



**DATE:** June 26, 2026

**FROM:** Elkhart County Highway Department  
610 Steury Avenue  
Goshen, IN 46528

**TO:** Prospective Bidders

**RE:** ADDENDUM No. 1 to the Project Bid Documents  
For Elkhart County Bridge No. 193 Rehabilitation  
Elkhart County, Indiana

---

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents as noted on the following pages. Please acknowledge receipt of the Addendum in the space provided in the Bid form. Failure to do so may subject the Bidder to disqualification.



**GENERAL COMMENTS:**

- 1) TP6 titled "SPRAY APPLIED BRIDGE DECK MEMBRANE SYSTEM" has been deleted and replaced with TP6 titled "WATERPROOFING MEMBRANE". Item 38 in the Itemized Proposal titled "SPRAY APPLIED BRIDGE DECK MEMBRANE SYSTEM" has been deleted and replaced with "WATERPROOFING MEMBRANE, TYPE 3."



## **SUBMITTED CONTRACTOR QUESTIONS & RESPONSES (Q&A Log):**

1. Q: Please advise if ODOT standard DBR inserts (DBR-2-73) would be an acceptable alternative to the TS-1 assembly detailed with in the contract plans. The INDOT standard for the TS-1 type of guardrail no longer exists, and the material is not readily available.

**A: TS-1 railing assembly detailed in the plans will not change. The exterior beams will be revised to have a top flange thickness of 10 inches and the location of the TS-1 anchor bolts will be revised to be located 4 ¼" clear distance from the top of the exterior beams. Plan revisions detailing this change will be provided following project bidding.**

TABLE OF CONTENTS

TP1 - SPECIAL RIGHT-OF-WAY CONDITIONS..... 3

TP2 – SHEET PILING, STEEL..... 4

TP3 – HMA PAVEMENTS ..... 5

TP4 – GUARDRAIL END TREATMENT..... 6

TP5 – GUARDRAIL TRANSITIONS..... 7

TP6 – ~~SPRAY APPLIED BRIDGE DECK MEMBRANE SYSTEM~~  
WATERPROOFING MEMBRANE..... 8

TP7 – UNDISTRIBUTED ITEMS..... 13

TP8 – RIGHT OF ENTRIES SECURED..... 14

TP9 – ROAD CLOSURE..... 15

TP10 – TS-1 RAILING ..... 16

---

~~TP6—SPRAY APPLIED BRIDGE DECK MEMBRANE SYSTEM~~~~1. GENERAL~~

~~—This work shall consist of preparation for and application of a spray-applied waterproofing membrane system on the top of the prestressed concrete box beams, down the ends of the beams, and on the reinforced concrete end bents in accordance with 105.03, at the locations shown on the plans. The spray-applied waterproofing membrane system shall consist of a primer, base coat membrane, topcoat membrane, aggregate topcoat, and tack coat.~~

~~2. MATERIALS~~

~~The primer, membrane, and ancillary items shall be supplied by the following:~~

- ~~—~~
- ~~— Bridge Preservation, LLC “Bridge Deck Membrane”~~
- ~~— 686 S. Adams St.~~
- ~~— Kansas City, KS 66105~~
- ~~— (913) 321-9000~~
- ~~— [www.bridgepreservation.com](http://www.bridgepreservation.com)~~

~~The Contractor may submit a request for an alternate material supplier to the Engineer for approval. Written approval of the substitute supplier by the Engineer is required prior to purchasing any substitute materials. No payment for any substitute materials will be made without written approval of the Engineer for the substitution.~~

~~The tack coat and broadcast aggregate shall be approved by the membrane manufacturer and shall be supplied by either the Contractor or the membrane manufacturer.~~

~~All materials shall be stored in a clean and dry location and shall be protected from exposure to direct sunlight. Materials shall be stored within the temperature range and humidity range specified by the manufacturer. All materials shall be delivered and stored in the manufacturer's original containers labeled with the manufacturer's name, product brand name, and batch/lot numbers.~~

~~A Type C Certification in accordance with 916, including the vendor's name and product name shall be furnished for the spray-applied waterproofing membrane system.~~

