

### DEAD LOAD DEFLECTION TABLE FOR GIRDERS

#### SPANS A & B

0.6" DIA. LOW-RELAXATION STRANDS	GIRDER 1																					
	BRG.	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	BRG.	
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.017	0.031	0.048	0.061	0.075	0.085	0.093	0.099	0.103	0.105	0.103	0.099	0.093	0.085	0.075	0.061	0.048	0.031	0.017	0.000	
FINAL CAMBER	0	1/16"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/16"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/8"	2 1/4"	2 1/2"	2 3/4"	0.000	
GIRDER 2																						
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.018	0.034	0.053	0.067	0.083	0.094	0.104	0.110	0.115	0.116	0.115	0.110	0.104	0.094	0.083	0.067	0.053	0.034	0.018	0.000	
FINAL CAMBER	0	1/16"	3/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/16"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/8"	2 1/4"	2 1/2"	2 3/4"	3"	0.000	
GIRDER 3																						
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.018	0.034	0.053	0.066	0.082	0.092	0.102	0.109	0.113	0.114	0.113	0.109	0.102	0.092	0.082	0.066	0.053	0.034	0.018	0.000	
FINAL CAMBER	0	1/16"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/8"	2 1/4"	2 1/2"	2 3/4"	0.000
GIRDER 4																						
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.012	0.022	0.035	0.044	0.044	.061	0.067	0.071	0.074	0.075	0.074	0.071	0.067	.061	0.044	0.044	0.035	0.022	0.012	0.000	
FINAL CAMBER	0	3/16"	5/16"	7/16"	9/16"	1 1/16"	3/4"	7/8"	1"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/8"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/8"	1/8"	0.000
GIRDER 5																						
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.013	0.023	0.036	0.046	0.056	0.064	0.070	0.075	0.078	0.079	0.078	0.075	0.070	0.064	0.056	0.046	0.036	0.023	0.013	0.000	
FINAL CAMBER	0	1/8"	5/16"	7/16"	9/16"	5/8"	3/4"	13/16"	7/8"	7/8"	7/8"	7/8"	7/8"	13/16"	3/4"	5/8"	9/16"	7/16"	3/16"	1/8"	0.000	
GIRDER 6																						
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.017	0.032	0.051	0.062	0.076	0.087	0.096	0.102	0.106	0.107	0.106	0.102	0.096	0.087	0.076	0.062	0.051	0.032	0.017	0.000	
FINAL CAMBER	0	3/16"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	9/16"	5/8"	5/8"	1/2"	7/16"	3/8"	3/8"	1/4"	3/16"	1/16"	0.000	
GIRDER 7 AND 8																						
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.018	0.032	0.051	0.064	0.078	0.089	0.098	0.105	0.109	0.110	0.109	0.105	0.098	0.089	0.078	0.064	0.051	0.032	0.018	0.000	
FINAL CAMBER	0	1/16"	3/16"	1/4"	3/16"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/16"	3/8"	3/16"	1/4"	3/16"	1/16"	0.000	
GIRDER 9																						
TWENTIETH POINTS																						
CAMBER (GIRDER ALONE IN PLACE)	0.000	0.025	0.048	0.071	0.091	0.110	0.125	0.138	0.147	0.152	0.154	0.152	0.147	0.138	0.125	0.110	0.091	0.071	0.048	0.025	0.000	
* DEFLECTION DUE TO SUPERIMPOSED DL	0.000	0.016	0.030	0.047	0.060	0.073	0.083	0.092	0.098	0.101	0.102	0.101	0.098	0.092	0.083	0.073	0.060	0.047	0.030	0.016	0.000	
FINAL CAMBER	0	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	9/16"	5/8"	5/8"	9/16"	9/16"	1/2"	7/16"	3/8"	5/16"	1/4"	3/8"	0.000	

### NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW-RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL SHALL BE GRADE 60.

APPLY EPOXY PROTECTIVE COATING TO END OF GIRDER SURFACES INDICATED IN ELEVATION VIEW.

EMBEDDED PLATE "B-1" SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR STUDS SHALL CONFORM TO AASHTO M169 GRADES 1010 THROUGH 1020 OR APPROVED EQUAL, AND SHALL MEET THE TYPE "B" REQUIREMENTS OF SUBSECTION 7.3 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.

AT ENDS OF GIRDERS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS OR END WALLS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2" BEYOND THE GIRDER ENDS, OTHERWISE, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE GIRDER ENDS.

