



**OHIO TURNPIKE AND  
INFRASTRUCTURE COMMISSION**

**ADDENDUM NO. 5**

**PROJECT NO. 43-19-06**

BRIDGE REHABILITATION AND 3RD LANE WIDENING M.P. 237.17 TO M.P. 238.63  
OHIO TURNPIKE OVER POLAND-UNITY ROAD M.P. 237.8, OHIO TURNPIKE OVER  
COLUMBIANA-NEW CASTLE ROAD M.P. 238.1  
MAHONING COUNTY, OHIO

**OPENING DATE:**

PREVIOUSLY EXTENDED TO 2:00 P.M. (EASTERN TIME), OCTOBER 29, 2018

**ATTENTION OF BIDDERS IS DIRECTED TO:**

**ANSWERS TO QUESTIONS RECEIVED THROUGH 1:00 PM ON OCTOBER 24, 2018**

**-AND-**

**STANDARD DRAWING NO. SBR-50**

Issued by the Ohio Turnpike and Infrastructure Commission on October 24, 2018 by Anthony D. Yacobucci, Chief Engineer, and Mark R. Musson, Director of Contracts Administration.

  
Anthony D. Yacobucci  
10/24/18  
Date

  
Mark R. Musson  
10/24/18  
Date

**ANSWERS TO QUESTIONS RECEIVED THROUGH 1:00 PM ON OCTOBER 24, 2018:**

**Q#31** The title sheet of the plans reference a SBR-50 but no such sheet appears included with the plan set. Please clarify.

*A#31 Standard Drawing No. SBR-50 was inadvertently omitted from the package furnishing the Contract Documents and provided instead with this Addendum No. 5.*

