Bridge Waterproofing Membrane

Bevens Road Bridge, Wells Township

Van Geisen Road Bridge, Denmark Township

Deckerville Road Bridge, Gilford Township

Letting Date – September 25th, 2025 8:15AM

Contractor: _____

Address: _____

_____

Sign & Print: _____

Date: _____

Phone: _____

Email: _____

- Bevens Road Bridge at East Dayton Road STR 10458

  LSUM Price $_____

- Van Geisen Road Bridge Between Bradleyville Road and Garner Road STR 10593

  LSUM Price $_____

- Deckerville Road Bridge Between Garner Road and Vassar Road STR 10593

  LSUM Price $_____

Project Completion Date: November 15th, 2025

Signed Insurance, Agreement, and ROW Permit and bid tab shall be enclosed.

Bid Submittal

Bids are to be submitted on the Road Commission forms in a plainly marked, sealed envelope. No faxed or emailed bids accepted. Plans and specifications are available online at www.tuscolaroad.org. Please contact Brent Dankert, Tuscola County Highway Engineer at 989-233-7472 or highwayengineer@tuscolaroad.org with any questions. Any addenda must be noted and initialed.

If you are interested in bidding and have downloaded plans from the website please email highwayengineer@tuscolaroad.org to be added to the plan holders list to make sure you receive addendums.

The Contractor has examined the proposal, permits, plans, and the location of the work described here in and is fully informed as to the nature of the work and the conditions relating to its performance. All work will be done in accordance with the requirements of the 2020 MDOT Standard Specifications for Construction and as modified herein.

General:

This project includes placing a waterproofing membrane at three bridge locations in Tuscola County. Contractor is allowed to work at a maximum of two locations at a time.

The project locations are as follows:

- Bevens Road at East Dayton Road over Sucker Creek
- Van Geisen Road Between Bradleyville Road and Garner Road over the Northwest Drain
- Deckerville Road Between Garner Road and Vassar Road over the Northwest Drain

This work includes all HMA surface removal, removal of existing waterproofing membrane, cleaning, application of a waterproofing membrane, and HMA paving work necessary to complete the project. The quantities on the plan sheets are estimated quantities and differing quantities will need to be discussed with the engineer before work begins.

Schedule:
Contractor shall provide the Tuscola County Road Commission 14 days advance notice prior to mobilization. Once work begins it must continue until the project is completed. All projects shall be completed by November 15th, 2005 unless otherwise approved by the Engineer. **Liquidated damages may be assessed at a rate of $100.00 per day per project location, beginning November 15th.**

Construction:
Items of Work bolded and italicized have an attached special provision

MDOT 2020 SSFC = Michigan Department of Transportation 2020 Standard Specification for Construction

Utility Coordination:

The Contractor is responsible for coordinating all utility relocations as needed. Attached is a list of the contact information for the utilities on site. **Note: Miss Dig must be contacted 72 hours prior to start of work.**

Staking and Material Testing:

The Tuscola County Road Commission will provide construction staking, inspection, and material testing on the project. The contractor shall provide 48 hours advance notice prior to facility scheduling of the work.

Material Tickets:

Material tickets for HMA shall be provided by the contractor to the Tuscola County Road Commission.

HMA Surface, Rem, Modified:

The HMA Surface shall be removed in accordance with the plan sheets, typical cross sections, the MDOT 2020 SSFC, and the *attached Special Provision*s. Additional all costs associated with removal and disposal of any existing waterproofing membrane and preparation of the surface for application of the new waterproofing membrane shall be included in the price for HMA Surface, Rem, Modified

HMA:

Includes all Hand Patching, HMA Approach and HMA, 13A. The HMA shall be placed in accordance with the plan sheets, and Section 501 of the MDOT 2020 SSFC and as modified here. Pay item includes pavement cleaning, tack coat, bag joint removal, sweeping, transportation, hauling, delivering, compaction, materials, equipment and labor for a complete installation.

Waterproofing Membrane:

The Waterproofing Membrane shall be completed in accordance with the plan sheets, typical cross sections, and Section 710 of the MDOT 2020 SSFC. All waterproofing membrane materials must be on the MDOT Qualified Products List section 914.11. Materials must be submitted and approved by the Engineer prior to any construction beginning.

Permanent and Existing Signs:

All permanent sign installation, salvage, removal shall be coordinate with and completed by the Tuscola County Road Commission.

Soil Erosion and Sedimentation Control:

The contractor is responsible for all temporary and permanent control measures such as silt fence, check dams, sediment traps, riprap, temporary slope restoration and dust control to prevent loss of soils from the road right-of-way or into the county drains. These items will not be paid for separately but shall be included in other items of work.

Maintaining Traffic:

Temporary Traffic Control required to close the roads shall be provided by and maintained by the Tuscola County Road Commission. The contractor is required to maintain the barricades to block access to the bridge on the weekends and after work is complete every night. The contractor is responsible for the project site and shall provide any additional measures needed to separate the public from the work zone.

Measurement and Payment:
These projects are quoted on a "NOT TO EXCEED" total basis for all work necessary to complete each project. Payment shall be made by the Tuscola County Road Commission upon receipt of site specific invoice. Invoice shall be accompanied by all necessary material tickets. The lump sum amount bid shall be payment in full for all labor, materials, and equipment needed to accomplish the work. All invoices must include the Tuscola County Road Commission job number.

Liability:
The Contractor shall at all times exercise extreme care and shall assume all liability for any damages resulting from his operations and shall hold the Tuscola County Road Commission harmless from any such claims or damages.

The contractor must obtain a Tuscola County Right of Way Permit before any work can begin.

The successful bidder must also furnish certificates or policies giving satisfactory evidence of insurance coverage to the minimum extent of $500,000.00 property damage and $1,000,000.00 personal liability to insure adequate payment for any damage caused by his operations.

The contractor shall, prior to the start of work, file with the Tuscola County Road Commission a certificate of Workmen's Compensation Insurance. The attached certificate of insurance is required for the successful bidder or bidders.

NON-COMPLIANCE WITH PROJECT SPECIFICATION PROVISIONS:

Any variation from the specifications of the project herein without written approval from the Tuscola County Road Commission and/or its authorized representative may result in, at the discretion of the Road Commission, the voiding and/or canceling of the acceptance of any bid and/or contract, resulting from this project.

The Board reserves the right to accept or reject any or all proposals and to re-advertise or to accept the proposal, that in their opinion, is in the best interest of Tuscola County.

Attachments:

1. Agreement
2. Bid Tab
3. Tuscola County Road Commission Maintaining Traffic
4. Title IV and VI Compliance
5. Tuscola County Right of Way Permit
6. Special Provision – HMA Surface, Rem, Modified
7. Special Provision – Acceptance of Hot Mix Asphalt Mixture on Local Agency Projects
8. Project Log
9. Asbestos Test Results

AGREEMENT

TUSCOLA COUNTY ROAD COMMISSION – 1733 S. MERTZ ROAD, CARO, MI 48723

This agreement made this _____day of_____, 20_____
by and between the Board of Tuscola County Road Commissioners and _____
_____.

1. _____hereby agrees to undertake the following work in the status of an independent contractor performing the following job:
   _____
   _____
   _____.

2. Said contractor, _____, shall at all times exercise extreme care and shall assume any and all liability for property damage or bodily injury resulting from the above operation by this employees, agents, assigns, sub-contractors and anyone else acting under his control or direction; and will indemnify, hold harmless and defend the Tuscola County Road Commission, its Commissioners or employees from any and all claims for property damage or bodily injury arising out of this Agreement.

3. Said contractor, _____, while engaged in said job shall maintain and furnish certificates of insurance, naming the Tuscola County Road Commission and Commissioners as an additional insured under the policy, with policy limits of $500,000/$1,000,000 for property damage and bodily injury, and shall furnish the Tuscola County Road Commission copies of said certificates of insurance prior to commencing any work on said project.
   Additionally, said contractor, _____, shall furnish prior to start of said job with the Board of Tuscola County Road Commissioners, a policy of insurance certifying he carries and has in effect worker's compensation insurance on all those required to be covered under Michigan law.

4. The address of the Board of Tuscola County Road Commissioners is 1733 S, Mertz Rd., Caro, MI 48723.

Witnessed:

_____ _____
Board of Tuscola County Road Commissioners

_____ _____
Contractor

Contractor bid will not be accepted unless the enclosed Agreement is Signed and Returned with you bid.

Bevens Road Bridge #10458 at East Dayton Road, over Sucker Creek
Tuscola County, MI

Item No	Quantity	Unit	Description	Unit Price	Amount
1	400	SYD	HMA Surface, Rem, Modified		
2	45	TON	HMA, 4EL		
3	303	SYD	Membrane, Preformed Waterproofing		
				Total	

Van Geisen Road Bridge #10593 East of Bradleyville Road over the Northwest Drain
Tuscola County, MI

Item No	Quantity	Unit	Description	Unit Price	Amount
1	240	SYD	HMA Surface, Rem, Modified		
2	13	TON	HMA, 4EL		
3	173	SYD	Membrane, Preformed Waterproofing		
				Total	

Deckerville Road Bridge #10594 East of Garner Road over the Northwest Drain
Tuscola County, MI

Item No	Quantity	Unit	Description	Unit Price	Amount
1	529	SYD	HMA Surface, Rem, Modified		
2	87	TON	HMA, 4EL		
3	165	SYD	Membrane, Preformed Waterproofing		
				Total	

SPECIAL PROVISION FOR
MAINTAINING TRAFFIC

TUSCOLA COUNTY ROAD COMMISSION – 1733 S. MERTZ ROAD, CARO, MI 48723

GENERAL

Traffic shall be maintained in accordance with Sections 812 and 922 of the 2020 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, including any Supplemental Specifications, and as herein specified.

CONSTRUCTION INFLUENCE AREA

The construction influence area (CIA) shall consist of the width of the project right-of-way from 3,500 feet before the project P.O.B. to 3,500 feet beyond the project P.O.E. and 500 feet in all directions along all crossroads.

