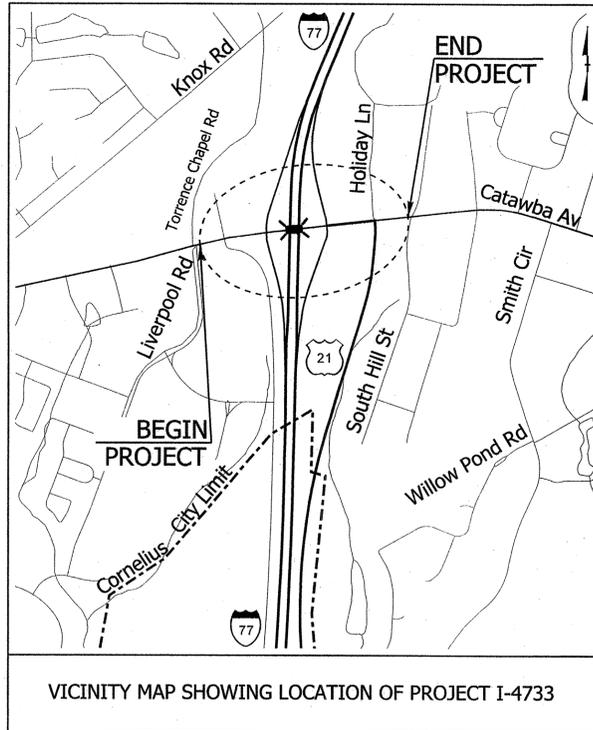


See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

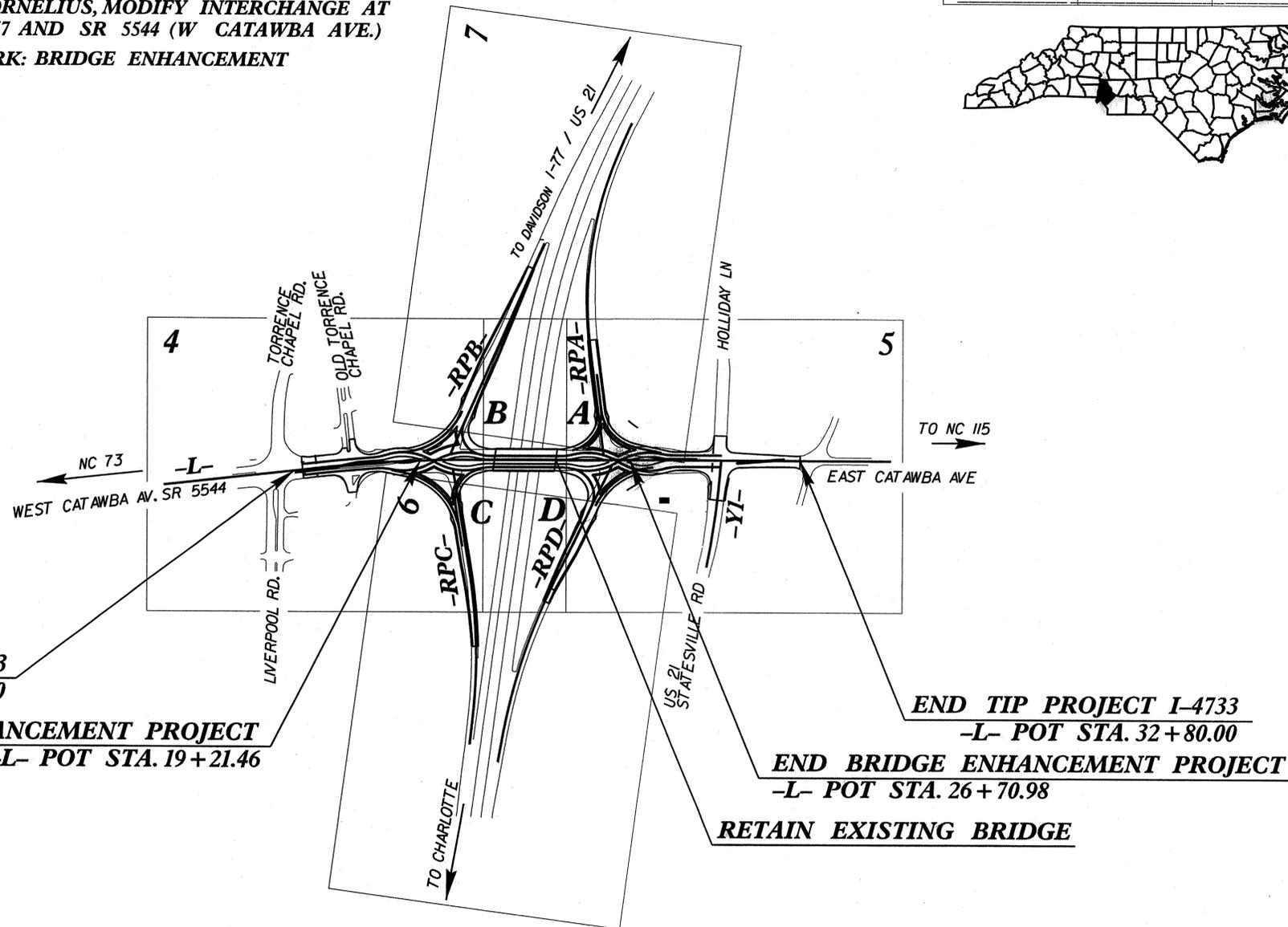


VICINITY MAP SHOWING LOCATION OF PROJECT I-4733

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
MECKLENBURG COUNTY

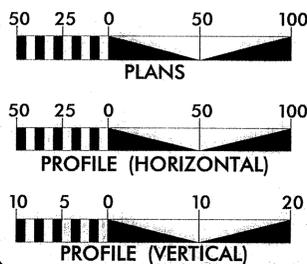
LOCATION: CORNELIUS, MODIFY INTERCHANGE AT
I-77 AND SR 5544 (W CATAWBA AVE.)
TYPE OF WORK: BRIDGE ENHANCEMENT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-4733	A-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38063.1.1	MULTIPLE	PE	
38063.2.1	MULTIPLE	ROW & UTIL	



BRIDGE ENHANCEMENT PLANS

GRAPHIC SCALES



DESIGN DATA

ADT 2012 = 45,218
ADT 2032 = 58,087
DHV = 9 %
D = 55 %
T = 3 % *
V = 40 MPH
* TTST 1 DUAL 2
FUNC CLASS =
PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT I-4733 = 0.343 MILES
LENGTH OF STRUCTURE TIP PROJECT I-4733 = 0.000 MILES
TOTAL LENGTH OF TIP PROJECT I-4733 = 0.343 MILES
BRIDGE ENHANCEMENT = 0.142 MILES

PLANS PREPARED FOR NCDOT BY:



2012 STANDARD SPECIFICATIONS

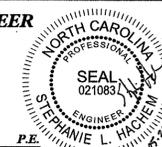
RIGHT OF WAY DATE:
JULY 20, 2012

LETTING DATE:
SEPTEMBER 17, 2013

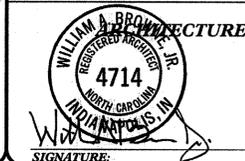
STEPHANIE HACHEM, P.E.
PROJECT ENGINEER

CECIL NARRON, P.E.
PROJECT DESIGN ENGINEER

STRUCTURAL ENGINEER



SIGNATURE: *Stephanie Hachem*



SIGNATURE: *William A. Browne*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



STATE HIGHWAY DESIGN ENGINEER

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5/16/2013 K:\DOT_Structures\Bridges\NC\018668001\Cornelius_Bridge\Addition\Cad\dgn\A-1.dgn

CONTRACT: TIP PROJECT: I-4733

INDEX OF SHEETS

SHEET NUMBER

DESCRIPTION

A-1	TITLE SHEET
A-2	INDEX OF SHEETS, GENERAL NOTES, AND BILL OF MATERIALS
A-3	INTERCHANGE AT I-77 AND SR 5544 (W. CATAWBA AVE.)
A-4 THRU A-11	CONCRETE PARAPET AND SIDEWALK DETAILS
A-12 THRU A-15	MAST AND CABLE DETAILS
A-16	CONSTRUCTION SEQUENCE OF MEDIAN IMPROVEMENTS
A-17 THRU A-21	ELECTRICAL DETAILS
A-22 THRU A25	LANDSCAPE PLANS

GENERAL NOTES

THE MAST HAS BEEN DESIGNED IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES, AND TRAFFIC SIGNALS.

