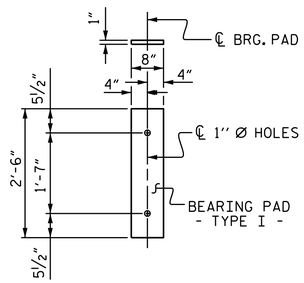


FIXED END
(TYPE I - 56 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN BEARINGS FOR 24" CSU SHALL BE 60 DUROMETER HARDNESS.

CONCRETE RELEASE STRENGTH

UNIT	PSI
50' UNITS	4000
60' UNITS	4800

GRADE 270 STRANDS

	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

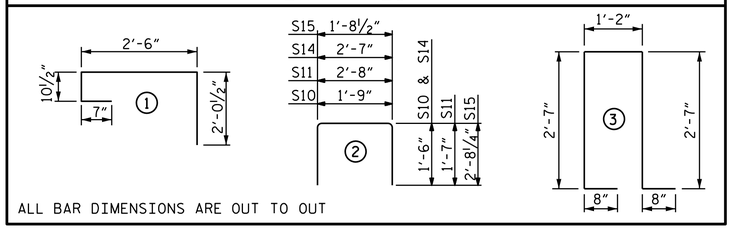
BILL OF MATERIAL FOR ONE 60' CORED SLAB SECTION - SPAN A

				TYPE I UNIT		TYPE II UNIT		TYPE III UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B1	6	#4	STR	21'-2"	85	21'-2"	85	21'-2"	85
* S5	62	#5	3					7'-8"	496
* S6	9	#4	1			6'-0"	36	6'-0"	36
S10	8	#5	2	4'-9"	40	4'-9"	40	4'-9"	40
S11	124	#4	2	5'-10"	483	5'-10"	483	5'-10"	483
S14	4	#4	2	5'-7"	15	5'-7"	15	5'-7"	15
S15	4	#5	2	7'-1"	30	7'-1"	30	7'-1"	30
* EPOXY COATED REINFORCING STEEL							36 LBS.		532 LBS.
REINFORCING STEEL					653 LBS.		653 LBS.		653 LBS.
5,500 P.S.I. CONCRETE				10.2 CU. YDS.		10.2 CU. YDS.		10.2 CU. YDS.	
0.6" Ø L.R. STRANDS			No.	22		22		22	

BILL OF MATERIAL FOR ONE 50' CORED SLAB SECTION - SPAN B

				TYPE IV UNIT		TYPE V UNIT		TYPE VI UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B2	4	#4	STR	25'-9"	69	25'-9"	69	25'-9"	69
* S5	52	#5	3					7'-8"	416
* S6	9	#4	1			6'-0"	36	6'-0"	36
S10	8	#5	2	4'-9"	40	4'-9"	40	4'-9"	40
S11	104	#4	2	5'-10"	405	5'-10"	405	5'-10"	405
S14	4	#4	2	5'-7"	15	5'-7"	15	5'-7"	15
S15	4	#5	2	7'-1"	30	7'-1"	30	7'-1"	30
* EPOXY COATED REINFORCING STEEL							36 LBS.		452 LBS.
REINFORCING STEEL					559 LBS.		559 LBS.		559 LBS.
5,000 P.S.I. CONCRETE				8.6 CU. YDS.		8.6 CU. YDS.		8.6 CU. YDS.	
0.6" Ø L.R. STRANDS			No.	16		16		16	

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

CORED SLABS REQUIRED

		NUMBER	LENGTH	TOTAL LENGTH
SPAN A	TYPE I	10	60'-0"	600'-0"
	TYPE II	2	60'-0"	120'-0"
	TYPE III	2	60'-0"	120'-0"
SPAN B	TYPE IV	10	50'-0"	500'-0"
	TYPE V	2	50'-0"	100'-0"
	TYPE VI	2	50'-0"	100'-0"
TOTAL	———	28	———	1540'-0"

DEAD LOAD DEFLECTION AND CAMBER

SPAN A	3'-0" x 2'-0"
60' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	3 1/16" ↑
DEFLECTION DUE TO CONCRETE WEARING SURFACE	1/4" ↓
FINAL CAMBER	2 13/16" ↑

DEAD LOAD DEFLECTION AND CAMBER

SPAN B	3'-0" x 2'-0"
50' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1 5/8" ↑
DEFLECTION DUE TO CONCRETE WEARING SURFACE	1/8" ↓
FINAL CAMBER	1 1/2" ↑

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 CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2½" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT.

WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

WHEN A CONCRETE WEARING SURFACE IS DETAILED ON THE CORED SLAB BRIDGE TYPICAL SECTION, THE TOP SURFACE OF THE CORED SLAB UNITS SHALL HAVE A ⅜" RAKED FINISH.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

ALL REINFORCING STEEL IN END POSTS, PARAPET, PEDESTAL, SIDEWALK AND CONCRETE WEARING SURFACE SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

PLACEMENT OF THE CONCRETE WEARING SURFACE SHALL OCCUR AFTER CASTING PARAPET AND SIDEWALK. THE COST OF THE REINFORCING STEEL CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE WEARING SURFACE. FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.

GROOVED CONTRACTION JOINTS ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE PARAPET AND SIDEWALK IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

PAYMENT FOR SIDEWALK SHALL BE INCLUDED IN THE PAY ITEMS FOR CLASS AA CONCRETE AND EPOXY COATED REINFORCING STEEL.

TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

PRESTRESSED CONCRETE CORED SLAB UNITS ARE DESIGNED FOR 0 PSI TENSION IN THE PRECOMPRESSED TENSILE ZONE UNDER ALL LOADING CONDITIONS.

PRESTRESSED CONCRETE CORED SLAB UNITS SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

GROUT THE SHEAR KEYS BETWEEN THE LEVEL AND SLOPED CORED SLAB UNITS (I.E. SHEAR KEYS AT BREAK POINTS IN THE CAP) PRIOR TO TENSIONING THE TRANSVERSE STRANDS.

PROJECT NO. B-5129A
PAMLICO COUNTY
STATION: 13+68.50 -L-

NORTH CAROLINA PROFESSIONAL SEAL 22005 ENGINEER A. KEITH PASCHAL

DocuSigned by:
A. Keith Paschal
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12/5/2014

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
BILL OF MATERIAL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			25

DRAWN BY : B. N. BARODAWALA DATE : 1-9-14
CHECKED BY : D. G. ELY DATE : 2-4-14
DESIGN ENGINEER OF RECORD: M. L. RORIE DATE : 5-23-14

04-DEC-2014 15:09
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kpaschal