Frank Zulski
Wade Williams
Jim Kargol
Brent Shank, PE
Engineer-Manager
Lisa Kleeman
Finance Director


2265 E. Hathaway Road
Harbor Springs, MI 49740
Office: (231) 347-8142
Fax: (231) 347-5787
www.emmetcrc.org

Project: **I-75 Attenuator Installation**

Remove and Replace Impact Attenuator and Traffic Control

The Emmet County Road Commission will accept Bids until **9:00 a.m.** local time on **May 4, 2026** at: 2265 E. Hathaway Road, Harbor Springs, MI 49740. Bid packages are available at the Emmet County Road Commission Office or on Emmet County Road Commission website at www.emmetcrc.org.

**ALL BIDS WILL BE SEALED AND PLAINLY MARKED AS TO THE PROJECT AND PROJECT NUMBER. MAILED BIDS MUST BE RECEIVED BY 3:30 P.M. THE PREVIOUS EMMET COUNTY ROAD COMMISSION BUSINESS DAY PRIOR TO BID OPENING.**

The bidder has examined the plans, specification, special provisions and related materials in the proposal, as well as the location of the work described in the proposal for this project, and is fully informed as to the nature of the work and conditions relating to its performance and understands that the quantities shown are approximate only and are subject to either increase or decrease.

The bidder hereby proposes to furnish all necessary machinery, tools, apparatus and other means of construction, do all the work, furnish all the materials except as otherwise specified and, or each unit price, lump sum, or one each named in the itemized bid, to complete the work in strict conformity with the plans therefore and the entire proposal which is incorporated by reference in these pages, and in strict conformity with the requirements of the 2020 Standard Specifications for Construction, Michigan Department of Transportation and such other special provisions and supplemental specifications as may be part of the proposal for this project.

The bidder further proposes to do such extra work as may be authorized by the Emmet County Road Commission, prices for which are not included in the itemized bid. Compensation shall be made on the basis agreed upon before such extra work is begun.

THE BIDDER UNDERSTANDS AND AGREES THAT THE EMMET COUNTY ROAD COMMISSION RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS; TO WAIVE IRREGULARITIES OR INFORMALITIES; AND NO CONTRACTUAL RELATIONSHIP SHALL EXIST BETWEEN THE BIDDER AND THE EMMET COUNTY ROAD COMMISSION FOR THE WORK DESCRIBED HEREIN UNTIL SUCH TIME AS THE CONTRACT HAS BEEN FORMALLY EXECUTED BY BOTH THE BIDDER AND THE EMMET COUNTY ROAD COMMISSION.

The Emmet County Road Commission, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office the Secretary, Part 21, Nondiscrimination 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 contact entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