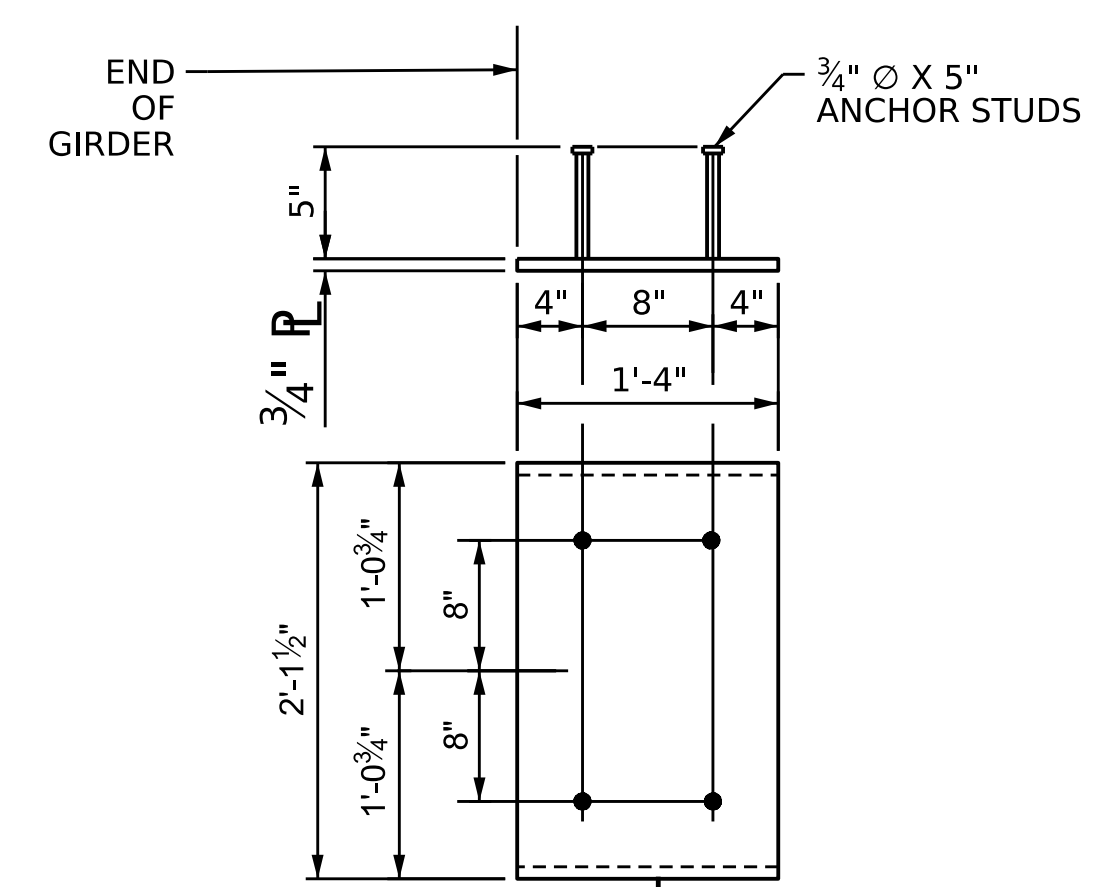
THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6400 PSI.

DEPENDING ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE GIRDER.

THE TOP SURFACE OF THE GIRDER, EXCLUDING THE OUTSIDE 4" AND SHADED AREA NEAR BENT, SHALL BE RAKED TO A DEPTH OF 1/4".

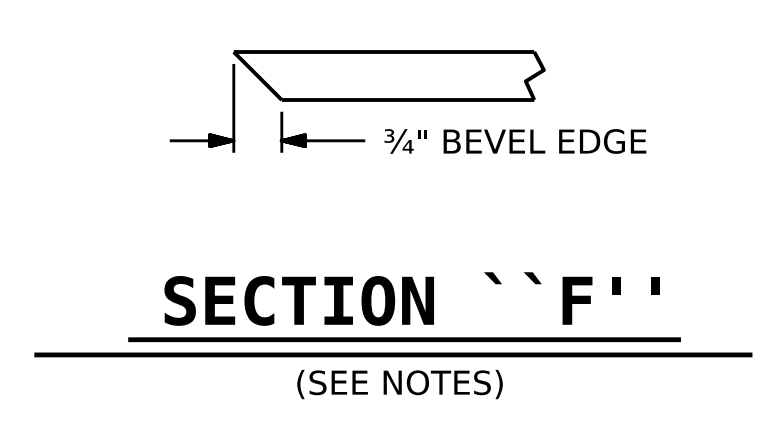
WHEN DRAPED STRANDS ARE DETAILED, THE LONGITUDINAL LOCATION OF THE HOLD DOWN DEVICES SHALL BE WITHIN 6" OF THE LOCATION SHOWN AND THE CENTER OF GRAVITY OF THE GROUP OF DRAPED STRANDS SHALL BE LOCATED WITHIN 1/2" OF THE THEORETICAL LOCATION SHOWN.

THE CONTRACTOR HAS THE OPTION TO PROVIDE, AT NO ADDITIONAL COST TO THE DEPARTMENT, 2 ADDITIONAL STRANDS AT THE TOP OF THE GIRDER TO FACILITATE TYING OF THE REINFORCING STEEL. THESE STRANDS SHALL BE PULLED TO A LOAD OF 4500 lbs.



**EMBEDDED PLATE "B-1" DETAILS FOR AASHTO TYPE IV GIRDER**

(2 REQ'D PER GIRDER)



ASSEMBLED BY : L.A. SHIELDS      DATE : 10/2022  
 CHECKED BY : S. NATARAJAN      DATE : 10/2022

DRAWN BY : ELR 11/91      REV. 1/15      MAA/TMG  
 CHECKED BY : GRP 11/91      REV. 2/15      MAA/TMG  
   REV. 12/17      MAA/THC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AECOM  
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 (919) 854-6200      www.aecom.com  
 AECOM License No. FC8242

**NORTH CAROLINA PROFESSIONAL SEAL**  
 SEAL NO. 34543  
 REGISTERED PROFESSIONAL ENGINEER  
**GREGORY R. COLSON**  
 2/19/2023

PROJECT NO. BR-0041  
 ROCKINGHAM COUNTY  
 STATION: POT 34+73.00 -L-  
 SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH		STANDARD <b>PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD DETAILS</b>	
REVISIONS			
NO.	BY:	DATE:	SHEET NO.
1		3	S-21
2		4	TOTAL SHEETS 48

STD. NO. PCG9