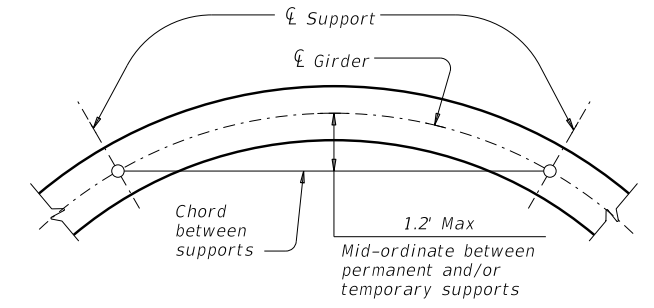
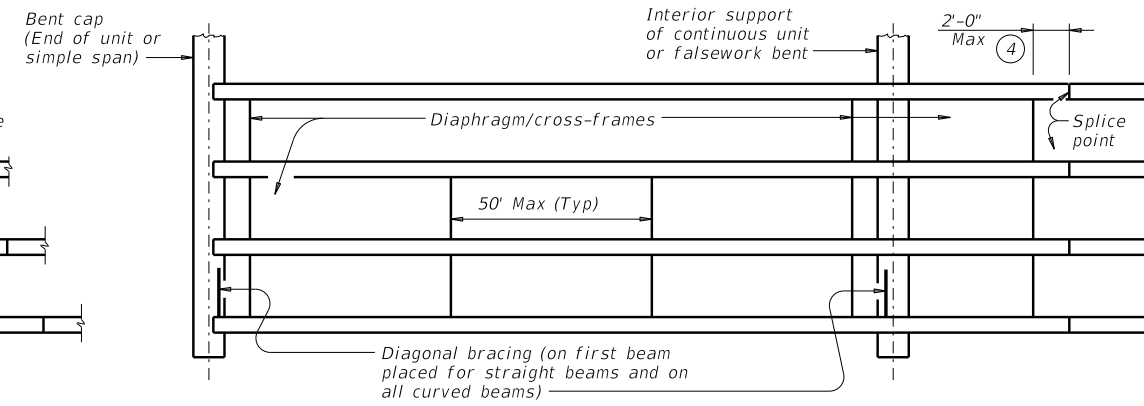
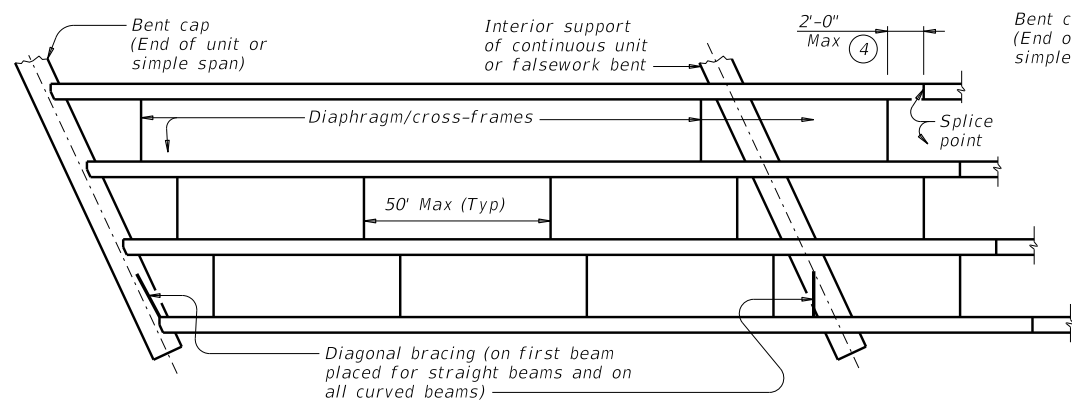


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CURVED GIRDER ERECTION SUPPORT DETAIL