# EMMET COUNTY ROAD COMMISSION

IN COOPERATION WITH

## MDOT

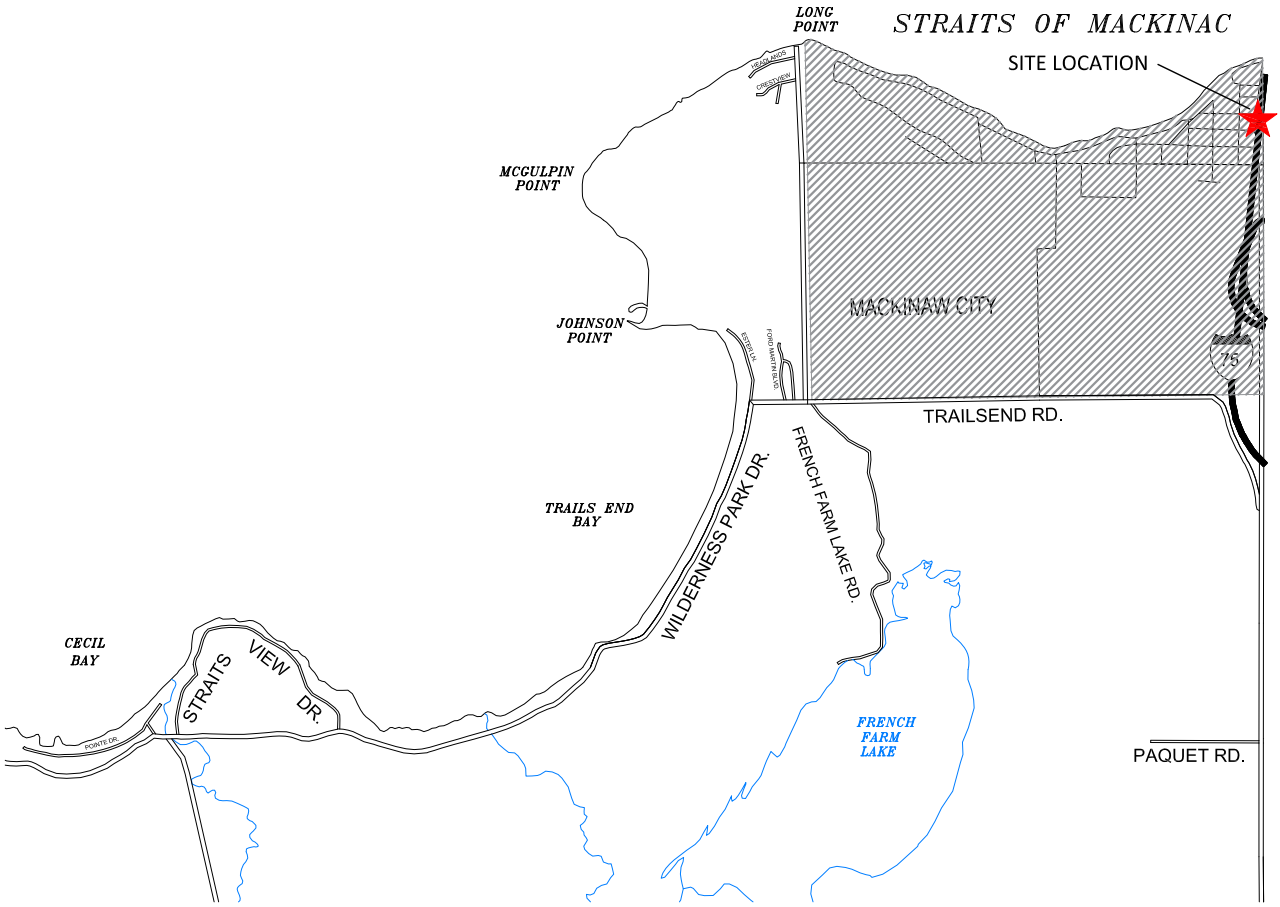
PLANS OF PROPOSED ROAD IMPROVEMENTS

# I-75 ATTENUATOR INSTALLATION

## +/- 225 Feet north of Exit 339 (Jamet Street) in Mackinaw City

NORTH

SECTION 12, T 39 N, R 4 W
WAWATAM TOWNSHIP
EMMET COUNTY, MICHIGAN




MISS DIG 811

800-482-7171

CONTRACT FOR:
REMOVE AND REPLACE IMPACT ATTENUATOR AND TRAFFIC CONTROL

EXCEPT WHERE OTHERWISE NOTED IN THESE PLANS, PROPOSAL, SUPPLEMENTAL SPECIFICATIONS OR SPECIAL PROVISIONS, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

EMMET COUNTY ROAD COMMISSION
2265 EAST HATHAWAY ROAD - HARBOR SPRINGS, MI

**DESCRIPTION OF WORK**

Remove & Replace Impact Attenuator and Traffic Control.

**SPECIFICATIONS**

The improvements covered by these plans shall be done in accordance with the Michigan Department of Transportation 2020 Standard Specifications for Construction as amended by Supplemental Specifications and Special Provisions.

**PROJECT DATES**

A pre-construction meeting will be scheduled by the Emmet County Road Commission prior to project start. All project submittals are to be submitted for review at this meeting.

Project Start Date: 10 days after all Contracts are executed.
Project Completion Date: July 16, 2026 (All Project Items)

The project shall be completed within ten (10) calendar days of starting date.

Contractor shall only work on Tuesday, Wednesday and Thursday. No work or lane closures are allowed on MDOT holidays or on Friday, Saturday, Sunday and Monday.

**2026 Holiday Periods**

| Holiday | Start Date and Time | End Date and Time |
|---|---|---|
| Memorial Day | 6:00 am, Thursday, May 21st | 6:00 am, Wednesday, May 27th |
| Fourth of July | 6:00 am, Wednesday, July 1st | 6:00 am, Tuesday, July 7th |
| Labor Day | 6:00 am, Thursday, September 3rd | 6:00 am, Wednesday, September 9th |

**PROJECT SUBMITTALS**

The following shall be submitted to the Road Commission Engineer for approval prior to project start:

1. Material Source List (MDOT Form 501)
2. Progress Schedule (must be submitted within 5 days of Contract award)
3. Damage Claim Program
4. Traffic Control Plan
5. Safety Program

Upon project completion, the Contractor shall submit a written “Notice of Completion” to the Engineer. After the Engineer receives the Notice of Completion, the Engineer will inspect the project. The Engineer will provide a list of any deficient items (Punch List) to the Contractor. Final acceptance will only be issued when any deficient items are addressed to the satisfaction of the Engineer. Final acceptance will be provided to the Contractor in writing.

