERGY
392 Co. Rd. 50,
Avon, MN 56310

OHIO811 Before You Dig

N W E S

0 1000 2000 4000

NAD 83 Ohio State Planes, South Zone, US Foot

STATE OF OHIO
TRAVIS BERENDS
E-88072
REGISTERED PROFESSIONAL ENGINEER

Date: July 26, 2022

Ulteig
3350 38th Avenue South
Fargo, North Dakota 58104
Phone: 701.280.8500
Fax: 701.237.3191
www.ulteig.com

Project Number: 21.00649
Design By: C. SMAALADEN
Drawn By: K. GUNDERSON
Approved By: L. JORDAHL

DELIVERY FLOW PLAN

REVISION: 0

DRAWING: FSSP-SG0-C-GRD2-G002

G:\2021\21.00649\Drawings\PV Plant\30 Civil\01 - Drawings\01 - Plan Set Drawings\21.00649_Fox Squirrel_DFP.dwg GRD2-G002

Fox Squirrel Solar, LLC
Case No. 20-931-EL-BGN
Case No. 21-1031-EL-BGA

Attachment 3
Pre-Construction Road Evaluation

American Engineering Testing, Inc.

August 15, 2022

DICKINSON WRIGHT PLLC

PRE-CONSTRUCTION ROAD EVALUATION

Fox Squirrel Solar Project
Madison County, Ohio

AET Report No. P-0013315A

Date:
August 15, 2022

Prepared for:

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Geotechnical • Materials
Forensic • Environmental
Building Technology
Petrography/Chemistry

American Engineering Testing
550 Cleveland Avenue North
St. Paul, MN 55114-1804
TeamAET.com • 800.792.6364

August 15, 2022

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Attn: Mr. Cristian Diaz

RE: Pre-construction Road Evaluation
Fox Squirrel Solar Project
Madison County, Ohio
AET Project No. P-0013315

Dear Mr. Diaz:

American Engineering Testing, Inc. (AET) is pleased to present this evaluation report on proposed haul roads for the pre-construction phase of the Fox Squirrel Solar Project in Madison County, Ohio. This evaluation is based on the results of the pavement testing and analysis that AET performed on roads within the Fox Squirrel Solar Project.

Sincerely,
American Engineering Testing, Inc.

Chunhua Han, Ph.D.
Principal Engineer, Pavement Division
E-mail: chan@teamaet.com
Phone: (651) 603-6631, Fax: (651) 659-1347

SIGNATURE PAGE

Prepared for

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Attn: Mr. Cristian Diaz

Prepared by

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, MN 55114
(651) 659-9001

Project Manager

Chunhua Han, Ph.D.
Principal Engineer

Report Reviewer

STATE OF OHIO
8/15/22
DEREK
TOMPKINS
E-83874
REGISTERED
PROFESSIONAL ENGINEER

Derek Tompkins, Ph.D., P.E.
Principal Civil Engineer

TABLE OF CONTENTS

1.0 INTRODUCTION

Barr Engineering ("Barr") has retained American Engineering Testing (AET) to test and evaluate public roads for use as haul routes for the construction of the Fox Squirrel Solar Project ("Project") in Madison County, Ohio. AET performed geotechnical exploration and nondestructive pavement testing at the Project to evaluate the roads selected by Barr as construction haul routes. This report (AET P-0013315A) describes our surface and structural condition evaluation of Project roads.

2.0 SCOPE OF SERVICES

The authorized scope consists of the following services, which were outlined in Barr Work Order 1, dated 5/19/22.

- Direct push soil sampling (referred to as "soil borings") along the Project roads to 4 feet in depth.
- Falling weight deflectometer (FWD) testing of the Project roads
- Ground penetrating radar (GPR) testing on the Project roads
- Digital video logging (DVL) of Project roads using a digital video camera
- Engineering evaluation of the Project roads using DVL, GPR, FWD, and soil boring data to (a) assess ability of the roads to sustain solar farm construction loads and (b) identify pre-construction road sections that are susceptible to significant damage
- Production of the report summarizing evaluations of Project roads

These services are exclusively intended to evaluate the Project roads. The scope is not intended to explore for the presence or extent of environmental contamination in the soil or groundwater. Specific details on the analysis performed are described in the sections below and in appendices to this report.

3.0 PROJECT INFORMATION

3.1 Project locations and roads

The Project is located within approximately 4,250 acres of privately-owned agricultural land north of the City of Chenoweth in Madison County, Ohio (Figure 1). The project area is generally situated west of Ohio State Route SR-56, north of United States Route US-71, south of County Road CR-144, and east of CR-8, as shown in the figures attached to this report.

3.2 Traffic on Project roads

To understand conventional (design) traffic for roads within the Project area, we consulted recent traffic information from the Ohio Department of Transportation (ODOT). The following items describe our understanding of traffic on Project roads based on the ODOT Traffic Monitoring Management System[1].

[1] Ohio Department of Transportation (2022). Traffic Monitoring Management System. Available from https://odot.public.ms2soft.com/tcds/tsearch.asp?loc=odott.com)

- The 2021 annual average daily traffic (AADT) for US highways (US) within the Project was 40,668 vehicles with 13 percent truck traffic.
- The 2021 annual average daily traffic (AADT) for state routes (SR) within the Project was 1,761 vehicles with 30 percent truck traffic.
- The 2019 AADT for CR roads within the Project was 25 to 303 vehicles.
- Truck traffic volumes were not available for county roads (CR) within the Project. Therefore, we have assumed a minimum AADT of 126 and 12 percent truck traffic for these Project roads.

3.3 Anticipated traffic due to construction

We understand that the Project will require the use of public roads to deliver supplies and materials to the work sites during construction. Information related to construction hauling – including but not limited to transportation plans and estimated truck traffic – does not materially affect our engineering evaluation of the road sections.

4.0 SUBSURFACE EXPLORATION, ROAD TESTING, AND RESULTS

To facilitate testing, condition rating, and analysis, AET allocated the Project roads (totaling 20.6 centerline miles) into 17 sections according to road type, road condition, and anticipated construction traffic. Tests and test results on Project roads are described in the subsections below and summarized in the appended Table 1. We encountered roads surfaced with a combination of chip seal, surface treatment, and bituminous wearing course, or “bituminous pavement” (BP).

Our classification of the road sections follows basic pavement engineering principles to help us organize field/lab activities, analysis, and evaluation. These general classifications are not intended to conflict with or replace state agency road classifications, which rely on as-built information, road histories, agency material classifications, and other matters whose review are beyond the scope described in Section 2.

4.1 Subsurface conditions

Thirty-nine (39) soil borings were performed along selected Project roads. Subsurface explorations took place on 6/21/22 using direct push sampling to a depth of approximately 4 feet. After samples were obtained, boring holes were backfilled with a similar surfacing material to match the existing road profile. Collected samples were analyzed in our laboratory to evaluate surfacing material and soil layering and classification. Detailed results of subsurface testing are provided in Appendix A, which includes descriptions of our geotechnical drilling procedure and boring logs. These results are summarized below by road type and structural layer.

Bituminous pavement. The road sections had an intact composite paved surface thickness of 1 to 3-1/4 inches, where the intact surface was composed of seal coating and/or asphalt pavement. We observed deteriorated pavement below the intact paved surface in 38 borings and all cores from the Project roads, where the deterioration may be due to stripping, base erosion, and/or delamination in previously

placed bituminous layers. The deteriorated underlying pavement was varied in composition and ranged from 3/4 to 8-3/4 inches in thickness.

Layers directly supporting paved surfaces. Underlying the intact pavement surfacing and the underlying deteriorated bituminous materials, we observed what we generally consider to be granular base materials. These supporting base layers were observed to have thickness of 4-1/2 to 14-1/2 inches except for one location (B-35) where the pavement was supported by clayey fill materials. Later structural analysis incorporated deteriorated pavement, where present, into a composite base layer with underlying aggregate materials. The following items describe base materials according to Association of State Highway and Transportation Officials (AASHTO) soil classifications.

- Thirty-three (33) samples appeared to consist of granular base materials classified as A-1-b.
- Four (4) samples were classified as A-2-4.
- One (1) sample was classified as A-2-6.
- One (1) sample was classified as A-7-6.

Laboratory tests were performed on two granular base samples. Moisture content tests yielded 7 and 9 percent moisture. Fines content tests (to quantify material passing the No. 200 sieve) indicated 26 and 28 percent fines.

Subgrade soils. From soil borings, we observed that the primary soils within the upper subgrade zone on selected Project roads consisted of lean clay, lean clay with sand, sandy clay, fat clay, and organic clay meeting the A-6, A-7, and A-8 (plastic) soil categories. Laboratory testing was performed on subgrade samples classified as A-6 and A-7: 46 moisture content tests indicated 15 and 37 percent water content; four fines content tests indicated between 74 and 87 percent fines; and four Atterberg limits tests indicated a plasticity index ranging from 16 and 32. One organic content test yielded 6.4 percent organic matter.

4.2 Surface course thickness (ground penetrating radar)

The road layer thickness testing program involves the use of a high-speed (air coupled) GPR antenna to collect pavement data that is later analyzed to evaluate layer thicknesses. AET performed GPR testing on approximately 40.6 lane miles of Project roads on 6/14/22 using a 2 GHz antenna, which allows material layer measurements at depths of 18 inches with a resolution of approximately one-half inch. Our analysis of collected GPR data (summarized by road section in Table 1) included statistical analysis to determine 15th-percentile values for each section. Engineers often use the 15th percentile value – instead of an average or mean (the 50th percentile value) – as a structural “safety factor” to represent layer thickness for pavement design purposes.

- As discussed in Section 4.1, the intact pavements on roads overlaid severely deteriorated, preexisting bituminous pavements. Our GPR analysis attempted to distinguish the intact pavement from a layer consisting of the underlying deteriorated pavement and aggregate base.
- The thickness of intact paved surfacing ranged from 1.4 to 2.5 inches.
- The thickness of composite base (deteriorated pavement and aggregate materials) ranged from

7.8 to 15.9 inches.

Assessing layer thicknesses is a matter of engineering judgement. The distinction between layers in the road is not always explicit. Factors influencing definition of radar scans include ambient electromagnetic interference, the presence of moisture, the presence of voids, and the similarity of material layer type between layers. More specific detail, including statistical analysis of GPR data describing average thickness and variability by section, is provided in Appendix B.

4.3 Pavement strength (falling weight deflectometer)

Deflection testing was performed on 20.6 centerline miles of Project roads on 6/14 and 6/15/22, using a Dynatest 8002 falling weight deflectometer (FWD). Locations of FWD tests are indicated in Figure 1. Collected FWD data – along with information described in the sections above – are used to estimate the elastic stiffness of pavement layers using backcalculation analysis according to the method in the AASHTO *Guide for Design of Pavement Structures* (1993). This method also accounts for allowable axle loads for a roadway. Our backcalculation results were used to estimate the effective subgrade resilient modulus (MR), the AASHTO structural number (SN), and structural capacity of all Project roads. As with GPR-based thickness analysis results, the results of backcalculation analysis of collected Project FWD data are summarized below (and in Table 1) using 15th-percentile values.

- The subgrade MR for all sections ranged from 2.8 to 5.0 ksi.
- The SN value for all sections ranged from 1.2 to 2.4 inches.
- The axle load capacity rating of all sections ranged from 5.4 to 10+ tons/axle.

Additional details of the FWD testing and analysis procedures, including field test data, are provided in Appendix C.

4.4 Road condition

High-resolution DVL data was collected on 6/14/22 for 20.6 centerline miles of roads in the Project. An AET pavement engineer used DVL data to rate the paved roads in general accordance with ASTM D6433. This procedure results in a pavement condition index (PCI) that describes road condition on a scale of 0 to 100, where the index corresponds to qualitative descriptions of pavement condition: “Good” 70-100; “Fair” 55-69; “Poor” 40-54; “Very Poor” 25-39; “Serious” 10-24; and “Failed” 0-9. The road sections, all of which were paved, were rated an average PCI of 53 (“Poor”). The predominant distresses encountered were longitudinal/transverse and edge cracking. We observed that sections along CR 9 (S01 through S08) had an average PCI of 40, which is the lower bound for “Poor” condition. On these sections, we observed low-to-medium severity alligator cracking and patching. Table 1 indicates the condition rating for the evaluated sections. More detail on the surface condition rating by road section is provided in Appendix D.

4.5 Summary results of testing and road condition rating

As noted above, all road test and survey results, including summary analysis of test data, are reported in Table 1 for 17 paved sections.

5.0 EVALUATION OF ROAD CONDITION

5.1 Summary evaluation

We evaluated the performance of the roads as haul routes given the results of testing and analysis (summarized in Table 1). Our evaluation is described in additional detail in the sections below, which correspond to important features of roads.

- Our evaluation of the load capacity is based on analytical procedures and calculations described in the AASHTO *Guide for Design of Pavement Structures* (1993). In addition, we rely on engineering judgement to evaluate the performance of Project roads and structural improvements to serve as functional haul routes for solar farm construction.
- Information regarding risk management and proper use of this evaluation is given in Appendix E, “Geotechnical Report Limitations and Guidelines for Use.”
- Should changes to the Project layout and use of roads be considered, please notify AET so that we can review the changes and determine if revisions to the evaluation report are necessary.

We anticipate that some of the paved Project roads will require structural improvements to serve as functional haul routes for Project construction. AET Report P-0013315B considers recommended road improvements for the project, where applicable.

5.2 Structural properties of road subgrade

The predominant subgrade type for the selected roads is lean clay (A-6 or A-7-6). Our FWD backcalculation analysis of the structural properties of the subgrade determined that subgrade soils under Project roads had an average 15th-percentile MR value of 3.9 ksi. In our experience, subgrade MR values less than 4 ksi risk subgrade support issues during truck hauling.

5.3 Structural properties of road surface layers

We anticipate that the structural capacity of the road surfacing will vary with changes in subgrade support and surfacing thickness. Additional variation may occur due to pavement condition.

- The paved sections have an average 15th-percentile SN of 1.8 inches, with minimum and maximum SN of 1.2 and 2.4 inches, respectively. A typical SN for low-volume roads ranges from 2 to 4 inches.
- The paved sections in the Project have an average 15th-percentile axle load capacity of 5.4 to 10+ tons/axle. The axle load rating accounts for the combined structural capacity of the pavement and foundation.

5.4 Suitability of roads as haul routes

We judge that some of the paved road sections with poor subgrade support and/or thin surfacing should be improved prior to Project construction. Furthermore, sections with a poor surface condition should receive surface repairs to reduce the risk of rapid progression of surface distress under haul

traffic. All road sections will require regular maintenance activities during Project construction.

Our estimation of future needs considers surface condition rating, estimated structural capacity, and preliminary estimates of haul traffic for the tested, evaluated roads. More information on the use of the selected paved road sections as haul routes and structural improvements (where appropriate) is discussed in AET Report No. P-0013315B.

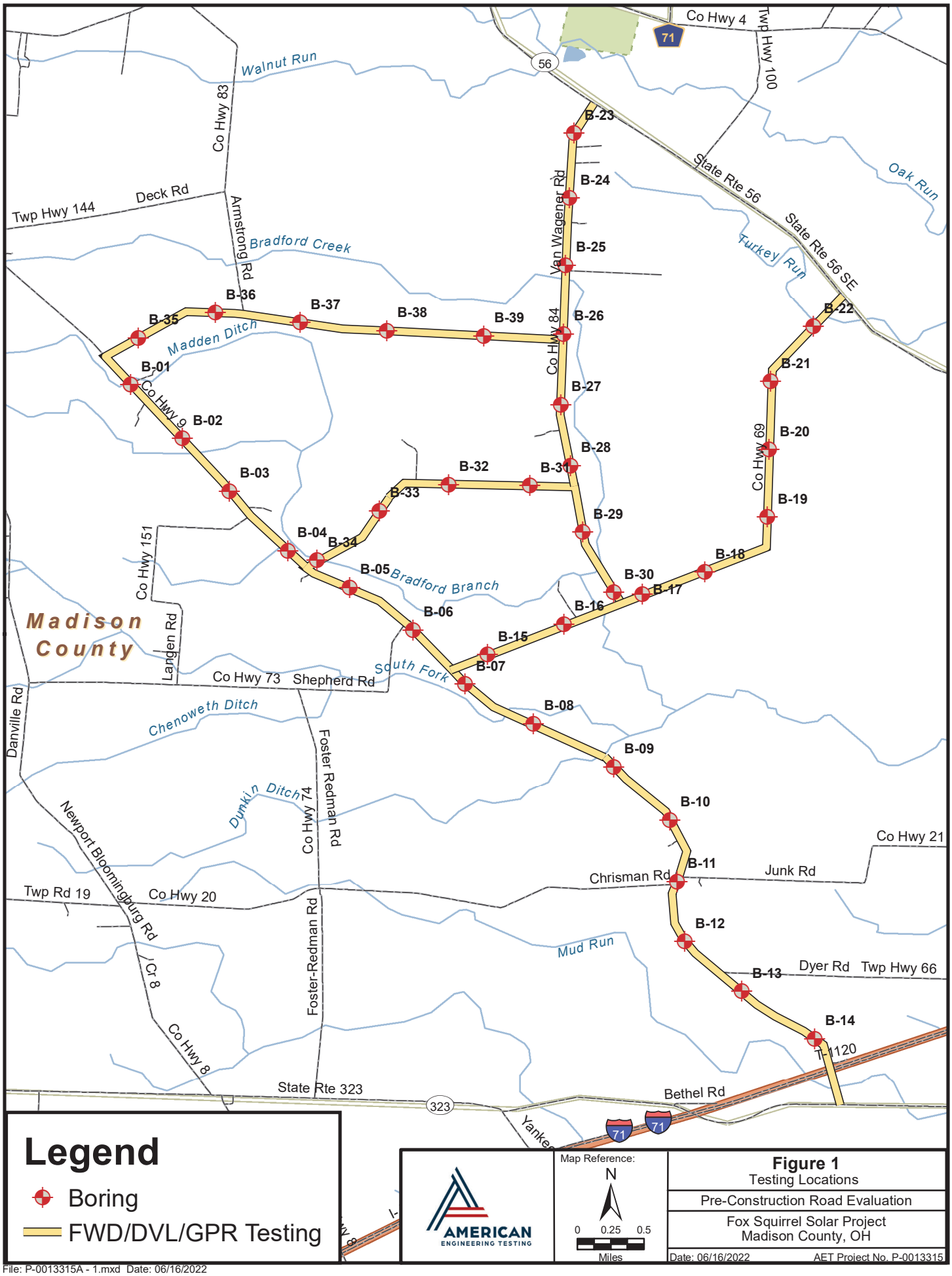
6.0 TEST STANDARDS

When we refer to a test standard (e.g., ASTM, AASHTO) in this report, we mean that our services were performed in general accordance with that standard. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

7.0 LIMITATIONS

Within the limitations of scope, budget, and schedule, we have endeavored to provide our services according to generally accepted geotechnical engineering practices at present time and this location. Other than this, no warranty, express or implied, is intended. Important information regarding risk management and proper use of this report is given in Appendix E, “Geotechnical Report Limitations and Guidelines for Use.”

Figures and Tables



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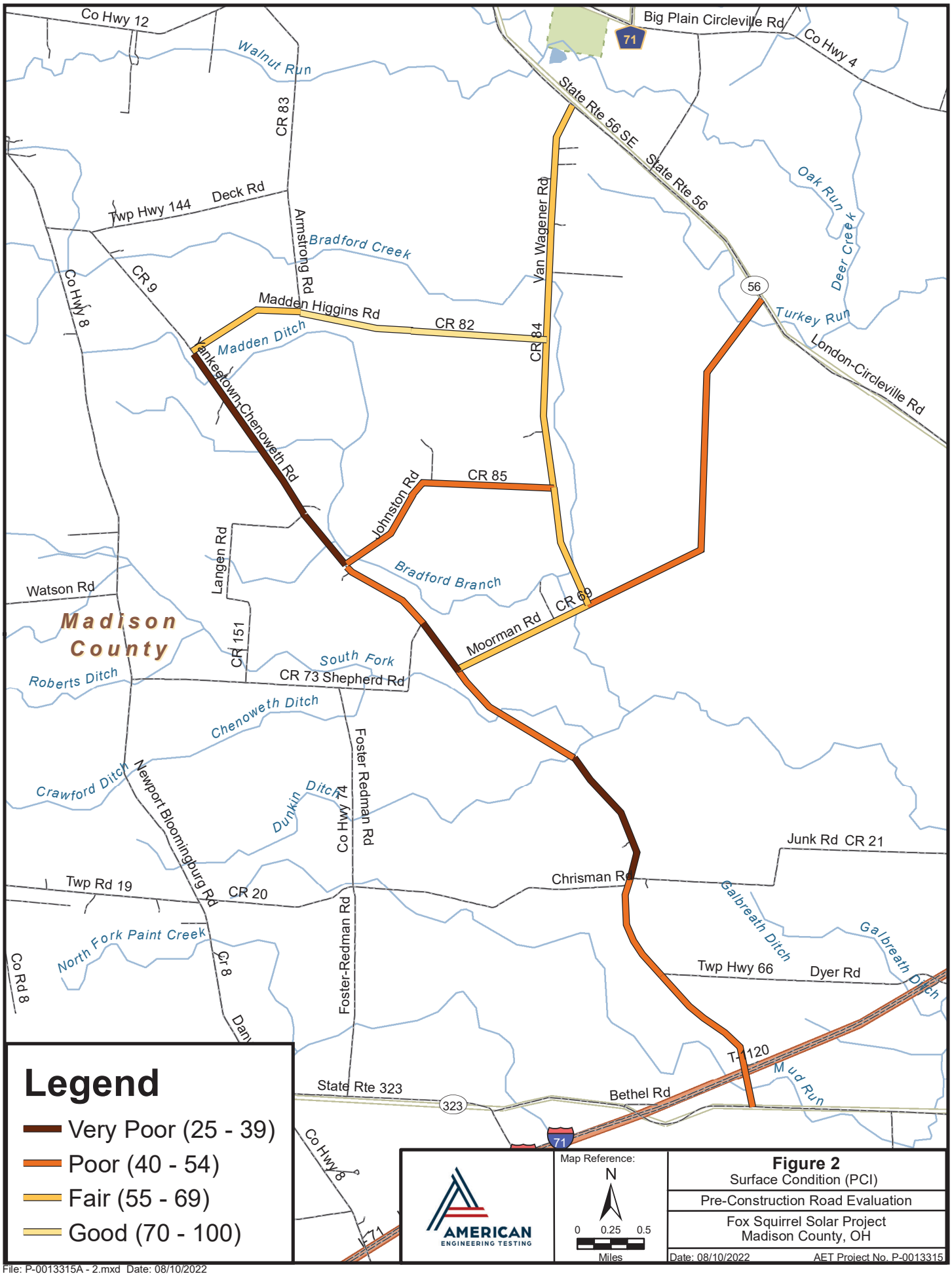

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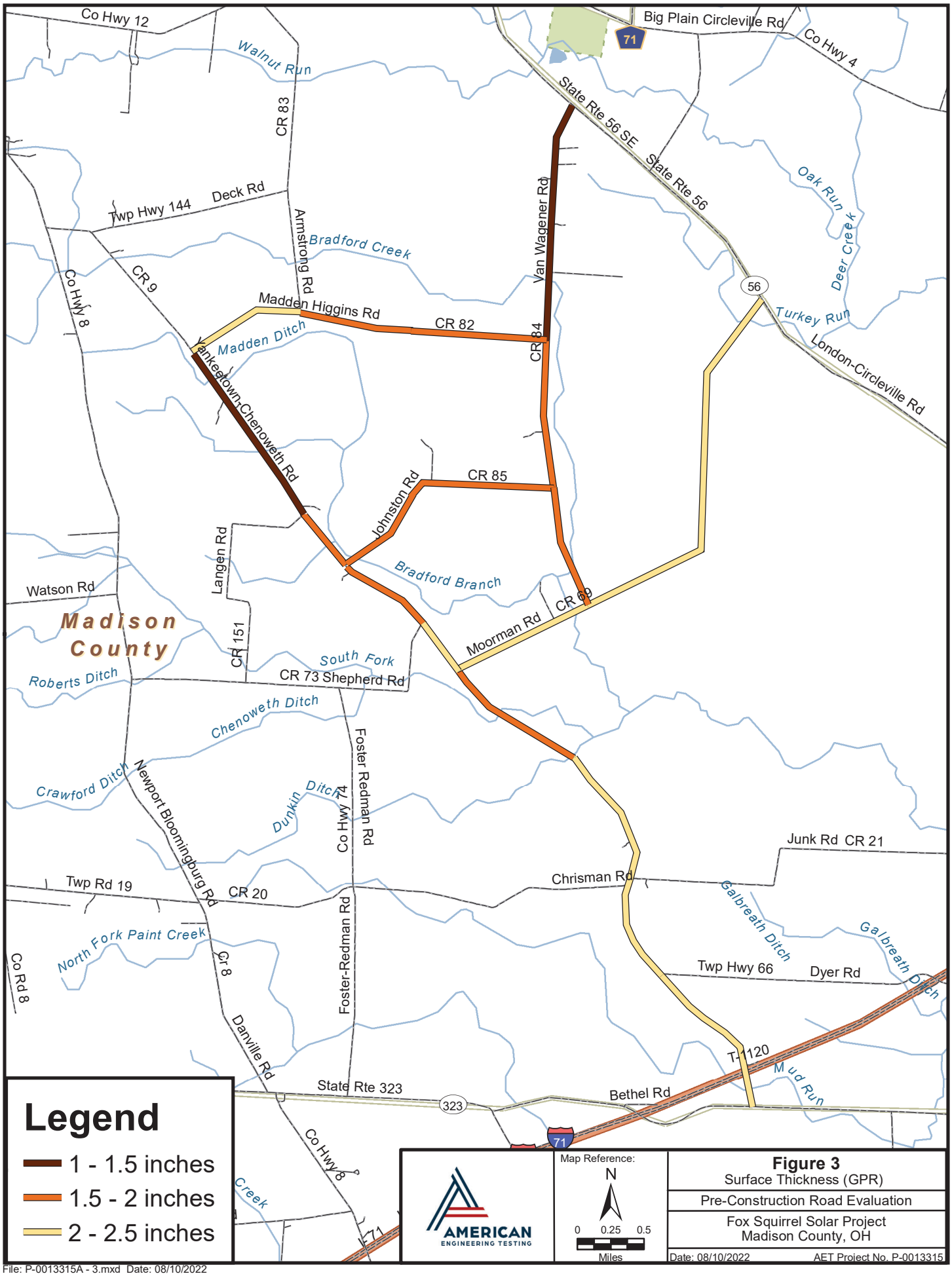

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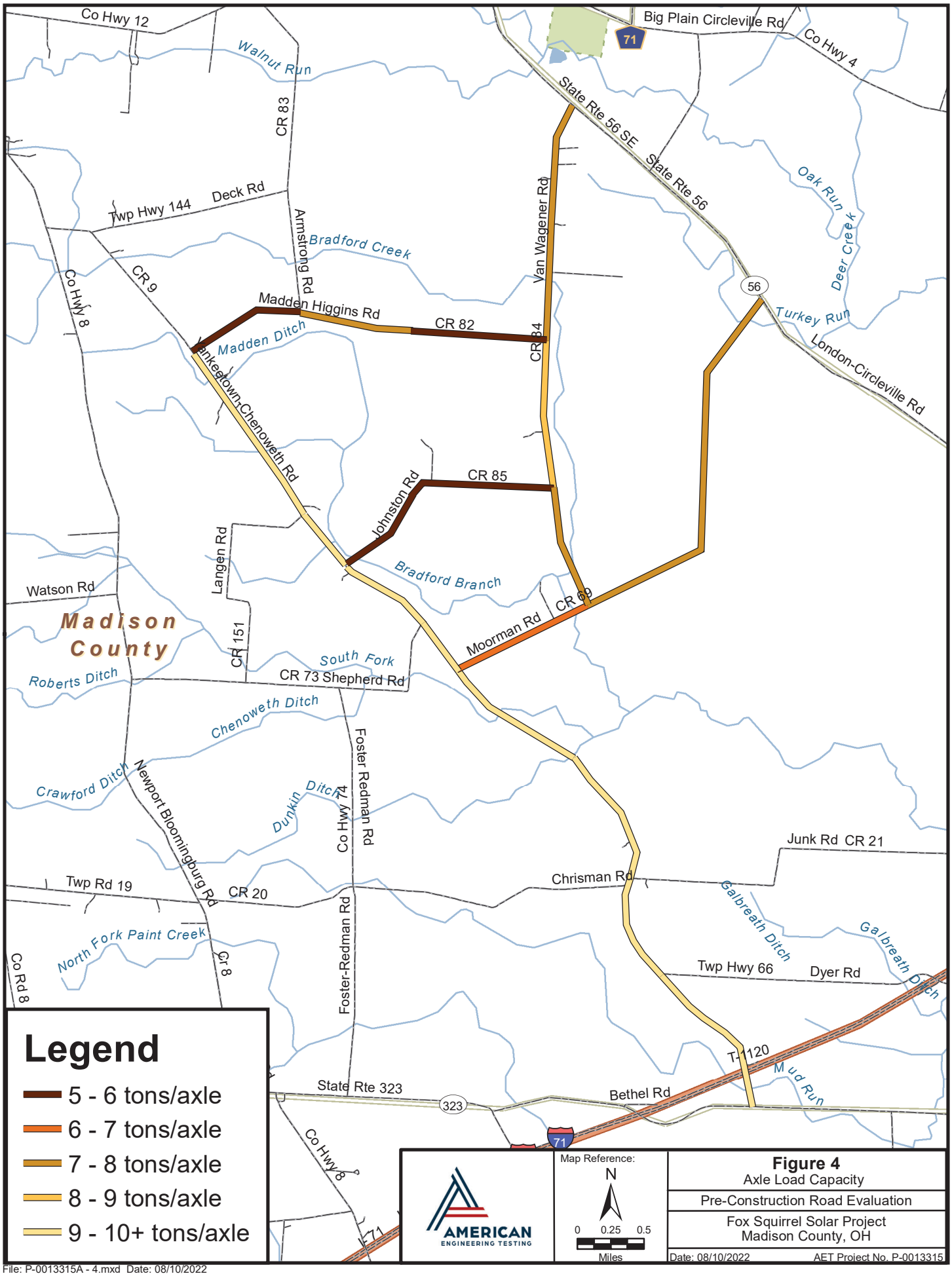

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Section ID	Road	From	To	Length (mi)	Type	PCI	Surface Thickness (in)*	Base Thickness (in)*	Subgrade MR*	Structural Number (in)*	Axle Load Capacity (ton/axle)*
S01	CR 9	SR 323	Dyer Rd	1.3	BP	41	2.4	12.0	4.3	2.3	10+
S02	CR 9	Dyer Rd	CR 21	0.8	BP	43	2.2	12.6	3.8	2.3	10+
S03	CR 9	CR 21	1.1 mi N	1.1	BP	38	2.5	12.1	4.0	2.2	10+
S04	CR 9	1.1 mi S	CR 69	1.2	BP	41	1.8	12.8	3.8	2.4	1)+
S05	CR 9	CR 69	CR 73	0.4	BP	39	2.5	11.2	3.9	2.2	10+
S06	CR 9	CR 73	CR 85	0.7	BP	40	1.7	12.3	4.7	2.1	10+
S07	CR 9	CR 85	CR 151	0.5	BP	37	1.6	13.0	4.0	2.2	10+
S08	CR 9	CR 151	CR 82	1.5	BP	37	1.5	13.8	4.0	2.2	10+
S09	CR 84	CR 69	CR 85	0.9	BP	69	1.7	9.2	4.1	1.3	7.6
S10	CR 84	CR 85	CR 82	1.1	BP	68	1.6	14.2	4.0	1.9	8.5
S11	CR 84	CR 82	SR 56	1.8	BP	68	1.4	15.9	4.0	2.0	7.4
S12	CR 69	CR 9	CR 84	1.1	BP	63	2.3	10.2	5.0	1.4	7.0
S13	CR 69	CR 84	SR 56	3.0	BP	52	2.1	11.9	3.2	1.8	7.7
S14	CR 85	CR 9	CR 85	1.9	BP	53	1.7	9.6	2.8	1.3	5.8
S15	CR 82	CR 9	CR 83	0.9	BP	67	2.1	8.2	3.8	1.2	5.4
S16	CR 82	CR 83	0.85 mi E	0.9	BP	72	1.9	7.8	3.1	1.2	7.4
S17	CR 82	1.0 mi W	CR 84	1.0	BP	73	1.9	9.4	3.1	1.4	5.8

** - 15th Percentile Values*

AMERICAN ENGINEERING TESTING

Table 1

Paved road evaluation

Pre-construction Road Evaluation

Fox Squirrel Solar Project

Madison County, OH

Date: 8/15/2022 AET Project P-0013315

Appendix A

Geotechnical Field Exploration and Testing
Boring Log Notes
AASHTO Soil Classification System
Unified Soil Classification System
Subsurface Boring Logs
Summary of Laboratory Results
Atterberg Limits Results
AASHTO Gradation Curves
Organic Content Test

Appendix A
Geotechnical Field Exploration and Testing
AET Report No. P-0013315A

A.1 FIELD EXPLORATION

The subsurface conditions at the site were explored by drilling and sampling thrity-nine (39) direct push soil borings on the county roads. The locations of the borings appear on Figure 1, preceding the Subsurface Boring Logs in this appendix.

A.2 SAMPLING METHODS

A.2.1 Direct Push Samples (DP)

Sample types described as "DP" on the boring logs are continuous core samples collected by the direct push method. The method consists of a 2.125 inch OD outer casing with an inner 1.5-inch ID plastic tube driven continuously into the ground.

A.2.2 Sampling Limitations

Unless observed in a sample, contacts between soil layers are estimated based on the spacing of samples and the action of drilling tools. Cobbles, boulders, and other large objects generally cannot be recovered from test borings, and they may be present in the ground even if they are not noted on the boring logs.

Determining the thickness of "topsoil" layers is usually limited, due to variations in topsoil definition, sample recovery, and other factors. Visual-manual description often relies on color for determination, and transitioning changes can account for significant variation in thickness judgment. Accordingly, the topsoil thickness presented on the logs should not be the sole basis for calculating topsoil stripping depths and volumes. If more accurate information is needed relating to thickness and topsoil quality definition, alternate methods of sample retrieval and testing should be employed.

A.3 CLASSIFICATION METHODS

Soil descriptions shown on the boring logs are based on the Unified Soil Classification (USC) system. The USC system is described in ASTM: D2487 and D2488. Where laboratory classification tests (sieve analysis or Atterberg Limits) have been performed, accurate classifications per ASTM: D2487 are possible. Otherwise, soil descriptions shown on the boring logs are visual-manual judgments. Charts are attached which provide information on the USC system, the descriptive terminology, and the symbols used on the boring logs.

Visual-manual judgment of the AASHTO Soil Group is also noted as a part of the soil description. A chart presenting details of the AASHTO Soil Classification System is also attached.

The boring logs include descriptions of apparent geology. The geologic depositional origin of each soil layer is interpreted primarily by observation of the soil samples, which can be limited. Observations of the surrounding topography, vegetation, and development can sometimes aid this judgment.

A.4 WATER LEVEL MEASUREMENTS

The ground water level measurements are shown at the bottom of the boring logs. The following information appears under "Water Level Measurements" on the logs:

- Date and Time of measurement
- Sampled Depth: lowest depth of soil sampling at the time of measurement
- Casing Depth: depth to bottom of casing or hollow-stem auger at time of measurement
- Cave-in Depth: depth at which measuring tape stops in the borehole
- Water Level: depth in the borehole where free water is encountered
- Drilling Fluid Level: same as Water Level, except that the liquid in the borehole is drilling fluid

The true location of the water table at the boring locations may be different than the water levels measured in the boreholes. This is possible because there are several factors that can affect the water level measurements in the borehole. Some of these factors include: permeability of each soil layer in profile, presence of perched water, amount of time between water level readings, presence of drilling fluid, weather conditions, and use of borehole casing.

A.5 LABORATORY TEST METHODS

A.5.1 Water Content Tests
Conducted per AET Procedure 01-LAB-010, which is performed in general accordance with ASTM: D2216 and AASHTO: T265.

A.5.2 Atterberg Limits Tests
Conducted per AET Procedure 01-LAB-030, which is performed in general accordance with ASTM: D4318 and AASHTO: T89, T90.

A.5.3 Sieve Analysis of Soils (thru #200 Sieves)
Conducted per AET Procedure 01-LAB-040, which is performed in general conformance with ASTM: D6913, Method A.

A.6 TEST STANDARD LIMITATIONS

Field and laboratory testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

A.7 SAMPLE STORAGE

Unless notified to do otherwise, we routinely retain representative samples of the soils recovered from the borings for a period of 30 days.

BORING LOG NOTES

DRILLING AND SAMPLING SYMBOLS

Symbol	Definition
B,H,N:	Size of flush-joint casing
CA:	Crew Assistant (initials)
CAS:	Pipe casing, number indicates nominal diameter in inches
CC:	Crew Chief (initials)
COT:	Clean-out tube
DC:	Drive casing; number indicates diameter in inches
DM:	Drilling mud or bentonite slurry
DR:	Driller (initials)
DS:	Disturbed sample from auger flights
FA:	Flight auger; number indicates outside diameter in inches
HA:	Hand auger; number indicates outside diameter
HSA:	Hollow stem auger; number indicates inside diameter in inches
LG:	Field logger (initials)
MC:	Column used to describe moisture condition of samples and for the ground water level symbols
N (BPF):	Standard penetration resistance (N-value) in blows per foot (see notes)
NQ:	NQ wireline core barrel
PQ:	PQ wireline core barrel
RD:	Rotary drilling with fluid and roller or drag bit
REC:	In split-spoon (see notes) and thin-walled tube sampling, the recovered length (in inches) of sample. In rock coring, the length of core recovered (expressed as percent of the total core run). Zero indicates no sample recovered.
REV:	Revert drilling fluid
SS:	Standard split-spoon sampler (steel; 1⅜" is inside diameter; 2" outside diameter); unless indicated otherwise
SU	Spin-up sample from hollow stem auger
TW:	Thin-walled tube; number indicates inside diameter in inches
WASH:	Sample of material obtained by screening returning rotary drilling fluid or by which has collected inside the borehole after "falling" through drilling fluid
WH:	Sampler advanced by static weight of drill rod and 140-pound hammer
WR:	Sampler advanced by static weight of drill rod
94mm:	94 millimeter wireline core barrel
▼:	Water level directly measured in boring
▽:	Estimated water level based solely on sample appearance

TEST SYMBOLS

Symbol	Definition
CONS:	One-dimensional consolidation test
DEN:	Dry density, pcf
DST:	Direct shear test
E:	Pressuremeter Modulus, tsf
HYD:	Hydrometer analysis
LL:	Liquid Limit, %
LP:	Pressuremeter Limit Pressure, tsf
OC:	Organic Content, %
PERM:	Coefficient of permeability (K) test; F - Field; L - Laboratory
PL:	Plastic Limit, %
q_p:	Pocket Penetrometer strength, tsf (approximate)
q_c:	Static cone bearing pressure, tsf
q_u:	Unconfined compressive strength, psf
R:	Electrical Resistivity, ohm-cms
RQD:	Rock Quality Designation of Rock Core, in percent (aggregate length of core pieces 4" or more in length as a percent of total core run)
SA:	Sieve analysis
TRX:	Triaxial compression test
VSR:	Vane shear strength, remoulded (field), psf
VSU:	Vane shear strength, undisturbed (field), psf
WC:	Water content, as percent of dry weight
%-200:	Percent of material finer than #200 sieve

STANDARD PENETRATION TEST NOTES

The standard penetration test consists of driving the sampler with a 140 pound hammer and counting the number of blows applied in each of three 6" increments of penetration. If the sampler is driven less than 18" (usually in highly resistant material), permitted in ASTM:D1586, the blows for each complete 6" increment and for each partial increment is on the boring log. For partial increments, the number of blows is shown to the nearest 0.1' below the slash.

The length of sample recovered, as shown on the "REC" column, may be greater than the distance indicated in the N column. The disparity is because the N-value is recorded below the initial 6" set (unless partial penetration defined in ASTM:D1586 is encountered) whereas the length of sample recovered is for the entire sampler drive (which may even extend more than 18").

AASHTO SOIL CLASSIFICATION SYSTEM

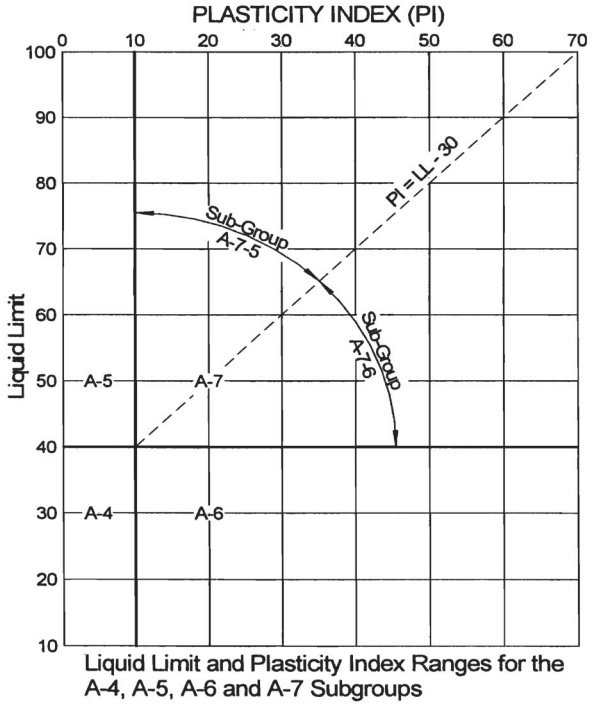
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

Classification of Soils and Soil-Aggregate Mixtures

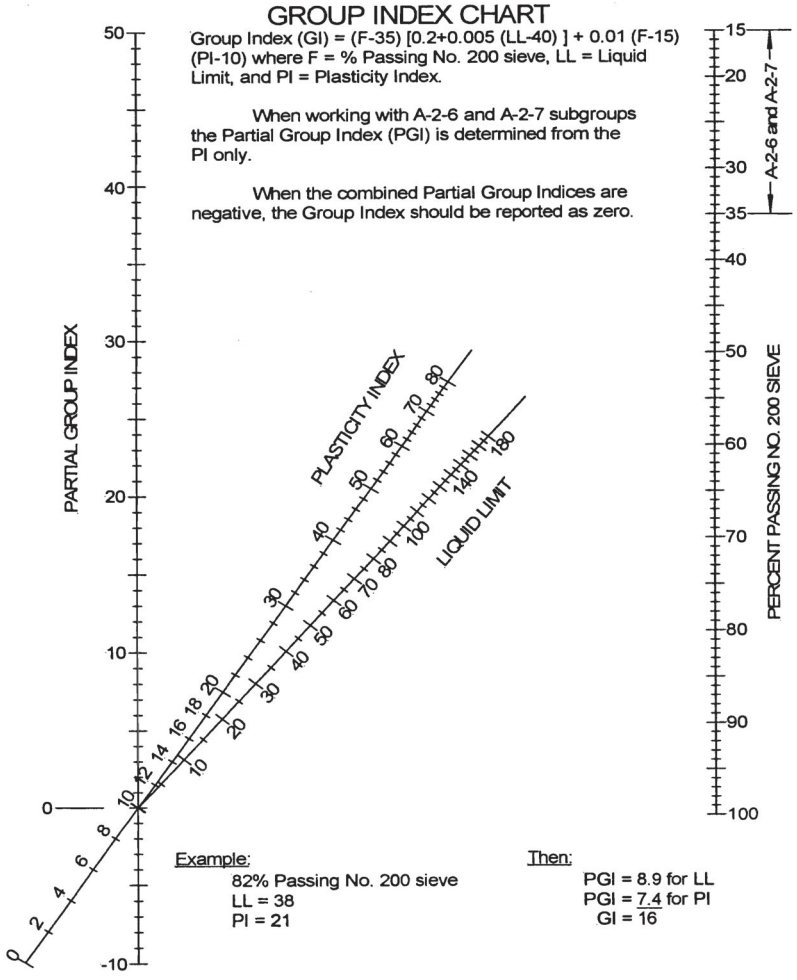
General Classification	Granular Materials (35% or less passing No. 200 sieve)							Silt-Clay Materials (More than 35% passing No. 200 sieve)			
Group Classification	A-1		A-3	A-2				A-4	A-5	A-6	A-7 A-7-5 A-7-6
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				
Sieve Analysis, Percent passing:											
No. 10 (2.00 mm)	50 max.	....	....	....	....	....	....	....	....	....	....
No. 40 (0.425 mm)	30 max.	50 max.	51 min.	....	....	....	....	....	....	....	....
No. 200 (0.075 mm)	15 max.	25 max.	10 max.	35 max.	35 max.	35 max.	35 max.	36 min.	36 min.	36 min.	36 min.
Characteristics of Fraction Passing No. 40 (0.425 mm)											
Liquid limit	....		....	40 max.	41 min.	40 max.	41 min.	40 max.	41 min.	40 max.	41 min.
Plasticity index	6 max.		N.P.	10 max.	10 max.	11 min.	11 min.	10 max.	10 max.	11 min.	11 min.
Usual Types of Significant Constituent Materials	Stone Fragments, Gravel and Sand		Fine Sand	Silty or Clayey Gravel and Sand				Silty Soils		Clayey Soils	
General Ratings as Subgrade	Excellent to Good							Fair to Poor			

The placing of A-3 before A-2 is necessary in the "left to right elimination process" and does not indicate superiority of A-3 over A-2.

Plasticity index of A-7-5 subgroup is equal to or less than LL minus 30. Plasticity index of A-7-6 subgroup is greater than LL minus 30.



Liquid Limit and Plasticity Index Ranges for the A-4, A-5, A-6 and A-7 Subgroups



Example:
82% Passing No. 200 sieve
LL = 38
PI = 21

Then:
PGI = 8.9 for LL
PGI = 7.4 for PI
GI = 16

Definitions of Gravel, Sand and Silt-Clay

The terms "gravel", "coarse sand", "fine sand" and "silt-clay", as determinable from the minimum test data required in this classification arrangement and as used in subsequent word descriptions are defined as follows:

GRAVEL - Material passing sieve with 3-in. square openings and retained on the No. 10 sieve.

COARSE SAND - Material passing the No. 10 sieve and retained on the No. 40 sieve.

FINE SAND - Material passing the No. 40 sieve and retained on the No. 200 sieve.

COMBINED SILT AND CLAY - Material passing the No. 200 sieve

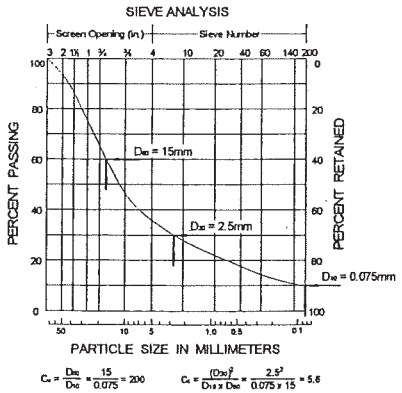
BOULDERS (retained on 3-in. sieve) should be excluded from the portion of the sample to which the classificaiton is applied, but the percentage of such material, if any, in the sample should be recorded.

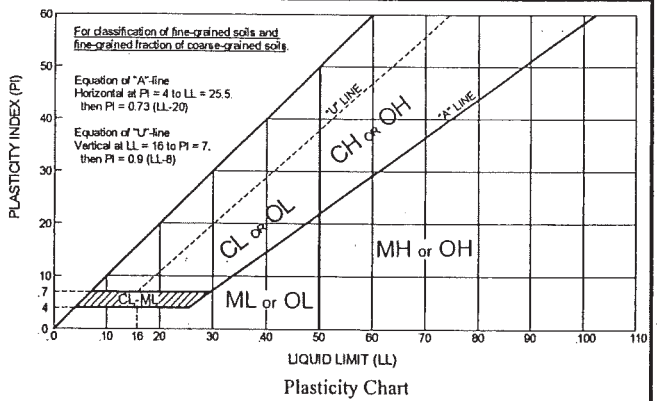
The term "silty" is applied to fine material having plasticity index of 10 or less and the term "clayey" is applied to fine material having plasticity index of 11 or greater.

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM Designations: D 2487, D2488

AMERICAN ENGINEERING TESTING, INC.