TRAFFIC CONTROL DEVICES

All traffic control devices and their usage shall conform to the Michigan Manual on Uniform Traffic Control Devices (MMUTCD), 2011 edition as amended, and as herein specified.

Sign covers shall be placed over existing regulatory, warning and construction signs that are not applicable during construction.

Signing for a lane closure shall be according to attached MDOT Maintaining Traffic Typical Figure M0150a. The use of the speed limit signs, R 2-1, will be as needed.

Sheeting shall conform to section 922.02B of the 2020 Standard Specifications for Construction. Engineer grade reflective sheeting must meet the requirements for ASTM D 4956 Type I engineer grade sheeting.

TRAFFIC RESTRICTIONS

Work shall be conducted during daylight hours only. No work shall be conducted on Sundays unless approved by the Engineer.

The maximum distance between the traffic regulators shall be no more than 2 miles in length. All sequences of more than 2 miles in length will require written permission from the Engineer before proceeding.

PAYMENT

Payment for Maintaining Traffic shall be included in other Bid unit prices. There will be no separate payment for Maintaining Traffic.

Approved by Board 1/27/05 rev.1/17/07 rev.12/22/11 rev. 117/13

TUSCOLA COUNTY ROAD COMMISSION
TITLE IV COMPLIANCE
APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations: The contractor shall comply with the Regulations relative to non-discrimination in Federally-assisted programs of the Department of Transportation, Title 49, code of Federal Regulations, Part 21 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
2. Non-discrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment.
3. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulation, including employment practices when the contractor covers a program set forth in Appendix B of the Regulations.
4. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to non-discrimination on the grounds of race, color, or national origin.
5. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities us may be determined by the Tuscola County Road Commission to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses this information, the contractor shall so certify to the State high· way department, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain the information.
6. Sanctions for Non-compliance: In the event of the contractor's non-compliance with the non-discrimination provisions of this contract, the Tuscola County Road Commission Shall Impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
    a) Withholding of payments to the contractor under the contract until the contractor complies, and/or
    b) Cancellation, termination, or suspension of the contract, in whole or in part.
7. Incorporation of Provisions: The contractor shall Include the provisions of paragraphs (l) through (6) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives Issues pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Tuscola County Road Commission may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event u contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Tuscola County Road Commission to enter into such litigation to protect the interests of the County, and, in addition, the contractor may request the State highway department to enter into such litigation to protect the interests of the State and/or the United States to enter into such litigation to protect the interests of the United States.

"The TUSCOLA COUNTY ROAD COMMISSION, in accordance with Title VI of the Civil Rights Act of 1964, 78-252, 42 U.S.C. 2000d-222d-4, the Civil Rights Act of 1987, P.L. 100-259, and Title 49, Code of Federal Regulations, Department of Transportation, subtitle A, Office of the Secretary, Part 21, Non- discrimination in federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprise firms will be afforded full oppo1iunity to submit bids in response to this invitation and will not be discriminated against on the grounds of Race, Color, Sex, Age, National Origin, or Handicap in consideration for an award. For additional compliance information, please see Appendix A."

TUSCOLA COUNTY ROAD COMMISSION

Right - of - Way Permit Worksheet

Permit Fees & Proof of Insurance are required prior to review of the permit application

Date: _____

Applicant/Property Owner:

Name: _____

Address: _____

_____

Phone: _____

Email: _____

Signature: _____

Contractor:

Name: _____

Adddress: _____

_____

Phone: _____

Email: _____

Signature: _____

Project Locations:

Address: _____

Road: _____

Between: _____

And: _____

Township: _____ Section: _____

Project Description:

_____

_____

_____

_____

_____

Type of Work:

Driveway: *Commercial ☐ Residential/Farm ☐

Special Use: Utility ☐ Yard Enclosure ☐

Road Crossing: Bore ☐ Open Cut ☐

Misc.: ☐ _____

Material: *(If Known)*

**Pipe/Culvert Material: _____

Pipe/Culvert Diameter: _____

Pipe/Culvert Length: _____

***Backfill Material: _____

Reviewer's Recommendations:

_____

_____

_____

_____

Additonal Permit Standards & Policies apply, availible upon Request

Reviewer's Signature: _____

****Plastic, Concrete, or CMP (CMP may be purchased thru TCRC if placed in R-O-W)***

Flagged: _____

*****A Copy of the Certified Mechanical Analysis & the Density Report are required for material placed under roadway***

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK 1 of 7 APPR:CJB:JWB:02-26-20
FHWA:APPR:03-13-20

a. Description. This special provision provides sampling and testing requirements for local agency projects using the roller method and the nuclear density gauge testing. Provide the hot mix asphalt (HMA) mixture in accordance with the requirements of the standard specifications, except where modified herein.

b. Materials. Provide aggregates, mineral filler (if required), and asphalt binder to produce a mixture proportioned within the master gradation limits shown in the contract, and meeting the uniformity tolerance limits in Table 1.

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter			Top and Leveling Course		Base Course	
Number	Description		Range 1 (a)	Range 2	Range 1 (a)	Range 2
1	% Binder Content		-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)		Below 10%	Below 15%	Below 10%	Below 15%

a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).
b. Deviation from JMF.

Parameter number 2 as shown in Table 1 is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerance categories. If more than one sieve is exceeding Range 1 or Range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1. Aggregates which are to be used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

c. Construction. Submit a Mix Design and a JMF to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the JMF. Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For mixtures meeting the definition of top or leveling course, field regress air void content to 3.5 percent with liquid asphalt cement unless specified otherwise on HMA application estimate. For mixtures meeting the definition of base course, field regress air void content to 3.0 percent with liquid asphalt cement unless specified

otherwise on HMA application estimate.

Ensure all persons performing Quality Control (QC) and Quality Assurance (QA) HMA field sampling are "Local Agency HMA Sampling Qualified" samplers. At the pre-production or preconstruction meeting, the Engineer will determine the method of sampling to be used. Ensure all sampling is done in accordance with *MTM 313 (Sampling HMA Paving Mixtures)* or *MTM 324 (Sampling HMA Paving Mixtures Behind the Paver)*. Samples are to be taken from separate hauling loads.

For production/mainline type paving, obtain a minimum of two samples, each being 20,000 grams, each day of production, for each mix type. The Engineer will sample and maintain possession of the sample. Sampling from the paver hopper is prohibited. Each sample will be divided into two 10,000 gram parts with one part being for initial testing and the other part being held for possible dispute resolution testing. Obtain a minimum of three samples for each mix type regardless of the number of days of production.

Obtain samples that are representative of the day's paving. Sample collection is to be spaced throughout the planned tonnage. One sample will be obtained in the first half of the tonnage and the second sample will be obtained in the second half of the tonnage. If planned paving is reduced or suspended, when paving resumes, the remaining sampling must be representative of the original intended sampling timing.

Ensure all persons performing testing are Bit Level One certified or Bit QA/QC Technician certified.

Ensure daily test samples are obtained, except, if the first test results show that the HMA mixture is in specification, the Engineer has the option of not testing additional samples from that day.

At the pre-production or preconstruction meeting, the Engineer and Contractor will collectively determine the test method for measuring asphalt content (AC) using *MTM 319 (Determination of Asphalt Content from Asphalt Paving Mixtures by the Ignition Method)* or *MTM 325 (Quantitative Extraction of Bitumen from HMA Paving Mixtures)*. Back calculation will not be allowed for determining asphalt content.

Ensure all labs performing local agency acceptance testing are qualified labs per the *HMA Production Manual and the Michigan Quality Assurance Procedures Manual,* and participate in the MDOT round robin process, or they must be *AASHTO Materials Reference Laboratory* (AMRL) accredited for *AASHTO T30* or *T27*, and *AASHTO T164* or *T308*. Ensure on non-National Highway System (NHS) routes, Contractor labs are made available, and may be used, but they must be qualified labs as previously stated. Contractor labs may not be used on NHS routes. Material acceptance testing will be completed by the Engineer within 14 calendar days, except holidays and Sundays, for projects with less than 5,000 tons (plan quantity) of HMA and within 7 calendars days, except holidays and Sundays, for projects with 5,000 tons (plan quantity) or more of HMA, after the Engineer has obtained the samples. QA test results will be provided to the Contractor after the Engineer receives the QC test results. Failure on the part of the Engineer or the laboratory to provide QA test results within the specified time frame does not relieve the Contractor of their responsibility to provide an asphalt mix within specifications.

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from MTM 319. Gradation (*ASTM D5444*) and Crushed particle content *(MTM 117)* based on aggregate from *MTM 319*. The incineration temperature will be established

at the pre-production meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. Ensure this sample is provided to the Engineer a minimum of 14 calendar days prior to production.

For production/mainline type paving, the mixture may be accepted by visual inspection up to a quantity of 500 tons per mixture type, per project (not per day). For non-production type paving defined as driveways, approaches, and patching, visual inspection may be allowed regardless of the tonnage.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive refers to the production order and not necessarily the testing order. Out-of-specification mixtures are subject to a price adjustment per the Measurement and Payment section of this special provision.

Contractor operations will be suspended when the mixture is determined to be out-of-specification, but contract time will continue to run. The Engineer may issue a Notice of Non-Compliance with Contract Requirements (Form 1165), if the Contractor has not suspended operations and taken corrective action. Submit a revised JMF or proposed alterations to the plant and/or materials to achieve the JMF to the Engineer. Effects on the Aggregate Wear Index (AWI) and mix design properties will be taken into consideration. Production and placement cannot resume until receipt of the Engineer's approval to proceed.

Pavement in-place density will be measured using one of two approved methods. The method used for measuring in-place density will be agreed upon at a pre-production or preconstruction meeting.

Pavement in-place density tests will be completed by the Engineer during paving operations and prior to traffic staging changes. Pavement in-place density acceptance testing will be completed by the Engineer prior to paving of subsequent lifts and being open to traffic.