~~3. CONSTRUCTION~~~~A. Submittals~~

~~The spray-applied waterproofing membrane system shall be placed in accordance with the approved Quality Control Plan (QCP), which shall be prepared and submitted in accordance with Indiana Testing Method (ITM) 803. The QCP shall include the installer's experience placing spray-applied membranes within the last three years, and the manufacturer's technical representative's experience placing spray-applied membranes within the last five years. The spray-applied membrane system manufacturer's material information, written installation instructions, material safety data sheets, and descriptions of the equipment to be used shall be included with the QCP. The installer of the spray-applied waterproofing membrane system shall be approved by the membrane~~

~~manufacturer and the manufacturer's written approval of the installer shall be included in the QCP. The QCP shall be submitted to the Engineer at least 14 days prior to commencing membrane installation operations. Approval of the QCP by the Engineer is required prior to commencing membrane installation operations.~~

~~The spray applied waterproofing membrane system manufacturer shall approve the tack coat and broadcast aggregate. The Contractor shall submit to the Engineer the manufacturer's written approval of the tack coat and broadcast aggregate materials at least seven days prior to the application of any system component.~~

#### ~~B. Project Conditions and Testing Requirements~~

~~The spray applied bridge deck membrane system manufacturer shall provide a representative to be on site at all times during the final surface preparation and all phases of the membrane installation.~~

~~The spray applied waterproofing membrane system shall be installed at all locations shown on the plans. Pre-passes of membrane system primer shall be made over each longitudinal beam joint prior to installation of the primer over the entirety of the box beams to provide additional membrane thickness over the joints. Where the areas to receive the membrane are bounded by vertical surfaces, including but not limited to, bridge railings or expansion joints, the membrane system shall be continued up the vertical surface to a neat line finish that coincides with the top surface of the bituminous overlay. The membrane system shall be overlapped a minimum of 4 in. at all construction joints and the previously applied membrane shall be cleaned a minimum of 6 in. past the joint using a solvent approved by the spray applied waterproofing membrane system manufacturer.~~

~~The spray applied waterproofing membrane system shall be applied only when the ambient temperature is at least 40°F and rising and the concrete surface temperature exceeds the dew point by at least 10°F. The waterproofing membrane system may only be installed if the relative humidity is less than or equal to 85 percent.~~

~~The spray applied waterproofing membrane system shall be applied only when the concrete surface, including any partial and full depth patches, has a moisture content of 5.0 percent or less. The moisture content shall be measured using a portable electronic surface moisture meter supplied by the Contractor and reported to the Engineer prior to installation of any system component. The spray applied waterproofing membrane system shall not be installed more than 24 hours before the placement of the bituminous overlay unless approved by the Engineer.~~

~~Random tests shall be performed for adequate tensile bond strength between the substrate and primer and between the primer and membrane. Bond strength tests for the primer shall be performed in accordance with ASTM D7234 with the membrane acting as the adhesive between the primer and the test dolly. A minimum bond strength of 150 psi shall be required. The frequency of testing shall be at least 1 test per 5,000 square feet, with a minimum of three tests per bridge. The membrane system base coat shall meet the following criteria:~~

<del>Solids Content.....</del>	<del>100%</del>
<del>Gel Time.....</del>	<del>10 seconds, maximum</del>

---

<del>Tack Free time.....</del>	<del>30 seconds, maximum</del>
<del>Shore Hardness.....</del>	<del>40D, minimum, per ASTM D2240</del>
<del>Adhesion to Concrete.....</del>	<del>150 psi, minimum, per ASTM D7234</del>
<del>Tensile Strength.....</del>	<del>2,000 psi, minimum, per ASTM D638</del>
<del>Tear Strength.....</del>	<del>300 lb/in, minimum, per ASTM D638</del>
<del>Elongation at Break.....</del>	<del>150%, minimum, per ASTM D638</del>
<del>Low Temperature Crack Bridging (1/8").....</del>	<del>Pass @ 40 cycles, per ASTM C1305</del>
<del>Extensibility after Heat Aging (1/4").....</del>	<del>Pass, per ASTM C1522</del>