**TECHNICAL SPECIFICATIONS ORDER OF PREFERENCE**

The technical specifications for the project shall be in accordance with the 2020 Standard Specifications for Construction of the Michigan Department of Transportation, as amended, hereinafter referred to as the "Standard Specifications".

In case of a conflict in the contract, the following establishes the order of precedence:

1. ECRC Proposal and Project Specifications
2. Special Provisions
3. MDOT Supplemental Specifications
4. ECRC Project Plans and Drawings
5. MDOT Standard Plans
6. MDOT Standard Specifications

The Engineer has the right to increase or decrease quantities based on unit prices bid. Final quantities will be based on the unit price bid per estimated quantities and can be adjusted by the Engineer without adjustment in unit price bid by Contractor

**STANDARD PLANS & SPECIAL DETAILS**

The following items shall be constructed in accordance with the referenced Standard Plan or Special Detail (* included in Proposal) listed below unless otherwise specified.

Road Standard Plans

| | |
|---|---|
| R-96-E | Soil Erosion & Sedimentation Control Measures |

Traffic & Safety Work Zone Special Details

| | |
|---|---|
| WZD-125-E | Temporary Traffic Control Devices |
| 204-FW-1LC-(L)* | Maintaining Traffic Typical |

## PROJECT LOCATION


## SITE LOCATION


*Southbound looking east at Existing Attenuator*


*Southbound looking south at Existing Attenuator*


*Northbound looking south at Existing Attenuator*

*Northbound looking north at Existing Attenuator*

**MAINTAINING TRAFFIC**

Maintain traffic using traffic regulators in accordance with MDOT Maintaining Traffic Typical 204-FW-1LC-(L). Traffic shall be maintained during the project through the use of lane closures, one lane of traffic in each direction shall be open during working hours. The Contractor shall coordinate operations with contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).

The Construction Influence Area for this project shall consist of the width of the project right of way, and the width of the right of way on intersecting roads, from a point where advance construction warning signing begins to a point where it ends.

Advanced Warning signs shall be in place before any work begins.

The Contractor will coordinate project signing with the Mackinaw Bridge Authority.

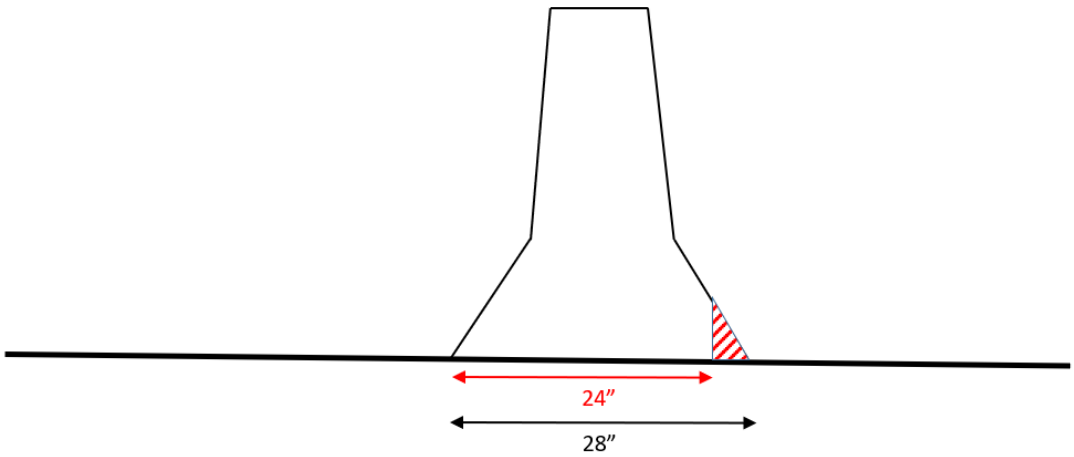
Payment for all traffic control, signing and traffic control items shall be paid for as part of the **Impact Attenuator Installation (1 LSUM).**

**PROPOSED IMPROVEMENTS**

Concrete Barrier Wall

The contractor may be required to trim the existing concrete barrier wall, see detail below.

All Labor, Equipment, and materials necessary to trim the existing concrete barrier wall shall be paid for as part of the installation of the **Impact Attenuator Installation (1 LSUM).**




Remove toe of slope to reduce base width to 24” for a minimum length of 30” and then flare the cut back to the original barrier width.

All trimmed materials shall be disposed of properly; Construction methods must be in accordance with subsections 204.03 of the MDOT 2020 Standard Specifications for Construction.

Impact Attenuator

Contractor shall remove existing Impact Attenuator and disposal of all materials properly; Construction methods must be in accordance with subsection 205.03.P of the MDOT 2020 Standard Specifications for Construction.