Option 1 - Direct Density Method

Use of a nuclear density gauge requires measuring the pavement density using the Gmm from the JMF for the density control target. The required in-place density of the HMA mixture must be 92.0 to 98.0 percent of the density control target. Nuclear density testing and frequency will be in accordance with the *MDOT Density Testing and Inspection Manual*.

Option 2 - Roller Method

The Engineer may use the Roller Method with a nuclear or non-nuclear density gauge to document achieving optimal density as discussed below.

Use of the density gauge requires establishing a rolling pattern that will achieve the required in-place density. The Engineer will measure pavement density with a density gauge using the Gmm from the JMF for the density control target.

Use of the Roller Method requires developing and establishing density frequency curves, and

meeting the requirements of Table 2. A density frequency curve is defined as the measurement and documentation of each pass of the finished roller until the in-place density results indicate a decrease in value. The previous recording will be deemed the optimal density. The Contractor is responsible for establishing and documenting an initial or QC rolling pattern that achieves the optimal in-place density. When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density. Table 5, located at the end of this special provision, can be used as an aid in developing the density frequency curve. The Engineer will perform density tests using an approved nuclear or non-nuclear gauge per the manufacturer's recommended procedures.

Table 2: Minimum Number of Rollers Recommended Based on Placement Rate

Average Laydown Rate, Square Yards per Hour	Number of Rollers Required (a)	
	Compaction	Finish
Less than 600	1	1 (b)
601 - 1200	1	1
1201 - 2400	2	1
2401 - 3600	3	1
3601 and More	4	1

a. Number of rollers may increase based on density frequency curve.
b. The compaction roller may be used as the finish roller also.

After placement, roll the HMA mixture as soon after placement as the roller is able to bear without undue displacement or cracking. Start rolling longitudinally at the sides of the lanes and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the drum. Ensure each required roller is 8 tons minimum in weight unless otherwise approved by the Engineer.

Ensure the initial breakdown roller is capable of vibratory compaction and is a maximum of 500 feet behind the paving operations. The maximum allowable speed of each roller is 3 miles per hour (mph) or 4.5 feet per second. Ensure all compaction rollers complete a minimum of two complete rolling cycles prior to the mat temperature cooling to 180 degrees Fahrenheit (F). Continue finish rolling until all roller marks are eliminated and no further compaction is possible. The Engineer will verify and document that the roller pattern has been adhered to. The Engineer can stop production when the roller pattern is not adhered to.

d. Measurement and Payment. The completed work, as described, will be measured and paid for using applicable pay items as described in subsection 501.04 of the Standard Specifications for Construction, or the contract, except as modified below.

Base Price. Price established by the Department to be used in calculating incentives and adjustments to pay items and shown in the contract.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt

of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The Contractors QC test results for the corresponding QA test results must result in an overall payment greater than QA test results otherwise the QA tests will not be allowed to be disputed. The Engineer has 4 calendar days to send the dispute resolution sample to the lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. Ensure the independent lab is a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract base price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 2 tolerance limits, the 10,000 gram sample part retained for possible dispute resolution testing will be sent, within 4 calendar days, to the MDOT Central Laboratory for further testing. The MDOT Central Laboratory's test results will be used to determine the penalty per mixture parameter, if any. If the MDOT Central Laboratory's results do not confirm the mixture parameter is out-of-specification, then no price adjustment is required. If the MDOT Central Laboratory's results show that the mixture is out-of-specification and the Engineer approves leaving the out-of-specification mixture in place, the contract base price for the material will be adjusted, based on all parameters, as shown in Table 3 and Table 4.

In the case that the Contractor disputes the results of the test of the second sample obtained for a particular day of production, the test turn-around time frames given would apply to the second test and there would be no time frame on the first test.

The laboratory (MDOT Central Laboratory or independent lab) will complete all Dispute Resolution testing and return test results to the Engineer, who will provide them to the Contractor, within 13 calendar days upon receiving the Dispute Resolution samples.

In all cases, when penalties are assessed, the penalty applies to each parameter, up to two parameters, that is out of specification.

Table 3: Penalty Per Parameter

Mixture Parameter out-of-Specification per Acceptance Tests	Mixture Parameter out-of-Specification per Dispute Resolution Test Lab	Price Adjustment per Parameter
No	N/A	None
Yes	No	None
	Yes	Outside Range 1 but not Range 2: decrease by 10%
		Outside Range 2: decrease by 25%

The quantity of material receiving a price adjustment is defined as the material produced from the time the first out-of-specification sample was taken until the time the sample leading to the first in-specification test was taken.

Each parameter of Table 1 is evaluated with the total price adjustment applied to the contract base price based on a sum of the two parameter penalties resulting in the highest total price adjustment as per Table 4. For example, if three parameters are out-of-specification, with two parameters outside Range 1 of Table 1 tolerance limits, but within Range 2 of Table 1 limits and one parameter outside of Range 2 of Table 1 tolerance limits and the Engineer approves leaving the mixture in place, the total price adjustment for that quantity of material is 35 percent.

Table 4: Calculating Total Price Adjustment

Cost Adjustment as a Sum of the Two Highest Parameter Penalties		
Number of Parameters Out-of-Specification	Range(s) Outside of Tolerance Limits of Table 1 per Parameter	Total Price Adjustment
One	Range 1	10%
	Range 2	25%
Two	Range 1 and Range 1	20%
	Range 1 and Range 2	35%
	Range 2 and Range 2	50%
Three	Range 1, Range 1 and Range 1	20%
	Range 1, Range 1 and Range 2	35%
	Range 1, Range 2 and Range 2	50%
	Range 2, Range 2 and Range 2	50%

Table 5: Density Frequency Curve Development

Tested by: _____ Date/Time: _____

Route/Location:		Air Temp:
Control Section/Job Number:		Weather:
Mix Type:	Tonnage:	Gauge:
Producer:	Depth:	Gmm:

Roller #1 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #2 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #3 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Summary: _____

_____

_____

_____

_____

TUSCOLA COUNTY ROAD COMMISSION
SPECIAL PROVISION
FOR
HMA SURFACE, REMOVE, MODIFIED

CON:SGI 501 1 of 1 02-12-20

a. Description. This work shall be done in accordance with the requirements of Section 501 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction and as modified herein. The work HMA Surface, Rem, Modified shall consist of removing the existing HMA surface from the bridge deck and approaches as shown on the plans and as directed by the Engineer. Also included in the item HMA Surface, Rem, Modified is the removal of any shoulder material in the proposed pavement areas and the removal of the existing waterproofing materials on the bridge deck.

b. Materials. None specified.

c. Construction. Remove the existing HMA surface according to Section 501.03C.6. Extreme care shall be taken when removing the HMA surface on the bridge deck to avoid damaging the top of the concrete box beams. The Contractor's method must not marr, scar, scarify or damage the top of the beams. If the Contractor chooses to use a cold milling machine, the Contractor may not mill the bridge deck until the Engineer is present to witness the milling operations.

If damage occurs to the tops of the beams, the cold milling must cease immediately and another method must be utilized to remove the HMA surface from the bridge deck. The Contractor must repair all damage at no cost to the project. The repair methods must be approved by the Engineer prior to proceeding.

d. Measurement and Payment. The completed work as measured for **HMA Surface, Rem, Modified** will be paid for at the contract unit price for the following pay item:

Pay Item	**Pay Unit**
HMA Surface, Rem, Modified	Square Yard

The work of **HMA Surface, Rem, Modified** includes all labor, material, and equipment necessary to accomplish this work. **HMA Surface, Rem, Modified** will be measured by area in square yards.

TUSCOLA COUNTY ROAD COMMISSION

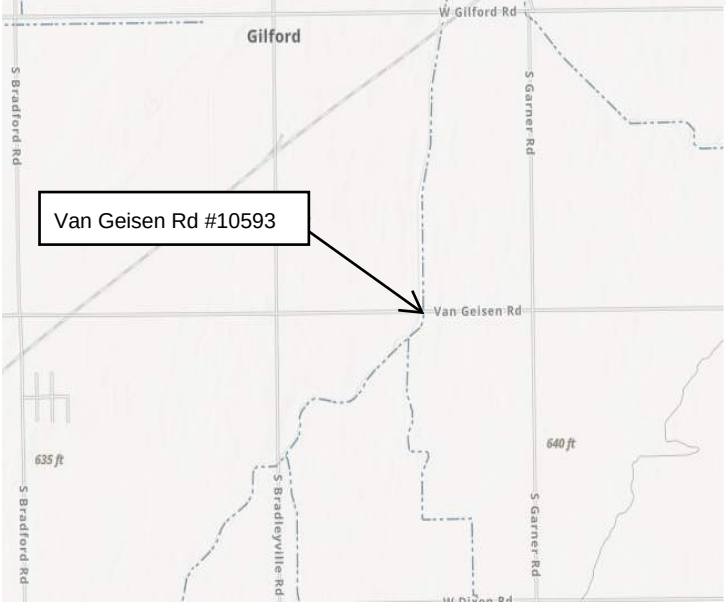
BRIDGES: BEVENS ROAD, WELLS TOWNSHIP
VAN GEISEN ROAD, DENMARK TOWNSHIP
DECKERVILLE ROAD, GILFORD TOWNSHIP

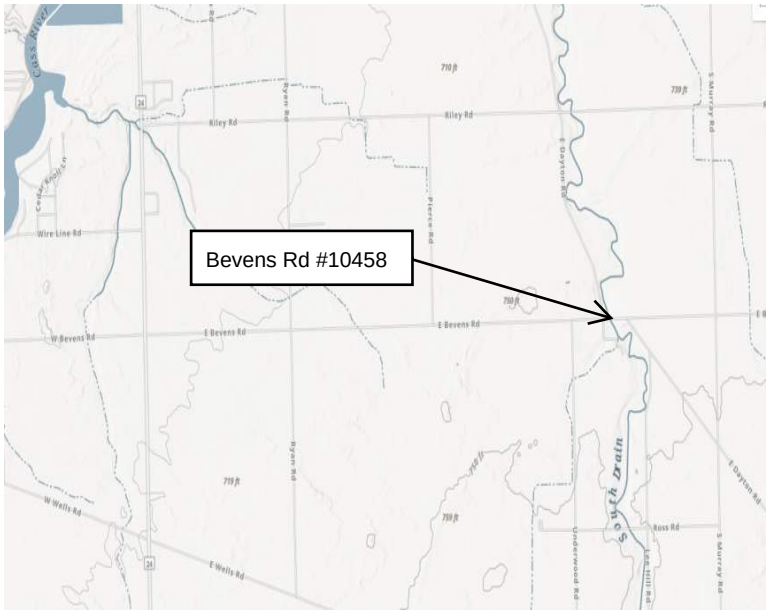
SECTION	CONTROL SEC	JOB NO.	FED AID PROJECT
2RD	79000		