~~The membrane system top coat shall meet the following criteria:~~

<del>Solids Content.....</del>	<del>100%</del>
<del>Gel Time.....</del>	<del>30 seconds, minimum</del>
<del>Tack Free time.....</del>	<del>60 seconds, minimum</del>
<del>Shore Hardness.....</del>	<del>40D, minimum, per ASTM D2240</del>
<del>Tensile Strength.....</del>	<del>2,000 psi, minimum, per ASTM D638</del>
<del>Tear Strength.....</del>	<del>300 lb/in, minimum, per ASTM D638</del>
<del>Elongation at Break.....</del>	<del>150%, minimum, per ASTM D638</del>

~~The composite membrane system composed of Spray Applied Base Coat Membrane, Spray Applied Top Coat Membrane, and Manufacturer approved aggregate broadcast into Top Coat Membrane shall meet the following criteria:~~

~~Low Temperature Crack Bridging (1/8").....Pass @ 40 cycles, per ASTM C1305~~

~~The wet film thickness of the membrane system shall be checked using a gage pin or comb type thickness gage. Thickness shall be measured at a frequency not to exceed one test per every 300 square feet. If the membrane cures too quickly for accurate wet film thickness measurements, the dry film thickness shall be measured using magnetic or ultrasonic gages. Magnetic or ultrasonic gages shall have been calibrated within the past year and a copy of the calibration certificate shall be submitted to the Engineer prior to the application of any system component.~~

~~A visual inspection of the membrane for holidays or other defects shall be performed throughout the membrane installation by the membrane manufacturer. All defects shall be marked and repaired using a procedure developed by the manufacturer and approved by the Engineer.~~

### ~~C. Surface Preparation~~

~~The bridge concrete surfaces to receive the spray applied waterproofing membrane system shall be prepared in accordance with the membrane manufacturer's recommendations. The Contractor shall provide a clean, sound, and dry substrate free of dirt, dust, debris, or deleterious material. The Contractor shall prepare the concrete surfaces to receive the membrane in accordance with SSPC-SP13/NACE No. 6 Surface Preparation of Concrete and achieve a Concrete Surface Profile (CSP) of at least 3 measured using ICRI CSP chips.~~

~~After all surface preparation has been completed and prior to the primer installation on the completed surfaces, tensile bond strength shall be tested in accordance with section (b)~~

~~of this provision. Application of the primer shall not be performed on the remaining portions of the bridge until tensile bond strength tests pass the acceptance criteria and the membrane manufacturer's representative has approved the surface preparation.~~

~~All areas that are not to receive the membrane shall be protected using masking, spray curtains, or other methods to prevent overspray.~~

#### ~~D. Primer Application~~

~~The primer shall be installed only after the surface has been prepared, tensile bond strength tests pass the acceptance criteria, and the weather and surface moisture requirements specified in section (B) have been met. The primer shall be applied by spray, roller, or squeegee at a rate of no less than one gallon per 130 square feet and no more than one gallon per 200 square feet, and in accordance with the manufacturer's recommendations. A second coat of primer shall be required if the first coat is absorbed by the concrete. The primer shall be tack free prior to the membrane installation, but in no case shall the primer be installed more than 24 hours prior to the membrane installation.~~

#### ~~E. Base Coat Membrane Installation~~

~~The base coat membrane shall be spray applied using computer controlled equipment capable of monitoring mix ratios and coverage rates. The minimum thickness of the base coat membrane shall be 80 mils. Additional coats shall be applied in all areas where the measured membrane thickness is less than the specified minimum. The base coat membrane shall be visually inspected, and the thickness tested in accordance with section (B) of this provision.~~

#### ~~F. Topcoat Membrane and Aggregate Topcoat Installation~~

~~The topcoat membrane shall be spray applied after the application of the base coat membrane. The minimum thickness of the topcoat membrane shall be 40 mils. The aggregate topcoat shall immediately be broadcast into the wet topcoat membrane at a rate of 0.33 to 0.50 lbs per square foot. The aggregate topcoat shall be uniformly applied and shall cover a minimum of 95% of the membrane. All excess or loose aggregate shall be removed after the topcoat membrane has cured in accordance with the manufacturer's recommendations. The topcoat membrane shall be visually inspected. The total thickness of the combined base and topcoats tested shall satisfy section (B) of this provision.~~

