

Concrete for prestressed girders shall be Class A-1 with $f'_c = 8000$ psi and $f'_ci = 6500$ psi.

(+) indicates prestressing strand.

Use strands with an initial prestress force of kips.

Prestressing tendons shall be uncoated, seven-wire, low-relaxation strands, 0.6 inch diameter in accordance with AASHTO M 203, Grade 270. Pretensioned members shall be in accordance with Sec 1029.

Girders shall be lifted by devices designed by the fabricator.

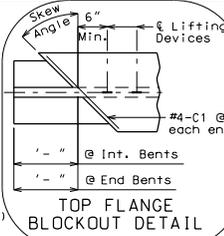
At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional payment will be made if additional strand tie bars are required.

Girder top flange shall be steel troweled to a smooth finish for 8" at the edges, as shown. Apply two layers of 30-lb roofing felt as a bond breaker to this region only excluding where joint filler is applied. The center portion shall be rough finished by scarifying the surface transversely with a wire brush, and no laitance shall remain on the surface.

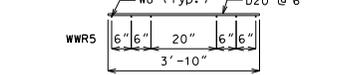
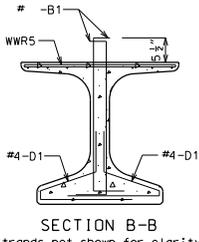
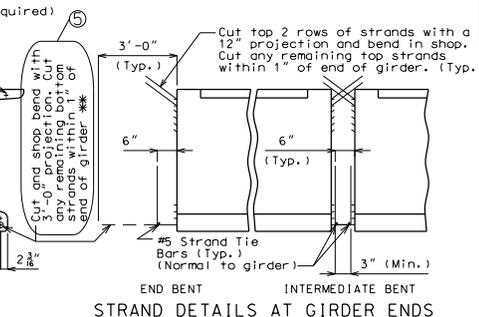
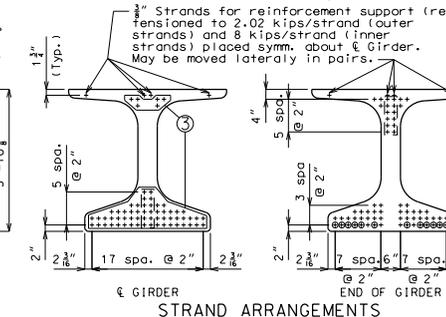
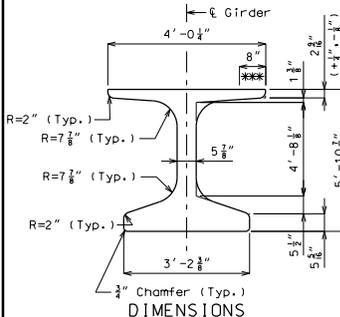
Strands for reinforcement support (required) tensioned to 2.02 kips/strand (outer strands) and 8 kips/strand (inner strands) placed symm. about \bar{c} Girder. May be moved laterally in pairs.

Cut and shop bend with 3'-0" projection. Cut any remaining bottom strands within 1" of end of girder.

Cut top 2 rows of strands with a 12" projection and bend in shop. Cut any remaining top strands within 1" of end of girder.



BILL OF REINFORCING STEEL - EACH GIRDER					BENDING DIAGRAM	
NO.	SIZE	MAX. LENGTH	SHAPE	QTY	REMARKS	
XXX	X B1	7'-3"	19			
XXX	6 B2	6'-8"	19			
XXX	4 C1	X'-XX"	20			
XXX	4 D1	4'-2"	9			



WELDED WIRE BENDING DIAGRAM
All dimensions are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures, Stirrup and Tie Dimensions.