COUNTY KEY

TRAFFIC DATA

ROAD	YEAR	ADT	DHV	BRIDGE #	Waterway	LIMITS
BEVENS	2016	936		10458	SUCKER CREEK	EAST DAYTON RD
VAN GEISEN	2019	183		10593	NORTHWEST DRAIN	BRADLEYVILLE RD TO GARNER RD
DECKERVILLE	n/a	n/a		10594	NORTHWEST DRAIN	GARNER RD TO VASSAR RD





THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

MILES: 2.95

CONTRACT FOR: WATERPROOFING MEMBRANE

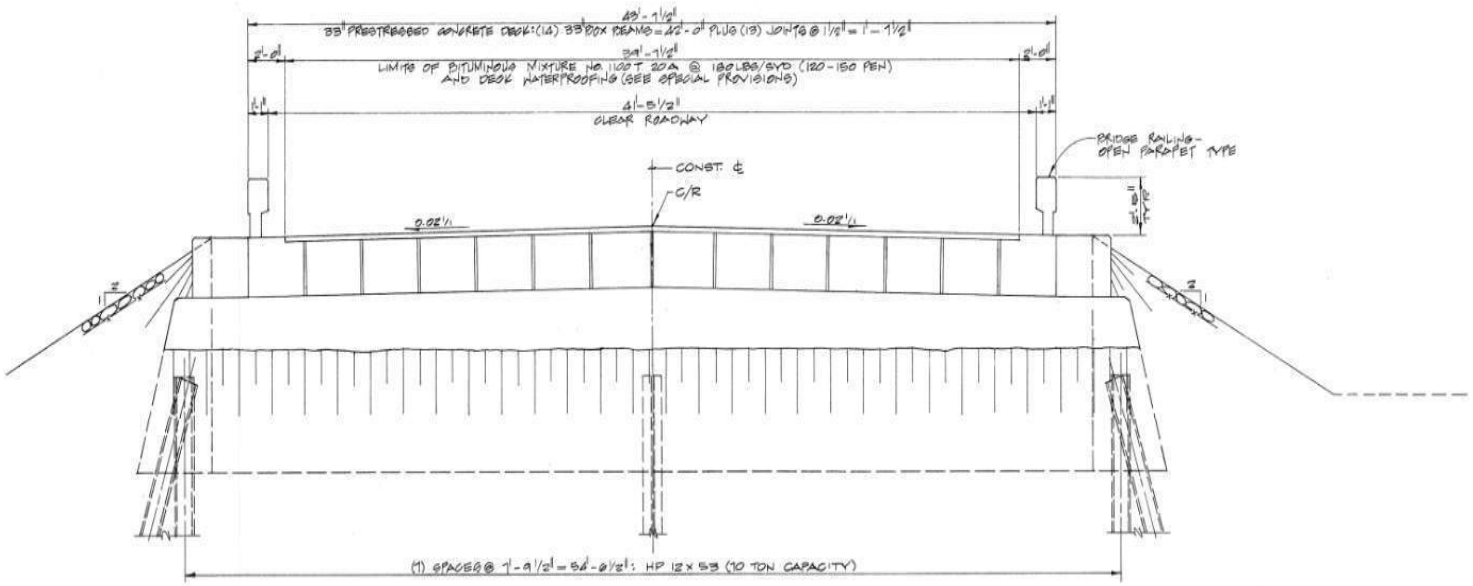
FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: WATERPROOFING MEMBRANE		SHEET
TCRC PROJECT NO:		1
Drafted By: MBH	Date: 9/15/25	
Approved By: BJD	Date: 9/15/25	

BEVENS ROAD #10458

STANDARD DECK SECTION

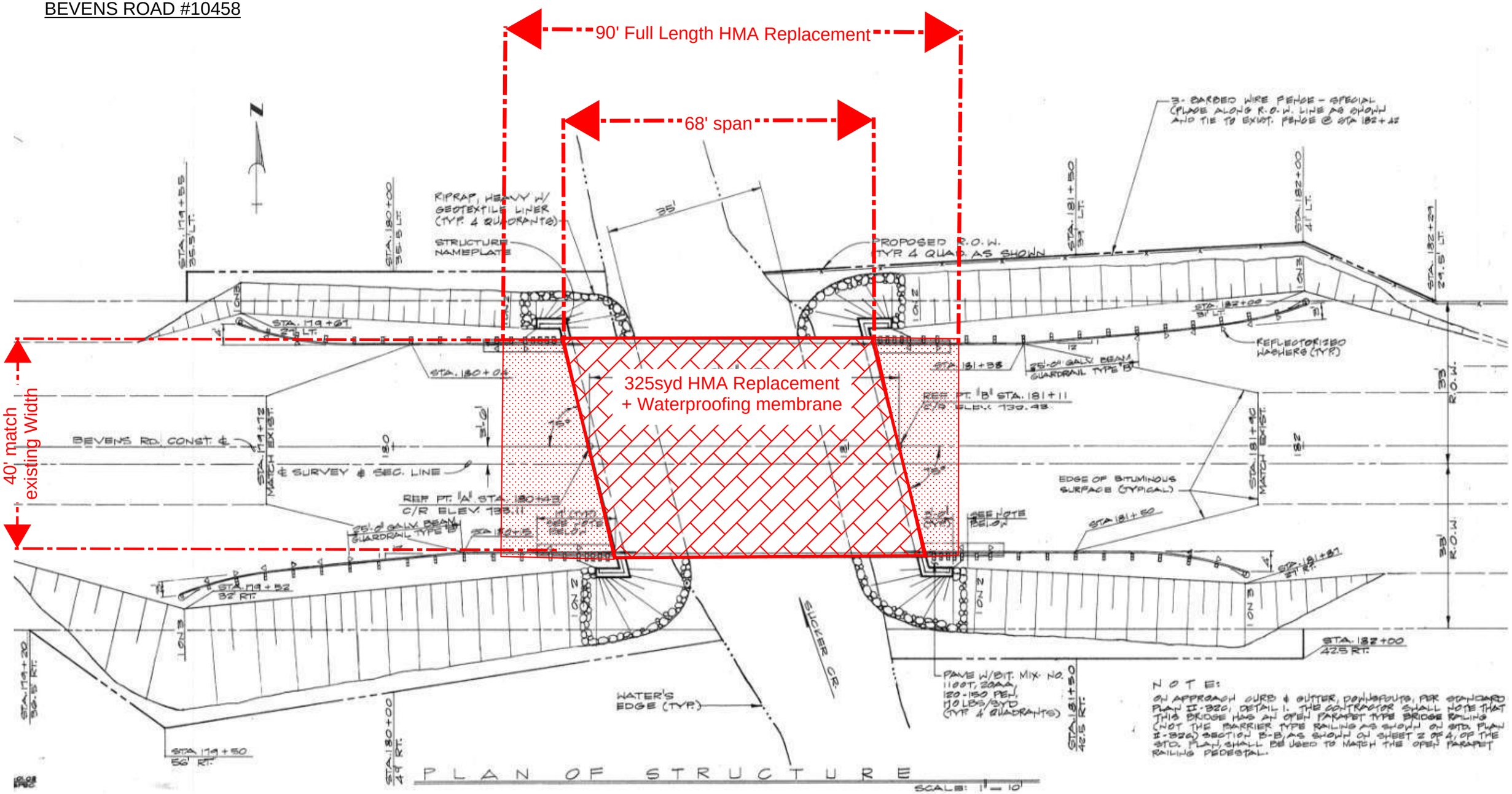


FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: WATERPROOFING MEMBRANE		SHEET
TCRC PROJECT NO: 459-518		2
Created By: MBH	Date: 2/26/25	
Approved By:	Date:	

BEVENS ROAD #10458



FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: Waterproofing Membrane		STANDARD CROSS SECTION	SHEET
TCRC PROJECT NO:			3
Created By: MBH	Date: 2/26/2025		
Approved By:	Date:		

Location

Bevens Road Between East Dayton Road
#10458
Length: 90'
Width: 40'
Depth: 2"

DESCRIPTION OF WORK.

Project consists of waterproofing membrane application and removal and replacement of 2" HMA 4EL on Bevens Road Bridge at East Dayton Road. The following items apply throughout the project and are not detailed elsewhere:

Repair joints at locations as directed by the engineer.

Quantity	UnitPay	Items
400	Syd	HMA Surface, Rem, Modified
45	Ton	#220 HMA, 4EL
325	Syd	Membrane, Preformed Waterproofing

Pavement Markings

Pavement markings are not included in this project.

