DEAD LOAD DEFLECTION TABLE FOR SPANS A & C

0.6″Ø LOW RELAXATION	BEAMS 1 & 16										
TENTH POINTS	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
CAMBER (GIRDER ALONE IN PLACE) ↑	0.000	0.041	0.077	0.105	0.123	0.130	0.123	0.105	0.077	0.041	0.000
DEFLECTION DUE TO SUPERIMPOSED D.L.* ↓	0.000	0.017	0.034	0.047	0.056	0.059	0.056	0.047	0.034	0.017	0.000
FINAL CAMBER ↑	0″	5/16″	1/2″	11/16″	13/16″	7/8″	13/16″	11/16″	1/2″	5/16″	0″

0.6″Ø LOW RELAXATION	BEAMS 2 THROUGH 15										
TENTH POINTS	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
CAMBER (GIRDER ALONE IN PLACE) ↑	0.000	0.041	0.077	0.105	0.123	0.130	0.123	0.105	0.077	0.041	0.000
DEFLECTION DUE TO SUPERIMPOSED D.L.* ↓	0.000	0.018	0.037	0.051	0.060	0.063	0.060	0.051	0.037	0.018	0.000
FINAL CAMBER ↑	0″	1/4″	1/2″	5/8″	3/4″	13/16″	3/4″	5/8″	1/2″	1/4″	0″

DEAD LOAD DEFLECTION TABLE FOR SPAN B

0.6″Ø LOW RELAXATION	BEAMS 1 & 16										
TENTH POINTS	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
CAMBER (GIRDER ALONE IN PLACE) ↑	0.000	0.123	0.234	0.320	0.374	0.393	0.374	0.320	0.234	0.123	0.000
DEFLECTION DUE TO SUPERIMPOSED D.L.* ↓	0.000	0.065	0.128	0.177	0.208	0.219	0.208	0.177	0.128	0.065	0.000
FINAL CAMBER ↑	0″	11/16″	1 1/4″	1 11/16″	2″	2 1/16″	2″	1 11/16″	1 1/4″	11/16″	0″

0.6″Ø LOW RELAXATION	BEAMS 2 THROUGH 15										
TENTH POINTS	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
CAMBER (GIRDER ALONE IN PLACE) ↑	0.000	0.123	0.234	0.320	0.374	0.393	0.374	0.320	0.234	0.123	0.000
DEFLECTION DUE TO SUPERIMPOSED D.L.* ↓	0.000	0.070	0.137	0.190	0.223	0.235	0.223	0.190	0.137	0.070	0.000
FINAL CAMBER ↑	0″	5/8″	1 3/16″	1 9/16″	1 13/16″	1 7/8″	1 13/16″	1 9/16″	1 3/16″	5/8″	0″

* INCLUDES FUTURE WEARING SURFACE.
ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

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 BEAM 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 BEAMS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS OR END WALLS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2″BEYOND THE BEAM ENDS. OTHERWISE, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE BEAM ENDS.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE BEAM SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4,000 PSI FOR BEAMS IN SPANS A AND C, AND 6,000 PSI FOR BEAMS IN SPAN B.

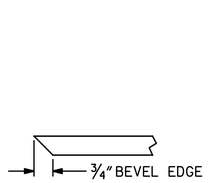
DEPENDING ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE BEAM.

THE TOP SURFACE OF THE BEAM, EXCLUDING THE OUTSIDE 4″, SHALL BE RAKED TO A DEPTH OF 1/4″.

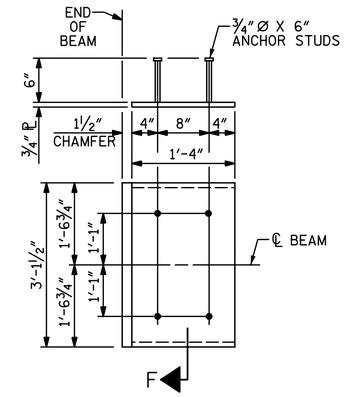
WHEN DRAPED STRANDS ARE DETAILED, THE LONGITUDINAL LOCATION OF THE HOLD DOWN DEVICES SHALL BE WITHIN 6″OF THE LOCATION SHOWN AND THE CENTER OF GRAVITY OF THE GROUP OF DRAPED STRANDS SHALL BE LOCATED WITHIN 1/2″OF THE THEORETICAL LOCATION SHOWN.

