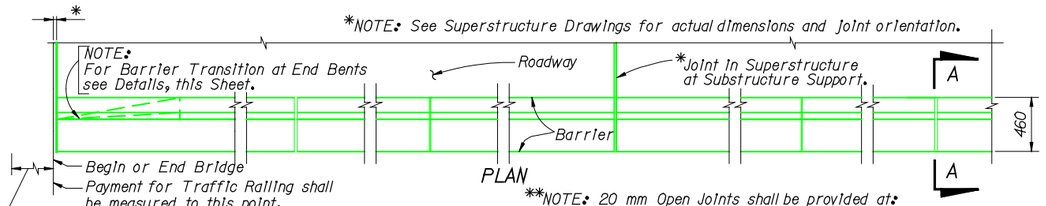
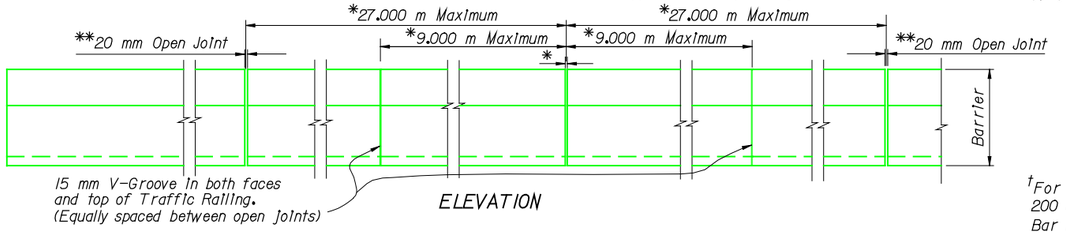
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

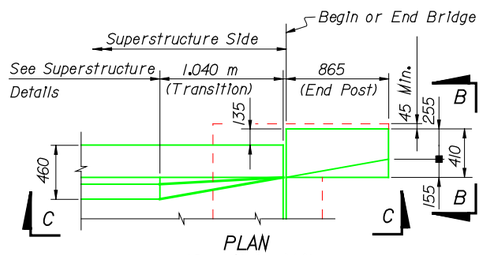


PLAN

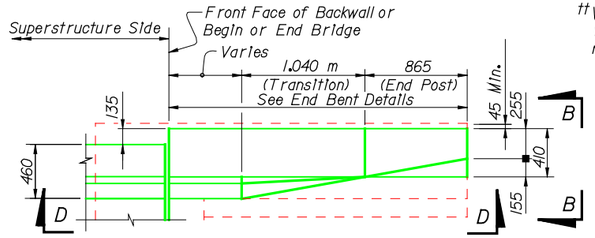
**NOTE: 20 mm Open Joints shall be provided at:
1 - Substructure supports where superstructure slab is continuous.
2 - Midspan where span length exceeds 27.000 meters.
3 - Intermediate locations (equally spaced) between midspan and substructure support where span length exceeds 54.000 meters.



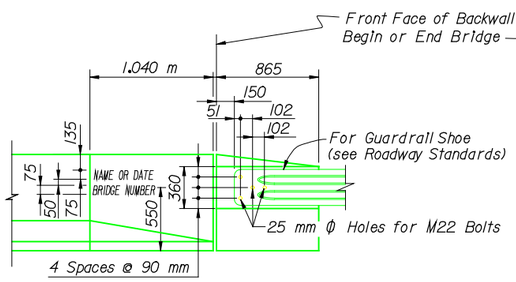
ELEVATION



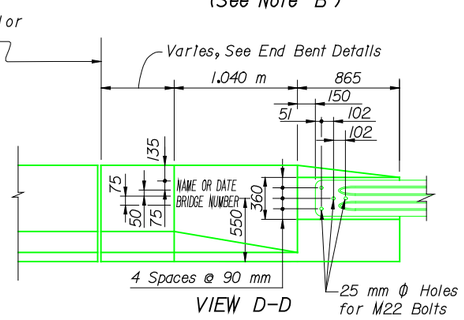
PLAN
(See Note 'A')



PLAN
(See Note 'B')



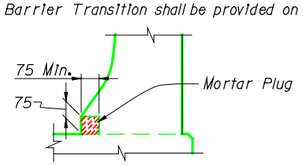
VIEW C-C



VIEW D-D

NOTE 'A':
If Barrier Transition is required and the Superstructure Depth (thickness) is 635 millimeters or less, the Transition shall be provided on the Superstructure side. To accommodate the Transition on the Superstructure the Reinforcement (Bars 16V, 16P & 13S) will need adjusting. The 355 mm portion of Bars 16V shall be bent to fit and the horizontal 255 mm portion along the bottom shall be cut at the center.