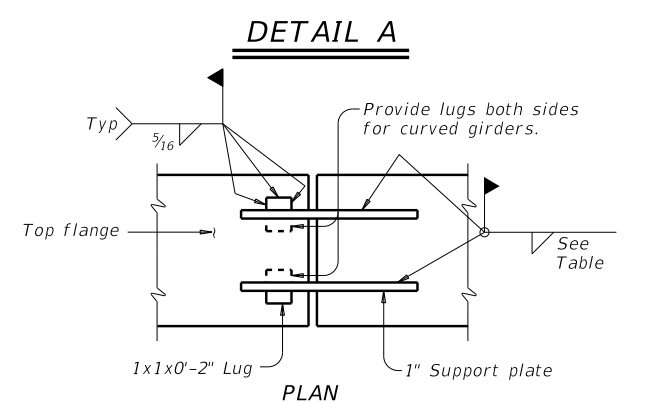
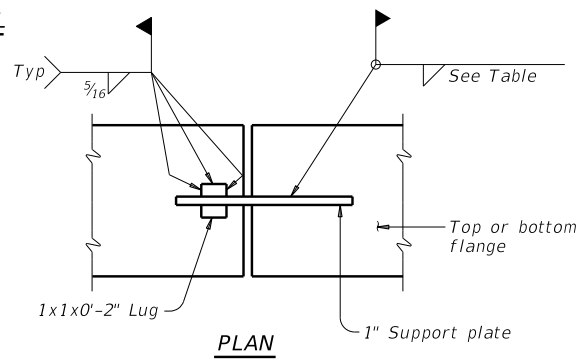
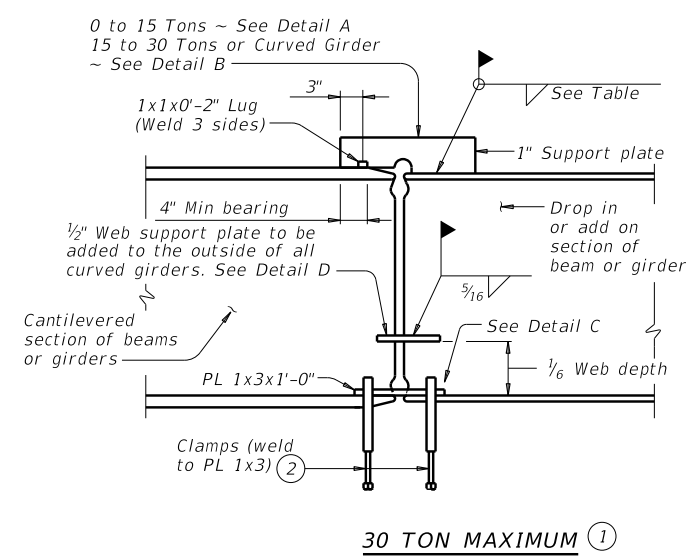
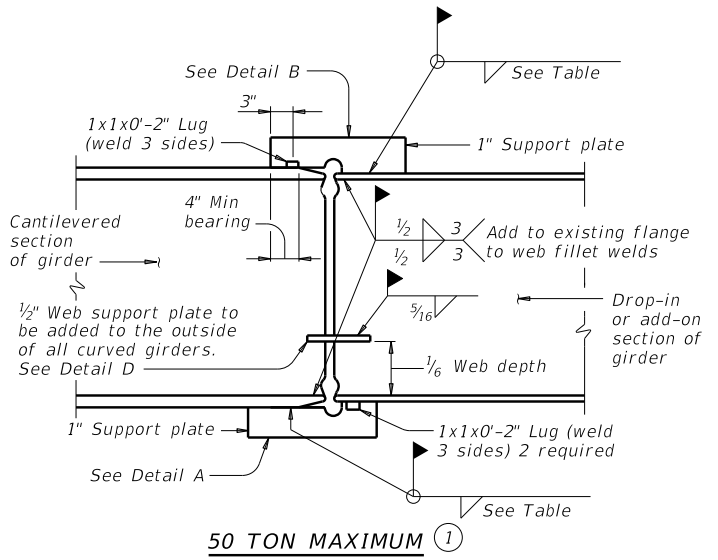
GENERAL NOTES:
This standard is to be used as a guide in preparing the required erection drawings (see Item 441). The contractor is responsible for the adequacy of bracing and shoring at all times.
Do not use timber sections less than 4 x 4 (nominal) as brace or shoring members. Do not use pressure treated landscape timbers or timbers that are twisted, warped or cracked as brace or shoring members.
All hardware used with cables must be able to develop the cable's ultimate strength, specified on the erection drawings. Use thimbles at all loops in cable. Install cable clamps with saddles bearing on the live end and U-bolt bearing on the dead end. Do not use worn, frayed, kinked, or corroded cable.
On the erection drawings, indicate the following:
1. Assumed loads (dead, live, wind, etc.) used to design the brace and shoring members.
2. Timber species, grade, and moisture content.
3. Grade and size of steel sections used for bracing or shoring members.
4. Grade and size of all threaded hardware (bolts, lag screws, concrete anchors, etc.) required for bracing and shoring.
5. Minimum embedment of concrete anchors.
6. Required weld sizes and lengths.
7. Manufacturer's name and model number of manufactured shoring or bracing with a professional Engineer's seal and signature.

HORIZONTALLY CURVED I-GIRDERS:
Unless shown otherwise on the erection drawings, support girder sections such that the mid-ordinate of the girder does not exceed 1.2' between support points. See "Curved Girder Erection Support Detail". Brace girders at all supports. Do not remove temporary supports until continuous girders are supported by at least three permanent supports, cross-frames or diaphragms are fully installed, and splices built in conformance with Item 441 are completed.
When using the support plate details shown on this standard, as a minimum, use a support near the center of the girder section until the splice is completed.

