

COMPOSITE PLATE GIRDERS (10' 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	14 x 1.125	26 x 0.5000	18 x 1.750	-	6	B,D
65	21.67	14 x 1.125	28 x 0.5000	18 x 1.750	-	6	B,D
70	23.33	14 x 1.125	30 x 0.5000	18 x 1.750	70 @ 6	9	B,D
75	25.00	16 x 1.125	30 x 0.5000	18 x 1.625	-	6	B,D
80	20.00	16 x 1.125	30 x 0.5000	18 x 1.625	-	6	D
85	21.25	14 x 1.125	36 x 0.5000	18 x 1.625	68 @ 6	9	B,D
90	22.50	16 x 1.000	36 x 0.5000	18 x 1.625	90 @ 6	9	B,D
95	23.75	18 x 1.000	38 x 0.5000	20 x 1.500	76 @ 6	9	F
100	25.00	18 x 1.000	42 x 0.5000	18 x 1.625	40 @ 6	9	F
105	21.00	18 x 1.000	42 x 0.5000	20 x 1.625	64 @ 6	9	F
110	22.00	18 x 1.000	46 x 0.5000	18 x 1.750	44 @ 6	9	F
115	23.00	18 x 1.000	48 x 0.5000	18 x 1.750	46 @ 6	9	F
120	24.00	18 x 1.000	50 x 0.5625	18 x 1.750	24 @ 6	9	F
125	25.00	18 x 1.125	52 x 0.5625	18 x 1.750	26 @ 6	9	F
130	26.00	20 x 1.000	54 x 0.5625	20 x 1.625	-	9	F
135	27.00	20 x 1.000	56 x 0.5625	20 x 1.625	-	9	F
140	28.00	20 x 1.125	56 x 0.5625	20 x 1.750	-	9	B,F

COMPOSITE PLATE GIRDERS (10' 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	16 x 1.375	34 x 0.5000	18 x 1.750	-	6	D
65	21.67	14 x 1.375	36 x 0.5000	18 x 1.625	66 @ 6	9	D
70	23.33	14 x 1.125	38 x 0.5000	16 x 1.750	70 @ 6	9	F
75	25.00	14 x 1.250	38 x 0.5000	18 x 1.750	76 @ 6	9	B,F
80	20.00	16 x 1.375	38 x 0.5000	18 x 1.875	-	6	B,F
85	21.25	16 x 1.375	38 x 0.5000	20 x 1.875	-	6	F
90	22.50	18 x 1.500	38 x 0.5000	20 x 1.875	-	6	F
95	23.75	18 x 1.500	40 x 0.6250	18 x 1.750	-	6	F
100	25.00	18 x 1.000	42 x 0.5000	18 x 1.750	70 @ 6	9	B,F
105	21.00	20 x 1.125	42 x 0.5000	20 x 2.000	-	6	F
110	22.00	20 x 1.125	42 x 0.5000	20 x 2.000	-	6	F
115	23.00	20 x 1.125	42 x 0.5000	20 x 2.000	-	6	F
120	24.00	20 x 1.125	42 x 0.5000	20 x 2.000	-	6	B,F
125	25.00	20 x 1.000	50 x 0.6250	20 x 1.625	-	6	F
130	26.00	20 x 1.000	54 x 0.6250	20 x 1.500	78 @ 6	9	F
135	27.00	20 x 1.125	54 x 0.5625	20 x 1.625	82 @ 6	9	F
140	28.00	20 x 1.125	58 x 0.5625	20 x 1.625	56 @ 6	9	F

