

STRUCTURAL STEEL NOTES

THE TOP AND BOTTOM FLANGES IN THE MIDDLE SECTION (SEGMENT 2) OF SPAN A SHALL BE AASHTO M270 GRADE 70W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-8 OF THE STANDARD SPECIFICATIONS.

ALL OTHER STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-8 OF THE STANDARD SPECIFICATIONS.

ALL DIMENSIONS SHOWN ARE HORIZONTAL OR VERTICAL, UNLESS OTHERWISE NOTED.

ALL FIELD CONNECTIONS TO BE 1" DIA. HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

BEARING STIFFENERS ARE TO BE PLACED NORMAL TO THE WEB OF THE GIRDERS AND SHALL BE PLUMB, EXCEPT AT END BENT 2. SEE "CONNECTION PLATE DETAILS @ END BENT 2 END".

A CHARPY V-NOTCH TEST IS REQUIRED FOR WEB PLATES, WEB SPLICE PLATES, BOTTOM FLANGE PLATES, AND BOTTOM FLANGE SPLICE PLATES WITHIN 36 FEET OF THE ENDS OF GIRDERS. CHARPY V-NOTCH TESTS SHALL BE IN ACCORDANCE WITH ARTICLE 1072-7 OF THE STANDARD SPECIFICATIONS.

NO WELDING OF FORMS OR FALSEWORK TO THE TOP FLANGE WILL BE PERMITTED WITHIN 36 FEET OF THE ENDS OF GIRDER.

PERMITTED FLANGE AND WEB SHOP SPLICES SHALL NOT BE LOCATED WITHIN 15 FEET OF MAXIMUM DEAD LOAD DEFLECTION. KEEP 2 FEET MINIMUM BETWEEN WEB AND FLANGE SHOP SPLICES. KEEP 6" MINIMUM BETWEEN CONNECTOR PLATE OR TRANSVERSE STIFFENER WELDS AND WEB OR FLANGE SHOP SPLICES.

STUDS ON GIRDERS MAY BE SHIFTED UP TO 1" IF NECESSARY TO CLEAR FLANGE SPLICE WELD.