**Receipt of Addendum No. 5  
Project No. 43-19-06 is hereby acknowledged:**

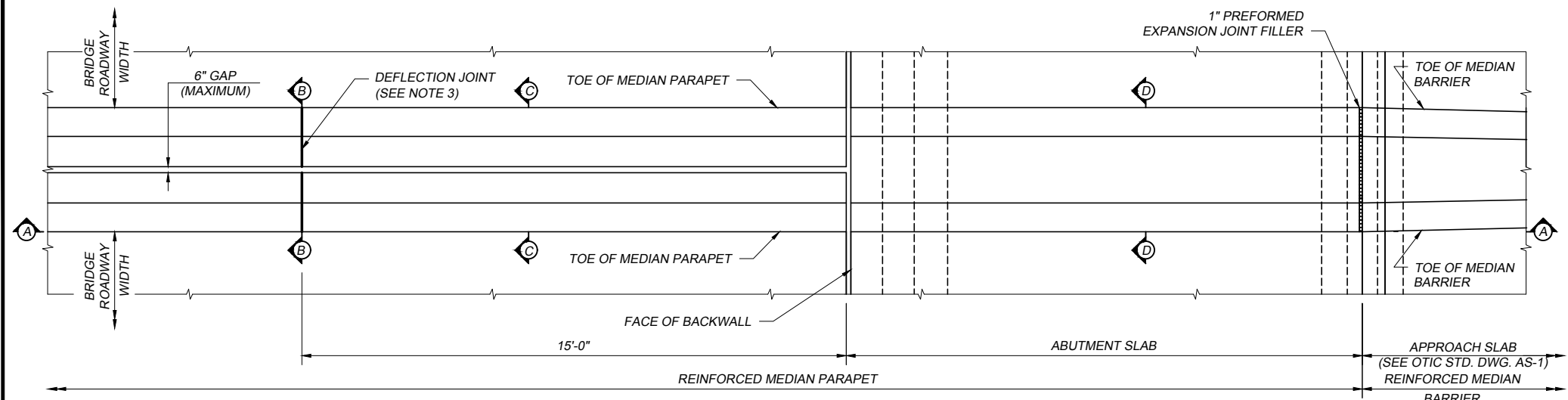
(Firm Name) \_\_\_\_\_

(Signature) \_\_\_\_\_

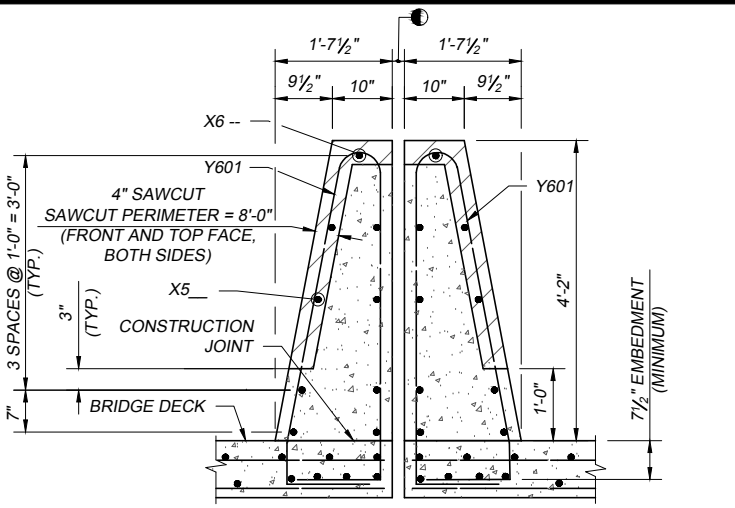
(Printed Name) \_\_\_\_\_

(Date) \_\_\_\_\_

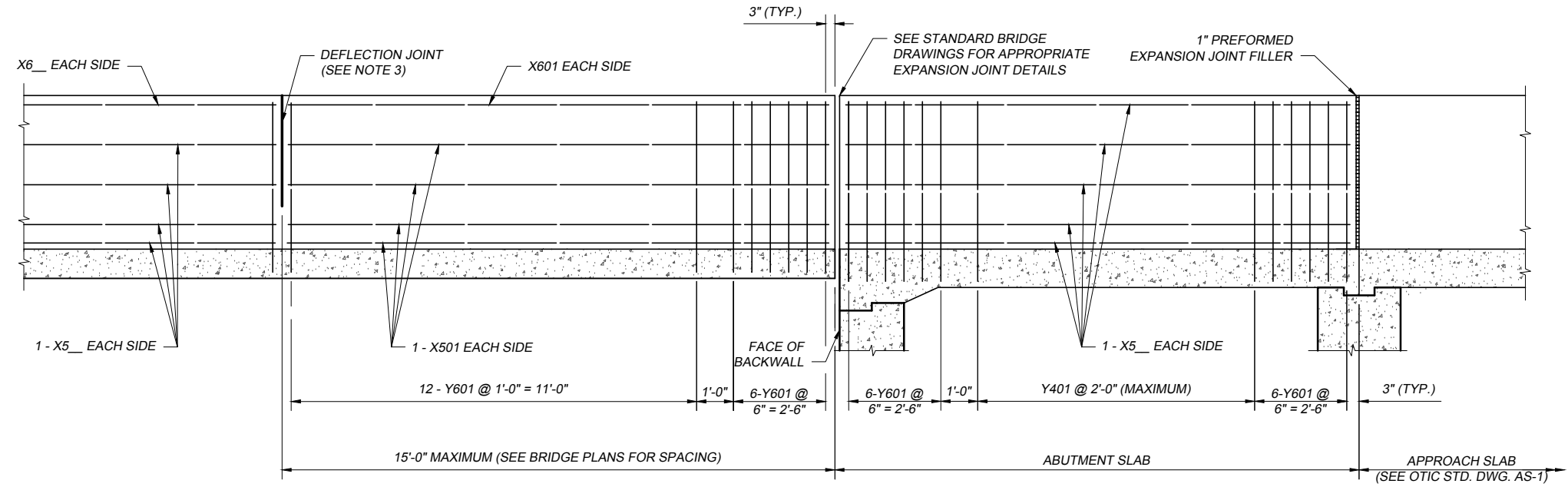
**BIDDERS MUST RETURN THE ABOVE ACKNOWLEDGEMENT  
OF RECEIPT OF ADDENDUM NO. 5 WITH THEIR BID.**



