

COMPOSITE PLATE GIRDERS (11' GIRDER SPACING, 0 DEGREE SKEW)							
SPAN LENGTH	DIAPHRAGM SPACING	PLATE GIRDER SIZE			SHEAR CONNECTOR MAX SPACING		TABLE NOTES
		TOP FLANGE PLATE	WEB PLATE	BOT FLANGE PLATE	(D)	(E)	
60	20.00	18 x 1.625	28 x 0.5000	20 x 2.000	-	6	D
65	21.67	18 x 1.625	28 x 0.5000	20 x 2.000	-	6	D
70	23.33	18 x 1.250	30 x 0.5000	18 x 2.000	-	6	D
75	25.00	16 x 1.125	32 x 0.5000	18 x 1.750	-	6	B,D
80	20.00	14 x 1.125	34 x 0.5000	18 x 1.875	-	6	B,D
85	21.25	16 x 1.125	34 x 0.5000	18 x 1.750	-	6	D
90	22.50	18 x 1.000	38 x 0.5000	20 x 1.500	-	6	F
95	23.75	18 x 1.000	40 x 0.5000	18 x 1.750	-	6	F
100	20.00	18 x 1.000	42 x 0.5000	20 x 1.625	70 @ 6	9	B,F
105	21.00	18 x 1.000	44 x 0.5000	18 x 1.875	84 @ 6	9	F
110	22.00	18 x 1.000	46 x 0.5000	18 x 1.875	66 @ 6	9	F
115	23.00	18 x 1.125	48 x 0.5625	18 x 1.875	70 @ 6	9	F
120	24.00	20 x 1.000	50 x 0.5625	20 x 1.750	48 @ 6	9	F
125	25.00	20 x 1.000	52 x 0.5625	20 x 1.750	50 @ 6	9	F
130	26.00	20 x 1.125	52 x 0.5625	20 x 1.875	52 @ 6	9	F
135	27.00	20 x 1.125	56 x 0.5625	20 x 1.875	28 @ 6	9	B,F
140	28.00	20 x 1.250	56 x 0.5625	20 x 1.875	28 @ 6	9	F

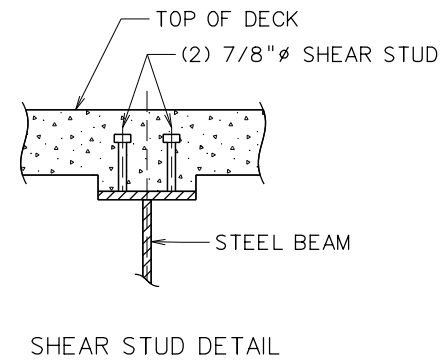
COMPOSITE PLATE GIRDERS (11' GIRDER SPACING, 30 DEGREE SKEW)							
SPAN LENGTH	DIAPHRAGM SPACING	PLATE GIRDER SIZE			SHEAR CONNECTOR MAX SPACING		TABLE NOTES
		TOP FLANGE PLATE	WEB PLATE	BOT FLANGE PLATE	(D)	(E)	
60	20.00	18 x 1.750	36 x 0.5000	18 x 1.875	-	6	A,D
65	21.67	14 x 1.625	38 x 0.5000	18 x 2.000	66 @ 6	6	F
70	23.33	18 x 1.750	38 x 0.5000	18 x 2.000	70 @ 6	6	F
75	25.00	14 x 1.750	40 x 0.5000	18 x 2.000	76 @ 6	6	F
80	20.00	16 x 1.750	40 x 0.5000	20 x 2.000	-	6	F
85	21.25	18 x 1.875	40 x 0.5000	20 x 2.000	-	6	F
90	22.50	16 x 1.750	42 x 0.5000	18 x 2.000	-	6	F
95	23.75	16 x 1.750	42 x 0.5000	20 x 2.000	-	6	F
100	25.00	18 x 1.750	42 x 0.5000	20 x 2.000	70 @ 6	9	F
105	21.00	20 x 1.250	44 x 0.6250	20 x 2.000	-	9	F
110	22.00	18 x 1.625	46 x 0.5625	20 x 1.875	-	9	F
115	23.00	18 x 1.625	46 x 0.5625	20 x 1.875	-	9	F
120	24.00	18 x 1.625	46 x 0.5625	20 x 1.875	-	9	F
125	25.00	18 x 1.375	50 x 0.5625	20 x 2.000	-	9	B,F
130	26.00	20 x 1.125	54 x 0.5625	20 x 2.000	-	9	F
135	27.00	20 x 1.250	54 x 0.5625	20 x 1.875	-	9	F
140	28.00	20 x 1.250	58 x 0.6250	20 x 1.750	84 @ 6	9	F