#### ~~G. Tack Coat Installation~~

~~Asphalt tack coat shall be installed after the topcoat membrane has cured per the manufacturer's recommendations, but not less than 3 hours from topcoat installation, and the surface meets the requirements of 406.04. The tack coat shall be installed per the manufacturer's recommendations and in accordance with 406.05.~~

~~The completed spray applied waterproofing membrane system shall be fully cured in accordance with the manufacturer's recommendations, but not less than one hour prior to the placement of the bituminous overlay.~~

~~4. MEASUREMENT~~

~~The spray applied waterproofing membrane system will be measured by the square foot of actual surface area of spray applied waterproofing membrane system, complete in place.~~

~~Tack coat will be measured in accordance with 406.06.~~

~~5. PAYMENT~~

~~The spray applied waterproofing membrane system will be paid for at the contract unit price per square foot, complete in place.~~

~~Tack coat will be paid for in accordance with 406.07.~~

~~Payment will be made under:~~

<del><u>Pay Item</u></del>	<del><u>Pay Unit</u></del>
<del>Spray Applied Bridge Deck Membrane System</del>	<del>SFT</del>

~~The cost of the manufacturer's representative oversight during all membrane system preparation and installation operations, overspray shielding, existing surface preparation, transportation, placement, primer, base coat membrane, topcoat membrane, aggregate topcoat, testing, labor, and all incidentals required to furnish and install the spray applied waterproofing membrane system shall be included in the cost of the Spray Applied Bridge Deck Membrane System.~~

## TP6 – WATERPROOFING MEMBRANE

The Standard Specifications are revised as follows:

SECTION 714, AFTER LINE 21, INSERT AS FOLLOWS:

*Fabric or Membrane for Waterproofing* ..... 918.06

SECTION 714, AFTER LINE 372, DELETE AND INSERT AS FOLLOWS:

*The pipe joint sealant shall be applied to the bell or spigot section of the structure and applied prior to joining segments. The volume of pipe joint sealant applied shall be in accordance with the manufacturer's recommendations.*

### (b) Exterior Surface Treatment

After sealing with pipe joint sealant and assembling the box sections, the outside surfaces of the top slab and both walls of every joint between structure sections shall be covered with a joint membrane in accordance with 907.07 that is centered on the joint, *unless a waterproofing membrane is shown on the plans or in the Schedule of Pay Items.* The exterior concrete box surface shall be clean and dry before the joint membrane is applied. The outside surfaces of the top slab and both walls of every joint shall be completely covered for the entire length of each joint. Where joining two sections of joint membrane material, or where two ends meet, a 3 in. overlap shall be provided. The overlapping strip shall be firmly pressed onto the end of the underlying strip to seal the joint. Joints between structure sections and wingwalls, between wingwalls and spandrel walls, and between structure sections and headwalls or spandrel walls shall also be covered with joint membrane. The manufacturer's application instructions shall apply in addition to the above requirements.

The joint membrane shall be maintained in its installed location centered on the joint and shall not be damaged or dislodged during the backfilling operation.

### **714.11 Waterproofing Membrane**

*When a waterproofing membrane is shown on the plans or in the Schedule of Pay Items, joints, exterior vertical surfaces, and the exterior top horizontal surface shall be covered in their entirety with the membrane. A Type 2 waterproofing membrane shall be installed on all exterior vertical surfaces. If asphalt is placed directly on top of the waterproofing membrane, a Type 3 waterproofing membrane shall be installed otherwise a Type 2 membrane shall be installed.*

### (a) Preparation

*Concrete surfaces shall be prepared in accordance with the waterproofing membrane manufacturer's recommendations and the following. Concrete surfaces shall be smooth and free from projections and holes. All sharp edges and metal protrusions shall be ground smooth. Immediately prior to application, the surface shall be dry and free of dust and loose materials. All joints and exterior corners shall be prepared in accordance with the waterproofing membrane manufacturer's recommendations.*

*Prior to installing a Type 2 waterproofing membrane a prime coat recommended by the waterproofing membrane manufacturer shall be applied to all exterior surfaces that will receive the waterproofing membrane. Waterproofing membranes shall be installed when the ambient temperature is 40°F or above unless lower temperatures are allowed in accordance with the waterproofing membrane manufacturer's recommendations.*

