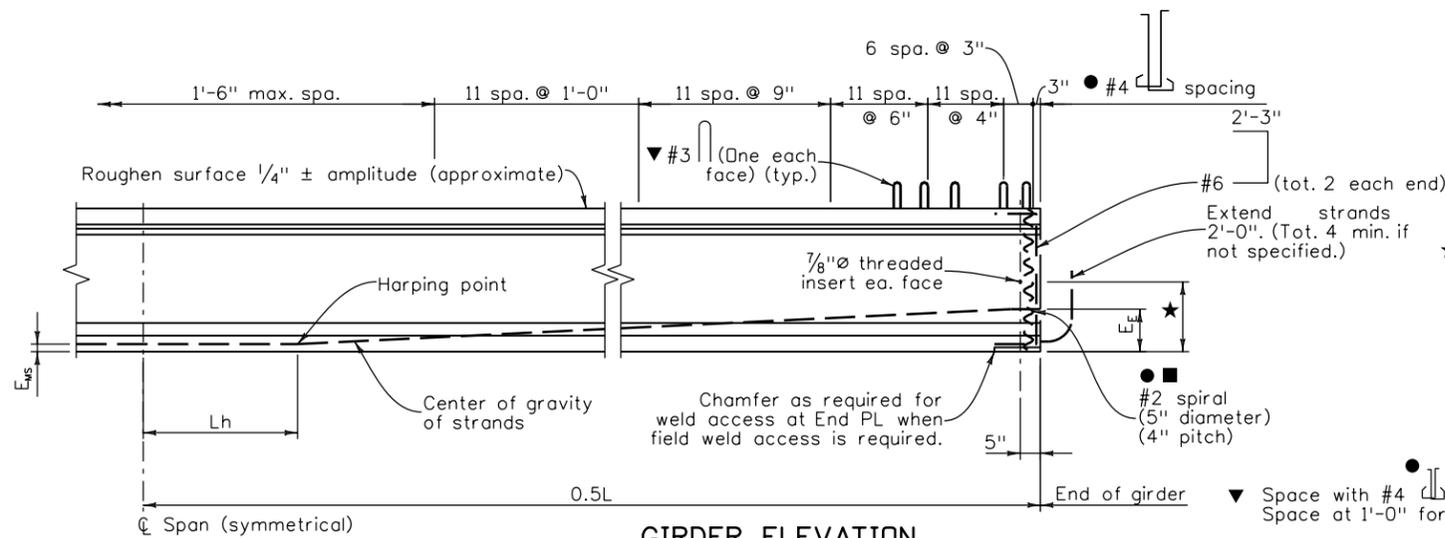


Revision Dates (Preliminary Stage Only)	
4/99	9/15
4/02	10/13
11/99	3/07
9/02	2/06

Design		Detail		Quantities	
INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
XXX	MM/YY	XXX	MM/YY	XXX	MM/YY
Designed By	Detailed By	Checked By	Checked By	Checked By	Checked By
XXX	MM/YY	XXX	MM/YY	XXX	MM/YY



GIRDER ELEVATION

- ★ Threaded insert dimension:
- 1'-7" FOR BT42
 - 2'-7" FOR BT54
 - 3'-4" FOR BT63
 - 4'-1" FOR BT72
 - 5'-1" FOR BT84

- ▼ Space with #4 for stirrup spacings of 9" or more. Space at 1'-0" for stirrup spacings less than 9".
- D20 wires may be used in lieu of #4.
- 2 - D20 wires may be used in lieu of #6.
- D11 or W10.9 wires may be used in lieu of #3.
- W5 wires may be used in lieu of #2.

NOTES:

All work necessary to fabricate and install the integral parts of the girder (including the intermediate diaphragms, 7/8" threaded rods, and leveling pads), as shown on the plans, shall be included in the bid price for Item No. 618, Prestressed Concrete I (BT-), with a pay unit of LF which shall be measured by dimension L.

When approved by the Engineer, a minimum of tack welding will be permitted on ASTM A706 uncoated reinforcing steel.

Reinforcing projecting from the top of the girder and reinforcing within eight feet of an expansion device in the bridge deck shall be epoxy coated. Damaged coating on girder reinforcing within the girder need not be repaired. The minimum cover for reinforcing steel is 1".

At girder ends not embedded in concrete diaphragms, cut strands off 1" below the surface of the concrete and finish with an approved epoxy grout. At girder ends embedded in concrete diaphragms, cut strands to project 3", except as shown. Do not make cosmetic repairs (damage less than 1/2" deep) to the parts of the girders embedded in concrete.

Use low relaxation strands meeting the requirements of ASTM A-416 Grade 270. The minimum clear distance between groups or individual strands shall be 2.3(d_s) but not less than 1/4". The minimum cover for prestressing steel is 1/2".

A minimum of two harping points shall be used per girder. Harped strands shall be well distributed at the girder ends, starting within 4" of the top of the girder and distributed such that there is no space between strands greater than 1'-0" at the end of the girder. As an alternate the Contractor may place #4 x 10'-0" in the sides of the end of the web parallel to the harped strands such that there is no space greater than 1'-0".