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]				Soil Classification	
				Group Symbol	Group Name[B]
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	Cu≥4 and 1≤Cc≤3[E]	GW	Well graded gravel[F]
			Cu<4 and/or 1>Cc>3[E]	GP	Poorly graded gravel[F]
		Gravels with Fines more than 12% fines[C]	Fines classify as ML or MH	GM	Silty gravel[F,G,H]
			Fines classify as CL or CH	GC	Clayey gravel[F,G,H]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines[D]	Cu≥6 and 1≤Cc≤3[E]	SW	Well-graded sand[I]
			Cu<6 and/or 1>Cc>3[E]	SP	Poorly-graded sand[I]
		Sands with Fines more than 12% fines[D]	Fines classify as ML or MH	SM	Silty sand[G,H,I]
			Fines classify as CL or CH	SC	Clayey sand[G,H,I]
Fine-Grained Soils 50% or more passes the No. 200 sieve (see Plasticity Chart below)	Silts and Clays Liquid limit less than 50	inorganic	PI>7 and plots on or above "A" line[J]	CL	Lean clay[K,L,M]
			PI<4 or plots below "A" line[J]	ML	Silt[K,L,M]
		organic	Liquid limit–oven dried <0.75 Liquid limit – not dried	OL	Organic clay[K,L,M,N] Organic silt[K,L,M,O]
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line	CH	Fat clay[K,L,M]
			PI plots below "A" line	MH	Elastic silt[K,L,M]
		organic	Liquid limit–oven dried <0.75 Liquid limit – not dried	OH	Organic clay[K,L,M,P] Organic silt[K,L,M,Q]
Highly organic soil			Primarily organic matter, dark in color, and organic in odor	PT	Peat[R]





Plasticity Chart

Notes

[A]Based on the material passing the 3-in (75-mm) sieve.

[B]If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C]Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay

[D]Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

[E]$Cu = D_{60} / D_{10}$, $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F]If soil contains ≥15% sand, add "with sand" to group name.

[G]If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H]If fines are organic, add "with organic fines" to group name.

[I]If soil contains ≥15% gravel, add "with gravel" to group name.

[J]If Atterberg limits plot is hatched area, soils is a CL-ML silty clay.

[K]If soil contains 15 to 29% plus No. 200 add "with sand" or "with gravel", whichever is predominant.

[L]If soil contains ≥30% plus No. 200, predominantly sand, add "sandy" to group name.

[M]If soil contains ≥30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N]PI≥4 and plots on or above "A" line.

[O]PI<4 or plots below "A" line.

[P]PI plots on or above "A" line.

[Q]PI plots below "A" line.

[R]Fiber Content description shown below.

ADDITIONAL TERMINOLOGY NOTES USED BY AET FOR SOIL IDENTIFICATION AND DESCRIPTION

Grain Size

Term	Particle Size
Boulders	Over 12"
Cobbles	3" to 12"
Gravel	#4 sieve to 3"
Sand	#200 to #4 sieve
Fines (silt & clay)	Pass #200 sieve

Gravel Percentages

Term	Percent
A Little Gravel	3% - 14%
With Gravel	15% - 29%
Gravelly	30% - 50%

Consistency of Plastic Soils

Term	N-Value, BPF
Very Soft	less than 2
Soft	2 - 4
Firm	5 - 8
Stiff	9 - 15
Very Stiff	16 - 30
Hard	Greater than 30

Relative Density of Non-Plastic Soils

Term	N-Value, BPF
Very Loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	Greater than 50

Moisture/Frost Condition (MC Column)

D (Dry): Absense of moisture, dusty, dry to touch.

M (Moist): Damp, although free water not visible. Soil may still have a high water content (over "optimum").

W (Wet/ Waterbearing): Free water visible intended to describe non-plastic soils. Waterbearing usually relates to sands and sand with silt.

F (Frozen): Soil frozen

Layering Notes

Laminations: Layers less than ½" thick of differing material or color.

Lenses: Pockets or layers greater than ½" thick of differing material or color.

Peat Description

Term	Fiber Content (Visual Estimate)
Fibric Peat:	Greater than 67%
Hemic Peat:	33 – 67%
Sapric Peat:	Less than 33%

Organic Description (if no lab tests)

Soils are described as *organic*, if soil is not peat and is judged to have sufficient organic fines content to influence the Liquid Limit properties. *Slightly organic* used for borderline cases.

Root Inclusions

With roots: Judged to have sufficient quantity of roots to influence the soil properties.

Trace roots: Small roots present, but not judged to be in sufficient quantity to significantly affect soil properties.

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-01 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.8094316** LONGITUDE: **-83.43424428**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.75" Bituminous pavement 8.25" Deteriorated bituminous material	FILL									
1	8" FILL, mostly silty sand with gravel, brown (A-1-b)						16				
2	LEAN CLAY WITH SAND, brown (CL) (A-6)	FINE ALLUVIUM			DP	38					
3	LEAN CLAY, brown, a little light brown, laminations of silt around 27" (CL) (A-7-6)										
4	**END OF BORING**										

DEPTH:	DRILLING METHOD
0-4'	**Direct Push**
BORING COMPLETED:	**6/21/22**
DR: **AH**	LG: **ML** Rig: **441**

WATER LEVEL MEASUREMENTS						
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-02 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.80357966** LONGITUDE: **-83.42865882**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1" Bituminous pavement 3.5" Deteriorated bituminous material 7.5" FILL, mostly silty sand, a little gravel, brown (A-2-4)	FILL			CORE		7				26
1	LEAN CLAY, gray to brown (CL) (A-7-6)	FINE ALLUVIUM					18				
2					DP	39					
3	LEAN CLAY WITH SAND, a little gravel, brown (CL) (A-6)										
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-03 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79783498** LONGITUDE: **-83.42351316**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.75" Bituminous pavement	FILL									
	6.25" Deteriorated bituminous material										
1	6" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, gray to brown (CL) (A-6)	FINE ALLUVIUM									
2					DP	41	25				
	LEAN CLAY, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-04 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79134208** LONGITUDE: **-83.41713335**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.25" Bituminous pavement 8.75" Deteriorated bituminous material	FILL									
1	6.5" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown, a little grayish brown (CL) (A-6)	FINE ALLUVIUM			DP	40	20				
2											
	LEAN CLAY, a little gravel, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-05 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.78730704** LONGITUDE: **-83.41040854**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.75" Bituminous pavement 8.25" Deteriorated bituminous pavement	FILL									
1	7.5" FILL, mostly silty sand with gravel, brown (A-1-b)										
2	LEAN CLAY WITH SAND, a little gravel, brownish gray and brown (CL) (A-6)	FINE ALLUVIUM			DP	42	21				
3	LEAN CLAY, a little gravel, brown (CL) (A-7-6)										
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-06 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.78268155** LONGITUDE: **-83.40352625**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.5" Bituminous pavement 3" Deteriorated bituminous material 6.25" FILL, mostly silty sand, a little gravel, brown (A-2-4)	FILL			CORE						
1	LEAN CLAY, grayish brown and brown (CL) (A-7-6)	FINE ALLUVIUM					18				
2					DP	38					
3	LEAN CLAY WITH SAND, light brown (CL) (A-7-6) (possible claystone)										
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-07 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.77681292** LONGITUDE: **-83.39782745**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.75" Bituminous pavement 7.25" Deteriorated bituminous material	FILL									
1	5" FILL, mostly gravelly sand with silt, light brown (A-1-b)						22				
	LEAN CLAY, brown and dark brown (CL) (A-6)	FINE ALLUVIUM									
2					DP	35					
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-08 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.77246164** LONGITUDE: **-83.39038057**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2" Bituminous pavement	FILL									
	8" Deteriorated bituminous material										
1	3" FILL, mostly silty sand, brown (A-2-4)						15				
	3" FILL, mostly sand with silt and gravel, brown (A-1-b)										
	ORGANIC CLAY, black (OL/OH) (A-8)	SWAMP DEPOSIT									
2					DP	42					
3							26		49	25	
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-4'	**Direct Push**								
BORING COMPLETED:	**6/21/22**								
DR: **AH**	LG: **ML** Rig: **441**								

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-09 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.76776793** LONGITUDE: **-83.38161339**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	3.25" Bituminous pavement	FILL									
	6.75" Deteriorated bituminous pavement										
1	10" FILL, mostly silty sand with gravel, brown (A-2-4)										
2	LEAN CLAY WITH SAND, brown (CL) (A-6)	FINE ALLUVIUM			DP	41	18				
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-10 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.76200901** LONGITUDE: **-83.37549838**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.75" Bituminous pavement	FILL									
	7" Deteriorated bituminous pavement										
1	7.75" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown (CL) (A-7-6)	FINE ALLUVIUM					24				
2	LEAN CLAY, grayish brown (CL) (A-6)				DP	44					
3											
	LEAN CLAY WITH SAND, light brown and brown (CL) (A-6) (possible claystone)										
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-11 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.75528653** LONGITUDE: **-83.37472434**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.5" Bituminous pavement	FILL									
	6.5" Deteriorated bituminous material										
1	8.75" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown (CL) (A-6)	FINE ALLUVIUM					21				
2					DP	38					
	LEAN CLAY WITH SAND, a little gravel, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-12 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.74876402** LONGITUDE: **-83.37389379**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.5" Bituminous pavement	FILL			CORE						
	3" Deteriorated bituminous material										
1	9" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown (CL) (A-7-6)	FINE ALLUVIUM					23				
2	LEAN CLAY, grayish brown to brown (CL) (A-6)				DP	36					
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-13 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.74328879** LONGITUDE: **-83.36770767**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.75" Bituminous pavement	FILL									
	6.75" Deteriorated bituminous material										
1	6" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown (CL) (A-6)	FINE ALLUVIUM			DP	42					
2											
	LEAN CLAY WITH SAND, dark grayish brown to dark brown (CL) (A-7-6)										
3							21		33	17	80
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-14 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.73815997** LONGITUDE: **-83.35975495**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.5" Bituminous pavement 6" Deteriorated bituminous material	FILL									
1	8.5" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY WITH SAND, brown, lens of silt with sand around 26" (CL) (A-6)	FINE ALLUVIUM			DP	40	17				
2											
	LEAN CLAY, a little gravel, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-15 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.78001397** LONGITUDE: **-83.39539168**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2" Bituminous pavement 6" Deteriorated bituminous material	FILL									
1	7.75" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown and dark brown (CL) (A-6)	FINE ALLUVIUM					18				
2					DP	40					
	LEAN CLAY, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-16 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.78333278** LONGITUDE: **-83.38706208**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.25" Bituminous pavement	FILL			CORE						
	1.75" Deteriorated bituminous pavement										
	10" FILL, mostly silty sand with gravel, brown (A-1-b)										
1	LEAN CLAY, brown and grayish brown (CL) (A-6)	FINE ALLUVIUM									
	LEAN CLAY WITH SAND, light brown (CL) (A-6)										
2					DP	41	26				
	LEAN CLAY WITH SAND, a little gravel, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-17 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.78661202** LONGITUDE: **-83.37854366**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2" Bituminous pavement	FILL									
	4.5" Deteriorated bituminous material										
1	9.5" FILL, mostly silty sand with gravel, brown and dark brown (A-1-b)										
	LEAN CLAY, brown to grayish brown (CL) (A-6)	FINE ALLUVIUM									
2	LEAN CLAY, slightly organic, dark grayish brown (CL) (A-7-6)				DP	44	30				
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-18 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.78997818** LONGITUDE: **-83.36998883**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.5" Bituminous pavement	FILL									
	4.75" Deteriorated bituminous material										
	10.25" FILL, mostly silty sand with gravel, brown (A-1-b)										
1							23				
	LEAN CLAY, brown and dark brown (CL) (A-7-6)	FINE ALLUVIUM									
2	ORGANIC CLAY, black (OL/OH) (A-8)	SWAMP DEPOSIT			DP	38					
							37				
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-19 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79499302** LONGITUDE: **-83.36492924**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
1	1" Bituminous pavement 3" Deteriorated bituminous pavement 11" FILL, mostly silty sand with gravel, brown (A-1-b)	FILL			CORE		9				28
2	LEAN CLAY, brown, a little dark brown (CL) (A-7-6)	FINE ALLUVIUM									
3	LEAN CLAY, slightly organic, dark brown (CL) (A-7-6)				DP	39	28				
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-4'	**Direct Push**								
BORING COMPLETED:	**6/21/22**								
DR: **AH**	LG: **ML** Rig: **441**								

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-20 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.8023179** LONGITUDE: **-83.36470547**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
1	2" Bituminous pavement 3" Deteriorated bituminous material 14.5" FILL, mostly silty sand with gravel, brown (A-1-b)	FILL					23				
2	LEAN CLAY, brown to dark brown (CL) (A-7-6)	FINE ALLUVIUM			DP	42					
3	ORGANIC CLAY, black (OL/OH) (A-8)	SWAMP DEPOSIT					31				
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-21 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.80979865** LONGITUDE: **-83.3645316**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
1	2" Bituminous pavement 3" Deteriorated bituminous material 13.5" FILL, mostly silty sand with gravel, brown (A-1-b)	FILL									
2	LEAN CLAY, slightly organic, dark brown (CL) (A-7-6)	FINE ALLUVIUM OR TOPSOIL			DP	39	23				
3	LEAN CLAY, brown (CL) (A-7-6)	FINE ALLUVIUM									
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-22 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.81578818** LONGITUDE: **-83.35989687**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous pavement 4" Deteriorated bituminous material 11" FILL, mostly silty sand with gravel, brown (A-1-b)	FILL									
1											
	LEAN CLAY WITH SAND, a little gravel, brown (CL) (A-6)	TILL OR FINE ALLUVIUM			DP	37	18				
2											
	LEAN CLAY, brown and dark brown (CL) (A-6)	FINE ALLUVIUM									
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-23 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.83682918** LONGITUDE: **-83.38596305**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.5" Bituminous pavement 5.5" Deteriorated bituminous material	FILL									
1	9" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown, a little gray (CL) (A-6)	FINE ALLUVIUM									
2					DP	36	25				
	LEAN CLAY, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-24 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.82974546** LONGITUDE: **-83.3864519**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.25" Chip seal 9.75" FILL, mostly clayey sand, a little silty sand and gravel, brown (A-2-6)	FILL			CORE						
1	LEAN CLAY WITH SAND, grayish brown (CL) (A-7-6)	FINE ALLUVIUM					23		42	19	74
2	LEAN CLAY, grayish brown (CL) (A-7-6)				DP	44	23				
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-25 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.82243095** LONGITUDE: **-83.38686739**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.5" Bituminous pavement 5" Deteriorated bituminous material	FILL									
1	11.5" FILL, mostly sand with silt and gravel, light brown and brown (A-1-b)										
	LEAN CLAY WITH SAND, brown (CL) (A-6)	FINE ALLUVIUM					20				
2					DP						
	LEAN CLAY WITH SAND, a little gravel, brown (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-26 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.81495421** LONGITUDE: **-83.38710052**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.5" Bituminous pavement 4.5" Deteriorated bituminous material	FILL									
1	5" FILL, mostly silty sand, a little gravel, brown (A-1-b) FILL, mostly lean clay, a little clayey sand and gravel, brown, dark brown and gray (A-6)										
2					DP	44	28				
	LEAN CLAY, slightly organic, dark brown (CL) (A-7-6)	TOPSOIL OR FINE ALLUVIUM									
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-27 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.80722971** LONGITUDE: **-83.38740528**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.5" Bituminous pavement 3" Deteriorated bituminous material 10.5" FILL, mostly silty sand with gravel, brown (A-1-b)	FILL									
1	LEAN CLAY, brown and dark brown (CL) (A-7-6)	FINE ALLUVIUM					29				
2	LEAN CLAY, dark grayish brown (CL) (A-7-6)				DP	40					
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-28 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.80058328** LONGITUDE: **-83.38633168**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2.25" Bituminous pavement	FILL									
	4.75" Deteriorated bituminous material										
1	7.5" FILL, mostly silty sand with gravel, brown (A-1-b)										
	LEAN CLAY, brown and dark brown (CL) (A-6)	FINE ALLUVIUM									
2	LEAN CLAY, dark brown to brown (CL) (A-7-6)				DP	42	33				
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-29 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79332195** LONGITUDE: **-83.38502573**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2.5" Bituminous pavement	FILL			CORE						
	1.5" Deteriorated bituminous pavement										
	6" FILL, mostly silty sand with gravel, light brown (A-1-b)										
1	LEAN CLAY WITH SAND, brown and gray (CL) (A-6) (possible fill)	FINE ALLUVIUM OR FILL									
	LEAN CLAY, light brown to brown, lens of sandy silt around 17" (CL) (A-7-6)	FINE ALLUVIUM					22				
2					DP	40					
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-30 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.78680432** LONGITUDE: **-83.38162674**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.5" Bituminous pavement	FILL									
	5.5" Deteriorated bituminous material										
	5" FILL, mostly silty sand with gravel, light brown (A-1-b)										
1	LEAN CLAY WITH SAND, a little gravel, brown and gray (CL) (A-6) (possible fill)	FINE ALLUVIUM OR FILL									
	LEAN CLAY, brown and gray mottled (CL) (A-7-6)	FINE ALLUVIUM									
2					DP	41	22				
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-31 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79842869** LONGITUDE: **-83.39077985**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
0	2" Bituminous pavement 2.25" Deteriorated bituminous pavement 10" FILL, mostly silty sand with gravel, light brown and brown (A-1-b)	FILL									
1	LEAN CLAY WITH SAND, a little gravel, brown and gray (CL) (A-6) (possible fill)	FINE ALLUVIUM OR FILL					29				
2	LEAN CLAY, slightly organic, dark grayish brown (CL) (A-7-6)	TOPSOIL OR FINE ALLUVIUM			DP	39					
3	LEAN CLAY, dark brown, a little brown (CL) (A-7-6)	FINE ALLUVIUM									
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS							NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL	
0-4'	**Direct Push**								
BORING COMPLETED:	**6/21/22**								
DR: **AH**	LG: **ML** Rig: **441**								

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-32 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79856022** LONGITUDE: **-83.39964404**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.25" Bituminous pavement 0.75" Deteriorated bituminous pavement 11.5" FILL, mostly silty sand with gravel, light brown and brown (A-1-b)	FILL			CORE						
1							31				
	FAT CLAY, dark brown to brown and gray mottled (CH) (A-7-6)	FINE ALLUVIUM									
2					DP	38					
							28		54	22	87
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-33 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79567209** LONGITUDE: **-83.40717798**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	1.5" Bituminous pavement	FILL									
	1.5" Deteriorated bituminous material										
	6" FILL, mostly silty sand with gravel, brown (A-1-b)										
1	FILL, mostly lean clay, a little gravel and sandy silt, dark brown and brown (A-6)						24				
	LEAN CLAY, dark brown to brown (CL) (A-7-6)	FINE ALLUVIUM									
2					DP	34					
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-34 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.79029367** LONGITUDE: **-83.41395649**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
0	2" Bituminous pavement 1.75" Deteriorated bituminous material 6" FILL, mostly sand with silt and gravel, light brown (A-1-b)	FILL									
1	FILL, mixture of clayey sand and lean clay, a little silty sand and gravel, brown and dark brown (A-6)						15				
2	LEAN CLAY WITH SAND, a little gravel, brown (CL) (A-6) (possible fill)	FINE ALLUVIUM OR FILL			DP	38	36				
3	ORGANIC CLAY, black (OL/OH) (A-8)	SWAMP DEPOSIT									
4	**END OF BORING**										

DEPTH:	DRILLING METHOD
0-4'	**Direct Push**
BORING COMPLETED:	**6/21/22**
DR: **AH**	LG: **ML** Rig: **441**

WATER LEVEL MEASUREMENTS						
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-35 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.81451872** LONGITUDE: **-83.43342738**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2" Bituminous pavement										
	5.5" Deteriorated bituminous pavement	FILL									
1	FILL, mostly lean clay with sand, a little gravel, brown and dark brown (A-7-6)										
	LEAN CLAY, dark brown (CL) (A-6)	FINE ALLUVIUM					24				
2					DP	37					
	LEAN CLAY, brown, a little gray mottled (CL) (A-7-6)										
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-36 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.81727202** LONGITUDE: **-83.42501884**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2" Bituminous pavement	FILL									
	4" Deteriorated bituminous material										
	4.5" FILL, mostly silty sand with gravel, brown (A-1-b)										
1	LEAN CLAY, dark grayish brown ,a little brown, lens of silty sand around 15" (CL) (A-7-6) (possible fill)	FINE ALLUVIUM OR FILL									
	LEAN CLAY, dark grayish brown to gray (CL) (A-7-6)	FINE ALLUVIUM									
2					DP	43	25				
3	LEAN CLAY, brown and dark brown mottled (CL) (A-7-6)										
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-37 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.81615655** LONGITUDE: **-83.41580997**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	%-#200
	2" Bituminous pavement										
	4" Deteriorated bituminous pavement				CORE						
	6" FILL, mostly silty sand with gravel, brown (A-1-b)	FILL									
1	LEAN CLAY WITH SAND, a little gravel, brownish gray to brown (CL) (A-6)	FINE ALLUVIUM					22				
2	LEAN CLAY, a little gravel, brown (CL) (A-7-6)				DP	40					
3	SANDY LEAN CLAY, a little gravel, brown (CL) (A-6)	TILL					25				79
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-38 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.81530111** LONGITUDE: **-83.40634893**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
	2" Bituminous pavement	FILL									
	4" Deteriorated bituminous material										
	5.75" FILL, mostly silty sand with gravel, dark brown to brown (A-1-b)										
1	LEAN CLAY, dark grayish brown to brown (CL) (A-7-6)	FINE ALLUVIUM					33				
2					DP	39					
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

SUBSURFACE BORING LOG

AET JOB NO: **P-0013315** LOG OF BORING NO. **B-39 (p. 1 of 1)**

PROJECT: **Fox Squirrel Solar Project; Madison County, OH**

SURFACE ELEVATION: _____ LATITUDE: **39.81472229** LONGITUDE: **-83.39580568**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS				
							WC	DEN	LL	PL	%-#200
1	2" Bituminous pavement 3.25" Deteriorated bituminous material 9.75" FILL, mostly silty sand with gravel, dark brown and brown (A-1-b)	FILL									
2	LEAN CLAY, dark brown to dark brownish gray (CL) (A-7-6)	FINE ALLUVIUM			DP	39	24				
3											
4	**END OF BORING**										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
0-4'	**Direct Push**							
BORING COMPLETED:	**6/21/22**							
DR: **AH**	LG: **ML** Rig: **441**							

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP W-LAT-LONG P-0013315.GPJ AET+CPT+WELL.GDT 8/10/22

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-01	1.0							16.4			
B-02	0.7				16	26		7.3			
B-02	1.0							18.2			
B-03	2.0							25.0			
B-04	2.0							19.5			
B-05	1.5							21.2			
B-06	1.5							17.5			
B-07	1.0							21.6			
B-08	1.1							14.6			
B-08	2.9	49	25	24				25.6			
B-09	2.0							18.2			
B-10	1.5							24.1			
B-11	1.5							20.9			
B-12	1.5							23.0			
B-13	3.1	33	17	16	0.075	80	CL	20.6			
B-14	2.0							16.7			
B-15	1.5							18.0			
B-16	2.0							25.6			
B-17	2.0							29.5			
B-18	1.0							22.7			
B-18	2.5							36.5			
B-19	0.9				37.5	28		9.1			
B-19	2.0							28.2			
B-20	1.5							23.3			
B-20	3.0							31.0			
B-21	2.0							23.2			
B-22	2.0							18.3			
B-23	2.0							25.3			
B-24	1.3	42	19	23	0.075	74	CL	22.6			
B-24	2.0							22.7			
B-25	1.5							19.8			
B-26	2.0							27.6			
B-27	1.5							29.4			
B-28	2.0							32.8			
B-29	1.5							21.6			
B-30	2.0							21.5			
B-31	1.5							29.1			
B-32	1.0							31.3			
B-32	2.5	54	22	32	0.075	87	CH	28.0			
B-33	1.0							24.2			
B-34	1.0							14.7			
B-34	2.0							35.6			

AMERICAN ENGINEERING TESTING

Summary of Laboratory Results

Project: Fox Squirrel Solar Project

Location: Madison County, OH

Number: P-0013315

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
B-35	1.5							23.8			
B-36	2.0							25.0			
B-37	1.0							22.2			
B-37	3.1				0.075	79		25.5			
B-38	1.5							33.2			
B-39	1.5							24.2			

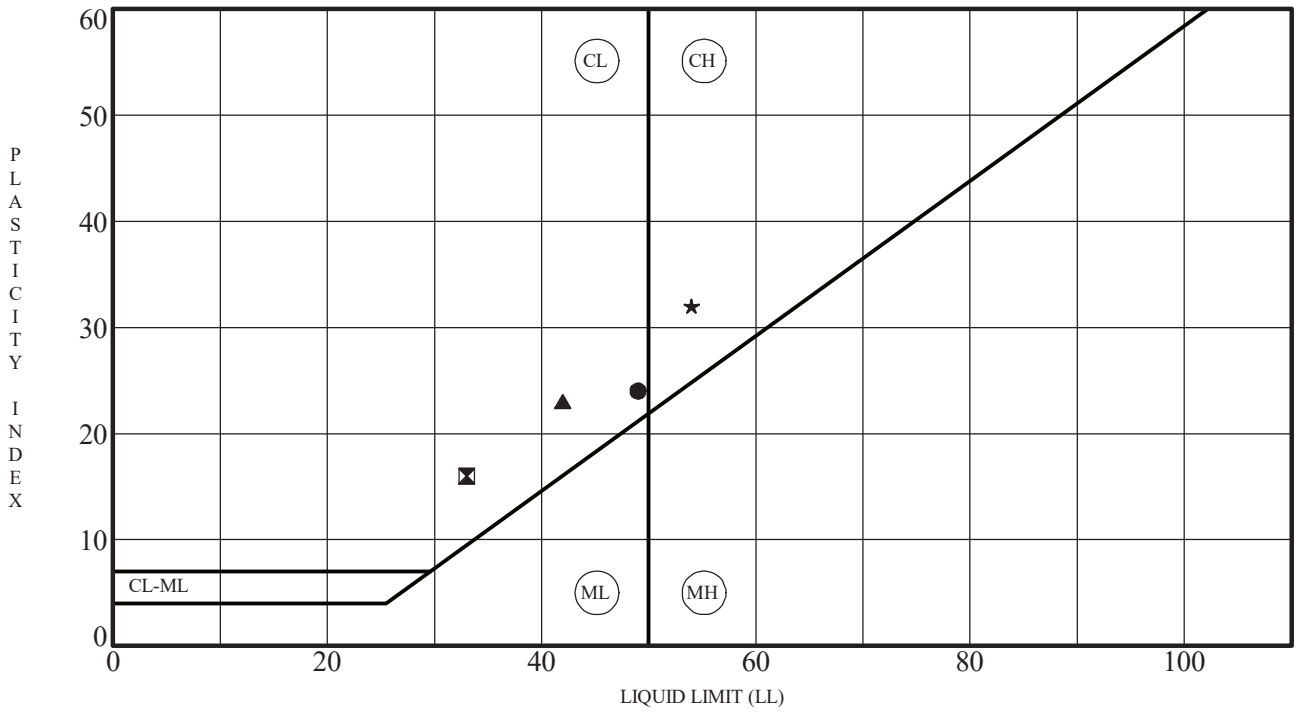
AMERICAN ENGINEERING TESTING

Summary of Laboratory Results

Project: Fox Squirrel Solar Project

Location: Madison County, OH

Number: P-0013315



	Specimen Identification		LL	PL	PI	Fines	Classification
●	**B-08**	**2.9'**	**49**	**25**	**24**		
⊠	**B-13**	**3.1'**	**33**	**17**	**16**	**80.3**	**LEAN CLAY with SAND**
▲	**B-24**	**1.3'**	**42**	**19**	**23**	**74.4**	**LEAN CLAY with SAND**
★	**B-32**	**2.5'**	**54**	**22**	**32**	**87.2**	**FAT CLAY**

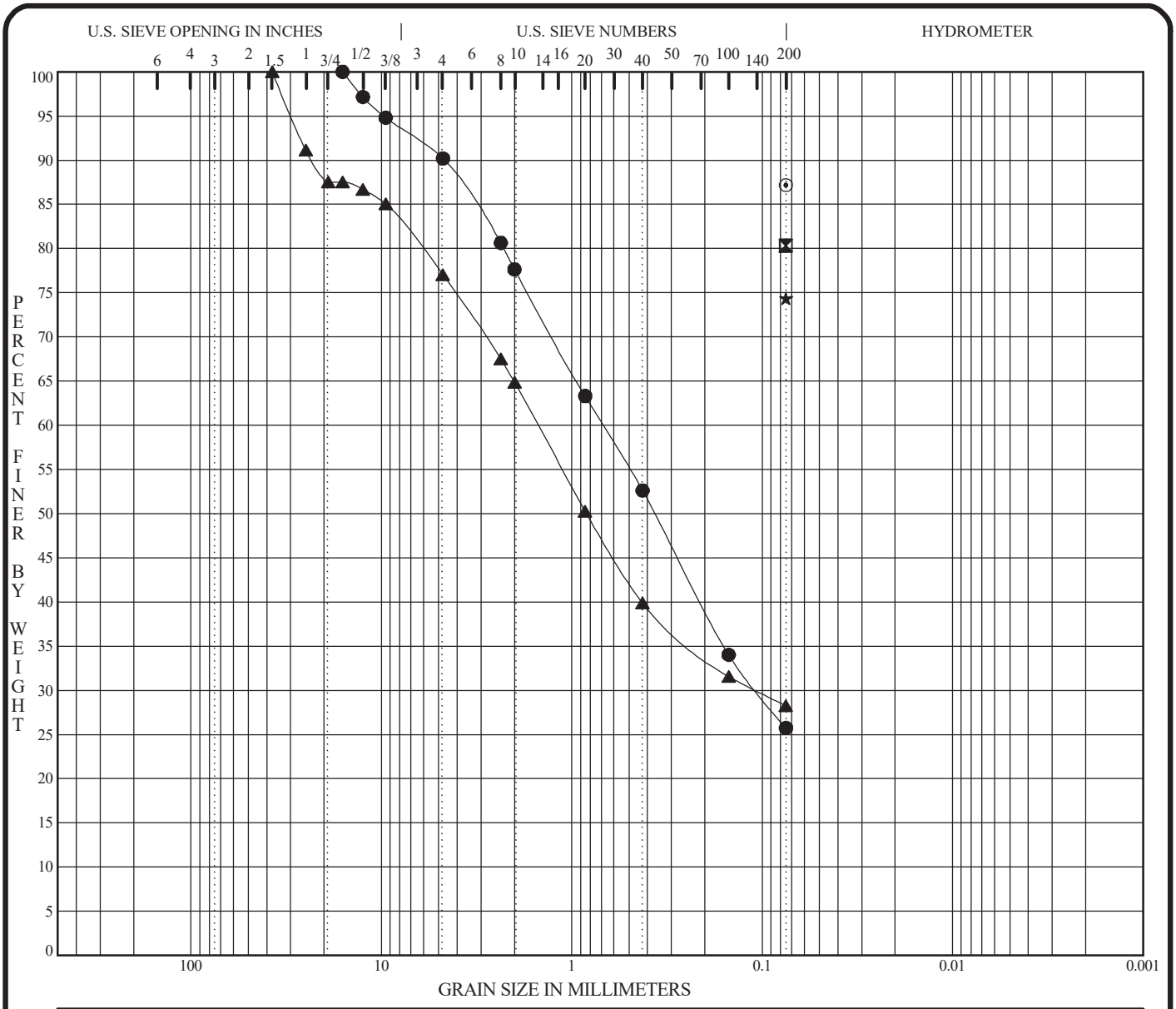
PROJECT **Fox Squirrel Solar Project; Madison County, OH**

AET JOB NO. **P-0013315**

DATE **6/21/22**

American Engineering Testing Inc
550 Cleveland Avenue North
St. Paul, MN 55114
Telephone: (651) 659-9001
Fax: (651) 659-1347

ATTERBERG LIMITS RESULTS



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
●	B-02	0.7		7					
⊠	B-13	3.1	LEAN CLAY with SAND	21	33	17	16		
▲	B-19	0.9		9					
★	B-24	1.3	LEAN CLAY with SAND	23	42	19	23		
⊙	B-32	2.5	FAT CLAY	28	54	22	32		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-02	0.7	16.00	0.69	0.107		22.4	51.9	25.7	
⊠	B-13	3.1	0.08				0.0	0.0	80.3	
▲	B-19	0.9	37.50	1.50	0.108		35.1	36.6	28.2	
★	B-24	1.3	0.08				0.0	0.0	74.4	
⊙	B-32	2.5	0.08				0.0	0.0	87.2	

PROJECT **Fox Squirrel Solar Project; Madison County, OH**

AET JOB NO. **P-0013315**

DATE **6/21/22**

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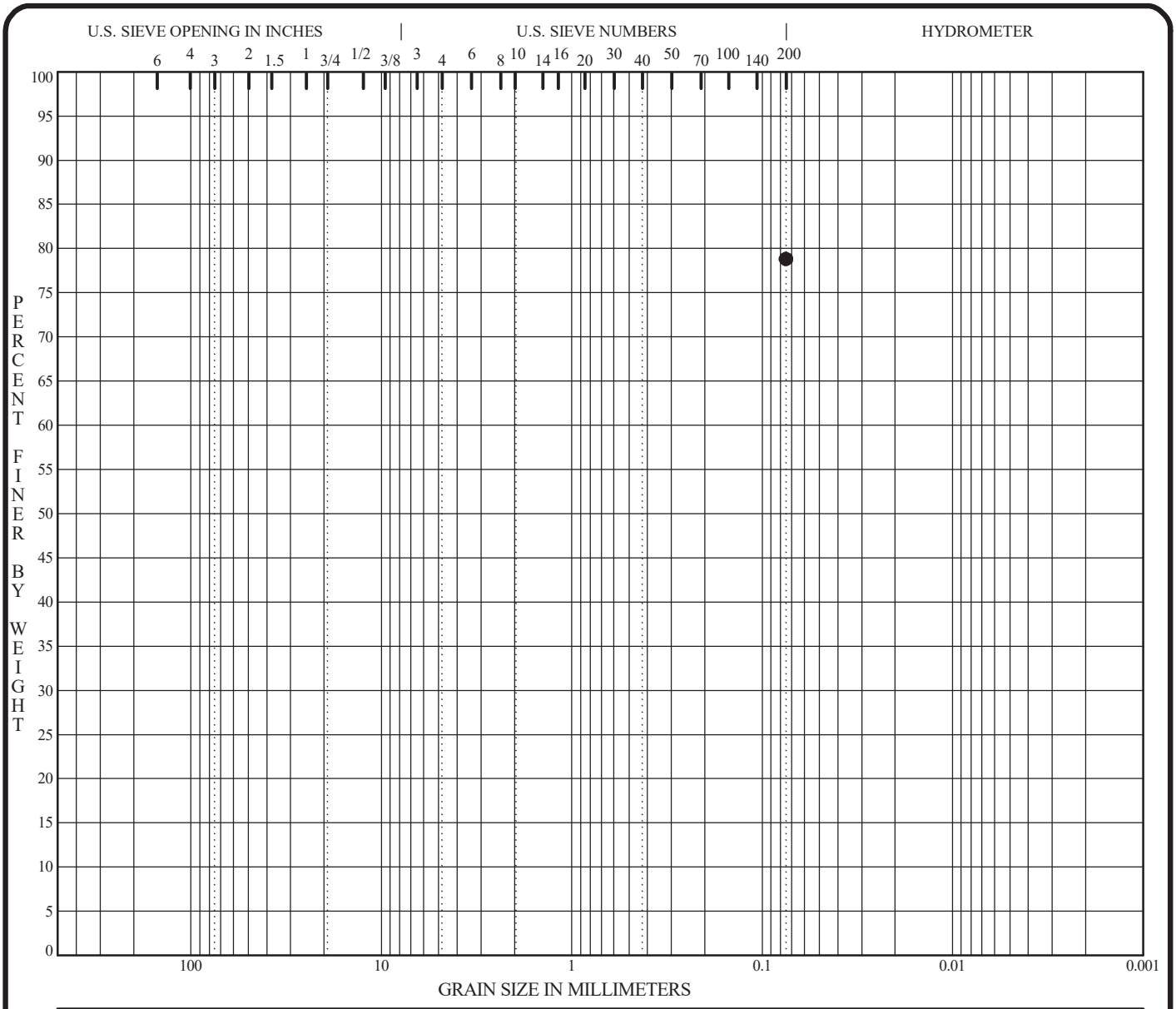
550 Cleveland Avenue North
St. Paul, MN 55114
Telephone: (651) 659-9001
Fax: (651) 659-1347

AASHTO GRADATION CURVES



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	MC%	LL	PL	PI	Cc	Cu
●	**B-37**	**3.1**		**25**					

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-37**	**3.1**	**0.08**				**0.0**	**0.0**	**78.8**	

PROJECT **Fox Squirrel Solar Project; Madison County, OH**

AET JOB NO. **P-0013315**

DATE **6/21/22**

American Engineering Testing Inc
550 Cleveland Avenue North
St. Paul, MN 55114
Telephone: (651) 659-9001
Fax: (651) 659-1347

AASHTO GRADATION CURVES

TEST FOR MOISTURE, ASH AND ORGANIC MATTER OF PEAT AND OTHER ORGANIC SOILS
ASTM D2974, Test Method C

AMERICAN ENGINEERING TESTING

AET Project # :	P-0013315	Client:	
Project Name :	Fox Squirrel Solar Project	PM :	M. Anderson
Date Tested :	August 3, 2022	Tested By :	B. Pomroy

Drying time 16hr. @ 105 ±°C Ignition oven set @ 440° C

Boring# :	B-08	A	Mass of the as-received test specimen (g) (pan & sample)	200.51
Sample # :		B	Mass of the oven-dried specimen (g) (Pan & sample)	178.18
Depth :	22" - 4'	C	Moisture content(%)- ((A-B)X100)/B	30.77
Blows :		D	Mass of ash (g) Pan & sample)	173.53
Soil Type :		E	Ash content(%) = (D*100)/B	93.59
Notes:		F	Pan wieght (g)	105.60
			ORGANIC MATTER (%) = 100-E	6.4

Boring# :		A	Mass of the as-received test specimen (g) (pan & sample)	
Sample # :		B	Mass of the oven-dried specimen (g) (Pan & sample)	
Depth :		C	Moisture content(%)- ((A-B)X100)/B	
Blows :		D	Mass of ash (g) Pan & sample)	
Soil Type :		E	Ash content(%) = (D*100)/B	
		F	Pan wieght (g)	
			ORGANIC MATTER (%) = 100-E	

Boring# :		A	Mass of the as-received test specimen (g) (pan & sample)	
Sample # :		B	Mass of the oven-dried specimen (g) (Pan & sample)	
Depth :		C	Moisture content(%)- ((A-B)X100)/B	
Blows :		D	Mass of ash (g) Pan & sample)	
Soil Type :		E	Ash content(%) = (D*100)/B	
		F	Pan wieght (g)	
			ORGANIC MATTER (%) = 100-E	

Boring# :		A	Mass of the as-received test specimen (g) (pan & sample)	
Sample # :		B	Mass of the oven-dried specimen (g) (Pan & sample)	
Depth :		C	Moisture content(%)- ((A-B)X100)/B	
Blows :		D	Mass of ash (g) Pan & sample)	
Soil Type :		E	Ash content(%) = (D*100)/B	
		F	Pan wieght (g)	
			ORGANIC MATTER (%) = 100-E	

Reviewed By : ______________

Date : ______________

Appendix B

Ground Penetrating Radar Field Exploration and Testing
GPR Results Plot

Appendix B
Ground Penetrating Radar Field Exploration and Testing
AET Project No. P-0013315A

B.1 FIELD EXPLORATION

The pavement structural conditions at the site were evaluated nondestructively using Ground Penetrating Radar (GPR). The description of the equipment precedes the GPR Data and Analysis Results in this appendix.

B.2 EQUIPMENT DESCRIPTION

B.2.1 GSSI GPR Test System

The GPR test system owned by AET is a GSSI Roadscan System that consists of a bumper-mounted, 2 GHz air-coupled antenna and a SIR-20 control and data acquisition processor, featuring dual channels. The GPR processor, including a SIR-20 data acquisition system, wheel-mounted DMI (Distance Measuring Instrument), and a tough book with the SIR-20 Field Program constitutes the newest, most sophisticated GSSI Test System, which fulfills or exceeds all requirements to meet ASTM-4748, ASTM D-6087 Standards. Figure B1 provides a view of this equipment.

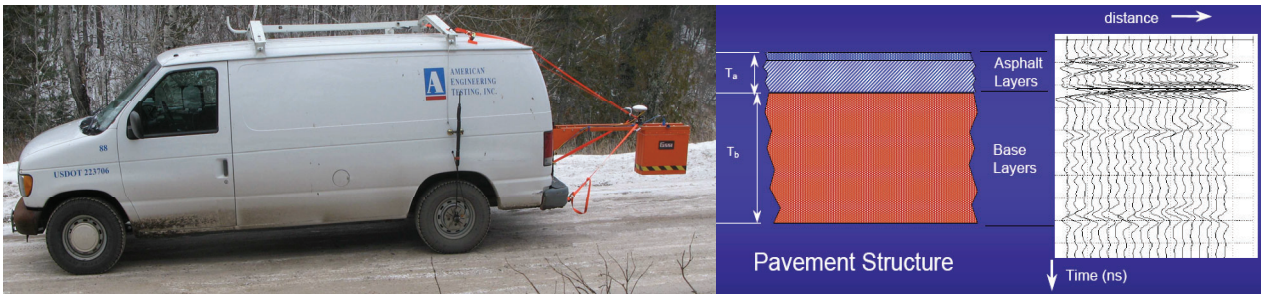


Figure B1 GSSI 2 GHz air-coupled GPR Test System

The GPR antenna emits a high frequency electromagnetic wave into the material under investigation. The reflected energy caused by changes in the electromagnetic properties within the material is detected by a receiver antenna and recorded for subsequent analysis. The 2 GHz air-coupled GPR is capable of collecting radar waveforms at more than 100 signals per second, allows for data to be collected at driving speeds along the longitudinal dimension of the pavements or bridge decks with the antennas fixed at the rear or in front of the vehicle.

The antenna used for Roadscan is the Horn antenna Model 4105 (2 GHz). The 2 GHz antenna is the current antenna of choice for road survey because it combines excellent resolution with reasonable depth penetration (18-24 inches in pavement materials). The data collection is performed at normal driving speeds (45-55 mph), requiring no lane closures nor causing traffic congestion. At this peed the 2 GHz antenna is capable of collecting data at 1-foot interval (1 scan/foot).

The data were collected at a rate of about 1 vertical scans per foot. Each vertical scan consisted of 512 samples and the record length in time of each scan was 12 nanoseconds. Filters used during acquisition were 300 MHz high pass and 5,000 MHz low pass.

In a GPR test, the antenna is moved continuously across the test surface and the control unit collects data at a specified distance increment. In this way, the data collection rate is independent of the scan rate. Alternatively, scanning can be performed at a constant rate of time, regardless of the scan distance. Single point scans can be performed as well. Data is reviewed on-screen and in the field to identify reflections and ensure proper data collection parameters.

Field testing is performed in accordance with the standard ASTM procedures as described in ASTM D 4695-96, “Standard Guide for General Pavement Deflection Measurements”.

B.2.2 System Calibrations

Horn antenna processing is used to get the velocity of the radar energy in the material by comparing the reflection strengths (amplitudes) from a pavement layer interface with a perfect reflector (a metal plate). The calibration scan is obtained with the horn antenna placed over a metal plate at the same elevation as a scan obtained over pavement.

The same setting for data collection is used for metal plate calibration. Fifteen seconds are need for jumping up and down on the vehicle's bumper to collect the full range of motion for the vehicle's shocks. The filename of raw calibration file is recorded.

Survey wheel is calibrated by laying out a long distance (> 50 feet) with tape measure.

B.2.3 Linear Distance and Spatial Reference System
Distance measuring instrument (DMI) is a trailer mounted two phase encoder system. When DMI is connected to the SIR-20 it provides for automatic display and recording distance information in both English and metric units with a 1 foot (0.3 meters) resolution and four percent accuracy when calibrated using provided procedure in the Field Program.

Spatial reference system is a Trimble ProXH Global Positioning System (GPS) that consists of fully integrated receiver, antenna and battery unit with Trimble's new H-Star™ technology to provide subfoot (30 cm) post processed accuracy. The External Patch antenna is added to the ProXH receiver for the position of the loading plate. The External Patch antenna can be conveniently elevated with the optional baseball cap to prevent any signal blockage.

B.2.4 Camera Monitoring System
A battery operated independent DC-1908E multi-functional digital camera with a SD card is used for easy positioning of the loading plate or of the pavement surface condition at the testing locations.

B.3 SAMPLING METHODS
At the project level, the testing interval is set at 12 scans per foot in the Outside Wheel Path (OWP) = 2.5 ft ± 0.25 ft (0.76 m ± 0.08 m) for nominal 12 ft (3.7 m) wide lanes at a survey speed of approximately 10 mph. Where a divided roadbed exists, surveys will be taken in both directions if the project will include improvements in both directions. If there is more than one lane in one direction the surveys will be taken in the outer driving lane (truck lane) versus the passing lane of the highway. GPR tests are performed at a constant lateral offset down the test section. When GPR tests are performed on bridge decks, multiple survey lines are followed transversely at 2-foot spacing between survey lines.

At the network level, GPR tests on one scan per foot are set to be able to collect data on pavements at driving speeds, without statistically compromising the quality of the data collected. If GPR tests are for the in situ characterization of material GPR data will be collected at two scan per foot at slower driving speeds.

B.4 QUALITY CONTROL (QC) AND QUALITY ASSURANCE (QA)
Beside the daily metal plate calibration the DMI is also calibrated monthly by driving the vehicle over a known distance to calculate the distance scale factor. The GPR will be monitored in real time in the data collection vehicle to minimize data errors. The GPR units will be identified with a unique number and that number will accompany all data reported from that unit as required in the QC/QA plan.

Scheduled preventive maintenance ensures proper equipment operation and helps identify potential problems that can be corrected to avoid poor quality or missing data that results if the equipment malfunctions while on site. The routine and major maintenance procedures established by the LTPP are adopted and any maintenance has been done at the end of the day after the testing is complete and become part of the routine performed at the end of each test/travel day and on days when no other work is scheduled.

To insure quality data, the GPR assessments only took place on dry pavement surfaces, and data was collected in each wheel path.

B.5 DATA ANALYSIS METHODS

B.5.1 Data Editing
Field acquisition is seldom so routine that no errors, omissions or data redundancy occur. Data editing encompasses issues such as data re-organization, data file merging, data header or background information updates, repositioning and inclusion of elevation information with the data.

B.5.2 Basic Processing
Basic data processing addresses some of the fundamental manipulations applied to data to make a more acceptable product for initial interpretation and data evaluation. In most instances this type of processing is already applied in real-time to generate the real-time display. The advantage of post survey processing is that the basic processing can be done more systematically and non-causal operators to remove or enhance certain features can be applied.

The Reflection Picking procedure is used to eliminate unwanted noise, detects significant reflections, and records the corresponding time and depth. It uses antenna calibration file data to calculate the radar signal velocity within the pavement.

B.5.3 Advance Processing
Advanced data processing addresses the types of processing which require a certain amount of operator bias to be applied and which will result in data which are significantly different from the raw information which were input to the processing.

B.5.4 Data Interpretation
The EZ Tracker Layer Interpretation procedure uses the output from the first step to map structural layers and calculate the corresponding velocities and depths.

B.6 TEST LIMITATIONS

B.6.1 Test Methods
The data derived through the testing program have been used to develop our opinions about the pavement conditions at your site. However, because no testing program can reveal totally what is in the subsurface, conditions between test locations and at other times, may differ from conditions described in this report. The testing we conducted identified pavement conditions only at those points where we measured pavement thicknesses and observed pavement surface conditions. Depending on the sampling methods and sampling frequency, every location may not be tested, and some anomalies which are present in the pavement may not be noted on the testing results. If conditions encountered during construction differ from those indicated by our testing, it may be necessary to alter our conclusions and recommendations, or to modify construction procedures, and the cost of construction may be affected.

B.6.2 Test Standards
Pavement testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

B.7 SUPPORTING TEST METHODS

B.7.1 Falling Weight Deflectometer (FWD)
If the pavement layer moduli and subgrade soil strength are desired the deflection data are collected using a Dynatest 8000 FWD Test System that consists of a Dynatest 8002 trailer and a third generation control and data acquisition unit developed in 2003, called the Dynatest Compact15, featuring fifteen (15) deflection channels. The new generation FWD, including a Compact15 System and a standard PC with the FwdWin field Program constitutes the newest, most sophisticated Dynatest FWD Test System, which fulfills or exceeds all requirements to meet ASTM-4694, ASTM D-4695 Standards. The system provides continuous data at pre-set spacing.

B.7.2 Soil Boring/Coring Field Exploration
If both pavement thicknesses and subgrade soil types and conditions are desired the shallow coring/boring and sampling is used. The limited number of coring/boring is necessary to verify the GPR layer thickness data.

B.7.3 Pavement Surface Condition Survey
The type and severity of pavement distress influence the deflection response for a pavement. Therefore, GPR operators record any distress located from about 1 ft (0.3 m) in front of vehicle to about 30 ft (9 m) ahead. This information is recorded in the FWD file using the comment line in the field program immediately following the test.

