ELEVATION VIEW, SECTIONS, REINFORCING MARKS, REINFORCING BENDING DIAGRAMS, AND REINFORCING QUANTITIES.

FOR SAWCUT PERIMETER LENGTH, SEE DETAIL A ON SHEET 45.

FOR SKEWED STRUCTURES, SEE APPROPRIATE STANDARD BRIDGE DRAWING FOR ABUTMENT DETAILS.

FOR BRIDGE TERMINAL ASSEMBLY, SEE STD. CONSTR. DWGS. MGS-3.1 AND MGS-3.2.

SEE ICD-1-20 FOR ADDITIONAL DETAILS.

SEE ADDED DETAILS FOR 42° SBR-1 TRANSITION MOUNTED ON BRIDGE OR APPROACH SLAB.
NOTES:
1. FOR ALL SINGLE SLOPE CONCRETE BRIDGE RAILINGS INCLUDING THE 42° TRANSITIONS, PROJECT PLANS SHALL INCLUDE PLAN VIEW, ELEVATION VIEW, SECTIONS, REINFORCING MATRICES, REINFORCING BENDING DIAGRAMS, AND REINFORCING QUANTITIES.
2. SEE APPROPRIATE STANDARD BRIDGE DRAWING FOR ASSEMBLY DETAILS.
3. FOR BRIDGE TERMINAL ASSEMBLY, SEE STD. CONSTR. DWGS. MGS-3.1 AND MGS-3.2.
4. SEE APPROPRIATE STANDARD BRIDGE DRAWING FOR ABUTMENT DETAILS.
5. PLACE SAWCUT @ BEGIN APPROACH FACE OF THE BACKWALL.

X402 BARS MAY BE PROVIDED AS EPOXY COATED STEEL REINFORCEMENT IF A GFRP FABRICATED SHAPE IS NOT AVAILABLE.

PLACE STIFFENING BARS IN ALL SAWCUT PANELS 10'-0" AND GREATER. DO NOT ADD STIFFENING BARS TO 14'-0" TRANSITIONS. DO NOT BARS LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT AT EACH VERTICAL BAR.

TIE Y401 & Y402 STIFFENING BARS LOCATED INSIDE THE VERTICAL REINFORCEMENT AT EACH HORIZONTAL BAR.

USE GLASS FIBER REINFORCED POLYMER (GFRP) FOR ALL HORIZONTAL X4__ BARS AND STIFFENING BARS (Y401 & Y402 BARS).

FOR DEFLECTION JOINT DETAILS AND ADDITIONAL NOTES, SEE SHEET 55.

FOR SAWCUT PERIMETER LENGTH, SEE DETAIL A ON SHEET 45.

FOR BRIDGE TERMINAL ASSEMBLY, SEE STD. CONSTR. DWGS. MGS-3.1 AND MGS-3.2.

SEE APPROPRIATE STANDARD BRIDGE DRAWING FOR ABUTMENT DETAILS.

ELEVATION VIEW, SECTIONS, REINFORCING MARKS, REINFORCING BENDING DIAGRAMS, AND REINFORCING QUANTITIES.

FOR ALL SINGLE SLOPE CONCRETE BRIDGE RAILINGS INCLUDING THE 14'-0" TRANSITIONS, PROJECT PLANS SHALL INCLUDE PLAN VIEW, ELEVATION VIEW, SECTIONS, REINFORCING MATRICES, REINFORCING BENDING DIAGRAMS, AND REINFORCING QUANTITIES.

PLACE SAWCUT @ BEGIN APPROACH FACE OF THE BACKWALL.

X402 BARS MAY BE PROVIDED AS EPOXY COATED STEEL REINFORCEMENT IF A GFRP FABRICATED SHAPE IS NOT AVAILABLE.

PLACE STIFFENING BARS IN ALL SAWCUT PANELS 10'-0" AND GREATER. DO NOT ADD STIFFENING BARS TO 14'-0" TRANSITIONS. DO NOT BARS LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT AT EACH VERTICAL BAR.

TIE Y401 & Y402 STIFFENING BARS LOCATED INSIDE THE VERTICAL REINFORCEMENT AT EACH HORIZONTAL BAR.

USE GLASS FIBER REINFORCED POLYMER (GFRP) FOR ALL HORIZONTAL X4__ BARS AND STIFFENING BARS (Y401 & Y402 BARS).

FOR DEFLECTION JOINT DETAILS AND ADDITIONAL NOTES, SEE SHEET 55.

FOR SAWCUT PERIMETER LENGTH, SEE DETAIL A ON SHEET 45.

FOR BRIDGE TERMINAL ASSEMBLY, SEE STD. CONSTR. DWGS. MGS-3.1 AND MGS-3.2.

SEE APPROPRIATE STANDARD BRIDGE DRAWING FOR ABUTMENT DETAILS.

ELEVATION VIEW, SECTIONS, REINFORCING MARKS, REINFORCING BENDING DIAGRAMS, AND REINFORCING QUANTITIES.

FOR ALL SINGLE SLOPE CONCRETE BRIDGE RAILINGS INCLUDING THE 14'-0" TRANSITIONS, PROJECT PLANS SHALL INCLUDE PLAN VIEW, ELEVATION VIEW, SECTIONS, REINFORCING MATRICES, REINFORCING BENDING DIAGRAMS, AND REINFORCING QUANTITIES.

PLACE SAWCUT @ BEGIN APPROACH FACE OF THE BACKWALL.

X402 BARS MAY BE PROVIDED AS EPOXY COATED STEEL REINFORCEMENT IF A GFRP FABRICATED SHAPE IS NOT AVAILABLE.