TABLE NOTES:

- A. SKEW INDEX EXCEEDS 0.30 ASSUMING 30° MAX SKEW
- B. CONTRACTIBILITY OF THE EXTERIOR BEAM CONTROLS OVER ALL STRENGTH LIMIT STATES. A MORE THOROUGH EVALUATION MAY REDUCE BEAM SIZES.
- C. LIVE LOAD DEFLECTION REQUIREMENTS CONTROL OVER ALL STRENGTH LIMIT STATES. A MORE THOROUGH EVALUATION MAY REDUCE BEAM SIZES.
- D. DIAPHRAGMS ARE RECOMMENDED.
- E. X SHAPED CROSSFRAMES ARE RECOMMENDED.
- F. K SHAPED CROSSFRAMES ARE RECOMMENDED.

COMPOSITE ROLLED BEAMS (11 FT GIRDER SPACING, 0 DEGREE SKEW)									
SPAN LENGTH	DIAPHRAGM SPACING	STANDARD DESIGN				OPTIONAL DESIGN			
		ROLLED SECTION	SHEAR CONNECTOR SPACING		TABLE NOTES	ROLLED SECTION	SHEAR CONNECTOR SPACING		TABLE NOTES
			(D)	(E)			(D)	(E)	
30	15.00	W30X90	-	6	B,D				
35	17.50	W30X116	-	6	B,D				
40	20.00	W33X130	-	6	B,D				
45	22.50	W36X150	-	6	B,D				
50	25.00	W36X170	-	6	B,D				
55	18.33	W36X170	-	6	D				
60	20.00	W36X170	-	6	D				
65	21.67	W36X210	-	6	D	W40X183	-	6	B,F
70	23.33	W36X231	-	6	D	W40X199	-	6	F
75	25.00	W36X247	-	6	D	W40X215	-	6	F
80	20.00	W36X262	-	6	D	W44X230	72 @ 6	9	F
85	21.25	W36X282	-	6	D	W44X262	68 @ 6	9	F
90	22.50	W36X302	-	6	D	W44X290	82 @ 6	9	F
95	23.75	W36X330	-	6	D	W40X324	-	6	F
100	25.00	W36X361	-	6	D	W44X335	-	6	F
105	21.00	W36X395	-	6	D	W40X362	-	6	F
110	22.00	W36X441	-	6	D	W40X397	-	6	F

COMPOSITE ROLLED BEAMS (11 FT GIRDER SPACING, 30 DEGREE SKEW)									
SPAN LENGTH	DIAPHRAGM SPACING	STANDARD DESIGN				OPTIONAL DESIGN			
		ROLLED SECTION	SHEAR CONNECTOR SPACING		TABLE NOTES	ROLLED SECTION	SHEAR CONNECTOR SPACING		TABLE NOTES
			(D)	(E)			(D)	(E)	
30	15.00	W36X135	-	6	A,D				
35	17.50	W36X135	-	6	A,B,D				
40	20.00	W36X182	-	6	A,D	W40X149	-	6	A,B,F
45	22.50	W36X231	-	6	A,D	W40X183	-	6	A,B,F
50	25.00	W36X330	-	6	A,D	W44X230	-	6	A,F
55	18.33	W36X395	-	6	A,D	W44X230	-	6	A,F
60	20.00	W36X441	-	6	A,D	W44X262	-	6	A,F
65	21.67	W36X487	66 @ 6	9	D	W44X290	66 @ 6	9	F
70	23.33	W36X529	70 @ 6	9	D	W44X335	70 @ 6	9	F
75	25.00	W36X652	60 @ 6	9	D	W40X503	76 @ 6	9	F
80	20.00	W36X652	64 @ 6	9	D	W40X503	-	6	F
85	21.25	W36X652	-	6	D	W40X593	86 @ 6	9	F
90	22.50	W36X652	-	6	D	W40X593	-	6	F