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Fax: (651) 659-1379

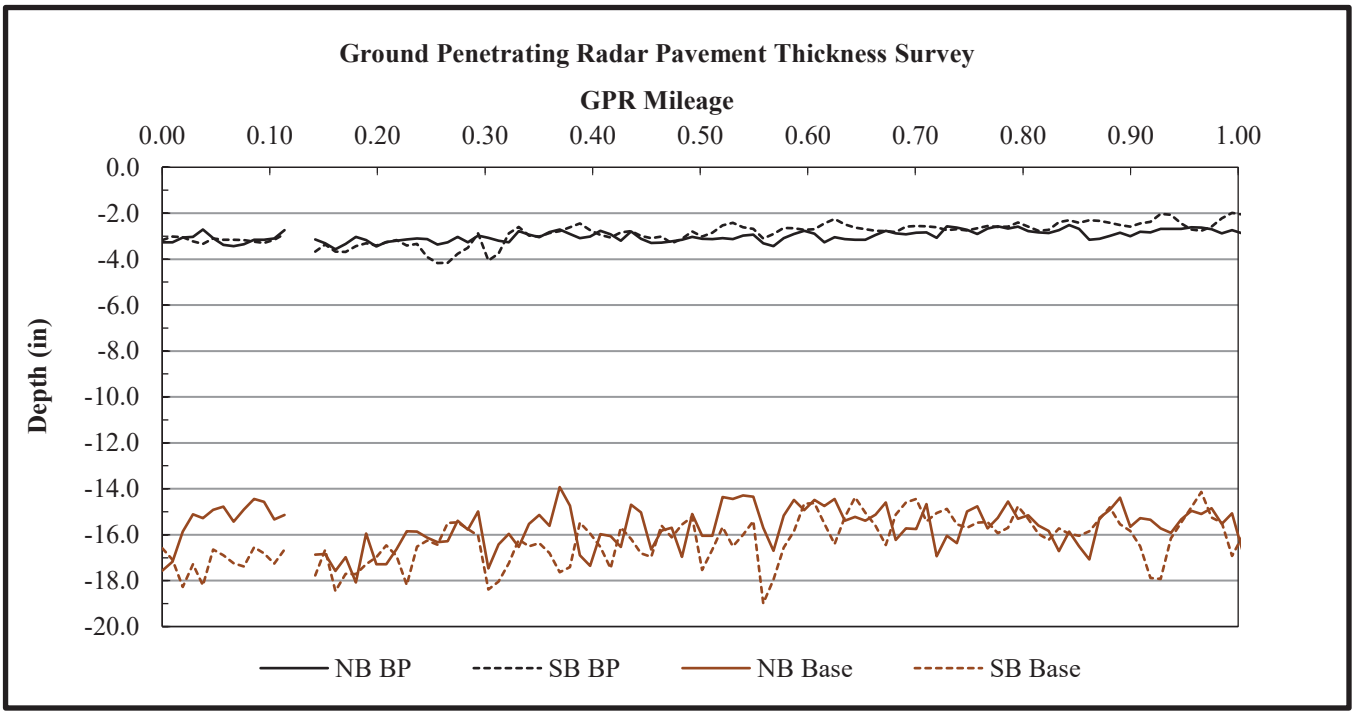
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S01
From:	US 71	**To:**	Dyer Rd

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.9	10%	2.6	2.2	2.8	17%	2.3	1.9
Base	12.7	6%	11.8	11.0	13.3	7%	12.3	11.3



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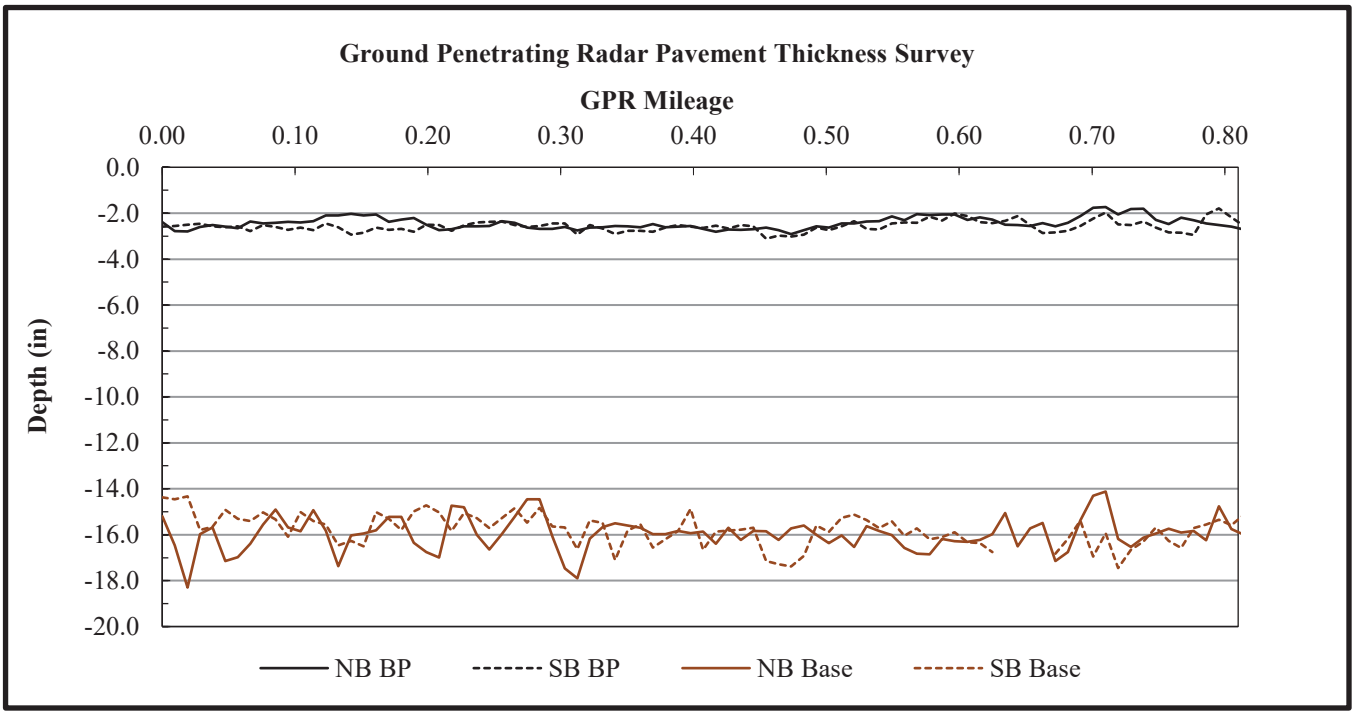
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S02
From:	Dyer Rd	**To:**	CR 21

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.4	11%	2.1	1.7	2.6	9%	2.4	1.8
Base	13.5	6%	12.9	11.8	12.5	27%	12.4	-2.9



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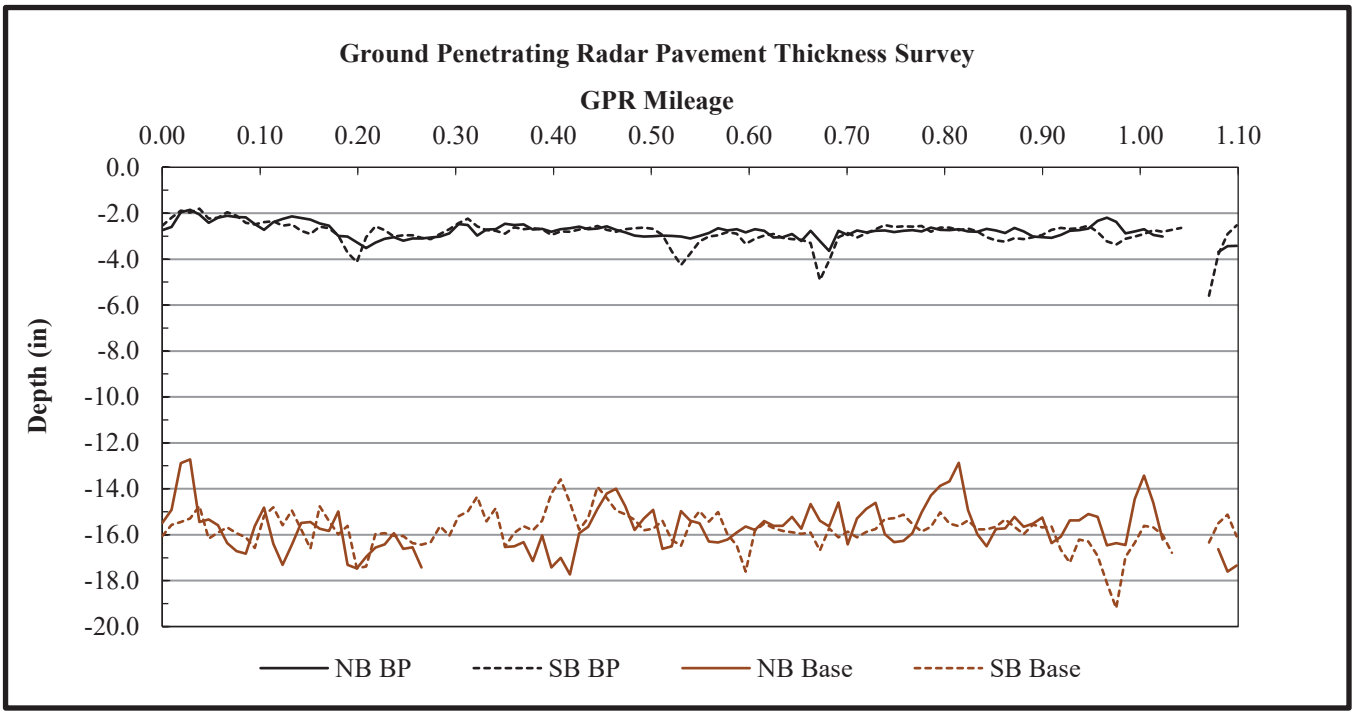
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S03
From:	CR 21	**To:**	1.1 mi N

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.8	12%	2.5	1.9	2.9	18%	2.5	1.8
Base	12.9	8%	11.9	10.2	12.9	6%	12.2	10.8



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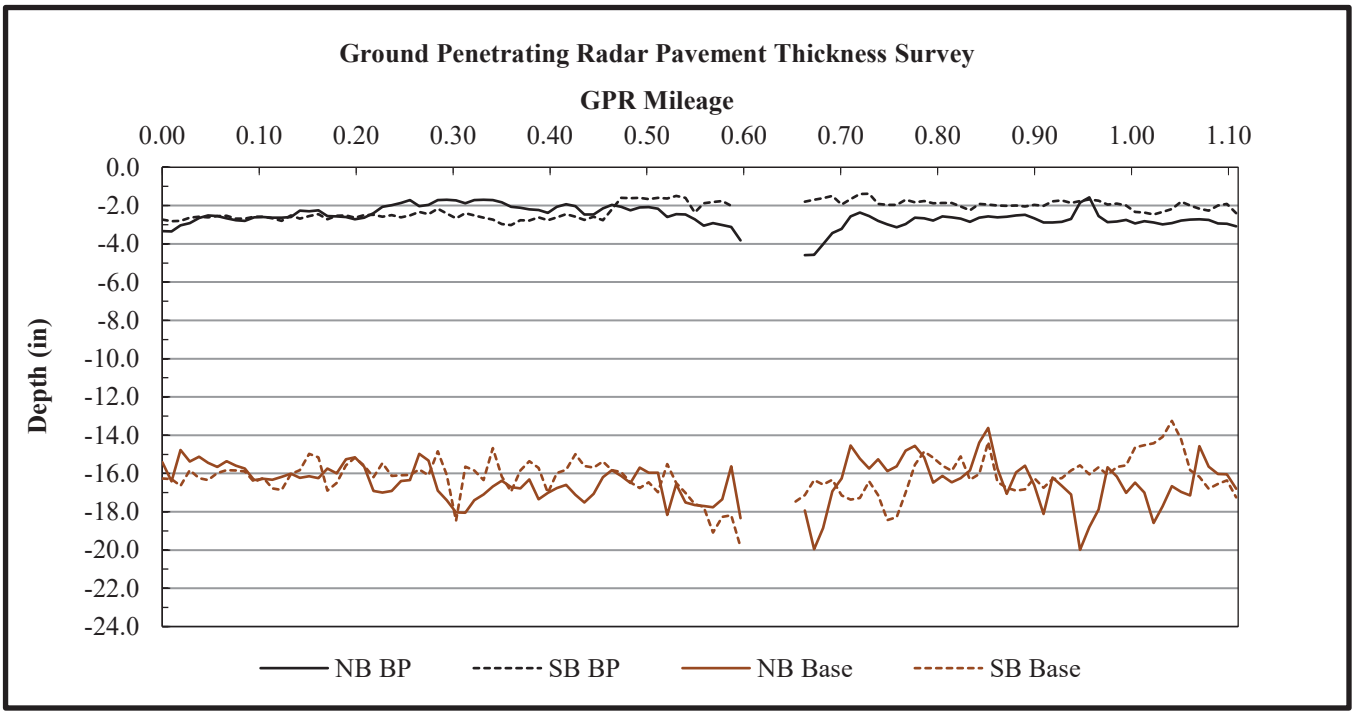
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S04
From:	1.1 mi S	**To:**	CR 69

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.6	21%	2.0	1.6	2.2	19%	1.7	1.4
Base	13.9	9%	12.8	11.1	14.0	9%	13.0	11.1



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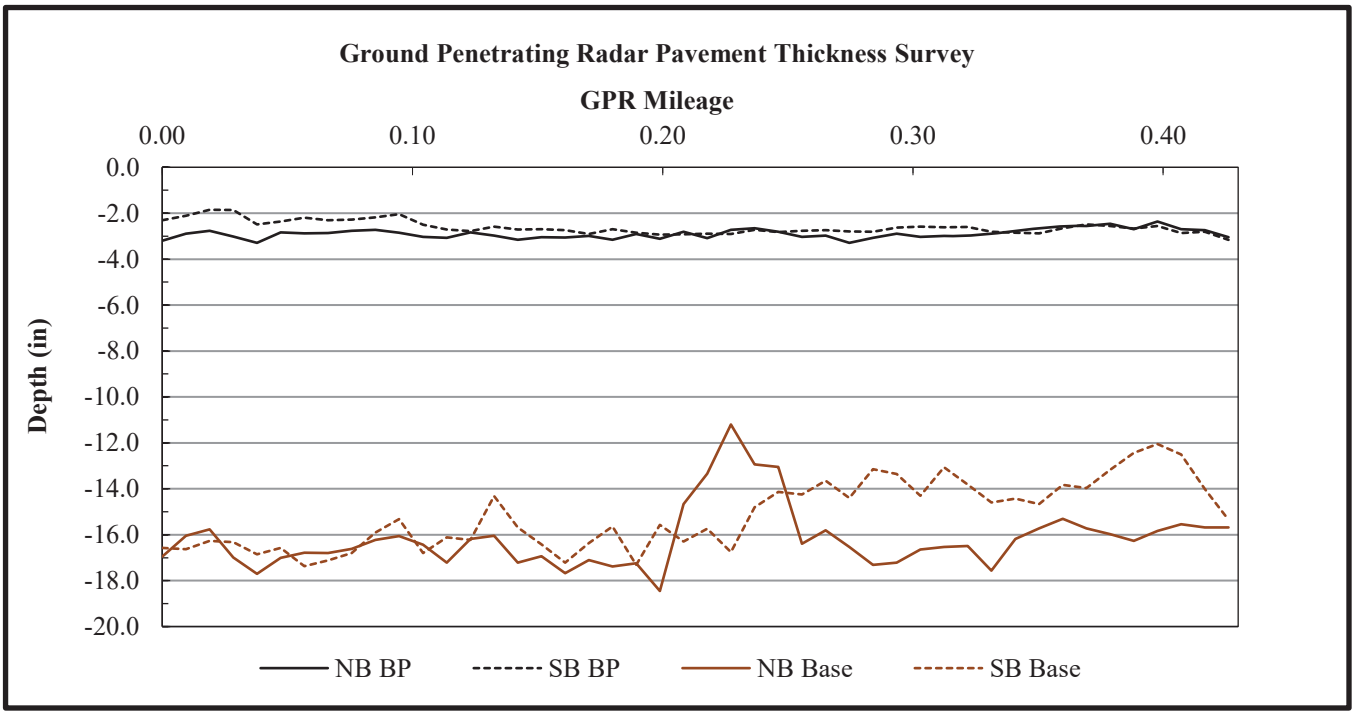
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S05
From:	CR 69	**To:**	CR 73

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.9	7%	2.7	2.4	2.6	11%	2.3	1.9
Base	13.3	10%	12.8	8.5	12.6	13%	10.9	9.5



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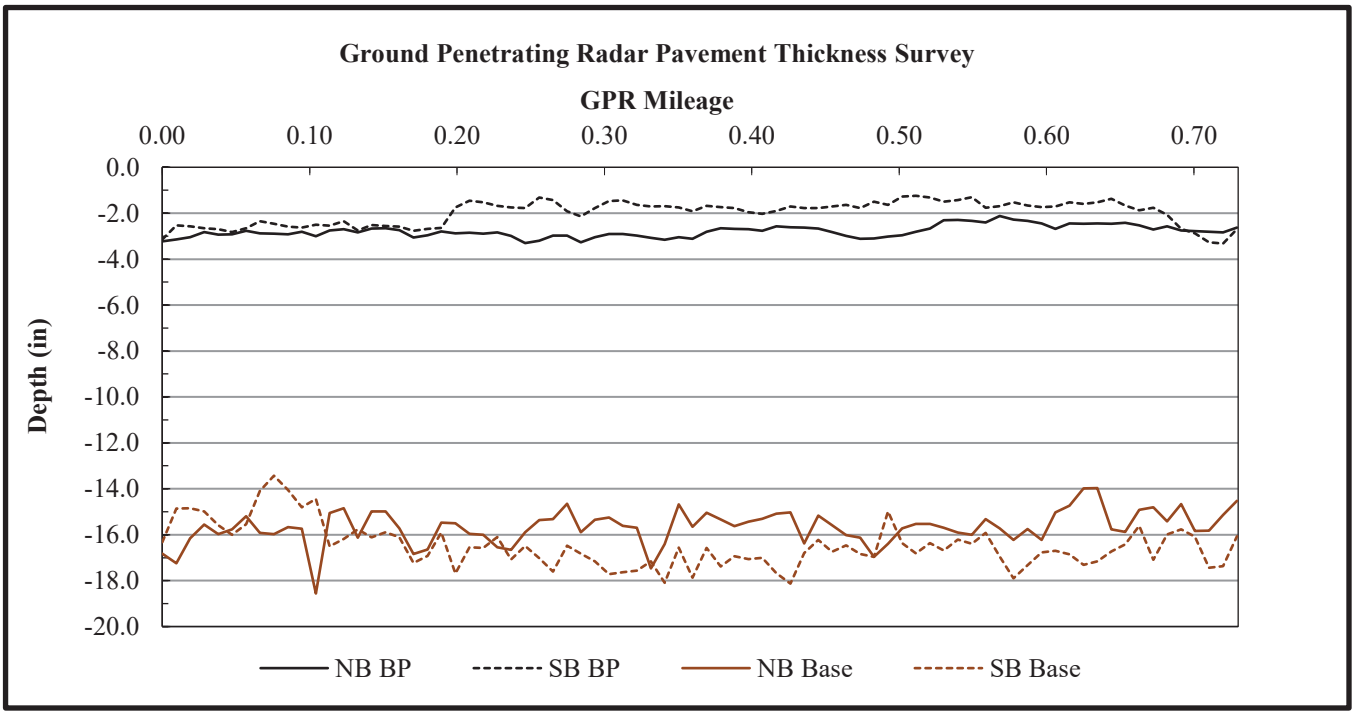
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S06
From:	CR 73	**To:**	CR 85

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.8	9%	2.5	2.1	2.0	27%	1.5	1.2
Base	12.9	5%	12.3	11.5	14.5	9%	13.1	11.0



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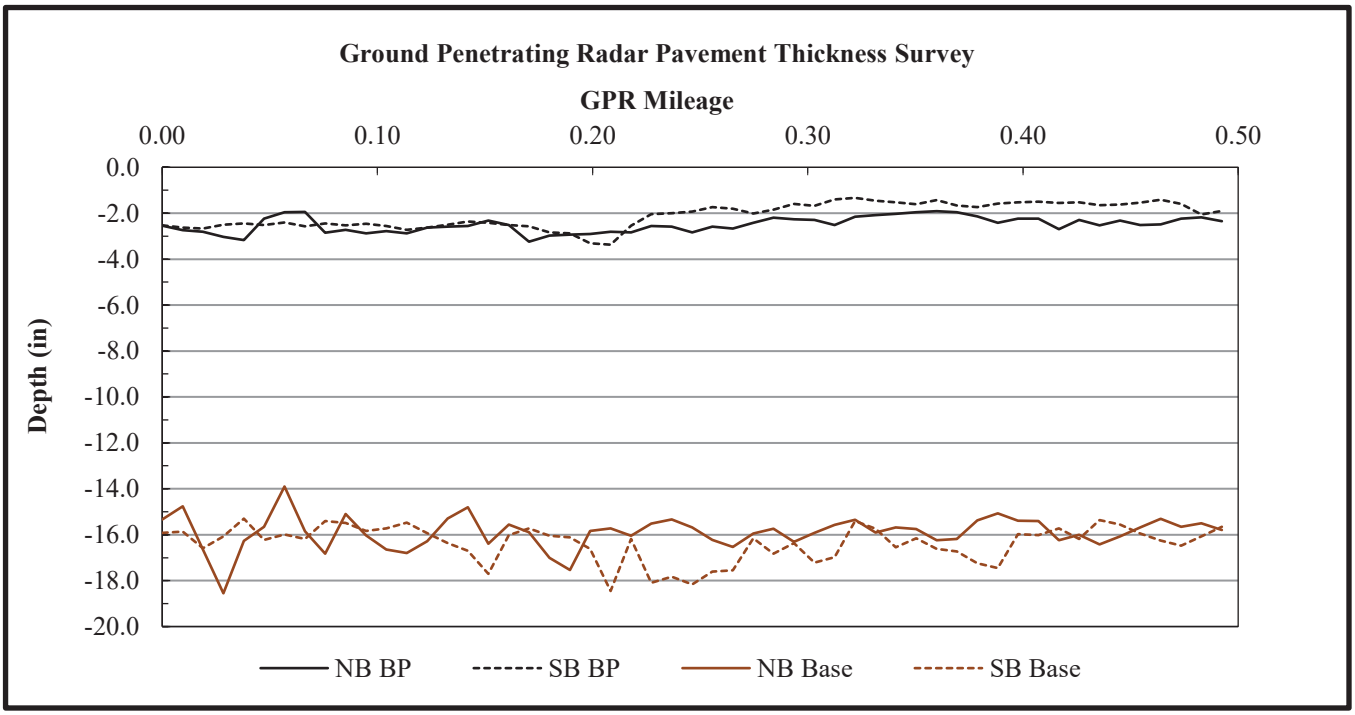
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S07
From:	CR 85	**To:**	CR 151

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.5	13%	2.1	1.9	2.1	25%	1.5	1.3
Base	13.4	5%	12.8	12.0	14.3	7%	13.2	12.8



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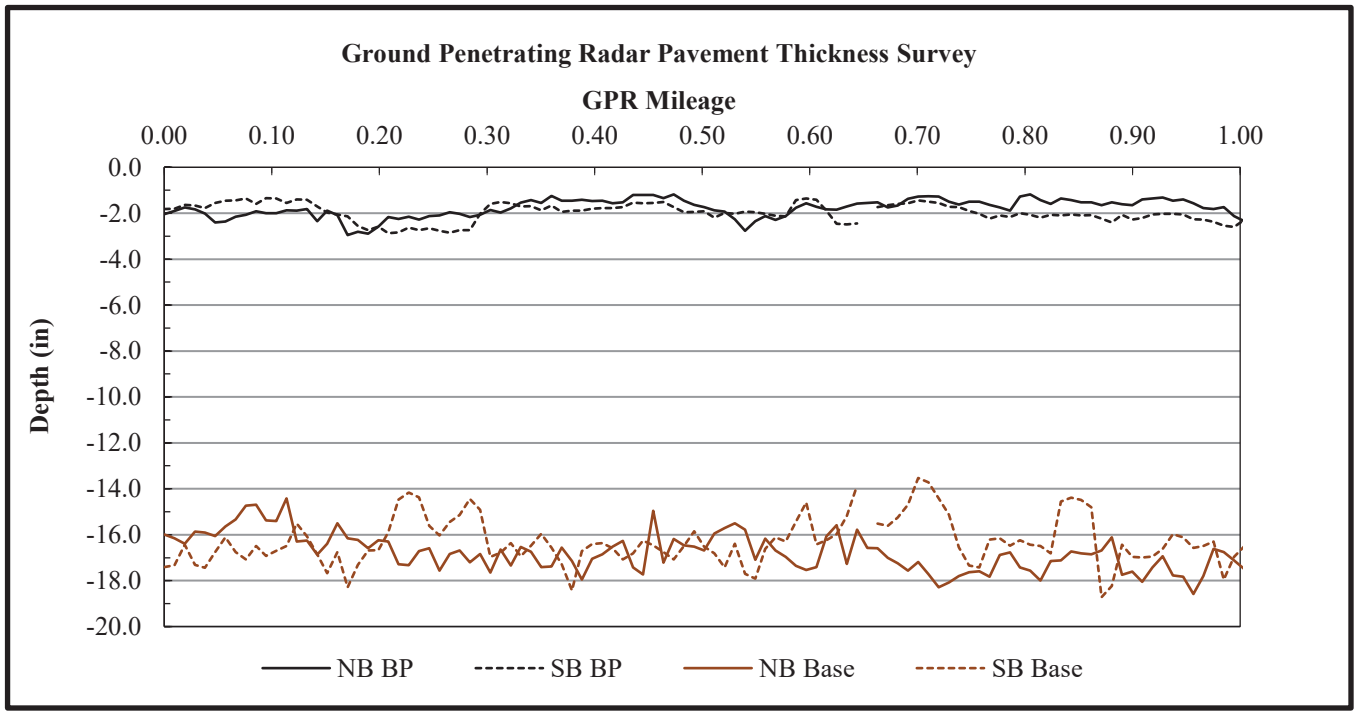
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S08
From:	CR 151	**To:**	CR 82

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	1.8	21%	1.5	1.2	1.9	19%	1.5	1.3
Base	15.0	7%	13.8	12.6	14.5	7%	13.7	11.4



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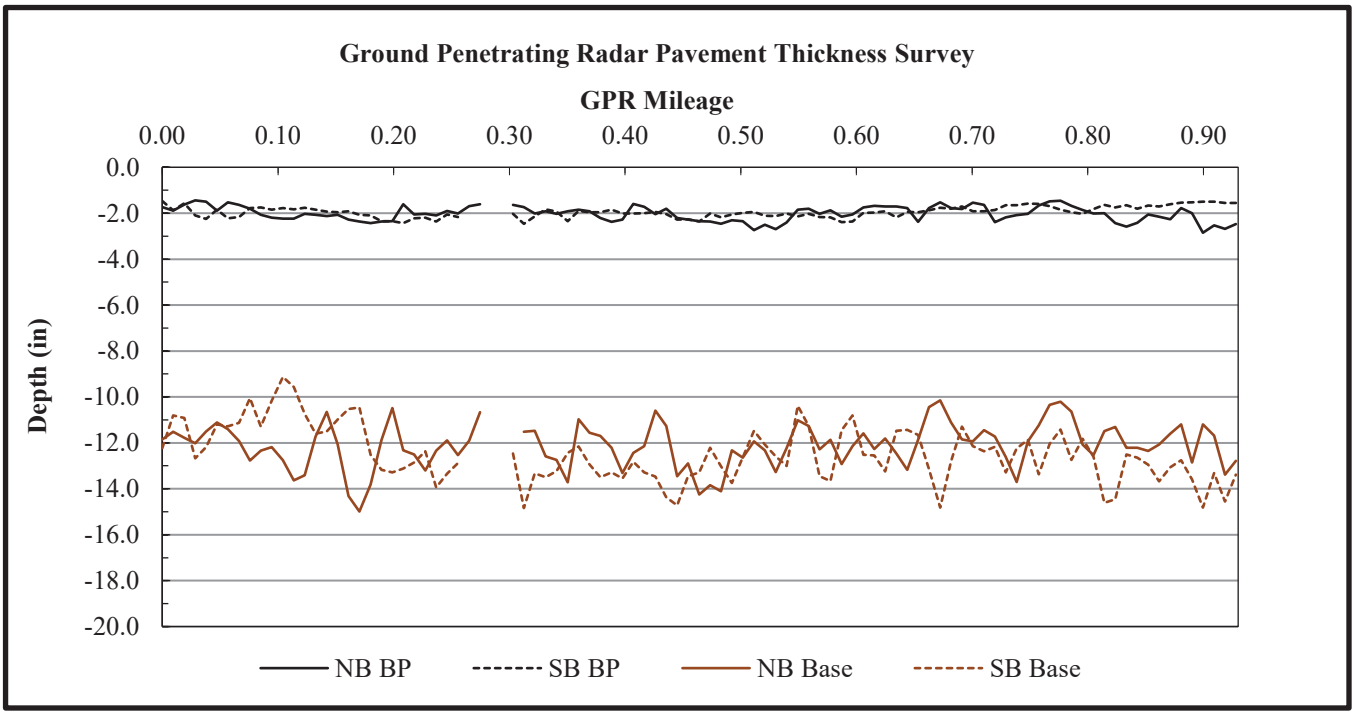
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S09
From:	CR 69	**To:**	CR 85

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.0	16%	1.7	1.4	1.9	13%	1.7	1.5
Base	10.1	9%	9.2	8.2	10.6	12%	9.2	7.4



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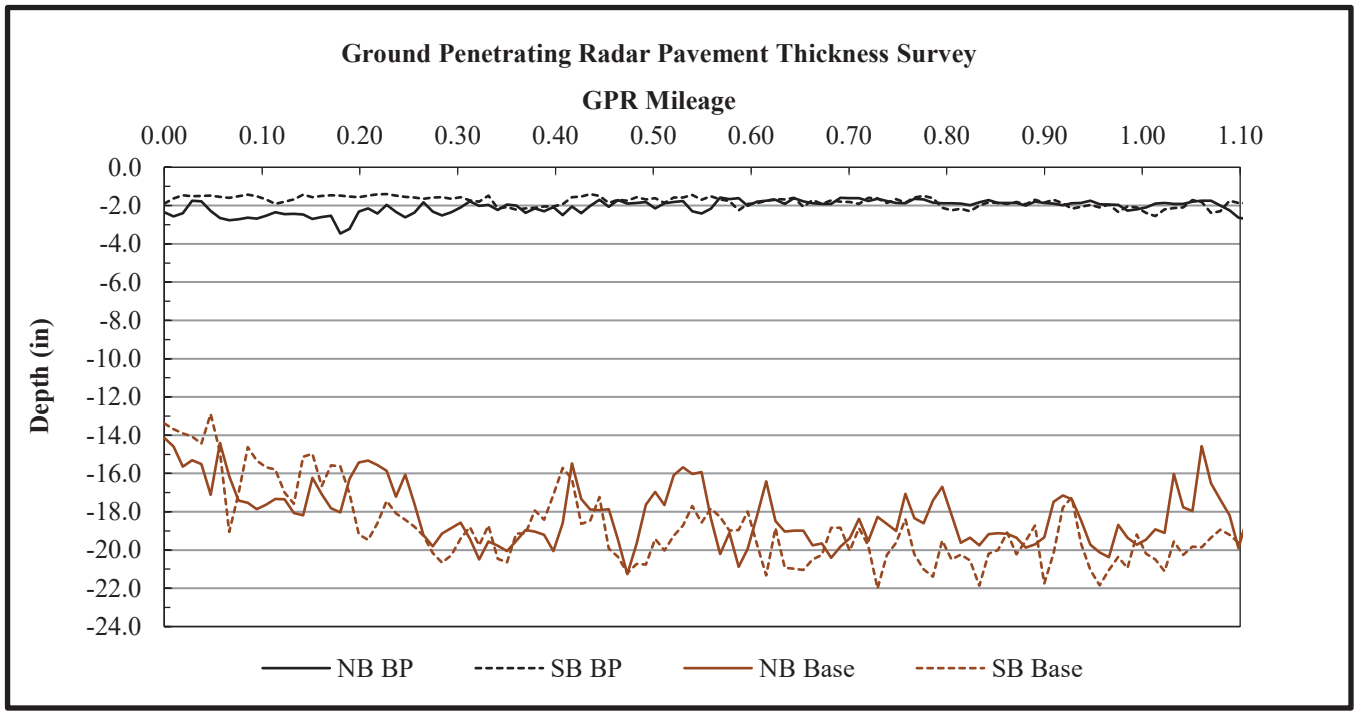
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S10
From:	CR 85	**To:**	CR 82

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.1	17%	1.8	1.6	1.8	15%	1.5	1.4
Base	16.1	11%	13.9	11.8	17.0	11%	15.1	11.4



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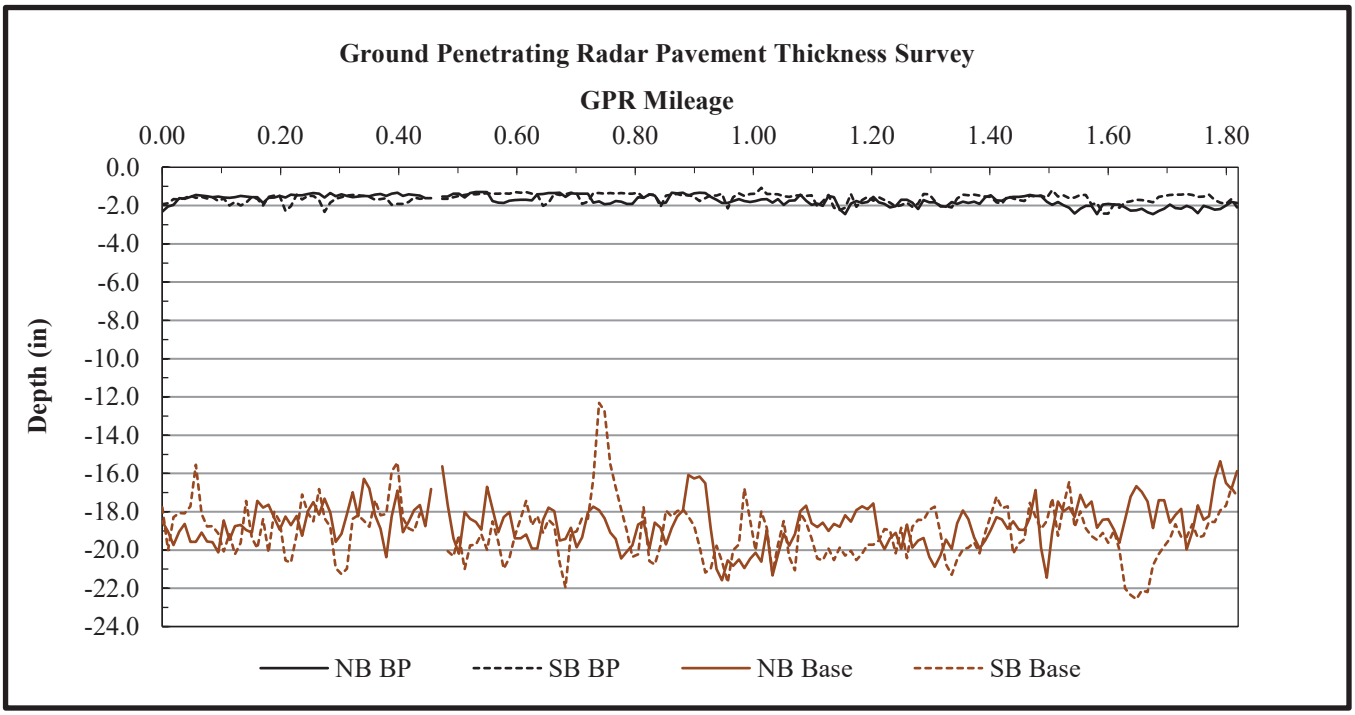
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S11
From:	CR 82	**To:**	SR 56

SUMMARY STATISTICS

Units: inches

	NB				SB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	1.7	17%	1.4	1.3	1.6	16%	1.4	1.1
Base	16.9	7%	15.7	13.2	17.4	8%	16.2	11.0



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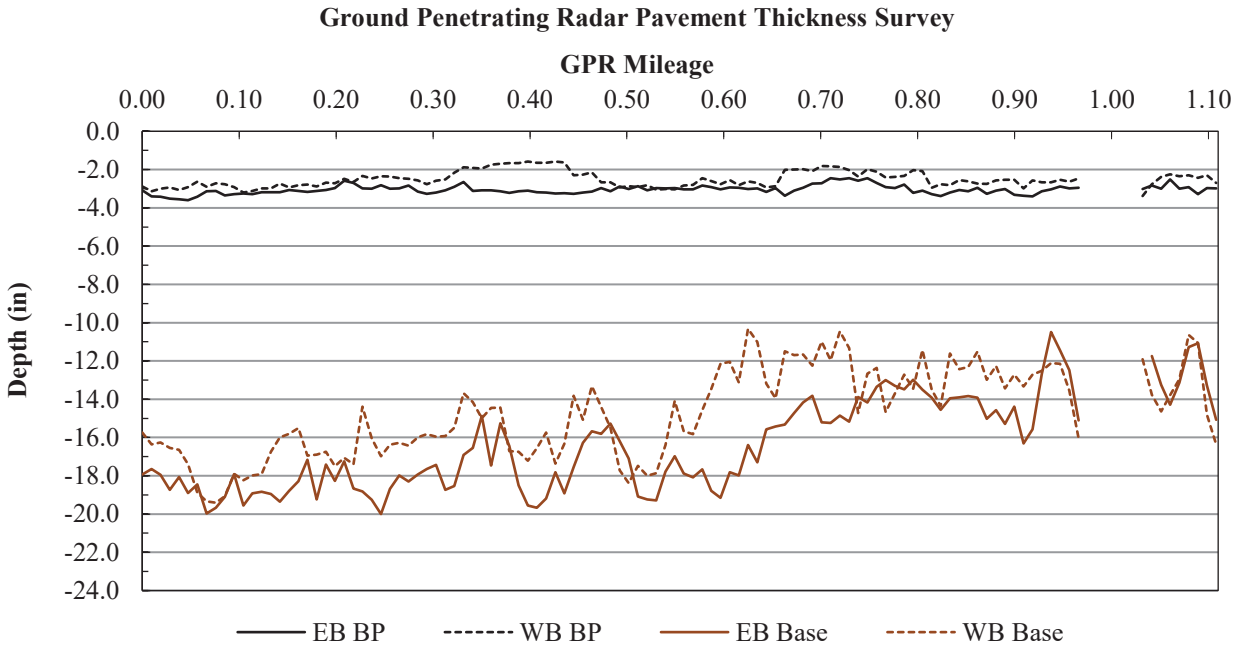
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S12
From:	CR 9	**To:**	CR 84

SUMMARY STATISTICS

Units: inches

	EB				WB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	3.1	8%	2.9	2.5	2.5	17%	2.0	1.6
Base	13.4	17%	10.7	7.5	12.3	18%	9.7	7.7



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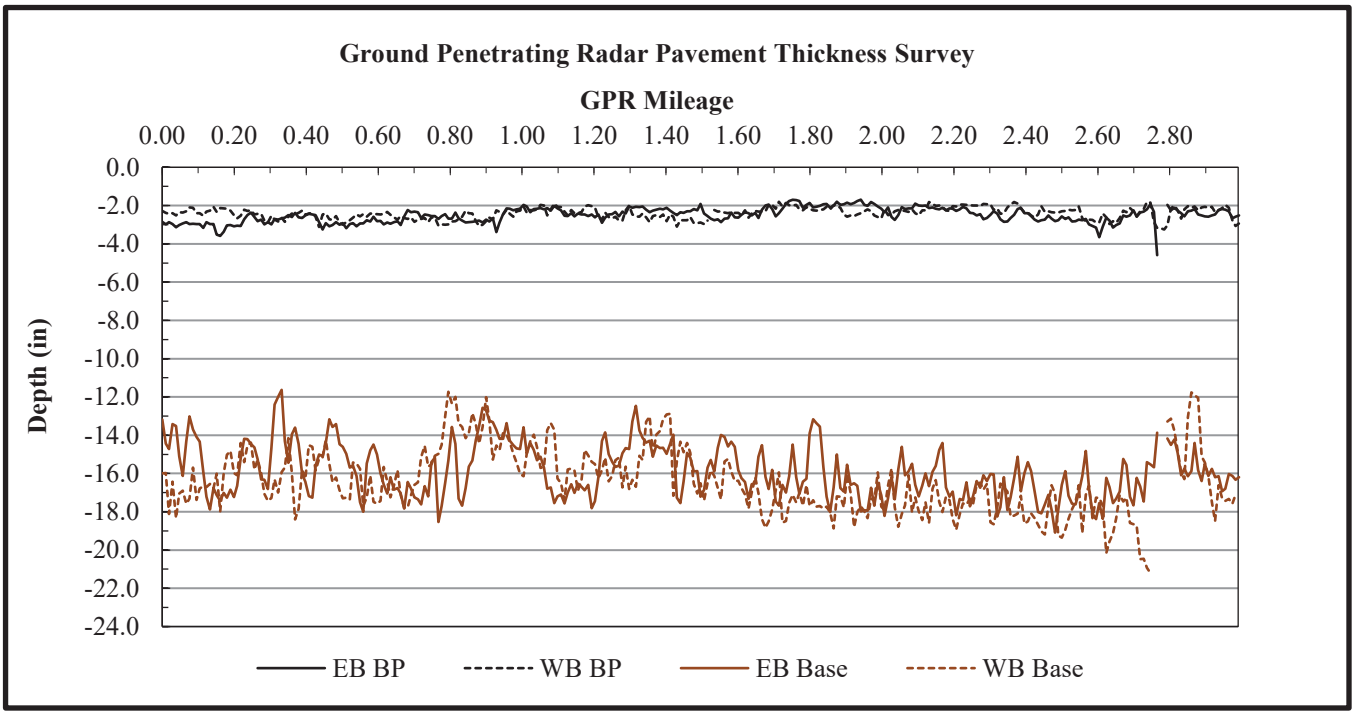
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S13
From:	CR 84	**To:**	SR 56

SUMMARY STATISTICS

Units: inches

	EB				WB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.5	16%	2.1	1.7	2.4	13%	2.1	1.8
Base	13.4	11%	11.7	9.0	14.1	13%	12.1	8.8



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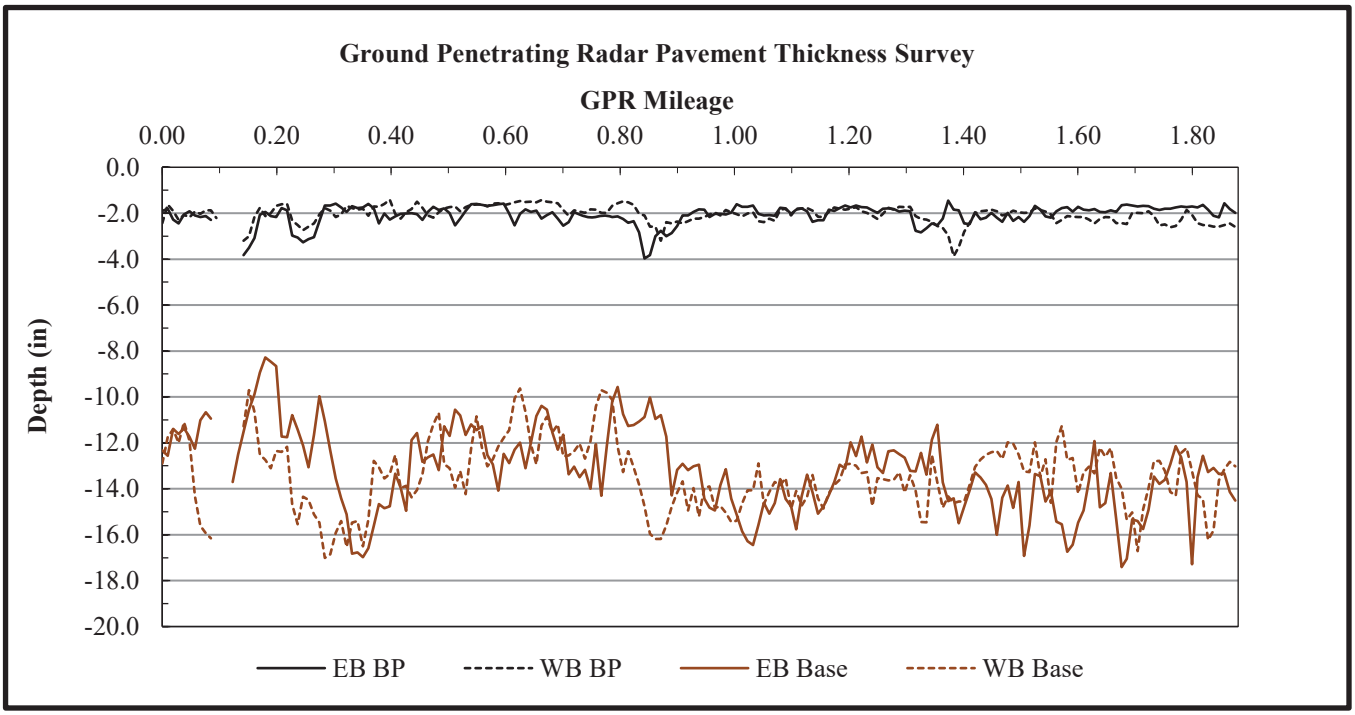
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 85	**Section/Grid:**	S14
From:	CR 9	**To:**	CR 85

SUMMARY STATISTICS

Units: inches

	EB				WB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.1	21%	1.7	1.5	2.1	19%	1.7	1.4
Base	11.1	18%	8.9	6.2	11.4	13%	10.1	6.7



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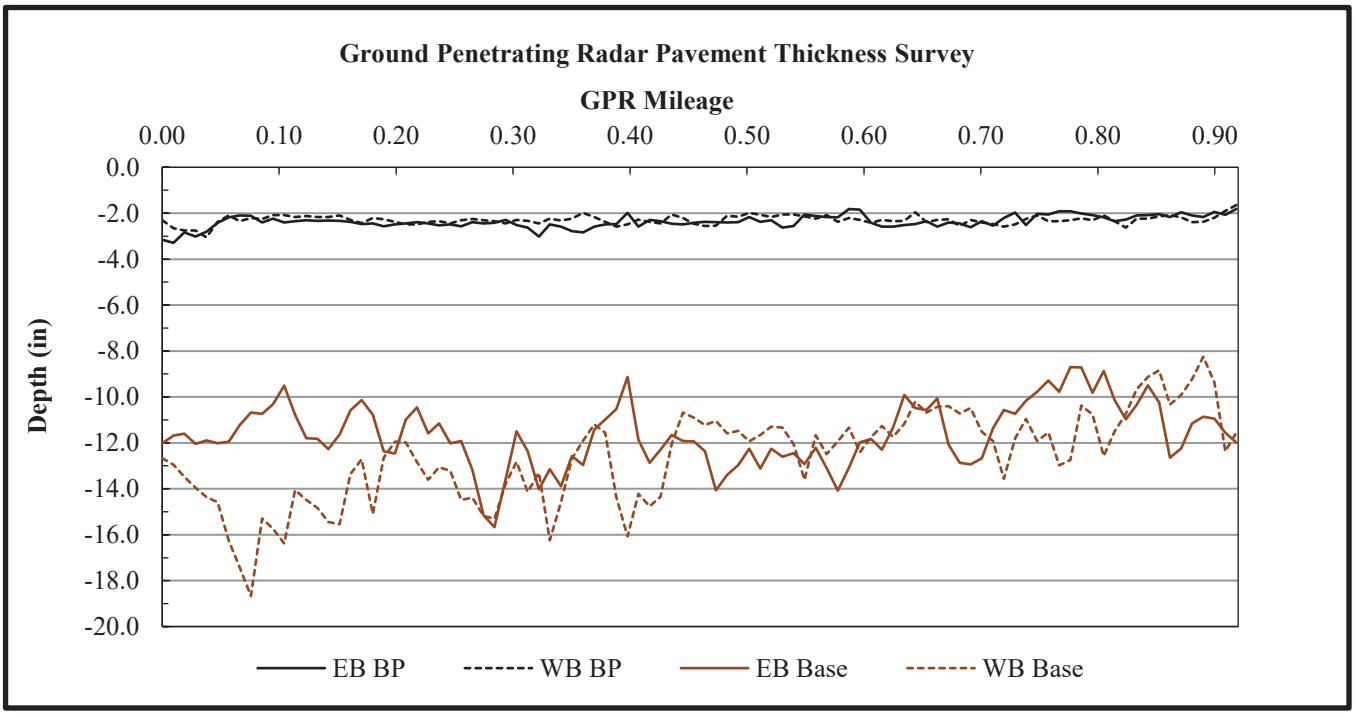
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S15
From:	CR 9	**To:**	CR 83