Maintaining Traffic

Maintain traffic per the Special Provision for Maintaining Traffic. All costs for maintaining traffic shall be included in the price per foot of "

Plans

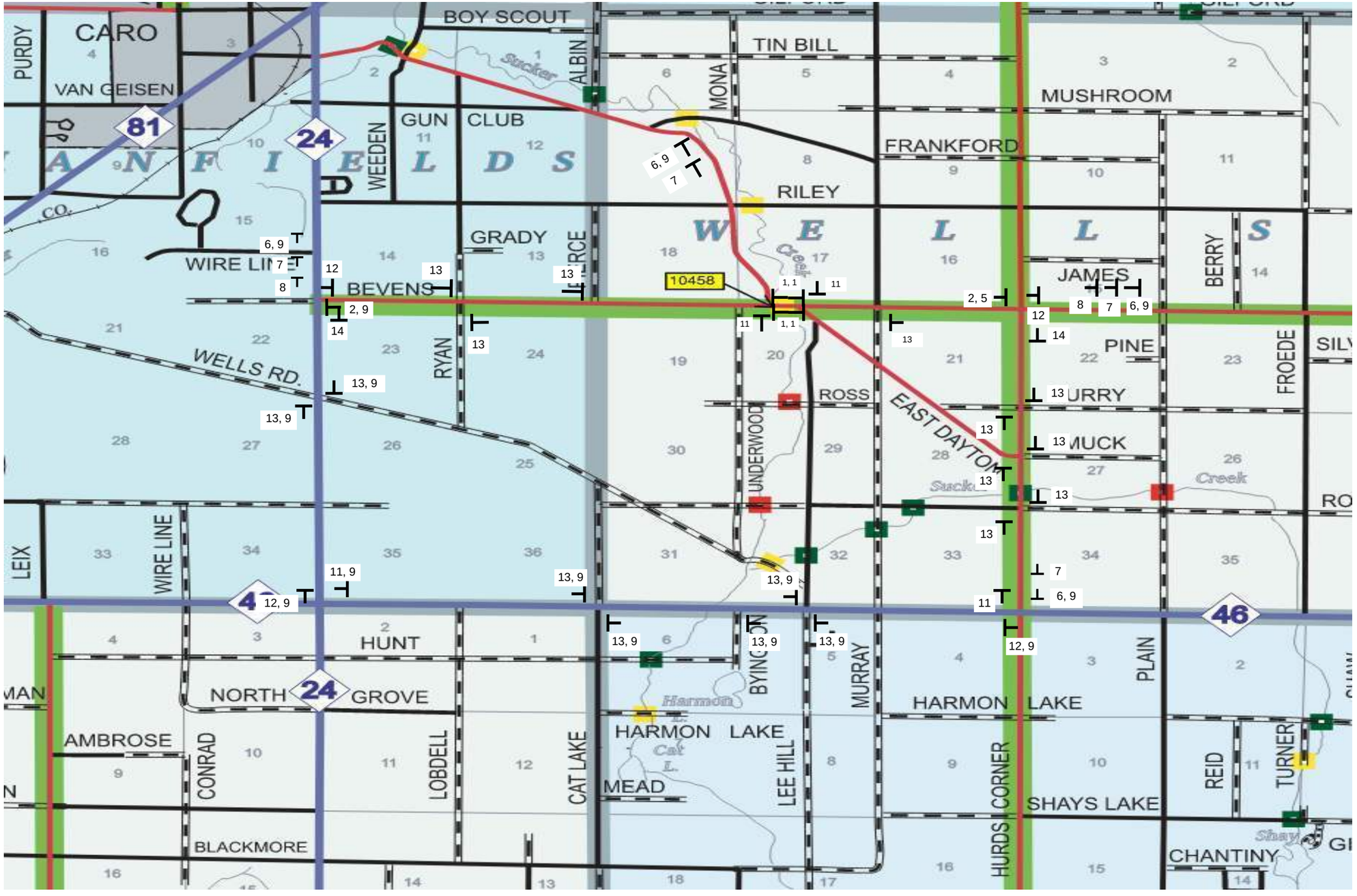
R.S. Scott Associates 10458, Bevens Rd, Bridge Plans-1614869721690
Standard Deck Section RS Scott Associates 1/92

FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: WATERPROOFING MEMBRANE		SHEET
TCRC PROJECT NO: 459-518		4
Created By: MBH	Date: 2/26/25	
Approved By:	Date:	

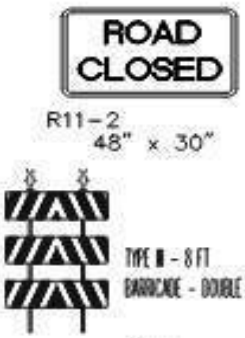
Bevens Road Bridge Detour Route



FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET:		STANDARD CROSS SECTION	SHEET
TCRC PROJECT NO:			3
Created By: MBH	Date:		
Approved By:	Date:		

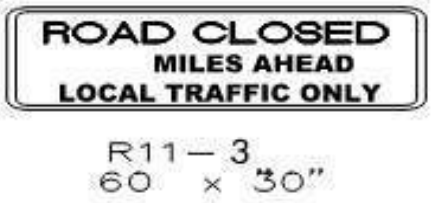


R11-2
48" x 30"

1

R11-4
60" x 30"

2



R11-3
60" x 30"

3

4

M4-10
48" x 18"

5

W20-1 6 REQ'D
48" x 48"

6

W20-3 2 REQ'D
48" x 48"

7

W20-2 2 REQ'D
48" x 48"

8

9

10

M4-9
RIGHT

30" x 24"

11

M4-9
LEFT

12

M4-9
UP

13

M4-8a 2 REQ'D
24" x 18"

14

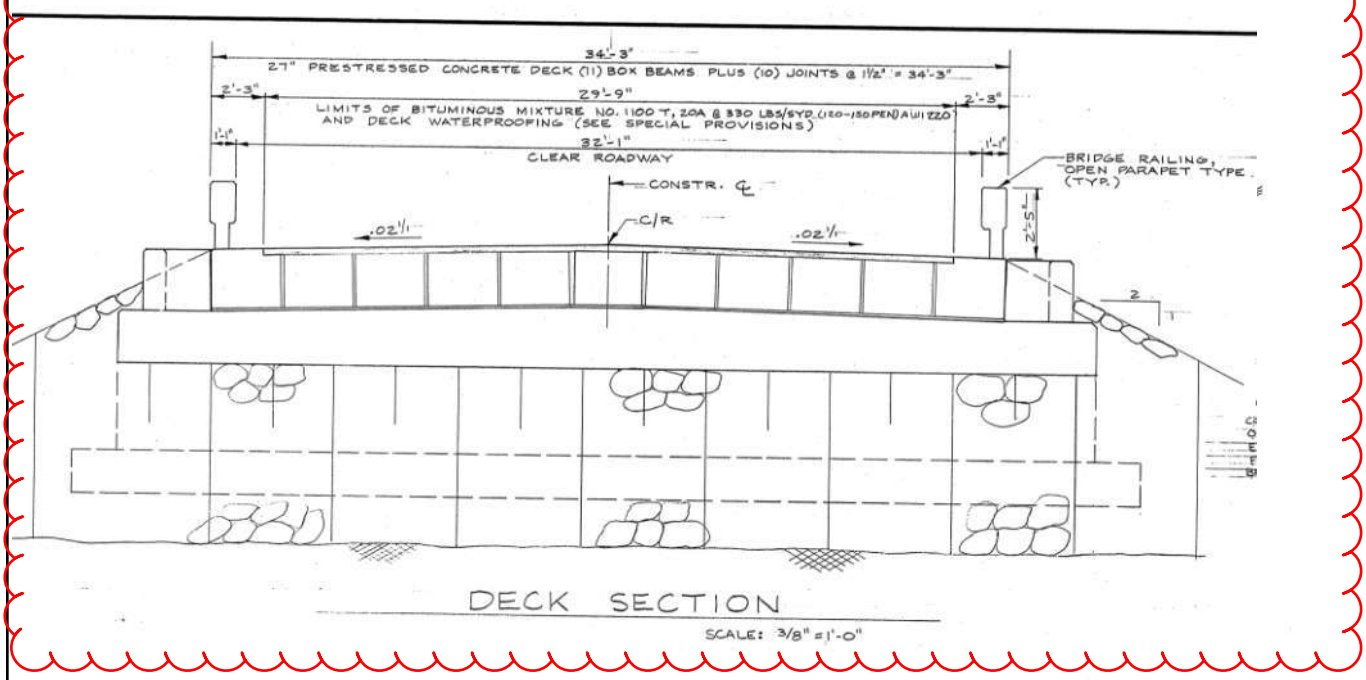
FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET:		SHEET
TCRC PROJECT NO:		4
Created By: MBH	Date:	
Approved By:	Date:	

VAN GEISEN ROAD #10593

STANDARD DECK SECTION



FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: WATERPROOFING MEMBRANE		SHEET
TCRC PROJECT NO: 459-518		5
Created By: MBH	Date: 2/26/25	
Approved By:	Date:	

VAN GEISEN ROAD #10593

72' Full Length HMA Replacement

52' Match Existing

30' Match Existing

132' EXISTING DRAIN EASEMENT

FOUNDATION UNDERDRAIN, 4" W/ OUTLET ENDING, 4" (TYP.) EL. 623.00

EXISTING 12" C.S.P. - REMOVE APPROX. 10 LFT AND INSTALL (1) CULVERT END SECTION - METAL, 12"

NORTHWEST DRAIN

LIMITS OF RIPRAP, SPECIAL (TYPICAL)

4' TYP.

43' GRADING P

1 ON 3

LIMITS OF BITUMINOUS (TYP.)

STRUCTURE NAMEPLATE (SEE NOTE SHT. 2)

REF. PT. "A" STA. 29+40 EL. 632.36

REF. PT. "B" STA. 29+92 EL. 632.26

90°

173 syd 1" HMA Replacement + Waterproofing membrane

CONSTR. ℄

REFL

29.00

30.00

STA 29+49.5 27.5 RT. EL. 623.85

STA 29+35 27.6' RT. EL. 627.1

24" CULVERT END SECTION - METAL

24"ϕ X 180' LONG CLASS 'A' CULVERT W/ 2-24" CULVERT END SECTION - METAL
CULVERT PAY LENGTH = 174.0
INLET STA. 27+62.5, 23' RT.
INV. EL. 625.6
OUTLET STA: 29+49.5
27.5' RT. INV. EL. 623.85

12'

STA. 29+78, 33' RT.
EL. 620.0 - 60" CULVERT END SECTION - METAL

STA. 29+81, 41.5' RT.
EL. 622.0 - 24" CULVERT END SECTION - METAL

CLASS A CULVERT (C.S.P.) 60" - 140 LFT.
PAY LENGTH = 138 LFT.