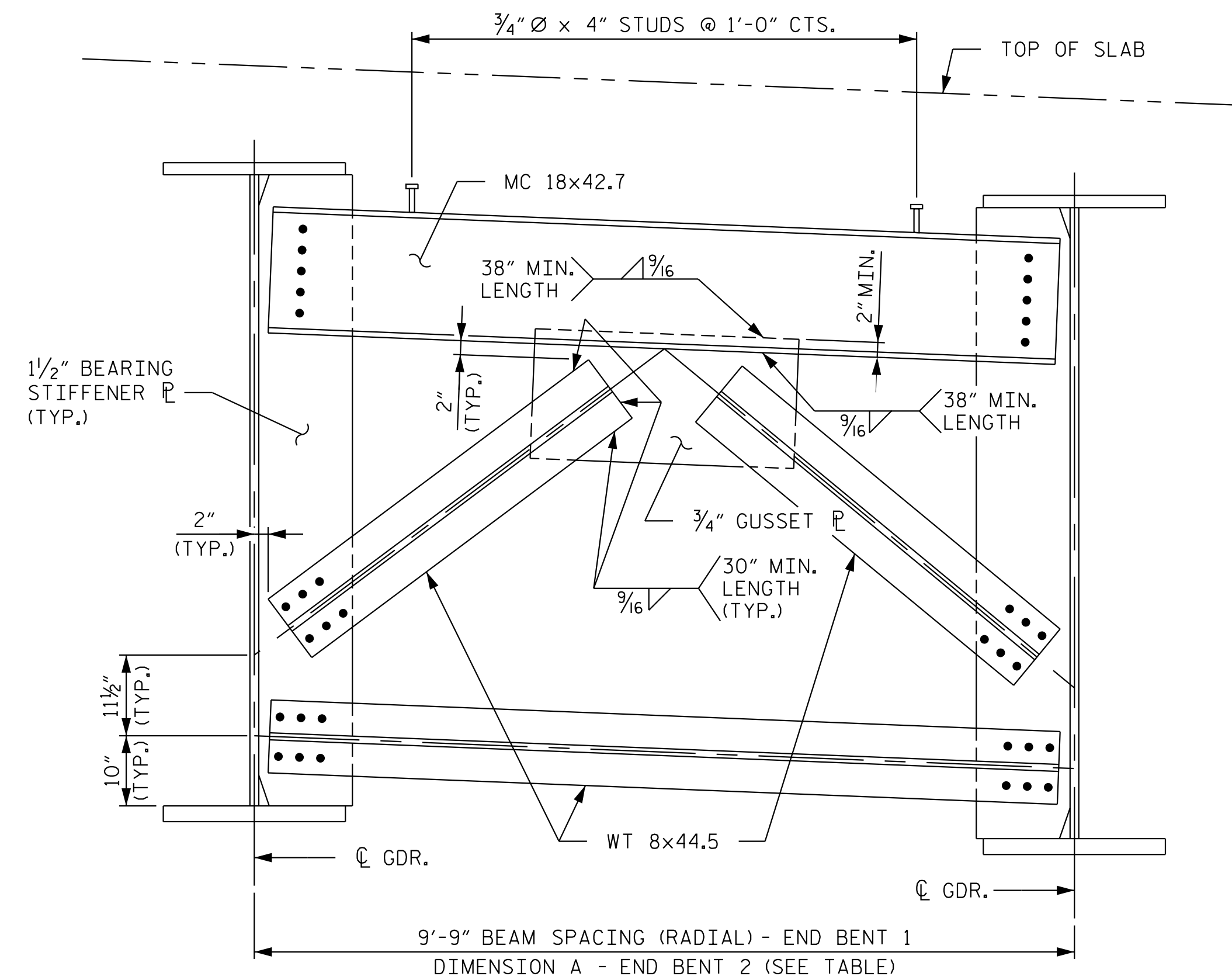
TENSION ON THE ASTM A325 BOLTS SHALL BE CALIBRATED USING DIRECT TENSION INDICATOR WASHERS IN ACCORDANCE WITH ARTICLE 440-8 OF THE STANDARD SPECIFICATIONS.

END OF GIRDERS SHALL BE PLUMB IN THE FINAL CONDITION.