*Type 3 waterproofing membranes shall be installed when the ambient temperature is 40°F or above. The surface shall be sufficiently dry so as to prevent the formation of steam when the hot-applied prime coat is applied.*

**(b) Installation**

*The waterproofing membrane shall be installed prior to backfilling.*

*For waterproofing membrane material that does not cover the surface, an overlap of at least 3 in. shall be required on all edges. The Type 2 or Type 3 waterproofing membrane from the top horizontal surface shall overlap the membrane on the vertical surfaces on the outside by at least 12 in. The manufacturer's application instructions shall apply in addition to the above requirements.*

**1. Type 2 Waterproofing Membrane**

*For a Type 2 waterproofing membrane, the release liner shall be removed, and the adhesive side shall be placed on the prepared concrete surface. After application, the waterproofing membrane material shall be rolled to avoid wrinkling and ensure adhesion of the membrane to the concrete.*

**2. Type 3 Waterproofing Membrane**

*For a Type 3 waterproofing membrane, the prime coat shall be applied no farther than 5 ft in front of the membrane, using a squeegee to fill all voids and imperfections. The waterproofing membrane shall be applied from the low to the high side of the surface. An extra bead of prime coat material shall be applied at the edge of the waterproofing membrane.*

*Prime coat material and waterproofing membrane shall stop a uniform distance below the top surfaces and shall overlap the Type 2 waterproofing membrane a minimum of 12 in. The prime coat material shall not be splattered over or applied to surfaces or faces of concrete which subsequently are exposed in the finished structure. The waterproofing membrane shall be placed in V-strips at the joints to allow the movement of adjacent concrete sections without tearing the membrane. The waterproofing membrane shall be flashed at all exposed edges and laps sealed down. The waterproofing membrane shall not be damaged when backfill is placed. After installing the waterproofing membrane over the entire surface, all joints in the membrane shall be sealed by applying a prime coat and smoothing with a V-squeegee.*

*On structures with curbs, the waterproofing membrane shall be placed 3 in. up the curb face and the edge of the membrane shall be sealed in accordance with the waterproofing membrane manufacturer's recommendation.*

*Tack coat, in accordance with 406, shall be applied to a Type 3 waterproofing membrane, without damaging the membrane at an application rate of 0.05 to 0.08 gal./sq yd before placing any asphalt pavement.*

**714.112 Method of Measurement**

Precast reinforced concrete box structures or structure extensions, precast coated reinforced concrete box structures or structure extensions, precast headwalls, precast wingwalls, cast-in-place reinforced concrete box structures or structure extensions, cast-in-place coated reinforced concrete box structures or structure extensions, cast-in-place headwalls, and cast-in-place wingwalls will not be measured. The accepted quantities for payment will be the quantities shown on the plans.

*Waterproofing membrane will not be measured. The accepted quantities for payment will be the quantities shown in the Schedule of Pay Items, which will be based on nominal surface area to receive the membrane as shown on the plans and described herein. No adjustments in quantities will be made to account of overlapping portions of membrane or changes in surface area due to variations between nominal plan and furnished structure geometry.*

SECTION 714, BEGIN LINE 417, DELETE AND INSERT AS FOLLOWS:

**714.1213 Basis of Payment**

SECTION 714, AFTER LINE 448, INSERT AS FOLLOWS:

*Waterproofing Membrane, \_\_\_\_\_ .....SFT*  
*type*

The cost of excavation except as provided in 206.11(a), expansion joint material, perpetuation of existing drains shown on the plans, removal of portions of existing structures, cleaning out old channels or structures, chemical anchor system, precast reinforced concrete structure joints, pipe joint sealant, joint membrane, and necessary incidentals shall be included in the cost of the structure or structure extension.

