BRIDGE SIDEWALK RAILING WITH APPROACH RAILING

ELEVATION (DIMENSIONS)
(TAILING NOT SHOWN)

ELEVATION (REINFORCING)
(TAILING NOT SHOWN)

SECTION F-F

SECTION G-G

SECTION H-H

SECTION J-J

POST CAP DETAIL

DETAIL B
(Typical top & bottom rail)

RAILING DETAIL
(Section through center joint)

DETAIL A
(Section through center joint)
GENERAL: This drawing provides design and construction details for the project plans for concrete bridge structures. The project plans for each structure shall provide the necessary additional drawings, including pile lengths, post spacing, reinforcing steel list, estimated quantities, and any other pertinent information, including special notes and details.

DESIGN SPECIFICATIONS: Standard specifications for highway bridges in the United States, including the first 36th specifications, and the DOT bridge design manual.

CONCRETE: Compressive strength: 4000 psi.

REINFORCING STEEL: Min. yield strength: 60,000 psi.

STEEL TUBING: Min. yield strength: 45,000 psi.

ALL OTHER STEEL: Min. yield strength: 36,000 psi.

TUBE SPACERS: Arranged so that each tube segment shall be connected to the last two posts and not more than 2 feet. Spacings shall be 60 inches.

MATERIAL: Furnish shaped structural tubing according to T07-12 (ASTM A500, Grade B), reinforcing steel according to T07-00, and steel for plates according to T07-01.

FASTENERS: Furnish fasteners as follows:
- Anchor bolts shall be 15 feet 4 inches long, with a head of 4 inches and a nut of 4 inches. Use heavy nuts and washers.
- Horizontal rail to post connections bolts and nuts shall be 1 inch long, with a head of 3 inches and a nut of 3 inches. Use heavy nuts and washers.
- The hex cap screws (bolts) shall be 3 inches long, with a head of 2 inches and a nut of 2 inches. Use heavy nuts and washers.

GALVANIZING: Galvanize all shaped structural tubing, plates, and hardware accessories according to T07-09, found all exposed structural tubing ends and post cap edges into galvanizing.

HORIZONTAL CURVATURE: This standard is applicable to structures having a radius of at least 30 feet or more. For a radius of less than 30 feet, the design shall be made special, with the exception of curvature of 3 degrees or more. Shaped structural tubing may be specified for use with a radius of 3 degrees or more when specified in the specifications and the tube shall be made to meet the requirements for curved structures.

CONTROLoints FOR CONCRETE PARAPETS: Set the control points along the perimeter of the parapet as soon as the slab can be poured without damage to the concrete.

USING A SLOPE GAUGE, a FENCE 12 FEET HIGH TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE PARAPET. THE JOINT WIDTH MAY BE THE WIDTH OF THE PARAPET OR THE WIDTH OF THE SHEAR ZONE, OR the width of the parapet or the distance from the center of the two posts.

PLACING THE CONCRETE AT A MINIMUM OF 1/4 INCH AND A MAXIMUM OF 1/4 INCH ON CENTER PLACED JOINTS NO CLOSER THAN 6 INCHES CENTER TO CENTER OF THE POSTS.

VERTICAL REINFORCING STEEL SHALL CLEAR THE CONTROL JOINTS BY 3 INCHES MINIMUM, OBTAIN CLEARANCE BY FIELD ADJUSTING THE REINFORCING STEEL SPACING OR THE LOCATION OF THE CONTROL JOINTS.

SEAL THE PERIMETER OF THE CONTROL JOINT WITH A MINIMUM WIDTH OF 1 INCH WITH A MULTILAYER, OR POLYSTYRENE, MATERIAL CONFORMING TO ASTM C550, TYPE 1. FILL THE BOTTOM ONE-HALF INCH OF BOTH THE INSIDE AND OUTSIDE FACES OF THE PARAPET UNTIL THE JOINT IS COMPLETELY SEASONED AND ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.

FOR BRIDGE TERMINAL DETAILS, PLEASE SEE THE STANDARD CONSTRUCTION DRAWING ON 3-1. ONLY A TYPICAL ASSEMBLY IS TO BE USED.

METHOD OF MEASUREMENT: The department will measure the quantity of the work. The department will measure the length of railing between the ends of the concrete piers.

BASES OF PAYMENT: The cost of the work shall be based on the accepted quantities at the contract price for the work. Payments will be made to the contractor on a percentage basis.

DETERMINING RAILING LENGTH: The rails shall be tightened to the snubbing condition to bring the correct length into firm contact.

RAIL-TO-POST BOLTS: The nuts shall be tightened to the snubbing condition to bring the correct length into firm contact.