CLASS AA CONCRETE (MODIFIED) SHALL BE USED FOR CONCRETE PARAPET AND SIDEWALK, SEE SPECIAL PROVISIONS. SEE ARCHITECTURAL PLANS FOR COLOR. SEE ARCHITECTURAL SPECIAL PROVISIONS FOR SURFACE FINISH OF CONCRETE PARAPET AND SIDEWALK.

ALL BAR SUPPORTS USED IN THE CONCRETE PARAPET SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL IN CONCRETE PARAPET AND SIDEWALK SHALL BE EPOXY COATED.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

ADHESIVE ANCHOR SYSTEM FOR DOWELS USED IN CONCRETE PARAPET SHALL BE IN ACCORDANCE WITH ARTICLES 420-13 AND 1081-1 OF THE STANDARD SPECIFICATIONS. FIELD TESTING TO LEVEL 1 SHALL BE REQUIRED. THE DOWELS SHALL BE TESTED TO PULL-OUT LOAD OF 10,000 LBS.

NO SEPARATE PAYMENT WILL BE MADE FOR ADHESIVE ANCHOR SYSTEMS AND WILL BE CONSIDERED INCIDENTAL TO 3'-10" x 2'-7" CONCRETE PARAPET PAY ITEM.

CONCRETE PARAPET AND SIDEWALK CONSTRUCTION SHALL NOT BEGIN UNTIL DECK OVERLAY AND JOINT REPLACEMENT ARE IN PLACE.

SEE TRAFFIC CONTROL PLANS FOR SEQUENCE OF CONSTRUCTION OF CONCRETE PARAPET.

FOR SUBMITTAL OF WORKING DRAWING, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

CONSTRUCTION OF 3'-10" x 2'-7" CONCRETE PARAPET SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION UNLESS MODIFIED BY PLANS AND/OR PROJECT SPECIFICATION. THERE WILL BE NO SEPARATE PAYMENT FOR INSTALLING CABLE AND MAST ANCHORS, COLOR-ADDITIVE, SIDEWALK, LIGHT FIXTURES AND ELECTRICAL WORK AND MATERIALS. SEE TRAFFIC CONTROL PLANS FOR PHASING OF CONCRETE PARAPET AND TRAFFIC CONTROL FOR CONCRETE PARAPET CONSTRUCTION. SLIP FORMING WILL NOT BE ALLOWED FOR CONCRETE PARAPET.

THERE WILL BE NO SEPARATE PAYMENT FOR LIGHT FIXTURES ON MAST AND THE ASSOCIATED ELECTRICAL WORK, AND WILL BE CONSIDERED INCIDENTAL TO MAST AND CABLE PAY ITEM.

THERE WILL BE NO SEPARATE PAYMENT FOR BRICK AND GRANITE PAVERS, GRANITE EDGING, AND HANDICAP RAMP, AND WILL BE CONSIDERED INCIDENTAL TO PEDESTRIAN REFUGE SIDEWALK PAY ITEM.

THERE WILL BE NO SEPARATE PAYMENT FOR COLOR-ADDITIVE FOR CONCRETE USED IN REFUGE PERIMETER, AND WILL BE CONSIDERED INCIDENTAL TO PEDESTRIAN REFUGE PERIMETER PAY ITEM.

THERE WILL BE NO SEPARATE PAYMENT FOR WORK AND MATERIALS ASSOCIATED WITH BRINGING SERVICE FROM TRANSFORMER TO PANEL, SETTINGS OF PANEL AND LIGHTING CONTROLS, AND WILL BE CONSIDERED INCIDENTAL TO ELECTRICAL SERVICE AND PANEL PAY ITEM.

ALL MATERIALS AND WORK ASSOCIATED WITH ELECTRICAL SCOPE THAT IS NOT INCLUDED IN THE CONCRETE PARAPET PAY ITEM, MAST AND CABLE PAY ITEM, OR ELECTRICAL SERVICE AND PANEL PAY ITEM SHALL BE INCLUDED IN THE MISC. ELECTRICAL AND LANDSCAPING PAY ITEM. THIS PAY ITEM SHALL INCLUDE ALL LIGHT FIXTURES NOT INCLUDED IN THE CONCRETE PARAPET PAY ITEM OR MAST AND CABLE PAY ITEM. ALSO INCIDENTAL TO MISC. ELECTRICAL AND LANDSCAPING PAY ITEM SHALL BE WORK AND MATERIALS ASSOCIATED WITH COLOR-ADDITIVE FOR ROADWAY CONCRETE PARAPETS AND SIDEWALKS OFF BRIDGE AND APPROACH SLABS.

TOTAL BILL OF MATERIALS

	3'-10" x 2'-7" CONCRETE PARAPET	MAST AND CABLE	PEDESTRIAN REFUGE SIDEWALK	PEDESTRIAN REFUGE PERIMETER	ELECTRICAL SERVICE AND PANEL	MISC. ELECTRICAL AND LANDSCAPING
	LF	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
SUPERSTRUCTURE	535	LUMP SUM				
PEDESTRIAN REFUGE ISLAND ROADWAY			LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM
TOTAL	535	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM

PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-



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 NC LICENSE # F-0102

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 DEPARTMENT OF TRANSPORTATION
 RALEIGH

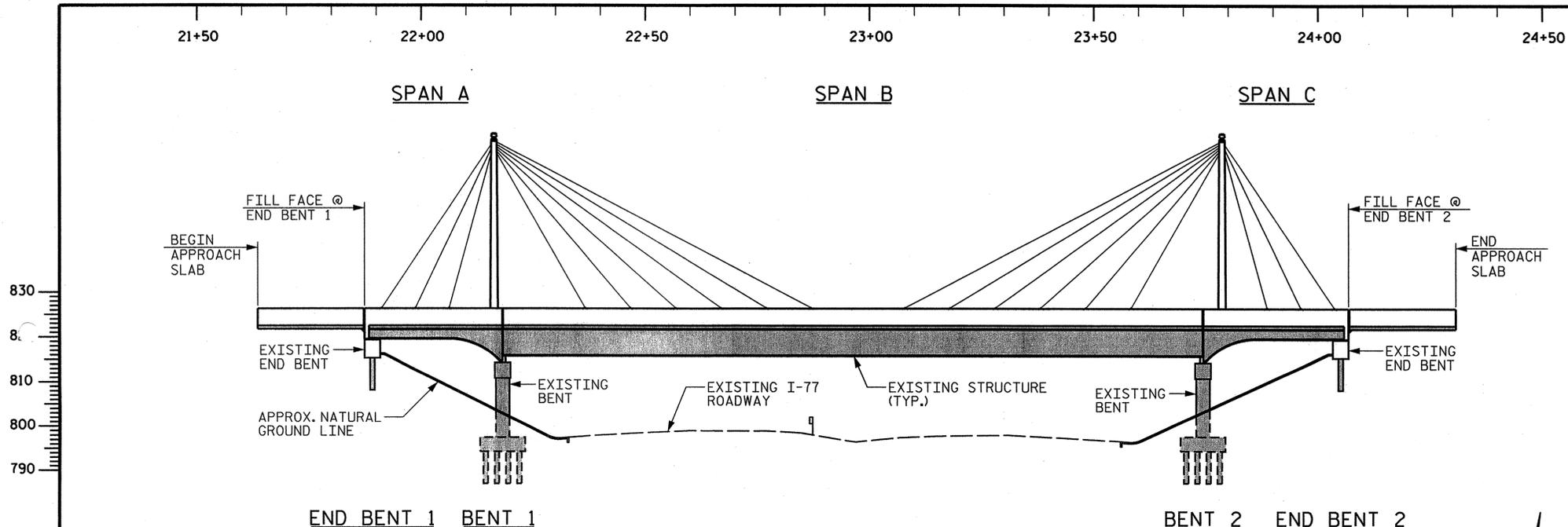
BRIDGE ENHANCEMENT

INDEX OF SHEETS,
 GENERAL NOTES, AND
 BILL OF MATERIALS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A-2
1			3			TOTAL SHEETS
2			4			

