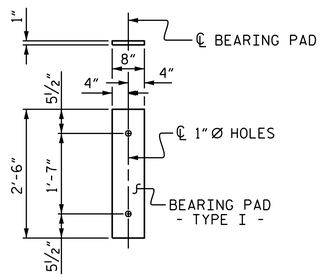


FIXED END
(TYPE I - 72 REQ'D)

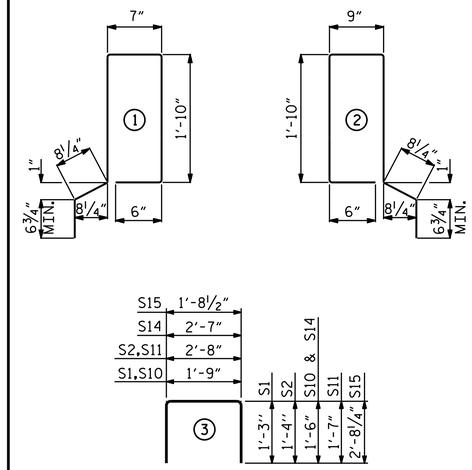
ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
30' UNIT			
LT. EXTERIOR C.S. (SP. A)	1	30'-0"	30'-0"
LT. EXTERIOR C.S. (SP. C)	1	30'-0"	30'-0"
RT. EXTERIOR C.S.	2	30'-0"	60'-0"
INTERIOR C.S.	20	30'-0"	600'-0"
TOTAL	24	30'-0"	720'-0"

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
70' UNIT			
LT. EXTERIOR C.S.	1	70'-0"	70'-0"
RT. EXTERIOR C.S.	1	70'-0"	70'-0"
INTERIOR C.S.	10	70'-0"	700'-0"
TOTAL	12	70'-0"	840'-0"

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

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 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.

ALL REINFORCING STEEL IN THE VERTICAL CONCRETE BARRIER RAIL AND THE PARAPET 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.

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

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.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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 CONCRETE WEARING SURFACE, 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.

BILL OF MATERIAL FOR ONE 30' CORED SLAB UNIT

				LT. EXTERIOR UNIT		RT. EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B2	2	#4	STR	29'-8"	40	29'-8"	40	29'-8"	40
S1	8	#5	3	4'-3"	35	4'-3"	35	4'-3"	35
S2	64	#4	3	5'-4"	228	5'-4"	228	5'-4"	228
✱ S3	39	#5	1			6'-0"	244		
✱ S6	30	#5	2	6'-2"	193				
REINFORCING STEEL			LBS.		303		303		303
✱ EPOXY COATED REINFORCING STEEL			LBS.		193		244		
5000 P.S.I. CONCRETE			CU. YDS.		4.4		4.4		4.4
0.6"Ø L.R. STRANDS			No.		9		9		9

BILL OF MATERIAL FOR ONE 70' CORED SLAB UNIT

				LT. EXTERIOR UNIT		RT. EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	24'-6"	98	24'-6"	98	24'-6"	98
✱ S8	70	#5	2	6'-2"	450				
S10	8	#5	3	4'-9"	40	4'-9"	40	4'-9"	40
S11	144	#4	3	5'-10"	561	5'-10"	561	5'-10"	561
✱ S12	79	#5	1			6'-0"	494		
S14	4	#4	3	5'-7"	15	5'-7"	15	5'-7"	15
S15	4	#5	3	7'-1"	30	7'-1"	30	7'-1"	30
REINFORCING STEEL			LBS.		744		744		744
✱ EPOXY COATED REINFORCING STEEL			LBS.		450		494		
9500 P.S.I. CONCRETE			CU. YDS.		11.8		11.8		11.8
0.6"Ø L.R. STRANDS			No.		37		37		37

GUTTERLINE CONCRETE THICKNESS & RAIL HEIGHT

33'-8" CLEAR ROADWAY	CONCRETE OVERLAY THICKNESS	VERT. CONC. BARRIER RAIL HEIGHT	PARAPET HEIGHT
	@ MID-SPAN	@ MID-SPAN	@ MID-SPAN
30' UNITS	3 9/16"	3'-9 11/16"	3'-5 1/16"
70' UNITS	3½"	3'-9 15/16"	3'-5 5/16"

DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 1'-9"
30' CORED SLAB UNIT	0.6"Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	⅜" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD✱✱	1/16" ↓
FINAL CAMBER	5/16" ↑

✱✱ INCLUDES FUTURE WEARING SURFACE

DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 2'-0"
70' CORED SLAB UNIT	0.6"Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	4 9/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD✱✱	1" ↓
FINAL CAMBER	3 9/16" ↑

✱✱ INCLUDES FUTURE WEARING SURFACE

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

CONCRETE RELEASE STRENGTH

UNIT	PSI
30' UNITS	4000
70' UNITS	7200

PROJECT NO. B-5325
FRANKLIN COUNTY
STATION: 17+86.40 -L-

SHEET 6 OF 7

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
3'-0" X 1'-9" &
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

NORTH CAROLINA PROFESSIONAL SEAL 29441 ENGINEER KRISTY W. ALFORD

DocuSigned by: F245838930BF40E...
9/18/2014

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			28

ASSEMBLED BY : A.C. OUTLAW DATE : 7/22/13
CHECKED BY : E. I. OMILE DATE : 8/13/13
DRAWN BY : DGE 5/09
CHECKED BY : BCH 6/09
REV. 12/11 MAA/AAC

17-SEP-2014 07:34
R:\Structures\Plans\Superstructure\B5325_SD_CS.dgn
jpadams

STD. NO. 21" PCS3_36_90S