All Labor, Equipment, and materials necessary to remove existing Impact Attenuator and disposal of material shall be paid for as part of the installation of the **Impact Attenuator Installation (1 LSUM).**

The Impact Attenuator shall be **Type 7**.

See Impact Attenuator, Test Level-3 Furnish and Installed, Special Provision attached after page 11 of 11.

**PROJECT QUANTITIES**

Quantities are provided for informational purposes only. The Contractor is responsible for verifying the work items and quantities. No Additional compensation will be paid for increases in quantities or additional incidental items necessary to complete the work. All completed work will be measured and paid for as one lump sum as **Impact Attenuator Installation (1 LSUM).**

| Item | Quantity | Unit |
|---|---|---|
| Mobilization | 1 | LSUM |
| Guardrail, Rem | 50 | Ft |
| Impact Attenuator, Test Level-3 Furn and Install, Type 7 | 1 | Ea |
| Traffic Control | 1 | LSUM |

**GENERAL NOTES**

All work being performed will be conducted in the safest manner possible and appropriate PPE shall be used at all times. All work shall be done in accordance with the Michigan Department of Transportation 2020 Standard Specification for Construction. Contractor assumes all responsibilities for Quality Control (QC) to assure the plans and specifications are met per the contract and to provide professional craftsmanship in each task being performed. Any errors in plans or discrepancies found in the field shall be brought to the engineer's attention immediately. All materials shall meet the requirements of the Michigan Department of Transportation Materials Source Guide.

The Emmet County Road Commission, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office the Secretary, Part 21, Nondiscrimination 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 contact entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

MISS DIG / Underground Utility Notification

For the protection of underground utilities and in compliance with MCL 460.171 et seq, the Contractor shall contact MISS DIG System, Inc. by phone at 811 or 800-482-7171 or via the web at either elocate.missdig.org for single addresses or rte.missdig.org, a minimum of 3 working days prior to excavating, excluding weekends and holidays.

**AT&T**
Jeff Collard
(231) 347-8010

**DTE**
Matt Logan
(231) 258-3785

**CENTURY LINK**
Lance Gow
(231) 548-9930

**GREAT LAKES ENERGY**
William LaTourneau
(231) 487-1339

**TRUE STREAM**
Jeff Wilhelm
(231) 487-1356

**CHARTER COMMUNICATIONS**
Construction Coordinator
(616) 402-2700

**CONSUMERS ENERGY**
Dale Jacobs
(989) 370-6570

The existing utilities listed above and, on the plans, represent the best information available. This information does not relieve the Contractor of the responsibility to be satisfied as to its accuracy and the location of existing utilities.

Soil Erosion Measures
The Contractor shall implement and maintain the soil erosion control measures as shown on the plans before and at all times during construction of this project. All SESC measures shall conform to current MDOT standards, manufacture guidelines and established best practices.

Daily inspections shall be made by the Contractor; periodic inspections shall be made by the Engineer to determine the effectiveness of the SESC measures. Any required corrections shall be made without delay.

All permanent erosion control measures shall be permanently maintained by the Emmet County Road Commission.

Site Cleanup
The Contractor shall keep the work site clean of trash and other debris. At the end of each day, the project shall be inspected, and all trash removed. No payment shall be made for this work.

Bonding Requirements
The successful Contractor shall furnish a performance bond equal to the contract price as assurance for faithful contract performance.

The Contractor shall also furnish a separate ***surety bond*** equal to the contract price as security for payment to all persons performing labor and furnishing materials in connection with this contract. The Contractor shall pay the premium for all bonds.

The bonds must meet requirements of Michigan Law.

***Bonds shall be submitted and approved before contract execution***.

Insurance requirements

The Contractor shall furnish proof of general liability insurance in amounts not less than $2,000,000 each occurrence and general aggregate, proof of automobile liability in amounts not less than $2,000,000 combined single limit for each accident, bodily injury per accident, and property damage per accident, and in amount not less than $1,000,000 for bodily injury per person. Such proof of insurance shall include a valid certificate of insurance demonstrating that the Emmet County Road Commission is additional insured party on the policy. Such insurance shall cover a period not less than the term of the project and shall provide that it cannot be cancelled without 30 days advanced written notice to the Emmet County Road Commission, by certified mail, first class, return receipt requested. The Contract/Project Agreement will be invalid if insurance expires during the authorized period of work described.