5/20/2013
 DRAWN BY: CRA DATE: 5/13
 CHECKED BY: CLN DATE: 5/13
 ENGINEER OF RECORD: CLN DATE: 5/13

k:\RDT_Structures\Bridges\NC\018668001_Cornelius_Br_SignAdd\Hom\Coa\dgn\A-2.dgn



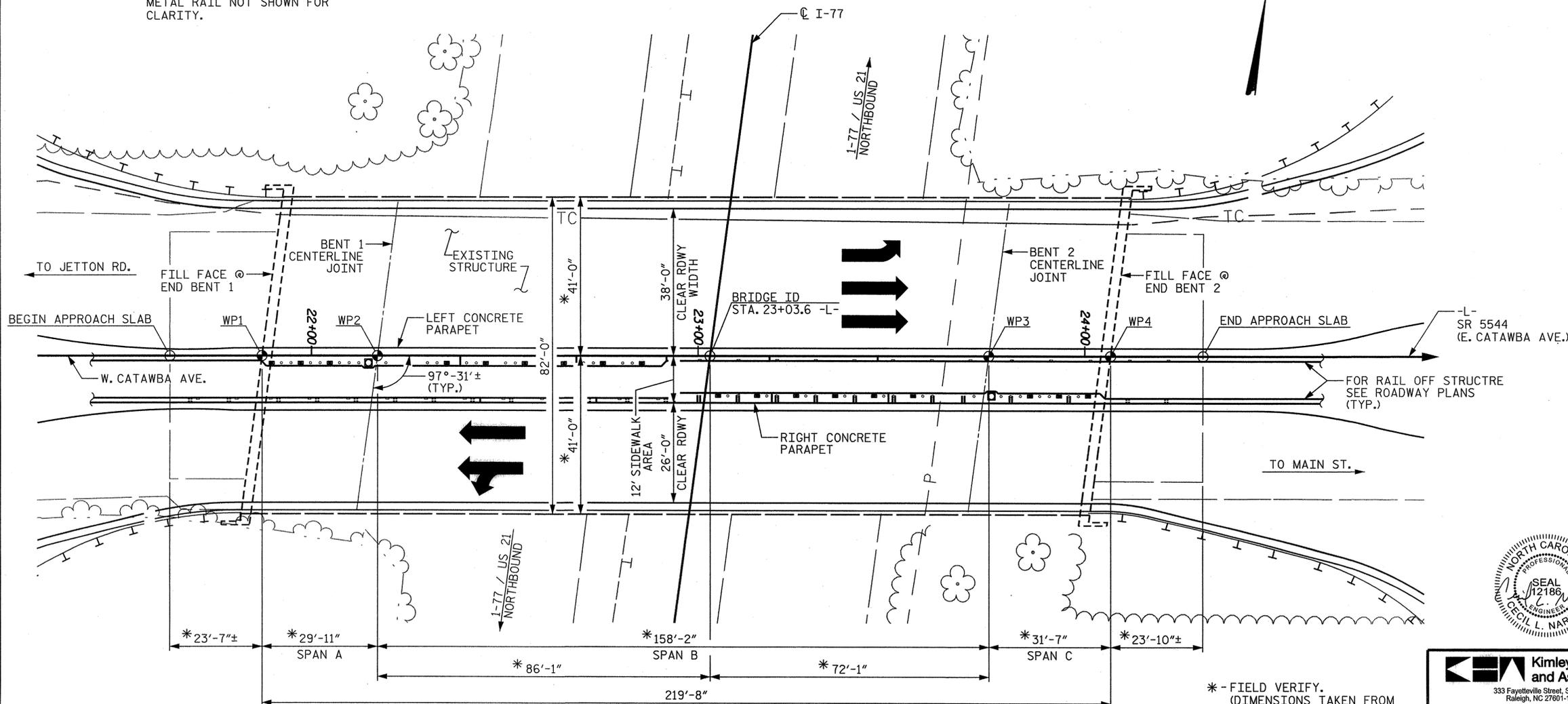
WORKPOINT	STATION	OFFSET
* WP1	21+87.60	0'
* WP2	22+17.52	0'
* WP3	23+75.68	0'
* WP4	24+07.27	0'

NOTE: WP1 THRU WP4 WAS LOCATED BASED UPON PLAN DIMENSIONS AND BRIDGE ID STATION.

SECTION ALONG RIGHT SIDEWALK PARAPET

(BENTS ARE SHOWN @ RIGHT ANGLE)

NOTE: EXISTING EXTERIOR ONE BAR METAL RAIL NOT SHOWN FOR CLARITY.



PLAN

* -FIELD VERIFY. (DIMENSIONS TAKEN FROM EXISTING BRIDGE PLANS OR SURVEY)



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MECKLENBURG COUNTY
STATION: 23+03.06 -L-

STATE OF NORTH CAROLINA
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RALEIGH
BRIDGE ENHANCEMENT
INTERCHANGE AT I-77
AND SR 5544
(W. CATAWBA AVE.)

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

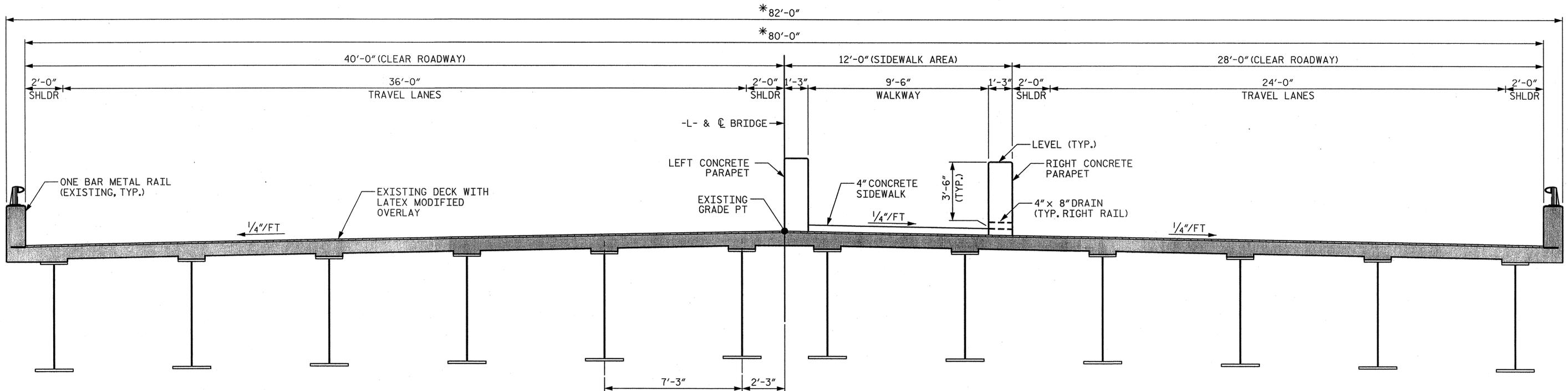
SHEET NO.

