

BILL OF MATERIAL FOR ONE 55' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B7	4	#4	STR	28'-3"	75	28'-3"	75
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	114	#4	3	5'-4"	406	5'-4"	406
*S3	64	#5	1	5'-7"	373		
REINFORCING STEEL				LBS.	516		516
* EPOXY COATED REINFORCING STEEL				LBS.	373		
6500 P.S.I. CONCRETE				CU. YDS.	7.8		7.8
0.6" Ø L.R. STRANDS				No.	19		19

BILL OF MATERIAL FOR ONE 65' CORED SLAB UNIT							
				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B21	6	#4	STR	22'-10"	92	22'-10"	92
S10	8	#5	3	4'-9"	40	4'-9"	40
S11	134	#4	3	5'-10"	522	5'-10"	522
*S3	74	#5	1	5'-7"	431		
S14	4	#4	3	5'-7"	15	5'-7"	15
S15	4	#5	3	7'-1"	30	7'-1"	30
REINFORCING STEEL				LBS.	699		699
* EPOXY COATED REINFORCING STEEL				LBS.	431		
6000 P.S.I. CONCRETE				CU. YDS.	11.0		11.0
0.6" Ø L.R. STRANDS				No.	24		24

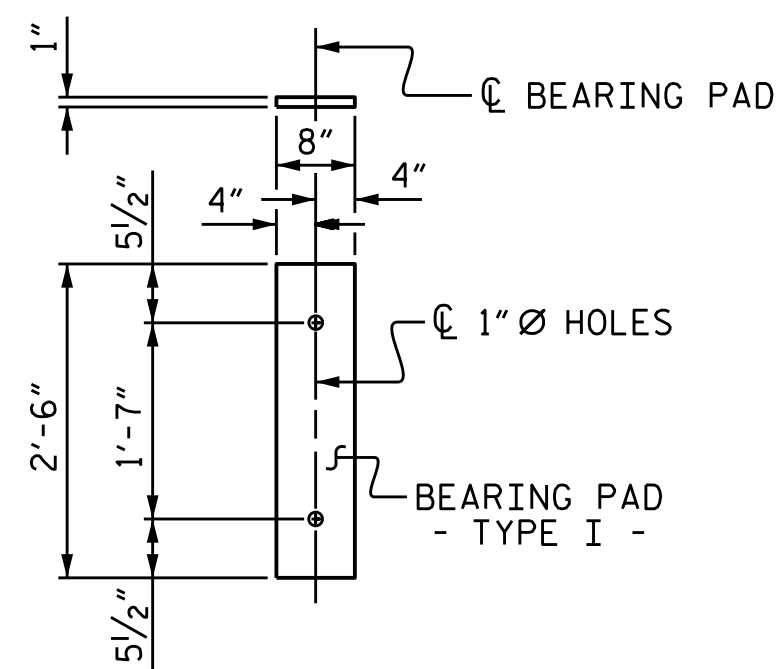
GRADE 270 STRANDS	
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

DEAD LOAD DEFLECTION AND CAMBER	
55' CORED SLAB UNIT	3'-0" x 1'-9"
CAMBER (SLAB ALONE IN PLACE)	0.6" Ø L.R. STRAND
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/2" ↓
FINAL CAMBER	3/8" ↓