In addition to any liability or obligation by the Contractor that may otherwise exist, Contractor shall, to the fullest extent permitted by law, indemnify and hold harmless the Emmet County Road Commission and its commissioners, officers, agents and employees from and against any and all claims, actions, proceedings, liabilities, losses, and damages thereof, and any and all costs and expenses, including legal fees, associated therewith which the Emmet County Road Commission may sustain by reason of claims for or allegations of negligence or violation of the terms and conditions of the Contract/Project Agreement, arising out of the work which is subject of the Contract.

Liquidated Damages

Liquidated damages will be assessed for failure to complete this project by the specified date, or by the allowed number of days specified once work begins, due to lack of effort, poor organization or ability to perform on the Contractor's part. Liquidated Damages may be waived by the Project Engineer. Liquidated damages will be assessed according to the table below:

| Project Award Amount | Liquidated Damages |
|---|---|
| $0 - $150,000 | $500 per Calendar Day |
| $150,001 - $500,000 | $750 per Calendar Day |
| Over $500,000 | $1,000 per Calendar Day |

**BID SHEET**

Board of Emmet County Road Commissioners
2265 East Hathaway Road
Harbor Springs, MI 49740

The undersigned proposes to furnish any and all materials, labor, and equipment necessary for the Removal and Installation I-75 Impact Attenuator as spelled out in the "Invitation to Bid" for the prices below.

The Emmet County Road Commission reserves the right to reject any and/or all bids based on what is in the best interest of Emmet County.

Contractor Name:_____

Project:

I-75 Attenuator Installation

| Item | Quantity | Unit | Unit Price | Total |
|---|---|---|---|---|
| Impact Attenuator Installation | 1 | LSUM | | |
| | | | TOTAL PROJECT COST ESTIMATE = | |

Bidder: _____ Address: _____

_____ _____

Signature: _____ Phone No.: _____

Printed Name: _____ Date: _____

Title: _____ Email: _____

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**IMPACT ATTENUATOR (LOW BID PURCHASE), TEST LEVEL 3 FURNISHED AND INSTALLED**



**a. Description.** This work consists of furnishing and delivering a *National Cooperative Highway Research Program Report* 350 (NCHRP 350), Test Level 3 (TL-3) or *Manual for Assessing Safety Hardware* (MASH), Test Level 3 (TL-3) impact attenuator, selected from those listed herein, of the type shown on the plans, to the job site; constructing the required base pad and foundation or modifying an existing foundation and attachments; and installing the device as shown on the plans. Complete this work in accordance with the impact attenuator manufacturer's details and specifications, and this special provision. When the requirements of this special provision conflict with the manufacturer's specifications, ensure the requirements of this special provision are followed.

**b. Materials.**

1. Construct attenuator base pad, anchor block and/or concrete backup unit using 4000 or 4000HP concrete in accordance with section 1004 of the Standard Specifications for Construction, or as directed by the Engineer.

2. Provide epoxy-coated steel reinforcement for constructing attenuator base pads, anchor blocks and/or concrete backup units meeting the requirements of section 905 of the Standard Specifications for Construction. Ensure epoxy coating for steel reinforcement meets the requirements of subsection 905.03.C of the Standard Specifications for Construction.

3. Provide impact attenuators meeting NCHRP 350, TL-3 or MASH, TL-3 criteria and having a letter of federal aid eligibility from the FHWA.

4. Provide an attenuator of the type specified on the plans.

5. Ensure the attenuator backup/backstop is of the type specified on the plans or as directed by the Engineer.

6. For the specified attenuator type, furnish any of the alternates permitted in Table 1.

7. Ensure transition assemblies used to increase the effective width of the attenuator meets all of the following requirements:

A. Ensure transition assembly is of the type specified on the plans or as directed by the Engineer;

B. Ensure transition assembly conforms to a crash-tested guardrail-to-bridge rail design meeting or exceeding NCHRP 350, TL-3 or MASH, TL-3;

C. For uni-directional applications, where traffic is flowing from the front toward the rear of the attenuator, the transition assembly must meet or exceed the requirements of NCHRP 350, TL-3 or MASH, TL-3, without securing the transition assembly to the hazard being shielded;

D. Ensure transition assembly can be furnished with posts designed to be secured to the surface of a concrete base pad or similar concrete surface, and will meet or exceed the requirements of NCHRP 350, TL-3 or MASH, TL-3;

E. Provide detailed shop drawings to the Engineer of the proposed transition assembly for review and approval by the Department. Engineer's approval is required to use a transition assembly that increases the effective width of an attenuator, and;

F. Provide a signed certification letter from the attenuator manufacturer and any supporting documents certifying that the transition assembly meets all of the requirements of this special provision.

The Contractor, attenuator vendors, other contractors, and other third parties are prohibited from acting as the attenuator manufacturer.

8. Ensure attenuator transition assemblies, transition panels, end panels, and other miscellaneous accessories required for proper installation meet the manufacturer's specifications.