STA. 30+00 33.6' RT. EL. 627.09

30+32

STA. 30+65.6 33.6' RT. EL. 627.7

EXISTING 6" C.S.P.

EXISTING 12

50' GRADIN

PROPOSED FIELD TILE MAIN
CLASS A CULVERT (C.S.P.) 24" - 130 LFT.
CULVERT PAY LENGTH = 127 LFT

29+62

PLAN OF STRUCTURE

SCALE: 1" = 10'

FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

To Our Future
Tuscola County Road Commission

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: Waterproofing Membrane		STANDARD CROSS SECTION	SHEET
TCRC PROJECT NO:			6
Created By: MBH	Date: 2/27/2025		
Approved By:	Date:		

Location

Van Geisen Road Between Bradleyville Road and Garner Road
#10593
Length: 72'
Width: 30'
Depth: 1"

DESCRIPTION OF WORK.

Project consists of waterproofing membrane application and removal and replacement of 1" HMA 4EL on Van Geisen Road Bridge Between Bradleyville Road and Garner Road. The following items apply throughout the project and are not detailed elsewhere:

Repair joints at locations as directed by the engineer.

Quantity	UnitPay	Items
240	Syd	HMA Surface, Rem, Modified
15	Ton	HMA, 4EL
173	Syd	Membrane, Preformed Waterproofing

Pavement Markings

Pavement markings are not included in this project.

Maintaining Traffic

Maintain traffic per the Special Provision for Maintaining Traffic. All costs for maintaining traffic shall be included in the price per foot of "

Plans

R.S. Scott Associates 10593 Van Geisen Rd, Bridge plans-1614882642280
Standard Deck Section RS Scott Associates 1/98

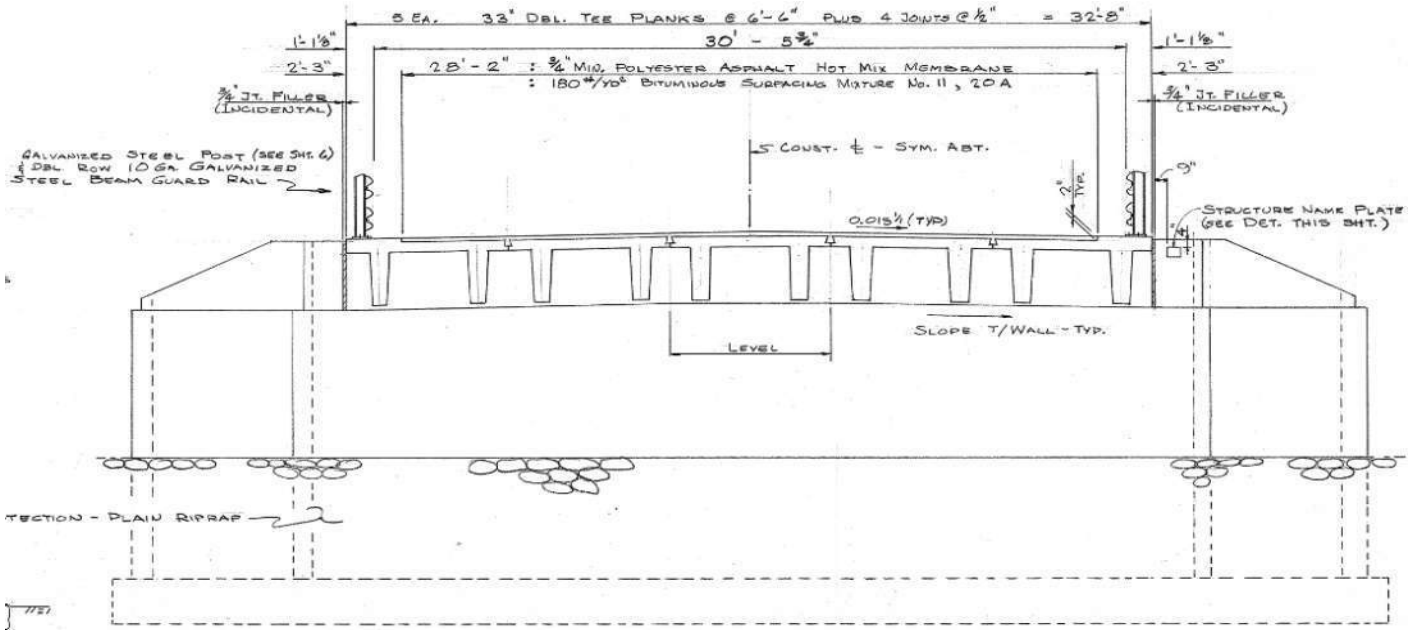
FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: WATERPROOFING MEMBRANE		SHEET
TCRC PROJECT NO: 459-518		7
Created By: MBH	Date: 2/26/25	
Approved By:	Date:	

DECKERVILLE ROAD #10594

STANDARD DECK SECTION



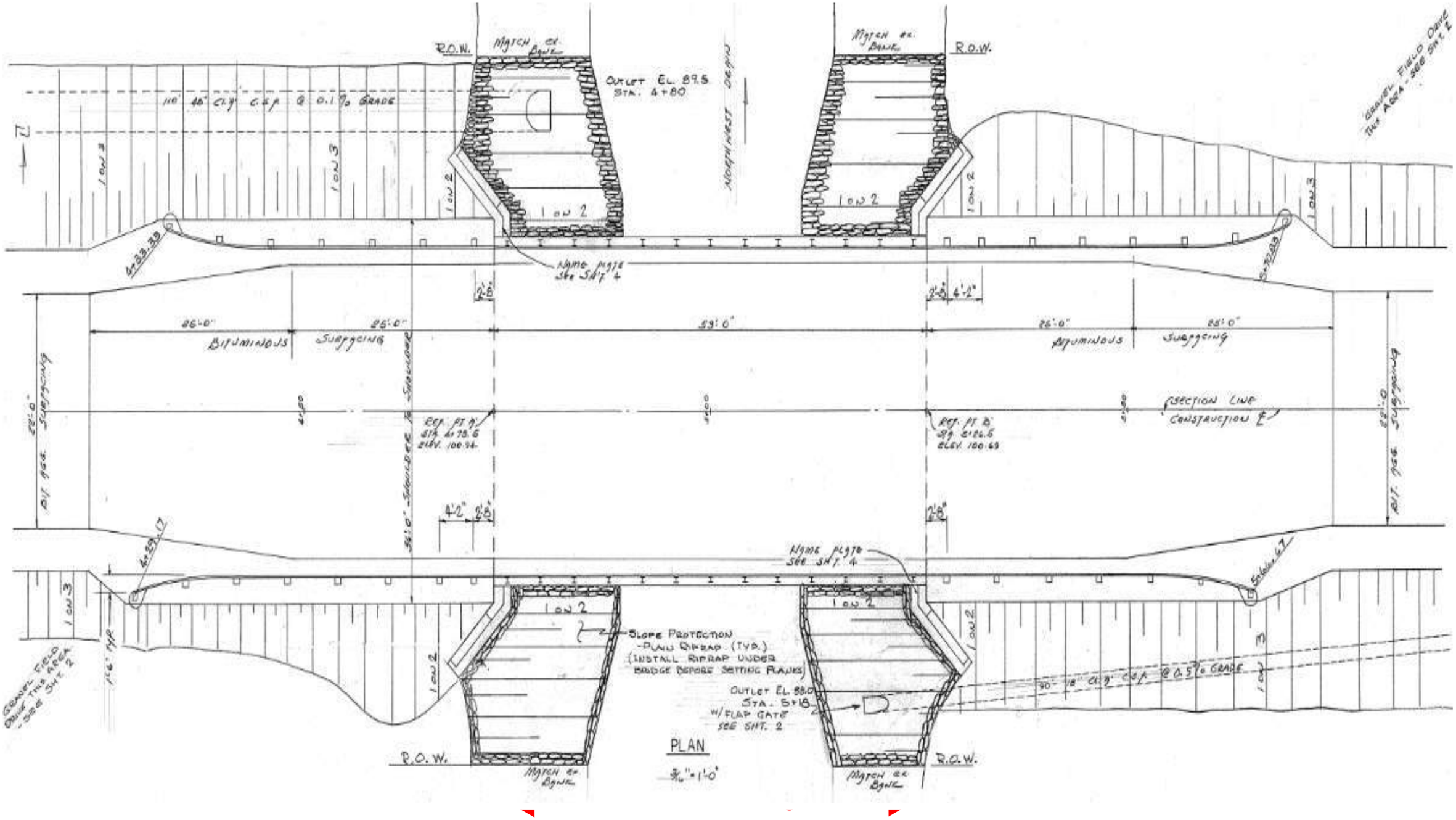
FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: WATERPROOFING MEMBRANE		SHEET
TCRC PROJECT NO: 459-518		8
Created By: MBH	Date: 2/26/25	
Approved By:	Date:	

DECKERVILLE ROAD #10594

170' Full Length HMA Replacement



FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

To Our Future
Tuscola County Road Commission

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: Waterproofing Membrane		STANDARD CROSS SECTION
TCRC PROJECT NO:		
Created By: MBH	Date: 2/27/2025	
Approved By:	Date:	

SHEET 9

Location

Deckerville Road Between Garner Road and Vassar Road
#10594
Length: 170'
Width: 28'
Depth: 3"

DESCRIPTION OF WORK.

Project consists of waterproofing membrane application and removal and replacement of 3" HMA 4EL on Deckerville Road Bridge Between Garner Road and Vassar Road. The following items apply throughout the project and are not detailed elsewhere:

Repair joints at locations as directed by the engineer.

Quantity	UnitPay	Items
529	Syd	HMA Surface, Rem, Modified
87	Ton	HMA, 4EL
165	Syd	Membrane, Preformed Waterproofing

Pavement Markings

Pavement markings are not included in this project.