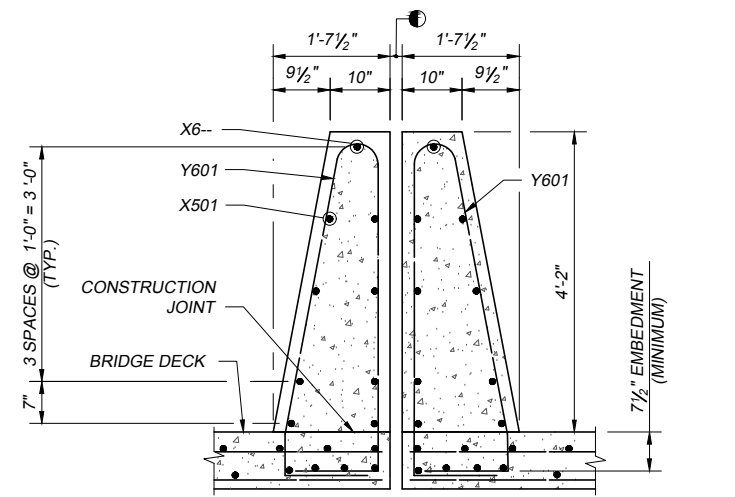
**PLAN VIEW**  
50" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE PARAPET WITH TYPICAL ABUTMENT SHOWN



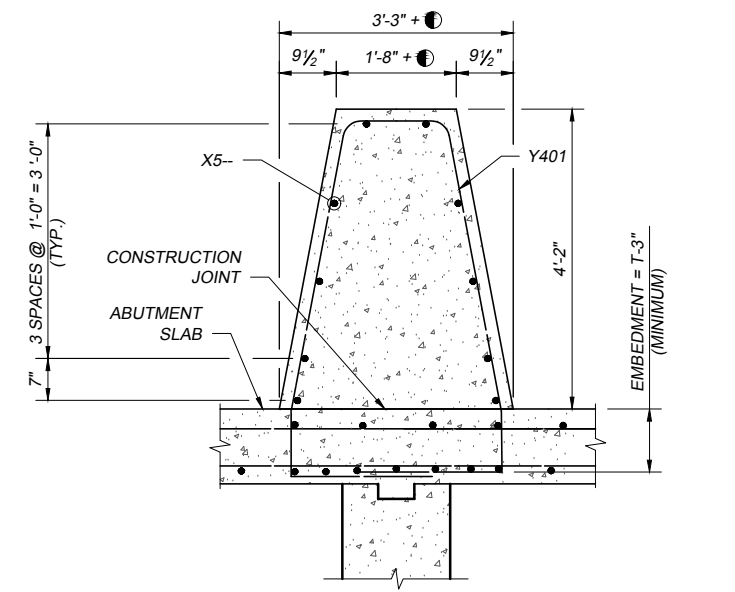
**SECTION B-B**  
REINFORCED CONCRETE DECK ON STEEL (BEAMS/GIRDERS NOT SHOWN)  
(CONCRETE PARAPET CROSS SECTION AREA = 10.25 SQ.FT. BOTH SIDES)