*The cost of the prime coat shall be included in the cost of the waterproofing membrane.*

SECTION 723, AFTER LINE 26, INSERT AS FOLLOWS:

*Fabric or Membrane for Waterproofing ..... 918.06*

SECTION 723, BEGIN LINE 93, DELETE AND INSERT AS FOLLOWS:

**723.03 General Requirements**

Excavation and disposal shall be in accordance with the applicable requirements of 206. *Waterproofing membranes shall be in accordance with 714.11. ~~Waterproofing of the designated areas shall be in accordance with 702.23.~~* All underground drains encountered during excavation for the structure shall be perpetuated as dictated by field conditions. Drainage openings through masonry shall be in accordance with 702.16. Handling of three-sided structures shall be in accordance with 907.05. Handling of wingwalls and spandrel walls shall be in accordance with 907.06.

SECTION 723, BEGIN LINE 434, DELETE AND INSERT AS FOLLOWS:

**(b) Exterior Surface Treatment**

After sealing with preformed flexible joint sealant or non-shrink grout as directed above, and assembly of three-sided structure sections, all butt and keyway joints between structure sections shall be covered with a joint membrane in accordance with 907.07 and centered on the joint, *unless a waterproofing membrane is shown on the plans or in the Schedule of Pay Items.*

The exterior surface of the concrete sections shall be clean and dry before the joint membrane is applied. The outside surfaces of the top slab and both walls of every joint shall be completely covered for the entire length of each joint. Where joining two sections of joint membrane material, or where two ends meet, a 3 in. overlap shall be provided. The overlapping strip shall be firmly pressed onto the end of the underlying strip to seal the joint. Joints between structure sections and wingwalls, between wingwalls and spandrel walls, and between structure sections and headwalls or spandrel walls shall also be covered with a joint membrane.

The joint membrane shall be maintained in its installed location centered on the joint. It shall not be damaged during the backfilling operation.

*When shown on the plans or in the Schedule of Pay Items, all joints, exterior vertical surfaces, and exterior top surfaces shall be covered in their entirety with a waterproofing membrane in accordance with 714.11.*

**723.15 Backfilling**

*Waterproofing membrane shall be applied prior to backfilling.* Structure backfill shall be placed and compacted in accordance with 211. Structure backfill shall be placed and compacted on each side of the structure to the fill line shown on the plans. During the backfill operation, the difference in elevations of the fill on each side of the structure shall not exceed 24 in.

SECTION 723, AFTER LINE 499, INSERT AS FOLLOWS:

*Waterproofing membrane will not be measured. The accepted quantity for payment will be in accordance with 714.12.*

SECTION 723, AFTER LINE 518, INSERT AS FOLLOWS:

*Waterproofing membrane will be paid for in accordance with 714.13.*

SECTION 918, BEGIN LINE 109, DELETE AND INSERT AS FOLLOWS:

**918.06 Fabric or Membrane for Waterproofing**

~~Fabric for~~ *Type 1 waterproofing membrane shall be consist of a Utility Asphalt, UA-1 in accordance with 902.01(d) and a fabric consisting of treated cotton in accordance with ASTM D173, woven glass in accordance with ASTM D1668, or glass fiber mat in accordance with ASTM D2178. A Type C certification in accordance with 916 shall be provided for the fabric Type 1 material.*

*Type 2 waterproofing membrane shall consist of a rubberized asphalt and peel-and-stick membrane. Membrane materials shall be stored indoors and at temperatures not to exceed 120°F.*

<i>PROPERTY</i>	<i>TEST METHOD</i>	<i>REQUIREMENTS</i>
<i>Thickness</i>	<i>ASTM D1777 or</i>	<i>60 mils, min.</i>
	<i>ASTM D3767</i>	
<i>Width</i>		<i>24 in., min.</i>
<i>Pliability</i>		<i>Shall be installed over 40 °F</i>
<i>Elongation</i>	<i>ASTM D412 (Die C)</i>	<i>300%, min.</i>
<i>Puncture Resistance – Membrane</i>	<i>ASTM E154</i>	<i>35 lb min.</i>
<i>Permeance</i>	<i>ASTM E96, Method B</i>	<i>0.05 Perms, max.</i>
<i>Water Absorption, % by Weight</i>	<i>ASTM D570</i>	<i>0.2, max.</i>
<i>Adhesion to concrete</i>	<i>ASTM D903</i>	<i>5.0, min.</i>

Type 3 waterproofing membrane shall consist of a hot-applied joint prime coat in accordance with ASTM D6690 and a membrane consisting of a high-density asphalt mastic between two layers of polymeric fabric. The membrane and prime coat materials shall be kept dry prior to installation.