Maintaining Traffic

Maintain traffic per the Special Provision for Maintaining Traffic. All costs for n ıing traffic shall be included in the price per foot of "

Plans

Elten Engineering Co., INC. 10594, Gilford Twp, Deckverville Rd, Bridge Plans 4860960115
Standard Deck Section Elten Engineering Co., INC. 9/83

FINAL PLAN REVISIONS			
NO.	DATE	AUTH	DESCRIPTION

Tuscola County Road Commission
1733 Mertz
Caro, MI 48723
Phone: 989 673-2128
Fax: 989 673-3294

TITLE SHEET: WATERPROOFING MEMBRANE		SHEET
TCRC PROJECT NO: 459-518		10
Created By: MBH	Date: 2/26/25	
Approved By:	Date:	

April 14, 2025

Tuscola County Road Commission
1733 S Mertz Road
Caro, Michigan 48723

Job No. 25-650055

Attention: Mr. Brent Dankert, P.E.

Subject: Bridge Limited Asbestos Survey
Bridge Structure 10458
East Bevens Road over Sucker Creek
Wells Township, Tuscola County

Dear Mr. Dankert:

Pursuant to your request, McDowell & Associates has completed this Asbestos Survey for the existing bridge located over Sucker Creek on East Bevens Road, east of Dayton Road, Wells Township, Tuscola County, Michigan. A Site Location Map, which shows the approximate location of the subject structure, accompanies this letter as Attachment I.

The purpose of this survey was to identify regulated asbestos-containing materials (ACM) in the structure prior renovation, in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) and the Michigan Department of Licensing and Regulatory Affairs (LARA) Part 602 - Asbestos Standards for Construction. You have indicated the scope will include bridge renovation including deck surface replacement with waterproofing.

Bulk samples for asbestos testing were obtained from suspect materials on the bridge. Results of PLM testing show asbestos was not detected in any of the samples.

Observations were made of the visible materials, from the accessible areas on and around the structure.

This survey was completed for the exclusive use of Tuscola County Road Commission, and they may rely on its contents.

The results of our investigation are presented below.

Structure Description

The subject structure is a concrete structure bridge with concrete guard rails and asphalt wear surface located on East Bevens Road east of Dayton Road, Wells Township, Tuscola County, Michigan. The

bridge spans Sucker Creek. Summarized below is information obtained from observations made during the site reconnaissance.

- Single span deck approximately 45' x 65'
- Concrete underdeck construction with concrete abutments
- Asphalt wear surface with concrete railings

Field Work

On April 1, 2025, a Certified Asbestos Building Inspector with McDowell & Associates observed the structure for the presence of suspect asbestos-containing materials.

As part of the asbestos testing, bulk samples were obtained from suspect materials from the bridge. Samples were collected in triplicate (other than the asphalt & waterproofing membrane, which were a single sample). A sample of the waterproofing membrane noted on the as built drawings was collected. A core was made into the existing asphalt deck to the concrete underdeck. A sample of the membrane material was collected from the asphalt/concrete interface. The core location was patched with asphalt cold patch material.

The following table summarizes sample materials, designated 650055-1 A-C through 650055-7 A-C.

Sample ID	Description	Location
650055-1 A-C	Abutment - Concrete	Abutment
650055-2 A-C	Deck/Beams - Concrete	Underdeck
650055-3 A-C	Railing - Concrete	Top-Sides of Deck
650055-4 A-C	Cushion - Synthetic	Btwn. Beam and Abutment
650055-5 A-C	Joint / Pad - Fibrous	Btwn. Beam and Abutment
650055-6	Deck - Asphalt	Top of Deck
650055-7	Waterproofing Membrane – Woven	Between Asphalt and Conc Deck

Samples were submitted to EMSL Analytical, Inc. of Indianapolis, Indiana for testing by polarized light microscopy (PLM, EPA Method 600/R-93/116).

PLM Results

According to the National Emission Standard for Hazardous Air Pollutants (NESHAP) definition, materials which contain greater than one percent asbestos are considered asbestos-containing materials.

Results of PLM testing show asbestos was not detected in any of the samples.

A copy of the PLM results and chain-of-custody documentation are attached.

Limitations

Observations were made of the visible materials, from the accessible areas on and around the structure.

It is possible that additional materials will be encountered during renovation activities. In the event suspect materials are observed that were not identified in this assessment, the materials should be presumed to contain asbestos and removed by a licensed abatement contractor or sampled and tested by a certified inspector.

Conclusions

McDowell & Associates has completed a limited Asbestos Survey to identify regulated asbestos-containing materials (ACM) in the structure prior to renovation.

Bulk samples were obtained from suspect materials for asbestos testing.

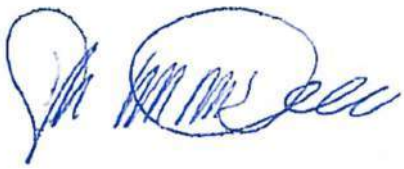
Results of PLM testing show asbestos was not detected in any of the samples.

If you have any questions, or if we can be of further service, please do not hesitate to call.

Respectfully Submitted,

MCDOWELL & ASSOCIATES

Erik L. Johnson, B.S.
Environmental Scientist /
Midland Operations Manager
Michigan Asbestos Inspector # A29674



Douglas M. McDowell, M.S., P.E.
President

Attachments:

- Site Location Map
- Laboratory Results


McDowell & Associates - 25-650055
East Bevens Road over Sucker Creek
E Dayton Rd
Sucker Creek
E Dayton Rd
E Bevens Rd
25-650055
E Bevens Rd
E Bevens Rd
E Bevens Rd
E Dayton Rd
Underwood Rd
Ryteous Cakes
Underwood Rd
E Dayton Rd
Lee Hill Rd
N
1000 ft
Google Earth
Image © 2025 Airbus

EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order:	162504234
Customer ID:	MCDO50
Customer PO:	25-650055
Project ID:	

Attention:	Erik Johnson McDowell & Associates 21355 Hatcher Avenue Ferndale, MI 48220	**Phone:**	(248) 399-2066
		Fax:	(248) 399-2157
		Received Date:	04/04/2025 10:18 AM
		Analysis Date:	04/08/2025
		Collected Date:	
Project:	25-650055		

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
650055-1 A *162504234-0001*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-1 B *162504234-0002*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-1 C *162504234-0003*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-2 A *162504234-0004*	DECK / BEAM CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-2 B *162504234-0005*	DECK / BEAM CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-2 C *162504234-0006*	DECK / BEAM CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-3 A *162504234-0007*	RAIL CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-3 B *162504234-0008*	RAIL CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-3 C *162504234-0009*	RAIL CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650055-4 A *162504234-0010*	CUSHION - SYN	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
650055-4 B *162504234-0011*	CUSHION - SYN	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
650055-4 C *162504234-0012*	CUSHION - SYN	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
650055-5 A *162504234-0013*	JOINT	Brown/Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
650055-5 B *162504234-0014*	JOINT	Brown/Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
650055-5 C *162504234-0015*	JOINT	Brown/Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
650055-6 *162504234-0016*	DECK ASPH - ASPHALT	Black Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected

Initial report from: 04/08/2025 12:31:09

EMSL Analytical, Inc.
6340 CastlePlace Dr. Indianapolis, IN 46250
Tel/Fax: (317) 803-2997 / (317) 803-3047
http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order:	162504234
Customer ID:	MCDO50
Customer PO:	25-650055
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
650055-7 *162504234-0017*	MEMB	Black Fibrous Homogeneous	70% Glass	30% Non-fibrous (Other)	None Detected

Analyst(s)
Alison Pacey (12)
Hannah Morgan (5)

Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 “Interim Method”) but augmented with procedures outlined in the 1993 (”final”) version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN NVLAP Lab Code 200188-0, AZ0939, CA 2575, CO AL-15132, TX 300262, A2LA Accredited - Certificate #2845.25

Initial report from: 04/08/2025 12:31:09

April 14, 2025

Tuscola County Road Commission
1733 S Mertz Road
Caro, Michigan 48723

Job No. 25-650065

Attention: Mr. Brent Dankert, P.E.

Subject: Bridge Limited Asbestos Survey
Bridge Structure #10594
Deckerville Road over Northwest Drain
Gilford Township, Tuscola County

Dear Mr. Dankert:

Pursuant to your request, McDowell & Associates has completed this Asbestos Survey for the existing bridge located over Northwest Drain on Deckerville Road, east of Garner Road, Gilford Township, Tuscola County, Michigan. A Site Location Map, which shows the approximate location of the subject structure, accompanies this letter as Attachment I.

The purpose of this survey was to identify regulated asbestos-containing materials (ACM) in the structure prior renovation, in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) and the Michigan Department of Licensing and Regulatory Affairs (LARA) Part 602 - Asbestos Standards for Construction. You have indicated the scope will include bridge renovation including deck surface replacement with waterproofing.

Bulk samples for asbestos testing were obtained from suspect materials on the bridge. Results of PLM testing show asbestos was not detected in any of the samples.

Observations were made of the visible materials, from the accessible areas on and around the structure.

This survey was completed for the exclusive use of Tuscola County Road Commission, and they may rely on its contents.

The results of our investigation are presented below.

Structure Description

The subject structure is a concrete structure bridge with steel guard rails and asphalt wear surfaces located on Deckerville Road, east of Garner Road, Gilford Township, Tuscola County, Michigan. The bridge spans Northwest Drain. Summarized below is information obtained from observations made during the site reconnaissance.

- Single span deck approximately 35' x 55'
- Concrete underdeck construction with concrete abutments
- Asphalt wear surface with steel guard railings

Field Work

On April 1, 2025, a Certified Asbestos Building Inspector with McDowell & Associates observed the structure for the presence of suspect asbestos-containing materials.

As part of the asbestos testing, bulk samples were obtained from suspect materials from the bridge. Samples were collected in triplicate (other than the asphalt & waterproofing membrane, which were a single sample). An attempt was made to collect a sample of the waterproofing membrane noted on the as built drawings. A core was made into the existing asphalt deck to the concrete underdeck. A sample was collected from the asphalt/concrete interface, no woven material was observed. The core location was patched with asphalt cold patch material.