9. Ensure the 24 inch square attenuator object marker sign is made of 0.040 inch thick aluminum. Ensure the yellow stripes on the attenuator object marker sign meet *ASTM D4956* specifications for Type IX retroreflective sheeting, and the requirements of Section 2C.64 and 2C.65 of the *Manual of Uniform Traffic Control Devices*.

10. Ensure guardrail beam elements, including associated hardware, and steel guardrail posts are in accordance with the requirements specified in section 908 of the Standard Specifications for Construction.

11. Ensure wood guardrail posts and guardrail blocks meet the requirements of section 912 of the Standard Specifications for Construction.

**c. Construction.** Ensure the impact attenuator meets the requirements specified in section b of this special provision, as well as any other requirements specified on the plans. Contact the Engineer and verify the backup/backstop type required before ordering the attenuator. If using a transition assembly that increases the effective width of the attenuator, obtain the Engineer's approval to use the transition assembly before ordering the attenuator.

Furnish and deliver the impact attenuator to the job site.

Ensure prior to attenuator installation, the attenuator manufacturer or authorized attenuator vendor in Michigan provides the Engineer with the name, telephone number and electronic mail (e-mail) address of a manufacturer's representative or vendor's representative assigned to the project. Ensure the manufacturer's representative or vendor's representative has thorough knowledge of the attenuator and related components being installed. The manufacturer's representative or vendor's representative cannot be employed, either directly or under contract,

by the Contractor. The Contractor is prohibited from acting as the manufacturer's representative or the vendor's representative.

Provide an employee trained by the manufacturer in the proper installation of the impact attenuator system supplied for the project.

Construct any required concrete base pads, anchor blocks or concrete backup units with steel reinforcement in accordance with the plans and/or manufacturer's specifications. Construction of concrete base pads, anchor blocks or concrete backup units without steel reinforcement is prohibited. Ensure when the MDOT plans or the requirements of this special provision conflict with the manufacturer's specifications, the requirements of the MDOT plans or this special provision are followed.

Ensure the manufacturer's representative and/or vendor's representative is on-site to witness the attenuator installation, including the final torque-check of all attenuator anchors.

Contact the Engineer at least 24 hours prior to attenuator installation and provide the attenuator installation date. Unless otherwise directed by the Engineer, ensure the Engineer is present during attenuator installation and the final torque-check of all attenuator anchors.

Install the unit and connect the unit to the backup and to the front anchoring system as required for proper installation of the system.

Furnish and install attenuator transition assemblies (including guardrail beam elements, guardrail posts, guardrail blocks, and miscellaneous hardware), transition panels, end panels, and other miscellaneous accessories required for proper connection to guardrail, concrete barrier, or other concrete structure. Install these items per manufacturer's specifications.

Furnish and install an object marker, with alternating black and yellow stripes, to the nose of the attenuator. Ensure the object marker is constructed and installed in accordance with the diagram titled "Impact Attenuator Object Marker" WZD-150 Series.

Attachments to the attenuator (appurtenances) approved by the attenuator manufacturer may be installed per manufacturer's specifications. Do not attach unapproved appurtenances to the attenuator.

Provide written certification to the Engineer that the attenuator is installed in accordance with the plans, manufacturer's specifications and guidelines, and this special provision.

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

| **Pay Item** | **Pay Unit** |
|---|---|
| Impact Attenuator, Test Level-3, Furn and Install, Type __ | Each |

**Impact Attenuator, Test Level-3, Furn and Install, Type** __ includes all materials, labor, and equipment required to:

1. Furnish and deliver the impact attenuator;

2. Construct the base pad, anchor block and/or concrete backup unit;

3. Install the attenuator (including all hardware and appurtenances) in accordance with the plans, manufacturer's specifications and guidelines, and this special provision;

4. Connect the unit to the backup and to the front anchoring system as required;

5. Provide a trained installer on-site during installation;

6. Provide a manufacturer's representative and/or vendor's representative on-site during attenuator installation, including the final torque-check of all attenuator anchors;

7. Furnish and install all necessary transition assemblies, transition panels, end panels, and other miscellaneous accessories required for proper connection to guardrail, concrete barrier, or other concrete structure. This includes furnishing and installing guardrail beam elements, guardrail posts, guardrail blocks, and miscellaneous hardware required for proper installation, and;