PLACE STIFFENING BARS IN ALL SAWCUT PANELS 10'-0" AND GREATER. DO NOT ADD STIFFENING BARS TO 14'-0" TRANSITIONS. DO NOT BARS LOCATED OUTSIDE OF THE VERTICAL REINFORCEMENT AT EACH VERTICAL BAR.

TIE Y401 & Y402 STIFFENING BARS LOCATED INSIDE THE VERTICAL REINFORCEMENT AT EACH HORIZONTAL BAR.

USE GLASS FIBER REINFORCED POLYMER (GFRP) FOR ALL HORIZONTAL X4__ BARS AND STIFFENING BARS (Y401 & Y402 BARS).

FOR DEFLECTION JOINT DETAILS AND ADDITIONAL NOTES, SEE SHEET 55.

FOR SAWCUT PERIMETER LENGTH, SEE DETAIL A ON SHEET 45.

FOR BRIDGE TERMINAL ASSEMBLY, SEE STD. CONSTR. DWGS. MGS-3.1 AND MGS-3.2.

SEE APPROPRIATE STANDARD BRIDGE DRAWING FOR ABUTMENT DETAILS.

ELEVATION VIEW, SECTIONS, REINFORCING MARKS, REINFORCING BENDING DIAGRAMS, AND REINFORCING QUANTITIES.
NOTES:
1. FOR THE ENTIRE LENGTH OF SINGLE SLOPE CONCRETE BRIDGE RAILINGS, PROJECT PLANS SHALL SHOW THE LOCATIONS OF DEFORMATION JOINTS.
2. DEFORMATION JOINT SPACING SHALL BE 10'-0" EXCEPT FOR THE LAST JOINT SPACING ADJACENT TO EITHER A 14'-0" TRANSITION OR AN OPEN JOINT. EXCEPTION PANELS MAY VARY IN LENGTH BETWEEN 10'-0" AND 15'-0".
3. PAYMENT FOR GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509 - NO.
4. OPTIONS TO PERFORM FULL DEPTH SAWCUT. SHOWN IN DETAIL A, SHEET 5. THE 4" SAWCUT DEPTH SHOWN IN DETAIL A IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.

DESIGN CRITERIA:
1. FOR CONVENTIONALLY FORMED CONSTRUCTION, REMOVE THE FORMS BEFORE APPLYING LOAD TO THE RAILING. AS SOON AS THE FORMS ARE REMOVED, PERFORM 4-INCH SAWCUT AS SHOWN IN DETAIL A. SHEET 5. THE 1'-6" SAWCUTS ARE NOT REQUIRED.

2. THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.

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

4. FOR THE ENTIRE LENGTH OF SINGLE SLOPE CONCRETE BRIDGE RAILINGS, PROJECT PLANS SHALL SHOW THE LOCATIONS OF DEFORMATION JOINTS.

5. FOR TRANSITION SECTION, PLACE A DEFORMATION JOINT AT THE BEGINNING OF THE 14'-0" TRANSITION. DEFORMATION JOINTS ARE NOT REQUIRED WITHIN THE 14'-0" TRANSITION SECTION.

6. DEFLECTION JOINTS ALONG THE PERIMETER OF THE RAILING ARE TO BE SEEN, BUT NOT REQUIRED.

7. FOR THE ENTRANCE TO AND EXIT FROM THE BRIDGE DECK SPACE, USE DETAIL 1 OF THE DRAWING TO COORDINATE THE RAILING TO THE CURB AND Edge OF Bridge Deck.

8. FOR THE ENTRANCE TO AND EXIT FROM THE BRIDGE DECK SPACE, USE DETAIL 1 OF THE DRAWING TO COORDINATE THE RAILING TO THE CURB AND Edge OF Bridge Deck.

9. THE RAILING IS TO BE SEEN, BUT NOT REQUIRED.

10. THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.

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

12. FOR THE ENTIRE LENGTH OF SINGLE SLOPE CONCRETE BRIDGE RAILINGS, PROJECT PLANS SHALL SHOW THE LOCATIONS OF DEFORMATION JOINTS.

13. FOR TRANSITION SECTION, PLACE A DEFORMATION JOINT AT THE BEGINNING OF THE 14'-0" TRANSITION. DEFORMATION JOINTS ARE NOT REQUIRED WITHIN THE 14'-0" TRANSITION SECTION.

MAXIMUM SPACING OF VERTICAL REINFORCING BARS FOR STANDARD 42" SBR-1 CONCRETE RAILING:
THE MAXIMUM SPACING OF VERTICAL REINFORCING BARS FOR THE STANDARD 42" SBR-1 CONCRETE RAILING SHALL BE 36", UNLESS NOTED OTHERWISE.

MAXIMUM SPACING OF VERTICAL REINFORCING BARS FOR 42" SBR-1 TRANSITIONS:
THE MAXIMUM SPACING OF VERTICAL REINFORCING BARS FOR THE 42" SBR-1 TRANSITION SECTION SHALL BE AS SHOWN ON SHEETS SHEET 6. SHEET 7. SHEET 8.

MINIMUM EMBEDMENT OF VERTICAL REINFORCING BARS:
THE MINIMUM EMBEDMENT FOR THE VERTICAL REINFORCING BARS INTO THE BRIDGE DECK ON APPROACH SLAB IS NOT MET, THEN THE DESIGNER SHALL CALCULATE THE REQUIRED REINFORCEMENT ACCORDING TO SECTION 19 OF THE "RASHID LFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.