**SECTION A-A**



**SECTION C-C**  
REINFORCED CONCRETE DECK ON STEEL (BEAMS/GIRDERS NOT SHOWN)



**SECTION D-D**  
CONCRETE PARAPET CROSS SECTION AREA = 10.25 SQ.FT. + AREA OF MEDIAN GAP

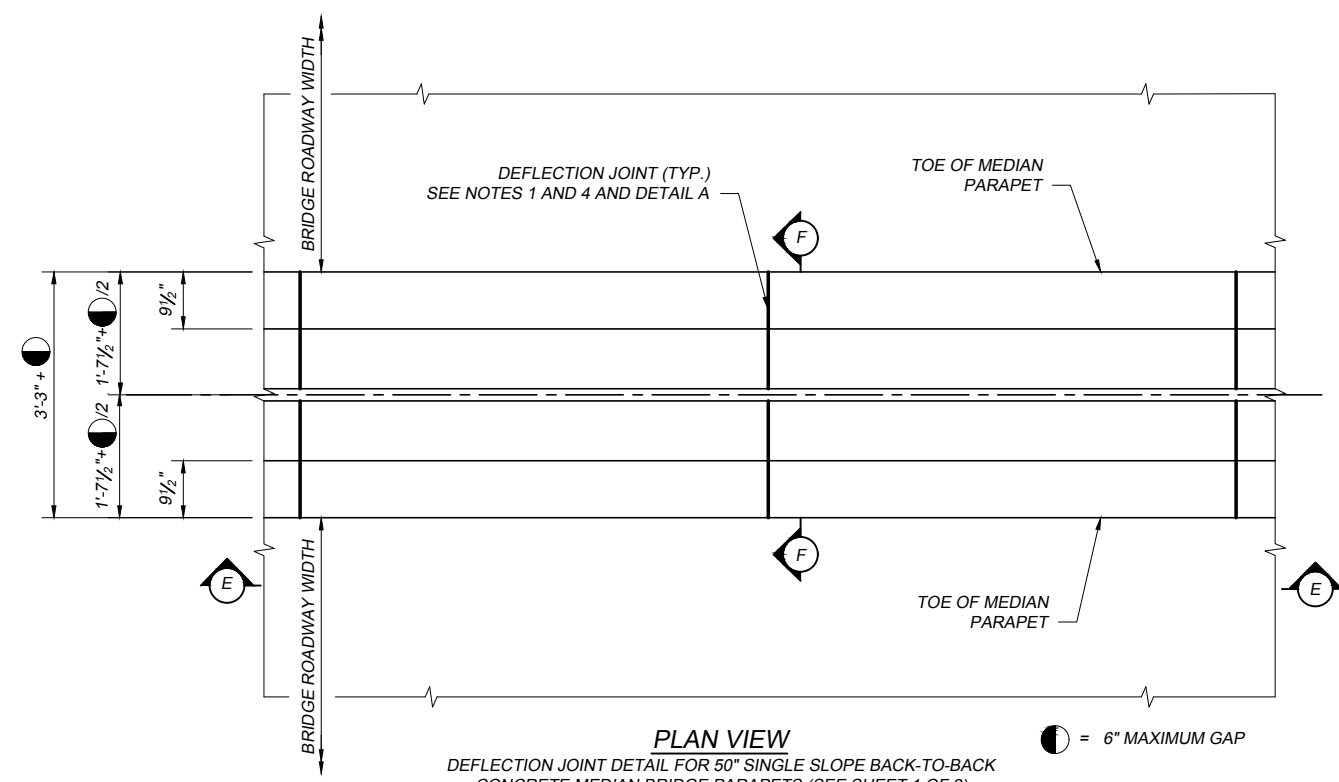
REINFORCING STEEL LIST			BENDING DIAGRAMS	
MARK	LENGTH	TYPE		
X501	14'-8"	STR		
X5		STR ⊕		
X601	14'-8"	STR		
X6		STR ⊕		
Y401	2B + 13'-3" + 2	BENT		
Y601	2A + 10'-5 1/2"	BENT		

B = APPROACH SLAB THICKNESS MINUS 3"  
⊕ = SEE PROJECT PLANS

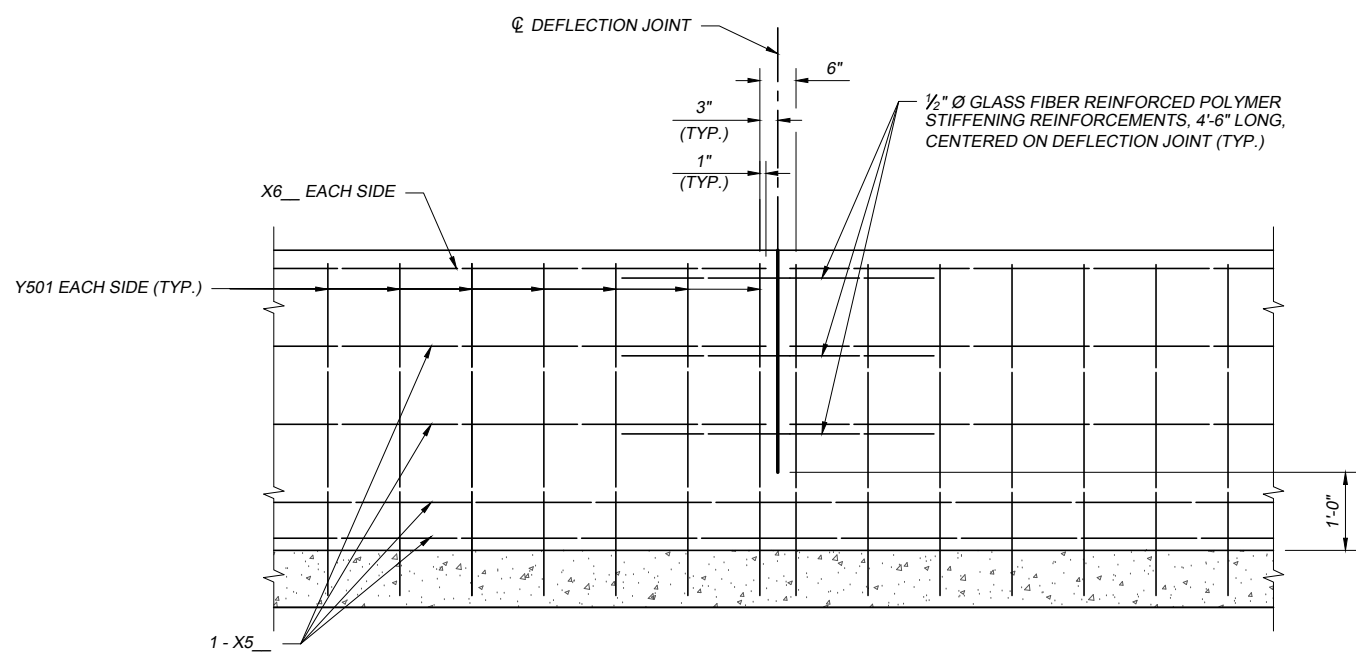
**NOTE:**  
FOR NOTES AND ADDITIONAL DETAILS, SEE SHEET 2 OF 2.

