

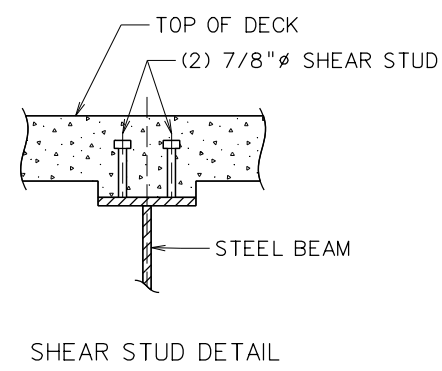
COMPOSITE PLATE GIRDERS (8' GIRDER SPACING, 0 DEGREE SKEW)							
SPAN LENGTH	DIAPHRAGM SPACING	PLATE GIRDER SIZE			SHEAR CONNECTOR MAX SPACING		TABLE NOTES
		TOP FLANGE PLATE	WEB PLATE	BOT FLANGE PLATE	(D)	(E)	
60	20.00	14 x 0.750	26 x 0.5000	14 x 1.000	48 @ 6	9	D
65	21.67	16 x 0.750	30 x 0.5000	16 x 0.875	40 @ 6	9	D
70	23.33	16 x 0.750	32 x 0.5000	16 x 1.000	28 @ 6	9	D
75	25.00	16 x 0.750	34 x 0.5000	16 x 1.125	24 @ 6	9	D
80	20.00	14 x 0.750	36 x 0.5000	16 x 1.125	32 @ 6	9	B,D
85	21.25	16 x 0.750	36 x 0.5000	16 x 1.250	34 @ 6	9	D
90	22.50	16 x 0.875	36 x 0.5000	18 x 1.250	18 @ 6	9	D
95	23.75	16 x 1.000	36 x 0.5000	18 x 1.375	20 @ 6	9	D
100	25.00	18 x 1.000	42 x 0.5000	18 x 1.250	54 @ 9	12	F
105	21.00	18 x 1.000	42 x 0.5000	18 x 1.375	56 @ 9	12	F
110	22.00	18 x 1.000	44 x 0.5000	20 x 1.250	60 @ 9	12	F
115	23.00	18 x 1.000	48 x 0.5000	18 x 1.375	32 @ 9	12	F
120	24.00	18 x 1.000	50 x 0.5000	18 x 1.375	32 @ 9	12	F
125	25.00	18 x 1.000	52 x 0.5000	18 x 1.375	34 @ 9	12	F
130	26.00	20 x 1.000	52 x 0.5000	20 x 1.375	18 @ 9	12	F
135	27.00	20 x 1.000	52 x 0.5000	20 x 1.500	18 @ 9	12	F
140	28.00	20 x 1.000	58 x 0.5625	20 x 1.250	-	12	F

COMPOSITE PLATE GIRDERS (8' 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	12 x 1.125	26 x 0.5000	18 x 1.875	-	6	B,D
65	21.67	14 x 1.125	28 x 0.5000	18 x 1.750	66 @ 6	9	B,D
70	23.33	14 x 1.125	30 x 0.5000	18 x 1.750	56 @ 6	9	B,D
75	25.00	16 x 1.125	30 x 0.5000	18 x 1.625	76 @ 6	9	B,D
80	20.00	16 x 1.125	30 x 0.5000	18 x 1.625	-	6	D
85	21.25	14 x 1.000	34 x 0.5000	18 x 1.750	68 @ 6	9	B,D
90	22.50	16 x 0.875	34 x 0.5000	18 x 1.750	72 @ 6	9	B,D
95	23.75	20 x 1.000	40 x 0.5000	20 x 1.125	58 @ 6	9	D
100	25.00	18 x 1.000	40 x 0.5000	18 x 1.250	40 @ 6	9	F
105	21.00	18 x 1.000	42 x 0.5000	18 x 1.375	42 @ 6	9	F
110	22.00	18 x 1.000	44 x 0.5000	18 x 1.375	44 @ 6	9	F
115	23.00	18 x 1.000	46 x 0.5000	18 x 1.375	24 @ 6	9	F
120	24.00	18 x 1.000	48 x 0.5000	18 x 1.375	24 @ 6	9	F
125	25.00	18 x 1.000	50 x 0.5000	18 x 1.500	26 @ 6	9	F
130	26.00	20 x 1.000	50 x 0.5000	20 x 1.375	26 @ 6	9	F
135	27.00	20 x 1.000	54 x 0.5625	20 x 1.250	28 @ 6	9	F
140	28.00	20 x 1.000	58 x 0.5625	20 x 1.250	28 @ 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.