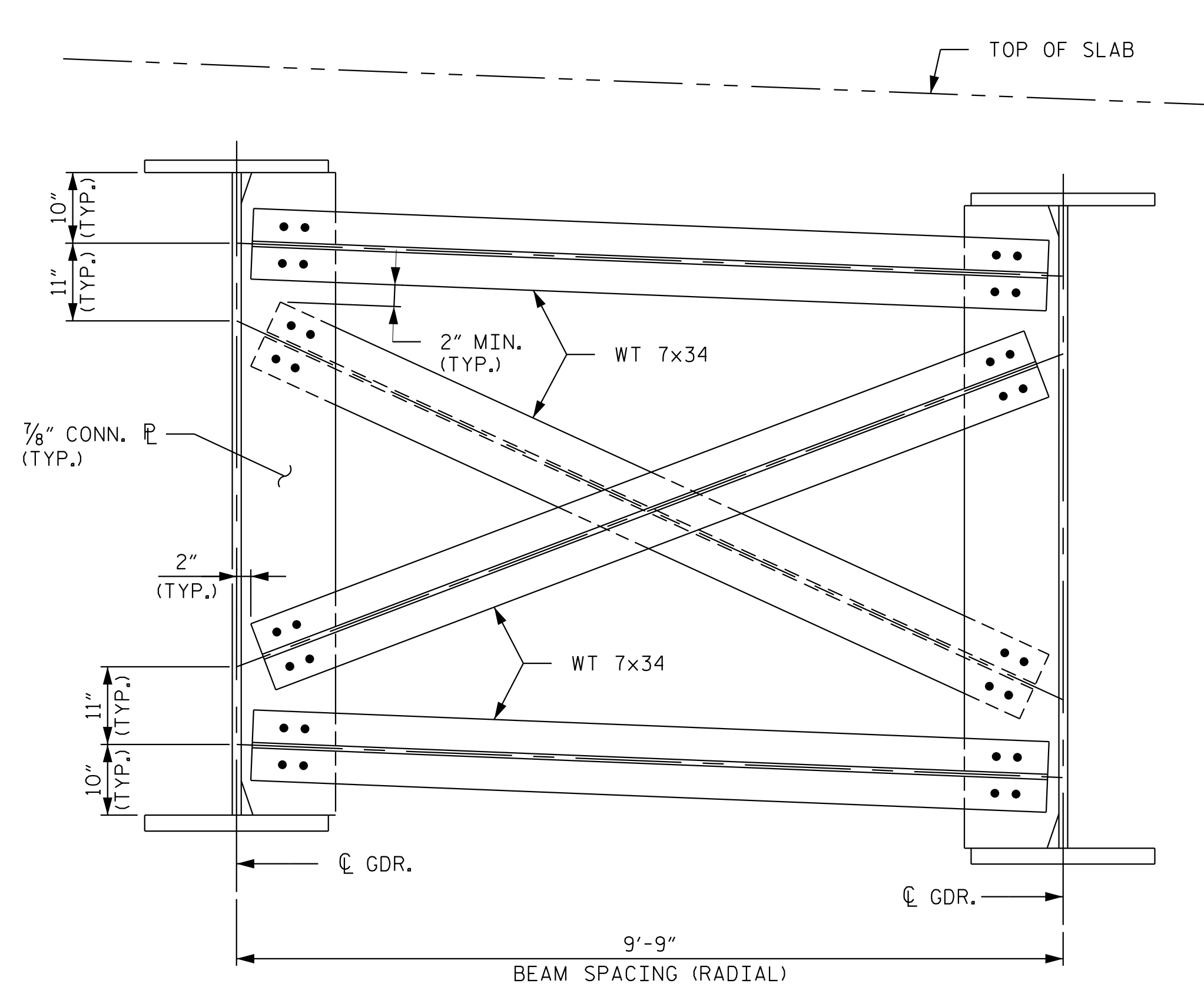
FABRICATORS SHALL DETAIL DIAPHRAGM MEMBERS AND CONNECTIONS FOR NO-LOAD FIT (NLF).

DIMENSIONS ARE HORIZONTAL DIMENSIONS ALONG THE CENTER LINE OF GIRDER NO CORRECTIONS HAVE BEEN MADE TO ADJUST FOR THE DISTANCE ALONG THE GRADE.

BEARING STIFFENER MAY REQUIRE COPING IF WIDER THAN BOTTOM FLANGE.