<i>PROPERTY</i>	<i>TEST METHOD</i>	<i>REQUIREMENTS</i>
<i>Thickness, min.</i>	<i>ASTM D1777</i>	<i>0.135 in.</i>
<i>Width, min.</i>		<i>24 in.</i>
<i>Weight, min.</i>		<i>0.8 lb/sq ft</i>
<i>Tensile strength, machinedirection</i>	<i>ASTM D882, Modified<sup>[1]</sup></i>	<i>275 lb/in. 2,000 psi</i>
<i>Tensile strength, 90 °to machine direction</i>	<i>ASTM D882, Modified<sup>[1]</sup></i>	<i>150 lb/in. 1,000 psi</i>
<i>Elongation at break</i>	<i>ASTM D882, Modified<sup>[1]</sup></i>	<i>100% min.</i>
<i>Brittleness</i>	<i>ASTM D517</i>	<i>Pass</i>
<i>Softening point (mastic)</i>	<i>ASTM D36</i>	<i>200 °F min.</i>
<i>Peel adhesion</i>	<i>ASTM D413<sup>[1]</sup></i>	<i>2.0 lb/in.</i>
<i>Cold flex</i>	<i>ASTM D146 2 x 5 in. specimen</i>	<i>180 °bend over 2-in. mandrel with no cracking</i>
<i>Heat stability</i>	<i>2 x 5 in. specimen</i>	<i>vertically suspended in a mechanical convection oven 2 hr @ 190 °F with no dripping or delamination</i>
<i>[1] 12 in. per minute test speed and 1 in. initial distance between the grips.</i>		

A Type B Certification in accordance with 916 shall be provided for the Type 2 and Type 3 materials.

**BRIDGE 193 REHABILITATION PROJECT****BID DOCUMENTS**

<b>ELKHART COUNTY, INDIANA</b>						
<b>BOARD OF COUNTY COMMISSIONERS</b>						
<b>BRIDGE 193 REHABILITATION PROJECT</b>						
<b>ITEMIZED PROPOSAL</b>						
<b>NO.</b>	<b>SPEC. SECTION</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>UNIT PRICE</b>	<b>EXTENSION</b>
20	401	JOINT ADHESIVE	500	LFT		
21	406	ASPHALT FOR TACK COAT	563	SYS		
22	601	GUARDRAIL, TERMINAL SYSTEM, W-BEAM CURVED, TYPE 3, MODIFIED	1	EACH		
23	601	GUARDRAIL, REMOVE	65	LFT		
24	601	GUARDRAIL, STEEL CURVED TERMINAL END SECTION	2	EACH		
25	601, TP4	GUARDRAIL, END TREATMENT, MSKT TL-2	2	EACH		
26	601, TP5	GUARDRAIL, THRIE-BEAM TRANSITION SECTION, GALVANIZED, SYMMETRIC	2	EACH		
27	601, TP5	GUARDRAIL, THRIE-BEAM TRANSITION SECTION, GALVANIZED, ASYMMETRIC	2	EACH		
28	601	GUARDRAIL, W-BEAM, 6 FT 3 IN SPACING	13	LFT		
29	615	MONUMENT, TYPE B	2	EACH		
30	621	MOBILIZATION AND DEMOBILIZATION FOR SEEDING	1	EACH		
31	621	EROSION CONTROL BLANKET	230	SYS		
32	621	MULCHED SEEDING, TYPE R	230	SYS		
33	621	WATER	1	KGAL		
34	621	SODDING	41	SYS		
35	702	FIELD DRILLED HOLE IN CONCRETE	36	EACH		
36	706, TP10	RAILING, STEEL TS-1	91	LFT		
37	707	STRUCTURAL MEMBER, CONCRETE BOX BEAM, 21 IN. X 36 IN.	450	LFT		
38	TP6	<del>SPRAY APPLIED BRIDGE DECK MEMBRANE SYSTEM</del> WATERPROOFING MEMBRANE, TYPE 3	1400	SFT		