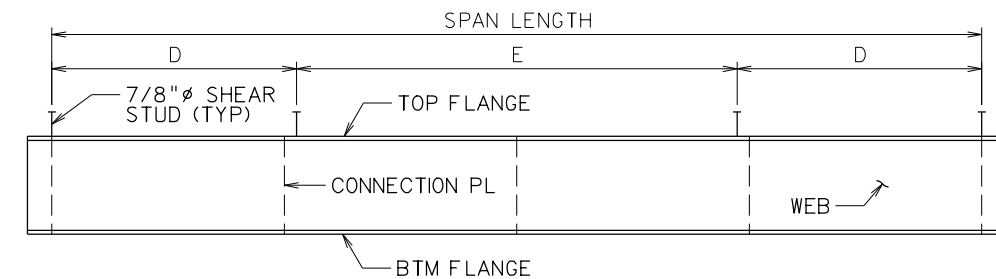


NOTES:

1. THE ENGINEER SHOULD NOTE THAT DATA WITHIN THE TABLES ARE BASED ON THE DESIGN METHODS NOTED ON STANDARD SHEETS 3300GN1 AND 3300GN2. DEVIATIONS FROM THE CRITERIA USED MAY NECESSITATE MODIFICATION TO THE BEAM SIZES.
2. THE ENGINEER, FABRICATOR, AND ERECTOR SHALL BE AWARE THAT THE BEAM ENDS MAY TWIST OR WARP DURING ERECTION. THE CONTRACTOR IS REQUIRED TO MAKE ANY CORRECTIONS BEFORE THE BEAMS ARE SECURED IN PLACE.
3. THE ENGINEER MAY USE PLATE SIZES OR ROLLED BEAMS LARGER THAN THOSE NOTED WITHIN THE TABLE GIVEN THE MOMENT OF INERTIA AND SECTION MODULUS IN BOTH AXIS ARE GREATER OR EQUAL TO THOSE SPECIFIED FOR BOTH THE NON-COMPOSITE AND COMPOSITE CASES AS APPLICABLE.
4. THE ENGINEER MAY SUBSTITUTE THREE (3) SHEAR STUDS PER ROW GIVEN THE TOTAL NUMBER OF SHEAR STUDS PER FOOT REMAINS EQUAL OR GREATER AND ALL MINIMUM SPACING'S NOTED WITHIN AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS ARE MET WITHOUT FURTHER EVALUATION.
5. THE ENGINEER SHOULD VERIFY AVAILABILITY OF ROLLED BEAMS LARGER THAN W36. INFREQUENT ROLL SCHEDULES MAY DELAY FABRICATION AND CONSTRUCTION.
6. ROLLED BEAMS SHALL NOT BE CAMBERED FOR LESS THAN 3/4". NATURAL MILL CAMBER SHOULD BE PLACED TO MINIMIZE HAUNCH THICKNESS FROM UNCAMBERED BEAMS.
7. THE ENGINEER SHOULD VERIFY WITH LOCAL FABRICATORS IF THEY ARE CAPABLE OF CAMBERING ROLLED BEAMS LARGER THAN W27 WITHOUT THE USE OF HEAD. A PLATE GIRDER SOLUTION MAY WARRANT CONSIDERATION IF LOCAL FABRICATOR DOES NOT HAVE THIS CAPABILITY.

NOTES (CONT.):

8. THE ENGINEER SHOULD CONSIDER TRANSPORTATION FOR LONG BEAMS. THE DESIGN AND DETAILING OF OPTIONAL FIELD SPLICES MAY BE PRUDENT IF TRANSPORTATION IS IN QUESTION.
9. THE ENGINEER MAY SUBSTITUTE A DECK SYSTEM WHICH IS LIGHTER THAN ASSUMED HEREIN WITHOUT FURTHER EVALUATION.
10. THE ENGINEER MAY UTILIZE DATA WITHIN THE TABLES FOR BEAM SPACINGS NOT SHOWN WITHOUT FURTHER EVALUATION GIVEN THE LARGER BEAM FOR ADJACENT SPACINGS IS SELECTED.



BEAM ELEVATION

NOT TO SCALE

PRINT DATE
19-SEP-2022 10:03

NO.	REVISION	DATE	BY

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

DESIGNED	DATE	CHECKED	DATE
DRAWN	DATE	REVIEWED	DATE

STANDARD BRIDGE PLANS
COMPOSITE STEEL BEAM
SHEET 6 OF 6
SHEET NUMBER 3320SB6

19-SEP-2022 10:03