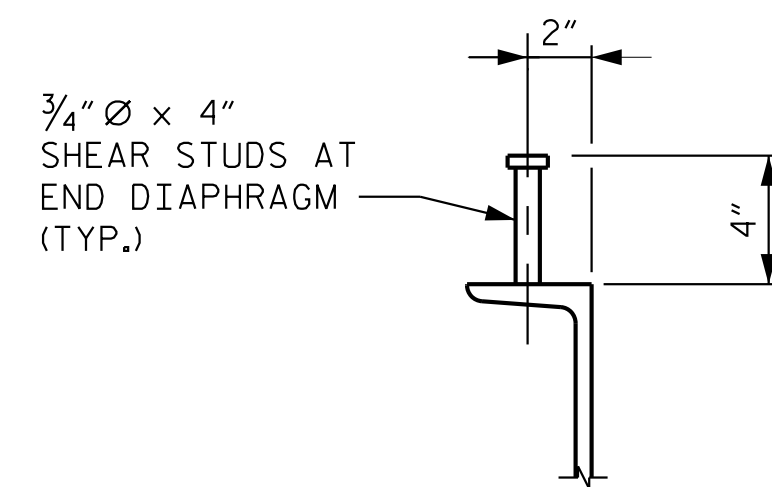


TYPICAL END BENT DIAPHRAGM



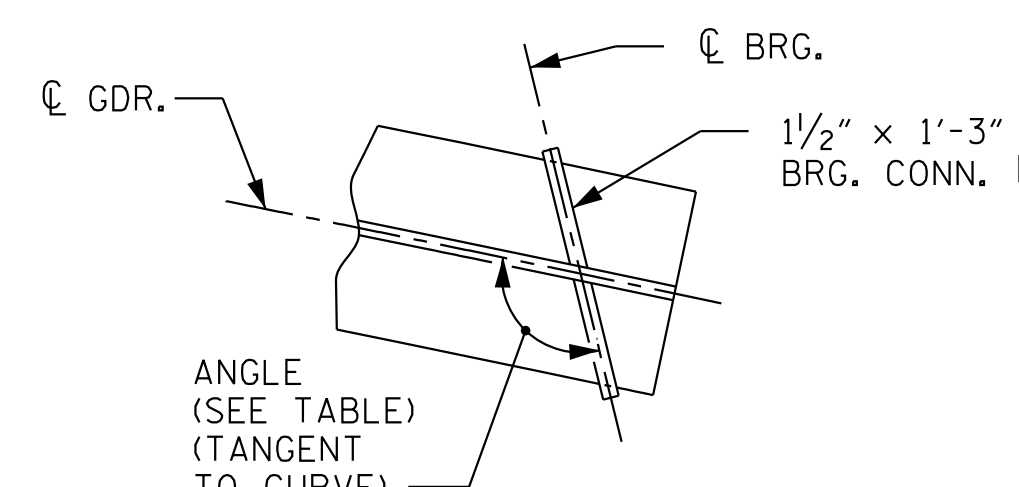
TYPICAL INTERMEDIATE DIAPHRAGM

DIMENSION A - END DIAPHRAGM (MEASURED ALONG C OF BEARING)		
BAY 1	G1 - G2	10'-9 3/8"
BAY 2	G2 - G3	10'-10"
BAY 3	G3 - G4	10'-10 3/4"
BAY 4	G4 - G5	10'-11 1/2"
BAY 5	G5 - G6	11'-0 3/8"