SUMMARY STATISTICS

Units: inches

	EB				WB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.4	12%	2.1	1.8	2.3	9%	2.1	1.6
Base	9.3	14%	7.9	6.7	10.3	19%	8.3	5.9



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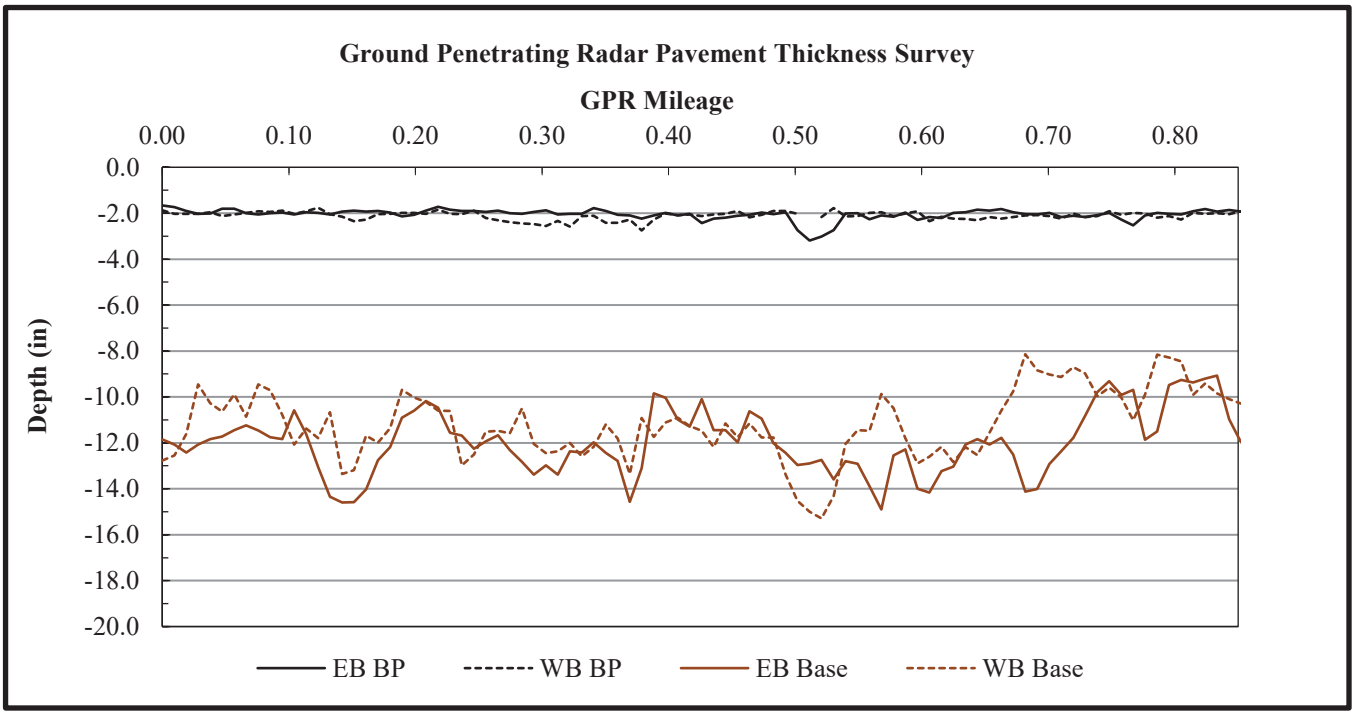
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S16
From:	CR 83	**To:**	0.85 mi E

SUMMARY STATISTICS

Units: inches

	EB				WB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.0	12%	1.9	1.7	2.1	9%	1.9	1.8
Base	9.9	14%	8.5	7.1	9.1	17%	7.7	6.0



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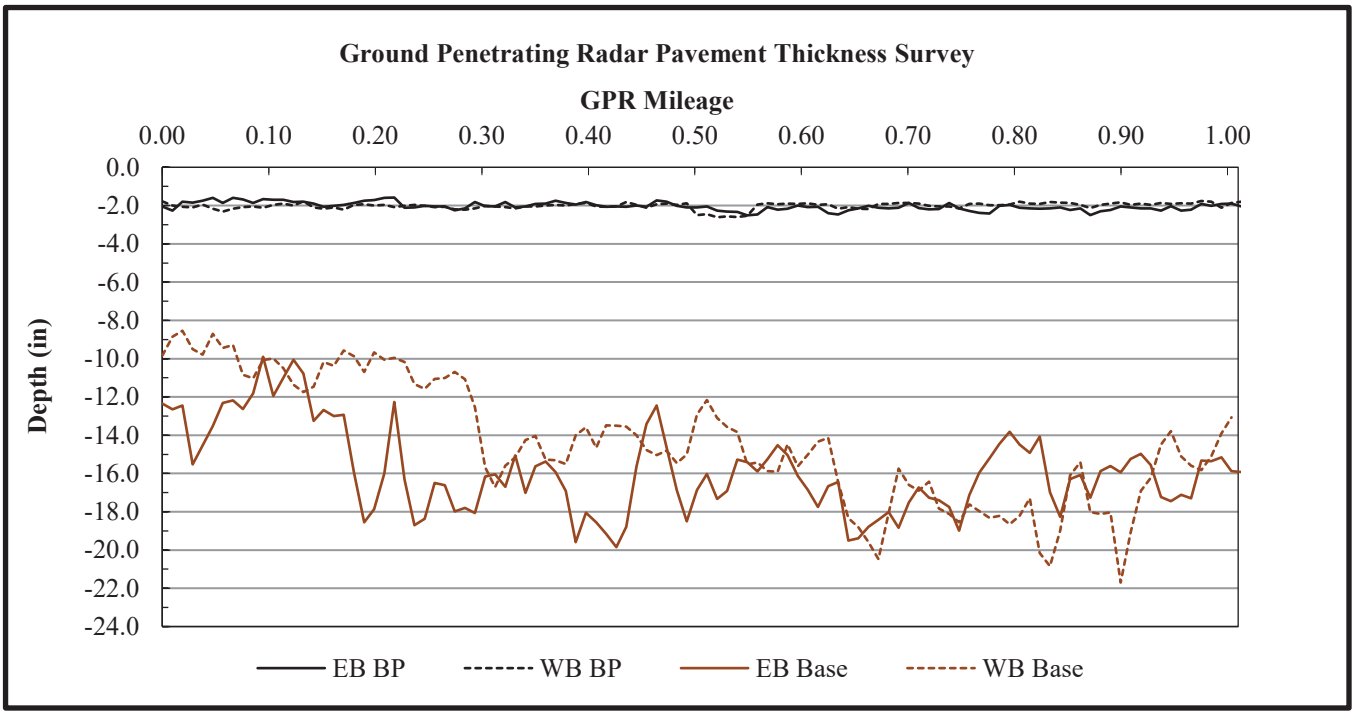
GENERAL INFORMATION: GROUND PENETRATING RADAR

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S17
From:	1.0 mi W	**To:**	CR 84

SUMMARY STATISTICS

Units: inches

	EB				WB			
Layer	**Average**	**CV**	**15th**	**Min.**	**Average**	**CV**	**15th**	**Min.**
BP	2.0	10%	1.8	1.6	2.0	8%	1.9	1.8
Base	13.8	16%	11.0	8.2	12.3	26%	8.2	6.5



Appendix C

Falling Weight Deflectometer Field Exploration and Testing
FWD Data and Analysis Results Sheet

Appendix C
Falling Weight Deflectometer Field Exploration and Testing
Report No. P-0013315A

C.1 PAVEMENT TESTING

The pavement structural conditions at the site were evaluated nondestructively using Falling Weight Deflectometer (FWD). The testing locations appear in Figure 1, preceding Appendix A in this report.

C.2 EQUIPMENT DESCRIPTION

C.2.1 Dynatest 8000 FWD Test System

The FWD owned by AET is a Dynatest 8000 FWD Test System that consists of a Dynatest 8002 trailer and a third generation control and data acquisition unit developed in 2003, called the Dynatest Compact15, featuring fifteen (15) deflection channels. The new generation FWD, including a Compact15 System and a standard PC with the FwdWin field Program constitutes the newest, most sophisticated Dynatest FWD Test System, which fulfills or exceeds all requirements to meet ASTM-4694, ASTM D-4695 Standards. Figure C1 provides a view of this equipment.

Figure C1 Dynatest 8002 FWD Test System

The FWD imposes a dynamic impulse load onto the pavement surface through a load plate. Total pulse is an approximately half sine shape with a total duration typically between 25 to 30 ms. The FWD is capable of applying a variety of loads to the pavement ranging from 1,500 lbf (7 kN) to 27,000 ibf (120 kN) by dropping a variable weight mass from different heights to a standard, 11.8-inch (300-mm) diameter rigid plate.

The drop weights and the buffers are constructed so that the falling weight buffer subassembly may be quickly and conveniently changed between falling masses of 440 lbm (200 kg) for highways and 770 lbm (350 kg) for airports. With the 440 lbm (200 kg) package for highways three drop heights are used with the target load of 6,000 lbf (27 kN) at drop height 1, 9,000 lbf (40 kN) at drop height 2, and 12,000 lbf at drop height 3 (53 kN). The drop sequence consists of two seating drops from drop height 3 and 2 repeat measurements at drop height 1 and 1 measurement at drop height 2 for flexible pavements and 2 repeat measurements at drop height 2 and 1 measurement at drop height 3 for rigid pavements. The data from the seating drops is not stored.

The FWD is equipped with a load cell to measure the applied forces and nine geophones or deflectors to measure deflections up to 100 mils (2.5 mm). The load cell is capable of accurately measuring the force that is applied perpendicular to the loading plate with a resolution of 0.15 psi (1 kPa) or better. The force is expressed in terms of pressure, as a function of loading plate size.

Nine deflectors at the offsets listed in the following table in the Long Term Performance Program (LTPP) configuration are capable of measuring electronically discrete deflections per test, together with nine (9) separate deflection measuring channels for recording of the data. One (1) of the deflectors measures the deflection of the pavement surface through the center of the loading plate, while seven (7) deflectors are capable of being positioned behind the loading plate along the housing bar, up to a distance of 5 ft (2.5 m) from the center of the loading plate and one (1) being positioned in front of the loading plate along the bar.

Deflector	D1	D2	D3	D4	D5	D6	D7	D8	D9
Offset (in.)	0	8	12	18	24	36	48	60	72

Field testing is performed in accordance with the standard ASTM procedures as described in ASTM D 4695-96, “Standard Guide for General Pavement Deflection Measurements” and the calibration of our equipment is verified each year at the Long Term Pavement Performance Calibration Center in Maplewood, MN.

C.2.2 Linear Distance and Spatial Reference System

Distance measuring instrument (DMI) is a trailer mounted two phase encoder system. When DMI is connected to the Compact15 it provides for automatic display and recording distance information in both English and metric units with a 1 foot (0.3 meters) resolution and four percent accuracy when calibrated using provided procedure in the Field Program.

Spatial reference system is a Trimble ProXH Global Positioning System (GPS) that consists of fully integrated receiver, antenna and battery unit with Trimble's new H-Star™ technology to provide subfoot (30 cm) post-processed accuracy. The External Patch antenna is added to the ProXH receiver for the position of the loading plate. The External Patch antenna can be conveniently elevated with the optional baseball cap to prevent any signal blockage.

C.2.3 Air and Pavement Temperature Measuring System

A temperature monitoring probe, for automatic recording of air temperature, is an electronic (integrated circuit) sensing element in a stainless steel probe. The probe mounts on the FWD unit in a special holder with air circulation and connects to the Compact15. A non-contact Infra-Red (IR) Temperature Transmitter, for automatic recording of pavement surface temperature only, features an integrated IR-detector and digital electronics in a weather proof enclosure. The IR transmitter mounts on the FWD unit in a special holder with air circulation and connects to the Compact15. Both probe and IR transmitter have a resolution of 0.9 ºF (0.5 ºC) and accuracy within ± 1.8ºF (1 ºC) in the 0 to 158 ºF (-18 to +70ºC) range when calibrated using provided procedure.

C.2.4 Camera Monitoring System

A battery operated independent DC-1908E multi-functional digital camera with a SD card is used for easy positioning of the loading plate or of the pavement surface condition at the testing locations.

C.3 SAMPLING METHODS

At the project level, the testing interval is set at 0.1 mi. (maximum) or 10 locations per uniform section in the Outside Wheel Path (OWP) = 2.5 ft ± 0.25 ft (0.76 m ± 0.08 m) for nominal 12 ft (3.7 m) wide lanes. Where a divided roadbed exists, surveys will be taken in both directions if the project will include improvements in both directions. If there is more than one lane in one direction the surveys will be taken in the outer driving lane (truck lane) versus the passing lane of the highway. FWD tests are performed at a constant lateral offset down the test section.

At the network level, FWD tests on 20% mileage or three tests per mile are set with two deflection basins collected at only one load level, without statistically compromising the quality of the data collected. If FWD tests are for the in situ characterization of material stress sensitivity FWD data will be collected at multiple load levels.

C.4 QUALITY CONTROL (QC) AND QUALITY ASSURANCE (QA)

Beside the annual reference calibration the relative calibration of the FWD deflection sensors is conducted monthly but not to exceed 6 weeks during the months in which the FWD unit is continually testing. The DMI is also calibrated monthly by driving the vehicle over a known distance to calculate the distance scale factor. The accuracy of the FWD air temperature and infra-red (IR) sensors are checked on a monthly basis or more frequently if the FWD operator observes "suspicious" temperature readings.

Some care in the placement of the load plate and sensors is taken by the survey crew, especially where the highway surface is rutted or cracked to ensure that the load plate lays on a flat surface and that the load plate and all geophones lie on the same side of any visible cracks. Liberal use of comments placed in the FWD data file at the time of data collection is required. Comments pertaining to proximity to reference markers, bridge abutments, patches, cracks, etc., are all important documentation for the individual evaluating the data.

Scheduled preventive maintenance ensures proper equipment operation and helps identify potential problems that can be corrected to avoid poor quality or missing data that results if the equipment malfunctions while on site. The routine and major maintenance procedures established by the LTPP are adopted and any maintenance has been done at the end of the day after the testing is complete and become part of the routine performed at the end of each test/travel day and on days when no other work is scheduled.

C.5 DATA ANALYSIS METHODS

C.5.1 Inputs

The two-way AADT and HCADT are required to calculate the ESALs. The state average truck percent and truck type distribution are used when HCADT is not provided. The as-built pavement information (layer type, thickness, and construction year) are required and if not provided, GPR and/or coring and boring is needed.

C.5.2 Adjustments

Temperature adjustment to the deflections measured on bituminous pavements is determined from the temperature predicted at the middle depth of the pavement using the LTPP BELLS3 model that uses the pavement surface temperature and previous day mean air temperature. The predicted middle depth temperature and the standard temperature of 80 degrees Fahrenheit are used to calculate the temperature adjustment factor for deflection data analysis. Seasonal adjustment developed by Mn/DOT is also used.

C.5.3 Methods

For bituminous pavements, the deflection data were analyzed using the MnDOT method for determining the in-place (effective) subgrade and pavement strength, as well as allowable axle loads for a roadway (Investigation 603) revised in 1983 and automated with spreadsheet format in 2008. The MnDOT method uses Hogg Model for estimating the subgrade modulus and the Effective GE Equation (Investigation 603) for estimating the effective GE of pavements. The MnDOT method also uses the TONN method for estimating Spring Load Capacity and Required Overlay, as described in the MnDOT publication "Estimated Spring Load-Carrying Capacity".

For gravel roads, the deflection data were analyzed using the American Association of State Highway and Transportation Officials' (AASHTO) method for determining the in-place (effective) subgrade and pavement strength, as well as allowable axle loads for a roadway as in the AASHTO Guide for Design of Pavement Structures, 1993.

For concrete pavements, the deflection data were analyzed using the FAA methods for determining the modulus of subgrade reaction (k-value), effective elastic modulus of concrete slabs, load transfer efficiency (LTE) on approach and leave slabs of a joint, slab support conditions (void analysis) and impulse stiffness modulus ratio (durability analysis) as in the FAA AC 150/5370-11A, Use of Nondestructive Testing Devices in the Evaluation of Airport Pavement, 2004.

C.6 TEST LIMITATIONS

C.6.1 Test Methods

The data derived through the testing program have been used to develop our opinions about the pavement conditions at your site. However, because no testing program can reveal totally what is in the subsurface, conditions between test locations and at other times, may differ from conditions described in this report. The testing we conducted identified pavement conditions only at those points where we measured pavement surface temperature, deflections, and observed pavement surface conditions. Depending on the sampling methods and sampling frequency, every location may not be tested, and some anomalies which are present in the pavement may not be noted on the testing results. If conditions encountered during construction differ from those indicated by our testing, it may be necessary to alter our conclusions and recommendations, or to modify construction procedures, and the cost of construction may be affected.

C.6.2 Test Standards

Pavement testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

C.7 SUPPORTING TEST METHODS

C.7.1 GSSI Ground Penetrating Radar (GPR)

If the as-built pavement layer thicknesses are not available the thickness data are collected using a bumper-mounted, air-coupled 2-GHz radar unit from GSSI (RoadScan system) that consists of a SIR-20 dual channel data acquisition system, wheel-mounted DMI, ProXH GPS, air-launched (horn) antenna, horn antenna vehicle mounting kit, RADAN software with the Road Structure Module, and system accessories. The system provides continuous data at 1-ft spacing while traveling at highway speed.

C.7.2 Soil Boring/Coring Field Exploration

If both pavement thicknesses and subgrade soil types and conditions are desired the shallow coring/boring and sampling is used. The limited number of coring/boring is necessary to verify the GPR layer thickness data.

C.7.3 Pavement Surface Condition Survey

The type and severity of pavement distress influence the deflection response for a pavement. Therefore, FWD operators record any distress located from about 1 ft (0.3 m) in front of deflector D8 to about 3 ft (0.9 m) behind the load plate. This information is recorded in the FWD file using the comment line in the field program immediately following the test.

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S01
Roadway: CR 9
From: SR 323
To: Dyer Rd

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 2.9 in.
Daily ESALs: 8.8
PCI: 41
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 33,715
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 70,955

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	Effective Values SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
0.0																			CountyHwy9,IC,StateHwy323,NB"
0.0																			75PavementTemp,80Sunny"
0.0	1	6:52	80.6	80.3	5435	21.2	16.3	13.3	10.7	7.8	4.1	2.1	1.2	0.9	4.3	2.7	0.0	15.9	
0.0	2	6:52	80.6	80.3	5523	21.3	16.4	13.4	10.8	7.8	4.2	2.1	1.3	1.0	4.3	2.7	0.0	16.0	
0.0	3	6:52	80.6	80.3	8639	34.4	27.2	22.5	18.0	13.2	7.1	3.6	2.2	1.6	3.9	2.8	0.0	15.6	
0.0	4	6:52	80.6	80.3	8530	34.5	26.5	22.7	17.9	13.4	7.2	3.7	2.2	1.6	3.9	2.8	0.0	15.4	
0.1	1	6:53	82.4	79.6	6048	11.0	7.8	6.1	4.6	3.2	1.5	0.7	0.4	0.3	13.3	3.2	0.0	29.3	
0.1	2	6:53	82.4	79.6	6135	11.0	7.9	6.1	4.6	3.2	1.5	0.7	0.4	0.3	13.3	3.2	0.0	29.6	
0.1	3	6:53	82.4	79.6	9678	18.3	13.6	10.6	8.2	5.7	2.7	1.3	0.8	0.6	11.4	3.3	0.0	28.5	
0.1	4	6:53	82.4	79.6	9777	18.4	14.0	10.8	8.3	5.8	2.8	1.4	0.8	0.6	11.4	3.3	0.0	28.5	
0.1																			CountyHwy9,J-,START,NB"
0.1																			CountyHwy9,J-,END,NB"
0.2	1	6:55	82.4	81.9	5271	21.2	15.1	11.0	7.2	4.8	2.4	1.4	1.0	0.9	7.1	2.3	0.0	15.4	
0.2	2	6:55	82.4	81.9	5238	21.0	15.0	11.1	7.2	4.8	2.4	1.4	1.0	0.9	7.0	2.3	0.0	15.5	
0.2	3	6:55	82.4	81.9	8585	33.3	25.1	18.3	12.2	8.5	4.3	2.4	1.8	1.5	6.5	2.4	0.0	15.9	
0.2	4	6:55	82.4	81.9	8760	34.1	25.3	18.7	12.4	8.6	4.3	2.5	1.8	1.5	6.5	2.4	0.0	15.9	
0.2																			CountyHwy9,J-,START,NB"
0.3																			CountyHwy9,IC,I-71,NB"
0.3																			CountyHwy9,J-,END,NB"
0.3	1	6:58	82.4	82.1	6069	18.3	12.7	9.9	7.3	5.0	2.3	1.4	1.2	1.0	8.4	2.7	0.0	19.8	
0.3	2	6:58	82.4	82.1	6048	18.0	12.6	9.8	7.3	4.9	2.3	1.4	1.2	1.0	8.6	2.7	0.0	19.9	
0.3	3	6:58	82.4	82.1	9667	29.4	21.3	16.6	12.5	8.6	3.9	2.3	2.1	1.7	8.0	2.7	0.0	19.6	
0.3	4	6:58	82.4	82.1	9558	29.1	21.2	16.5	12.5	8.6	3.9	2.3	2.1	1.7	7.9	2.7	0.0	19.6	
0.4	1	6:59	84.2	82.0	0:00	15.2	12	10.2	8.2	6.1	3.6	2.2	1.6	1.3	5.4	3.4	0.0	22.8	
0.4	2	6:59	84.2	82.0	6026	15.3	12.4	10.1	8.3	6.2	3.6	2.3	1.6	1.3	5.4	3.4	0.0	22.9	
0.4	3	6:59	84.2	82.0	9558	24.1	19.8	16.3	13.3	10.1	5.9	3.7	2.7	2.2	5.3	3.5	0.0	23.0	
0.4	4	6:59	84.2	82.0	9591	24.1	20.0	16.5	13.4	10.2	5.9	3.8	2.8	2.2	5.2	3.5	0.0	23.1	
0.5	1	7:00	84.2	81.0	5862	18.1	13.5	10.7	8.2	6.0	3.4	1.9	1.2	0.8	5.6	2.9	0.0	19.4	
0.5	2	7:00	84.2	81.0	5905	18.0	13.4	10.7	8.2	6.1	3.4	1.9	1.2	0.9	5.6	3.0	0.0	19.6	
0.5	3	7:00	84.2	81.0	9416	29.4	22.3	17.8	13.9	10.3	5.8	3.3	2.0	1.5	5.2	3.0	0.0	19.2	
0.5	4	7:00	84.2	81.0	9416	29.3	22.4	17.9	14.0	10.4	5.9	3.3	2.0	1.5	5.2	3.0	0.0	19.3	
0.5																			CountyHwy9,B-,B-14,SB"
0.6	1	7:02	84.2	81.7	5588	28.8	21.5	16.4	11.7	7.6	3.3	1.8	1.2	0.9	5.5	2.1	0.0	12.4	
0.6	2	7:02	84.2	81.7	5610	28.7	21.5	16.4	11.8	7.6	3.3	1.8	1.2	0.9	5.5	2.1	0.0	12.5	
0.6	3	7:02	84.2	81.7	8836	45.6	34.4	27.0	19.9	13.2	5.7	3.0	2.0	1.5	5.0	2.2	0.1	12.4	
0.6	4	7:02	84.2	81.7	8749	45.5	33.2	27.1	20.0	13.2	5.7	3.0	1.9	1.5	5.0	2.2	0.1	12.3	
0.7	1	7:03	84.2	81.8	0:00	23.2	18	13.5	9.8	6.7	3.4	1.9	1.4	1.1	5.5	2.5	0.0	15.3	
0.7	2	7:03	84.2	81.8	5730	23.2	17.7	13.4	9.8	6.7	3.4	2.0	1.4	1.0	5.4	2.5	0.0	15.4	
0.7	3	7:03	84.2	81.8	9055	36.5	28.8	21.7	16.3	11.4	5.8	3.3	2.3	1.9	5.1	2.5	0.0	15.5	
0.7	4	7:03	84.2	81.8	9033	36.5	28.9	22.0	16.4	11.4	5.8	3.3	2.3	1.9	5.1	2.5	0.0	15.4	
0.8	1	7:04	84.2	81.7	5895	22.4	17.1	14.1	10.9	7.8	4.2	2.2	1.4	1.0	4.5	2.7	0.0	16.3	
0.8	2	7:04	84.2	81.7	5862	22.0	16.9	13.8	10.7	7.7	4.2	2.2	1.4	1.0	4.5	2.8	0.0	16.4	
0.8	3	7:04	84.2	81.7	9405	35.8	27.9	23.0	18.1	13.2	7.2	3.9	2.5	1.8	4.2	2.8	0.0	16.3	
0.8	4	7:04	84.2	81.7	9427	36.0	28.1	23.1	18.3	13.4	7.3	3.9	2.5	1.9	4.2	2.8	0.0	16.2	
0.9	1	7:05	84.2	81.6	5785	26.2	19.6	15.5	11.1	7.6	3.9	2.4	1.8	1.4	4.8	2.4	0.0	13.9	
0.9	2	7:05	84.2	81.6	5807	26.2	19.7	15.5	11.1	7.7	3.9	2.4	1.8	1.4	4.8	2.4	0.0	14.0	
0.9	3	7:05	84.2	81.6	9219	42.3	32.6	25.5	18.6	13.0	6.6	4.0	2.9	2.3	4.6	2.4	0.0	13.8	
0.9	4	7:05	84.2	81.6	9219	42.4	32.8	26.0	18.8	13.1	6.6	4.0	2.9	2.3	4.5	2.4	0.0	13.7	
1.0	1	7:06	84.2	81.8	5916	21.0	16.4	13.4	10.3	7.6	4.2	2.5	1.7	1.3	4.6	2.9	0.0	17.3	
1.0	2	7:06	84.2	81.8	5916	20.8	16.3	13.3	10.3	7.5	4.2	2.5	1.7	1.3	4.6	2.9	0.0	17.4	
1.0	3	7:06	84.2	81.8	9416	34.3	27.1	21.9	17.3	12.8	7.0	4.2	2.9	2.2	4.3	2.9	0.0	16.9	
1.0	4	7:06	84.2	81.8	9438	34.4	27.3	22.1	17.4	12.9	7.1	4.2	2.9	2.2	4.3	2.9	0.0	16.9	
1.1	1	7:07	84.2	81.8	5632	23.1	18.1	14.2	10.6	7.4	3.8	2.1	1.3	1.0	4.8	2.5	0.0	15.2	
1.1	2	7:07	84.2	81.8	5643	22.9	18.0	14.3	10.6	7.4	3.8	2.1	1.3	1.0	4.8	2.6	0.0	15.3	
1.1	3	7:07	84.2	81.8	9121	38.1	30.3	24.0	18.0	12.9	6.5	3.5	2.3	1.8	4.5	2.6	0.0	15.0	
1.1	4	7:07	84.2	81.8	9066	37.9	30.0	23.8	18.0	12.9	6.5	3.5	2.3	1.8	4.5	2.6	0.0	15.0	
1.1																			CountyHwy9,B-,B-13,NB"
1.2	1	7:09	84.2	82.1	5588	28.1	21.2	16.6	12.0	7.8	4.1	2.7	1.9	1.5	4.4	2.3	0.1	12.7	
1.2	2	7:09	84.2	82.1	5588	27.7	21.1	16.5	11.9	7.8	4.1	2.7	1.9	1.5	4.4	2.3	0.1	12.9	
1.2	3	7:09	84.2	82.1	8891	44.4	34.4	26.9	19.8	13.0	6.7	4.4	3.2	2.6	4.3	2.3	0.1	12.8	
1.2	4	7:09	84.2	82.1	8847	44.5	34.5	27.0	19.9	13.1	6.8	4.4	3.2	2.7	4.2	2.3	0.1	12.7	
1.3																			CountyHwy9,IC,DyerRd,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S02
Roadway: CR 9
From: Dyer Rd
To: CR 21

Prev. Day's Avg. Air Temp.: 81 °F
Total AC: 2.4 in.
Daily ESALs: 8.8
PCI: 43
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 33,715
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 70,955

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	Effective Values SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
1.3																			CountyHwy9,IC,DyerRd,NB"
1.3	1	7:10	84.2	82.8	5807	25.7	19.2	15.4	11.8	8.5	4.9	2.8	1.8	1.3	3.8	2.6	0.0	14.3	
1.3	2	7:10	84.2	82.8	5829	25.5	19.2	15.6	11.8	8.6	4.9	2.8	1.8	1.4	3.8	2.6	0.0	14.5	
1.3	3	7:10	84.2	82.8	9263	41.3	31.8	25.7	19.8	14.6	8.3	4.7	3.0	2.3	3.6	2.7	0.0	14.2	
1.3	4	7:10	84.2	82.8	9252	41.3	32.0	25.9	19.8	14.6	8.3	4.7	3.1	2.3	3.6	2.7	0.0	14.2	
1.4	1	7:11	84.2	82.1	5785	21.6	17.8	15.4	11.8	8.9	5.0	3.1	2.1	1.6	3.7	3.0	0.0	16.6	
1.4	2	7:11	84.2	82.1	5829	21.6	17.8	15.3	11.8	8.9	5	3	2	2	4	3	0	17	
1.4	3	7:11	84.2	82.1	9339	35.1	29.3	25.0	19.5	14.8	8.4	5.1	3.5	2.7	3.6	3.0	0.0	16.5	
1.4	4	7:11	84.2	82.1	9339	35.2	29.4	25.1	19.6	14.9	8.4	5.2	3.6	2.7	3.6	3.0	0.0	16.5	
1.5	1	7:13	84.2	81.7	6037	18.6	14.6	12.0	9.8	7.2	3.8	2.1	1.3	0.9	5.1	3.1	0.0	19.6	
1.5	2	7:13	84.2	81.7	6026	18.4	14.5	11.9	9.8	7.2	3.8	2.2	1.3	0.9	5.1	3.1	0.0	19.7	
1.5	3	7:13	84.2	81.7	9536	30.2	24.5	20.3	16.5	12.4	6.6	3.6	2.3	1.7	4.7	3.1	0.0	19.1	
1.5	4	7:13	84.2	81.7	9536	30.3	24.6	20.5	16.6	12.4	6.6	3.7	2.3	1.6	4.7	3.1	0.0	19.1	
1.6	1	7:14	84.2	82.0	5873	18.8	13.6	10.8	8.1	5.8	2.9	1.4	0.9	0.7	6.6	2.8	0.0	18.9	
1.6	2	7:14	84.2	82.0	5829	18.5	13.5	10.8	8.1	5.8	2.9	1.4	0.9	0.7	6.5	2.8	0.0	19.0	
1.6	3	7:14	84.2	82.0	9405	30.9	23.0	18.0	14.0	10.1	5.1	2.6	1.6	1.3	5.9	2.8	0.0	18.5	
1.6	4	7:14	84.2	82.0	9438	31.0	23.0	18.1	14.1	10.2	5.2	2.6	1.6	1.3	5.9	2.8	0.0	18.5	
1.6																			CountyHwy9,B-,B-12,SB"
1.7	1	7:15	86.0	82.0	5752	24.7	18.7	14.4	10.3	6.4	2.7	1.5	1.0	0.8	6.8	2.3	0.0	14.6	
1.7	2	7:15	86.0	82.0	5752	24.5	18.6	14.4	10.3	6.4	2.8	1.5	1.0	0.8	6.8	2.3	0.0	14.7	
1.7	3	7:15	86.0	82.0	9175	40.4	31.2	23.9	17.7	11.4	4.8	2.6	1.7	1.4	6.1	2.3	0.0	14.3	
1.7	4	7:15	86.0	82.0	9219	40.6	31.4	24.2	17.9	11.5	4.9	2.6	1.7	1.4	6.1	2.3	0.0	14.3	
1.8	1	7:17	86.0	82.9	5818	23.1	18.4	14.7	10.9	7.3	2.7	1.3	0.9	0.7	7.1	2.4	0.0	15.7	
1.8	2	7:17	86.0	82.9	5840	23.0	18.4	14.6	11.0	7.3	2.7	1.3	0.9	0.7	7.0	2.4	0.0	15.8	
1.8	3	7:17	86.0	82.9	9383	38.4	31.3	24.6	18.9	12.9	4.9	2.4	1.5	1.3	6.2	2.4	0.0	15.3	
1.8	4	7:17	86.0	82.9	9350	38.4	31.3	24.8	19.0	13.0	5.0	2.4	1.5	1.3	6.1	2.4	0.0	15.3	
1.9	1	7:18	86.0	82.2	5807	22.4	17.0	13.5	10.0	7.1	3.8	2.0	1.3	1.0	5.0	2.6	0.0	16.1	
1.9	2	7:18	86.0	82.2	5829	22.2	16.9	13.5	10.1	7.1	3.8	2.1	1.3	1.0	5.0	2.7	0.0	16.3	
1.9	3	7:18	86.0	82.2	9350	36.1	28.2	22.3	17.1	12.3	6.6	3.6	2.3	1.7	4.6	2.7	0.0	16.1	
1.9	4	7:18	86.0	82.2	9339	36.2	28.3	22.5	17.2	12.4	6.6	3.7	2.3	1.7	4.6	2.7	0.0	16.1	
2.0	1	7:19	86.0	82.6	5282	30.1	22.8	16.5	11.2	6.6	1.8	1.0	0.8	0.7	9.4	1.9	0.0	11.3	
2.0	2	7:19	86.0	82.6	5282	29.7	22.6	16.5	11.1	6.6	1.8	1.0	0.8	0.7	9.3	1.9	0.0	11.5	
2.0	3	7:19	86.0	82.6	8530	48.2	38.0	27.4	19.5	12.0	3.3	1.9	1.4	1.2	8.4	1.9	0.0	11.4	
2.0	4	7:19	86.0	82.6	8563	48.6	38.0	27.8	19.5	11.9	3.4	1.8	1.4	1.2	8.2	1.9	0.0	11.4	
2.1																			CountyHwy9,IC,ChrismanRd,NB"
2.1																			CountyHwy9,B-,B-11,NB"
2.1	1	7:21	86.0	82.4	5720	26.5	20.1	15.0	10.6	7.0	3.3	1.8	1.2	1.0	5.7	2.3	0.0	13.7	
2.1	2	7:21	86.0	82.4	5687	26.1	19.9	14.9	10.5	7.0	3.3	1.8	1.1	1.0	5.7	2.3	0.0	13.8	
2.1	3	7:21	86.0	82.4	9099	41.8	32.7	24.4	17.9	12.0	5.6	3.1	2.0	1.8	5.2	2.3	0.0	13.8	
2.1	4	7:21	86.0	82.4	9099	41.8	32.7	24.5	17.9	12.0	5.7	3.1	2.0	1.8	5.2	2.3	0.0	13.8	
2.1																			CountyHwy9,IC,JunkRd,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S03
Roadway: CR 9
From: CR 21
To: 1.1 mi N

Prev. Day's Avg. Air Temp.: 81 °F
Total AC: 2.8 in.
Daily ESALs: 8.8
PCI: 38
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 33,715
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 70,955

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	Effective Values SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
2.1																			CountyHwy9,IC,JunkRd,NB"
2.2	1	7:22	86.0	82.7	5577	26.3	20.8	17.0	12.6	8.8	3.7	1.6	1.1	0.9	4.9	2.3	0.0	13.5	
2.2	2	7:22	86.0	82.7	5610	26.3	20.8	16.9	12.6	8.8	3.7	1.6	1.1	0.9	4.9	2.3	0.0	13.6	
2.2	3	7:22	86.0	82.7	9088	43.8	35.3	28.3	21.7	15.3	6.5	2.8	1.9	1.6	4.5	2.4	0.0	13.2	
2.2	4	7:22	86.0	82.7	9121	44.1	35.6	28.8	22.0	15.5	6.6	2.8	1.9	1.7	4.5	2.4	0.0	13.2	
2.3	1	7:24	86.0	82.1	5326	29.5	23.6	18.7	13.5	8.6	4.1	2.0	1.2	0.9	4.2	2.2	0.4	11.7	
2.3	2	7:24	86.0	82.1	5315	29.1	23.4	18.7	13.5	8.6	4.1	2.0	1.2	0.9	4.2	2.2	0.4	11.8	
2.3	3	7:24	86.0	82.1	8475	46.2	37.3	29.6	22.2	14.6	6.9	3.2	2.0	1.6	4.0	2.3	0.4	11.9	
2.3	4	7:24	86.0	82.1	8497	46.6	37.5	30.1	22.6	14.8	7.0	3.3	2.1	1.7	3.9	2.3	0.4	11.8	
2.4	1	7:25	86.0	82.2	5577	19.9	19.0	18.0	12.0	8.7	3.5	2.3	1.6	1.2	5.2	2.8	0.0	17.3	
2.4	2	7:25	86.0	82.2	5555	19.8	18.9	18.0	12.0	8.7	3.5	2.3	1.6	1.1	5.1	2.8	0.0	17.3	
2.4	3	7:25	86.0	82.2	8978	32.2	31.0	28.7	20.3	14.9	5.9	4.0	2.6	1.9	4.9	2.8	0.0	17.2	
2.4	4	7:25	86.0	82.2	8902	32.3	31.2	28.7	20.4	14.9	5.9	4.0	2.7	2.0	4.8	2.8	0.0	17.0	
2.5	1	7:26	86.0	82.5	5632	21.6	16.9	14.6	11.3	8.7	5.3	3.3	2.2	1.8	3.4	3.0	0.0	16.2	
2.5	2	7:26	86.0	82.5	5643	21.4	16.8	14.5	11.3	8.7	5.3	3.3	2.2	1.8	3.5	3.0	0.0	16.4	
2.5	3	7:26	86.0	82.5	9099	34.4	27.7	23.3	18.6	14.4	8.7	5.4	3.7	3.0	3.4	3.1	0.0	16.4	
2.5	4	7:26	86.0	82.5	9088	34.5	27.8	23.4	18.8	14.5	8.8	5.5	3.7	3.0	3.4	3.1	0.0	16.4	
2.6																			CountyHwy9,B-,B-10,SB"
2.6	1	7:28	86.0	82.0	5698	16.0	13.1	11.5	9.1	7.1	4.2	2.6	1.7	1.3	4.4	3.4	0.0	21.2	
2.6	2	7:28	86.0	82.0	5698	15.9	13.0	11.5	9.1	7.0	4.2	2.5	1.7	1.3	4.4	3.5	0.0	21.3	
2.6	3	7:28	86.0	82.0	9164	25.9	21.4	18.9	14.9	11.6	6.8	4.2	2.8	2.2	4.4	3.5	0.0	21.0	
2.6	4	7:28	86.0	82.0	9153	25.8	21.4	18.4	15.0	11.6	6.8	4.2	2.8	2.1	4.3	3.5	0.0	21.1	
2.7	1	7:30	86.0	82.1	5512	34.7	24.0	18.5	12.1	7.8	3.0	1.9	1.4	1.1	5.9	1.9	0.5	10.3	
2.7	2	7:30	86.0	82.1	5523	34.4	23.8	18.3	12.0	7.8	3.0	1.9	1.4	1.1	5.9	1.9	0.4	10.5	
2.7	3	7:30	86.0	82.1	8771	53.7	38.8	29.8	20.8	13.5	5.2	3.1	2.4	1.9	5.5	2.0	0.5	10.6	
2.7	4	7:30	86.0	82.1	8727	53.7	38.8	29.8	20.8	13.5	5.2	3.1	2.4	1.9	5.4	1.9	0.5	10.6	
2.8	1	7:31	86.0	82.2	5632	16.3	12.5	10.6	8.3	6.2	3.6	2.1	1.4	1.0	5.1	3.2	0.0	20.6	
2.8	2	7:31	86.0	82.2	5643	16.2	12.3	10.5	8.2	6.2	3.5	2.1	1.4	1.0	5.2	3.2	0.0	20.8	
2.8	3	7:31	86.0	82.2	9077	26.6	21.0	17.3	14.0	10.6	6.0	3.6	2.3	1.8	4.9	3.2	0.0	20.4	
2.8	4	7:31	86.0	82.2	9066	26.5	20.9	17.3	14.0	10.6	6.0	3.6	2.3	1.8	4.9	3.2	0.0	20.4	
2.9	1	7:32	86.0	82.3	5741	15.4	12.2	10.0	7.8	5.6	2.7	1.4	0.8	0.6	6.9	3.0	0.0	21.9	
2.9	2	7:32	86.0	82.3	5774	15.4	12.3	10.1	7.8	5.7	2.7	1.4	0.8	0.6	6.8	3.1	0.0	22.0	
2.9	3	7:32	86.0	82.3	9307	25.9	20.9	17.1	13.5	9.8	4.8	2.5	1.5	1.2	6.3	3.1	0.0	21.3	
2.9	4	7:32	86.0	82.3	9274	25.8	21.0	17.2	13.5	9.9	4.8	2.5	1.5	1.2	6.2	3.1	0.0	21.3	
3.0	1	7:33	86.0	82.1	5884	19.9	14.1	10.8	8.1	5.7	2.7	1.3	0.9	0.6	7.2	2.6	0.0	18.0	
3.0	2	7:33	86.0	82.1	5895	19.7	14.0	10.8	8.1	5.7	2.7	1.3	0.8	0.6	7.2	2.6	0.0	18.1	
3.0	3	7:33	86.0	82.1	9427	32.3	23.7	18.1	14.0	10.0	4.7	2.3	1.5	1.1	6.4	2.6	0.0	17.8	
3.0	4	7:33	86.0	82.1	9383	32.2	23.7	18.1	14.0	10.0	4.8	2.3	1.5	1.1	6.4	2.7	0.0	17.8	
3.1	1	7:35	86.0	82.4	5315	18.4	8.9	6.6	5.3	3.8	2.0	1.1	0.7	0.6	8.7	2.4	0.0	17.6	
3.1	2	7:35	86.0	82.4	5326	18.3	8.6	6.7	5.3	3.8	2.0	1.1	0.7	0.6	8.5	2.5	0.0	17.7	
3.1	3	7:35	86.0	82.4	8432	29.1	15.1	11.5	9.5	6.8	3.6	2.1	1.1	1.0	7.5	2.5	0.0	17.7	
3.1	4	7:35	86.0	82.4	8432	32.7	15.7	11.9	9.4	6.8	8.5	2.0	1.4	1.0	3.2	3.1	0.0	16.1	
3.1																			CountyHwy9,B-,B-09,SB"
3.2																			CountyHwy9,J-,START,NB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S04
Roadway: CR 9
From: 1.1 mi S
To: CR 69

Prev. Day's Avg. Air Temp.: 81 °F
Total AC: 2.6 in.
Daily ESALs: 8.8
PCI: 41
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 33,715
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 70,955

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
3.2																			CountyHwy9,J-,END,NB"
3.2	1	7:37	86.0	82.6	5643	7.9	6.0	5.5	4.6	3.9	3.0	2.3	1.8	1.4	6.2	5.3	0.0	36.6	
3.2	2	7:37	86.0	82.6	5709	7.8	6.1	5.5	4.6	3.9	3.0	2.3	1.8	1.5	6.2	5.3	0.0	36.9	
3.2	3	7:37	86.0	82.6	9307	12.8	10.0	9.1	7.6	6.4	4.8	3.7	2.9	2.3	6.2	5.3	0.0	37.0	
3.2	4	7:37	86.0	82.6	9285	12.7	10.0	9.0	7.6	6.5	4.8	3.7	2.9	2.3	6.2	5.3	0.0	37.0	
3.3	1	7:38	87.8	83.4	5621	21.7	16.5	13.3	10.1	7.1	3.4	1.7	1.2	0.6	5.4	2.7	0.0	16.1	
3.3	2	7:38	87.8	83.4	5676	21.7	16.6	13.3	10.1	7.2	3.5	1.8	1.2	0.7	5.3	2.7	0.0	16.3	
3.3	3	7:38	87.8	83.4	9153	35.9	28.3	22.6	17.6	12.7	6.2	3.1	2.0	1.5	4.8	2.7	0.0	15.9	
3.3	4	7:38	87.8	83.4	9208	36.1	28.6	23.2	17.8	12.8	6.3	3.2	2.1	1.5	4.7	2.7	0.0	15.9	
3.4	1	7:40	87.8	82.5	5370	21.1	15.8	11.9	8.3	5.2	2.1	0.9	0.6	0.6	8.2	2.4	0.0	15.8	
3.4	2	7:40	87.8	82.5	5370	20.9	15.6	11.7	8.3	5.2	2.1	0.9	0.6	0.6	8.2	2.4	0.0	15.9	
3.4	3	7:40	87.8	82.5	8771	35.6	26.8	20.0	14.6	9.3	3.8	1.7	1.2	1.0	7.5	2.4	0.0	15.4	
3.4	4	7:40	87.8	82.5	8694	35.6	26.9	20.1	14.7	9.4	3.8	1.7	1.2	1.0	7.4	2.4	0.0	15.2	
3.5	1	7:41	87.8	82.9	5282	23.0	19.2	16.5	12.4	9.0	4.8	2.8	1.8	1.4	3.6	2.8	0.0	14.5	
3.5	2	7:41	87.8	82.9	5271	22.7	19.0	16.4	12.2	8.9	4.7	2.8	1.8	1.5	3.6	2.8	0.0	14.7	
3.5	3	7:41	87.8	82.9	8716	38.0	32.1	26.7	20.9	15.1	8.0	4.6	3.3	2.5	3.5	2.8	0.0	14.5	
3.5	4	7:41	87.8	82.9	8716	38.1	32.1	26.7	20.9	15.2	8.1	4.6	3.3	2.6	3.5	2.8	0.0	14.5	
3.6	1	7:42	87.8	82.7	5555	19.8	16.2	13.3	9.7	6.5	2.6	1.2	0.7	0.6	6.8	2.6	0.0	17.3	
3.6	2	7:42	87.8	82.7	5588	19.6	16.1	13.2	9.7	6.5	2.7	1.2	0.7	0.6	6.8	2.7	0.0	17.5	
3.6	3	7:42	87.8	82.7	8989	33.4	27.7	22.2	16.8	11.4	4.8	2.2	1.3	1.0	6.1	2.6	0.0	16.6	
3.6	4	7:42	87.8	82.7	9011	33.7	27.9	22.5	17.0	11.4	4.8	2.2	1.3	1.0	6.1	2.6	0.0	16.6	
3.7																			CountyHwy9,B-,B-08,NB"
3.7	1	7:43	87.8	83.0	5206	26.3	21.0	17.3	12.7	8.9	4.4	2.6	1.9	1.5	3.8	2.5	0.0	12.7	
3.7	2	7:43	87.8	83.0	5238	26.2	21.0	17.3	12.7	8.9	4.5	2.6	1.9	1.5	3.8	2.5	0.0	12.8	
3.7	3	7:43	87.8	83.0	8497	42.2	34.3	27.5	21.1	15.0	7.5	4.3	3.2	2.7	3.7	2.5	0.0	12.9	
3.7	4	7:43	87.8	83.0	8388	42.1	34.3	27.6	21.1	15.1	7.5	4.3	3.2	2.7	3.6	2.5	0.0	12.8	
3.8	1	7:45	87.8	82.9	5632	14.1	11.3	9.5	7.6	5.8	3.2	1.9	1.2	0.9	5.7	3.5	0.0	23.3	
3.8	2	7:45	87.8	82.9	5676	14.1	11.4	9.6	7.6	5.8	3.3	2.0	1.2	0.9	5.7	3.5	0.0	23.4	
3.8	3	7:45	87.8	82.9	9339	23.8	19.3	15.9	13.0	10.0	5.6	3.3	2.1	1.5	5.4	3.5	0.0	23.0	
3.8	4	7:45	87.8	82.9	9350	23.7	19.4	15.8	13.0	10.0	5.7	3.3	2.1	1.5	5.4	3.5	0.0	23.0	
3.9																			CountyHwy9,J-,START,NB"
3.9																			CountyHwy9,J-,END,NB"
3.9	1	7:46	87.8	83.4	5927	11.4	9.1	7.7	5.9	4.5	2.8	1.9	1.3	1.0	6.8	4.0	0.0	28.8	
3.9	2	7:46	87.8	83.4	5938	11.2	9.0	7.7	5.8	4.5	2.8	1.9	1.3	1.0	6.9	4.0	0.0	29.1	
3.9	3	7:46	87.8	83.4	0:00	18.1	14.8	12.4	9.7	7.5	4.7	3.2	2.2	1.7	6.7	4.1	0.0	29.3	
3.9	4	7:46	87.8	83.4	9591	18.0	14.7	12.4	9.7	7.5	4.7	3.2	2.2	1.7	6.6	4.1	0.0	29.3	
4.0	1	7:47	89.6	84.4	0:00	27.0	21.2	16.0	11.2	7.1	2.6	1.2	0.8	0.7	7.0	2.2	0.0	13.4	
4.0	2	7:47	89.6	84.4	5654	26.7	21.0	15.8	11.2	7.1	2.6	1.2	0.8	0.7	7.0	2.2	0.0	13.5	
4.0	3	7:47	89.6	84.4	9077	43.8	35.0	26.2	19.3	12.5	4.8	2.1	1.5	1.3	6.2	2.3	0.0	13.3	
4.0	4	7:47	89.6	84.4	9088	44.0	35.4	26.6	19.5	12.7	4.8	2.2	1.5	1.3	6.1	2.3	0.0	13.2	
4.1	1	7:49	87.8	84.6	5643	25.2	19.1	14.5	10.2	6.8	3.3	1.9	1.4	1.1	5.6	2.4	0.0	14.2	
4.1	2	7:49	87.8	84.6	5687	25.1	19.1	14.5	10.3	6.8	3.3	1.9	1.4	1.1	5.6	2.4	0.0	14.4	
4.1	3	7:49	87.8	84.6	9132	41.0	31.7	23.9	17.6	11.8	5.7	3.3	2.4	1.9	5.2	2.5	0.0	14.2	
4.1	4	7:49	87.8	84.6	9077	41.0	31.8	24.1	17.8	11.9	5.7	3.3	2.5	1.9	5.2	2.5	0.0	14.1	
4.2	1	7:50	87.8	84.7	5698	15.3	13.4	11.5	9.4	7.2	4.1	1.9	1.1	0.9	4.6	3.6	0.0	22.1	
4.2	2	7:50	87.8	84.7	5687	15.2	13.3	11.4	9.4	7.2	4.0	1.9	1.1	0.9	4.6	3.6	0.0	22.2	
4.2	3	7:50	87.8	84.7	9296	26.2	23.0	19.4	16.4	12.7	7.1	3.4	2.0	1.6	4.2	3.6	0.0	21.2	
4.2	4	7:50	87.8	84.7	9328	26.4	23.1	19.6	16.5	12.8	7.2	3.5	2.0	1.6	4.2	3.6	0.0	21.2	
4.2																			CountyHwy9,B-,B-07,SB"
4.3	1	7:51	87.8	84.7	5752	12.8	9.9	8.0	6.2	4.4	2.2	1.1	0.7	0.5	8.5	3.3	0.0	25.7	
4.3	2	7:51	87.8	84.7	5807	12.7	9.9	8.0	6.2	4.4	2.2	1.1	0.7	0.5	8.6	3.4	0.0	26.1	
4.3	3	7:51	87.8	84.7	9438	21.6	16.9	13.6	10.8	7.8	3.9	2.0	1.2	1.0	7.8	3.4	0.0	25.2	
4.3	4	7:51	87.8	84.7	9383	21.4	16.9	13.6	10.8	7.8	4.0	2.0	1.2	0.9	7.7	3.4	0.0	25.2	
4.4																			CountyHwy9,IC,MoormanRd,NB"