- A_s* = minimum area of the prestressing steel.
- d_s = nominal strand diameter.
- f_s = ultimate strength of prestressing steel.
- F_j = jacking force per girder.
- F_r = final force per girder after all losses.
- f_{ci} = required concrete strength at release of prestress force.
- f_c = required concrete strength at 28 days of age.
- L = length of girder along the grade of the girder.
- Δ = deflection at centerline of span due to cast-in-place slab, diaphragms, asphalt, curbs, rails, and walks.

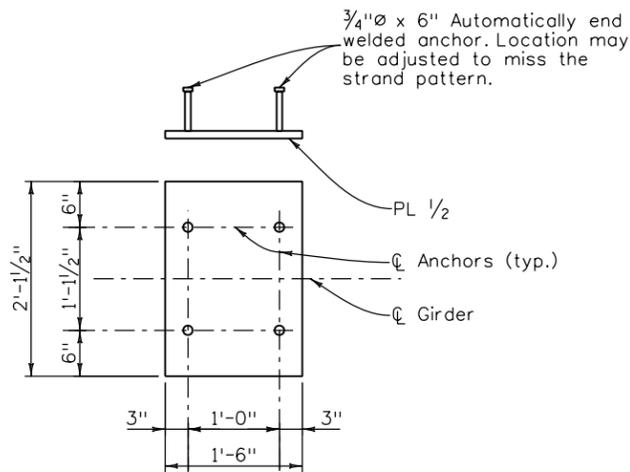
Concrete shall be Class PS.

Entrained air is not required for girder concrete.

Use 1/2" chamfer on all corners, except as noted.

Predicted camber is the camber for the girder alone at 60 days. Acceptable camber variability is limited to 20% over the predicted camber and 50% under the predicted camber or ± 1 inch, whichever is greater. The Contractor shall report to the Engineer values of camber which require remedial measures. The remedial measures shall be reviewed and approved by the Engineer. The costs associated with all remedial measures shall be borne by the Contractor.

Designer & Detailer:
Hold down forces shall be limited to < 4 kips/strand on harped strands.
Avoid skewed ends for the girders. As an alternative, the top flange may be coped.

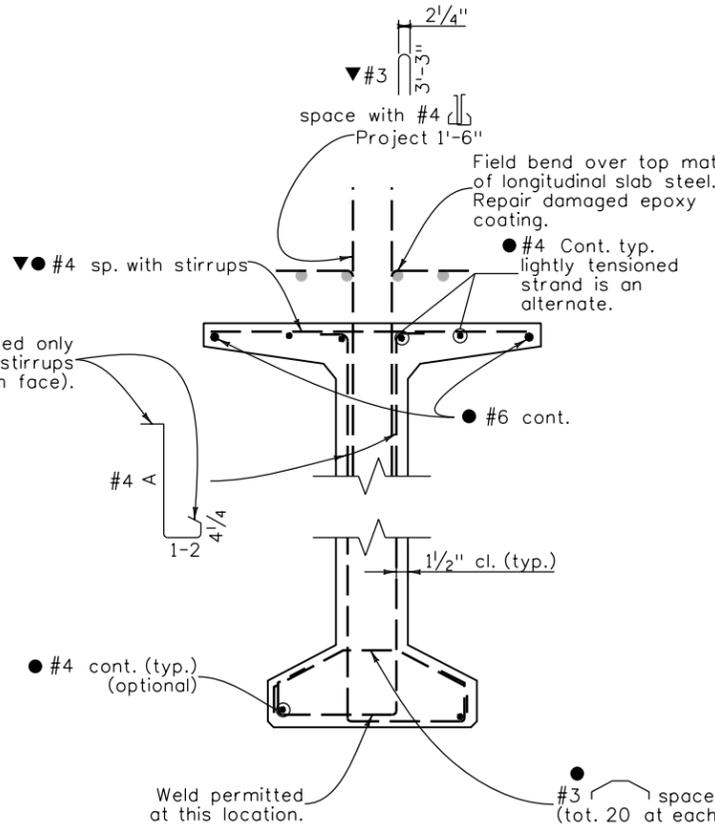


END PLATE DETAIL

Galvanize after fabrication.

GIRDER SCHEDULE

Girder Type	Span No.	Girder No.	L (Ft)	Lh (Ft)	A _s * (Sq In)	E _{MS} (In.)	E _E (In.)	F _j (Kips)	F _r (Kips)	Concrete Strength		Δ (In.)	Predicted Release Camber (In.)	Predicted Camber (In.)
										f _{ci} (psi)	f _c (psi)			
				3.5										



TYPICAL GIRDER SECTION

A = girder depth - 3"

Print Date: \$DATE\$	Sheet Revisions			<p>Colorado Department of Transportation 4201 East Arkansas Avenue Room 107 Denver, CO 80222 Phone: 303-757-9309 FAX: 303-757-9197</p>	As Constructed		PRESTRESSED CONCRETE I		Project No./Code	
File Name: Sheet_B-618-BT.dgn	Date:	Comments	Init.		No Revisions:	Project Number		Project Number		Project Number
Horiz. Scale: NTS Vert. Scale: As Noted				Revised:	Designer: XXXXXXXX	Structure: X-XX-XX	Code		Code	
Staff Bridge Branch - Unit 022X Unit Leader Initials				Void:	Detailer: XXXXXXXX	Numbers: X-XX-XX	Code		Code	
					Sheet Subset: BRIDGE	Subset Sheets: BXX of XXX	Code		Code	