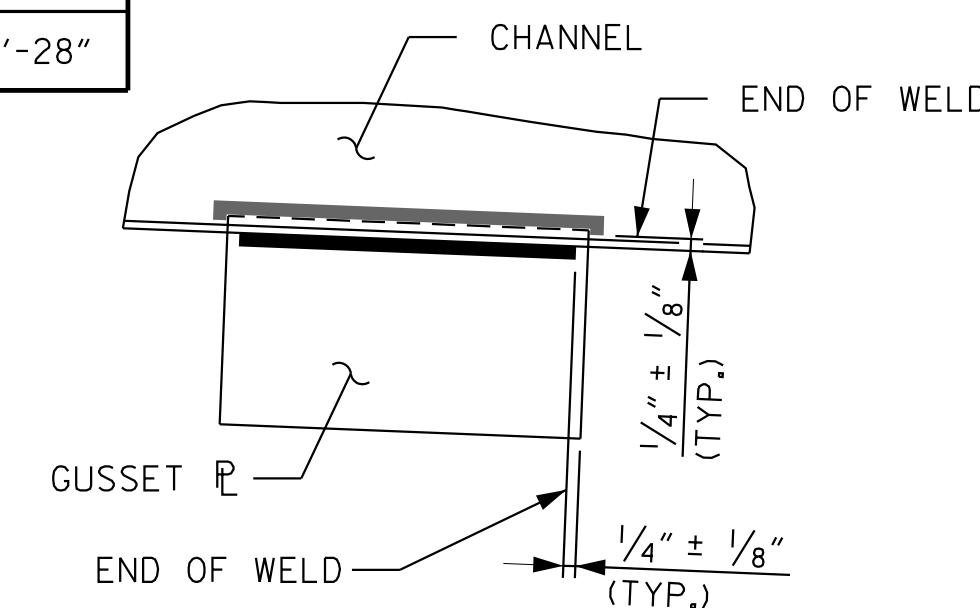
SHEAR STUD DETAIL

NOTE: TOP OF SHEAR STUD SHALL HAVE AT LEAST 2 1/2" COVER AND PENETRATE AT LEAST 3" ABOVE BOTTOM OF EDGE BEAM.