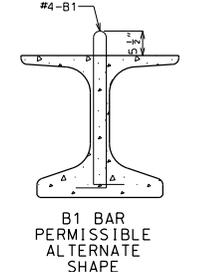
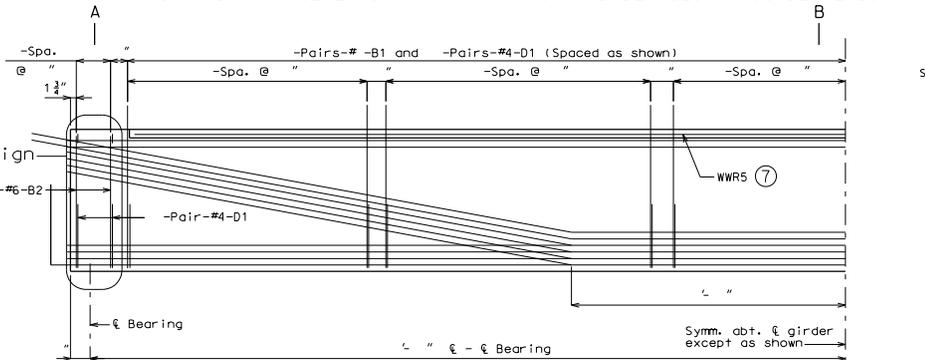
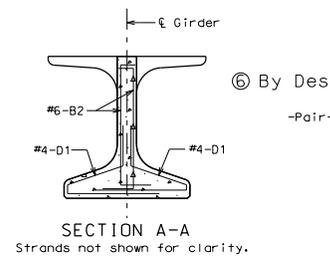
Actual bar lengths are measured along centerline of bar to the nearest inch. Minimum clearance to reinforcing shall be 1".

All bar reinforcement shall be Grade 60.

Welded Wire Reinforcement (WWR) shall be in accordance with AASHTO M 221.

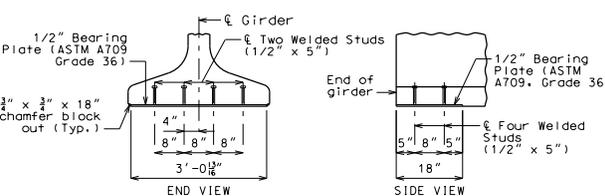
The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.



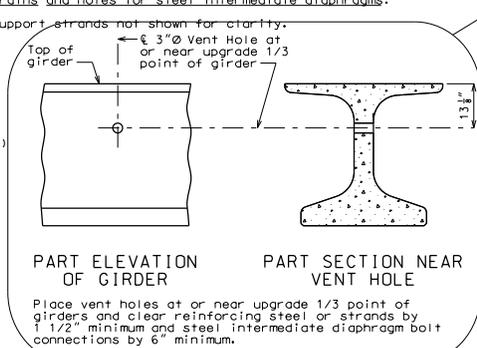
HALF ELEVATION OF GIRDER SPAN (-)
Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains and holes for steel intermediate diaphragms.

3/8" Reinforcement support strands not shown for clarity.

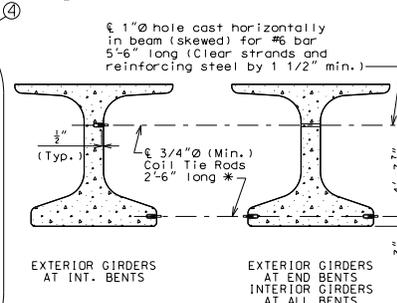


Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



PART ELEVATION OF GIRDER
PART SECTION NEAR VENT HOLE
Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



DETAILS OF COIL TIES
Exterior girders at int. bents
Exterior girders at end bents
Interior girders at all bents

Cost of 3/4" coil tie rods placed in diaphragms will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.

Coil ties shall be held in place in the forms by slotted wire-setting-studs projecting through forms. Studs are to be left in place or replaced with temporary plugs until girders are erected, then replaced by coil tie rods.

For location of coil inserts at slab drains, see Sheet No. .

For location of coil ties and #6 bars, see Sheets No. & .

The 1 1/2" holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed.

For details of diaphragms see Sheet No. .

For Girder Camber Diagram, see Sheet No. .

* Length of coil tie rods at exterior girders at end bents = .

Alternate bar reinforcing steel details are provided and may be used. The same type of reinforcing steel shall be used for all girders in all spans.

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DATE PREPARED 9/18/2012

ROUTE # MO DISTRICT BR SHEET NO. COUNTY JOB NO. CONTRACT ID. PROJECT NO. BRIDGE NO. NU 70

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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REV.