**PLAN VIEW**

0.7" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS WITH TYPICAL ABUTMENT SHOWN (FORWARD ABUTMENT SHOWN, REAR ABUTMENT SIMILAR, BUT OPPOSITE HAND)

**SECTION A-A**

REINFORCED MEDIAN BARRIER

**REINFORCED STEEL LIST**

<table>
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<tr>
<th>MARK</th>
<th>LENGTH</th>
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<tbody>
<tr>
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<td>STB</td>
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<tr>
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<td>STB</td>
</tr>
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<td>0.31&quot;</td>
<td>STB</td>
</tr>
<tr>
<td>YSO1</td>
<td>0.31&quot; + 5/8&quot;</td>
<td>BENT</td>
</tr>
<tr>
<td>YSO1</td>
<td>0.31&quot; + 5/8&quot;</td>
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</table>

**SECTION B-B**

AREA: 0.32 SQ. FT. BOTH SIDES
REINFORCED CONCRETE DECK ON STEEL OR Prestressed CONCRETE I-BEAMS/GIRDERS BEAMS/GIRDERS NOT SHOWN

**SECTION C-C**

REINFORCED CONCRETE DECK ON STEEL OR Prestressed CONCRETE I-BEAMS/GIRDERS BEAMS/GIRDERS NOT SHOWN

**SECTION D-D**

AREA: 0.32 SQ. FT. + AREA OF MEDIAN GAP

**DEFLECTION JOINTS** (SEE NOTE 3)

TOE OF MEDIAN BARRIER

FACE OF BACK WALL

15" O.C.

APPROACH SLAB

**GLASS FIBER REINFORCED POLYMER** (GFRP)

(SEE NOTE 6 (1TP))

12" X 1501 3/4"-6" + 1/2"-6" + 1/2"-6"

6" X 1501 3/4"-6" + 1/2"-6"

APPROACH SLAB

**NOTES**

1. FOR 0.7" SINGLE SLOPE CONCRETE MEDIAN BRIDGE RAILING, PROJECT PLANS SHALL INCLUDE PLAN VIEW, ELEVATION VIEW, SECTIONS, REINFORCING MARKS, REINFORCING BENDING DIAGRAMS, AND REINFORCING WEIGHTS.

2. FOR THE ENTIRE LENGTH OF SINGLE SLOPE CONCRETE MEDIAN BRIDGE RAILINGS, PROJECT PLANS SHALL SHOW THE LOCATIONS OF DEFLECTION JOINTS.

3. DEFLECTION JOINT IS NOT REQUIRED WITHIN THE APPROACH SLAB MEDIAN BARRIER SECTIONS.

4. SEE APPROPRIATE STANDARD BRIDGE DRAWING FOR ABUTMENT DETAILS.

5. FOR SINGLE SLOPE BARRIER BEYOND THE STRUCTURE (ROADWAY BARRIER), SEE STD. ROADWAY CONTRA. DMC. RIA-4.3 THROUGH RIA-4.5.

6. FOR DEFLECTION JOINT DETAILS AND ADDITIONAL NOTES, SEE SHEET EA-6.
NOTES:
1. FOR THE ENTIRE LENGTH OF SINGLE SLOPE CONCRETE MEDIAN BRIDGE RAILINGS, PROJECT PLANS SHALL SHOW THE LOCATIONS OF DEFLECTION JOINTS.
2. DEFLECTION J 0INT JOINTS SHALL NOT EXCEED 10/12 ON CENTERS. FOR CONTINUOUS STRUCTURES, THE DEFLECTION JOINTS WITHOUT THE DEAD LOAD AUTO-FLEXURE (10% MOMENT REDUCED OVER VER JOINTS) SHALL BE SPACED NOT LESS THAN 5'-0" NOR MORE THAN 7'-6" ON CENTERS.
3. PAYMENT FOR 5/8" DIA. GLASS FIBER REINFORCED POLYMER (FRP) STIFFENING REINFORCEMENT SHALL INCLUDE THE CONTRACT PRICE FOR 1/2" BORNT W/ EPOXY COATED REINFORCING STEEL.
4. LIMITS OF SAFETY SHOWN IN SHEET A IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS THE OPTION TO PERFORM FULL DEPTH SAFETY CUTS.

DESIGN CRITERIA:
5'-1" SINGLE SLOPE MEDIAN BRIDGE RAILINGS TYPE B MEET THE REQUIREMENTS OF MCHP 250-1231 LEVEL 1, AND "ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS", 2012.
5'-1" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILINGS WELF THE REQUIREMENTS OF MCHP 250-1231 LEVEL 5 AND "ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS", 2012.