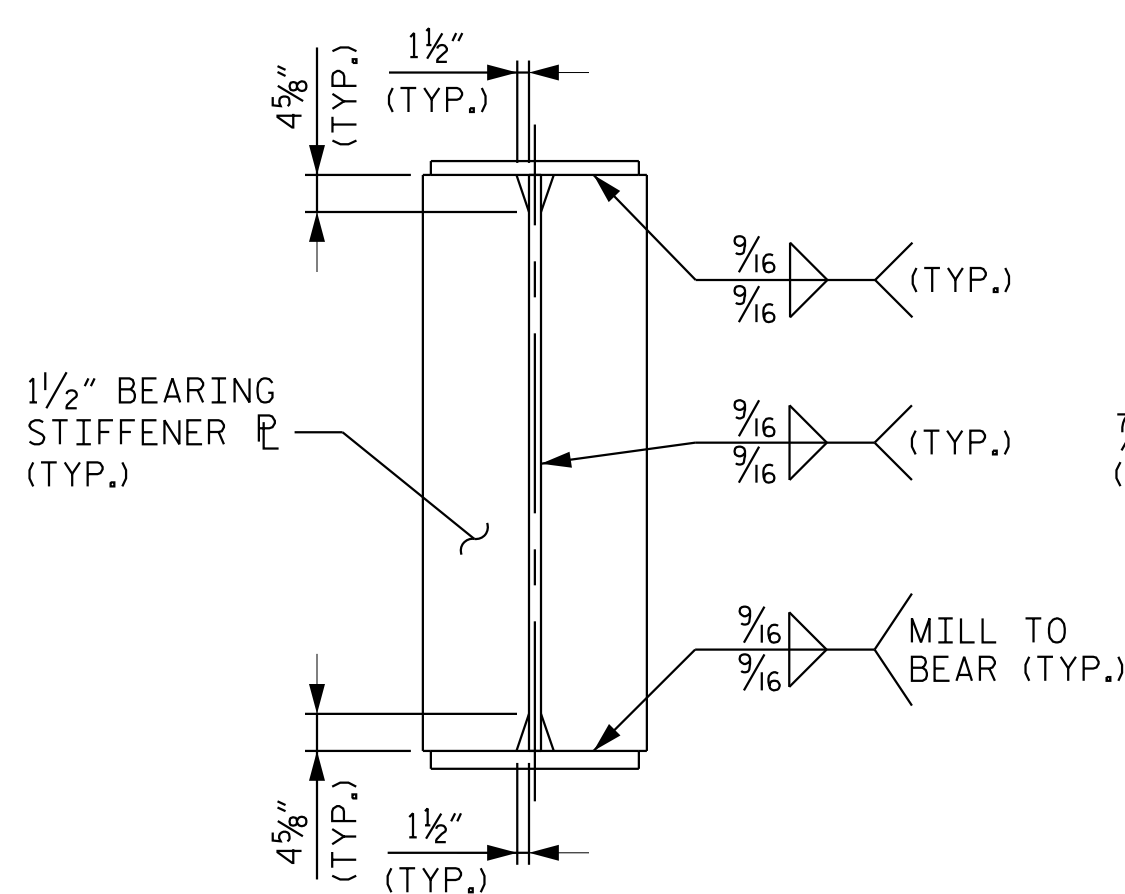


CONNECTION PLATE DETAILS @ END BENT 2 END

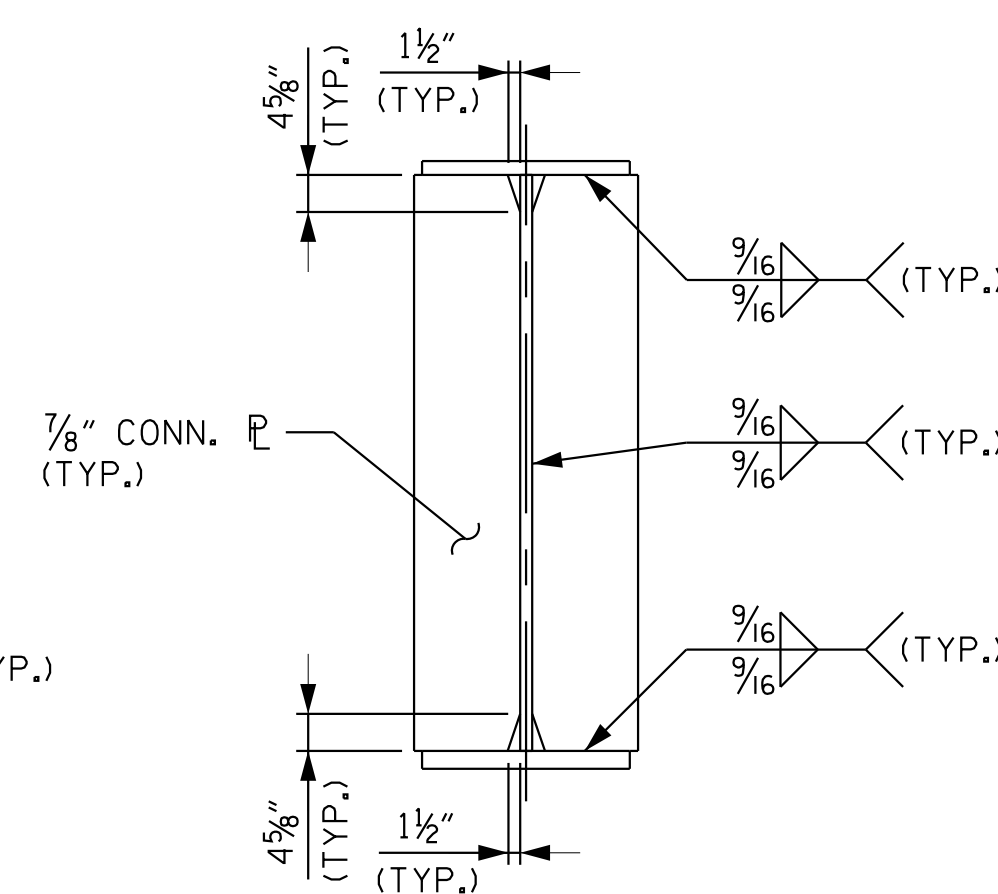
GIRDER	ANGLE
G1	114°-58'-13"
G2	115°-33'-36"
G3	116°-10'-46"
G4	116°-49'-51"
G5	117°-31'-02"
G6	118°-14'-28"



