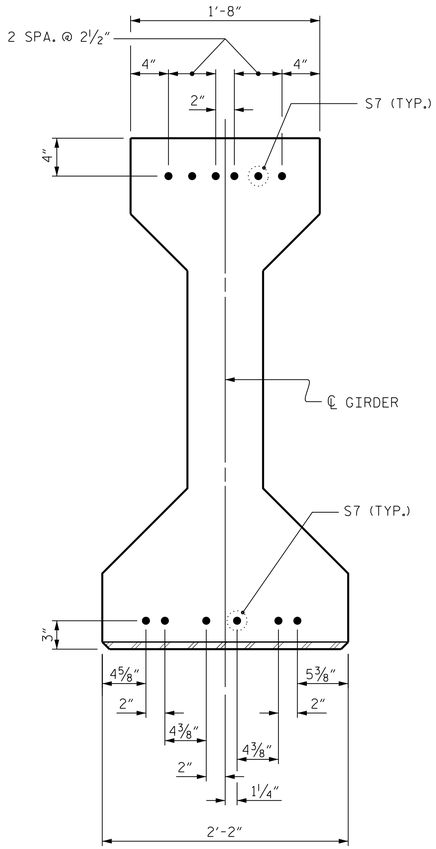
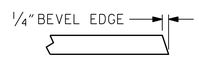
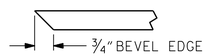


DETAIL "A"

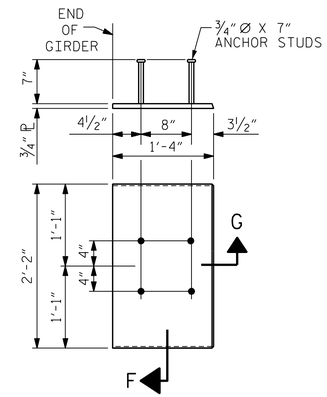


SECTION "G"



SECTION "F"

(SEE NOTES)



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

(2 REQ'D. PER GIRDER)

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.

EMBEDDED PLATE "B-1" SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. BEVEL EDGES OF PLATE "B-1" TO GIVE CLOSE FIT BUT NOT TIGHT FIT TO STEEL CASTING FORM.

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 6000 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", SHALL BE RAKED TO A DEPTH OF ¼".

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.

DEAD LOAD DEFLECTION TABLE FOR GIRDERS

0.60"Ø LOW RELAXATION STRANDS	SPAN A																					
	GIRDERS 1 & 5											GIRDERS 2, 3 & 4										
TENTH POINTS	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.052	0.098	0.135	0.158	0.166	0.158	0.135	0.098	0.052	0	0	0.052	0.098	0.135	0.158	0.166	0.158	0.135	0.098	0.052	0
** DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.038	0.075	0.103	0.121	0.126	0.119	0.100	0.072	0.036	0	0	0.042	0.082	0.113	0.133	0.139	0.131	0.111	0.079	0.040	0
FINAL CAMBER ↑	0	3/16"	5/16"	3/8"	7/16"	1/2"	7/16"	7/16"	5/16"	3/16"	0	0	1/8"	3/16"	1/4"	5/16"	5/16"	5/16"	5/16"	1/4"	1/8"	0

0.60"Ø LOW RELAXATION STRANDS	SPAN B																					
	GIRDERS 1 & 5											GIRDERS 2, 3 & 4										
TENTH POINTS	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
CAMBER (GIRDER ALONE IN PLACE) ↑	0	0.052	0.098	0.135	0.158	0.166	0.158	0.135	0.098	0.052	0	0	0.052	0.098	0.135	0.158	0.166	0.158	0.135	0.098	0.052	0
** DEFLECTION DUE TO SUPERIMPOSED D.L. ↓	0	0.036	0.072	0.100	0.119	0.126	0.121	0.103	0.075	0.038	0	0	0.040	0.079	0.111	0.131	0.139	0.133	0.113	0.082	0.042	0
FINAL CAMBER ↑	0	3/16"	5/16"	7/16"	7/16"	1/2"	7/16"	3/8"	5/16"	3/16"	0	0	1/8"	1/4"	5/16"	5/16"	5/16"	5/16"	1/4"	3/16"	1/8"	0

** INCLUDES FUTURE WEARING SURFACE IN SUPERIMPOSED DEAD LOAD.

ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS SHOWN IN INCHES (FRACTION FORM).

PROJECT NO. W-5107
JOHNSTON COUNTY
STATION: 115+83.99 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE

PRESTRESSED CONCRETE GIRDER CONTINUOUS FOR LIVE LOAD DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 027799 ENGINEER ALLYSON K. ORR
11/26/2014

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

SHEET NO. S-54
TOTAL SHEETS 70

DRAWN BY : J.S. ISRAELNAIM DATE : 03/13
CHECKED BY : A.K. ORR DATE : 03/13
DESIGN ENGINEER OF RECORD : A.K. ORR DATE : 11/14

11/25/2014
2:37:07 PM
User: blanning
Filename: P:\NC Bridges\MI2005 - W-5107 Johnston Co\MI2005.02.Site 2\Structures\402.070.S02.W5107.SMU.PCG2.dgn