A-3

TOTAL SHEETS

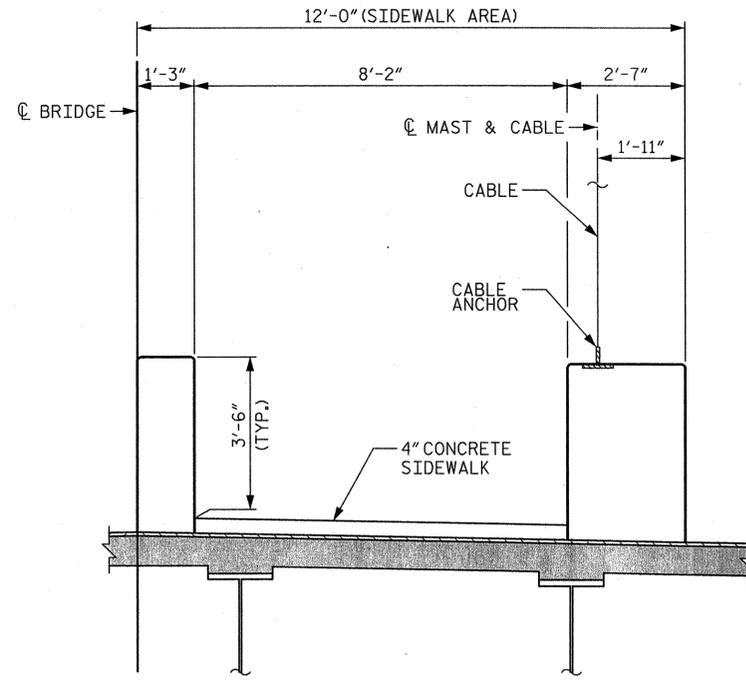
5/20/2013
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ENGINEER OF RECORD: CLN DATE: 5/13

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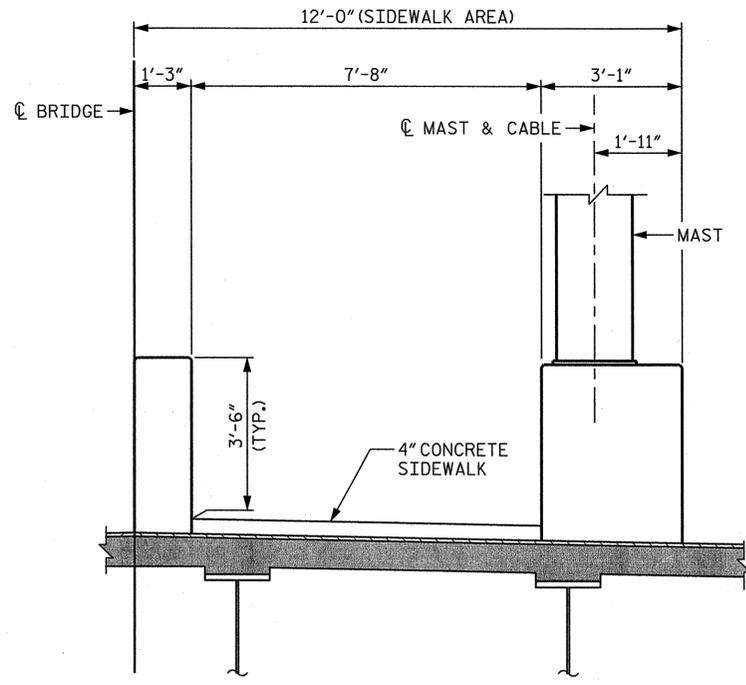


TYPICAL SECTION
(NEAR CENTER OF BRIDGE)

* FIELD VERIFY BEFORE
START OF CONSTRUCTION



TYPICAL SECTION AT CABLE SUPPORT
(SPAN C SHOWN, SPAN A & B SIMILAR)



TYPICAL SECTION AT MAST
(SPAN C SHOWN, SPAN A SIMILAR)

PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-



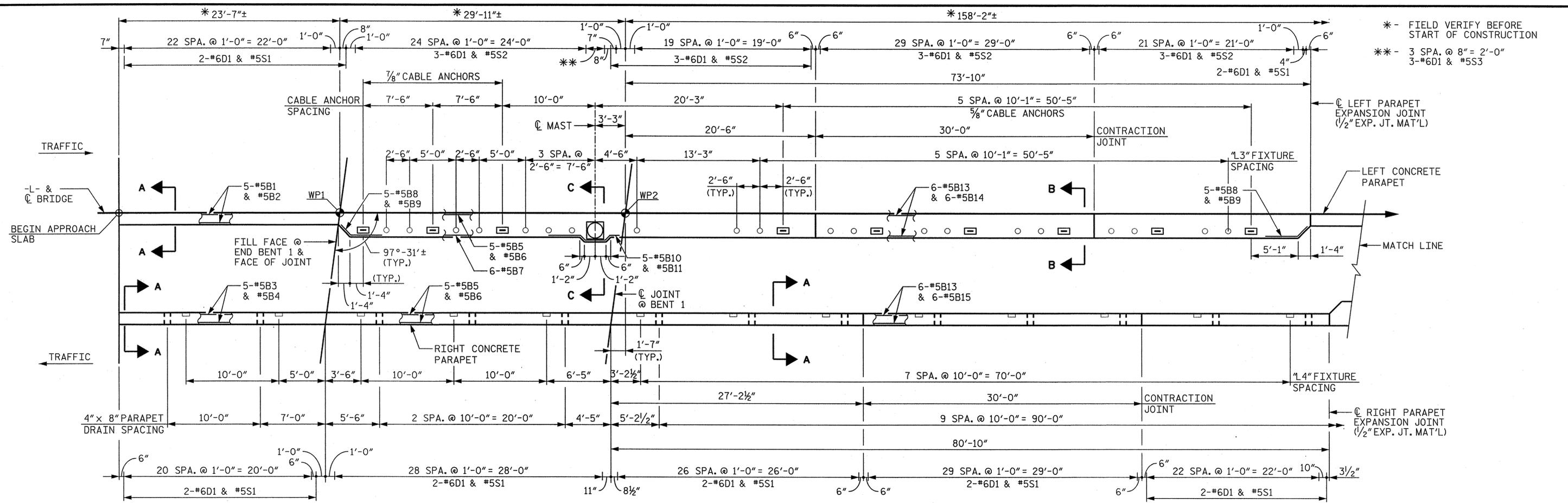
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STATE OF NORTH CAROLINA
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 BRIDGE ENHANCEMENT
 TYPICAL SECTION

5/20/2013
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REVISIONS						SHEET NO. A-4
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

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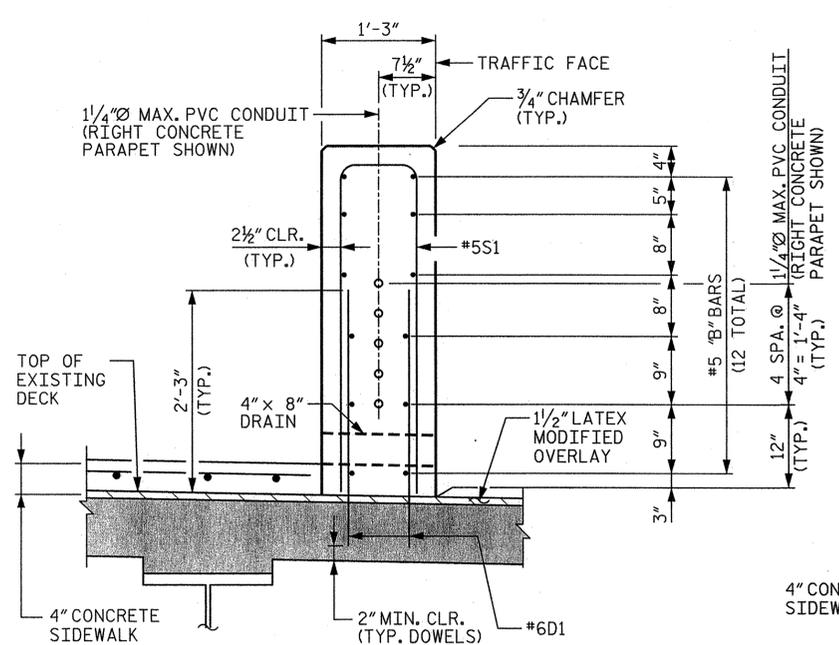