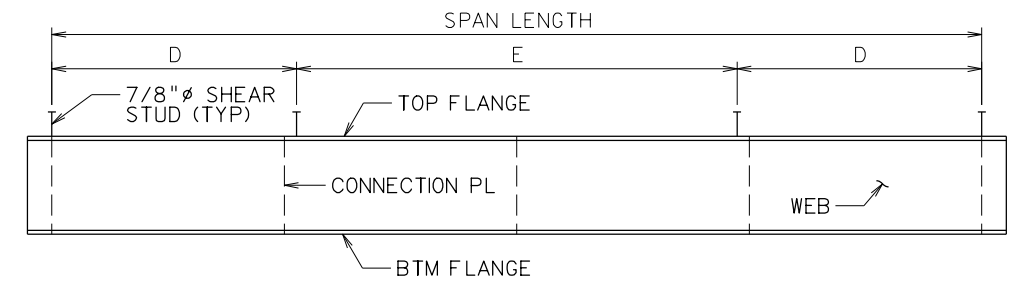
COMPOSITE ROLLED BEAMS (8 FT GIRDER SPACING, 0 DEGREE SKEW)									
SPAN LENGTH	DIAPHRAGM SPACING	STANDARD DESIGN			OPTIONAL DESIGN				
		ROLLED SECTION	SHEAR CONNECTOR SPACING		TABLE NOTES	ROLLED SECTION	SHEAR CONNECTOR SPACING		TABLE NOTES
			(D)	(E)			(D)	(E)	
30	15.00	W18X76	-	6	D				
35	17.50	W30X90	-	9	D				
40	20.00	W21X101	-	6	D				
45	22.50	W24X117	-	6	D				
50	25.00	W33X130	10 @ 6	9	B,D				
55	18.33	W33X130	22 @ 6	9	D				
60	20.00	W33X130	24 @ 6	9	B,D				
65	21.67	W36X150	26 @ 6	9	B,D				
70	23.33	W36X170	28 @ 6	9	B,D	W40X167	14 @ 6	9	B,F
75	25.00	W30X191	60 @ 6	9	D				
80	20.00	W36X194	32 @ 6	9	D				
85	21.25	W33X221	52 @ 6	9	D	W40X215	18 @ 6	9	F
90	22.50	W36X231	36 @ 6	9	D	W40X215	18 @ 6	9	F
95	23.75	W36X262	38 @ 6	9	D	W44X230	-	9	F
100	25.00	W36X282	40 @ 6	9	D	W44X262	-	9	F
105	21.00	W36X302	42 @ 6	9	D	W44X262	-	9	F
110	22.00	W36X330	22 @ 6	9	C,D	W44X290	-	9	F

COMPOSITE ROLLED BEAMS (8 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	W30X90	-	6	A,D				
35	17.50	W30X90	-	6	A,B,D				
40	20.00	W30X108	-	6	A,B,D				
45	22.50	W33X118	-	6	A,B,D				
50	25.00	W36X135	30 @ 6	9	B,D				
55	18.33	W36X135	44 @ 6	9	D				
60	20.00	W36X135	48 @ 6	9	B,D				
65	21.67	W36X150	66 @ 6	9	B,D				
70	23.33	W36X182	56 @ 6	9	B,D				
75	25.00	W33X221	76 @ 6	9	D	W40X199	46 @ 6	9	F
80	20.00	W36X231	64 @ 6	9	D	W40X199	64 @ 6	9	F
85	21.25	W36X231	68 @ 6	9	D	W40X199	68 @ 6	9	F
90	22.50	W36X231	-	6	D	W40X215	72 @ 6	9	F
95	23.75	W36X247	-	6	D	W44X230	58 @ 6	9	F
100	25.00	W36X262	-	6	D	W40X249	80 @ 6	9	F
105	21.00	W36X282	-	6	D	W44X262	64 @ 6	9	F
110	22.00	W36X302	-	6	D	W44X290	66 @ 6	9	F



- NOTES:
- 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.
  - 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.
  - 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.
  - 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.
  - THE ENGINEER SHOULD VERIFY AVAILABILITY OF ROLLED BEAMS LARGER THAN W36. INFREQUENT ROLL SCHEDULES MAY DELAY FABRICATION AND CONSTRUCTION.
  - ROLLED BEAMS SHALL NOT BE CAMBERED FOR LESS THAN 3/4". NATURAL MILL CAMBER SHOULD BE PLACED TO MINIMIZE HAUNCH THICKNESS FROM UNCAMBERED BEAMS.
  - 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.):
- THE ENGINEER SHOULD CONSIDER TRANSPORTATION FOR LONG BEAMS. THE DESIGN AND DETAILING OF OPTIONAL FIELD SPLICES MAY BE PRUDENT IF TRANSPORTATION IS IN QUESTION.
  - THE ENGINEER MAY SUBSTITUTE A DECK SYSTEM WHICH IS LIGHTER THAN ASSUMED HEREIN WITHOUT FURTHER EVALUATION.
  - 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.



NOT TO SCALE

PRINT DATE 19-SEP-2022 09:54

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 3 OF 6**  
SHEET NUMBER 3320SB3

19-SEP-2022 09:54