** INCLUDES FUTURE WEARING SURFACE

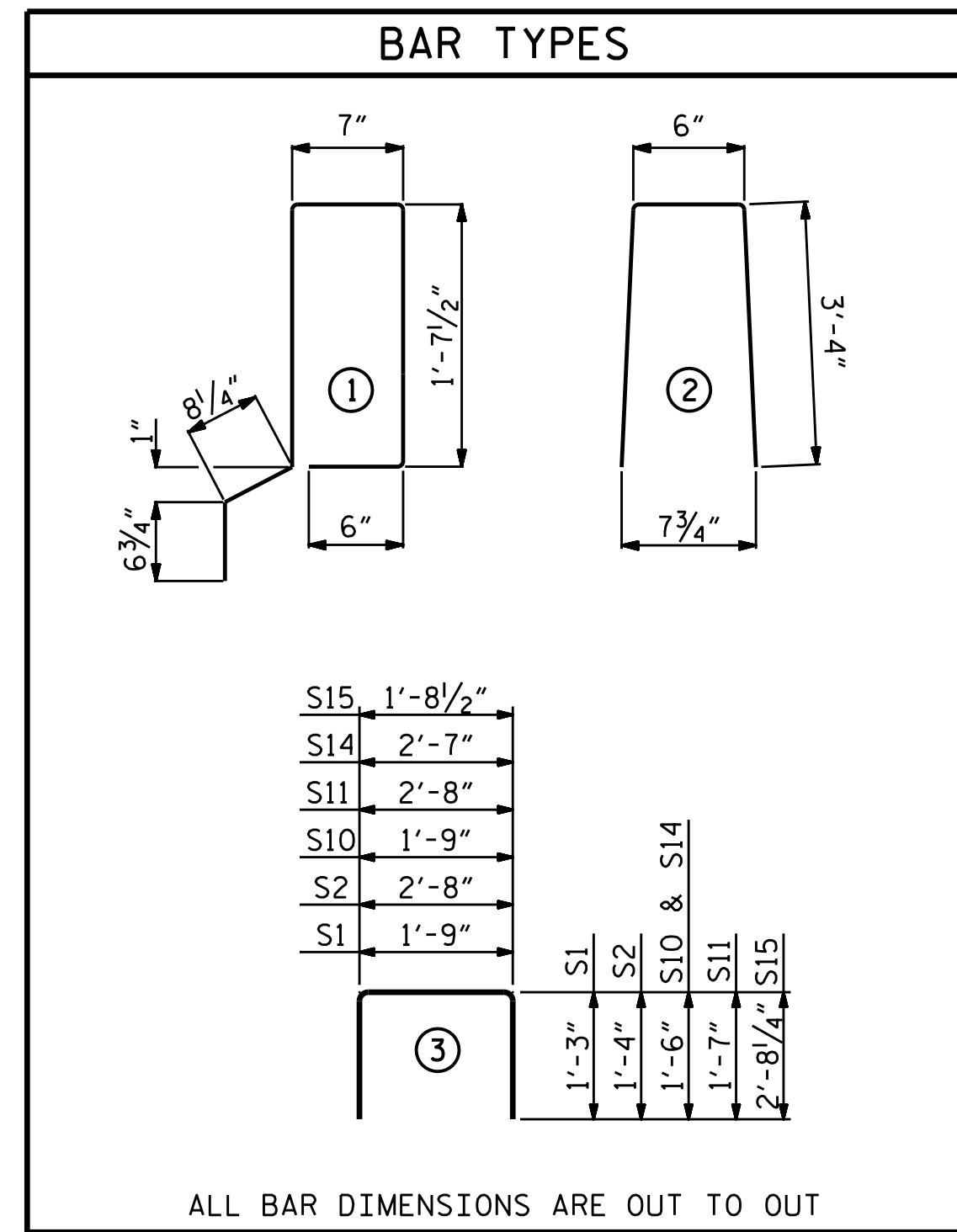
DEAD LOAD DEFLECTION AND CAMBER	
65' CORED SLAB UNIT	3'-0" x 2'-0"
CAMBER (SLAB ALONE IN PLACE)	0.6" Ø L.R. STRAND
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1 7/8" ↓
FINAL CAMBER	1 3/8" ↓

** INCLUDES FUTURE WEARING SURFACE



FIXED END
(TYPE I - 44 REQ'D)

ELASTOMERIC BEARING DETAILS
ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.



ALL BAR DIMENSIONS ARE OUT TO OUT

CORED SLABS REQUIRED			
55' UNIT	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	55'-0"	110'-0"
INTERIOR C.S.	9	55'-0"	495'-0"
TOTAL	11		605'-0"

CORED SLABS REQUIRED			
65' UNIT	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	65'-0"	130'-0"
INTERIOR C.S.	9	65'-0"	585'-0"
TOTAL	11		715'-0"

CONCRETE RELEASE STRENGTH	
UNIT	PSI
55' UNITS	4900
65' UNITS	4800

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
55' UNIT						
*B14	40	40	#5	STR	27'-1"	1130
*S4	128	128	#5	2	7'-2"	957
* EPOXY COATED REINFORCING STEEL				LBS.		2087
CLASS AA CONCRETE				CU.YDS.		14.1
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		110.25

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
65' UNIT						
*B24	60	60	#5	STR	21'-3"	1330
*S4	148	148	#5	2	7'-2"	1106
* EPOXY COATED REINFORCING STEEL				LBS.		2436
CLASS AA CONCRETE				CU.YDS.		16.9
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		130.25

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 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

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.

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 THE VERTICAL CONCRETE BARRIER RAIL 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.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN PARAPET EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF PARAPET SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

FLAME CUTTING OF THE TRANSVERSE POST-TENSIONING STRAND IS NOT ALLOWED.

FOR SPAN "B", MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

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

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.

THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

THE PERMITTED THREADED INSERTS SHALL BE GROUTED BY THE CONTRACTOR IMMEDIATELY FOLLOWING REMOVAL OF THE FALSEWORK.

THE COST OF THE PERMITTED THREADED INSERTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PRECAST UNITS.

PROJECT NO. B-5166
GRANVILLE COUNTY
STATION: 16+34.00 -L-

SHEET 6 OF 6



DocuSigned by:
2/22/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
PRESTRESSED CONCRETE
CORED SLAB UNIT

ASSEMBLED BY : T.L. AVERETTE	DATE : 04/16
CHECKED BY : J.P. ADAMS	DATE : 4/2016
DRAWN BY : MAA	6/10
CHECKED BY : MKT	7/10
REV. 11/14	MAA/TMG

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS 20
2			4			