The following table summarizes sample materials, designated 650065-1 A-C through 650065-6 A-.

Sample ID	Description	Location
650065-1 A-C	Abutment - Concrete	Abutment
650065-2 A-C	Deck - Concrete	Deck
650065-3 A-C	Beams - Concrete	Under Deck
650065-4 A-C	Joint / Pad - Fibrous	Btwn. Beam and Abutment
650065-5	Deck - Asphalt	Top of Deck
650065-6	Waterproofing Membrane - Asphalt	Between Asphalt and Conc Deck

Samples were submitted to EMSL Analytical, Inc. of Indianapolis, Indiana for testing by polarized light microscopy (PLM, EPA Method 600/R-93/116).

PLM Results

According to the National Emission Standard for Hazardous Air Pollutants (NESHAP) definition, materials which contain greater than one percent asbestos are considered asbestos-containing materials.

Results of PLM testing show asbestos was not detected in any of the samples.

A copy of the PLM results and chain-of-custody documentation are attached.

Limitations

Observations were made of the visible materials, from the accessible areas on and around the structure.

It is possible that additional materials will be encountered during renovation activities. In the event suspect materials are observed that were not identified in this assessment, the materials should be presumed to contain asbestos and removed by a licensed abatement contractor or sampled and tested by a certified inspector.

Conclusions

McDowell & Associates has completed a limited Asbestos Survey to identify regulated asbestos-containing materials (ACM) in the structure prior to renovation.

Bulk samples were obtained from suspect materials for asbestos testing.

Results of PLM testing show asbestos was not detected in any of the samples.

If you have any questions, or if we can be of further service, please do not hesitate to call.

Respectfully Submitted,

MCDOWELL & ASSOCIATES

Erik L. Johnson, B.S.
Environmental Scientist /
Midland Operations Manager
Michigan Asbestos Inspector # A29674

Douglas M. McDowell, M.S., P.E.
President

Attachments:

- Site Location Map
- Laboratory Results


McDowell & Associates - 25-650065
Deckerville Road over Northwest Drain
Gilford Conservation & Rifle Club
Garner Rd
Deckerville Rd
Deckerville Rd
25-650065
Deckerville Rd
Garner Rd
Garner Rd
Google Earth
Image © 2025 Airbus
N
1000 ft

EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order:	162504233
Customer ID:	MCDO50
Customer PO:	25-650065
Project ID:	

Attention:	Erik Johnson McDowell & Associates 21355 Hatcher Avenue Ferndale, MI 48220	**Phone:**	(248) 399-2066
		Fax:	(248) 399-2157
		Received Date:	04/04/2025 10:18 AM
		Analysis Date:	04/08/2025
		Collected Date:	
Project:	25-650065		

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
650065-1 A *162504233-0001*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-1 B *162504233-0002*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-1 C *162504233-0003*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-2 A *162504233-0004*	DECK CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-2 B *162504233-0005*	DECK CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-2 C *162504233-0006*	DECK CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-3 A *162504233-0007*	BEAM CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-3 B *162504233-0008*	BEAM CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-3 C *162504233-0009*	BEAM CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650065-4 A *162504233-0010*	JOINT	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
650065-4 B *162504233-0011*	JOINT	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
650065-4 C *162504233-0012*	JOINT	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
650065-5 *162504233-0013*	DECK ASP - ASPHALT	Gray/Black Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected
650065-6 *162504233-0014*	MEMB	Black Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected

Initial report from: 04/08/2025 11:40:25

EMSL Analytical, Inc.
6340 CastlePlace Dr. Indianapolis, IN 46250
Tel/Fax: (317) 803-2997 / (317) 803-3047
http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order:	162504233
Customer ID:	MCDO50
Customer PO:	25-650065
Project ID:	

Analyst(s)

Alison Pacey (10)
Ross Matlock (4)

Asbestos Laboratory Manager
or Other Approved Signatory

Initial report from: 04/08/2025 11:40:25

April 15, 2025

Tuscola County Road Commission
1733 S Mertz Road
Caro, Michigan 48723

Job No. 25-650075

Attention: Mr. Brent Dankert, P.E.

Subject: Bridge Limited Asbestos Survey
Bridge Structure #10593
Van Geisen Road over Northwest Drain
Denmark Township, Tuscola County

Dear Mr. Dankert:

Pursuant to your request, McDowell & Associates has completed this Asbestos Survey for the existing bridge located over Northwest Drain on Van Geisen Road, east of South Bradleyville Road, Denmark Township, Tuscola County, Michigan. A Site Location Map, which shows the approximate location of the subject structure, accompanies this letter as Attachment I.

The purpose of this survey was to identify regulated asbestos-containing materials (ACM) in the structure prior renovation, in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) and the Michigan Department of Licensing and Regulatory Affairs (LARA) Part 602 - Asbestos Standards for Construction. You have indicated the scope will include bridge renovation including deck surface replacement with waterproofing.

Bulk samples for asbestos testing were obtained from suspect materials on the bridge. Results of PLM testing show asbestos was not detected in any of the samples.

Observations were made of the visible materials, from the accessible areas on and around the structure.

This survey was completed for the exclusive use of Tuscola County Road Commission, and they may rely on its contents.

The results of our investigation are presented below.

Structure Description

The subject structure is a concrete structure bridge with concrete guard rails and asphalt wear surface located on Van Geisen Road, east of South Bradleyville Road, Denmark Township, Tuscola County,

Michigan. The bridge spans Northwest Drain. Summarized below is information obtained from observations made during the site reconnaissance.

- Single span deck approximately 35' x 55'
- Concrete underdeck construction with concrete abutments
- Asphalt wear surface with concrete railings

Field Work

On April 1, 2025, a Certified Asbestos Building Inspector with McDowell & Associates observed the structure for the presence of suspect asbestos-containing materials.

As part of the asbestos testing, bulk samples were obtained from suspect materials from the bridge. Samples were collected in triplicate (other than the asphalt & waterproofing membrane, which were a single sample). A sample of the waterproofing membrane noted on the as built drawings was collected. A core was made into the existing asphalt deck to the concrete underdeck. A sample of the membrane material was collected from the asphalt/concrete interface. The core location was patched with asphalt cold patch material

The following table summarizes sample materials, designated 650065-1 A-C through 650065-6 A-.

Sample ID	Description	Location
650075-1 A-C	Abutment - Concrete	Abutment
650075-2 A-C	Deck - Concrete	Deck
650075-3 A-C	Railing - Concrete	Top - Sides of deck
650075-4 A-C	Joint / Pad - Fibrous	Btwn. Beam and Abutment
650075-5	Deck - Asphalt	Top of Deck
650075-6	Waterproofing Membrane	Between Asphalt and Conc Deck

Samples were submitted to EMSL Analytical, Inc. of Indianapolis, Indiana for testing by polarized light microscopy (PLM, EPA Method 600/R-93/116).

PLM Results

According to the National Emission Standard for Hazardous Air Pollutants (NESHAP) definition, materials which contain greater than one percent asbestos are considered asbestos-containing materials.

Results of PLM testing show asbestos was not detected in any of the samples.

A copy of the PLM results and chain-of-custody documentation are attached.

Limitations

Observations were made of the visible materials, from the accessible areas on and around the structure.

It is possible that additional materials will be encountered during renovation activities. In the event suspect materials are observed that were not identified in this assessment, the materials should be presumed to contain asbestos and removed by a licensed abatement contractor or sampled and tested by a certified inspector.

Conclusions

McDowell & Associates has completed a limited Asbestos Survey to identify regulated asbestos-containing materials (ACM) in the structure prior to renovation.

Bulk samples were obtained from suspect materials for asbestos testing.

Results of PLM testing show asbestos was not detected in any of the samples.

If you have any questions, or if we can be of further service, please do not hesitate to call.

Respectfully Submitted,

MCDOWELL & ASSOCIATES

Erik L. Johnson, B.S.
Environmental Scientist /
Midland Operations Manager
Michigan Asbestos Inspector # A29674

Douglas M. McDowell, M.S., P.E.
President

Attachments:

- Site Location Map
- Laboratory Results


McDowell & Associates - 25-650075
Van Geisen Road over Northwest Drain
S Bradleyville Rd
Van Geisen Rd
Van Geisen Rd
25-650075
Van Geisen
S Bradleyville Rd
S Bradleyville Rd
Google Earth
Image © 2025 Airbus
N
1000 ft

EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order:	162504235
Customer ID:	MCDO50
Customer PO:	25-650075
Project ID:	

Attention:	Erik Johnson McDowell & Associates 21355 Hatcher Avenue Ferndale, MI 48220	**Phone:**	(248) 399-2066
		Fax:	(248) 399-2157
		Received Date:	04/04/2025 10:18 AM
		Analysis Date:	04/08/2025
		Collected Date:	
Project:	25-650075		

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
650075-1 A *162504235-0001*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-1 B *162504235-0002*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-1 C *162504235-0003*	ABUT CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-2 A *162504235-0004*	DECK CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-2 B *162504235-0005*	DECK CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-2 C *162504235-0006*	DECK CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-3 A *162504235-0007*	RAIL CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-3 B *162504235-0008*	RAIL CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-3 C *162504235-0009*	RAIL CONC - CONCRETE	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
650075-4 A *162504235-0010*	JOINT	Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
650075-4 B *162504235-0011*	JOINT	Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
650075-4 C *162504235-0012*	JOINT	Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
650075-5 *162504235-0013*	DECK ASP - ASPAHLT	Gray/Black Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected
650075-6 *162504235-0014*	MEMB	Black Fibrous Homogeneous	60% Glass	40% Non-fibrous (Other)	None Detected

Initial report from: 04/08/2025 12:39:36

EMSL Analytical, Inc.

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

http://www.EMSL.com / indianapolislab@emsl.com

EMSL Order:	162504235
Customer ID:	MCDO50
Customer PO:	25-650075
Project ID:	

Analyst(s)

Alison Pacey (10)

Hannah Morgan (4)

Asbestos Laboratory Manager
or Other Approved Signatory

Initial report from: 04/08/2025 12:39:36