* - FIELD VERIFY BEFORE START OF CONSTRUCTION
 ** - 3 SPA. @ 8" = 2'-0"
 3-#6D1 & #5S3

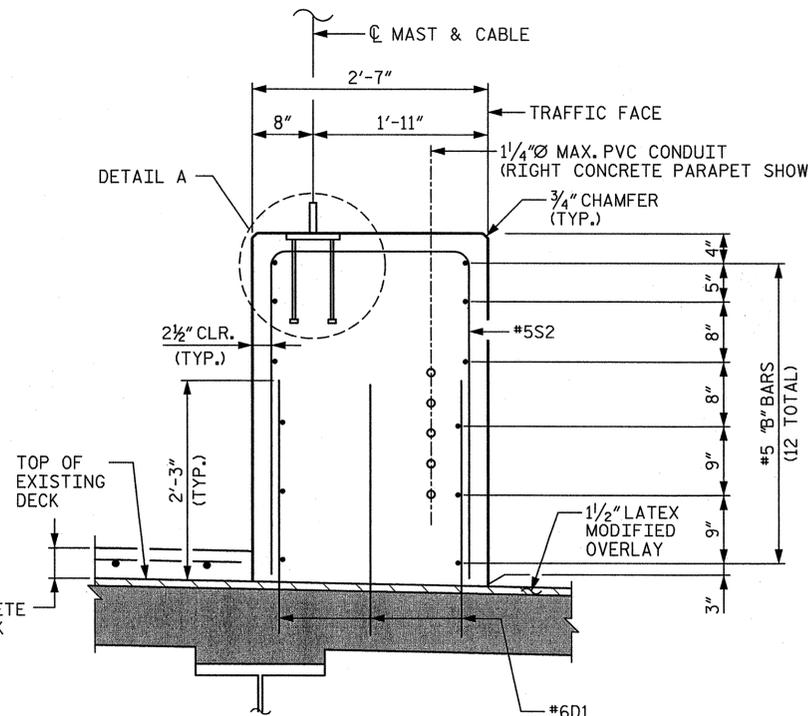
PLAN
 SCALE: 3/16" = 1'-0"

- SYMBOLS:**
- ☐ = CABLE ANCHOR
 - = MAST BASE
 - = RECESSED "1.3" FIXTURES
 - = RECESSED "1.4" FIXTURES

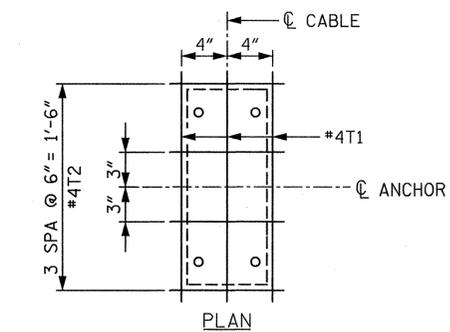
NOTE: FOR SECTION C-C AND SECTIONS @ LIGHT FIXTURES SEE SHT. A-6.
 (5)-CONDUIT REQUIRED FOR RIGHT CONCRETE PARAPET AND (1)-CONDUIT REQUIRED FOR LEFT CONCRETE PARAPET. SEE ELECTRICAL DETAIL SHEETS FOR CONDUIT SIZE, JUNCTION BOXES, AND PLACEMENT DETAILS. NO SEPARATE PAYMENT WILL BE MADE FOR THESE ITEMS.



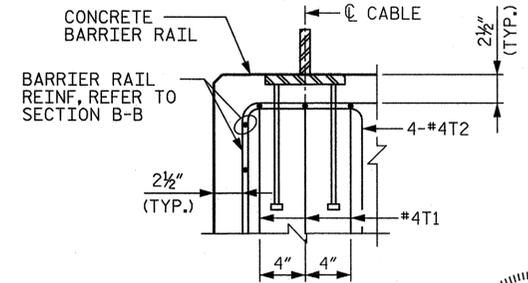
SECTION A-A
 SCALE: 1" = 1'-0"
 (SECTION ON BRIDGE SHOWN, SECTION ON APPROACH SLAB SIMILAR)



SECTION B-B
 SCALE: 1" = 1'-0"
 (5/8" CABLE ANCHORS SHOWN, 1/8" CABLE ANCHORS SIMILAR)



PLAN



DETAIL A
 SCALE: 1 1/2" = 1'-0"
 (ADDITIONAL REINF. UNDER CABLE ANCHOR)



PROJECT NO. I-4733
MECKLENBURG COUNTY
STATION: 23+03.06 -L-

SHEET 1 OF 2

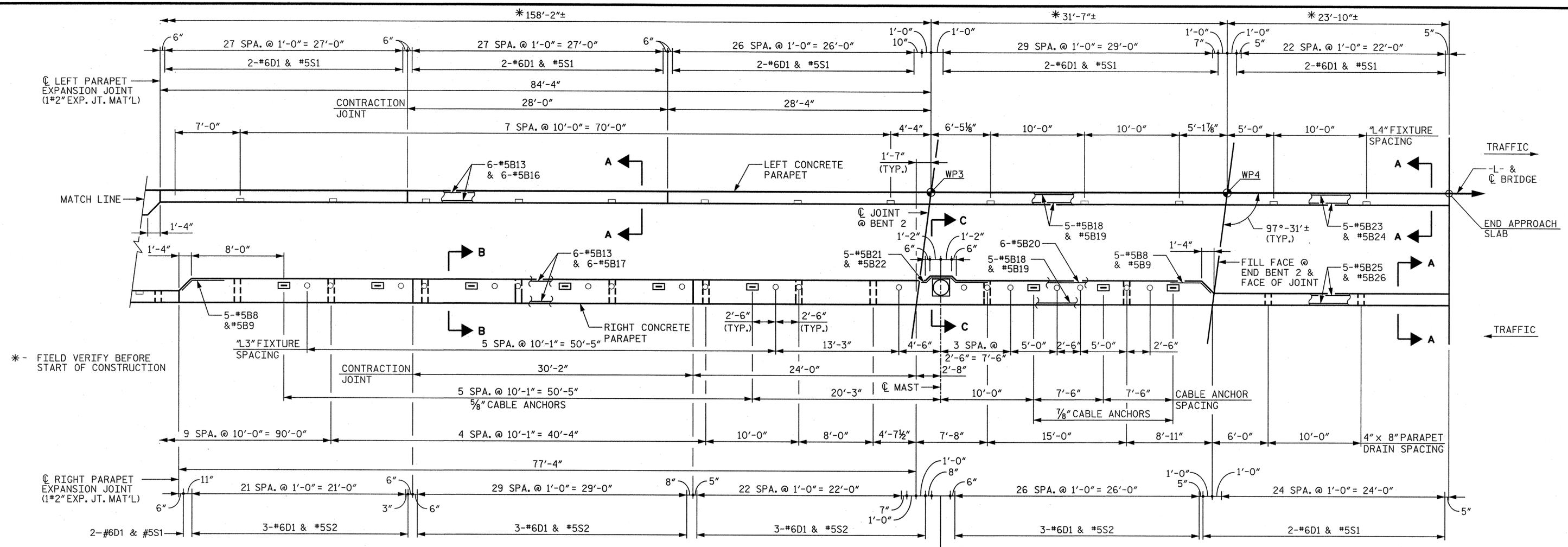
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE ENHANCEMENT
 CONCRETE PARAPET