American Engineering Testing, Inc.
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AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S05
Roadway: CR 9
From: CR 69
To: CR 73

Prev. Day's Avg. Air Temp.: 81 °F
Total AC: 2.9 in.
Daily ESALs: 7.8
PCI: 39
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 29,825
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 62,768

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
4.4																			CountyHwy9,IC,MoormanRd,NB"
4.4	1	7:53	87.8	85.2	5293	32.1	19.7	15.7	11.4	7.9	4.3	2.8	2.1	1.7	3.9	2.2	0.5	10.8	
4.4	2	7:53	87.8	85.2	5282	31.8	19.5	15.6	11.3	7.9	4.4	2.8	2.1	1.6	3.9	2.2	0.5	10.9	
4.4	3	7:53	87.8	85.2	8410	50.5	32.6	25.6	19.4	13.8	7.4	4.8	3.6	2.9	3.7	2.2	0.5	10.9	
4.4	4	7:53	87.8	85.2	8344	50.5	31.8	25.6	19.2	13.6	7.3	4.7	3.5	2.8	3.7	2.2	0.6	10.8	
4.5	1	7:54	89.6	85.3	5785	17.0	13.5	11.5	9.0	6.8	4.1	2.5	1.6	1.2	4.6	3.4	0.0	20.5	
4.5	2	7:54	89.6	85.3	5807	17.0	13.6	11.4	9.0	6.8	4.1	2.5	1.6	1.2	4.6	3.4	0.0	20.6	
4.5	3	7:54	89.6	85.3	9317	27.9	22.6	18.6	15.1	11.6	7.0	4.2	2.7	2.1	4.3	3.4	0.0	20.2	
4.5	4	7:54	89.6	85.3	9307	28.0	22.7	18.7	15.2	11.7	7.0	4.2	2.7	2.1	4.3	3.4	0.0	20.1	
4.6	1	7:55	89.6	85.7	5698	17.8	13.2	9.8	7.3	4.2	2.1	1.1	0.7	0.6	8.9	2.7	0.0	19.5	
4.6	2	7:55	89.6	85.7	5730	17.6	13.1	9.8	7.3	4.2	2.1	1.1	0.7	0.6	9.0	2.7	0.0	19.8	
4.6	3	7:55	89.6	85.7	9241	29.3	22.1	16.4	12.7	7.5	3.8	2.0	1.4	1.1	8.0	2.7	0.0	19.3	
4.6	4	7:55	89.6	85.7	9252	29.4	22.1	16.5	12.7	7.5	3.8	2.0	1.4	1.1	8.0	2.7	0.0	19.2	
4.7	1	7:57	89.6	85.3	5490	19.5	15.2	12.3	8.8	6.0	2.5	1.3	0.7	0.7	7.0	2.6	0.0	17.4	
4.7	2	7:57	89.6	85.3	5512	19.4	15.1	12.2	8.8	5.9	2.6	1.3	0.7	0.7	7.0	2.6	0.0	17.6	
4.7	3	7:57	89.6	85.3	9121	33.1	26.0	20.6	15.5	10.7	4.8	2.3	1.5	1.3	6.2	2.7	0.0	17.1	
4.7	4	7:57	89.6	85.3	9153	33.3	26.0	20.7	15.6	10.7	4.8	2.3	1.5	1.3	6.2	2.7	0.0	17.1	
4.7																			CountyHwy9,B-,B-06,NB"
4.8																			CountyHwy9,IC,ShepherdRd,NB"

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AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S06
Roadway: CR 9
From: CR 73
To: CR 85

Prev. Day's Avg. Air Temp.: 81 °F
Total AC: 2.8 in.
Daily ESALs: 7.8
PCI: 40
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 29,825
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 62,768

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
4.8																			CountyHwy9,IC,ShepherdRd,NB"
4.8	1	7:58	89.6	86.0	5643	9.5	8.5	7.9	6.8	5.6	3.7	2.1	1.5	1.0	5.0	5.0	0.0	32.1	
4.8	2	7:58	89.6	86.0	5643	9.5	8.5	7.9	6.8	5.6	3.7	2.1	1.5	1.0	5.0	4.9	0.0	32.0	
4.8	3	7:58	89.6	86.0	9296	16.1	14.4	12.9	11.4	9.5	6.2	3.4	2.5	1.8	4.8	4.9	0.0	31.5	
4.8	4	7:58	89.6	86.0	9241	16.1	14.4	12.9	11.4	9.5	6.2	3.5	2.5	1.7	4.8	4.9	0.0	31.3	
4.9	1	7:59	89.6	85.6	0:00	19.6	16	9.6	7.2	4.9	2.3	1.1	0.7	0.6	7.9	2.5	0.0	18.0	
4.9	2	7:59	89.6	85.6	5730	19.4	16.1	9.6	7.2	4.9	2.3	1.1	0.7	0.6	7.9	2.5	0.0	18.2	
4.9	3	7:59	89.6	85.6	9230	32.3	26.6	16.6	12.8	8.9	4.3	2.1	1.4	1.0	7.0	2.6	0.0	17.7	
4.9	4	7:59	89.6	85.6	9219	32.3	26.7	16.7	12.9	8.9	4.3	2.2	1.4	1.0	6.9	2.6	0.0	17.6	
5.0	1	8:01	89.6	87.0	5566	33.2	25.5	20.7	14.5	7.9	3.7	1.8	1.4	1.2	4.8	2.0	0.4	11.0	
5.0	2	8:01	89.6	87.0	5588	32.7	25.2	20.5	14.4	7.9	3.7	1.8	1.4	1.2	4.8	2.1	0.3	11.2	
5.0	3	8:01	89.6	87.0	8968	52.6	40.5	32.3	23.5	13.3	6.4	3.3	2.4	2.0	4.5	2.1	0.4	11.2	
5.0	4	8:01	89.6	87.0	8946	52.4	40.8	32.6	23.8	13.5	6.5	3.4	2.5	2.0	4.5	2.1	0.4	11.2	
5.1	1	8:02	91.4	86.5	5818	29.4	21.8	17.2	11.9	7.9	4.0	2.4	1.8	1.4	4.7	2.3	0.0	12.8	
5.1	2	8:02	91.4	86.5	5807	28.9	21.5	17.0	11.9	7.9	4.0	2.4	1.8	1.4	4.7	2.3	0.0	13.0	
5.1	3	8:02	91.4	86.5	9274	46.5	35.2	27.6	20.0	13.5	6.8	4.0	3.0	2.3	4.4	2.3	0.0	12.9	
5.1	4	8:02	91.4	86.5	9252	46.5	35.2	27.6	20.1	13.6	6.8	4.1	3.1	2.3	4.4	2.3	0.0	12.8	
5.2	1	8:03	89.6	85.7	5752	21.2	15.6	11.9	8.4	5.6	2.7	1.5	0.9	0.7	6.9	2.5	0.0	16.9	
5.2	2	8:03	89.6	85.7	5752	20.9	15.4	11.8	8.3	5.6	2.7	1.5	0.9	0.7	6.9	2.5	0.0	17.1	
5.2	3	8:03	89.6	85.7	9307	33.9	25.5	19.4	14.2	9.6	4.7	2.6	1.6	1.3	6.4	2.6	0.0	17.1	
5.2	4	8:03	89.6	85.7	9350	33.9	25.6	19.5	14.3	9.7	4.8	2.6	1.6	1.3	6.3	2.6	0.0	17.2	
5.2																			CountyHwy9,B-,B-05,SB"
5.3	1	8:05	89.6	85.9	5916	24.5	17.5	13.0	9.3	6.1	2.5	1.3	0.9	0.8	7.6	2.3	0.0	15.3	
5.3	2	8:05	89.6	85.9	5905	24.1	17.3	12.8	9.2	6.1	2.5	1.2	0.9	0.8	7.7	2.3	0.0	15.5	
5.3	3	8:05	89.6	85.9	9339	39.7	29.5	21.9	16.1	10.7	4.5	2.2	1.7	1.4	6.8	2.3	0.0	14.9	
5.3	4	8:05	89.6	85.9	9350	39.8	29.6	22.1	16.2	10.8	4.5	2.2	1.7	1.4	6.7	2.3	0.0	14.9	
5.4	1	8:06	91.4	85.7	5599	26.4	16.7	12.4	8.6	5.5	2.5	1.5	1.2	1.0	7.4	2.1	0.0	13.6	
5.4	2	8:06	91.4	85.7	5555	26.0	16.6	12.3	8.5	5.5	2.4	1.5	1.2	0.9	7.4	2.1	0.0	13.7	
5.4	3	8:06	91.4	85.7	8793	42.6	28.5	21.2	15.3	9.9	4.3	2.5	2.1	1.7	6.6	2.2	0.0	13.3	
5.4	4	8:06	91.4	85.7	8749	42.8	28.0	21.3	15.4	10.0	4.3	2.6	2.1	1.8	6.5	2.1	0.0	13.1	
5.5	1	8:07	91.4	86.6	5523	35.4	24.2	18.2	12.6	7.9	3.4	2.1	1.5	1.3	5.2	1.9	0.5	10.3	
5.5	2	8:07	91.4	86.6	5490	34.6	24.0	18.2	12.4	7.9	3.4	2.2	1.5	1.3	5.2	2.0	0.5	10.5	
5.5	3	8:07	91.4	86.6	8705	54.7	39.5	29.6	21.3	13.8	5.9	3.8	2.7	2.3	4.8	2.0	0.5	10.5	
5.5	4	8:07	91.4	86.6	8629	54.5	39.6	29.8	21.5	13.9	5.9	3.8	2.7	2.2	4.7	2.0	0.6	10.4	
5.5																			CountyHwy9,IC,JohnstonRd,NB"

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AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S07
Roadway: CR 9
From: CR 85
To: CR 151

Prev. Day's Avg. Air Temp.: 81 °F
Total AC: 2.5 in.
Daily ESALs: 7.8
PCI: 37
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 29,825
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 62,768

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	Effective Values SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
5.5																			CountyHwy9,IC,JohnstonRd,NB"
5.6	1	8:09	91.4	86.5	5807	18.4	16.4	14.2	8.1	5.7	2.8	1.6	1.1	0.9	6.7	2.8	0.0	19.3	
5.6	2	8:09	91.4	86.5	5818	18.3	16.3	14.3	8.0	5.7	2.8	1.6	1.1	0.9	6.8	2.8	0.0	19.4	
5.6	3	8:09	91.4	86.5	9252	30.1	26.7	23.2	14.2	10.0	4.9	2.7	2.0	1.6	6.1	2.8	0.0	18.8	
5.6	4	8:09	91.4	86.5	9285	30.2	26.7	24.0	14.2	10.1	5.0	2.8	2.0	1.7	6.1	2.8	0.0	18.8	
5.7																			CountyHwy9,B-,B-04,NB"
5.7	1	8:10	91.4	86.3	5840	22.1	15.5	11.7	8.5	5.4	2.4	1.1	0.7	0.6	8.0	2.4	0.0	16.5	
5.7	2	8:10	91.4	86.3	5862	22.0	15.5	11.8	8.5	5.5	2.4	1.1	0.7	0.6	8.0	2.4	0.0	16.7	
5.7	3	8:10	91.4	86.3	9317	35.9	26.3	20.1	14.8	9.8	4.3	2.1	1.4	1.1	7.1	2.4	0.0	16.3	
5.7	4	8:10	91.4	86.3	9307	35.8	26.3	20.2	14.8	9.8	4.3	2.1	1.4	1.1	7.0	2.4	0.0	16.3	
5.7																			CountyHwy9,J-,START,NB"
5.7																			CountyHwy9,J-,END,NB"
5.8	1	8:12	91.4	87.2	5698	30.8	21.9	17.2	12.0	8.1	4.0	2.3	1.7	1.3	4.6	2.2	0.1	12.1	
5.8	2	8:12	91.4	87.2	5720	30.5	21.9	17.2	12.0	8.1	4.1	2.3	1.7	1.3	4.6	2.2	0.1	12.2	
5.8	3	8:12	91.4	87.2	9022	48.7	35.8	28.6	20.2	13.8	6.7	3.9	2.8	2.3	4.3	2.2	0.2	12.1	
5.8	4	8:12	91.4	87.2	8946	48.7	35.7	28.8	20.3	13.8	6.8	3.9	2.8	2.3	4.3	2.2	0.2	12.0	
5.9	1	8:13	91.4	88.3	5293	33.2	24.7	19.1	13.2	8.8	4.3	2.7	2.0	1.6	4.0	2.1	0.7	10.5	
5.9	2	8:13	91.4	88.3	5370	32.9	24.5	19.0	13.2	8.9	4.3	2.7	2.0	1.6	4.0	2.1	0.6	10.7	
5.9	3	8:13	91.4	88.3	8585	51.7	39.7	30.5	21.9	15.0	7.2	4.5	3.5	2.8	3.8	2.2	0.6	10.9	
5.9	4	8:13	91.4	88.3	8683	51.8	40.0	30.8	22.1	15.1	7.3	4.5	3.5	2.8	3.8	2.2	0.6	11.0	
6.0	1	8:14	91.4	87.8	5840	21.2	15.5	12.3	9.2	6.3	3.0	1.5	1.0	0.8	6.4	2.6	0.0	17.2	
6.0	2	8:14	91.4	87.8	5818	20.9	15.4	12.3	9.2	6.3	3.0	1.5	1.0	0.8	6.3	2.6	0.0	17.4	
6.0	3	8:14	91.4	87.8	9328	34.6	26.2	20.5	15.9	11.1	5.3	2.7	1.7	1.4	5.7	2.6	0.0	16.9	
6.0	4	8:14	91.4	87.8	9307	34.5	26.1	20.6	15.9	11.1	5.3	2.6	1.7	1.4	5.7	2.6	0.0	16.9	
6.0																			CountyHwy9,IC,LangenRd,NB"

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AET Project No. P-0013315
County: Madison
Test Date: Jun 15, 2022
Section: S08
Roadway: CR 9
From: CR 151
To: CR 82

Prev. Day's Avg. Air Temp.: 81 °F
Total AC: 1.8 in.
Daily ESALs: 7.8
PCI: 37
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 29,825
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 62,768

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
6.0																			CountyHwy9,IC,LangenRd,NB"
6.1	1	8:16	91.4	88.0	5632	23.1	17.2	13.6	10.4	7.5	4.0	2.4	1.6	1.2	4.6	2.7	0.0	15.4	
6.1	2	8:16	91.4	88.0	5665	22.8	17.0	13.6	10.4	7.5	4.0	2.4	1.6	1.2	4.6	2.7	0.0	15.6	
6.1	3	8:16	91.4	88.0	9022	36.9	28.4	22.1	17.5	12.8	6.7	4.0	2.6	2.1	4.4	2.7	0.0	15.4	
6.1	4	8:16	91.4	88.0	9033	36.9	28.6	22.3	17.6	12.9	6.7	4.0	2.6	2.1	4.3	2.7	0.0	15.4	
6.2	1	8:17	91.4	88.0	5577	25.6	17.1	13.8	10.5	7.7	4.3	2.5	1.7	1.3	4.2	2.6	0.0	13.9	
6.2	2	8:17	91.4	88.0	5599	25.3	17.1	13.8	10.5	7.7	4.3	2.5	1.7	1.3	4.3	2.6	0.0	14.1	
6.2	3	8:17	91.4	88.0	9011	40.7	28.6	22.9	18.0	13.3	7.2	4.2	2.8	2.1	4.0	2.6	0.0	14.1	
6.2	4	8:17	91.4	88.0	8978	40.3	28.8	23.1	17.9	12.9	7.2	4.2	2.9	2.7	4.0	2.6	0.0	14.2	
6.3																			CountyHwy9,B-,B-03,SB"
6.3	1	8:18	91.4	87.6	5577	24.8	16.0	11.1	7.3	4.1	1.5	0.7	0.5	0.4	12.1	2.1	0.0	14.4	
6.3	2	8:18	91.4	87.6	5610	24.6	16.0	11.1	7.4	4.2	1.5	0.7	0.5	0.4	12.0	2.2	0.0	14.5	
6.3	3	8:18	91.4	87.6	8989	41.4	28.2	19.6	13.7	8.0	2.9	1.3	1.0	0.9	9.9	2.2	0.0	13.9	
6.3	4	8:18	91.4	87.6	8957	41.3	28.3	19.7	13.7	8.0	2.9	1.3	1.0	0.9	9.9	2.2	0.0	13.9	
6.4	1	8:20	91.4	88.2	5654	31.5	24.3	18.1	11.7	6.1	1.9	1.0	0.6	0.6	9.9	2.0	0.0	11.8	
6.4	2	8:20	91.4	88.2	5698	31.4	24.2	18.1	11.8	6.1	1.9	1.0	0.6	0.6	9.8	2.0	0.0	11.9	
6.4	3	8:20	91.4	88.2	9110	51.4	40.5	30.1	20.5	11.2	3.6	1.9	1.2	1.1	8.2	2.0	0.0	11.6	
6.4	4	8:20	91.4	88.2	9121	51.7	40.9	30.5	20.9	11.4	3.7	2.0	1.2	1.1	8.1	2.0	0.0	11.6	
6.5	1	8:21	91.4	88.3	5654	34.8	22.3	15.1	8.4	4.1	1.4	0.8	0.6	0.5	13.6	1.8	0.0	10.8	
6.5	2	8:21	91.4	88.3	5632	34.2	22.2	15.0	8.4	4.1	1.4	0.8	0.6	0.6	13.5	1.8	0.0	10.9	
6.5	3	8:21	91.4	88.3	8957	54.9	37.9	25.9	15.7	8.1	2.5	1.6	1.1	1.0	11.4	1.9	0.0	10.8	
6.5	4	8:21	91.4	88.3	9000	55.1	38.3	26.2	16.0	8.2	2.6	1.5	1.1	1.0	11.3	1.9	0.0	10.8	
6.6	1	8:22	93.2	88.6	5916	18.0	14.6	12.6	10.1	7.7	4.4	2.8	1.9	1.4	4.3	3.3	0.0	19.9	
6.6	2	8:22	93.2	88.6	5927	17.8	14.5	12.6	10.0	7.6	4.4	2.8	1.9	1.4	4.3	3.4	0.0	20.1	
6.6	3	8:22	93.2	88.6	9416	28.8	23.7	20.3	16.5	12.7	7.3	4.5	3.1	2.4	4.2	3.4	0.0	19.8	
6.6	4	8:22	93.2	88.6	9416	28.8	23.7	20.3	16.5	12.8	7.4	4.6	3.1	2.4	4.1	3.4	0.0	19.8	
6.7	1	8:23	93.2	88.7	5490	18.7	13.5	10.8	8.4	6.2	3.3	1.7	0.9	0.6	5.5	2.9	0.0	18.1	
6.7	2	8:23	93.2	88.7	5512	18.7	13.5	10.8	8.4	6.2	3.3	1.7	0.9	0.6	5.5	2.9	0.0	18.2	
6.7	3	8:23	93.2	88.7	8858	30.9	23.0	18.1	14.7	10.9	5.8	3.1	1.6	1.2	4.9	2.9	0.0	17.8	
6.7	4	8:23	93.2	88.7	8782	30.9	22.7	18.1	14.7	10.9	5.8	3.3	1.6	1.2	4.9	2.9	0.0	17.6	
6.8																			CountyHwy9,B-,B-02,NB"
6.8	1	8:25	93.2	87.2	5730	35.8	26.9	21.0	14.7	9.8	4.7	2.7	2.0	1.6	3.9	2.2	0.6	10.5	
6.8	2	8:25	93.2	87.2	5698	35.2	26.6	20.8	14.6	9.8	4.7	2.7	2.0	1.6	3.9	2.2	0.5	10.6	
6.8	3	8:25	93.2	87.2	9044	55.8	43.3	33.5	24.4	16.6	7.8	4.5	3.4	2.8	3.7	2.2	0.6	10.6	
6.8	4	8:25	93.2	87.2	9066	56.0	43.7	34.0	24.7	16.8	7.9	4.6	3.4	2.8	3.7	2.2	0.6	10.6	
6.9	1	8:26	93.2	87.6	5851	26.4	18.4	13.3	9.0	5.5	2.1	0.9	0.7	0.6	8.9	2.2	0.0	14.2	
6.9	2	8:26	93.2	87.6	5851	25.9	18.3	13.1	9.0	5.6	2.2	1.0	0.7	0.6	8.8	2.2	0.0	14.4	
6.9	3	8:26	93.2	87.6	0:00	42.2	30.7	22.0	15.8	10.1	3.9	1.8	1.3	1.1	7.7	2.3	0.0	14.1	
6.9	4	8:26	93.2	87.6	9317	42.1	30.8	22.2	15.9	10.1	3.9	1.8	1.3	1.1	7.7	2.3	0.0	14.1	
7.0	1	8:27	93.2	82.7	0:00	21.1	14.2	9.8	6.6	3.9	1.3	0.6	0.4	0.3	14.1	2.3	0.0	16.9	
7.0	2	8:27	93.2	82.7	5807	20.9	14.1	9.9	6.6	3.9	1.3	0.6	0.3	0.2	14.7	2.3	0.0	17.0	
7.0	3	8:27	93.2	82.7	9383	35.0	24.6	17.8	12.2	7.5	2.7	1.2	0.9	0.8	11.3	2.3	0.0	16.5	
7.0	4	8:27	93.2	82.7	9361	35.0	24.7	17.9	12.3	7.6	2.7	1.2	0.9	0.8	11.2	2.3	0.0	16.5	
7.1	1	8:28	93.2	87.8	5730	29.5	20.0	15.7	11.5	7.8	3.7	2.1	1.4	1.1	5.0	2.3	0.0	12.6	
7.1	2	8:28	93.2	87.8	5709	29.0	19.9	15.6	11.5	7.8	3.7	2.1	1.4	1.1	5.0	2.3	0.0	12.7	
7.1	3	8:28	93.2	87.8	9121	46.3	33.0	25.5	19.5	13.5	6.4	3.5	2.4	2.0	4.6	2.4	0.0	12.7	
7.1	4	8:28	93.2	87.8	9132	46.3	33.1	25.7	19.6	13.6	6.5	3.6	2.5	2.0	4.6	2.4	0.0	12.7	
7.2	1	8:30	93.2	89.1	5763	31.6	24.0	19.3	12.9	8.5	3.9	2.5	1.8	1.5	4.8	2.2	0.0	11.9	
7.2	2	8:30	93.2	89.1	5796	31.4	23.9	19.2	12.9	8.5	3.9	2.5	1.8	1.5	4.8	2.2	0.0	12.0	
7.2	3	8:30	93.2	89.1	9153	49.8	39.1	30.7	21.8	14.4	6.6	4.1	3.1	2.5	4.5	2.3	0.0	12.0	
7.2	4	8:30	93.2	89.1	9142	49.9	39.3	31.0	22.0	14.5	6.7	4.1	3.1	2.6	4.4	2.3	0.0	11.9	
7.3																			CountyHwy9,B-,B-01,SB"
7.3																			Culvert"
7.3	1	8:32	93.2	88.4	5949	11.5	9.8	8.8	7.4	6.0	3.7	2.2	1.4	0.9	5.2	4.4	0.0	28.9	
7.3	2	8:32	93.2	88.4	5895	11.5	9.7	8.7	7.3	5.9	3.7	2.2	1.4	0.9	5.2	4.4	0.0	28.7	
7.3	3	8:32	93.2	88.4	9514	18.8	16.2	14.1	12.3	10.0	6.3	3.7	2.3	1.6	4.9	4.4	0.0	28.4	
7.3	4	8:32	93.2	88.4	9536	18.9	16.3	14.3	12.4	10.0	6.3	3.8	2.3	1.6	4.9	4.4	0.0	28.4	
7.4	1	8:33	93.2	88.6	5643	28.8	21.3	17.3	12.9	9.1	4.6	2.8	2.0	1.6	4.0	2.4	0.0	12.7	
7.4	2	8:33	93.2	88.6	5687	28.6	21.2	17.3	12.9	9.2	4.6	2.8	2.0	1.5	4.0	2.4	0.0	12.8	
7.4	3	8:33	93.2	88.6	9033	45.7	35.5	28.1	21.6	15.6	7.6	4.5	3.3	2.6	3.9	2.5	0.0	12.7	
7.4	4	8:33	93.2	88.6	9000	45.8	35.4	28.3	21.6	15.6	7.6	4.5	3.4	2.6	3.9	2.5	0.0	12.7	
7.5	1	8:34	93.2	89.0	5840	24.0	14.9	10.6	7.1	4.5	1.8	0.9	0.6	0.5	10.3	2.3	0.0	15.5	
7.5	2.000	8:34	93.200	89.0	0:00	23.6	15	10.7	7.1	4.5	1.8	0.9	0.6	0.5	10.3	2.3	0.0	15.8	
7.5	3.000	8:34	93.200	89.0	0:00	38.3	26	18.5	12.9	8.3	3.3	1.6	1.1	0.9	9.0	2.3	0.0	15.4	
7.5	4.000	8:34	93.200	89.0	0:00	38.4	26	18.7	13.0	8.4	3.4	1.7	1.2	1.0	8.8	2.3	0.0	15.4	
7.5																			93.2PavementTemp,80Sunny"
7.5																			CountyHwy9,IC,MaddenHiggins,NB"

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
7.5																			END"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S09
Roadway: CR 84
From: CR 69
To: CR 85

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 1.9 in.
Daily ESALs: 6.4
PCI: 69
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 24,476
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 51,510

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
3.0																			VanWagenerRd,IC,JohnstonRd,SB"
3.0	1	16:21	111.2	106.6	5020	40.7	29.7	22.5	14.6	9.3	3.9	2.3	1.7	1.3	4.1	1.5	1.8	8.4	
3.0	2	16:21	111.2	106.6	5031	40.6	29.8	22.5	14.7	9.4	4.0	2.3	1.7	1.3	4.1	1.5	1.8	8.4	
3.0	3	16:21	111.2	106.6	8005	62.6	47.4	36.4	24.2	15.8	6.6	3.8	2.8	2.3	3.9	1.5	1.8	8.6	
3.0	4	16:21	111.2	106.6	7961	63.2	47.7	36.5	24.4	15.9	6.7	3.9	2.9	2.3	3.9	1.5	1.9	8.5	
3.1	1	16:22	111.2	106.5	5162	47.0	37.0	28.8	18.8	11.8	5.5	3.5	2.5	1.9	3.0	1.5	2.5	7.3	
3.1	2	16:22	111.2	106.5	5184	46.7	36.9	28.9	18.9	11.9	5.6	3.5	2.5	1.9	3.0	1.5	2.5	7.4	
3.1	3	16:22	111.2	106.5	8300	74.5	61.2	48.7	32.4	20.5	9.3	6.1	4.3	3.4	2.9	1.5	2.5	7.4	
3.1	4	16:22	111.2	106.5	8246	75.0	62.2	49.3	32.9	20.8	9.4	6.1	4.4	3.5	2.8	1.5	2.6	7.3	
3.2	1	16:24	111.2	105.2	5249	47.5	32.7	21.3	11.1	4.8	2.0	1.7	0.8	0.7	8.7	1.2	1.1	8.0	
3.2	2	16:24	111.2	105.2	5206	47.0	32.2	20.9	10.9	4.8	2.0	1.8	0.8	0.7	8.6	1.2	1.1	8.0	
3.2	3	16:24	111.2	105.2	8289	72.1	52.5	36.2	19.9	9.1	2.9	2.5	1.5	1.2	9.2	1.3	0.9	8.4	
3.2	4	16:24	111.2	105.2	8279	72.7	52.0	36.4	19.9	9.1	2.9	2.5	1.5	1.2	9.2	1.3	1.0	8.3	
3.3	1	16:25	111.2	106.2	5173	42.2	31.1	21.8	11.8	5.6	1.6	1.0	0.9	0.8	10.7	1.3	0.7	9.1	
3.3	2	16:25	111.2	106.2	5216	41.9	31.1	21.8	11.8	5.8	1.6	1.0	0.9	0.8	10.8	1.3	0.6	9.2	
3.3	3	16:25	111.2	106.2	8311	63.6	50.3	35.2	20.2	10.1	2.9	1.8	1.5	1.5	9.3	1.3	0.7	9.5	
3.3	4	16:25	111.2	106.2	8322	63.7	51.0	35.5	20.5	10.1	2.9	1.8	1.5	1.5	9.2	1.3	0.7	9.5	
3.3																			VanWagenerRd,B-,B-29,SB"
3.4	1	16:27	111.2	106.7	5195	52.1	38.8	27.0	16.0	7.5	1.9	1.7	0.7	0.6	8.9	1.2	1.2	7.3	
3.4	2	16:27	111.2	106.7	5206	51.0	38.3	27.5	15.8	7.4	1.9	1.7	0.6	0.6	8.7	1.2	1.2	7.5	
3.4	3	16:27	111.2	106.7	8257	79.6	61.5	45.0	27.0	13.3	3.0	2.4	1.3	1.1	8.8	1.2	1.1	7.6	
3.4	4	16:27	111.2	106.7	8333	79.9	62.2	45.6	27.3	13.7	3.2	2.6	1.4	1.1	8.5	1.2	1.2	7.6	
3.5	1	16:28	109.4	109.8	5490	31.9	23.2	16.7	11.2	6.8	2.8	1.6	1.0	0.9	6.4	1.7	0.6	12.0	
3.5	2	16:28	109.4	109.8	5545	31.8	23.4	16.8	11.3	6.9	2.8	1.6	1.1	0.9	6.4	1.7	0.5	12.1	
3.5	3	16:28	109.4	109.8	8771	49.5	37.8	27.4	19.3	11.8	4.9	2.7	1.9	1.7	5.8	1.7	0.6	12.1	
3.5	4	16:28	109.4	109.8	8793	49.8	38.3	27.8	19.6	11.9	5.0	2.7	2.0	1.7	5.7	1.7	0.6	12.1	
3.6																			VanWagenerRd,J-,START,SB"
3.6																			VanWagenerRd,J-,END,SB"
3.6	1	16:29	109.4	110.3	5293	24.1	17.3	14.4	10.1	7.1	3.8	2.6	1.6	1.0	4.5	2.2	0.1	14.4	
3.6	2	16:29	109.4	110.3	5293	24.0	17.2	14.4	10.1	7.1	3.9	2.5	1.7	1.1	4.4	2.2	0.1	14.4	
3.6	3	16:29	109.4	110.3	8541	38.6	28.8	22.5	17.2	12.3	6.7	4.4	3.0	2.3	4.1	2.2	0.1	14.4	
3.6	4	16:29	109.4	110.3	8410	38.5	28.6	22.1	17.1	12.2	6.6	4.4	2.9	2.3	4.1	2.2	0.1	14.2	
3.7	1	16:30	109.4	104.3	5009	43.6	31.0	21.8	13.1	8.0	3.4	2.2	1.5	1.2	4.8	1.4	1.8	7.9	
3.7	2	16:30	109.4	104.3	5031	43.2	30.8	21.7	13.1	8.1	3.4	2.2	1.5	1.2	4.8	1.4	1.8	8.0	
3.7	3	16:30	109.4	104.3	8016	66.5	49.8	34.9	22.6	14.1	5.8	3.7	2.8	2.1	4.5	1.4	1.8	8.3	
3.7	4	16:30	109.4	104.3	7929	66.9	49.2	35.1	22.8	14.1	5.7	3.6	2.4	2.1	4.5	1.4	1.8	8.1	
3.8	1	16:32	109.4	108.4	5282	40.1	29.9	21.2	12.8	7.2	2.7	1.5	1.2	1.0	6.5	1.4	1.2	9.3	
3.8	2	16:32	109.4	108.4	5282	39.8	29.7	21.1	12.9	7.2	2.7	1.5	1.2	1.0	6.4	1.4	1.1	9.4	
3.8	3	16:32	109.4	108.4	8443	61.5	46.9	33.7	21.9	12.5	4.7	2.7	2.1	1.7	5.8	1.5	1.2	9.6	
3.8	4	16:32	109.4	108.4	8432	61.0	47.0	34.1	22.3	12.7	4.8	2.7	2.1	1.7	5.7	1.5	1.2	9.6	
3.8																			VanWagenerRd,B-,B-30,NB"
3.9	1	16:33	109.4	109.3	5632	35.3	23.6	15.1	9.7	5.9	2.4	1.4	0.9	0.8	7.6	1.6	0.6	11.3	
3.9	2	16:33	109.4	109.3	5654	34.6	23.4	15.1	9.7	6.0	2.4	1.4	0.9	0.8	7.5	1.6	0.5	11.6	
3.9	3	16:33	109.4	109.3	8989	53.6	38.2	25.0	16.7	10.6	4.3	2.5	1.8	1.4	6.8	1.6	0.6	11.7	
3.9	4	16:33	109.4	109.3	8978	53.1	38.4	25.1	16.9	10.7	4.3	2.5	1.8	1.4	6.8	1.6	0.6	11.8	
3.9																			127.0PavementTemp,98Sunny"
3.9																			VanWagenerRd,IC,MoormanRd,SB"
3.9																			END"

American Engineering Testing, Inc.
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St. Paul, Minnesota 55114
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AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S10
Roadway: CR 84
From: CR 85
To: CR 82

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 1.8 in.
Daily ESALs: 6.4
PCI: 68
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 24,476
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 51,510

														Effective Values		Overlay	Axle	
														Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
1.8																			VanWagenerRd,IC,MaddenHigginsRd,SB"
1.9	1	16:06	113.0	108.4	5293	46.9	32.8	21.7	11.6	5.4	1.8	1.1	0.9	0.7	9.3	1.9	0.0	8.3	
1.9	2	16:06	113.0	108.4	5326	46.4	32.6	21.5	11.6	5.4	1.9	1.1	0.9	0.7	9.3	1.9	0.0	8.4	
1.9	3	16:06	113.0	108.4	8432	71.2	52.5	36.0	20.6	10.2	3.4	2.0	1.5	1.2	8.0	1.9	0.0	8.5	
1.9	4	16:06	113.0	108.4	8410	71.7	53.0	36.7	20.7	10.3	3.4	2.1	1.5	1.2	8.0	1.9	0.0	8.5	
2.0	1	16:08	113.0	109.3	5479	36.2	26.1	19.1	12.6	7.7	3.2	1.9	1.4	1.1	5.5	2.2	0.0	10.4	
2.0	2	16:08	113.0	109.3	5512	36.2	26.2	19.4	12.7	7.6	3.3	1.9	1.4	1.1	5.5	2.2	0.0	10.4	
2.0	3	16:08	113.0	109.3	8814	57.9	43.1	32.6	21.8	13.3	5.7	3.4	2.5	2.0	5.0	2.2	0.0	10.3	
2.0	4	16:08	113.0	109.3	8814	58.5	43.8	33.3	22.1	13.5	5.7	3.4	2.5	2.0	5.0	2.2	0.0	10.2	
2.1	1	16:09	113.0	107.8	5512	27.7	19.6	14.3	8.7	5.1	1.9	1.1	0.8	0.6	9.2	2.4	0.0	13.9	
2.1	2	16:09	113.0	107.8	5468	27.3	19.3	14.2	8.5	5.0	1.9	1.1	0.7	0.6	9.3	2.4	0.0	14.0	
2.1	3	16:09	113.0	107.8	8803	42.5	31.6	23.8	14.9	9.1	3.5	2.0	1.2	1.1	8.2	2.5	0.0	14.3	
2.1	4	16:09	113.0	107.8	8793	42.7	31.6	24.1	15.0	9.2	3.5	2.0	2.5	1.1	8.2	2.5	0.0	14.2	
2.2	1	16:10	113.0	109.7	5238	28.2	18.1	14.6	10.6	7.3	3.8	2.2	1.5	1.1	4.5	2.5	0.0	12.3	
2.2	2	16:10	113.0	109.7	5315	27.7	18.1	14.6	10.6	7.4	3.8	2.2	1.5	1.1	4.6	2.6	0.0	12.7	
2.2	3	16:10	113.0	109.7	8585	44.4	30.0	23.7	17.8	12.4	6.4	3.7	2.5	2.0	4.4	2.6	0.0	12.7	
2.2	4	16:10	113.0	109.7	8596	44.2	30.1	24.6	17.9	12.4	6.4	3.7	2.5	1.9	4.3	2.6	0.0	12.8	
2.3	1	16:11	113.0	108.5	5370	36.1	27.2	18.8	12.7	7.9	3.3	2.1	1.4	1.2	5.2	2.2	0.0	10.2	
2.3	2	16:11	113.0	108.5	5402	36.1	27.3	19.2	12.8	8.0	3.3	2.0	1.5	1.2	5.3	2.2	0.0	10.2	
2.3	3	16:11	113.0	108.5	8552	55.6	43.8	32.2	21.5	13.7	5.9	3.7	2.6	2.2	4.7	2.3	0.0	10.4	
2.3	4	16:11	113.0	108.5	8552	56.1	44.3	32.9	21.9	13.9	5.9	3.7	2.7	2.2	4.7	2.3	0.0	10.3	
2.3																			VanWagenerRd,B-,B-27,SB"
2.4	1	16:13	113.0	109.0	5632	31.3	23.9	18.3	12.5	8.3	4.2	2.5	1.7	1.3	4.3	2.5	0.0	11.9	
2.4	2	16:13	113.0	109.0	5610	30.9	23.7	18.1	12.4	8.3	4.2	2.5	1.7	1.3	4.3	2.5	0.0	12.0	
2.4	3	16:13	113.0	109.0	8989	49.3	38.9	28.9	21.1	14.4	7.2	4.3	2.9	2.2	4.1	2.5	0.0	12.0	
2.4	4	16:13	113.0	109.0	8968	49.3	39.0	29.0	21.2	14.4	7.2	4.3	2.9	2.3	4.0	2.5	0.0	11.9	
2.5	1	16:14	113.0	108.3	5479	44.9	33.8	24.0	14.3	7.5	2.3	1.5	1.1	0.8	7.7	1.9	0.0	8.7	
2.5	2	16:14	113.0	108.3	5523	44.9	33.8	24.1	14.4	7.6	2.4	1.5	1.1	1.0	7.6	2.0	0.0	8.8	
2.5	3	16:14	113.0	108.3	8694	68.7	53.5	38.4	24.5	13.4	4.2	2.5	2.0	1.5	6.7	2.0	0.0	8.9	
2.5	4	16:14	113.0	108.3	8683	68.7	53.5	38.7	24.8	13.5	4.3	2.5	1.9	1.5	6.6	2.0	0.0	8.9	
2.6	1	16:15	111.2	107.5	5359	46.5	35.2	25.9	17.2	10.8	5.3	3.6	2.7	2.1	3.2	2.0	1.1	7.7	
2.6	2	16:15	111.2	107.5	5326	45.6	34.7	25.7	17.0	10.7	5.3	3.6	2.7	2.1	3.2	2.0	1.0	7.8	
2.6	3	16:15	111.2	107.5	8519	71.0	56.3	41.3	28.9	18.6	8.9	6.1	4.6	3.5	3.1	2.1	1.0	7.9	
2.6	4	16:15	111.2	107.5	8497	71.1	56.7	41.8	29.2	18.8	8.9	6.1	4.6	3.5	3.1	2.1	1.1	7.9	
2.6																			VanWagenerRd,J-,START,SB"
2.6																			VanWagenerRd,J-,END,SB"
2.7	1	16:17	111.2	106.4	5348	46.8	35.8	23.6	13.2	5.8	1.0	0.7	0.6	0.6	16.7	1.8	0.0	8.8	
2.7	2	16:17	111.2	106.4	5337	46.3	35.5	23.4	13.2	5.8	1.1	0.7	0.6	0.6	16.0	1.9	0.0	8.8	
2.7	3	16:17	111.2	106.4	8454	73.0	57.9	38.7	23.4	10.7	2.1	1.4	1.2	1.0	13.2	1.9	0.0	8.7	
2.7	4	16:17	111.2	106.4	8366	73.4	58.4	39.3	23.7	10.9	2.2	1.4	1.2	1.0	12.6	1.9	0.0	8.5	
2.8	1	16:18	111.2	107.3	5577	32.9	24.7	19.6	13.8	9.1	4.3	2.3	1.6	1.2	4.2	2.4	0.0	11.2	
2.8	2	16:18	111.2	107.3	5632	32.8	24.7	19.6	13.9	9.1	4.3	2.4	1.6	1.2	4.2	2.4	0.0	11.4	
2.8	3	16:18	111.2	107.3	8935	52.1	40.5	32.7	23.5	15.5	7.3	4.0	2.7	2.2	4.0	2.5	0.0	11.3	
2.8	4	16:18	111.2	107.3	8869	52.2	40.7	33.2	23.6	15.6	7.3	4.0	2.7	2.2	3.9	2.4	0.0	11.2	
2.8																			VanWagenerRd,B-,B-28,NB"
2.9	1	16:20	111.2	107.2	5490	36.1	27.6	21.3	13.6	8.0	3.0	1.4	1.0	0.9	5.9	2.2	0.0	10.5	
2.9	2	16:20	111.2	107.2	5523	35.8	27.5	21.3	13.6	8.1	3.0	1.5	1.0	0.9	5.9	2.2	0.0	10.6	
2.9	3	16:20	111.2	107.2	8782	56.7	44.8	35.6	23.3	14.2	5.2	2.5	1.8	1.6	5.5	2.2	0.0	10.6	
2.9	4	16:20	111.2	107.2	8803	56.8	45.1	36.0	23.6	14.4	5.3	2.5	1.8	1.6	5.4	2.2	0.0	10.6	
3.0																			VanWagenerRd,IC,JohnstonRd,SB'

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S11
Roadway: CR 84
From: CR 82
To: SR 56

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 1.6 in.
Daily ESALs: 12.9
PCI: 68
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 49,114
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 103,362