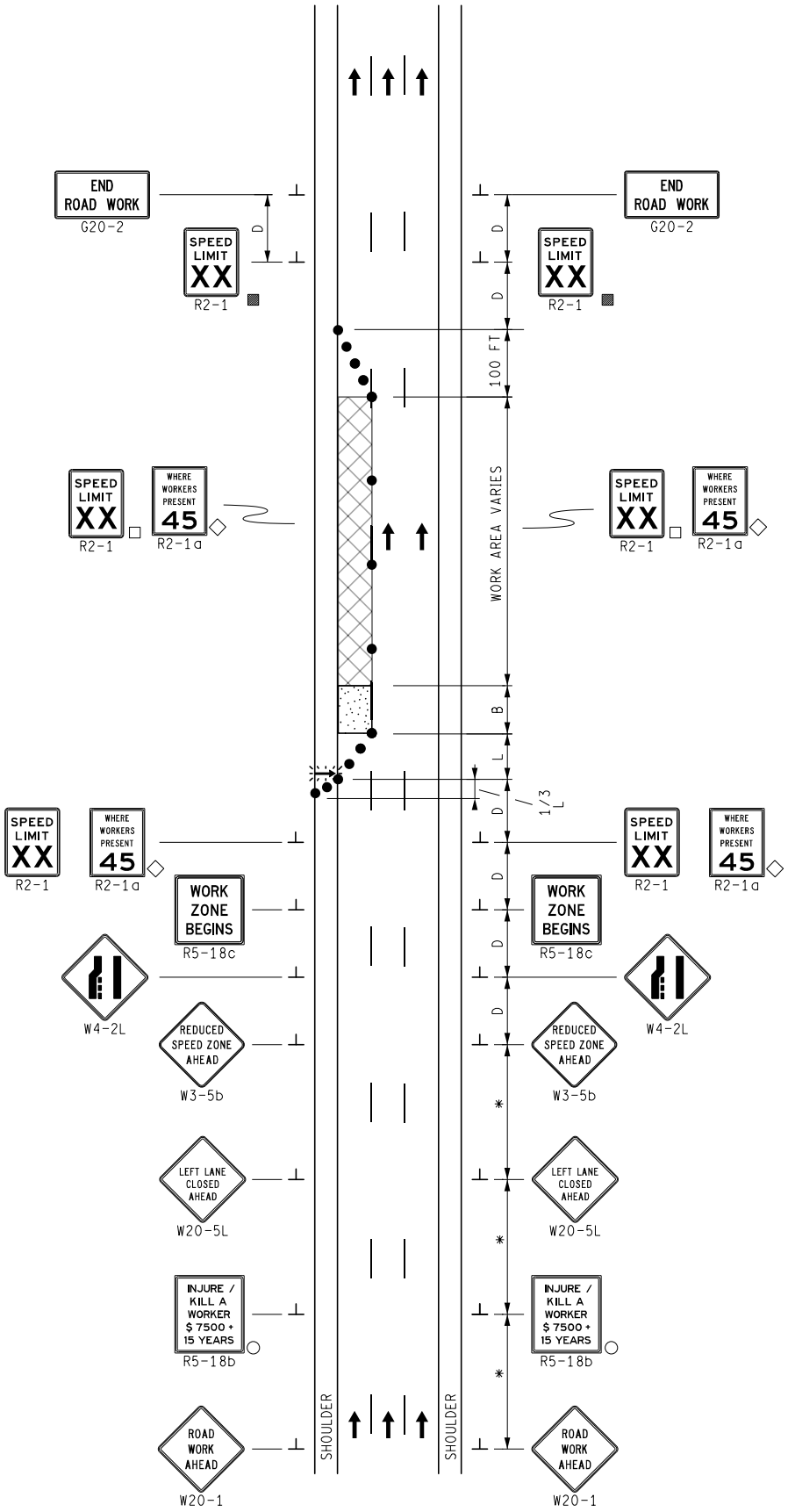
8. Furnish and install an object marker to the nose of the attenuator.

The Contractor is responsible for furnishing attenuators, transition assemblies, and associated hardware in accordance with the requirements of this special provision. Ensure attenuators, transition assemblies, and/or associated hardware not conforming to the requirements of this special provision and rejected by the Department, are removed and replaced with devices meeting the requirements of this special provision at no additional cost to the contract.