6" = 6" MAXIMUM GAP  
T = APPROACH SLAB THICKNESS

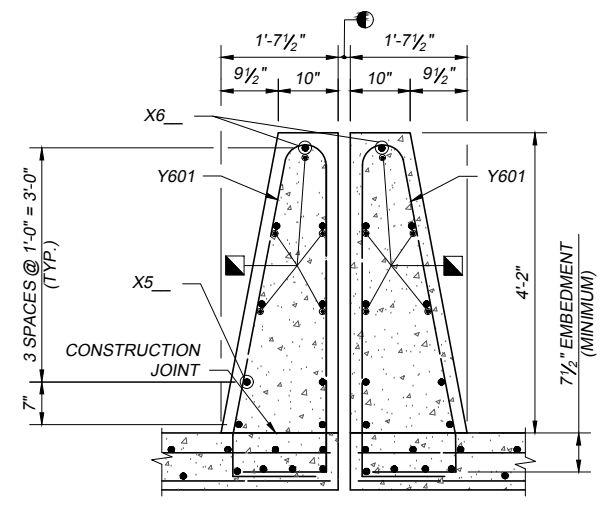
SBR-50 2018-09-19.DWG: 10/23/18 - 11:26am



**PLAN VIEW**  
DEFLECTION JOINT DETAIL FOR 50" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE PARAPETS (SEE SHEET 1 OF 2)  
● = 6" MAXIMUM GAP

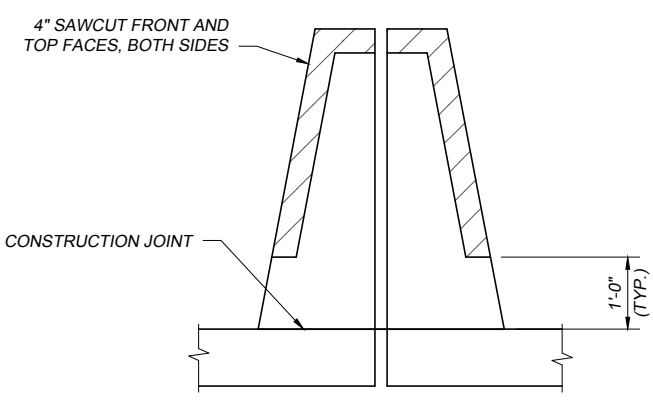


**ELEVATION E-E**  
GLASS FIBER REINFORCED POLYMER REBAR STIFFENING DETAIL AT DEFLECTION JOINT FOR 50" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE PARAPETS (SEE NOTE 3)