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
0.0																			START"
0.0																			VanWagenerRd,IC,StHwy56,SB"
0.0																			116.4PavementTemp,98Sunny"
0.0	1	15:27	105.8	111.7	5654	26.0	18.0	13.6	9.1	5.7	2.9	1.7	1.3	0.9	6.3	2.6	0.0	14.4	
0.0	2	15:27	105.8	111.7	5643	25.4	17.7	13.3	9.0	5.6	2.9	1.7	1.2	1.0	6.3	2.6	0.0	14.7	
0.0	3	15:27	105.8	111.7	9099	40.2	28.9	21.7	15.7	10.0	5.2	3.1	2.2	1.8	5.7	2.7	0.0	14.8	
0.0	4	15:27	105.8	111.7	9153	40.2	29.1	21.9	15.8	10.1	5.2	3.1	2.2	1.8	5.7	2.7	0.0	14.9	
0.1	1	15:28	105.8	111.0	5577	32.1	23.1	19.2	12.9	8.1	3.7	2.0	1.4	1.1	4.8	2.4	0.0	11.5	
0.1	2	15:28	105.8	111.0	5599	31.9	23.0	19.0	13.0	8.1	3.7	2.0	1.4	1.1	4.9	2.4	0.0	11.6	
0.1	3	15:28	105.8	111.0	8891	48.7	35.3	29.7	21.6	13.9	6.2	3.4	2.3	1.9	4.6	2.5	0.0	12.0	
0.1	4	15:28	105.8	111.0	8913	48.9	35.1	30.2	21.9	14.1	6.3	3.3	2.3	1.9	4.6	2.5	0.0	11.9	
0.2	1	15:29	107.6	112.4	5741	29.0	21.6	16.1	10.9	7.0	3.2	1.9	1.3	1.0	5.7	2.5	0.0	13.2	
0.2	2	15:29	107.6	112.4	5720	28.6	21.3	15.9	10.8	7.0	3.3	1.9	1.3	1.0	5.7	2.5	0.0	13.3	
0.2	3	15:29	107.6	112.4	9121	43.5	32.6	25.0	18.1	11.9	5.7	3.2	2.3	1.7	5.2	2.6	0.0	13.7	
0.2	4	15:29	107.6	112.4	9132	43.4	32.1	25.8	18.1	12.0	5.6	3.2	2.3	1.7	5.3	2.6	0.0	13.8	
0.3																			VanWagenerRd,B-,B-23,SB"
0.3	1	15:31	107.6	111.7	5304	20.9	15.3	11.9	8.4	5.7	2.8	1.5	1.0	0.8	6.2	2.8	0.0	16.6	
0.3	2	15:31	107.6	111.7	5249	20.7	15.1	11.9	8.3	5.7	2.8	1.5	1.0	0.8	6.1	2.8	0.0	16.5	
0.3	3	15:31	107.6	111.7	8607	32.9	24.2	20.3	14.4	10.0	4.9	2.7	1.7	1.3	5.7	2.9	0.0	16.8	
0.3	4	15:31	107.6	111.7	8650	32.9	24.0	20.5	14.6	10.1	4.9	2.7	1.8	1.4	5.7	2.9	0.0	16.9	
0.4	1	15:32	107.6	115.1	5249	39.3	28.9	21.4	13.3	7.5	3.0	1.7	1.3	1.1	5.8	2.1	0.4	9.2	
0.4	2	15:32	107.6	115.1	5216	38.7	28.5	21.1	13.1	7.4	2.9	1.7	1.3	1.1	5.8	2.1	0.4	9.3	
0.4	3	15:32	107.6	115.1	8388	62.3	45.3	35.7	23.1	13.4	4.9	2.9	2.2	1.9	5.5	2.1	0.5	9.2	
0.4	4	15:32	107.6	115.1	8366	62.8	45.0	36.3	23.2	13.6	4.9	3.0	2.2	1.9	5.5	2.1	0.5	9.1	
0.4																			VanWagenerRd,J-,START,SB"
0.4																			VanWagenerRd,J-,END,SB"
0.5	1	15:33	109.4	111.1	5271	40.6	27.4	19.1	11.8	7.1	2.9	1.6	1.0	0.8	5.9	2.0	0.4	8.9	
0.5	2	15:33	109.4	111.1	5293	40.1	27.2	19.0	11.9	7.2	2.9	1.6	1.0	0.8	5.9	2.1	0.4	9.1	
0.5	3	15:33	109.4	111.1	8377	62.7	44.8	32.7	20.8	12.5	5.1	2.7	1.7	1.5	5.4	2.1	0.5	9.1	
0.5	4	15:33	109.4	111.1	8322	63.0	44.6	32.8	20.9	12.5	5.1	2.7	1.7	1.5	5.3	2.1	0.6	9.0	
0.6	1	15:42	113.0	112.1	5348	28.2	17.8	13.0	8.0	5.1	2.5	1.3	0.9	0.7	7.1	2.4	0.0	12.9	
0.6	2	15:42	113.0	112.1	5402	27.6	17.7	13.0	8.0	5.1	2.4	1.3	0.9	0.7	7.2	2.4	0.0	13.3	
0.6	3	15:42	113.0	112.1	8563	42.3	26.3	21.3	13.5	8.8	4.2	2.3	1.5	1.2	6.6	2.5	0.0	13.6	
0.6	4	15:42	113.0	112.1	8508	42.2	26.0	21.6	13.6	8.9	4.2	2.3	1.6	1.2	6.5	2.5	0.0	13.5	
0.7	1	15:48	114.8	111.0	5446	38.8	29.0	20.8	13.2	8.4	3.4	1.8	1.2	1.0	5.1	2.1	0.5	9.5	
0.7	2	15:48	114.8	111.0	5479	38.5	28.7	20.5	13.2	8.4	3.4	1.8	1.2	1.0	5.2	2.1	0.4	9.6	
0.7	3	15:48	114.8	111.0	8782	60.6	47.0	35.2	23.2	14.9	6.0	3.2	2.2	1.8	4.7	2.2	0.5	9.7	
0.7	4	15:48	114.8	111.0	8803	61.0	47.4	36.2	23.5	15.1	6.1	3.3	2.3	1.8	4.7	2.2	0.6	9.6	
0.8																			VanWagenerRd,B-,B-24,NB"
0.8	1	15:50	116.6	109.3	5523	30.2	20.0	14.0	8.6	4.8	2.2	1.4	1.0	0.7	8.0	2.3	0.0	12.6	
0.8	2	15:50	116.6	109.3	5555	30.1	20.1	14.2	8.6	4.9	2.2	1.4	1.0	0.7	8.0	2.3	0.0	12.7	
0.8	3	15:50	116.6	109.3	8869	46.2	32.9	24.1	15.2	8.9	4.0	2.5	1.7	1.3	7.2	2.4	0.0	13.1	
0.8	4	15:50	116.6	109.3	8847	46.2	32.6	24.4	15.2	8.9	4.0	2.5	1.8	1.3	7.2	2.4	0.0	13.0	
0.9	1	15:52	114.8	110.4	5304	28.4	21.7	16.3	11.0	7.3	4.1	2.6	1.8	1.3	4.2	2.5	0.0	12.1	
0.9	2	15:52	114.8	110.4	5381	28.3	21.6	16.2	11.0	7.3	4.2	2.6	1.8	1.3	4.2	2.6	0.0	12.3	
0.9	3	15:52	114.8	110.4	8661	43.0	33.9	26.3	18.3	12.4	6.9	4.3	3.0	2.2	4.1	2.7	0.0	12.9	
0.9	4	15:52	114.8	110.4	8661	43.6	34.2	26.5	18.4	12.5	7.0	4.4	3.0	2.2	4.0	2.6	0.0	12.7	
1.0	1	15:53	114.8	111.5	5730	25.1	17.9	12.8	8.3	5.4	3.0	1.9	1.3	1.0	6.3	2.7	0.0	15.1	
1.0	2	15:53	114.8	111.5	5720	24.7	17.6	12.7	8.2	5.3	3.0	1.9	1.3	1.0	6.3	2.7	0.0	15.2	
1.0	3	15:53	114.8	111.5	9186	38.0	28.4	21.3	14.3	9.5	5.1	3.2	2.3	1.8	5.8	2.8	0.0	15.7	
1.0	4	15:53	114.8	111.5	9208	37.9	28.3	21.4	14.4	9.6	5.1	3.2	2.3	1.8	5.8	2.8	0.0	15.8	
1.1	1	15:54	114.8	110.0	5643	35.8	26.6	19.2	12.4	8.2	4.1	2.6	1.8	1.4	4.4	2.3	0.4	10.4	
1.1	2	15:54	114.8	110.0	5643	35.5	26.5	19.0	12.4	8.3	4.2	2.7	1.8	1.4	4.3	2.3	0.4	10.5	
1.1	3	15:54	114.8	110.0	8946	54.9	42.6	31.8	21.3	14.3	7.0	4.4	3.2	2.6	4.1	2.4	0.4	10.7	
1.1	4	15:54	114.8	110.0	8968	55.1	42.6	32.1	21.5	14.4	7.1	4.4	3.2	2.6	4.1	2.4	0.4	10.6	
1.2	1	15:55	113.0	109.5	5293	53.2	36.2	24.7	13.9	8.3	4.0	2.6	1.9	1.5	4.3	1.8	1.6	6.7	
1.2	2	15:55	113.0	109.5	5315	52.5	36.0	24.7	13.8	8.4	4.0	2.7	2.0	1.5	4.3	1.9	1.5	6.8	
1.2	3	15:55	113.0	109.5	8388	79.2	55.9	41.6	24.0	14.6	6.8	4.5	3.4	2.6	4.0	1.9	1.6	7.1	
1.2	4	15:55	113.0	109.5	8399	79.5	54.1	41.8	24.2	14.5	6.8	4.5	3.4	2.7	4.0	1.9	1.6	7.1	
1.3																			VanWagenerRd,B-,B-25,SB"
1.3	1	15:57	113.0	109.0	5501	37.8	27.6	19.3	11.3	6.5	2.4	1.5	1.1	0.9	7.3	2.1	0.0	10.1	
1.3	2	15:57	113.0	109.0	5512	37.6	27.4	19.2	11.3	6.5	2.4	1.5	1.1	0.9	7.4	2.1	0.0	10.2	
1.3	3	15:57	113.0	109.0	8760	58.7	44.3	33.1	20.3	11.8	4.4	2.7	2.0	1.6	6.5	2.2	0.0	10.2	
1.3	4	15:57	113.0	109.0	8749	58.9	42.3	33.0	20.4	11.9	4.4	2.7	2.0	1.6	6.5	2.2	0.0	10.2	
1.4																			VanWagenerRd,J-,START,SB"
1.4																			VanWagenerRd,J-,END,SB"
1.4	1	15:59	113.0	109.6	5381	43.6	30.9	22.2	14.3	9.1	4.6	2.9	1.9	1.5	3.8	2.1	1.3	8.2	

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
1.4	2	15:59	113.0	109.6	5402	43.0	30.7	22.1	14.3	9.1	4.6	2.9	1.9	1.5	3.8	2.1	1.3	8.3	
1.4	3	15:59	113.0	109.6	8541	67.0	50.0	37.0	24.3	15.6	7.5	4.8	3.2	2.5	3.7	2.1	1.3	8.4	
1.4	4	15:59	113.0	109.6	8443	67.1	50.2	37.3	24.5	15.7	7.6	4.8	3.3	2.5	3.6	2.1	1.4	8.3	
1.5	1	16:00	113.0	109.1	5041	47.5	30.4	21.3	12.8	7.6	3.7	2.5	1.7	1.4	4.4	1.9	1.4	7.2	
1.5	2	16:00	113.0	109.1	5041	46.9	30.2	21.3	12.8	7.6	3.7	2.5	1.7	1.4	4.4	1.9	1.4	7.3	
1.5	3	16:00	113.0	109.1	8027	73.8	51.0	36.5	22.3	13.3	6.3	4.3	2.9	2.4	4.1	1.9	1.5	7.3	
1.5	4	16:00	113.0	109.1	8125	74.0	53.2	37.3	22.8	13.7	6.4	4.1	2.4	2.3	4.1	1.9	1.4	7.4	
1.6	1	16:01	113.0	110.0	5435	47.8	36.5	25.7	15.9	9.3	4.4	2.6	1.8	1.2	4.0	2.0	1.4	7.6	
1.6	2	16:01	113.0	110.0	5457	47.3	36.2	25.6	15.9	9.4	4.5	2.7	1.8	1.5	3.9	2.0	1.4	7.7	
1.6	3	16:01	113.0	110.0	8618	74.1	58.8	42.6	27.2	16.0	7.6	4.4	3.2	2.5	3.7	2.0	1.5	7.7	
1.6	4	16:01	113.0	110.0	8639	74.5	59	43.2	27.5	16.3	7.7	4.4	3.2	2.5	3.6	2.0	1.5	7.7	
1.7	1	16:02	113.0	109.2	5337	34.0	24	18.0	11.4	6.9	2.9	1.5	1.0	0.8	5.9	2.2	0.0	10.6	
1.7	2	16:02	113.0	109.2	5370	33.7	24	18.0	11.5	7.0	3.0	1.6	1.0	0.8	5.8	2.2	0.0	10.8	
1.7	3	16:02	113.0	109.2	8650	53.3	40	29.1	20.1	12.4	5.3	2.7	1.8	1.5	5.3	2.3	0.1	10.9	
1.7	4	16:02	113.0	109.2	8552	53.6	40	29.5	20.3	12.6	5.3	2.7	1.8	1.5	5.2	2.3	0.2	10.7	
1.8																			VanWagenerRd,B-,B-26,NB"
1.8	1	16:04	113.0	109.3	5063	48.4	39	28.0	17.6	10.1	4.8	3.0	2.1	1.6	3.4	1.9	1.9	6.9	
1.8	2	16:04	113.0	109.3	5041	47.7	39	27.8	17.4	10.0	4.8	3.0	2.1	1.6	3.4	1.9	1.9	7.0	
1.8	3	16:04	113.0	109.3	8093	76.0	63	45.4	30.3	17.7	8.2	5.0	3.6	2.8	3.2	1.9	2.0	7.0	
1.8	4	16:04	113.0	109.3	8082	77.0	64	46.8	30.8	18.0	8.2	5.1	3.6	2.8	3.2	1.9	2.0	6.9	
1.8																			VanWagenerRd,IC,MaddenHigginsRd,SB"

American Engineering Testing, Inc.
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AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S12
Roadway: CR 69
From: CR 9
To: CR 84

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 2.5 in.
Daily ESALs: 5.3
PCI: 63
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 20,424
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 42,982

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	Effective Values SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
3.0																			MoormanRd,IC,VanWagenerRd,WB"
3.0	1	17:25	107.6	106.8	5676	18.4	12.1	8.3	5.1	3.0	1.3	0.7	0.5	0.4	14.7	2.4	0.0	22.2	
3.0	2	17:25	107.6	106.8	5741	18.4	12.3	8.4	5.2	3.0	1.3	0.7	0.5	0.4	14.8	2.4	0.0	22.4	
3.0	3	17:25	107.6	106.8	9274	30.0	20.8	14.3	9.4	5.6	2.3	1.3	1.0	0.8	12.8	2.4	0.0	21.9	
3.0	4	17:25	107.6	106.8	9317	29.9	20.9	14.3	9.4	5.7	2.4	1.3	1.0	0.8	12.8	2.5	0.0	22.1	
3.1																			MoormanRd,J-,END,WB"
3.2	1	17:27	107.6	98.3	5370	18.1	12.2	9.6	6.8	5.0	3.3	2.3	1.7	1.3	5.3	2.8	0.0	19.2	
3.2	2	17:27	107.6	98.3	5424	18.1	12.2	9.6	6.9	5.0	3.3	2.3	1.7	1.3	5.4	2.8	0.0	19.3	
3.2	3	17:27	107.6	98.3	8782	28.0	19.9	15.4	11.7	8.5	5.5	3.8	2.8	2.1	5.2	3.0	0.0	20.0	
3.2	4	17:27	107.6	98.3	8771	28.0	19.9	15.4	11.7	8.6	5.5	3.8	2.8	2.1	5.1	3.0	0.0	20.0	
3.2	1	17:28	107.6	99.5	5687	22.4	16.2	11.7	7.6	4.8	2.3	1.3	0.9	0.7	8.0	2.3	0.0	17.2	
3.2	2	17:28	107.6	99.5	5643	21.8	15.9	11.5	7.5	4.8	2.3	1.3	0.9	0.7	8.0	2.3	0.0	17.5	
3.2	3	17:28	107.6	99.5	9153	35.8	26.8	19.3	13.4	8.8	4.2	2.3	1.6	1.3	7.1	2.4	0.0	17.2	
3.2	4	17:28	107.6	99.5	9208	35.8	27.0	19.5	13.6	8.9	4.2	2.3	1.6	1.3	7.1	2.4	0.0	17.3	
3.3	1	17:29	105.8	106.2	5315	35.3	24.9	15.7	10.8	6.8	3.1	1.6	1.1	0.9	5.6	1.8	0.3	10.7	
3.3	2	17:29	105.8	106.2	5337	34.6	24.4	15.7	10.7	6.8	3.1	1.6	1.1	0.9	5.7	1.9	0.2	10.9	
3.3	3	17:29	105.8	106.2	8607	55.2	40.4	26.9	18.9	11.8	5.6	3.0	2.1	1.7	5.0	1.9	0.3	10.9	
3.3	4	17:29	105.8	106.2	8672	55.3	40.6	27.8	19.1	11.9	5.7	3.0	2.1	1.8	5.0	1.9	0.3	11.0	
3.4																			MoormanRd,B-,B-16,WB"
3.4	1	17:31	105.8	107.3	5315	36.2	22.2	14.9	9.0	5.0	2.1	1.2	0.9	0.8	8.3	1.7	0.0	10.9	
3.4	2	17:31	105.8	107.3	5370	36.2	22.6	15.2	9.2	5.1	2.1	1.2	0.9	0.8	8.2	1.7	0.0	10.9	
3.4	3	17:31	105.8	107.3	8541	56.9	37.9	25.8	16.6	9.3	3.8	2.3	1.7	1.4	7.2	1.8	0.0	10.9	
3.4	4	17:31	105.8	107.3	8552	57.1	37.1	26.1	16.8	9.4	3.9	2.3	1.7	1.4	7.1	1.8	0.0	10.9	
3.5	1	17:32	105.8	105.7	5315	64.6	44.0	28.4	16.0	8.2	3.0	1.9	1.4	1.1	5.8	1.3	1.4	6.0	
3.5	2	17:32	105.8	105.7	5326	63.7	43.8	28.4	16.0	8.2	3.0	1.9	1.4	1.1	5.7	1.4	1.4	6.1	
3.5	3	17:32	105.8	105.7	8399	97.6	68.3	46.9	28.5	14.7	5.4	3.4	2.5	2.0	5.1	1.4	1.5	6.2	
3.5	4	17:32	105.8	105.7	8366	97.5	67.5	47.2	28.7	14.7	5.4	3.4	2.5	2.0	5.0	1.4	1.5	6.2	
3.6	1	17:33	105.8	105.4	5195	49.2	35.1	23.8	13.7	7.4	3.3	2.4	1.8	1.6	5.1	1.5	1.2	7.6	
3.6	2	17:33	105.8	105.4	5206	48.7	35	23.7	13.7	7.4	3.3	2.4	1.8	1.6	5.1	1.6	1.1	7.7	
3.6	3	17:33	105.8	105.4	8257	75.3	56.9	38.1	23.9	12.8	5.5	4.0	3.0	2.8	4.9	1.6	1.1	7.8	
3.6	4	17:33	105.8	105.4	8235	75.5	57.0	38.6	24.2	12.9	5.5	4.0	3.1	2.9	4.8	1.6	1.2	7.8	
3.7	1	17:34	105.8	104.5	5370	50.6	36.5	25.3	15.4	8.7	3.7	2.3	1.6	1.3	4.7	1.6	1.3	7.6	
3.7	2	17:34	105.8	104.5	5413	50.3	36.5	25.4	15.5	8.8	3.7	2.3	1.6	1.3	4.8	1.6	1.2	7.7	
3.7	3	17:34	105.8	104.5	8530	80.4	60.6	41.9	27.2	15.3	6.3	3.9	2.9	2.3	4.4	1.6	1.4	7.5	
3.7	4	17:34	105.8	104.5	8464	80.4	60.4	42.1	27.2	15.3	6.4	3.9	2.9	2.3	4.3	1.6	1.4	7.5	
3.8	1	17:35	105.8	104.7	5468	49.0	33.8	20.6	10.4	4.3	1.0	0.6	0.6	0.5	17.7	1.4	0.0	8.9	
3.8	2	17:35	105.8	104.7	5512	48.5	33.8	20.7	10.5	4.4	1.0	0.6	0.6	0.5	17.9	1.5	0.0	9.0	
3.8	3	17:35	105.8	104.7	8683	74.4	55.1	34.6	19.7	8.5	2.0	1.2	1.1	0.9	14.1	1.5	0.0	9.1	
3.8	4	17:35	105.8	104.7	8683	74.3	55.4	35.0	19.9	8.6	2.0	1.3	1.1	0.9	13.9	1.5	0.0	9.1	
3.9																			MoormanRd,B-,B-15,EB"
3.9	1	17:37	107.6	104.3	5271	45.3	31.6	20.6	11.7	5.5	1.5	1.1	1.0	0.9	11.5	1.5	0.0	8.9	
3.9	2	17:37	107.6	104.3	5304	45.3	32	20.7	11.8	5.6	1.5	1.1	1.0	0.9	11.2	1.5	0.0	8.9	
3.9	3	17:37	107.6	104.3	8432	69.9	50.8	34.0	20.7	9.8	2.8	2.0	1.9	1.6	9.8	1.5	0.1	9.0	
3.9	4	17:37	107.6	104.3	8486	70.1	51.4	34.3	21.0	9.9	2.8	2.1	1.9	1.6	9.8	1.5	0.1	9.1	
4.0	1	17:38	107.6	105.3	5282	59.4	40.9	27.0	13.9	6.6	2.3	1.6	1.3	1.0	7.3	1.4	0.9	6.6	
4.0	2	17:38	107.6	105.3	5326	58.8	40.8	27.0	14.1	6.6	2.4	1.7	1.3	1.0	7.2	1.4	0.9	6.7	
4.0	3	17:38	107.6	105.3	8432	89.0	63.1	43.6	24.9	11.8	4.4	3.0	2.3	1.8	6.2	1.4	1.1	7.0	
4.0	4	17:38	107.6	105.3	8421	89.0	61.5	44.0	25.2	11.9	4.4	3.1	2.3	1.8	6.2	1.4	1.1	6.9	
4.1	1	17:40	107.6	105.0	5490	46.3	31.6	20.1	11.7	6.6	2.1	1.2	0.8	0.8	8.6	1.5	0.3	8.8	
4.1	2	17:40	107.6	105.0	5501	45.9	31.4	20.5	11.7	6.6	2.0	1.2	0.9	0.8	8.7	1.6	0.2	8.9	
4.1	3	17:40	107.6	105.0	8793	71.0	51.2	34.8	21.0	11.5	3.9	2.3	1.7	1.4	7.3	1.6	0.4	9.1	
4.1	4	17:40	107.6	105.0	8782	71.0	51.5	35.8	21.2	11.5	3.9	2.3	1.7	1.4	7.3	1.6	0.4	9.1	
4.1																			116.7PavementTemp,97Sunny"
4.1																			MoormanRd,IC,CountyRd9,WB"
4.1																			END"

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AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S13
Roadway: CR 69
From: CR 84
To: SR 56

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 2.4 in.
Daily ESALs: 5.6
PCI: 52
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 21,396
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 45,029

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
0.0																			START"
0.0																			MoormanRd,IC,StHwy56,WB"
0.0																			118.7PavementTemp,97Sunny"
0.0	1	16:47	105.8	107.3	5512	40.7	28.0	19.2	11.6	6.7	3.3	2.0	1.5	1.2	5.5	1.9	0.2	9.6	
0.0	2	16:47	105.8	107.3	5501	39.8	27.7	19.4	11.5	6.7	3.3	2.0	1.5	1.2	5.5	1.9	0.2	9.8	
0.0	3	16:47	105.8	107.3	8847	61.8	44.5	32.2	20.1	12.1	5.7	3.6	2.7	2.1	5.1	2.0	0.2	10.1	
0.0	4	16:47	105.8	107.3	8858	61.7	44.9	32.8	20.3	12.2	5.7	3.7	2.7	2.2	5.0	2.0	0.2	10.1	
0.1	1	16:48	105.8	107.1	5523	29.1	22	17.1	12.3	8.4	4.4	2.7	1.9	1.4	4.1	2.4	0.0	12.8	
0.1	2	16:48	105.8	107.1	5545	29.0	22.0	16.9	12.3	8.4	4.4	2.7	1.9	1.4	4.1	2.4	0.0	12.9	
0.1	3	16:48	105.8	107.1	8957	46.4	35.2	28.0	20.8	14.6	7.6	4.6	3.3	2.6	3.8	2.5	0.0	12.9	
0.1	4	16:48	105.8	107.1	8880	46.4	34.7	28.1	20.9	14.6	7.7	4.6	3.3	2.6	3.8	2.5	0.0	12.8	
0.2	1	16:50	105.8	108.5	5730	15.1	10.0	7.6	5.7	4.3	2.9	2.1	1.6	1.4	6.5	3.4	0.0	24.4	
0.2	2	16:50	105.8	108.5	5730	14.9	10.0	7.5	5.7	4.3	2.9	2.1	1.6	1.4	6.5	3.4	0.0	24.7	
0.2	3	16:50	105.8	108.5	9186	23.9	16.5	12.4	9.6	7.2	4.7	3.3	2.6	2.2	6.3	3.5	0.0	24.7	
0.2	4	16:50	105.8	108.5	9164	23.9	16.5	12.6	9.6	7.2	4.7	3.4	2.6	2.2	6.3	3.5	0.0	24.7	
0.2																			MoormanRd,J-,START,WB"
0.2																			MoormanRd,J-,END,WB"
0.3																			MoormanRd,B-,B-22,EB"
0.3	2	16:52	107.6	106.9	5512	25.3	19.6	15.3	10.8	7.4	4.2	2.8	1.9	1.5	4.2	2.6	0.0	14.5	
0.3	3	16:52	107.6	106.9	8913	40.3	31.9	25.3	18.3	12.8	7.1	4.7	3.3	2.5	4.1	2.7	0.0	14.7	
0.3	4	16:52	107.6	106.9	8869	40.6	32.1	25.5	18.5	12.9	7.2	4.7	3.3	2.5	4.0	2.7	0.0	14.5	
0.4	1	16:54	107.6	109.1	5643	27.0	20.1	14.5	9.7	6.7	3.7	2.2	1.5	1.0	5.0	2.5	0.0	14.3	
0.4	2	16:54	107.6	109.1	5654	26.7	20.0	14.5	9.7	6.7	3.7	2.3	1.5	1.0	5.0	2.5	0.0	14.4	
0.4	3	16:54	107.6	109.1	9066	43.2	33.2	24.5	16.8	11.7	6.4	3.9	2.5	1.8	4.6	2.5	0.0	14.2	
0.4	4	16:54	107.6	109.1	9066	43.2	33.3	24.9	17.0	11.8	6.4	3.9	2.6	1.8	4.6	2.5	0.0	14.2	
0.5	1	16:55	107.6	107.3	5523	42.3	28.0	19.0	11.7	7.1	2.6	1.4	1.1	0.9	6.9	1.8	0.0	9.5	
0.5	2	16:55	107.6	107.3	5566	41.6	28.0	19.0	11.7	7.1	2.6	1.4	1.0	0.9	6.9	1.9	0.0	9.7	
0.5	3	16:55	107.6	107.3	8847	64.3	45.1	32.1	20.6	12.6	4.9	2.7	2.0	1.5	5.9	1.9	0.1	9.8	
0.5	4	16:55	107.6	107.3	8869	64.1	45.1	32.3	20.7	12.7	4.9	2.7	2.0	1.6	5.8	1.9	0.1	9.9	
0.6	1	16:56	109.4	108.2	5512	42.5	29.0	20.5	12.8	8.6	4.5	2.8	2.0	1.6	4.0	1.9	0.7	9.0	
0.6	2	16:56	109.4	108.2	5545	41.8	28.9	20.1	12.8	8.7	4.5	2.8	2.0	1.6	4.0	2.0	0.7	9.2	
0.6	3	16:56	109.4	108.2	8793	64.0	46.2	33.2	21.9	14.5	7.7	4.8	3.3	2.7	3.7	2.0	0.7	9.5	
0.6	4	16:56	109.4	108.2	8836	63.9	46.5	34.1	22.2	14.6	7.8	4.8	3.4	2.8	3.7	2.0	0.7	9.5	
0.7	1	16:57	109.4	107.8	5665	24.1	16.6	11.8	7.8	5.2	2.8	1.7	1.2	0.9	6.7	2.5	0.0	16.3	
0.7	2	16:57	109.4	107.8	5709	23.9	16.6	11.8	7.8	5.3	2.8	1.7	1.2	0.9	6.7	2.5	0.0	16.4	
0.7	3	16:57	109.4	107.8	9121	37.9	27.2	19.3	13.4	9.1	4.8	3.0	2.1	1.7	6.2	2.6	0.0	16.4	
0.7	4	16:57	109.4	107.8	9132	37.9	27.3	19.9	13.5	9.2	4.8	3.0	2.2	1.7	6.1	2.6	0.0	16.4	
0.8																			MoormanRd,B-,B-21,WB"
0.8	1	16:58	109.4	108.9	5610	36.3	23.8	17.0	10.5	6.3	3.2	1.6	1.2	0.9	5.7	2.0	0.0	11.0	
0.8	2	16:58	109.4	108.9	5654	35.6	23.8	17.1	10.5	6.4	3.2	1.6	1.2	0.9	5.7	2.1	0.0	11.2	
0.8	3	16:58	109.4	108.9	9000	54.4	37.8	27.0	17.9	11.2	5.6	3.0	2.3	1.7	5.3	2.1	0.0	11.6	
0.8	4	16:58	109.4	108.9	9044	54.4	38	27.3	18.2	11.4	5.6	3.1	2.3	1.8	5.2	2.2	0.0	11.6	
0.9	1	16:59	109.4	109.2	5370	47.1	34.0	24.6	16.1	10.2	5.1	2.4	1.6	1.3	3.4	1.9	1.2	7.9	
0.9	2	16:59	109.4	109.2	5424	46.7	34.0	24.5	16.1	10.4	5.1	2.4	1.6	1.2	3.4	1.9	1.2	8.0	
0.9	3	16:59	109.4	109.2	8552	72.7	54.8	39.2	27.2	17.9	8.8	4.1	2.8	2.2	3.2	1.9	1.3	8.1	
0.9	4	16:59	109.4	109.2	8530	72.7	55.0	39.8	27.5	18.2	8.8	4.2	2.7	2.2	3.1	1.9	1.3	8.1	
1.0	1	17:00	109.4	110.3	5424	43.9	30.5	20.4	12.9	8.3	4.6	2.7	1.8	1.4	3.8	1.9	0.9	8.6	
1.0	2	17:00	109.4	110.3	5435	43.1	30.1	20.0	12.8	8.1	4.7	2.7	1.8	1.4	3.8	1.9	0.9	8.8	
1.0	3	17:00	109.4	110.3	8683	67.9	48.8	34.0	22.5	14.3	8.0	4.6	3.2	2.5	3.5	2.0	0.9	8.8	
1.0	4	17:00	109.4	110.3	8639	68.0	48.7	34.8	22.7	14.4	8.0	4.6	3.2	2.5	3.5	2.0	0.9	8.8	
1.1	1	17:01	109.4	107.5	5599	28.1	19.8	14.8	10.1	6.8	3.3	2.0	1.3	1.0	5.5	2.4	0.0	13.8	
1.1	2	17:01	109.4	107.5	5632	28.0	19.8	14.7	10.1	6.9	3.3	2.0	1.4	1.0	5.5	2.4	0.0	13.9	
1.1	3	17:01	109.4	107.5	8968	43.2	32.2	24.5	17.3	12.1	5.9	3.5	2.3	1.8	4.9	2.5	0.0	14.1	
1.1	4	17:01	109.4	107.5	8902	43.4	32.3	24.6	17.4	12.2	5.9	3.5	2.4	1.8	4.9	2.5	0.0	14.0	
1.2	1	17:03	111.2	107.4	4932	45.3	31	23.2	14.6	7.5	3.0	1.7	1.3	1.0	5.4	1.7	0.7	7.8	
1.2	2	17:03	111.2	107.4	4921	44.7	30.6	23.1	14.6	7.5	3.0	1.7	1.3	1.0	5.4	1.7	0.7	7.9	
1.2	3	17:03	111.2	107.4	7907	67.1	46.3	37.8	24.6	13.1	5.3	3.0	2.3	1.8	4.8	1.8	0.7	8.4	
1.2	4	17:03	111.2	107.4	7830	66.8	45.2	39.2	24.6	13.1	5.4	3.0	2.3	1.7	4.7	1.8	0.8	8.3	
1.3	1	17:04	111.2	106.7	5052	45.6	34.3	26.0	18.3	12.5	6.8	4.5	3.4	2.6	2.4	1.9	1.8	7.5	
1.3	2	17:04	111.2	106.7	5074	45.3	34.0	26.0	18.3	12.6	6.8	4.6	3.4	2.5	2.4	2.0	1.8	7.5	
1.3	3	17:04	111.2	106.7	8082	69.6	55.0	43.2	30.5	21.0	11.1	7.3	5.5	4.3	2.4	2.0	1.7	7.8	
1.3	4	17:04	111.2	106.7	8071	69.8	55.1	44.2	30.7	21.1	11.2	7.4	5.5	4.4	2.3	2.0	1.7	7.7	
1.3																			MoormanRd,B-,B-20,EB"
1.4	1	17:05	111.2	106.1	5118	42.3	33.2	23.8	14.1	8.1	3.3	1.9	1.5	1.0	5.0	1.8	0.6	8.6	
1.4	2	17:05	111.2	106.1	5184	42.3	33.2	23.7	14.3	8.2	3.3	2.0	1.5	1.0	5.0	1.8	0.6	8.7	
1.4	3	17:05	111.2	106.1	8213	64.4	51.8	37.7	24.1	14.4	5.9	3.2	2.5	1.9	4.5	1.9	0.6	8.9	
1.4	4	17:05	111.2	106.1	8322	64.6	52.2	39.1	24.5	14.7	5.9	3.3	2.7	1.8	4.6	1.9	0.6	9.0	

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
1.5																			MoormanRd,J-,START,WB"
1.5																			MoormanRd,J-,END,WB"
1.5	1	17:07	111.2	106.3	5391	35.0	26.0	18.4	11.0	6.0	2.4	1.3	0.8	0.6	7.2	2.0	0.0	11.1	
1.5	2	17:07	111.2	106.3	5435	34.9	26.0	18.5	11.1	6.1	2.5	1.3	0.8	0.6	7.2	2.0	0.0	11.2	
1.5	3	17:07	111.2	106.3	8803	55.0	41.7	30.0	19.5	11.3	4.4	2.3	1.5	1.1	6.5	2.0	0.0	11.4	
1.5	4	17:07	111.2	106.3	8727	55.0	42.1	30.2	19.8	11.4	4.5	2.3	1.5	1.1	6.3	2.0	0.0	11.3	
1.6	1	17:08	111.2	106.0	5424	37.4	27.3	20.0	12.4	7.6	3.6	2.1	1.4	1.1	4.9	2.0	0.2	10.1	
1.6	2	17:08	111.2	106.0	5446	37.0	27.2	19.9	12.4	7.6	3.6	2.1	1.4	1.1	4.9	2.0	0.2	10.3	
1.6	3	17:08	111.2	106.0	8793	57.8	44.0	31.7	21.3	13.4	6.4	3.7	2.5	2.0	4.5	2.1	0.2	10.5	
1.6	4	17:08	111.2	106.0	8749	58.0	44.1	31.9	21.4	13.4	6.4	3.7	2.6	2.0	4.4	2.1	0.2	10.4	
1.7	1	17:09	111.2	106.5	5665	40.8	27.5	17.8	10.6	5.8	2.4	1.5	1.3	0.8	7.8	1.9	0.0	10.2	
1.7	2	17:09	111.2	106.5	5709	40.0	27.3	17.6	10.5	5.7	2.4	1.5	1.3	0.8	7.8	1.9	0.0	10.4	
1.7	3	17:09	111.2	106.5	8946	61.0	44.0	29.0	18.7	10.6	4.3	2.6	2.2	1.4	6.8	1.9	0.0	10.6	
1.7	4	17:09	111.2	106.5	8968	61.1	44.4	29.3	18.9	10.7	4.3	2.7	2.3	1.4	6.7	1.9	0.0	10.5	
1.8	1	17:10	111.2	105.9	5249	43.7	31.7	20.7	12.9	7.9	3.3	1.7	1.0	0.9	5.1	1.8	0.6	8.5	
1.8	2	17:10	111.2	105.9	5282	43.3	31.7	20.8	13.0	7.9	3.3	1.7	1.0	0.9	5.1	1.8	0.5	8.7	
1.8	3	17:10	111.2	105.9	8355	66.8	52.0	35.0	23.4	14.2	5.8	2.9	1.9	1.6	4.6	1.9	0.6	8.8	
1.8	4	17:10	111.2	105.9	8355	66.5	52	35.3	23.6	14.4	5.9	3.0	2.0	1.6	4.6	1.9	0.6	8.8	
1.8																			MoormanRd,B-,B-19,EB"
1.9	1	17:12	109.4	104.6	4987	36.9	27.1	19.2	12.6	8.1	4.2	2.7	2.0	1.5	3.9	2.0	0.7	9.3	
1.9	2	17:12	109.4	104.6	4976	36.5	27.1	19.2	12.6	8.1	4.2	2.7	2.0	1.5	3.9	2.0	0.6	9.4	
1.9	3	17:12	109.4	104.6	8104	57.5	44.9	31.7	21.8	14.2	7.1	4.5	3.4	2.5	3.7	2.1	0.6	9.6	
1.9	4	17:12	109.4	104.6	8268	58.0	45.5	32.3	22.1	14.4	7.2	4.6	3.4	2.5	3.7	2.1	0.6	9.7	
2.0	1	17:13	109.4	105.0	5555	31.3	23.0	16.0	9.8	5.8	2.5	1.3	0.9	0.7	7.2	2.1	0.0	12.6	
2.0	2	17:13	109.4	105.0	5555	30.8	22.7	15.9	9.8	5.7	2.5	1.3	0.9	0.7	7.2	2.1	0.0	12.8	
2.0	3	17:13	109.4	105.0	8880	48.1	36.5	25.7	16.9	10.3	4.5	2.4	1.6	1.3	6.3	2.2	0.0	12.9	
2.0	4	17:13	109.4	105.0	8880	48.4	35.6	25.9	17.1	10.4	4.6	2.4	1.6	1.3	6.3	2.2	0.0	12.8	
2.1	1	17:14	109.4	106.3	5381	33.0	23.9	16.0	10.1	6.3	2.6	1.4	1.0	0.8	6.6	2.1	0.0	11.6	
2.1	2	17:14	109.4	106.3	5402	32.6	23.7	15.9	10.2	6.3	2.7	1.4	1.0	0.9	6.5	2.1	0.0	11.8	
2.1	3	17:14	109.4	106.3	8607	51.0	38.5	26.6	17.8	11.3	4.8	2.5	1.9	1.5	5.8	2.1	0.0	11.8	
2.1	4	17:14	109.4	106.3	8552	50.8	38.4	26.5	17.8	11.3	4.8	2.6	1.9	1.5	5.8	2.1	0.0	11.8	
2.2	1	17:15	107.6	104.5	5129	53.4	39.6	30.0	18.3	11.4	5.9	3.7	2.6	2.0	2.8	1.7	1.9	6.6	
2.2	2	17:15	107.6	104.5	5107	52.4	39.1	29.7	18.2	11.3	5.9	3.7	2.6	2.0	2.8	1.8	1.9	6.7	
2.2	3	17:15	107.6	104.5	8125	80.5	61.8	48.6	31.2	19.7	9.9	6.2	4.5	3.5	2.7	1.8	1.9	6.9	
2.2	4	17:15	107.6	104.5	8104	80.7	60.7	49.5	31.5	19.9	9.9	6.2	4.5	3.5	2.7	1.8	1.9	6.8	
2.3	1	17:16	107.6	104.5	5173	49.9	37.0	25.8	16.2	9.7	4.7	3.1	2.0	1.5	3.6	1.7	1.4	7.2	
2.3	2	17:16	107.6	104.5	5206	49.6	37.0	25.9	16.4	9.8	4.7	3.1	2.1	1.6	3.6	1.8	1.4	7.3	
2.3	3	17:16	107.6	104.5	8279	75.5	57.7	41.3	28.2	17.1	8.0	5.2	3.5	2.7	3.4	1.8	1.4	7.6	
2.3	4	17:16	107.6	104.5	8257	75.5	57.9	41.8	28.3	17.2	8.0	5.2	3.5	2.7	3.3	1.8	1.4	7.5	
2.3																			MoormanRd,B-,B-18,WB"
2.4	1	17:18	107.6	104.7	5151	47.7	36.0	26.8	17.0	10.7	5.3	3.3	2.3	1.8	3.1	1.8	1.5	7.4	
2.4	2	17:18	107.6	104.7	5184	47.6	36.0	27.0	17.1	10.8	5.4	3.3	2.3	1.8	3.1	1.8	1.5	7.5	
2.4	3	17:18	107.6	104.7	8180	74.2	58.3	44.5	29.4	18.6	9.0	5.5	3.9	3.2	3.0	1.9	1.5	7.5	
2.4	4	17:18	107.6	104.7	8147	74.2	58.1	45.1	29.6	18.8	9.0	5.5	3.9	3.2	2.9	1.9	1.6	7.5	
2.5	1	17:19	107.6	104.7	5446	39.6	25.4	17.0	11.4	7.5	3.0	1.6	1.1	0.9	5.8	1.9	0.1	9.8	
2.5	2	17:19	107.6	104.7	5490	38.9	25.1	16.9	11.3	7.6	3.0	1.7	1.1	0.9	5.8	1.9	0.1	10.0	
2.5	3	17:19	107.6	104.7	8683	60.3	41.5	29.3	19.1	13.0	5.4	2.9	2.0	1.8	5.2	2.0	0.1	10.1	
2.5	4	17:19	107.6	104.7	8705	60.3	41.8	29.3	19.3	13.0	5.4	3.0	2.0	1.8	5.2	2.0	0.1	10.1	
2.6	1	17:20	107.6	99.7	5370	40.0	30.1	23.1	15.0	9.5	4.7	2.8	2.0	1.5	3.7	2.0	0.8	9.2	
2.6	2	17:20	107.6	99.7	5381	39.6	30.0	22.8	15.0	9.5	4.8	2.8	1.9	1.5	3.7	2.0	0.7	9.2	
2.6	3	17:20	107.6	99.7	8574	62.8	49.0	37.3	25.6	16.5	8.2	4.8	3.3	2.7	3.4	2.1	0.8	9.3	
2.6	4	17:20	107.6	99.7	8585	63.2	49.7	38.2	25.9	16.8	8.3	4.8	3.3	2.7	3.4	2.1	0.8	9.2	
2.7	1	17:21	107.6	105.4	5566	29.4	17.9	12.0	7.7	5.0	2.3	1.3	0.9	0.7	7.7	2.2	0.0	13.4	
2.7	2	17:21	107.6	105.4	5566	28.6	17.8	12.1	7.7	5.0	2.3	1.3	0.9	0.8	7.7	2.2	0.0	13.8	
2.7	3	17:21	107.6	105.4	8946	44.9	29.8	20.3	13.7	9.1	4.3	2.4	1.6	1.4	6.8	2.3	0.0	13.9	
2.7	4	17:21	107.6	105.4	8957	44.8	30.0	20.5	13.9	9.2	4.3	2.4	1.7	1.4	6.8	2.3	0.0	14.0	
2.8	1	17:22	107.6	104.5	4910	51.5	38.9	28.0	17.5	10.6	5.4	3.5	2.6	2.0	2.9	1.7	1.9	6.6	
2.8	2	17:22	107.6	104.5	4888	50.9	38.5	27.7	17.4	10.6	5.4	3.5	2.6	2.0	2.9	1.7	1.9	6.6	
2.8	3	17:22	107.6	104.5	7830	79.3	61.2	45.0	29.8	18.0	9.1	5.9	4.3	3.4	2.8	1.8	1.9	6.8	
2.8	4	17:22	107.6	104.5	7950	79.6	61.2	45.7	30.3	18.3	9.3	6.0	4.4	3.5	2.8	1.8	1.9	6.8	
2.9																			MoormanRd,B-,B-17,EB"
2.9	1	17:24	107.6	105.7	5424	42.4	31.5	23.3	15.1	9.9	5.1	3.3	2.3	1.8	3.4	2.0	1.0	8.8	
2.9	2	17:24	107.6	105.7	5413	42.0	31.2	23.2	15.0	9.8	5.1	3.3	2.3	1.7	3.4	2.0	0.9	8.8	
2.9	3	17:24	107.6	105.7	8607	65.9	51.5	38.2	25.7	16.5	8.6	5.4	3.8	3.0	3.3	2.0	1.0	8.9	
2.9	4	17:24	107.6	105.7	8585	66.6	52.0	38.6	26.0	16.7	8.7	5.5	3.9	3.0	3.2	2.0	1.0	8.8	
3.0																			MoormanRd,IC,VanWagenerRd,WB"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S14
Roadway: CR 85
From: CR 9
To: CR 85

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 2.1 in.
Daily ESALs: 5.0
PCI: 53
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 19,093
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 40,182

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
0.0																			START"
0.0																			123.9PavementTemp,97Sunny"
0.0																			JohnstonRd,IC,CountyHwy9,EB"
0.0	1	14:45	102.2	112.9	5085	54.4	36.2	23.2	13.6	7.4	2.5	1.6	1.2	0.9	6.5	1.3	1.3	6.9	
0.0	2	14:45	102.2	112.9	5118	53.4	35.9	23.4	13.6	7.5	2.5	1.6	1.2	0.9	6.5	1.3	1.3	7.0	
0.0	3	14:45	102.2	112.9	8147	83.2	59.6	39.9	24.1	13.3	4.5	2.8	2.1	1.5	5.9	1.3	1.4	7.1	
0.0	4	14:45	102.2	112.9	8027	83.3	60.2	41.7	24.4	13.4	4.6	2.8	2.1	1.5	5.7	1.3	1.5	7.0	
0.1																			JohnstonRd,B-,B-34,EB"
0.1																			JohnstonRd,J-,START,EB"
0.1																			JohnstonRd,J-,END,EB"
0.2																			BridgeAt.001"
0.2	1	14:48	102.2	113.0	5490	22.6	13.7	8.1	4.9	3.0	1.3	0.8	0.6	0.4	13.9	1.9	0.0	17.9	
0.2	2	14:48	102.2	113.0	5523	22.2	13.6	8.2	4.9	3.0	1.3	0.8	0.6	0.4	13.9	1.9	0.0	18.3	
0.2	3	14:48	102.2	113.0	8902	36.3	23.2	13.9	8.9	5.4	2.3	1.4	1.0	0.8	12.7	1.9	0.0	17.9	
0.2	4	14:48	102.2	113.0	8913	36.2	23.4	14.1	9.1	5.5	2.3	1.4	1.0	0.7	12.8	1.9	0.0	18.0	
0.2	1	14:49	102.2	112.0	5457	42.9	29.4	18.0	9.8	4.8	1.9	1.2	0.9	0.8	9.5	1.4	0.4	9.5	
0.2	2	14:49	102.2	112.0	5490	42.5	29.3	18.8	9.9	4.8	1.9	1.2	0.9	0.8	9.4	1.4	0.4	9.6	
0.2	3	14:49	102.2	112.0	8618	65.2	47.0	32.5	18.4	9.0	3.3	2.2	1.6	1.3	8.3	1.5	0.5	9.7	
0.3	1	14:50	102.2	113.1	5545	46.6	31.4	19.4	9.0	3.4	1.9	1.8	0.6	0.5	9.4	1.4	0.5	9.0	
0.3	2	14:50	102.2	113.1	5523	45.8	30.9	19.4	8.9	3.4	1.9	1.8	0.6	0.5	9.4	1.4	0.5	9.1	
0.3	3	14:50	102.2	113.1	8694	71.3	50.2	33.9	16.8	6.7	3.6	2.4	1.2	1.0	7.8	1.4	0.7	9.0	
0.3	4	14:50	102.2	113.1	8683	71.4	50.5	34.6	17.0	6.9	3.7	2.5	1.2	1.0	7.6	1.4	0.7	9.0	
0.4	1	14:51	102.2	111.7	5206	49.5	34.9	24.4	15.7	9.9	5.4	3.3	2.3	1.8	3.1	1.5	2.2	7.1	
0.4	2	14:51	102.2	111.7	5151	49.0	34.7	24.3	15.7	10.0	5.4	3.3	2.3	1.7	3.1	1.5	2.2	7.1	
0.4	3	14:51	102.2	111.7	8257	76.9	57.1	41.5	26.8	16.9	9.1	5.6	4.0	3.2	3.0	1.5	2.2	7.2	
0.4	4	14:51	102.2	111.7	8300	76.8	57.4	41.9	27.2	17.0	9.1	5.7	4.1	3.3	3.0	1.5	2.2	7.3	
0.5	1	14:53	102.2	112.7	4506	82.8	52.5	36.4	19.2	10.8	5.0	3.2	2.2	1.6	2.9	1.0	3.4	3.8	
0.5	2	14:53	102.2	112.7	4506	81.7	51.2	36.4	19.2	10.8	5.2	3.3	2.2	1.7	2.8	1.1	3.4	3.8	
0.5	3	14:53	102.2	112.7	7087	112.0	80.4	63.5	35.4	17.8	8.1	5.2	3.6	2.9	2.8	1.1	3.2	4.4	
0.5	4	14:53	102.2	112.7	7076	118.1	85.1	64.2	35.6	17.9	8.1	5.1	3.5	3.1	2.8	1.1	3.3	4.1	
0.6	1	14:54	104.0	111.8	5238	69.6	50.5	33.6	18.3	9.8	3.6	2.6	1.9	1.7	4.7	1.2	2.1	5.4	
0.6	2	14:54	104.0	111.8	5293	69.5	50.7	34.4	18.7	10.0	3.7	2.7	2.0	1.7	4.7	1.2	2.1	5.5	
0.6	3	14:54	104.0	111.8	8279	101.0	74.8	56.2	32.7	17.1	6.0	4.4	3.2	2.9	4.4	1.2	2.1	5.8	
0.6	4	14:54	104.0	111.8	8289	101.4	74.4	57.3	33.2	17.5	6.2	4.5	3.3	3.0	4.3	1.2	2.1	5.8	
0.6																			JohnstonRd,B-,B-33,WB"
0.7	1	14:56	100.4	111.8	5184	72.3	52.2	32.5	13.4	5.1	1.7	1.2	0.8	0.6	9.9	1.1	1.1	5.5	
0.7	2	14:56	100.4	111.8	5184	70.8	51.5	32.2	13.4	5.1	1.7	1.2	0.9	0.7	9.9	1.1	1.1	5.7	
0.7	3	14:56	100.4	111.8	8115	104.2	78.6	54.9	25.2	9.3	3.3	2.1	1.4	1.1	7.9	1.1	1.3	5.9	
0.7	4	14:56	100.4	111.8	8136	104.6	79.0	55.6	25.5	9.4	3.3	2.2	1.5	1.1	7.9	1.1	1.3	5.9	
0.8	1	14:57	100.4	113.1	5271	54.4	40.6	29.0	18.4	11.8	6.1	3.8	2.8	2.4	2.8	1.5	2.5	6.5	
0.8	2	14:57	100.4	113.1	5249	53.8	40.0	28.6	18.2	11.9	6.1	3.8	2.8	2.3	2.8	1.5	2.5	6.6	
0.8	3	14:57	100.4	113.1	8333	81.3	61	47.5	31.1	19.6	10.1	6.4	4.7	4.3	2.7	1.5	2.4	6.9	
0.8	4	14:57	100.4	113.1	8268	81.8	59.8	47.8	31.3	19.6	10.1	6.4	4.7	4.3	2.6	1.5	2.5	6.8	
0.9	1	14:58	100.4	111.8	5468	45.7	33.8	25.0	17.2	11.5	7.0	4.3	2.9	2.2	2.5	1.7	2.1	7.9	
0.9	2	14:58	100.4	111.8	5512	45.3	33.6	25.2	17.2	11.5	6.9	4.3	2.9	2.1	2.6	1.7	2.0	8.1	
0.9	3	14:58	100.4	111.8	8661	69.6	53.4	40.9	28.7	19.3	11.6	7.0	4.8	3.8	2.4	1.8	2.0	8.2	
0.9	4	14:58	100.4	111.8	8694	70.2	54.2	41.9	29.1	19.6	11.7	7.1	4.8	3.8	2.4	1.8	2.1	8.1	
1.0	1	14:59	102.2	110.6	5348	42.9	30.4	21.2	14.1	9.7	5.2	3.2	2.2	1.6	3.3	1.7	1.7	8.4	
1.0	2	14:59	102.2	110.6	5359	42.6	30.2	21.2	14.1	9.8	5.3	3.2	2.2	1.7	3.3	1.7	1.7	8.5	
1.0	3	14:59	102.2	110.6	8464	64.5	48.3	34.5	23.9	17.0	8.7	5.2	3.7	2.8	3.2	1.7	1.6	8.8	
1.0	4	14:59	102.2	110.6	8464	64.7	47.9	34.8	24.3	17.2	8.8	5.3	3.7	2.8	3.1	1.7	1.6	8.8	
1.1	1	15:00	102.2	110.9	5457	39.3	28.6	19.9	12.8	8.2	4.4	2.6	1.8	1.4	4.0	1.7	1.2	9.5	
1.1	2	15:00	102.2	110.9	5490	39.2	28.6	20.0	12.9	8.4	4.5	2.7	1.8	1.5	4.0	1.7	1.2	9.5	
1.1	3	15:00	102.2	110.9	8672	60.9	46.6	32.8	22.2	14.5	7.5	4.5	3.1	2.5	3.7	1.8	1.2	9.6	
1.1	4	15:00	102.2	110.9	8618	61.0	46	33.3	22.5	14.7	7.7	4.6	3.1	2.5	3.7	1.8	1.3	9.5	
1.1																			JohnstonRd,B-,B-32,EB"
1.2	1	15:02	104.0	109.8	5271	57.3	40.3	27.6	17.2	11.3	5.6	3.5	2.4	1.9	3.0	1.4	2.5	6.3	
1.2	2	15:02	104.0	109.8	5227	56.3	39.8	27.4	17.1	11.1	5.7	3.5	2.4	1.9	3.0	1.4	2.5	6.3	
1.2	3	15:02	104.0	109.8	8268	84.9	61.2	44.7	29.9	19.3	9.4	5.9	4.0	3.2	2.8	1.5	2.5	6.6	
1.2	4	15:02	104.0	109.8	8224	85.2	58.5	45.1	30.2	19.5	9.5	5.9	4.0	3.2	2.8	1.5	2.5	6.5	
1.3	1	15:03	104.0	110.2	5512	40.9	30.5	21.4	13.7	8.1	4.3	2.6	1.8	1.5	4.2	1.7	1.2	9.2	
1.3	2	15:03	104.0	110.2	5545	40.8	30.3	21.8	13.8	8.2	4.3	2.6	1.9	1.5	4.1	1.7	1.2	9.3	
1.3	3	15:03	104.0	110.2	8705	63.0	48.7	36.2	23.8	14.5	7.3	4.3	3.1	2.5	3.9	1.7	1.3	9.4	
1.3	4	15:03	104.0	110.2	8694	63.6	48.1	36.8	24.1	14.6	7.3	4.4	3.1	2.5	3.8	1.7	1.3	9.3	
1.4																			JohnstonRd,J-,START,EB"
1.4																			JohnstonRd,J-,END,EB"
1.4	1	15:05	104.0	111.4	5599	30.1	20.3	15.0	10.8	7.8	4.5	2.8	2.0	1.4	4.1	2.1	0.3	12.4	

Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	Effective Values Mr ksi	SN inches	Overlay Thickness inches	Axle Capacity tons/axle	Comments
1.4	2	15:05	104.0	111.4	5643	29.8	20.3	15.1	10.8	7.8	4.5	2.8	2.0	1.5	4.0	2.1	0.3	12.6	
1.4	3	15:05	104.0	111.4	8935	45.8	32.7	24.9	18.0	13.1	7.3	4.6	3.3	2.4	3.9	2.1	0.2	12.9	
1.4	4	15:05	104.0	111.4	8858	45.5	32.6	24.9	18.0	13.1	7.4	4.6	3.3	2.5	3.9	2.2	0.2	12.9	
1.5	1	15:06	105.8	110.9	5402	47.5	34.8	22.9	12.3	6.3	2.6	1.6	1.2	0.9	6.7	1.4	1.0	8.2	
1.5	2	15:06	105.8	110.9	5424	47.2	34.8	23.5	12.4	6.3	2.7	1.6	1.2	0.9	6.6	1.4	1.0	8.3	
1.5	3	15:06	105.8	110.9	8574	69.6	53.4	37.5	21.3	10.9	4.9	2.8	2.1	1.6	5.7	1.5	1.1	8.8	
1.5	4	15:06	105.8	110.9	8618	70.0	53.8	38.3	21.7	10.8	5.0	2.9	2.1	1.6	5.6	1.5	1.1	8.7	
1.6	1	15:07	105.8	111.5	5085	47.2	33.7	23.1	13.1	7.3	3.9	1.9	1.5	1.3	4.2	1.4	1.7	7.5	
1.6	2	15:07	105.8	111.5	5118	46.8	33.6	23.2	13.3	7.2	4.1	1.9	1.5	1.3	4.1	1.5	1.7	7.6	
1.6	3	15:07	105.8	111.5	8169	69.9	51.7	38.6	23.4	13.1	6.8	3.3	2.6	2.2	3.9	1.5	1.6	8.0	
1.6	4	15:07	105.8	111.5	8136	69.6	50.3	39.0	23.6	13.2	6.8	3.3	2.6	2.2	3.9	1.5	1.6	8.1	
1.6																			JohnstonRd,B-,B-31,WB"
1.7	1	15:10	105.8	111.9	5359	51.4	36.7	24.6	12.3	5.2	2.4	1.5	1.1	0.9	7.2	1.3	1.0	7.7	
1.7	2	15:10	105.8	111.9	5413	50.6	36.3	24.6	12.4	5.2	2.5	1.5	1.1	0.9	7.1	1.3	1.0	7.9	
1.7	3	15:10	105.8	111.9	8530	74.9	56.8	40.5	22.0	9.4	4.6	2.7	1.9	1.5	6.0	1.4	1.1	8.2	
1.7	4	15:10	105.8	111.9	8563	74.5	56.8	40.8	22.1	9.5	4.8	2.8	1.9	1.5	5.8	1.4	1.2	8.2	
1.8	1	15:11	107.6	111.8	4856	64.2	45.3	30.0	16.2	8.6	5.6	2.6	1.9	1.6	2.8	1.3	3.0	5.2	
1.8	2	15:11	107.6	111.8	4888	63.3	44	30.9	16.3	8.6	5.6	2.7	1.9	1.6	2.8	1.3	2.9	5.3	
1.8	3	15:11	107.6	111.8	7710	93.4	67.3	50.6	28.9	15.6	9.3	4.4	3.0	2.8	2.7	1.3	2.9	5.6	
1.8	4	15:11	107.6	111.8	7710	93.7	66.0	51.4	29.1	15.6	8.9	4.5	3.0	2.9	2.8	1.3	2.8	5.6	
1.9	1	15:13	107.6	112.0	5534	28.6	20.9	15.3	9.7	6.0	2.5	1.4	1.0	0.8	7.1	1.9	0.0	13.6	
1.9	2	15:13	107.6	112.0	5588	28.5	20.9	15.3	9.7	5.9	2.5	1.4	0.9	0.9	7.2	1.9	0.0	13.8	
1.9	3	15:13	107.6	112.0	8913	45.2	34.7	26.0	17.0	10.6	4.4	2.5	1.7	1.5	6.6	1.9	0.0	13.7	
1.9	4	15:13	107.6	112.0	8891	45.2	34.6	26.1	17.0	10.7	4.4	2.5	1.7	1.5	6.5	1.9	0.0	13.7	
1.9																			128.8PavementTemp,97Sunny"
1.9																			JohnstonRd,IC,VanWagenerRd,EB"
1.9																			END"

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, Minnesota 55114
Phone: (651) 659-9001
Fax: (651) 659-1379

AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S15
Roadway: CR 82
From: CR 9
To: CR 83

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 2.3 in.
Daily ESALs: 5.0
PCI: 67
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 19,093
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 40,182

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
1.9																			MaddenHiggins,IC,ArmstrongRd,WB"
1.9	1	14:23	105.8	110.6	5413	42.0	29.1	21.2	12.1	5.8	2.0	1.1	0.9	0.7	9.0	1.4	0.6	9.6	
1.9	2	14:23	105.8	110.6	5435	41.0	28.6	20.9	11.9	5.8	2.0	1.1	0.9	0.7	8.9	1.4	0.5	9.8	
1.9	3	14:23	105.8	110.6	8760	64.3	46.3	34.7	20.9	10.8	3.6	2.1	1.6	1.3	8.0	1.4	0.6	10.0	
1.9	4	14:23	105.8	110.6	8782	64.0	46.3	35.2	20.9	10.8	3.6	2.1	1.6	1.3	8.0	1.4	0.6	10.1	
2.0	1	14:24	104.0	118.7	4998	45.8	34.1	24.0	14.4	7.7	3.0	1.7	1.2	1.0	5.3	1.4	1.4	8.0	
2.0	2	14:24	104.0	118.7	5020	45.5	34.0	24.5	14.5	7.8	3.1	1.7	1.3	1.0	5.3	1.4	1.4	8.0	
2.0	3	14:24	104.0	118.7	8082	69.8	53.8	40.7	24.8	13.6	5.4	3.1	2.3	1.8	4.8	1.4	1.5	8.3	
2.0	4	14:24	104.0	118.7	8115	69.6	54.2	41.5	25.1	13.9	5.6	3.2	2.3	1.9	4.7	1.4	1.5	8.4	
2.1																			MaddenHiggins,B-,B-36,WB"
2.1	2	14:25	105.8	120.0	4965	60.2	43.8	31.6	18.4	10.2	4.1	2.5	1.9	1.5	4.0	1.2	2.3	5.9	
2.1	3	14:25	105.8	120.0	7896	92.4	70.8	52.5	31.5	17.8	6.8	4.3	3.2	2.5	3.8	1.3	2.3	6.1	
2.1	4	14:25	105.8	120.0	7950	92.3	70.7	53.0	31.7	18.0	6.8	4.3	3.2	2.5	3.8	1.3	2.3	6.1	
2.2	1	14:26	104.0	117.3	5085	47.9	35.6	25.8	15.2	7.7	2.4	1.7	1.1	0.9	7.0	1.3	1.1	8.0	
2.2	2	14:26	104.0	117.3	5129	47.7	35.6	26.0	15.3	7.8	2.5	1.8	1.1	0.9	6.8	1.3	1.2	8.0	
2.2	3	14:26	104.0	117.3	8093	71.1	55.0	41.6	25.2	13.3	4.2	3.0	2.1	1.6	6.3	1.4	1.2	8.4	
2.2	4	14:26	104.0	117.3	8158	71.2	55.3	41.8	25.5	13.5	4.2	2.9	2.1	1.6	6.3	1.4	1.1	8.5	
2.3	1	14:27	104.0	117.3	5052	59.7	42.9	26.8	11.9	3.6	2.4	1.6	0.6	0.5	6.7	1.2	1.5	6.4	
2.3	2	14:27	104.0	117.3	5085	58.4	42.4	27.5	11.9	3.7	2.5	1.6	0.6	0.5	6.6	1.2	1.5	6.6	
2.3	3	14:27	104.0	117.3	8049	86.3	69.1	45.9	22.1	7.9	4.0	3.2	2.2	0.9	6.5	1.2	1.4	7.0	
2.3	4	14:27	104.0	117.3	8060	86.1	68.4	47.7	22.4	8.1	4.1	3.3	2.2	0.9	6.3	1.2	1.5	7.0	
2.4	1	14:30	105.8	115.4	5162	52.8	31.6	18.8	9.7	3.4	2.2	0.7	0.8	0.6	7.6	1.2	1.2	7.4	
2.4	2	14:30	105.8	115.4	5238	52.1	31.6	19.0	9.9	3.7	2.2	0.8	0.7	0.6	7.8	1.2	1.1	7.6	
2.4	3	14:30	105.8	115.4	8235	77.3	50.9	32.2	17.9	7.1	4.1	1.5	1.3	1.0	6.5	1.3	1.2	7.9	
2.4	4	14:30	105.8	115.4	8235	77.1	50.4	32.3	18.1	7.2	4.1	1.6	1.4	1.0	6.4	1.3	1.2	7.9	
2.5	1	14:31	105.8	115.1	5041	58.5	39.3	26.9	15.4	8.6	4.2	3.0	2.3	1.7	3.9	1.2	2.3	6.1	
2.5	2	14:31	105.8	115.1	5074	57.5	38.9	26.9	15.4	8.6	4.2	2.9	2.2	1.7	3.9	1.3	2.2	6.3	
2.5	3	14:31	105.8	115.1	7994	89.9	64.8	46.2	27.1	14.9	7.0	4.9	3.7	3.0	3.7	1.3	2.3	6.3	
2.5	4	14:31	105.8	115.1	7972	90.5	64.3	46.5	27.2	15.0	7.1	5.0	3.8	3.0	3.6	1.3	2.4	6.2	
2.6																			MaddenHiggins,B-,B-35,EB"
2.6	1	14:33	105.8	116.6	5074	72.3	47.6	29.1	15.8	8.0	3.7	2.6	1.9	1.5	4.4	1.1	2.4	5.1	
2.6	2	14:33	105.8	116.6	5107	71.3	47.8	29.4	15.9	8.2	3.8	2.7	1.9	1.6	4.3	1.1	2.4	5.2	
2.6	3	14:33	105.8	116.6	7940	106.3	74.8	48.3	27.5	14.0	6.4	4.3	3.1	2.6	4.0	1.1	2.5	5.4	
2.6	4	14:33	105.8	116.6	7929	105.8	73	50.1	27.9	14.1	6.3	4.3	3.1	2.6	4.0	1.1	2.5	5.4	
2.7	1	14:34	105.8	116.0	5107	70.9	48.9	30.5	16.5	8.4	4.4	3.2	2.3	1.8	3.8	1.1	2.6	5.1	
2.7	2	14:34	105.8	116.0	5184	70.4	49.0	31.6	16.9	8.7	4.5	3.2	2.3	1.8	3.7	1.1	2.6	5.2	
2.7	3	14:34	105.8	116.0	8060	106.0	77.2	52.8	29.4	15.1	7.2	5.3	4.0	3.1	3.6	1.2	2.6	5.4	
2.7	4	14:34	105.8	116.0	8038	106.4	78.7	54.7	29.7	15.3	7.2	5.4	4.0	3.1	3.6	1.2	2.6	5.4	
2.8	1	14:35	105.8	115.8	4823	63.0	43.4	30.3	17.5	8.4	3.7	2.8	2.2	2.0	4.2	1.2	2.4	5.5	
2.8	2	14:35	105.8	115.8	4899	62.6	42.8	30.9	17.6	8.5	3.8	2.9	2.3	1.9	4.2	1.2	2.3	5.6	
2.8	3	14:35	105.8	115.8	7710	95.3	65.0	51.3	30.5	15.1	6.2	4.8	3.8	3.2	4.0	1.2	2.3	5.8	
2.8	4	14:35	105.8	115.8	7896	95.8	63.2	52.9	30.9	15.4	6.3	4.9	3.8	3.2	4.1	1.2	2.3	5.9	
2.8																			MaddenHiggins,IC,CountyHwy9,EB"
2.8																			124.1PavementTemp,91Sunny"
2.8																			END"

American Engineering Testing, Inc.
550 Cleveland Avenue North
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AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S16
Roadway: CR 82
From: CR 83
To: 0.85 mi E

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 2.1 in.
Daily ESALs: 5.0
PCI: 72
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 19,093
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 40,182

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
1.0																			MaddenHiggins,B-,B-38,WB"
1.1	1	13:06	100.4	110.3	5206	47.5	32.8	24.0	14.3	9.2	5.1	3.3	2.4	1.8	3.3	1.4	2.4	7.5	
1.1	2	13:06	100.4	110.3	5238	47.0	32.7	24.0	14.3	9.1	5.2	3.4	2.4	1.9	3.3	1.4	2.3	7.6	
1.1	3	13:06	100.4	110.3	8289	71.7	53	39.9	24.4	15.4	8.4	5.5	4.0	3.2	3.2	1.4	2.3	7.8	
1.1	4	13:06	100.4	110.3	8235	71.8	52.3	40.2	24.6	15.5	8.4	5.6	4.1	3.2	3.2	1.4	2.3	7.8	
1.2	1	13:07	100.4	111.3	5249	54.5	39.0	27.9	17.4	10.6	5.2	3.4	2.4	1.8	3.3	1.3	2.6	6.6	
1.2	2	13:07	100.4	111.3	5293	54.0	38.7	28.0	17.4	10.7	5.3	3.4	2.5	1.9	3.3	1.3	2.6	6.7	
1.2	3	13:07	100.4	111.3	8289	83.6	63.1	47.0	29.6	17.9	8.5	5.7	4.1	3.3	3.1	1.3	2.6	6.8	
1.2	4	13:07	100.4	111.3	8235	83.8	63.3	47.5	29.9	18.0	8.6	5.7	4.1	3.3	3.1	1.3	2.7	6.7	
1.3	1	13:08	100.4	110.1	5118	39.4	29.8	22.8	15.9	10.1	5.2	3.2	2.3	1.7	3.2	1.6	2.0	8.7	
1.3	2	13:08	100.4	110.1	5074	39.2	29.7	23.1	15.9	10.1	5.3	3.3	2.3	1.7	3.1	1.6	2.0	8.7	
1.3	3	13:08	100.4	110.1	8082	60.5	47.4	37.6	26.5	17.1	8.8	5.4	3.9	3.1	3.0	1.6	2.0	8.9	
1.3	4	13:08	100.4	110.1	8082	60.6	47.7	38.1	26.6	17.2	8.9	5.4	3.9	3.0	2.9	1.6	2.0	8.9	
1.4																			MaddenHiggins,J-,START,WB"
1.4	1	14:15	104.0	116.2	5249	48.2	36.5	27.7	17.4	10.5	5.3	3.2	2.2	1.6	3.2	1.4	2.4	7.4	
1.4	2	14:15	104.0	116.2	5293	47.7	36.5	27.7	17.5	10.6	5.2	3.1	2.3	1.6	3.3	1.4	2.3	7.6	
1.4	3	14:15	104.0	116.2	8399	72.9	56.9	44.6	29.2	17.8	8.9	5.4	3.7	2.9	3.1	1.4	2.3	7.8	
1.4	4	14:15	104.0	116.2	8399	72.8	57.6	45.4	29.5	18.1	8.9	5.3	3.8	2.9	3.1	1.4	2.3	7.8	
1.5	1	14:16	104.0	115.8	5031	45.4	32.2	19.1	9.0	3.3	2.6	1.5	1.5	0.4	6.3	1.2	1.5	8.1	
1.5	2	14:16	104.0	115.8	5140	45.1	32.2	19.5	9.1	3.4	2.6	1.5	1.5	0.5	6.4	1.2	1.5	8.3	
1.5	3	14:16	104.0	115.8	8115	68.7	51.7	32.8	16.7	6.3	4.3	2.9	2.9	0.8	6.1	1.3	1.5	8.5	
1.5	4	14:16	104.0	115.8	8071	68.5	51.0	32.8	16.7	6.3	4.4	3.0	2.9	0.9	6.0	1.3	1.5	8.5	
1.6																			MaddenHiggins,B-,B-37,EB"
1.6	1	14:18	104.0	117.2	5052	46.4	30.5	20.0	10.1	4.8	2.1	0.8	0.6	0.4	7.7	1.2	1.3	8.1	
1.6	2	14:18	104.0	117.2	5216	46.4	30.8	20.4	10.4	4.9	2.2	0.9	0.7	0.5	7.7	1.2	1.3	8.4	
1.6	3	14:18	104.0	117.2	8311	70.6	49.2	34.7	18.9	8.7	4.2	1.5	1.2	0.8	6.4	1.2	1.4	8.6	
1.6	4	14:18	104.0	117.2	8289	69.9	49.1	34.8	19.0	8.8	4.3	1.6	1.2	0.8	6.3	1.3	1.4	8.6	
1.7	1	14:19	105.8	119.0	5446	45.2	31.1	21.9	12.9	7.5	3.5	2.1	1.6	1.2	5.1	1.3	1.6	8.6	
1.7	2	14:19	105.8	119.0	5490	44.9	31.2	22.2	13.0	7.5	3.6	2.2	1.6	1.3	4.9	1.3	1.6	8.7	
1.7	3	14:19	105.8	119.0	8650	69.4	49.5	36.5	22.3	12.9	6.1	3.8	2.8	2.2	4.6	1.4	1.7	8.7	
1.7	4	14:19	105.8	119.0	8650	69.3	49.4	36.9	22.5	13.0	6.2	3.8	2.8	2.3	4.6	1.4	1.7	8.8	
1.8	1	14:20	104.0	118.3	5446	46.6	32.5	22.0	13.4	7.8	3.1	1.7	1.2	0.9	5.8	1.3	1.5	8.5	
1.8	2	14:20	104.0	118.3	5468	45.9	32.3	22.1	13.4	7.9	3.1	1.8	1.3	1.0	5.8	1.3	1.5	8.6	
1.8	3	14:20	104.0	118.3	8639	69.8	51.6	37.3	23.1	13.6	5.4	3.2	2.3	1.7	5.2	1.3	1.6	8.8	
1.8	4	14:20	104.0	118.3	8694	70.2	52.0	37.8	23.5	13.8	5.5	3.2	2.3	1.7	5.1	1.3	1.6	8.8	
1.9																			MaddenHiggins,IC,ArmstrongRd,WB"

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AET Project No. P-0013315
County: Madison
Test Date: Jun 14, 2022
Section: S17
Roadway: CR 82
From: 1.0 mi W
To: CR 84

Prev. Day's Avg. Air Temp.: 78 °F
Total AC: 2.0 in.
Daily ESALs: 5.0
PCI: 73
Haul ESALs: 0
Soil Type: P
Draught Adjustment Factor: 1.00
Seasonal Correction Factor: 1.00

Design Period: 10 Years
Projection Factor: 1.1
Growth Factor: 10.46
10-year Design ESALs: 19,093
Design Period: 20 Years
Projection Factor: 1.2
Growth Factor: 22.02
20-year Design ESALs: 40,182

															Effective Values		Overlay	Axle	
															Mr	SN	Thickness	Capacity	
Station	Drop	Time	Air °F	Bit °F	Load	D1	D2	D3	D4	D4	D6	D7	D8	D9	ksi	inches	inches	tons/axle	Comments
0.0																			START"
0.0																			MaddenHigginsRd,IC,VanWagenerRd,WB"
0.0	1	12:50	105.8	109.8	5468	54.5	35.9	24.5	14.8	8.0	3.3	2.1	1.5	1.2	5.4	1.4	1.3	7.1	
0.0	2	12:50	105.8	109.8	5501	53.9	35.9	25.9	15.0	8.1	3.3	2.1	1.4	1.2	5.4	1.4	1.3	7.2	
0.0	3	12:50	105.8	109.8	8574	81.8	58.5	43.5	26.0	14.0	5.5	3.5	2.5	1.9	5.1	1.5	1.3	7.3	
0.0	4	12:50	105.8	109.8	8563	81.8	58.9	43.9	26.2	14.1	5.5	3.5	1.6	1.9	5.1	1.5	1.3	7.3	
0.1	1	12:51	104.0	108.8	5216	54.5	40.1	26.9	17.6	10.8	5.0	3.0	2.1	1.7	3.4	1.5	2.0	6.5	
0.1	2	12:51	104.0	108.8	5249	53.8	39.6	27.7	17.5	10.8	5.0	3.0	2.1	1.7	3.4	1.5	2.0	6.7	
0.1	3	12:51	104.0	108.8	8246	83.4	63.5	46.0	29.5	17.7	8.0	4.8	3.5	2.8	3.3	1.5	2.0	6.7	
0.1	4	12:51	104.0	108.8	8213	83.5	63.9	46.6	29.7	17.8	8.1	4.8	3.5	2.9	3.3	1.5	2.0	6.7	
0.2	1	12:52	104.0	109.4	4987	57.7	41.1	26.3	16.1	8.4	3.3	2.2	1.4	1.2	4.9	1.3	1.7	6.1	
0.2	2	12:52	104.0	109.4	5052	57.3	41.1	27.8	16.3	8.5	3.3	2.3	1.4	1.2	4.9	1.3	1.6	6.2	
0.2	3	12:52	104.0	109.4	7940	88.4	66.5	46.8	27.9	14.6	5.4	3.7	2.3	2.0	4.7	1.4	1.7	6.3	
0.2	4	12:52	104.0	109.4	7940	89.0	67.0	47.8	28.4	14.8	5.5	3.8	2.3	2.0	4.7	1.4	1.7	6.3	
0.3	1	12:54	104.0	110.7	5304	54.8	40.0	29.4	18.8	11.7	5.6	3.3	2.4	1.8	3.1	1.5	2.2	6.6	
0.3	2	12:54	104.0	110.7	5326	54.4	39.6	29.3	18.8	11.7	5.7	3.3	2.4	1.8	3.1	1.5	2.2	6.6	
0.3	3	12:54	104.0	110.7	8344	83.9	64.3	48.6	31.7	19.8	9.1	5.5	3.9	3.0	3.0	1.5	2.2	6.7	
0.3	4	12:54	104.0	110.7	8322	84.5	64.5	49.8	31.9	19.9	9.2	5.6	3.9	3.0	2.9	1.5	2.2	6.6	
0.4	1	12:55	104.0	109.3	5326	58.4	41.1	29.5	18.1	10.8	4.8	3.0	2.2	1.8	3.6	1.4	2.1	6.3	
0.4	2	12:55	104.0	109.3	5326	57.5	40.6	29.4	18.0	10.8	4.8	3.0	2.2	1.8	3.6	1.4	2.0	6.4	
0.4	3	12:55	104.0	109.3	8289	86.6	64.7	47.7	30.2	18.2	8.0	4.8	3.5	2.7	3.4	1.5	2.1	6.5	
0.4	4	12:55	104.0	109.3	8246	86.4	64.6	47.9	30.3	18.1	8.0	4.8	3.5	2.8	3.3	1.5	2.1	6.5	
0.4																			130.2PavementTemp,91Sunny"
0.5																			MaddenHiggins,B-,B-39,EB"
0.5	1	12:57	102.2	109.4	5490	45.3	33	24.9	14.7	8.1	3.6	2.2	1.9	1.1	4.9	1.6	1.1	8.4	
0.5	2	12:57	102.2	109.4	5512	44.5	32.5	24.7	14.7	8.1	3.8	2.3	1.7	1.1	4.7	1.6	1.1	8.5	
0.5	3	12:57	102.2	109.4	8585	68.5	52.1	41.2	25.1	14.4	6.7	3.7	2.9	1.9	4.1	1.7	1.2	8.6	
0.5	4	12:57	102.2	109.4	8639	68.8	52.8	41.7	25.5	14.6	6.9	3.7	2.9	1.9	4.1	1.7	1.2	8.6	
0.6	1	12:59	102.2	109.3	5085	47.5	33.4	24.4	15.7	10.1	5.0	3.2	2.3	1.7	3.3	1.6	1.9	7.2	
0.6	2	12:59	102.2	109.3	5173	46.8	33.3	24.4	15.8	10.2	5.1	3.2	2.3	1.7	3.3	1.6	1.8	7.5	
0.6	3	12:59	102.2	109.3	8202	73.5	55.2	41.2	26.9	17.0	8.1	5.2	3.6	2.9	3.3	1.6	1.8	7.5	
0.6	4	12:59	102.2	109.3	8279	73.7	55.7	42.0	27.2	17.3	8.2	5.2	3.7	3.1	3.3	1.6	1.8	7.6	
0.7	1	13:00	102.2	110.1	5337	40.6	30.1	22.3	14.2	9.3	4.7	3.1	2.1	1.7	3.7	1.8	1.2	8.9	
0.7	2	13:00	102.2	110.1	5326	40.1	29.9	22.2	14.2	9.3	4.7	3.1	2.1	1.7	3.7	1.8	1.2	8.9	
0.7	3	13:00	102.2	110.1	8432	62.0	47.8	37.1	24.0	15.9	7.8	5.1	3.5	2.7	3.5	1.8	1.2	9.1	
0.7	4	13:00	102.2	110.1	8497	62.4	48.6	37.7	24.5	16.2	8.0	5.1	3.6	2.7	3.4	1.8	1.2	9.1	
0.8	1	13:01	102.2	110.4	5216	73.0	55.5	39.4	23.3	12.6	5.4	3.3	2.3	1.8	3.1	1.3	2.7	4.9	
0.8	2	13:01	102.2	110.4	5184	71.1	54	38.8	23.0	12.5	5.4	3.3	2.3	1.8	3.1	1.3	2.7	5.0	
0.8	3	13:01	102.2	110.4	8049	107.5	85.7	63.2	38.6	20.5	8.7	5.2	3.8	3.0	3.0	1.3	2.7	5.1	
0.8	4	13:01	102.2	110.4	8027	107.8	86.3	64.1	38.8	20.7	8.7	5.3	3.8	3.0	3.0	1.3	2.7	5.1	
0.9	1	13:03	100.4	110.6	5151	56.0	42.8	32.1	19.5	10.8	4.9	3.2	2.3	1.8	3.4	1.4	2.1	6.3	
0.9	2	13:03	100.4	110.6	5195	55.6	42.7	32.2	19.6	10.9	4.9	3.2	2.3	1.8	3.4	1.5	2.1	6.4	
0.9	3	13:03	100.4	110.6	8147	85.9	68.4	52.7	33.2	18.7	8.0	5.2	3.8	3.1	3.3	1.5	2.1	6.5	
0.9	4	13:03	100.4	110.6	8125	86.3	68.8	53.1	33.8	18.8	8.0	5.2	3.9	3.1	3.3	1.5	2.1	6.4	
1.0	1	13:04	100.4	110.9	5260	63.6	46.1	33.0	19.9	11.7	5.3	3.4	2.4	2.1	3.2	1.4	2.4	5.7	
1.0	2	13:04	100.4	110.9	5282	62.8	45.8	33.2	19.9	11.8	5.4	3.5	2.5	2.1	3.2	1.4	2.4	5.7	
1.0	3	13:04	100.4	110.9	8213	95.6	72.9	54.4	33.3	19.1	8.7	5.6	4.1	3.5	3.1	1.4	2.4	5.8	
1.0	4	13:04	100.4	110.9	8235	96.3	73.0	55.2	33.7	19.3	8.8	5.7	4.2	3.6	3.0	1.4	2.4	5.8	

Appendix D

Pavement Condition Index Field Exploration and Testing
Distresses Data and Pavement Rating Results Sheet

D.1 FIELD WORK

The pavement surface conditions at the site were evaluated nondestructively using Digital Video Log (DVL) and Pavement Condition Index (PCI). The description of the equipment precedes the photos of Structures in this appendix.

D.2 EQUIPMENT DESCRIPTION

D.2.1 MicroPAVER™ PMS System

MicroPAVER™ -- The Pavement Maintenance Management (PMS) System -- originally was developed in the late 1970s to help the Department of Defense (DOD) manage M&R for its vast inventory of pavements. It uses inspection data and a pavement condition index (PCI™) rating from zero (failed) to 100 (excellent) for consistently describing a pavement's condition and for predicting its M&R needs many years into the future. The PCI™ for airports became an ASTM standard in 1993 (D5340). The PCI™ for roads and parking lots became an ASTM standard in 1999 (D6433). Figure A1 provides a view of this equipment.

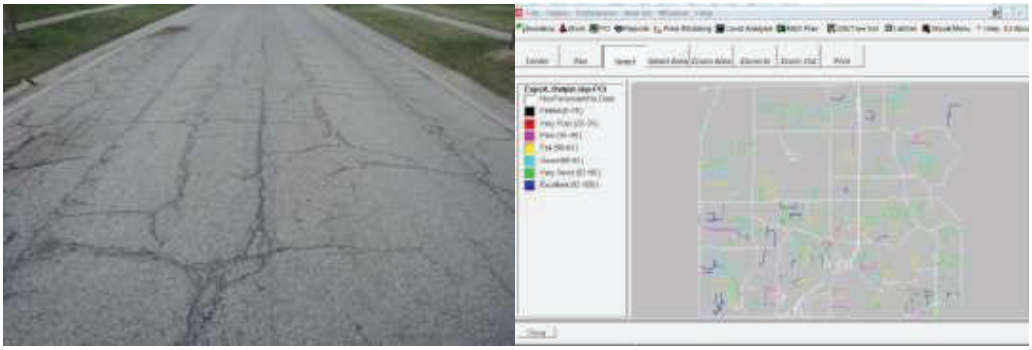

Figure A1 MicroPAVER™ PMS System

External indicators of pavement deterioration caused by loading, environmental factors, construction deficiencies, or a combination thereof. Typical distresses are cracks, rutting, and weathering of the pavement surface. Distress types and severity levels detailed in Inspection Manual must be used to obtain an accurate PCI value.

- A battery operated independent DC-1908E multi-functional digital camera with a SD card is used for easy positioning of the loading plate or of the pavement surface condition at the testing locations.
- Hand Odometer Wheel that reads to the nearest 0.1 ft. (30 mm).
- Straightedge or String Line, (AC only), 10 ft. (3 m).
  Scale, 12 in. (300 mm) that reads to 1⁄8 in. (3 mm) or better. Additional 12-in. (300 mm) ruler or straightedge is needed to measure faulting in PCC pavements.
- Layout Plan, for network to be inspected.

D.2.2 PCI Calibrations

Since the collection of the pavement distress data is such a critical component of any PMS implementation or update, AET has in place the PCI calibration as a quality control.

The PCI raters undergo internal calibrations every two months. This calibration exercise is conducted by our chief inspector and/or quality control engineer and is performed to ensure that the ratings of pavement distresses are consistent among the crews and in accordance with the ASTM D6344.

Survey wheel is calibrated by laying out a long distance (> 50 feet) with tape measure.

D.2.3 Linear Distance and Spatial Reference System

Distance measuring instrument (DMI) is a trailer mounted two phase encoder system. When DMI is connected to the HD Camera it provides for automatic display and recording distance information in both English and metric units with a 1 foot (0.3 meters) resolution and four percent accuracy when calibrated using provided procedure in the Field Program.

Spatial reference system is a Trimble ProXRT Global Positioning System (GPS) that consists of fully integrated receiver, antenna and battery unit with Trimble's new H-Star™ technology to provide sub foot (30 cm) post processed accuracy. The External Patch antenna is added to the ProXH receiver for the position of the loading plate. The External Patch antenna can be conveniently elevated with the optional baseball cap to prevent any signal blockage.

D.3 TRAFFIC CONTROL

Traffic control during the PCI data collection operation will be maintained in compliance with The Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD) and part VI, "Field Manual for Temporary Traffic Control Zone Layouts," as shown in Appendix D. The PCI operation will be mobile in nature and will be moderately disruptive to traffic.

D.4 QUALITY CONTROL (QC) AND QUALITY ASSURANCE (QA)

Beside the daily metal plate calibration, the DMI is also calibrated monthly by driving the vehicle over a known distance to calculate the distance scale factor. The HD video camera will be monitored in real time in the data collection vehicle to minimize data errors. The HD video cameras will be identified with a unique number and that number will accompany all data reported from that unit as required in the QC/QA plan.

Scheduled preventive maintenance ensures proper equipment operation and helps identify potential problems that can be corrected to avoid poor quality or missing data that results if the equipment malfunctions while on site. The routine and major maintenance procedures established by AET are adopted and any maintenance has been done at the end of the day after the testing is complete and become part of the routine performed at the end of each test/travel day and on days when no other work is scheduled.

To insure quality data, the PCI assessments only took place in day light, and data was collected in one lane.

D.5 DATA ANALYSIS METHODS

D.5.1 Data Editing

Field acquisition is seldom so routine that no errors, omissions or data redundancy occur. Data editing encompasses issues such as video editing, video file merging, video log header or background information updates, repositioning and inclusion of elevation information with the video.

D.5.2 Sampling Methods

The sampling rate is set at 10 percent in on lane (OWP) = 500 ft. ± 50 ft. (23.6 m ± 2.4 m) for nominal 12 ft. (3.7 m) wide lanes at a survey speed of approximately 30 mph. Where a divided roadbed exists, surveys will be taken in both directions if the project will include improvements in both directions. If there is more than one lane in one direction the surveys will be taken in the outer driving lane (truck lane) versus the passing lane of the highway.

Basic data processing addresses some of the fundamental manipulations applied to data to make a more acceptable product for initial interpretation and data evaluation. In most instances this type of processing is already applied in real-time to generate the real-time display. The advantage of post survey processing is that the basic processing can be done more systematically and non-causal operators to remove or enhance certain features can be applied.

D.5.3 Advance Processing

Advanced data processing addresses the types of processing which require a certain amount of operator bias to be applied and which will result in data which are significantly different from the raw information which were input to the processing.

D.6 TEST LIMITATIONS

D.6.1 Test Methods

The data derived through the testing program have been used to develop our opinions about the pavement conditions at your site. However, because no testing program can reveal totally what is in the subsurface, conditions between test locations and at other times, may differ from conditions described in this report. The testing we conducted identified pavement conditions only at those areas where we observed pavement surface conditions. Depending on the sampling methods and sampling frequency, every location may not be rated, and some anomalies which are present in the pavement may not be noted on the testing results. If conditions encountered during construction differ from those indicated by our testing, it may be necessary to alter our conclusions and recommendations, or to modify construction procedures, and the cost of construction may be affected.

D.6.2 Test Standards
Pavement testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

D.7 SUPPORTING TEST METHODS

D.7.1 Falling Weight Deflectometer (FWD)
If the pavement layer moduli and subgrade soil strength are desired the deflection data are collected using a Dynatest 8000 FWD Test System that consists of a Dynatest 8002 trailer and a third-generation control and data acquisition unit developed in 2003, called the Dynatest Compact15, featuring fifteen (15) deflection channels. The new generation FWD, including a Compact15 System and a standard PC with the FwdWin field Program constitutes the newest, most sophisticated Dynatest FWD Test System, which fulfills or exceeds all requirements to meet ASTM-4694 and ASTM D-4695 Standards. The system provides continuous data at pre-set spacing.

D.7.2 Ground Penetrating Radar
If the pavement layer thicknesses are desired the thickness data are collected using a GSSI air-coupled 2 GHz Test System that consists of a bumper-mounted, 2 GHz air-coupled antenna and a SIR-20 control and data acquisition processor, featuring dual channels. The GPR processor, including a SIR-20 data acquisition system, wheel-mounted DMI (Distance Measuring Instrument), and a tough book with the SIR-20 Field Program constitutes the newest, most sophisticated GSSI Test System, which fulfills or exceeds all requirements to meet ASTM-4748 and ASTM D-6087 Standards. The antenna used for Roadscan is the Horn Antenna Model 4105 (2 GHz). The 2 GHz antenna is the current antenna of choice for road survey because it combines excellent resolution with reasonable depth penetration (18-24 inches in pavement materials). The data collection is performed at normal driving speeds (45-55 mph), requiring no lane closures nor causing traffic congestion. At this peed the 2 GHz antenna can collect data at 1-foot interval (1 scan/foot).

D.7.2 Soil Boring/Coring Field Exploration
If both pavement thicknesses and subgrade soil types and conditions are desired the shallow coring/boring and sampling is used. The limited number of coring/boring is necessary to verify the GPR layer thickness data.

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S01
From:	US 71	**To:**	Dyer Rd

SUMMARY DISTRESSES

Total Samples	**23**
Sample #	**4**
Sample Size	**6000**
Sample Length	**600**

PCI	**41**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S01
From:	US 71	**To:**	Dyer Rd

SUMMARY DISTRESSES

Total Samples	**23**
Sample #	**4**
Sample Size	**6000**
Sample Length	**600**

PCI	**41**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	1%
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low		**(17) Slippages Cracking**	Low	
	Med	10%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	13%	**(20) Weathering**	Low	
	Med	10%		Med	100%
	High	2%		High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S02
From:	Dyer Rd	**To:**	CR 21

SUMMARY DISTRESSES

Total Samples	**14**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**43**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S02
From:	Dyer Rd	**To:**	CR 21

SUMMARY DISTRESSES

Total Samples	**14**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**43**

Distresses			Distresses		
(1) Alligator	Low	8%	**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	2%	**(17) Slippages Cracking**	Low	
	Med	8%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	5%	**(20) Weathering**	Low	
	Med	9%		Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S03
From:	CR 21	**To:**	1.1 mi N

SUMMARY DISTRESSES

Total Samples	**19**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**38**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S03
From:	CR 21	**To:**	1.1 mi N

SUMMARY DISTRESSES

Total Samples	**19**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**38**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med	4%		Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	4%	**(17) Slippages Cracking**	Low	
	Med	7%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	4%	**(20) Weathering**	Low	
	Med	9%		Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S04
From:	1.1 mi S	**To:**	CR 69

SUMMARY DISTRESSES

Total Samples	**19**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**41**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S04
From:	1.1 mi S	**To:**	CR 69

SUMMARY DISTRESSES

Total Samples	**19**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**41**

Distresses			Distresses		
(1) Alligator	Low	4%	**(11) Patch/Ut Cut**	Low	
	Med	3%		Med	1%
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	4%	**(17) Slippages Cracking**	Low	
	Med	6%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	13%	**(20) Weathering**	Low	
	Med	1%		Med	100%
	High			High	

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Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S05
From:	CR 69	**To:**	CR 73

SUMMARY DISTRESSES

Total Samples	**8**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**39**

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Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S05
From:	CR 69	**To:**	CR 73

SUMMARY DISTRESSES

Total Samples	**8**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**39**

Distresses			Distresses		
(1) Alligator	Low	9%	**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	8%	**(17) Slippages Cracking**	Low	
	Med	2%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	11%	**(20) Weathering**	Low	
	Med	10%		Med	100%
	High	1%		High	

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Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S06
From:	CR 73	**To:**	CR 85

SUMMARY DISTRESSES

Total Samples	**13**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**40**

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Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S06
From:	CR 73	**To:**	CR 85

SUMMARY DISTRESSES

Total Samples	**13**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**40**

Distresses			Distresses		
(1) Alligator	Low	14%	**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	8%	**(17) Slippages Cracking**	Low	
	Med	2%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	10%
	Med				
	High			High	
(10) L & T Cracking	Low	5%	**(20) Weathering**	Low	
	Med	6%		Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S07
From:	CR 85	**To:**	CR 151

SUMMARY DISTRESSES

Total Samples	**9**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**37**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S07
From:	CR 85	**To:**	CR 151

SUMMARY DISTRESSES

Total Samples	**9**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**37**

Distresses			Distresses		
(1) Alligator	Low	6%	**(11) Patch/Ut Cut**	Low	
	Med	1%		Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	3%	**(17) Slippages Cracking**	Low	
	Med	6%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	10%
	Med				
	High			High	
(10) L & T Cracking	Low	5%	**(20) Weathering**	Low	
	Med	5%		Med	100%
	High			High	

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Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S08
From:	CR 151	**To:**	CR 82

SUMMARY DISTRESSES

Total Samples	**34**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**28**

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Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S08
From:	CR 151	**To:**	CR 82

SUMMARY DISTRESSES

Total Samples	**34**
Sample #	**2**
Sample Size	**6000**
Sample Length	**600**

PCI	**28**

Distresses			Distresses		
(1) Alligator	Low	4%	**(11) Patch/Ut Cut**	Low	
	Med	2%		Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	3%	**(17) Slippages Cracking**	Low	
	Med	7%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	10%
	Med				
	High			High	
(10) L & T Cracking	Low	7%	**(20) Weathering**	Low	
	Med	6%		Med	100%
	High	1%		High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S08
From:	CR 151	**To:**	CR 82

SUMMARY DISTRESSES

Total Samples	**34**
Sample #	**14**
Sample Size	**6000**
Sample Length	**600**

PCI	**46**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 9	**Section/Grid:**	S08
From:	CR 151	**To:**	CR 82

SUMMARY DISTRESSES

Total Samples	**34**
Sample #	**14**
Sample Size	**6000**
Sample Length	**600**

PCI	**46**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med	5%		Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low		**(17) Slippages Cracking**	Low	
	Med	10%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	7%	**(20) Weathering**	Low	
	Med	12%		Med	100%
	High	1%		High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S09
From:	CR 69	**To:**	CR 85

SUMMARY DISTRESSES

Total Samples	**13**
Sample #	**2**
Sample Size	**6000**
Sample Length	**750**

PCI	**69**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S09
From:	CR 69	**To:**	CR 85

SUMMARY DISTRESSES

Total Samples	**13**
Sample #	**2**
Sample Size	**6000**
Sample Length	**750**

PCI	**69**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	11%	**(17) Slippages Cracking**	Low	
	Med			Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	18%	**(20) Weathering**	Low	
	Med			Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S10
From:	CR 85	**To:**	CR 82

SUMMARY DISTRESSES

Total Samples	**16**
Sample #	**2**
Sample Size	**6000**
Sample Length	**750**

PCI	**68**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S10
From:	CR 85	**To:**	CR 82

SUMMARY DISTRESSES

Total Samples	**16**
Sample #	**2**
Sample Size	**6000**
Sample Length	**750**

PCI	**68**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low	5%	**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	5%	**(17) Slippages Cracking**	Low	
	Med	5%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	6%	**(20) Weathering**	Low	
	Med	1%		Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S11
From:	CR 82	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**26**
Sample #	**2**
Sample Size	**6000**
Sample Length	**750**

PCI	**70**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S11
From:	CR 82	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**26**
Sample #	**2**
Sample Size	**6000**
Sample Length	**750**

PCI	**70**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low	10%	**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	4%	**(17) Slippages Cracking**	Low	
	Med	7%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	2%	**(20) Weathering**	Low	
	Med			Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S11
From:	CR 82	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**26**
Sample #	**12**
Sample Size	**6000**
Sample Length	**750**

PCI	**65**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 84	**Section/Grid:**	S11
From:	CR 82	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**26**
Sample #	**12**
Sample Size	**6000**
Sample Length	**750**

PCI	**65**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low	10%	**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	3%	**(17) Slippages Cracking**	Low	
	Med	8%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	7%	**(20) Weathering**	Low	
	Med			Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S12
From:	CR 9	**To:**	CR 84

SUMMARY DISTRESSES

Total Samples	**31**
Sample #	**2**
Sample Size	**6000**
Sample Length	**375**

PCI	**63**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S12
From:	CR 9	**To:**	CR 84

SUMMARY DISTRESSES

Total Samples	**31**
Sample #	**2**
Sample Size	**6000**
Sample Length	**375**

PCI	**63**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low	5%	**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low		**(17) Slippages Cracking**	Low	
	Med	12%		Med	
	High	1%		High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	3%	**(20) Weathering**	Low	
	Med	1%		Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S13
From:	CR 84	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**106**
Sample #	**2**
Sample Size	**6000**
Sample Length	**375**

PCI	**55**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S13
From:	CR 84	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**106**
Sample #	**2**
Sample Size	**6000**
Sample Length	**375**

PCI	**55**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low		**(17) Slippages Cracking**	Low	
	Med	13%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	6%	**(20) Weathering**	Low	
	Med	7%		Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S13
From:	CR 84	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**106**
Sample #	**12**
Sample Size	**6000**
Sample Length	**375**

PCI	**66**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S13
From:	CR 84	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**106**
Sample #	**12**
Sample Size	**6000**
Sample Length	**375**

PCI	**66**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low		**(17) Slippages Cracking**	Low	
	Med	13%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	5%	**(20) Weathering**	Low	
	Med	1%		Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S13
From:	CR 84	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**106**
Sample #	**22**
Sample Size	**6000**
Sample Length	**375**

PCI	**34**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 69	**Section/Grid:**	S13
From:	CR 84	**To:**	SR 56

SUMMARY DISTRESSES

Total Samples	**106**
Sample #	**22**
Sample Size	**6000**
Sample Length	**375**

PCI	**34**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med	4%		Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low		**(17) Slippages Cracking**	Low	
	Med	13%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	9%	**(20) Weathering**	Low	
	Med	4%		Med	100%
	High	2%		High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 85	**Section/Grid:**	S14
From:	CR 9	**To:**	CR 85

SUMMARY DISTRESSES

Total Samples	**46**
Sample #	**2**
Sample Size	**6000**
Sample Length	**429**

PCI	**53**

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 85	**Section/Grid:**	S14
From:	CR 9	**To:**	CR 85

SUMMARY DISTRESSES

Total Samples	**46**
Sample #	**2**
Sample Size	**6000**
Sample Length	**429**

PCI	**53**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med	1%		Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	14%
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	1%	**(17) Slippages Cracking**	Low	
	Med	1%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	1%
	Med				
	High			High	
(10) L & T Cracking	Low	1%	**(20) Weathering**	Low	
	Med	1%		Med	100%
	High			High	

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Fax: (651) 659-1379

GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S15
From:	CR 9	**To:**	CR 83

SUMMARY DISTRESSES

Total Samples	**14**
Sample #	**2**
Sample Size	**6000**
Sample Length	**667**

PCI	**67**

American Engineering Testing, Inc.