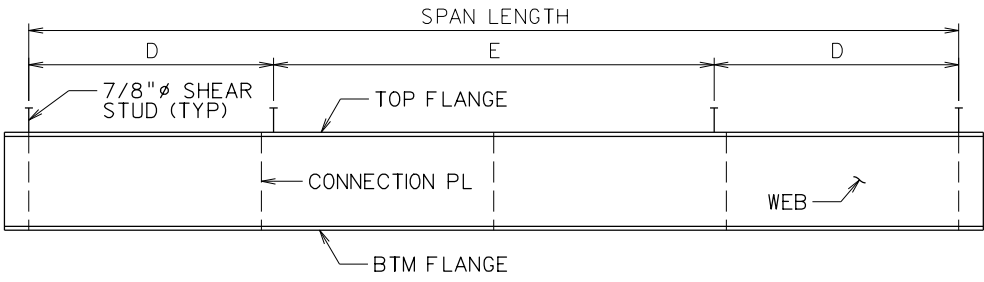
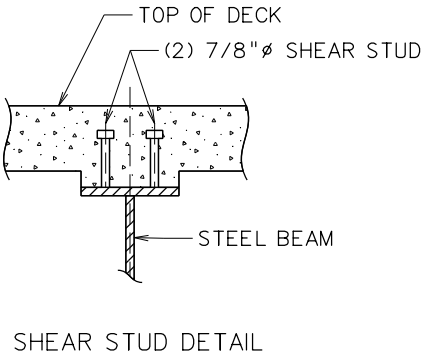
- TABLE NOTES:
- A. SKEW INDEX EXCEEDS 0.30 ASSUMING 30° MAX SKEW
- B. CONTRACTIBILITY OF THE EXTERIOR BEAM CONTROLS OVER ALL STRENGTH LIMIT STATES. A MORE THOROUGH EVALUATION MAY REDUCE BEAM SIZES.
- C. LIVE LOAD DEFLECTION REQUIREMENTS CONTROL OVER ALL STRENGTH LIMIT STATES. A MORE THOROUGH EVALUATION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

COMPOSITE ROLLED BEAMS (10 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	D				
35	17.50	W24X104	-	6	D				
40	20.00	W33X118	-	6	B,D				
45	22.50	W36X135	28 @ 6	9	B,D				
50	25.00	W36X160	30 @ 6	9	B,D				
55	18.33	W36X160	44 @ 6	9	D				
60	20.00	W36X160	60 @ 6	9	D				
65	21.67	W36X170	-	6	B,D				
70	23.33	W33X201	-	6	D	W40X199	56 @ 6	9	F
75	25.00	W33X221	-	6	D	W40X199	60 @ 6	9	F
80	20.00	W36X247	80 @ 6	9	D	W44X230	48 @ 6	9	F
85	21.25	W36X262	-	6	D	W40X249	68 @ 6	9	F
90	22.50	W36X282	-	6	D	W44X262	64 @ 6	9	F
95	23.75	W36X302	-	6	D	W44X290	40 @ 6	9	F
100	25.00	W36X330	-	6	D	W40X324	-	6	F
105	21.00	W36X361	-	6	D	W44X335	74 @ 6	9	F
110	22.00	W36X395	-	6	D	W40X362	-	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.

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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	W33X118	-	6	A,D				
35	17.50	W33X118	-	6	A,D				
40	20.00	W36X135	-	6	A,B,D				
45	22.50	W36X170	-	6	A,B,D	W40X149	-	6	A,B,F
50	25.00	W36X231	-	6	A,D	W40X183	-	6	A,B,F
55	18.33	W36X282	-	6	A,D	W40X211	-	6	A,F
60	20.00	W36X330	60 @ 6	9	D	W44X230	48 @ 6	9	F
65	21.67	W36X361	66 @ 6	9	D	W44X230	52 @ 6	9	F
70	23.33	W36X395	70 @ 6	9	D	W44X230	70 @ 6	9	F
75	25.00	W36X441	76 @ 6	9	D	W44X262	76 @ 6	9	F
80	20.00	W36X487	80 @ 6	9	D	W44X290	80 @ 6	9	F
85	21.25	W36X487	-	6	D	W44X290	-	6	F
90	22.50	W36X487	-	6	D	W44X335	-	6	F
95	23.75	W36X529	-	6	D	W44X335	-	6	F
100	25.00	W36X529	-	6	D	W40X503	-	6	F



BEAM ELEVATION

NOT TO SCALE

				WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	DESIGNED	DATE	CHECKED	DATE		STANDARD BRIDGE PLANS COMPOSITE STEEL BEAM SHEET 5 OF 6 SHEET NUMBER 3320SB5
					DRAWN	DATE	REVIEWED	DATE		
NO.	REVISION	DATE	BY							