**Table 1. Approved Attenuator Types and Manufacturers**

| Attenuator Type | Description | Approved Attenuators | Manufacturer of Each Respective Attenuator |
|---|---|---|---|
| 1 | 24 inch Standard Attenuator (Protects object up to 24 inches in width) | 1) Quadguard II<br>2) TAU-II<br>3) Quadguard Elite<br>4) SCI 100 GM<br>5) TAU-II-R | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Trinity Highway Products<br>4) Hill & Smith<br>5) Lindsay Transportation Solutions |
| 2 | 30 inch Standard Attenuator (Protects object up to 30 inches in width) | 1) Quadguard II<br>2) TAU-II<br>3) Quadguard Elite<br>4) TAU-II-R<br>5) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Trinity Highway Products<br>4) Lindsay Transportation Solutions<br>5) Hill & Smith |
| 3 | 36 inch Standard Attenuator (Protects object up to 36 inches in width) | 1) Quadguard II<br>2) TAU-II<br>3) Quadguard Elite<br>4) TAU-II-R<br>5) REACT 350<br>6) REACT 350 II<br>7) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Trinity Highway Products<br>4) Lindsay Transportation Solutions<br>5) Trinity Highway Products<br>6) Trinity Highway Products<br>7) Hill & Smith |

| | | | |
|---|---|---|---|
| 4 | 48 inch Standard Attenuator (Protects object up to 48 inches in width) | 1) Quadguard II<br>2) TAU-II<br>3) TAU-II-R<br>4) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Lindsay Transportation Solutions<br>4) Hill & Smith |
| 5 | 69 inch Standard Attenuator (Protects object up to 69 inches in width) | 1) Quadguard II<br>2) TAU-II<br>3) Quadguard Elite<br>4) TAU-II-R<br>5) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Trinity Highway Products<br>4) Lindsay Transportation Solutions<br>5) Hill & Smith |
| 6 | 90 inch Standard Attenuator (Protects object up to 90 inches in width) | 1) Quadguard II<br>2) TAU-II<br>3) Quadguard Elite<br>4) TAU-II-R<br>5) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Trinity Highway Products<br>4) Lindsay Transportation Solutions<br>5) Hill & Smith |
| 7 | 24 inch Low-Maintenance Attenuator (Protects object up to 24 inches in width) | 1) Quadguard Elite<br>2) SCI 100 GM<br>3) TAU-II-R | 1) Trinity Highway Products<br>2) Hill & Smith<br>3) Lindsay Transportation Solutions |
| 8 | 30 inch Low-Maintenance Attenuator (Protects object up to 30 inches in width) | 1) Quadguard Elite<br>2) SCI 100 GM<br>3) TAU-II-R | 1) Trinity Highway Products<br>2) Hill & Smith<br>3) Lindsay Transportation Solutions |
| 9 | 36 inch Low-Maintenance Attenuator (Protects object up to 36 inches in width) | 1) Quadguard Elite<br>2) REACT 350<br>3) REACT 350 II<br>4) TAU-II-R<br>5) SCI 100 GM | 1) Trinity Highway Products<br>2) Trinity Highway Products<br>3) Trinity Highway Products<br>4) Lindsay Transportation Solutions<br>5) Hill & Smith |
| 10 | 60 inch Low-Maintenance Attenuator (Protects object up to 60 inches in width) | 1) REACT 350 Wide<br>2) TAU-II-R<br>3) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Hill & Smith |
| 11 | 69 inch Low-Maintenance Attenuator (Protects object up to 69 inches in width) | 1) Quadguard Elite<br>2) TAU-II-R<br>3) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Hill & Smith |
| 12 | 90 inch Low-Maintenance Attenuator (Protects object up to 90 inches in width) | 1) Quadguard Elite<br>2) TAU-II-R<br>3) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Hill & Smith |
| 13 | 96 inch Low-Maintenance Attenuator (Protects object up to 96 inches in width) | 1) REACT 350 Wide<br>2) TAU-II-R<br>3) SCI 100 GM | 1) Trinity Highway Products<br>2) Lindsay Transportation Solutions<br>3) Hill & Smith |
| 14 | 120 inch Low-Maintenance Attenuator (Protects object up to 120 inches in width) | 1) REACT 350 Wide<br>2) SCI 100 GM | 1) Trinity Highway Products<br>2) Hill & Smith |




## KEY

- • • • CHANNELIZING DEVICES
- LIGHTED ARROW PANEL
- ← TRAFFIC FLOW
- ▩ REFLECTS EXISTING SPEED LIMIT
- ○ PLACE SIGN AS INDICATED IN NOTE S2
- ◇ R2-1a OPTIONAL
- ✳ PLACE SIGN AT A SPACING OF D ON DIVIDED ROADWAYS AND 2D ON FREEWAYS

## STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
SIGNING: S1, S2, S3, S5, S8
DEVICES: TCD1, TCD2, TCD6

| | | | | |
|---|---|---|---|---|
| MDOT Michigan Department of Transportation | NOT TO SCALE | MAINTAINING TRAFFIC TYPICAL | SINGLE LEFT LANE CLOSURE ON A FREEWAY OR DIVIDED ROADWAY | DATE: MAY 2021 |
| FILE: 204-FW-1LC-(L).dgn | | NO: 204-FW-1LC-(L) | | SHEET: 1 OF 1 |