TIE "K" AND "Z" BARS TO FULLY BONDED STRANDS IN THE BOTTOM OR CENTER ROW.

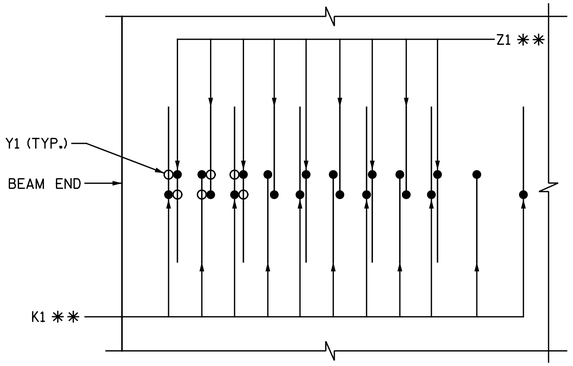
FOR 45″PRESTRESSED CONCRETE FLORIDA I-BEAM, SEE SPECIAL PROVISIONS.



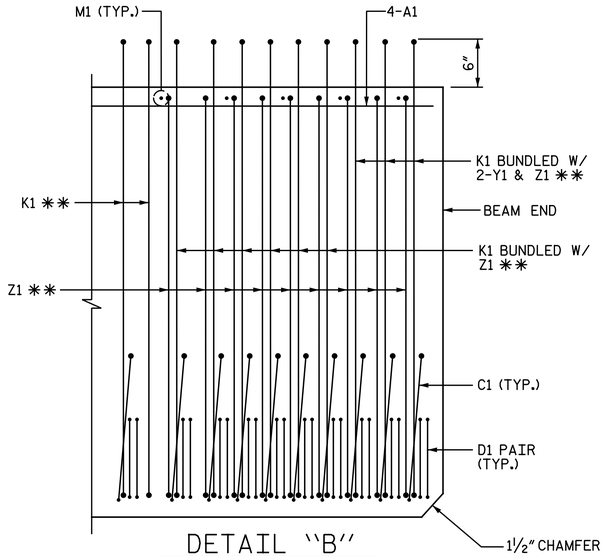
SECTION "F"
(SEE NOTES)



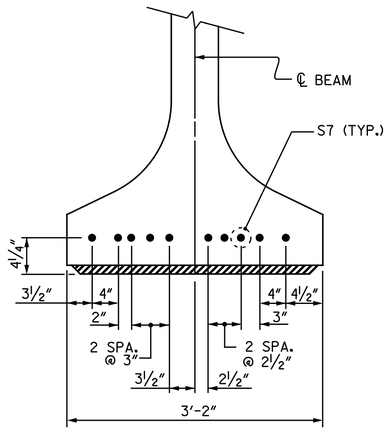
EMBEDDED PLATE "B-1" DETAILS FOR FLORIDA I-BEAMS
(2 REQ'D PER BEAM)



DETAIL "A"
(SHOWING ONLY K1, Y1 & Z1 BARS)
(TYP. EA. END)
(SPAN B SHOWN, SPANS A & C SIMILAR EXCEPT FEWER K1 & Z1 BUNDLES)



DETAIL "B"
(FLANGES NOT SHOWN FOR CLARITY)
(TYP. EA. END)
(SPAN B SHOWN, SPANS A & C SIMILAR EXCEPT FEWER K1 & Z1 BUNDLES)



DETAIL "C"

** ALTERNATE DIRECTION OF BAR ENDS

PROJECT NO. I-5986B
JOHNSTON COUNTY
STATION: 1260+34.00 -L-

NORTH CAROLINA PROFESSIONAL SEAL 033139 ENGINEER TODD M. GARRISON

DocuSigned by: T. M. Garrison 61EAF7523943466...
4/21/2020

DRAWN BY : N. B. SPEAKS DATE : 6-10-19
CHECKED BY : T. M. GARRISON DATE : 4-20-20

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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NC License No. : F-1084

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
45″ PRESTRESSED CONCRETE FLORIDA I-BEAM DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SI-29
1			3			TOTAL SHEETS
2			4			57