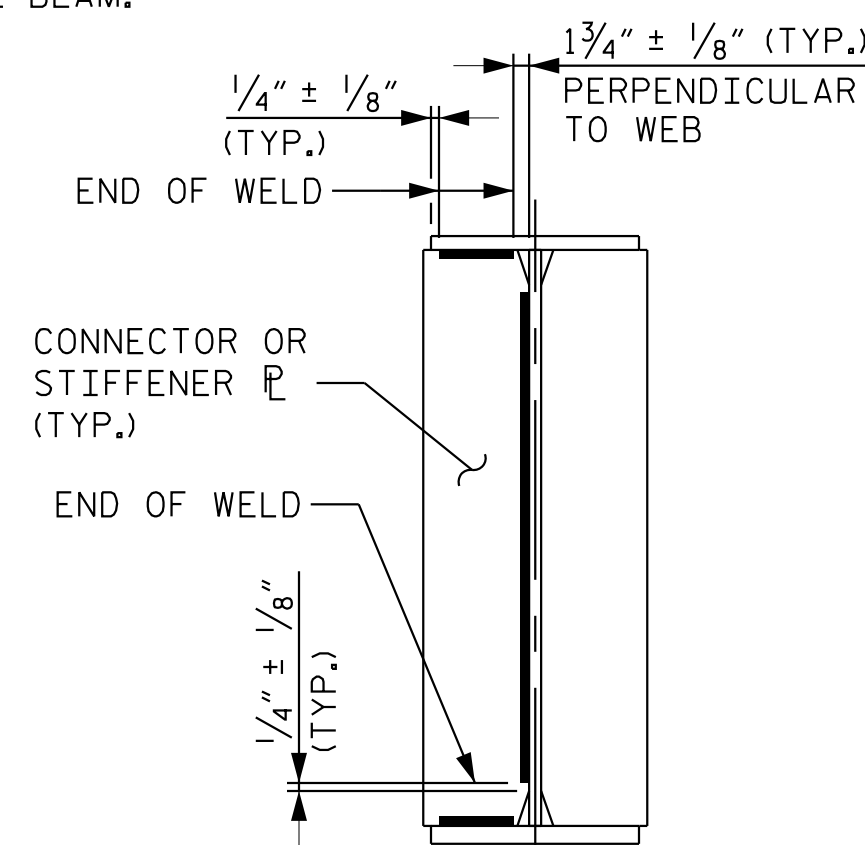
TYPICAL GUSSET PLATE CONNECTION



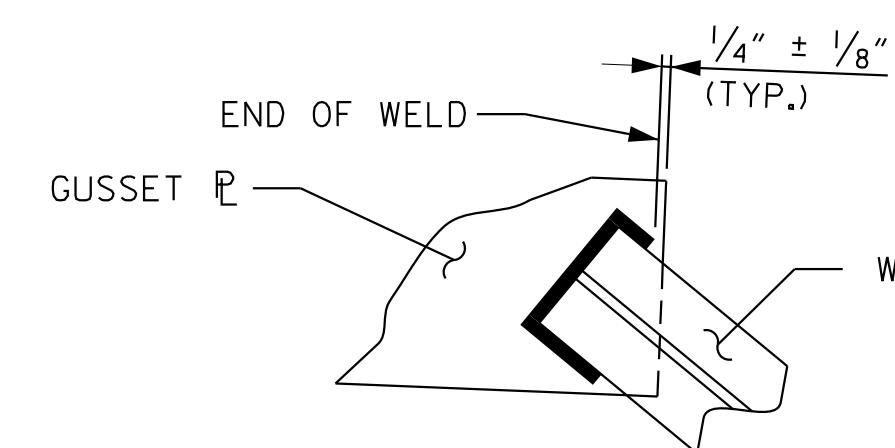
BEARING STIFFENER



INTERMEDIATE DIAPHRAGM CONNECTOR PLATE DETAIL



TYPICAL WELD TERMINATION DETAIL



TYPICAL "TEE" TO GUSSET PLATE CONNECTION

PROJECT NO. U-5806
 CABARRUS COUNTY
 STATION: 15+75.56 -Y1-
 27+06.95 -L-

SHEET 3 OF 5

Professional Engineer seals for Seth A. Denney and Andrew L. Phillips, dated 10/23/2017.

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 STRUCTURAL STEEL
 DETAILS

REVISIONS						SHEET NO. S-19
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 50
2			4			

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DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

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 10/23/2017

DRAWN BY: D. D. LOWERY DATE: 10/17
 CHECKED BY: A. L. PHILLIPS DATE: 10/17
 DESIGN ENGINEER OF RECORD: S. A. DENNEY DATE: 10/17