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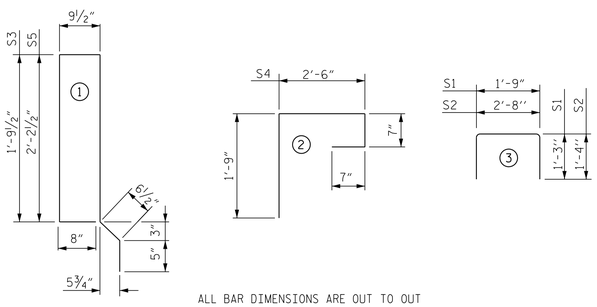
BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

				SPAN A							
				UNIT 1		UNITS 2 - 10		UNITS 11		UNIT 12	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B1	4	#4	STR	27'-7"	74	27'-7"	74	27'-7"	74	27'-7"	74
S1	8	#5	3	4'-3"	35	4'-3"	35	4'-3"	35	4'-3"	35
S2	110	#4	3	5'-4"	392	5'-4"	392	5'-4"	392	5'-4"	392
✳ S3	57	#5	1	6'-0"	357						
✳ S4	9	#4	2					5'-5"	33	5'-5"	33
✳ S5	57	#5	1							6'-10"	406
REINFORCING STEEL				501 LBS.		501 LBS.		501 LBS.		501 LBS.	
✳ EPOXY COATED REINF. STEEL				357 LBS.		0 LBS.		33 LBS.		439 LBS.	
6500 P.S.I. CONCRETE				7.7 CU. YDS.		7.7 CU. YDS.		7.7 CU. YDS.		7.7 CU. YDS.	
0.6"Ø LR STRAND NO.				19		19		19		19	

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

DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 1'-9" 0.6"Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 3/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD ✳✳	7/16" ↓
FINAL CAMBER	1¾" ↑

✳✳ INCLUDES FUTURE WEARING SURFACE

CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
UNIT 1	1	53'-7½"	53'-7½"
UNITS 2-10	9	53'-7½"	482'-7½"
UNIT 11	1	53'-7½"	53'-7½"
UNIT 12	1	53'-7½"	53'-7½"
TOTAL	12	——	643'-6"

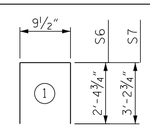
TWO BAR METAL RAIL

BILL OF MATERIAL FOR 2 PARAPETS AND 4 END POSTS

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
✳ B2	36	#5	STR	26'-5"	992
✳ E1	4	#7	STR	2'-9"	22
✳ E2	4	#7	STR	3'-3"	27
✳ E3	4	#7	STR	3'-9"	31
✳ E4	4	#7	STR	4'-3"	35
✳ E5	4	#7	STR	4'-7"	37
✳ E6	4	#7	STR	3'-7"	29
✳ E7	4	#7	STR	4'-1"	33
✳ E8	4	#7	STR	4'-7"	37
✳ E9	4	#7	STR	5'-1"	42
✳ E10	4	#7	STR	5'-5"	44
✳ F1	8	#6	STR	1'-10"	22
✳ F2	8	#6	STR	3'-0"	36
✳ F3	8	#6	STR	3'-4"	40
✳ S6	57	#5	1	5'-7"	332
✳ S7	57	#5	1	7'-3"	431

✳ EPOXY COATED
REINFORCING STEEL = 2190 LBS.
TOTAL CLASS AA CONCRETE = 15.3 CU YDS.
1'-2" x 2'-9" CONCRETE PARAPET = 53.63 L.F.
1'-2" x 3'-7" CONCRETE PARAPET = 53.63 L.F.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR SIDEWALK

BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT
✳ B3	10	#4	STR	28'-1"	188
✳ G1	54	#4	STR	5'-0"	180

✳ EPOXY COATED
REINFORCING STEEL = 368 LBS.
CLASS AA CONCRETE = 9.3 CU YDS.

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 2"Ø BACKER ROD 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 4900 PSI.

ALL REINFORCING STEEL IN PARAPETS, END POSTS AND SIDEWALK SHALL BE EPOXY COATED.

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

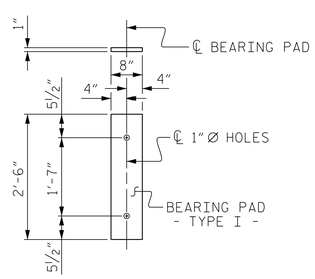
APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACTION JOINTS, ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE SIDEWALK AND PARAPET 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.

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

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

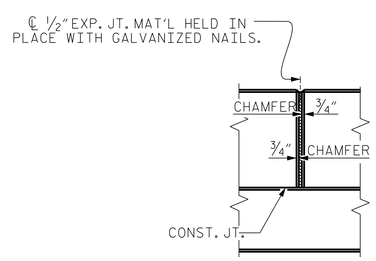
SLIP FORMING OF THE PARAPET IS NOT PERMITTED.



FIXED END
(TYPE I - 24 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN BEARINGS SHALL BE 50 DUROMETER HARDNESS.



RAIL PARAPET
ELEVATION AT EXPANSION JOINTS

DocuSigned by:
NORTH CAROLINA PROFESSIONAL SEAL 22072 ENGINEER ARTHUR DILWORTH
3/14/2016

SEAL

REVISIONS

NO.	DATE	DESCRIPTION	BY

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Raleigh, N.C. 27606
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Fax: 919 851 8107
License No. F-0377

ETHERILL ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

B-5100, BRIDGE NO. 421
WBS NO. 42236.1.1
CITY OF GREENVILLE
PITT COUNTY NORTH CAROLINA

SUPERSTRUCTURE
BILL OF MATERIALS

DATE:	1/25/12
SCALE:	N /A
DRAWN:	JCP
CHECKED:	JAD
PROJ. NO.:	B-5100
SHEET NO. S-12	TOTAL SHEETS 21

3/14/2016
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