REVISIONS						SHEET NO. A-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

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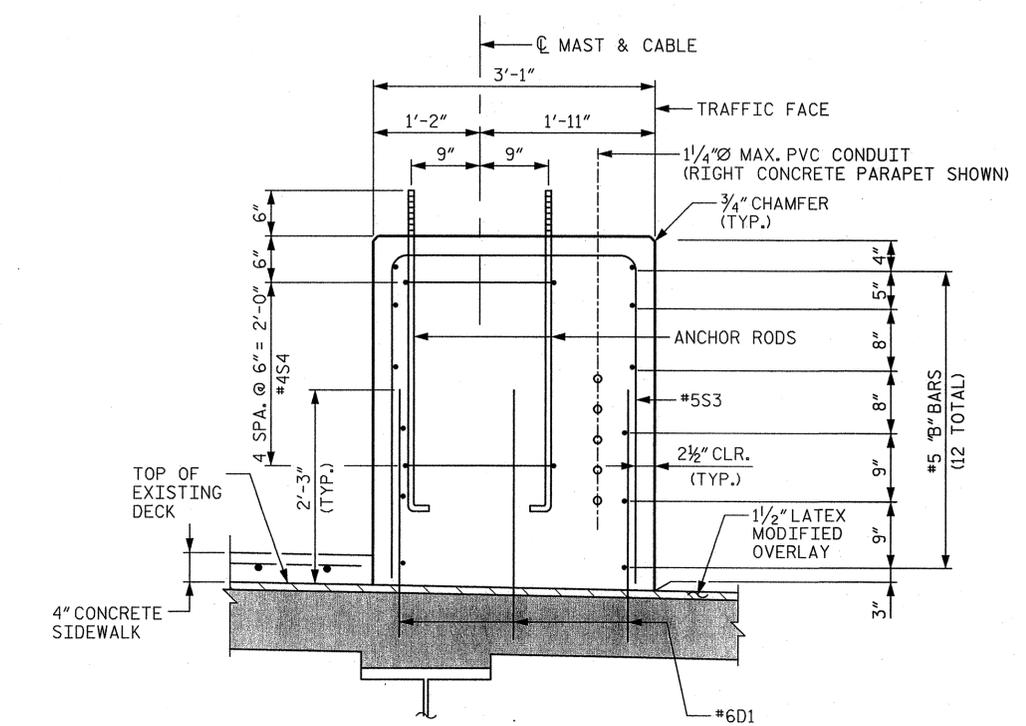
K:\ARDI-Structures\Bridges\NC\08668001\Cornellius.Bridges\Addition\CoastguardVA-5.dgn 5/20/2013

DRAWN BY: CRA DATE: 5/13
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 ENGINEER OF RECORD: CLN DATE: 5/13



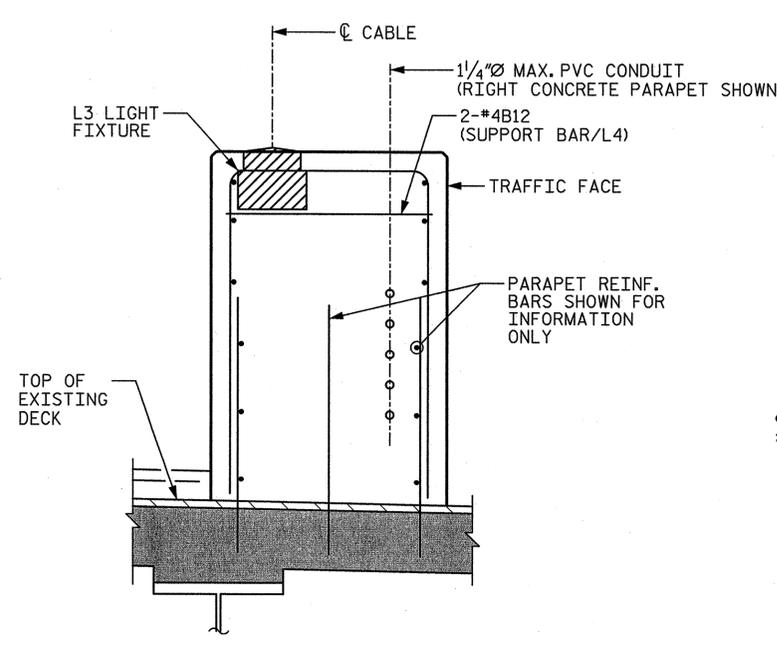
PLAN

SCALE: 3/16" = 1'-0"



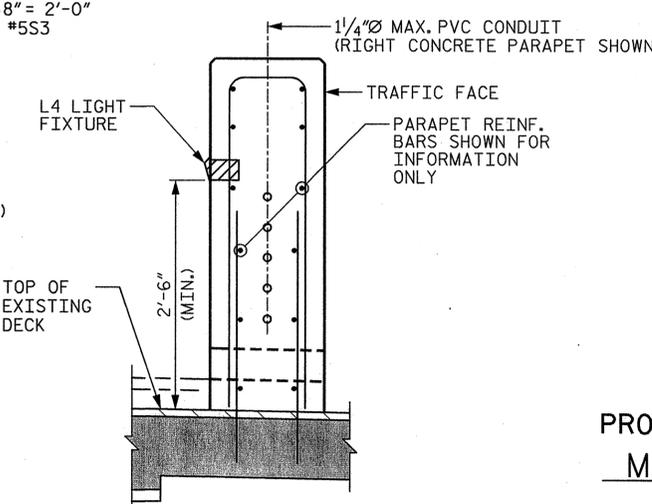
SECTION C-C

SCALE: 1" = 1'-0"



SECTION @ L3 LIGHT FIXTURE

SCALE: 1" = 1'-0"



SECTION @ L4 LIGHT FIXTURE

SCALE: 1" = 1'-0"

- SYMBOLS:**
- = CABLE ANCHOR
 - = MAST BASE
 - = RECESSED "L3" FIXTURES
 - = RECESSED "L4" FIXTURES

NOTE: FOR SECTION A-A AND SECTION B-B SEE SHT. A-5.



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PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 CONCRETE PARAPET

REVISIONS						SHEET NO. A-6
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

5/20/13
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BILL OF MATERIAL					
CONCRETE PARAPET					
BEGIN APPROACH SLAB (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	10	5	STR	23'-0"	240
B2	2	5	STR	22'-5"	47
B3	10	5	STR	21'-5"	223
B4	2	5	STR	20'-10"	43
D1	90	6	STR	2'-9"	372
S1	45	5	1	8'-0"	375
REINFORCING STEEL				LBS.	1301
SPAN A (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B5	15	5	STR	29'-4"	459
B6	3	5	STR	28'-4"	89
B7	6	5	STR	23'-8"	148
B8	5	5	3	3'-0"	16
B9	1	5	3	2'-4"	2
B10	5	5	4	8'-1"	42
B11	1	5	4	7'-6"	8
B12	14	4	STR	2'-2"	20
D1	150	6	STR	2'-9"	620
S1	30	5	1	8'-0"	250
S2	26	5	1	9'-4"	253
S3	4	5	1	9'-10"	41
S4	5	4	2	7'-9"	26
T1	9	4	1	7'-2"	43
T2	12	4	1	6'-4"	51
REINFORCING STEEL				LBS.	2017
SPAN B (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B8	10	5	3	5'-0"	52
B9	2	5	3	4'-4"	9
B12	52	4	STR	2'-2"	75
B13	48	5	STR	60'-0"	3004
B14	12	5	STR	19'-2"	240
B15	12	5	STR	26'-2"	328
B16	12	5	STR	29'-8"	371
B17	12	5	STR	22'-8"	284
D1	781	6	STR	2'-9"	3226
S1	167	5	1	8'-0"	1393
S2	149	5	1	9'-4"	1450
T1	36	4	1	7'-2"	172
T2	48	4	1	6'-4"	203
REINFORCING STEEL				LBS.	10605
SPAN C (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B8	5	5	3	5'-0"	26
B9	1	5	3	4'-4"	5
B12	14	4	STR	2'-2"	20
B18	15	5	STR	31'-2"	488
B19	3	5	STR	30'-2"	94
B20	6	5	STR	26'-5"	165
B21	5	5	4	7'-7"	40
B22	1	5	4	7'-1"	7
D1	160	6	STR	2'-9"	661
S1	32	5	1	8'-0"	267
S2	28	5	1	9'-4"	273
S3	4	5	1	9'-10"	41
S4	5	4	2	7'-9"	26
T1	9	4	1	7'-2"	43
T2	12	4	1	6'-4"	51
REINFORCING STEEL				LBS.	2156