**SECTION F-F**  
REINFORCED CONCRETE DECK ON STEEL BEAMS/GIRDERS (BEAMS/GIRDERS NOT SHOWN)

● = 6" MAXIMUM GAP  
■ = 1/2" Ø GLASS FIBER REINFORCED POLYMER STIFFENING REINFORCEMENT



**DETAIL A**  
SECTION THROUGH SAWCUT SAWCUT PERIMETER = 8'-0" (BOTH SIDES)

**NOTES:**

- FOR THE ENTIRE LENGTH OF SINGLE SLOPE CONCRETE MEDIAN BRIDGE PARAPETS, PROJECT PLANS SHALL SHOW THE LOCATIONS OF DEFLECTION JOINTS.
- DEFLECTION JOINT SPACING SHALL NOT EXCEED 15'-0" ON CENTERS. FOR CONTINUOUS STRUCTURES, THE DEFLECTION JOINTS WITHIN THE DEAD LOAD CONTRAFLEXURE (NEGATIVE MOMENT REGIONS OVER PIER LOCATIONS) SHALL BE SPACED NOT LESS THAN 5'-0" NOR MORE THAN 7'-6" ON CENTERS.
- PAYMENT FOR 1/2" DIAMETER GLASS FIBER REINFORCED POLYMER STIFFENING REINFORCEMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509 - EPOXY COATED REINFORCING STEEL.
- FOR 50" SINGLE SLOPE CONCRETE MEDIAN BRIDGE PARAPET, PROJECT PLANS SHALL INCLUDE PLAN VIEW, ELEVATION VIEW, SECTIONS, REINFORCING MARKS, REINFORCING BENDING DIAGRAMS, AND REINFORCING WEIGHTS.
- FOR CONCRETE BARRIER BEYOND THE STRUCTURE (ROADWAY BARRIER), SEE OHIO TURNPIKE AND INFRASTRUCTURE COMMISSION STANDARD DRAWING AS-1, CBR-1 OR CBR-2.

**DESIGN CRITERIA:**

50" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE PARAPET MEETS THE REQUIREMENTS OF NCHRP 350 TEST LEVEL 5 AND "AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS", 2012.

**DESIGN DATA:**

CONCRETE - COMPRESSIVE STRENGTH = 4.5 KSI  
REINFORCING STEEL - MINIMUM YIELD STRENGTH = 60 KSI

AREA OF 50" SINGLE SLOPE CONCRETE MEDIAN BRIDGE PARAPET IS SHOWN ON SHEET 1 OF 2.

DEFLECTION JOINTS FOR 50" SINGLE SLOPE BACK-TO-BACK REINFORCED CONCRETE MEDIAN BRIDGE PARAPETS (SHEET 1 OF 2): SAWCUT 1/4" INCH DEEP DEFLECTION JOINTS ALONG THE PERIMETER OF THE MEDIAN BRIDGE PARAPET WHEN THE CONCRETE IS STILL GREEN OR AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

AFTER THE CONCRETE CURING PERIOD SPECIFIED IN CMS 511.14 HAS BEEN REACHED, PERFORM 4" SAWCUT THROUGH THE GLASS FIBER REINFORCED POLYMER AS SHOWN IN DETAIL A.

THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT. HOWEVER, THE SAWCUT SHALL NOT BE LESS THAN 1'-0" FROM THE TOP OF THE CONCRETE DECK SLAB.

USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE MEDIAN BRIDGE PARAPET. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4" INCH.

SEAL THE PERIMETER OF THE DEFLECTION JOINTS TO A MINIMUM DEPTH OF ONE INCH WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO ASTM C920, TYPE S. LEAVE THE BOTTOM 1/2" INCH OF BOTH FRONT FACES OF THE MEDIAN BRIDGE PARAPETS UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

AT EACH DEFLECTION JOINT LOCATION, USE GLASS FIBER REINFORCED POLYMER REINFORCEMENT TO MAINTAIN THE RIGIDITY OF THE CAGE ACROSS THE PROPOSED JOINTS AT THOSE LONGITUDINAL BARS AS SHOWN IN SECTIONS B-B & F-F ABOVE. OTHER NON-FERROUS REINFORCEMENT MAY BE PROPOSED FOR USE, SUBJECT TO APPROVAL BY THE ENGINEER.

DEFLECTION JOINTS ARE NOT REQUIRED WITHIN THE ABUTMENT SLAB MEDIAN PARAPET SECTIONS.

THE MAXIMUM SPACING OF VERTICAL REINFORCING BARS FOR THE 50" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE PARAPET SHALL BE 1'-0", EXCEPT AS OTHERWISE NOTED.

IF THE MINIMUM EMBEDMENT SHOWN FOR THE VERTICAL REINFORCING BARS INTO THE BRIDGE DECK IS NOT MET, THEN THE DESIGNER SHALL CALCULATE THE REQUIRED REINFORCEMENT ACCORDING TO SECTION 13 OF THE "AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

LAP LENGTHS - THE MINIMUM LAP LENGTH FOR #5 BARS IS 2'-1".

SBR-50 2018-09-19.DWG; 10/23/18 - 11:28am