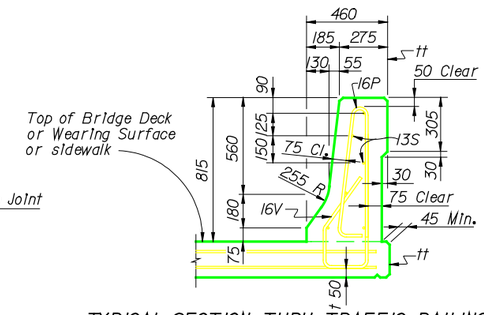
NOTE 'B':
If Barrier Transition is required and the Superstructure Depth (thickness) exceeds 635 millimeters, the Barrier Transition shall be provided on the End Bent side.



SECTION A-A

NOTE: When open joint in Barrier is not coincident with joint in the superstructure, the lower 75 mm portion of the open joint shall be plugged by filling with mortar in accordance with Subarticle 400-15.1.

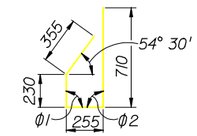
ROADWAY CROSS-SLOPE	LOW GUTTER Ø1	LOW GUTTER Ø2	HIGH GUTTER Ø1	HIGH GUTTER Ø2
0% to 2%	90°	90°	90°	90°
2%+ to 6%	93°	87°	87°	93°
6%+ to 10%	96°	84°	84°	96°



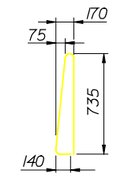
TYPICAL SECTION THRU TRAFFIC RAILING

†For Slabs 200 mm thick or less. If Slab is thicker than 200 mm or Barrier is located on a Retaining Wall, embed Bar 16V 155 mm.

††Where Barriers of adjacent bridges are to be built back to back, the outside vertical plane of the Barrier and Slab may coincide if so shown on the Superstructure Plans.

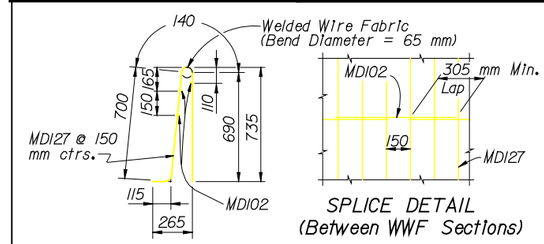


BAR 16V
(#16)



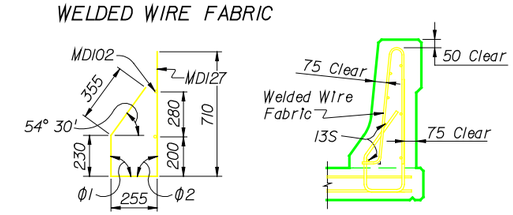
BAR 16P
(#16)

BENDING DIAGRAMS



WELDED WIRE FABRIC

SPLICE DETAIL
(Between WWF Sections)



ALTERNATE REINFORCING DETAILS

The Contractor may utilize Welded Wire Fabric in lieu of all Bars 16P and 16V and Four (4) of the Bars 13S. Welded Wire Fabric shall conform to ASTM A497.

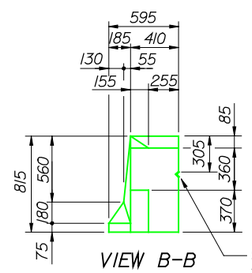
BAR BENDING NOTES

1. All bar dimensions in the bending diagrams are out to out.
2. Bars 16P and 16V shall be bent around a pin diameter = 65 mm.
3. The 230 mm and the 710 mm vertical dimensions shown for Bar 16V are based on a bridge slab 200 mm thick or greater and without raised sidewalk or wearing surface. If the slab thickness is less than 200 mm decrease these dimensions by an amount equal to the difference in the thicknesses; and if a wearing surface or a raised sidewalk is to be provided, increase the dimensions by an amount equal to the wearing surface thickness or sidewalk thickness.
4. Reinforcement for Barrier on Retaining Wall shall be the same as detailed above for a 200 mm slab with Ø1 = Ø2 = 90°.

