Standard Drawing Guidance (do not show on plans):

① Choose one of the 4 details for "TOP FLANGE BLOCKOUT DETAIL".

② Blockout shall be dimensioned 1 1/2" from the inside face of the diaphragm.

③ Max. strand arrangement shown in details including top straight strands. Remove unnecessary strands. Give spacing of top straight strands if used.

④ This detail only needs to be used if the structure is over water. For all other crossings remove this detail.

⑤ Modify note as necessary. Indicate 10 strands for NU 35.

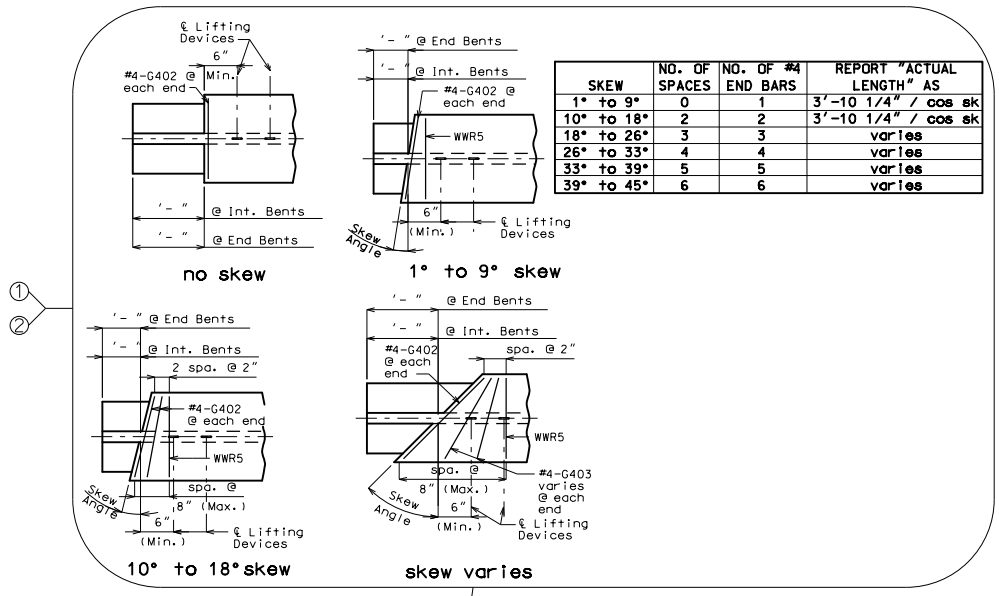
⑥ Provide number of #6-B2 Bar Pairs and show each. Place #4-D1 bars with each Pair-#6-B2.

⑦ By design; Use 3/8" strands for reinforcement support and WWR5 to resist camber and temporary stress. Only add A1 deformed bars if strands and WWR5 are not sufficient.

⑧ Use for open diaphragms. Omit note about length of coil tie rods at exterior griders.

⑨ Adjust dimension for modified flange thickness.

⑩ Modify for CIP slabs.



SKEW	NO. OF SPACES	NO. OF #4 END BARS	REPORT "ACTUAL LENGTH" AS
1° to 9°	0	1	3'-10 1/4" / cos sk
10° to 18°	2	2	3'-10 1/4" / cos sk
18° to 26°	3	3	varies
26° to 33°	4	4	varies
33° to 39°	5	5	varies
39° to 45°	6	6	varies

NU_53_WWR.dgn Effective: Jan. 2015 Supersedes: July 2014

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.

Fabricator shall be responsible for location and design of lifting devices.

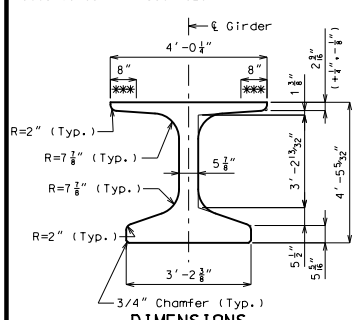
** At the contractor's option the location for bent-up strands may be varied from that shown. The total number of bent-up strands shall not be changed. One strand tie bar is required for each layer of bent-up strands except at end bents which require one bar on the bottom layer of strands only. No additional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

⑩ *** 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.