BILL OF MATERIAL					
CONCRETE PARAPET					
END APPROACH SLAB (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B23	10	5	STR	23'-3"	242
B24	2	5	STR	22'-9"	47
B25	10	5	STR	24'-10"	259
B26	2	5	STR	24'-4"	51
D1	98	6	STR	2'-9"	405
S1	49	5	1	8'-0"	409
REINFORCING STEEL				LBS.	1413
SPAN A (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H5	1	4	STR	8'-3"	6
H6	8	4	STR	29'-6"	158
H7	26	4	STR	7'-9"	135
H8	3	4	STR	7'-3"	15
REINFORCING STEEL				LBS.	312
SPAN B (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	6	4	STR	9'-1"	36
H5	1	4	STR	8'-3"	6
H7	151	4	STR	7'-9"	782
H9	32	4	STR	30'-0"	641
H10	7	4	STR	16'-4"	76
H11	1	4	STR	23'-6"	16
H12	1	4	STR	8'-1"	5
H13	1	4	STR	27'-0"	18
H14	7	4	STR	28'-6"	133
REINFORCING STEEL				LBS.	1714
SPAN C (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H7	29	4	STR	7'-9"	150
H8	2	4	STR	7'-3"	10
H15	1	4	STR	8'-6"	6
H16	8	4	STR	31'-2"	167
REINFORCING STEEL				LBS.	332
END APPROACH SLAB (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	24	4	STR	9'-1"	146
H4	1	4	STR	9'-2"	6
H17	5	4	STR	23'-8"	79
H18	4	4	STR	24'-4"	65
REINFORCING STEEL				LBS.	296

BILL OF MATERIAL					
SIDEWALK					
BEGIN APPROACH SLAB (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	22	4	STR	9'-1"	133
H2	4	4	STR	22'-6"	60
H3	5	4	STR	21'-10"	73
H4	1	4	STR	9'-2"	6
REINFORCING STEEL				LBS.	273
SPAN A (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H5	1	4	STR	8'-3"	6
H6	8	4	STR	29'-6"	158
H7	26	4	STR	7'-9"	135
H8	3	4	STR	7'-3"	15
REINFORCING STEEL				LBS.	312
SPAN B (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	6	4	STR	9'-1"	36
H5	1	4	STR	8'-3"	6
H7	151	4	STR	7'-9"	782
H9	32	4	STR	30'-0"	641
H10	7	4	STR	16'-4"	76
H11	1	4	STR	23'-6"	16
H12	1	4	STR	8'-1"	5
H13	1	4	STR	27'-0"	18
H14	7	4	STR	28'-6"	133
REINFORCING STEEL				LBS.	1714
SPAN C (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H7	29	4	STR	7'-9"	150
H8	2	4	STR	7'-3"	10
H15	1	4	STR	8'-6"	6
H16	8	4	STR	31'-2"	167
REINFORCING STEEL				LBS.	332
END APPROACH SLAB (ALL EPOXY COATED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	24	4	STR	9'-1"	146
H4	1	4	STR	9'-2"	6
H17	5	4	STR	23'-8"	79
H18	4	4	STR	24'-4"	65
REINFORCING STEEL				LBS.	296

CONCRETE PARAPET BILL OF MATERIAL SUMMARY

	CLASS AA CONCRETE (MODIFIED) (CU. YDS.)	EPOXY COATED REINFORCING STEEL (LBS.)
BEGIN APPROACH SLAB	8.1	1301
SPAN "A"	16.6	2017
SPAN "B"	85.1	10605
SPAN "C"	17.5	2156
END APPROACH SLAB	8.8	1413
TOTALS	136.1	17492

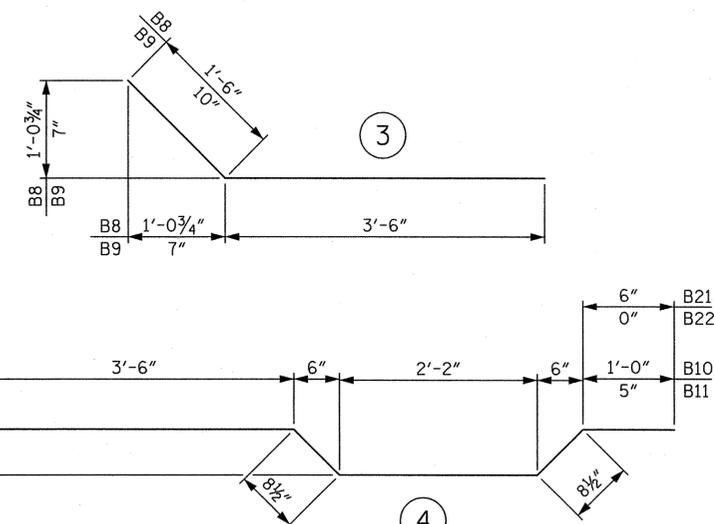
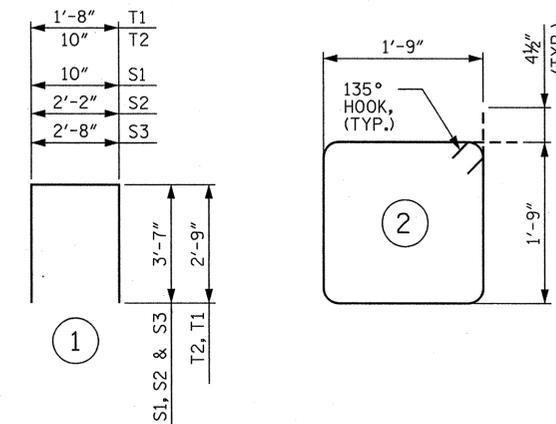
CONCRETE AND EPOXY REINFORCING STEEL QUANTITIES SHOWN FOR INFORMATION ONLY. NO SEPARATE PAYMENT WILL BE MADE FOR THESE ITEMS.

SIDEWALK BILL OF MATERIAL SUMMARY

	CLASS AA CONCRETE (MODIFIED) (CU. YDS.)	EPOXY COATED REINFORCING STEEL (LBS.)
BEGIN APPROACH SLAB	2.7	273
SPAN "A"	3.0	312
SPAN "B"	16.1	1714
SPAN "C"	3.2	332
END APPROACH SLAB	2.9	296
TOTALS	27.9	2927

CONCRETE AND EPOXY REINFORCING STEEL QUANTITIES SHOWN FOR INFORMATION ONLY. NO SEPARATE PAYMENT WILL BE MADE FOR THESE ITEMS.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

K:\RD1-Structures\B-Edg\NC\016686001\Cornelius.Br-Sign\del\Hon\Cod\gn\A-8.dgn 5/20/2013