DESIGN DATA:
CONCRETE = COMPRESSIVE STRENGTH 4,500 PSI, REINFORCING STEEL = MINIMUM YIELD STRENGTH 60,000 PSI

AREA OF 5'-1" SINGLE SLOPE CONCRETE MEDIAN BRIDGE RAILING IS SHOWN ON SHEETS A1 AND A2.

CONTRACTION JOINTS FOR 5'-1" SINGLE SLOPE UNREINFORCED CONCRETE MEDIAN BRIDGE RAILINGS TYPE B SHEETS A1, A2, AND A3, SEE MIN. ROADWAY CONSTR, OMC, IN 3.5" THROUGH IN 5.5" FOR DETAILS.

DEFLECTION JOINTS FOR 5'-1" SINGLE SLOPE BACK-TO-BACK REINFORCED CONCRETE MEDIAN BRIDGE RAILINGS SHEETS A1 AND A2, SEE MIN. ROADWAY CONSTR, OMC, IN 3.5" THROUGH IN 5.5" FOR DETAILS.

DEFLECTION JOINTS FOR 5'-1" SINGLE SLOPE BACK-TO-BACK REINFORCED CONCRETE MEDIAN BRIDGE RAILINGS SHEETS A1 AND A2, SEE MIN. ROADWAY CONSTR, OMC, IN 3.5" THROUGH IN 5.5" FOR DETAILS.

DETAILED INTERSECTION OF DEFLECTION JOINTS ALONG THE CENTER OF THE MEDIAN BRIDGE RAILING WHEN THE CONCRETE IS STILL GREEN OR AS SOON AS THE CONCRETE CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

AFTER THE CONCRETE CURING PERIOD SPECIFIED IN CMS S11M HAS BEEN REACHED, PERFORM 4" SAFETY CUT THROUGH THE RAILING AS SHOWN IN DETAIL A.

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

USE AN EDGE GUIDE, FENCE, OR JOC TO ENSURE THAT THE CUT SYNCHRONIZED, STRAIGHT, AND ALIGNED ON ALL FACES OF THE MEDIAN BRIDGE RAILING. THE JOINT WIDTH SHALL BE THE WIDTH OF THE RAILING: A, NOMINAL WIDTH OF 5'-1'.

SEAL THE PERIMETER OF THE DEFLECTION JOINTS TO A MINIMUM DEPTH OF ONE INCH WITH A POLYURETHANE OR POLYMER MIXTURE CONFORMING TO ASTM C540, TYPE S. LEAVE THE BOTTOM 1/2" INCH OF BOTH FACES OF THE MEDIAN BRIDGE RAILINGS UNSEAL TO ALLOW ANY WATER WHICH MAY ENTER THE JOINTS TO ESCAPE.

AT EACH DEFLECTION JOINT LOCATION, USE GLASS FIBER REINFORCED POLYMER (FRP) STIFFENING REINFORCEMENT TO MAINTAIN THE RIGIDITY OF THE SPACE BETWEEN THE PROPOSED JOINTS AND AT THOSE LONGITUDINAL JOINTS AS SHOWN IN SECTIONS A-B AND B-A ABOVE. OTHER NON-REBAR REINFORCEMENT MAY BE PROPOSED FOR USE, SUBJECT TO APPROVAL BY THE ENGINEER.

DEFLECTION JOINTS FOR 5'-1" SINGLE SLOPE BACK-TO-BACK REINFORCED CONCRETE MEDIAN BRIDGE RAILINGS SHEETS A1 AND A2, SEE MIN. ROADWAY CONSTR, OMC, IN 3.5" THROUGH IN 5.5" FOR DETAILS.

MAXIMUM SPACING OF VERTICAL REINFORCING BARS:
THE MAXIMUM SPACING OF VERTICAL REINFORCING BARS FOR THE 5'-1" SINGLE SLOPE CONCRETE MEDIAN BRIDGE RAILING TYPE B1 SHALL BE 2'-0".

THE MAXIMUM SPACING OF VERTICAL REINFORCING BARS FOR THE 5'-1" SINGLE SLOPE BACK-TO-BACK CONCRETE MEDIAN BRIDGE RAILING SHALL BE 2'-0".

MINIMUM EMBEDMENT OF VERTICAL REINFORCING BARS:
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 11.3 OF THE "ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.