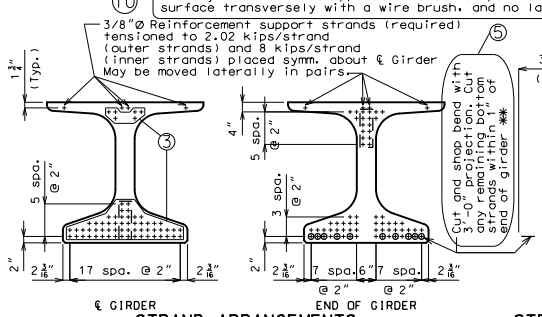
BILL OF REINFORCING STEEL - EACH GIRDER				
NO.	SIZE & MARK	ACTUAL LENGTH	SHAPE	BENDING DIAGRAM
XXX	3 G301	2'-11 3/8"	15	
XXX	4 G401	4'-3"	20	
XXX	X G402	XX'-XX"	20	
XXX	X G403	Varies	20	①

SHAPE 15

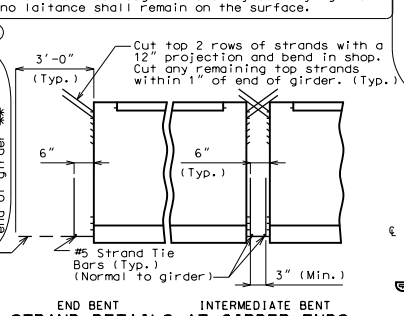
SHAPE 20



DIMENSIONS



STRAND ARRANGEMENTS



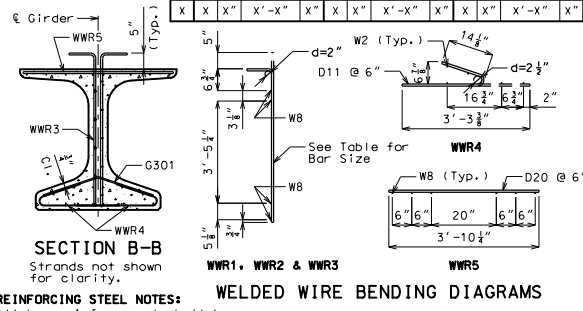
STRAND DETAILS AT GIRDER ENDS

TOP FLANGE BLOCKOUT DETAIL

WELDED WIRE REINFORCEMENT

(WWR4 & WWR5 as shown in Welded Wire Bending Diagrams)

SPAN NO.	WWR1 BAR SIZE	S1	L1	J1	WWR2 BAR SIZE	S2	L2	J2	WWR3 BAR SIZE	S3	L3	J3
X	X	X"	X'-X"	X"	X	X"	X'-X"	X"	X	X"	X'-X"	X"
X	X	X"	X'-X"	X"	X	X"	X'-X"	X"	X	X"	X'-X"	X"



SECTION B-B

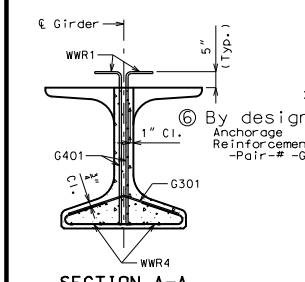
Strands not shown for clarity.