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S15
From:	CR 9	**To:**	CR 83

SUMMARY DISTRESSES

Total Samples	**14**
Sample #	**2**
Sample Size	**6000**
Sample Length	**667**

PCI	**67**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	5%	**(17) Slippages Cracking**	Low	
	Med	1%		Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	24%	**(20) Weathering**	Low	
	Med			Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S16
From:	CR 83	**To:**	0.85 mi E

SUMMARY DISTRESSES

Total Samples	**14**
Sample #	**2**
Sample Size	**6000**
Sample Length	**667**

PCI	**72**

American Engineering Testing, Inc.

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S16
From:	CR 83	**To:**	0.85 mi E

SUMMARY DISTRESSES

Total Samples	**14**
Sample #	**2**
Sample Size	**6000**
Sample Length	**667**

PCI	**72**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low		**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	1%	**(17) Slippages Cracking**	Low	
	Med			Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	15%	**(20) Weathering**	Low	
	Med			Med	100%
	High			High	

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S17
From:	1.0 mi W	**To:**	CR 84

SUMMARY DISTRESSES

Total Samples	**30**
Sample #	**2**
Sample Size	**6000**
Sample Length	**667**

PCI	**73**

American Engineering Testing, Inc.

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GENERAL INFORMATION: PAVEMENT CONDITION INDEX

Project:	Fox Squirrel Solar, OH	**Date:**	7/22/22
AET Job No.:	P-0013315	**Test Date:**	6/16/22
Road:	CR 82	**Section/Grid:**	S17
From:	1.0 mi W	**To:**	CR 84

SUMMARY DISTRESSES

Total Samples	**30**
Sample #	**2**
Sample Size	**6000**
Sample Length	**667**

PCI	**73**

Distresses			Distresses		
(1) Alligator	Low		**(11) Patch/Ut Cut**	Low	
	Med			Med	
	High			High	
(2) Bleeding	Low	5%	**(12) Polished Aggregate**	N/A	
	Med				
	High				
(3) Block Cracking	Low		**(13) Pothole**	Low	
	Med			Med	
	High			High	
(4) Bumps/Sags	Low		**(14) RR Crossing**	Low	
	Med			Med	
	High			High	
(5) Corrugations	Low		**(15) Rutting**	Low	
	Med			Med	
	High			High	
(6) Depression	Low		**(16) Shoving**	Low	
	Med			Med	
	High			High	
(7) Edge Cracking	Low	1%	**(17) Slippages Cracking**	Low	
	Med			Med	
	High			High	
(8) Joint Reflection Cracking	Low		**(18) Swell**	Low	
	Med			Med	
	High			High	
(9) Lane Shoulder Drop	Low		**(19) Raveling**	Med	
	Med				
	High			High	
(10) L & T Cracking	Low	12%	**(20) Weathering**	Low	
	Med			Med	100%
	High			High	

Appendix E

Geotechnical Report Limitations and Guidelines for Use

Appendix E
Geotechnical Report Limitations and Guidelines for Use
Report No. P-0013315A

E.1 REFERENCE

This appendix provides information to help you manage your risks relating to subsurface problems which are caused by construction delays, cost overruns, claims, and disputes. This information was developed and provided by GBA[1], of which, we are a member firm.

E.2 RISK MANAGEMENT INFORMATION

E.2.1 Geotechnical Services are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. And no one, not even you, should apply the report for any purpose or project except the one originally contemplated.

E.2.2 Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

E.2.3 A Geotechnical Engineering Report is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a few unique, project-specific factors when establishing the scope of a study. Typically, factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a rule, always inform your geotechnical engineer of project changes, even minor ones, and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

E.2.4 Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

1 Geoprofessional Business Association, 15800 Crabbs Branch Way, Suite 300, Rockville, MD 20855
Telephone: 301/565-2733: www.geoprofessional.org

E.2.5 Most Geotechnical Findings Are Professional Opinions
Site exploration identified subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

E.2.6 A Geotechnical Engineering Report Is Subject to Misinterpretation
Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

E.2.7 Do Not Redraw the Engineer's Logs
Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognizes that separating logs from the report can elevate risk.

E.2.8 Give Contractors a Complete Report and Guidance
Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In the letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors having sufficient time to perform additional study. Only then might you be able to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

E.2.9 Read Responsibility Provisions Closely
Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their report. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

E.2.10 Geoenvironmental Concerns Are Not Covered
The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.

Fox Squirrel Solar, LLC
Case No. 20-931-EL-BGN
Case No. 21-1031-EL-BGA

Attachment 4
Pre-Construction Road Improvements

American Engineering Testing, Inc.

August 15, 2022

DICKINSON WRIGHT PLLC

PRE-CONSTRUCTION ROAD IMPROVEMENTS

Fox Squirrel Solar Project
Madison County, Ohio

AET Report No. P-0013315B

Date:
August 15, 2022

Prepared for:

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Geotechnical • Materials
Forensic • Environmental
Building Technology
Petrography/Chemistry

American Engineering Testing
550 Cleveland Avenue North
St. Paul, MN 55114-1804
TeamAET.com • 800.792.6364

August 15, 2022

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Attn: Mr. Cristian Diaz

RE: Pre-construction Road Improvements
Fox Squirrel Solar Project
Madison County, Ohio
AET Project No. P-0013315

Dear Mr. Diaz:

American Engineering Testing, Inc. (AET) is pleased to this report describing recommended structural improvements for proposed haul roads within the Fox Squirrel Solar Project in Madison County, Ohio. These recommendations are based on our previous evaluation report and our understanding of delivery flow plans for construction.

Sincerely,
American Engineering Testing, Inc.

Chunhua Han, Ph.D.
Principal Engineer, Pavement Division
E-mail: chan@amengtest.com
Phone: (651) 603-6631, Fax: (651) 659-1347

SIGNATURE PAGE

Prepared for

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435

Attn: Mr. Cristian Diaz

Prepared by

American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, MN 55114
(651) 659-9001

Project Manager

Chunhua Han, Ph.D.
Principal Engineer, Pavement Division

Report Reviewer

STATE OF OHIO
8/15/22
DEREK
TOMPKINS
E-83874
REGISTERED
PROFESSIONAL ENGINEER

Derek Tompkins, Ph.D., P.E.
Principal Civil Engineer

TABLE OF CONTENTS

1.0 INTRODUCTION

Barr Engineering Company ("Barr") has retained American Engineering Testing, Inc. (AET) to test and evaluate public roads for use as haul routes for the construction of the Fox Squirrel Solar Project ("Project") in Madison County, Ohio. AET performed geotechnical exploration and nondestructive pavement testing along Project roads selected by Barr for evaluation. This report (AET Report P-0013315B) recommends structural improvements to Project roads to bear estimated construction traffic. Our recommendations are based on geotechnical exploration, nondestructive road testing, and engineering evaluation of Project roads, which is summarized here but described in full detail in AET Report P-0013315A.

2.0 SCOPE OF SERVICES

The authorized scope consists of the following services, which were outlined in Barr Work Order 1, dated 5/19/22.

- Direct push soil sampling (referred to as "soil borings") along the Project roads to 4 feet in depth.
- Falling weight deflectometer (FWD) testing of the Project roads
- Ground penetrating radar (GPR) testing on the Project roads
- Digital video logging (DVL) of Project roads using a digital video camera
- Engineering evaluation of the Project roads using DVL, GPR, FWD, and soil boring data to (a) assess ability of the roads to sustain solar farm construction loads and (b) identify pre-construction road sections that are susceptible to significant damage
- Production of the report summarizing surface and structural evaluations of Project roads and providing road improvements to Project roads to bear haul traffic

These services are exclusively intended to evaluate the Project roads. The scope is not intended to explore for the presence or extent of environmental contamination in the soil or groundwater. Specific details on test procedures, test results, and analysis performed are described in the sections below and in appendices to this report.

3.0 PROJECT INFORMATION

3.1 Project locations and roads

The Project is located within approximately 4,250 acres of privately-owned agricultural land north of the City of Chenoweth in Madison County, Ohio (Figure 1). The project area is generally situated west of Ohio State Route SR-56, north of United States Route US-71, south of County Road CR-144, and east of CR-8, as shown in the figures attached to this report.

3.2 Conventional traffic on Project roads

To understand conventional (design) traffic for roads within the Project area, we consulted recent traffic

information from the Ohio Department of Transportation (ODOT). The following items describe our understanding of traffic on Project roads based on the ODOT Traffic Monitoring Management System[1].

- The 2021 annual average daily traffic (AADT) for US highways (US) within the Project was 40,668 vehicles with 13 percent truck traffic.
- The 2021 annual average daily traffic (AADT) for state routes (SR) within the Project was 1,761 vehicles with 30 percent truck traffic.
- The 2019 AADT for CR roads within the Project was 25 to 303 vehicles.
- Truck traffic volumes were not available for county roads (CR) within the Project. Therefore, we have assumed a minimum AADT of 126 and 12 percent truck traffic for these Project roads.

3.3 Anticipated traffic due to construction

Barr provided a site layout plan dated 7/11/22 and truck traffic counts in e-mail correspondence as recent as 8/4/22. The provided plans and traffic counts describe the haul routes and estimated truck traffic required to construct the site and install solar panels at the Project. Important items regarding traffic and planning are as follows.

- We understand that delivery plans include optional routes for hauling construction materials along the public roads, as material deliveries for Project construction were not final as of the issuance date of this report.
- All materials deliveries for Project construction will originate from US-71 and/or SR-56.
- We assume (based on routing of transformers and the site layout plan) that the proposed substation is located south of CR-85 between CR-9 and CR-84.
- Unloaded trucks are assumed to exit the Project site along the same route used for entry.

We have assumed that Barr used the delivery flow plan (Figure 1) to estimate the cumulative equivalent single axle load (ESAL) applications due to construction-related traffic. Figure 1 (“Delivery Flow Plans”), Figure 2 (“Haul ESALs”), and Tables 1-2, appended to this report, summarize our understanding of the site layout plan and delivery routes based on the documents provided by Barr. The following items summarize the calculations and information in the appended Tables 1-2.

- Table 1 (“Cumulative Truck Counts”) outlines the cumulative truck counts per road section necessary to haul the required materials and equipment to construct the project. Unloaded trucks are not considered in the hauling equipment requirements because the Project will require two-way traffic and our analysis presumes the loaded truck route.
- Table 2 (“Truck ESAL Factor and Cumulative ESALs”) provides the ESAL calculations per Project road section based on information provided by Barr. We assume that calculations consider routes and directions when estimating haul traffic loads.

The Project construction traffic information is an integral part of our engineering review. It is important that you contact AET if (A) there are changes to Project features affecting the delivery flow plans or (B)

[1] Ohio Department of Transportation (2022). Traffic Monitoring Management System. Available from https://odot.public.ms2soft.com/tcds/tsearch.asp?loc=odott.com)

you have concerns about the traffic volume estimates based on the delivery flow plans. Either case may warrant modifications to the recommendations for pre-construction road improvements.

4.0 SUBSURFACE EXPLORATION, ROAD TESTING, AND RESULTS

To facilitate testing, condition rating, and analysis, AET allocated the Project roads (totaling 20.6 centerline miles) into 17 sections according to road type, road condition, and anticipated construction traffic. Tests and test results on Project roads are described in the subsections below and summarized in the appended Table 1. We encountered roads surfaced with a combination of seal treatments and bituminous wearing course, or "bituminous pavement" (BP). Our classification of the road sections follows basic pavement engineering principles to help us organize field/lab activities, analysis, and evaluation. These general classifications are not intended to conflict with or replace state agency road classifications, which rely on as-built information, road histories, agency material classifications, and other matters whose review are beyond the scope described in Section 2.

4.1 Subsurface conditions

Our analysis of 39 soil borings – taken to a depth of approximately 4-feet – determined that the materials in the upper subgrade zone on selected Project roads were predominately lean clays meeting the A-6 or A-7-6 soil classifications according to methods established by the Association of State Highway and Transportation Officials (AASHTO).

4.2 Surface course thickness (ground penetrating radar)

AET performed GPR testing on approximately 40.6 lane miles of Project roads on 6/14/2022. Our analysis of collected GPR data resulted in estimated thickness of layers in the selected Project road sections. We summarize this information using a 15th-percentile value, which is a statistical measure that represents the thickness value that is exceeded by 85 percent of sampled thickness data for a given section.

- The thickness of composite paved surfacing ranged from 1.4 to 2.5 inches.
- The thickness of composite base (deteriorated pavement and aggregate base) ranged from 7.8 to 15.9 inches.

The intact pavements on roads overlaid severely deteriorated, preexisting bituminous pavements. Our GPR analysis attempted to distinguish the intact pavement from a layer consisting of the underlying deteriorated pavement and aggregate base

4.3 Pavement strength (falling weight deflectometer)

Deflection testing was performed on 20.3 centerline miles of Project roads on 6/14 and 6/15/22, using a Dynatest 8002 falling weight deflectometer (FWD). Locations of FWD tests are indicated in Figure 1. Collected FWD data – along with information described in the sections above – are used to estimate the elastic stiffness of pavement layers using backcalculation analysis according to the method in the AASHTO *Guide for Design of Pavement Structures* (1993). This method also accounts for allowable

axle loads for a roadway. Our backcalculation results were used to estimate the effective subgrade resilient modulus (MR), the AASHTO structural number (SN), and structural capacity of all Project roads. As with GPR-based thickness analysis results, the results of backcalculation analysis of collected Project FWD data are summarized below (and in Table 1) using 15th-percentile values.

- The subgrade MR for all sections ranged from 2.8 to 5.0 ksi.
- The SN value for all sections ranged from 1.2 to 2.4 inches.
- The axle load capacity rating of all sections ranged from 5.4 to 10+ tons/axle

4.4 Road condition

We used DVL data to perform road condition ratings in general accordance with ASTM D6433. This procedure results in a pavement condition index (PCI) that describes road condition on a scale of 0 to 100, where the index corresponds to qualitative descriptions of pavement condition: “Good” 70-100; “Fair” 55-69; “Poor” 40-54; “Very Poor” 25-39; “Serious” 10-24; and “Failed” 0-9. We rated the sections an average PCI of 53 (“Poor”). The predominant distresses encountered were longitudinal/transverse and edge cracking.

5.0 RECOMMENDED ROAD IMPROVEMENTS

Barr selected all seventeen (17) evaluated sections to be used as haul roads in the most recent construction delivery flow plans provided to AET.

- All recommended structural improvements are based on our analysis using the AASHTO *Guide for Design of Pavement Structures* (1993). Our recommendations assume 15th-percentile estimates of layer thicknesses and reliability levels of 85 percent.
- Information regarding risk management and proper use of this evaluation is given in Appendix A, “Geotechnical Report Limitations and Guidelines for Use.”
- In addition to structural improvements, we also recommend that all sections receive regular maintenance during and after construction. AET recommends that both pre-construction improvements and intra-construction maintenance strategies are implemented, otherwise additional costs may be incurred to repair roadways after construction.

Our recommendations for pre-construction improvements to the seventeen (17) selected sections are summarized in Table 3. Figure 3, appended to this report, provides additional details on recommendations by section.

5.1 Anticipated traffic loads and haul routes

Figure 2 indicates the anticipated construction traffic (in Haul ESALs) for each section evaluated. Table 3 reports the proportion of Haul ESALs to 20-year Design ESALs for each section. AET has adopted Barr estimates of Haul ESALs by section (Figure 1). The Haul-to-Design ESALs estimate is expressed as a percentage. When it exceeds 100 percent for a given section, it is reasonable to expect that haul ESALs will contribute to accelerated damage in that section.

5.2 Recommended improvements to Project roads

Project road sections should be improved prior to project delivery according to the recommendations of Table 3. Those recommendations are summarized below.

- Four (4) sections do not require structural improvements or immediate repair to bear planned haul traffic.
- Eight (8) sections, totaling 7.5 miles, should be repaired before construction traffic to improve their ability to bear haul trucks and reduce the potential for safety hazards during construction hauling.
- Three (3) sections, totaling 2.8 miles, should be improved with a single chip seal.
- Two (2) sections, totaling 4.9 miles, should be improved with a 2-inch bituminous overlay. Prior to being overlaid, distressed portions of the sections should be repaired to avoid premature failures in the new overlay under haul traffic.

In addition to the improvements recommended above, all sections should be monitored and maintained regularly during construction to minimize later post-construction repair/rehabilitation needs.

5.3 Special engineering concerns for road improvement

As noted above, the sections will require regular maintenance, emergency repairs, and/or appropriate construction timing to function adequately as haul roads. These concepts are described in the paragraphs below.

Local improvements and immediate repairs on paved roads. During construction traffic, the responsible party may elect to repair distressed portions of sections to improve their function as haul roads and reduce the potential for safety hazards during hauling. Smaller repairs may include shallow surface patching of minor rutting or alligator cracking or routing and filing to arrest high severity cracking. Larger repairs should consist of patching potholes and rutting and/or milling/patching of widespread alligator cracking. In extreme cases, full-depth repair (both the aggregate base and surfacing) may be required.

Single chip seal on paved roads. Single chip seal improvements should be performed in accordance with construction and materials specifications as outlined in Section 552 of the ODOT *Pavement Design Manual*, published January 1, 2022.

Bituminous overlay on paved roads. Locally distressed portions of the pavement should be repaired prior to overlay. Bituminous overlay improvements should meet ODOT requirements for an asphalt overlay. For more information on overlay improvements, please consult Section 400 of ODOT's *Pavement Design Manual (*published January 1, 2022) regarding materials and observe state/local pavement rehabilitation methods for overlay construction.

Construction timing and maintenance. If possible, plan hauling to avoid the early spring and otherwise saturated conditions (1 to 2 days following heavy rain events that result in standing water on the road surface for more than 24 hours). If hauling occurs during prolonged wet periods, or in the fall during the

harvest period when farm hauling, the pavement may experience additional damage that warrants intra-construction maintenance.

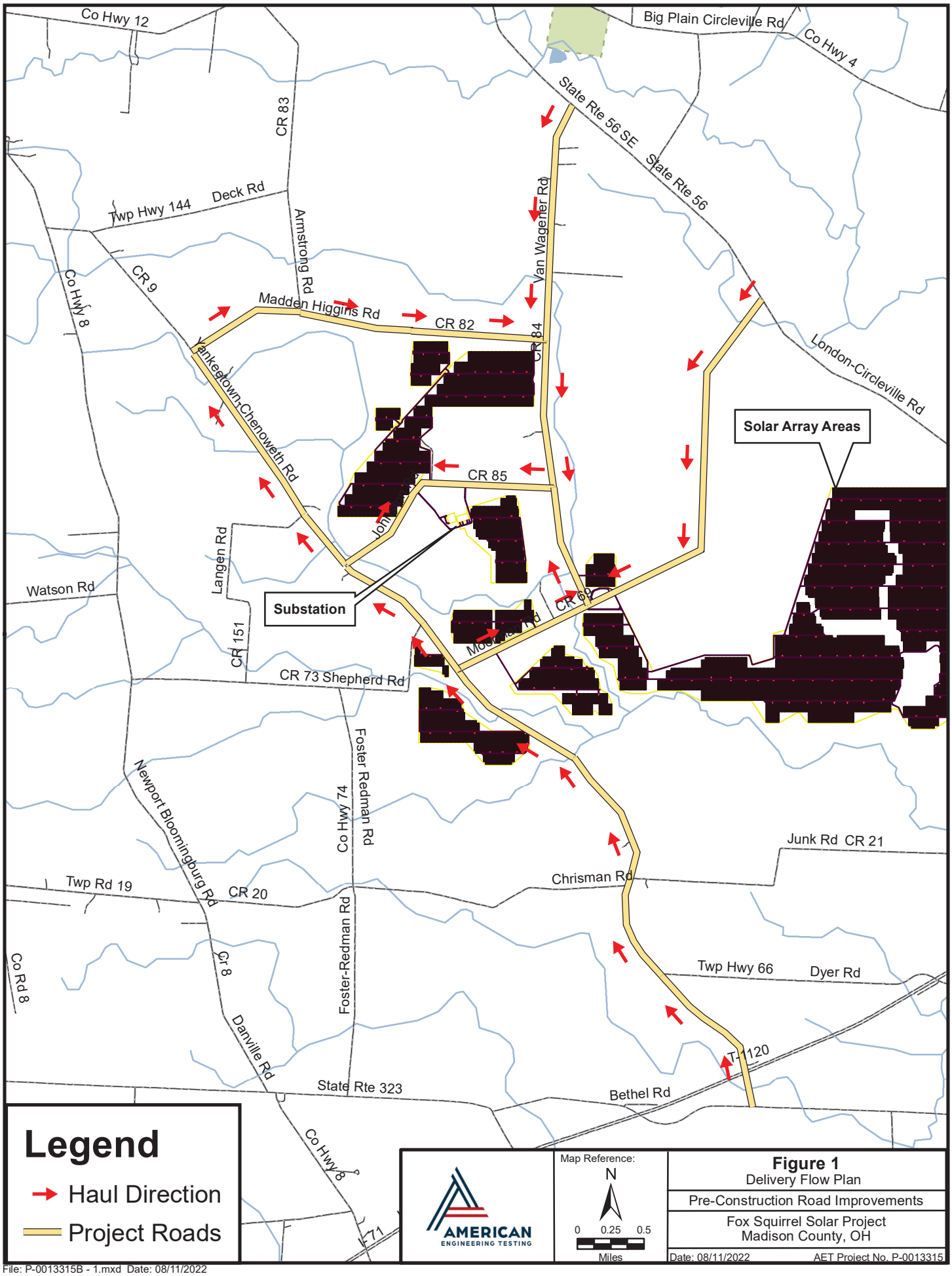
6.0 TEST STANDARDS

When we refer to a test standard (e.g., ASTM, AASHTO) in this report, we mean that our services were performed in general accordance with that standard. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

7.0 LIMITATIONS

Within the limitations of scope, budget, and schedule, we have endeavored to provide our services according to generally accepted geotechnical engineering practices at present time and this location. Other than this, no warranty, express or implied, is intended. Important information regarding risk management and proper use of this report is given in Appendix A, “Geotechnical Report Limitations and Guidelines for Use.”

Figures and Tables



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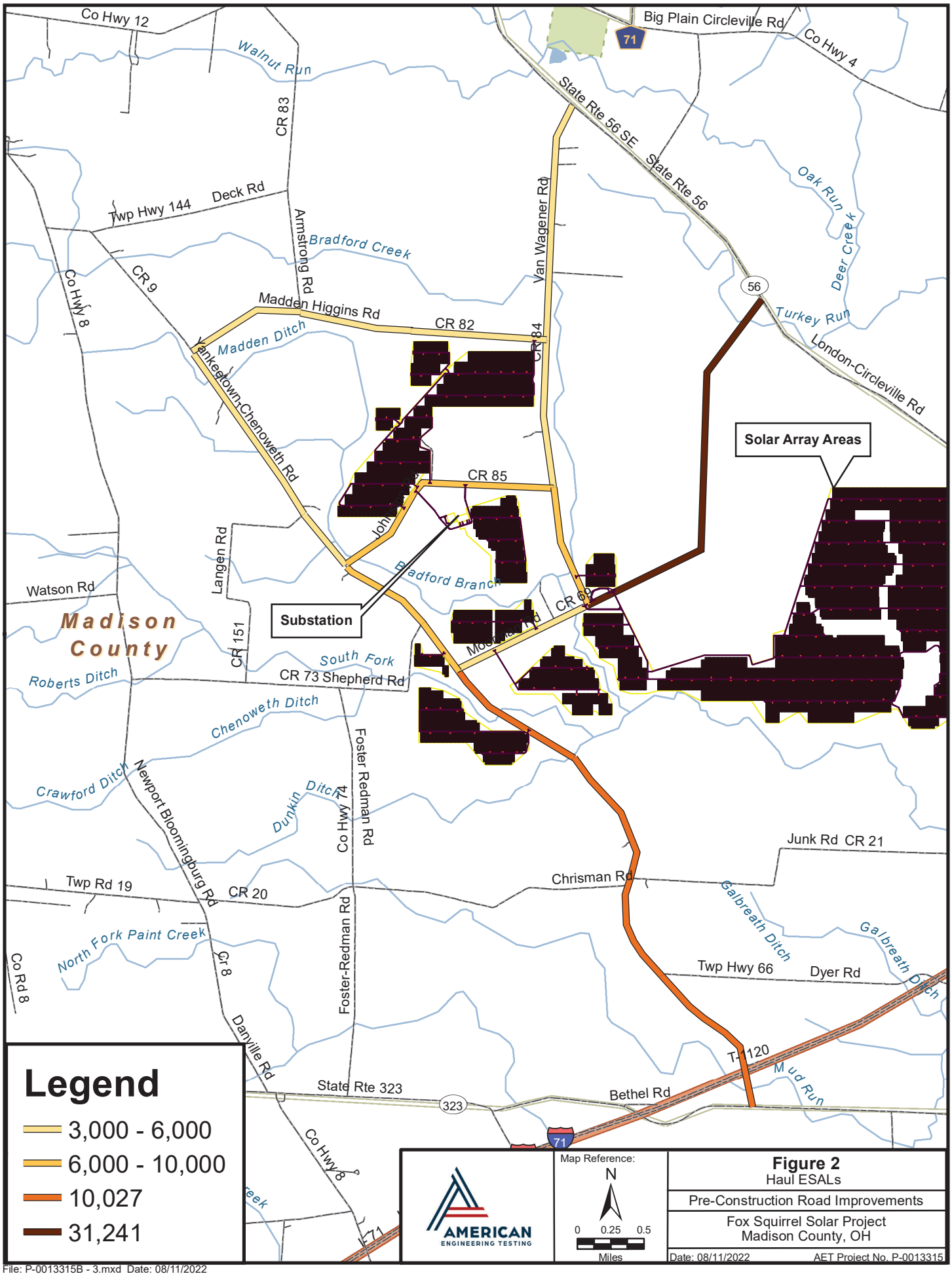
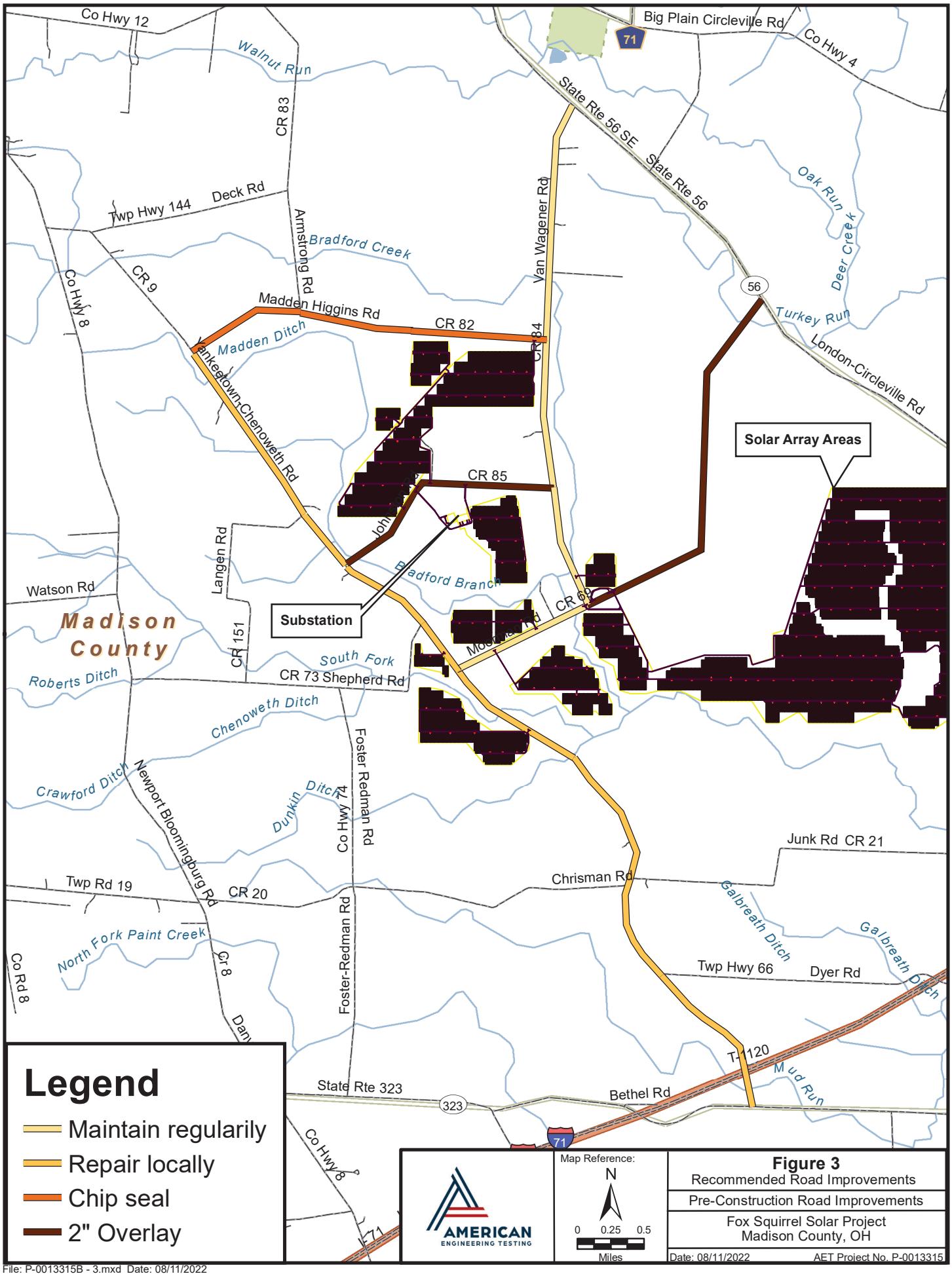


File: P-0013315B - 3.mxd Date: 08/11/2022



File: P-0013315B - 3.mxd Date: 08/11/2022

Access Road	AET Report ID	ROAD	BETWEEN ROADS		EQUIPMENT	CONCRETE	STEEL	AGGREGATE	WATER	TRANSFORMER	MISCELLANEOUS	TOTAL
North Access	S01	Ute Rd	I-15	2.23 mi E	1,891	61	427	4,359	2,132	2	305	9,177
South Access	S02A	Valley of Fire Rd	I-15	0.5 mi S	1,891	61	427	4,359	2,132	2	305	9,177
South Access	S02B	Valley of Fire Rd	0.34 mi N	South Access	1,891	61	427	4,359	2,132	2	305	9,177
South Access	S03A	South Access	Valley of Fire Rd	0.26 mi E	1,891	61	427	4,359	2,132	2	305	9,177
South Access	S03B	South Access Rd	1.96 mi W	Gate	1,891	61	427	4,359	2,132	2	305	9,177
South Access	S04	Landfill Access Rd	Gate	1.16 mi N	1,891	61	427	4,359	2,132	2	305	9,177

MODULES AND RACKING SYSTEM	WATER TRUCK 2000 GALLONS
CONCRETE TRUCK 10 CY LOAD	TRANSFORMER DELIVERIES
FLAT BED TRUCK 22 TON LOAD	MISCELLANEOUS DELIVERIES
DUMP TRUCK 10 CY	TOTAL

AMERICAN ENGINEERING TESTING

Table 1
Cumulative Truck Counts

Pre-Construction Road Improvements

Chuckwalla Solar Project
Clark County, Nevada

Date: 05/05/2022 AET Project No. P-0010023

File: P-0010023T - 1.mxd Date: 05/05/2022

	EQUIPMENT	CONCRETE	STEEL	AGGREGATE	WATER	TRANSFORMER	MISCELLANEOUS
ESAL Factor	2.4	2.1	2.4	2.1	1.3	55.0	2.4

NUMBER OF ESALs BY DELIVERY ITEM												
Access Road	**AET Report ID**	**ROAD**	**BETWEEN ROADS**		EQUIPMENT	CONCRETE	STEEL	AGGREGATE	WATER	TRANSFORMER	MISCELLANEOUS	TOTAL
North Access	S01	Ute Rd	I-15	2.23 mi E	4,595	129	1,038	9,197	2,814	110	741	18,624
South Access	S02A	Valley of Fire R	I-15	0.5 mi S	4,595	129	1,038	9,197	2,814	110	741	18,624
South Access	S02B	Valley of Fire R	0.34 mi N	South Access	4,595	129	1,038	9,197	2,814	110	741	18,624
South Access	S03A	South Access	Valley of Fire Rd	0.26 mi E	4,595	129	1,038	9,197	2,814	110	741	18,624
South Access	S03B	South Access Rd	1.96 mi W	Gate	4,595	129	1,038	9,197	2,814	110	741	18,624
South Access	S04	andfill Access R	Gate	1.16 mi N	4,595	129	1,038	9,197	2,814	110	741	18,624

AMERICAN ENGINEERING TESTING

Table 2
Truck ESAL Factor and Cumulative ESALs
Pre-Construction Road Improvements
Chuckwalla Solar Project
Clark County, Nevada
Date: 05/05/2022 AET Project No. P-0010023

File: P-0010023T - 2.mxd Date: 05/05/2022

Section ID	Road	From	To	Length (mi)	Type	PCI	Surface Thickness (in)^	Base Thickness (in)^	Ton Rating (ton/axle)^	Haul-to-Design ESALs	Upgrades*
S01	CR 9	SR 323	Dyer Rd	1.3	BP	41	2.4	12.0	10+	14%	R
S02	CR 9	Dyer Rd	CR 21	0.8	BP	43	2.2	12.6	10+	14%	R
S03	CR 9	CR 21	1.1 mi N	1.1	BP	38	2.5	12.1	10+	14%	R
S04	CR 9	1.1 mi S	CR 69	1.2	BP	41	1.8	12.8	10+	14%	R
S05	CR 9	CR 69	CR 73	0.4	BP	39	2.5	11.2	10+	10%	R
S06	CR 9	CR 73	CR 85	0.7	BP	40	1.7	12.3	10+	10%	R
S07	CR 9	CR 85	CR 151	0.5	BP	37	1.6	13.0	10+	8%	R
S08	CR 9	CR 151	CR 82	1.5	BP	37	1.5	13.8	10+	8%	R
S09	CR 84	CR 69	CR 85	0.9	BP	69	1.7	9.2	7.6	18%	N
S10	CR 84	CR 85	CR 82	1.1	BP	68	1.6	14.2	8.5	10%	N
S11	CR 84	CR 82	SR 56	1.8	BP	68	1.4	15.9	7.4	5%	N
S12	CR 69	CR 9	CR 84	1.1	BP	63	2.3	10.2	7.0	9%	N
S13	CR 69	CR 84	SR 56	3.0	BP	52	2.1	11.9	7.7	69%	OL
S14	CR 85	CR 9	CR 84	1.9	BP	53	1.7	9.6	5.8	22%	OL
S15	CR 82	CR 9	CR 83	0.9	BP	67	2.1	8.2	5.4	13%	CS
S16	CR 82	CR 83	0.85 mi E	0.9	BP	72	1.9	7.8	7.4	13%	CS
S17	CR 82	1.0 mi W	CR 84	1.0	BP	73	1.9	9.4	5.8	13%	CS

^ 15th Percentile Values

** N - No improvements or immediate repairs required; R - Repair locally prior to construction; OL - 2" Hot-mix asphalt overlay; CS - Chip seal; All Project roads should be regularly monitored and maintained during construction*

AMERICAN ENGINEERING TESTING

Table 3

Recommended road improvements

Pre-construction Road Improvements

Fox Squirrel Solar Project

Madison County, OH

Date: 08/15/2022 AET Project P-0013315

Appendix A

Geotechnical Report Limitations and Guidelines for Use

Appendix A
Geotechnical Report Limitations and Guidelines for Use
Report No. P-0013315B

A.1 REFERENCE

This appendix provides information to help you manage your risks relating to subsurface problems which are caused by construction delays, cost overruns, claims, and disputes. This information was developed and provided by GBA[1], of which, we are a member firm.

A.2 RISK MANAGEMENT INFORMATION

A.2.1 Geotechnical Services are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. And no one, not even you, should apply the report for any purpose or project except the one originally contemplated.

A.2.2 Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A.2.3 A Geotechnical Engineering Report is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a few unique, project-specific factors when establishing the scope of a study. Typically, factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a rule, always inform your geotechnical engineer of project changes, even minor ones, and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

A.2.4 Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

1 Geoprofessional Business Association, 15800 Crabbs Branch Way, Suite 300, Rockville, MD 20855
Telephone: 301/565-2733: www.geoprofessional.org

A.2.5 Most Geotechnical Findings Are Professional Opinions
Site exploration identified subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A.2.6 A Geotechnical Engineering Report Is Subject to Misinterpretation
Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

A.2.7 Do Not Redraw the Engineer's Logs
Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognizes that separating logs from the report can elevate risk.

A.2.8 Give Contractors a Complete Report and Guidance
Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In the letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors having sufficient time to perform additional study. Only then might you be able to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

A.2.9 Read Responsibility Provisions Closely
Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their report. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

A.2.10 Geoenvironmental Concerns Are Not Covered
The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.

Fox Squirrel Solar, LLC
Case No. 20-931-EL-BGN
Case No. 21-1031-EL-BGA

Attachment 5
Driveway Permits

DICKINSON WRIGHT PLLC

From: Levin Hutson <Levin.Hutson@madison.oh.gov>
Sent: Thursday, August 4, 2022 4:18 PM
To: Carter Kasuske; Dominic Nelson
Cc: Bryan Dhume; oakrunfo@gmail.com
Subject: Driveway Permits
Attachments: Blattner Energy 08042022 B.pdf; Blattner Energy 08042022 C.pdf; Blattner Energy 08042022 E.pdf; Blattner Energy 08042022 - G.pdf

---

8/4/22

Carter Kasuke
Blattner Energy
392 County Road 50
Avon MN 56301

Carter,

Please find attached copies of 4 driveway permits on Moorman Rd. for the Fox Squirrel Solar project. Please contact me if you or your contractor have any questions, or if I can be of any assistance.

Levin Hutson
Utilites and Permits Coordinator
Madison County Engineers Office

825 US 42 NE
London, OH 43140
740-852-9404 (office)
614-623-6563 (cell)
Levin.Hutson@madison.oh.gov

Office Hours:
APRIL THRU OCTOBER (SUMMER HOURS)
Monday through Thursday 7:00 A.M. to 5:00 P.M.
CLOSED Friday

NOVEMBER THRU MARCH (WINTER HOURS)
Monday through Friday 7:30 A.M. to 3:30 P.M.

Print Form

Madison County Engineer's Office
Driveway Permit Form

825 US 42 NE,
London, Ohio 43140
(740)852-9404

Permit Number: 08042022 - B

Name	Blattner Energy
Date	8/4/22
Address	392 County Road. 50
City	Avon
State	MN
Zip Code	56310
Phone Number	+1 (320) 241-8322
email	ckasuske@blattnerenergy.com

Location	North side of Moorman Rd. , 215' East of Van -Wagoner Rd.
Driveway Type	Business
Driveway Type 2	New
Recommended Tile Size	-0-
Pre-Construction Date	8/4/22
Inspection Date	
Pre-Construction Inspector	Levin Hutson

Call to schedule inspection 2 days prior to installation

Required Materials	No pipe is required at this location. Excavate the berm, shoulder, and road ditch a minimum of 12 inches deep from the edge of the pavement, the full width of the driveway, radioused in as per plan to the right of Way line, backfill with min. of 10" compacted #2 stone topped with crushed stone or crushed gravel of choice
Post-Construction Date	
Post-Construction Inspector	

☐ PASSED ☐ FAILED

You must call "OUPS" one call service 2 work days prior to any work in the R.O.W.

Comments	Note* Appropriate advanced warning of the "Road Edge Dropoff" is to be posted to inform the public of the hazard during this constructoin

Print Form

Madison County Engineer's Office
Driveway Permit Form

825 US 42 NE,
London, Ohio 43140
(740)852-9404

Permit Number: 08042022 - C

Name	Blattner Energy
Date	8/4/22
Address	392 County Rd. 50
City	Avon
State	MN
Zip Code	56310
Phone Number	+1 (320) 241-8322
email	ckasuske@blattnerenergy.com

Location	South side of Moorman Rd., 100' West of Van-Wagoner Rd.
Driveway Type	Business
Driveway Type 2	New
Recommended Tile Size	12" X 128'
Pre-Construction Date	8/4/22
Inspection Date	
Pre-Construction Inspector	Levin Hutson

Call to schedule inspection 2 days prior to installation

Required Materials	Excavate the berm and shoulder a minimum of 12 inches deep by 130' wide, radioused in as per plan submitted, to the Right of Way line. Install 128' of 12" reinforced concrete pipe, installed at an elevation to accept surface water into the east end, with the flowline on grade to flow west. Backfill excavated area using a minimum of 10" # 2 stone, topped with crushed stone or crushed gravel of choice
Post-Construction Date	
Post-Construction Inspector	

☐ PASSED ☐ FAILED

You must call "OUPS" one call service 2 work days prior to any work in the R.O.W.

Comments	Note* Appropriate advanced warning of the "Road Edge Dropoff" is to be posted to inform the public of the hazard during this construction.

Print Form

Madison County Engineer's Office
Driveway Permit Form

825 US 42 NE,
London, Ohio 43140
(740)852-9404

Permit Number: 08042022 - E

Name	Blattner Energy
Date	8/4/22
Address	392 County Road 50
City	Avon
State	MN
Zip Code	56310
Phone Number	+1 (320) 241-8322
email	ckasuske@blattnerenergy.com
Location	South side of Moorman rd. 1140' East of Van - Wagoner Rd.
Driveway Type	Business
Driveway Type 2	New
Recommended Tile Size	12" X 130'
Pre-Construction Date	8/4/22
Inspection Date	
Pre-Construction Inspector	Levin Hutson

Call to schedule inspection 2 days prior to installation

Required Materials	Excavate berm and shoulder a minimum of 12 inches deep 130' wide, radioused in at the Right of way line as per plan submitted. Install 130' of 12" N-12 Doublewall plastic tile, set to flow water to the west. Backfill driveway using min. 10" of #2 stone covered with crushed stone or crushed gravel of choice.
Post-Construction Date	
Post-Construction Inspector	

☐ PASSED ☐ FAILED

You must call "OUPS" one call service 2 work days prior to any work in the R.O.W.

Comments	Note* 128' of 12" Reinforced Concrete Pipe may be substituted for the N-12 plastic tile if desired. Note* #2 Appropriate advanced warning of the "Road Edge Dropoff" is to be posted to inform the public of the hazard during this construction.

Print Form

Madison County Engineer's Office
Driveway Permit Form

825 US 42 NE,
London, Ohio 43140
(740)852-9404

Permit Number: 08042022 - G

Name	Blattner Energy	Date	8/4/22
Address	392 County Road 50		
City	Avon	State: MN	Zip Code: 56301
Phone Number	+1 (320) 241-8322		
email	ckasuske@blattnerenergy.com		

Location	North side of Moorman Rd. 1141' East of Van-Wagoner Rd.				
Driveway Type	Business	Driveway Type 2	New	Recommended Tile Size	12" X 130'
Pre-Construction Date	8/4/2022	Inspection Date		Pre-Construction Inspector	Levin Hutson

Call to schedule inspection 2 days prior to installation

Required Materials:
Excavate berm and shoulder a minimum of 12 inches deep 130' wide, radioused in at the Right of Way line as per plan submitted.
Install 130' of N-12 Doublewall plastic tile, set to flow water to the west. Backfill driveway using min. 10" of #2 stone covered with crushed stone or crushed gravel of choice

Post-Construction Date		Post-Construction Inspector	

☐ PASSED ☐ FAILED

You must call "OUPS" one call service 2 work days prior to any work in the R.O.W.

Comments:
Note* 128' of 12" Reinforced Concrete Pipe may be substituted for the N-12 plastic tile if desired.

Note #2 Appropriate advanced warning of the "Road Edge Dropoff" is to be posted to inform the public of the hazard during this construction

Tim Burgener

From: Levin Hutson <Levin.Hutson@madison.oh.gov>
Sent: Wednesday, September 14, 2022 5:07 PM
To: Carter Kasuske; david.warner@edf-re.com; Dominic Nelson
Cc: Charles Duvall; Rob Slane; Bryan Dhume
Subject: Substation driveway permit
Attachments: Blattner Energy 09142022 B.pdf

9/14/22
Carter Kasuske,
Dominic Nelson,
David Warner

Gentlemen,

As per the direction of the board of County Commissioners, 9/13/22
Please find attached a copy of the "Temporary" permit # 09142022 – B, allowing the installation of the driveway for the power substation on Johnston Rd.

The Commissioners authorized two on Johnson Rd., however I am not sure which of the other driveways on Johnson Rd. you would prefer to have the second temporary permit for.

I should be able to issue the second permit tomorrow after confirming its location.

Levin Hutson
Utilites and Permits Coordinator
Madison County Engineers Office

825 US 42 NE
London, OH 43140
740-852-9404 (office)
614-623-6563 (cell)
Levin.Hutson@madison.oh.gov

Office Hours:
APRIL THRU OCTOBER (SUMMER HOURS)
Monday through Thursday 7:00 A.M. to 5:00 P.M.
CLOSED Friday

NOVEMBER THRU MARCH (WINTER HOURS)
Monday through Friday 7:30 A.M. to 3:30 P.M.

Print Form

Madison County Engineer's Office
Driveway Permit Form

825 US 42 NE,
London, Ohio 43140
(740)852-9404

Permit Number: 09142022 - B

Name	Blattner Energy
Date	9/14/22
Address	392 County Road 50
City	Avon
State	MN
Zip Code	56310
Phone Number	+1 (320) 241-8322
email	ckasuske@blattnerenergy.com

Location	South side of Johnston Rd. approximately 1200' West of address 3700 Johnston Rd.
Driveway Type	Business
Driveway Type 2	New
Recommended Tile Size	24" X 100'
Pre-Construction Date	9/14/22
Inspection Date	
Pre-Construction Inspector	Levin Hutson

Call to schedule inspection 2 days prior to installation

Required Materials	Excavate 12" deep, by 100' wide at the edge of the pavement radioused in at or beyond the R O W line . Install 100 feet of 24" N-12 Double Wall Plastic tile, on grade to run water to the East. Back fill with #2 stone as required, topped with crushed stone of choice.
Post-Construction Date	
Post-Construction Inspector	

☐ PASSED ☐ FAILED

You must call "OUPS" one call service 2 work days prior to any work in the R.O.W.

Comments	TEMPERARY PERMIT , FOR CONSTRUCTION OF SUBSTATION DRIVEWAY Note * Appropriate advanced warning of the "road Edge Dropoff" is to be posted to inform the public of the hazard during this construction.

Tim Burgener

From: Levin Hutson <Levin.Hutson@madison.oh.gov>
Sent: Thursday, September 15, 2022 2:25 PM
To: Carter Kasuske; david.warner@edf-re.com; Dominic Nelson
Cc: Charles Duvall; Rob Slane; Bryan Dhume
Subject: Substation Driveway permit
Attachments: Blattner Energy 09152022 D.pdf

9/15/22

Carter kasuske,
Dominic Nelson,
David Warner,

Gentlemen,
As per the direction of the board of County Commissioners, 9/13/22
Please find attached a copy of the "Temporary" permit # 09152022 - D, allowing the installation of a secondary driveway for the power substation on Johnston Rd. West - South/West from the primary substation driveway.

Levin Hutson
Utilites and Permits Coordinator
Madison County Engineers Office

825 US 42 NE
London, OH 43140
740-852-9404 (office)
614-623-6563 (cell)
Levin.Hutson@madison.oh.gov

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CLOSED Friday

NOVEMBER THRU MARCH (WINTER HOURS)
Monday through Friday 7:30 A.M. to 3:30 P.M.

Print Form

Madison County Engineer's Office
Driveway Permit Form

825 US 42 NE,
London, Ohio 43140
(740)852-9404

Permit Number: 09152022 - D

Name	Blattner Energy	Date	9/15/22
Address	392 County Rd. 50		
City	Avon	State: MN	Zip Code: 56310
Phone Number	+1 (320) 241-8322		
email	ckasuske@blattnerenergy.com		

Location: S/E side of Johnston Rd., across the road and 700' +/- W, S/W from address 3220 Johnston Rd.

Driveway Type	Business	Driveway Type 2	New	Recommended Tile Size	80' X15"
Pre-Construction Date	9/14/22	Inspection Date		Pre-Construction Inspector	Levin Hutson

Call to schedule inspection 2 days prior to installation

Required Materials:
Excavate 12" deep, by 80' wide at the edge of the pavement, radioused in to desired width at or beyond the ROW line.
Install 80' of 15" reinforced concrete pipe on a uniform grade to flow surface water to the North/East. Recess pipe into existing road ditch to allow for flowline at or slightly below existing ditch bottom.
Backfill using #2 stone topped with crushed stone of choice.

Post-Construction Date		Post-Construction Inspector	

☐ PASSED ☐ FAILED

You must call "OUPS" one call service 2 work days prior to any work in the R.O.W.

Comments:
TEMPERARY PERMIT , FOR CONSTRUCTION OF SECONDARY SUBSTATION DRIVEWAY

Note* Appropriate advanced warning of the "road edge dropoff " is to be posted to inform the public of the hazard during this construction

Summary: Notice - Compliance with Condition 30 and 8 – Transportation Plans and Permits electronically filed by Christine M.T. Pirik on behalf of Fox Squirrel Solar, LLC