SKewed

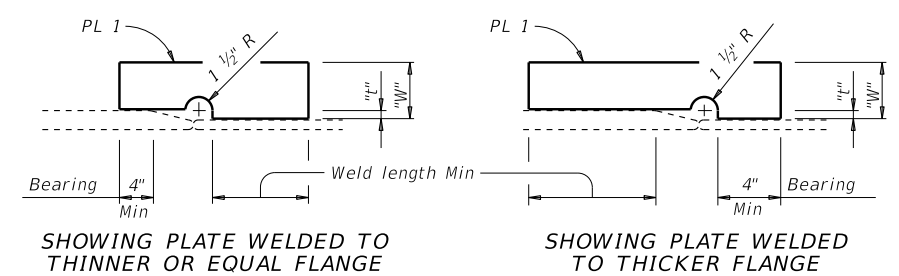
TYPICAL BRACING PLANS

NORMAL

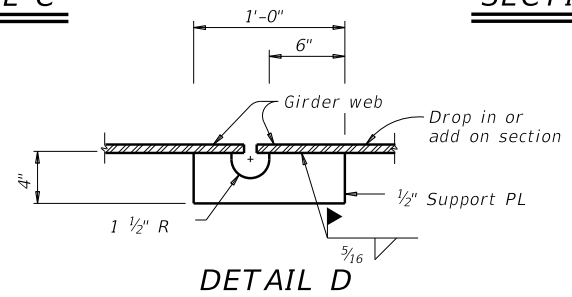
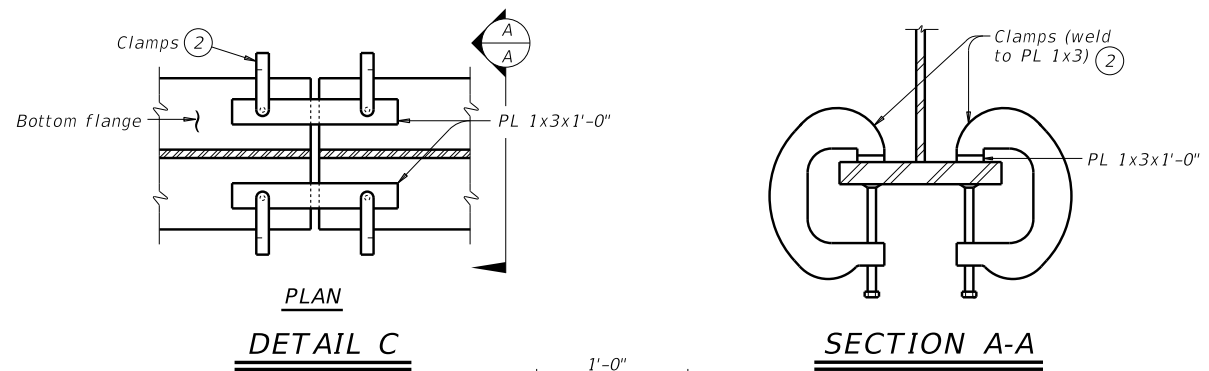


ELEVATION OF TYPICAL WELDED SPLICE SUPPORTS ③

- ① Weights indicated are total weight of drop-in section. Special design will be required when weight of drop-in section exceeds 50 Tons or supported reaction of add-on section exceeds 25 Tons.
- ② Use extra heavy duty or extra heavy service clamps with a minimum screw diameter of 3/4".
- ③ Place all top and bottom flange support plates before the beam or girder is erected; attach web plates and lugs immediately after erection. Exercise care in removing the support plates and lugs. After removing support plates and lugs, grind flange and web smooth.
- ④ Provide additional timber bracing if permanent diaphragms/cross-frames do not meet requirements shown.



SUPPORT PLATE DETAILS



Web support plates to be used for single line erection of curved girders.

"t"	1 PL to 15T or 2 PLs ~ 15T to 30T				3 PLs ~ 30T to 50T				
	"W"	Required Weld Length			"W"	Required Weld Length			
inches		5/16" Weld	3/8" Weld	7/16" Weld		5/16" Weld	3/8" Weld	7/16" Weld	1/2" Weld
0 to 1/2	6"	10"	10"	10"	7"	15"	13"	12"	10"
1/2 to 1 1/2	8"	12"	11"	10"	9 1/2"	18"	16"	14"	12"

MINIMUM ERECTION AND BRACING REQUIREMENTS STEEL GIRDERS AND BEAMS

MEBR(S)

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