WWR1, WWR2 & WWR3

WWR4

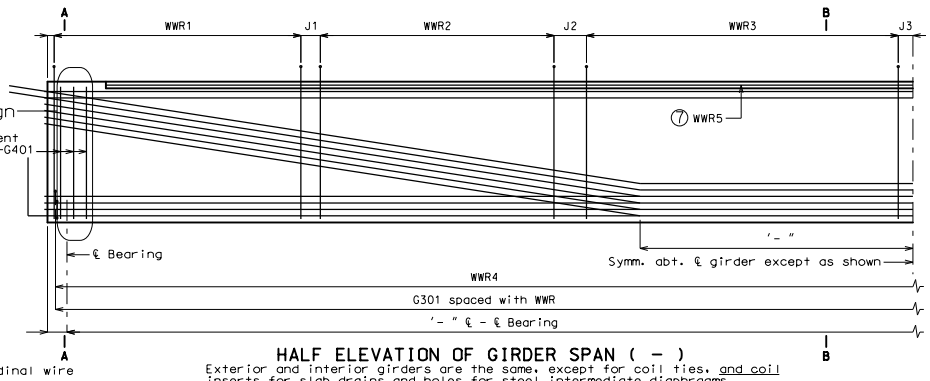
WWR5

WELDED WIRE BENDING DIAGRAMS



SECTION A-A

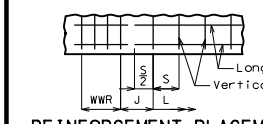
Strands not shown for clarity.



HALF ELEVATION OF GIRDER SPAN (-)

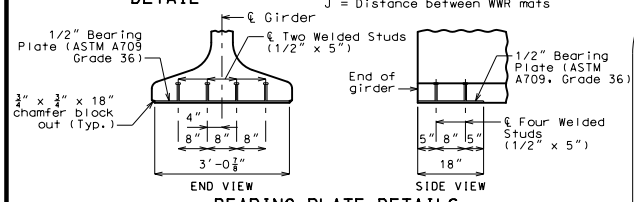
Exterior and interior girders are the same, except for coil ties, and coil inserts for slab drains and holes for steel intermediate diaphragms.

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



REINFORCEMENT PLACEMENT DETAIL

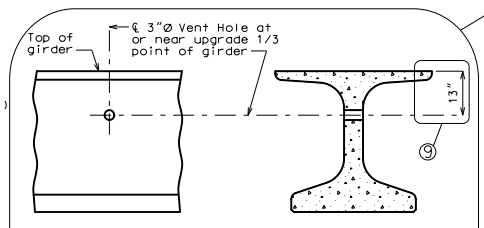
S = Vertical wire spacing
L = Length of WWR mats
J = Distance between WWR mats



BEARING PLATE DETAILS

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

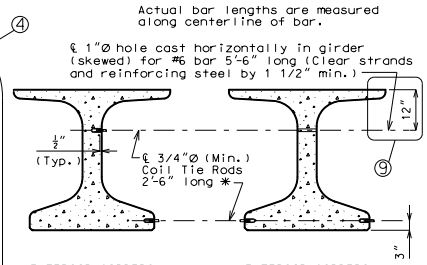
Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed girder will be considered completely covered by the contract unit price for Prestressed Concrete NU-Girder.



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

REINFORCING STEEL NOTES:

All bar reinforcement shall be Grade 60.

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

WWR shall not be epoxy coated.

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.

Minimum clearance to reinforcing shall be 1", unless otherwise shown.

Actual bar lengths are measured along centerline of bar.

Cost of 3/4"Ø 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 thru 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"Ø 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. .

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

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

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 3/19/2015

ROUTE * STATE MO

DISTRICT BR SHEET NO. *

COUNTY *

JOB NO. *

CONTRACT ID.

PROJECT NO.

BRIDGE NO. NU 53

DESCRIPTION DATE REV.

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

Detailed Checked

Note: This drawing is not to scale. Follow dimensions. Sheet No. of

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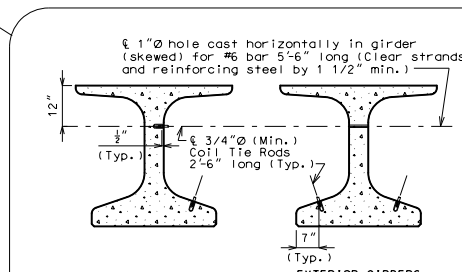
⑧



DETAILS OF COIL TIES