TYPICAL TRAFFIC RAILING QUANTITIES

CONCRETE: 0.260 m^3 per meter.
REINFORCING STEEL: 30.40 kg per meter.
(Above quantities are based on 200 mm slab and 2% cross-slope).

NOTE: All dimensions are in millimeters (mm), except as noted.



VIEW B-B

REINFORCING STEEL NOTES

All vertical reinforcing steel in Traffic Railing shall be #16 Bars spaced at 200 mm c.c. and all longitudinal reinforcing steel shall be #13 Bars. At all open joints all reinforcing shall have 50 mm minimum cover. At all construction joints Bars 13S (#13) may be continuous or spliced. All splices in Bars 13S shall be 405 mm minimum.

TRAFFIC RAILING NOTES

CONCRETE AND REINFORCING STEEL: See General Notes.

PAYMENT: Traffic Railing on Bridges shall be paid for per linear meter (Item No. 2400-148-1), which shall include all Concrete and Reinforcing Steel.

MARKERS: Markers recording the elevation shall be placed on top of the Traffic Railing at End Bents. On bridges longer than 30.0 m, one marker shall be placed at each end of the bridge. On bridges 30.0 m or less, one marker shall be placed at one end of the bridge only. Markers are to be furnished by the Florida Department of Transportation and installed by the Contractor. The cost of installing the markers shall be included in the Contract Unit Price for Traffic Railing (Barrier).

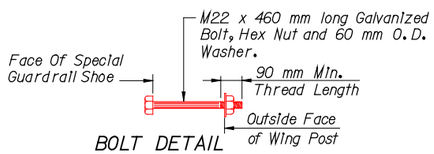
TRAFFIC RAIL CONSTRUCTION: The contractor may construct the railing by the use of stationary removable forms or by the use of slip forms without altering the rail dimensions shown above.

SUPERELEVATED BRIDGES: At the option of the Contractor, Traffic Railing and End Bent Wing Posts on superelevated bridges, may be constructed perpendicular to the roadway surface. The cost of modifications shall be at the Contractor's expense.

BOLTS: Bolts, Nuts, and Washers shall be hot dip galvanized in accordance with ASTM A153.

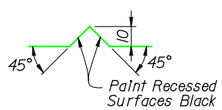
RETAINING WALL: If the Barrier is to be provided on a retaining wall, the Barrier Section shall be as shown above. Other details such as transition for guardrail attachment, maximum spacing of 20 mm open joint and 15 mm V-Groove shall also apply. See Wall Plans for Payment.

NAME AND BRIDGE NUMBER: The Name and Bridge Number to be placed on the Traffic Railing shall be seen on the driver's right when approaching bridge. The date is to be placed on the driver's left when approaching the bridge. The date shall be the year the bridge is constructed. Black plastic letters and figures 75 mm in height, as approved by the Engineer, may be used, in lieu of letters and figures formed by 10 mm V-Grooves. V-Grooves shall be formed by preformed letters and figures. For a major widening the date shall be the date of the widening.



BOLT DETAIL

NOTE: The Cost of Bolts is to be included in the Contract Unit Price for Guardrail



TO FORM INSCRIBED LETTERS AND FIGURES
SECTION THRU RECESSED "V" GROOVE

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2-97	JSP	Deleted last part of PAYMENT note	97R		
6-97	SHM	Changed dismension from ℄ Guardrail Shoe to base of Traff. Railing			

	NAMES	DATES
DRAWN BY	WEH	2-89
CHECKED BY	AJG	2-89
DESIGNED BY		
CHECKED BY		
APPROVED BY	AJG	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.

SHEET TITLE: TRAFFIC RAILING BARRIER

DRAWING NO. 1 of 1

PROJECT NAME:

INDEX NO. 700

DATE "" TIME

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