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 CHECKED BY: CLN DATE: 5/13
 ENGINEER OF RECORD: CLN DATE: 5/13

PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-

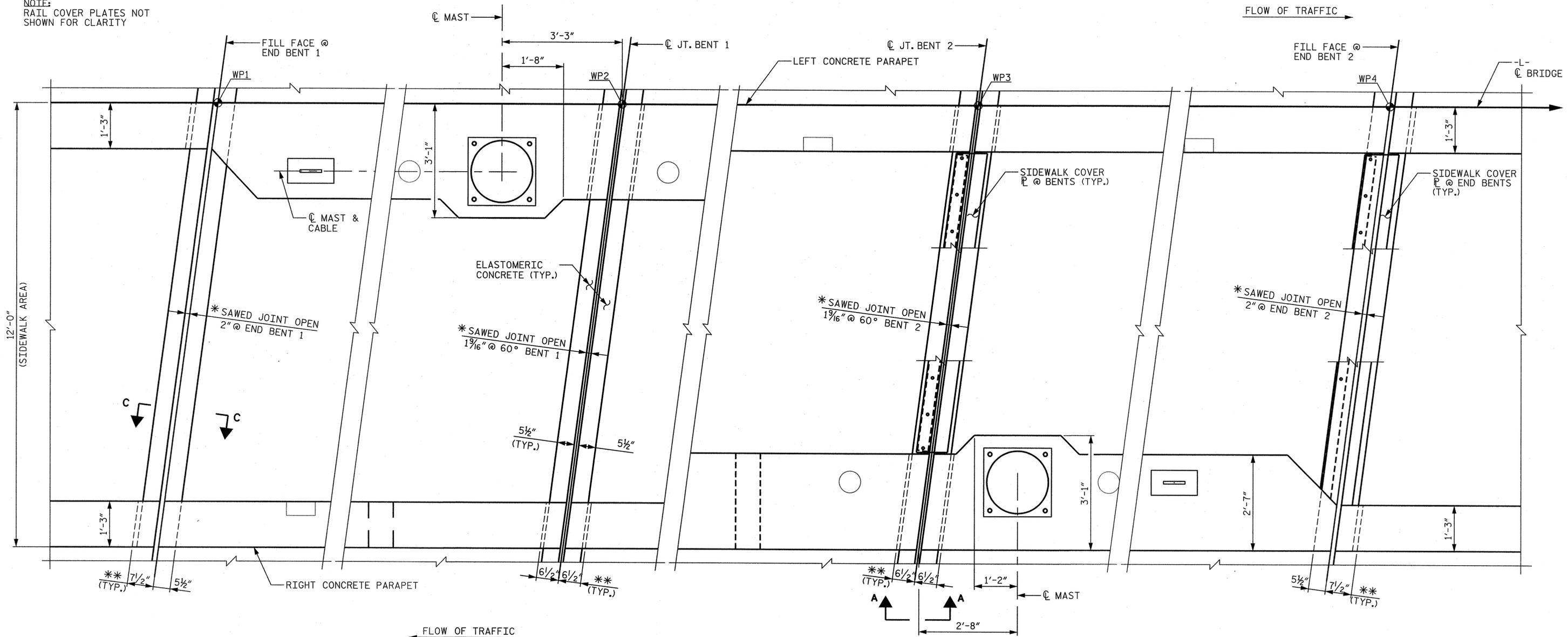


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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE ENHANCEMENT					
CONCRETE PARAPET AND SIDEWALK BAR LIST					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A-8
TOTAL SHEETS

NOTE:
RAIL COVER PLATES NOT
SHOWN FOR CLARITY



PLAN

SCALE: 3/4" = 1'-0"

- * JOINT OPEN SHOWN FOR INFORMATION ONLY. SEE JOINT DETAIL SHEET.
- ** BLOCKOUT LENGTH THROUGH CONCRETE PARAPET

- NOTES:
1. FOR JOINT DETAILS SEE DECK REHABILITATION TYPICAL SECTION AND JOINT DETAIL SHEET.
 2. FOR VIEW A-A, SEE PARAPET COVER PLATE SHEET.

PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-



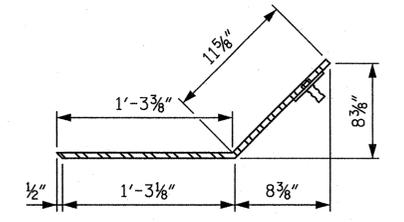
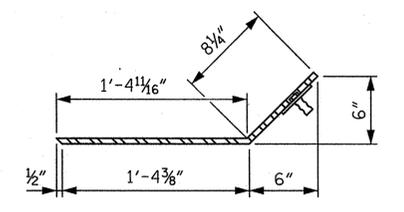
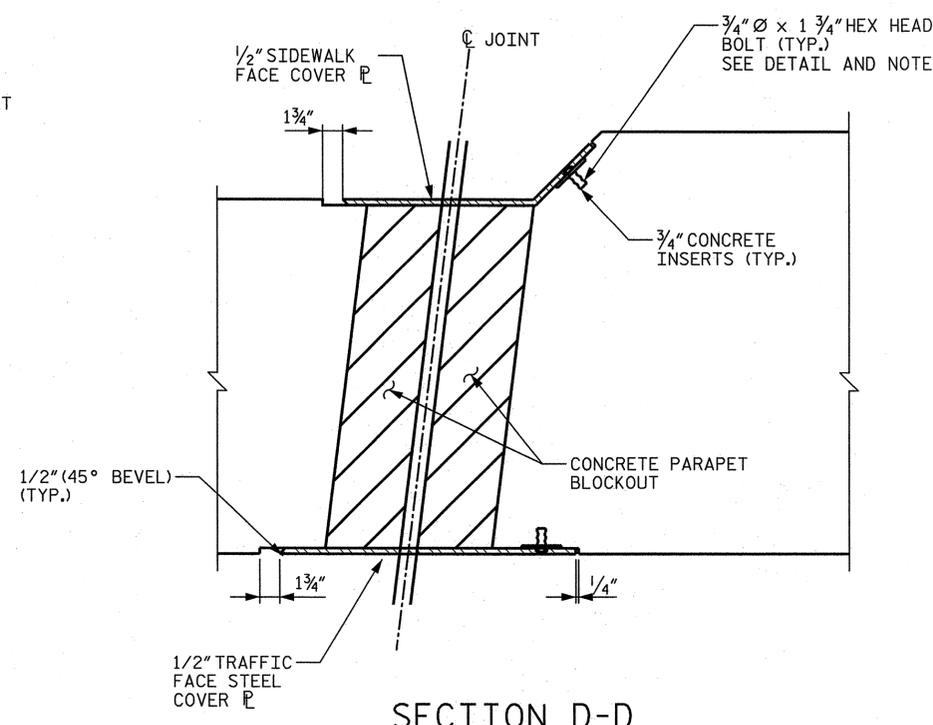
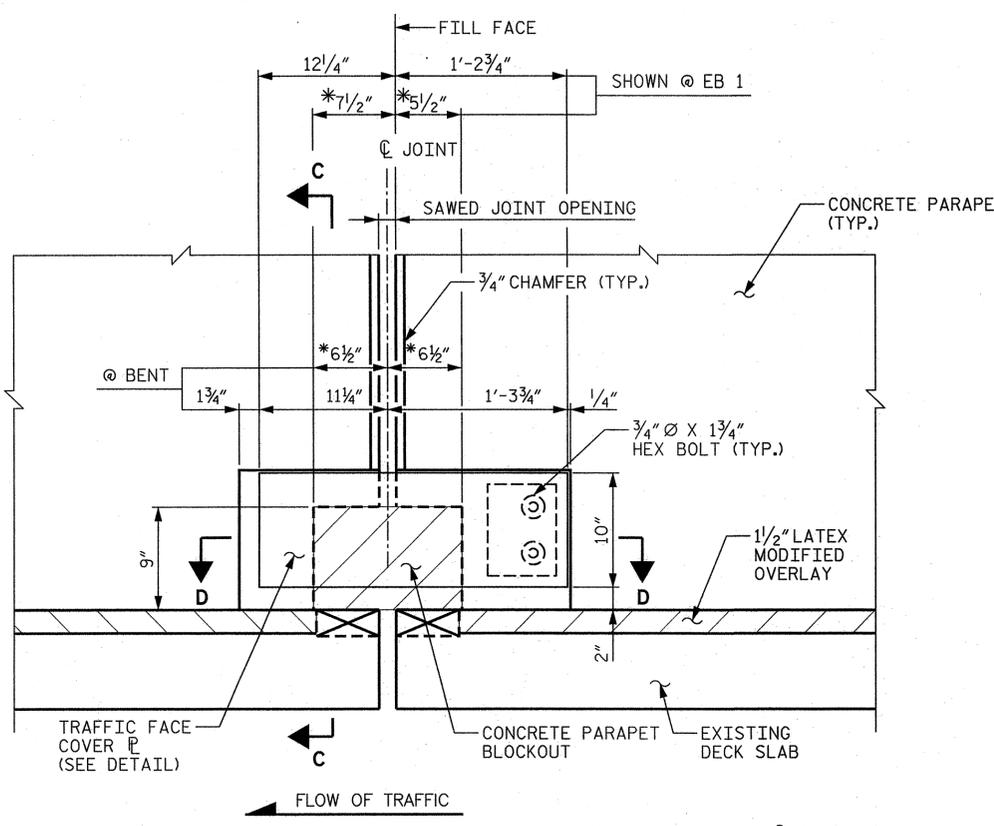
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE ENHANCEMENT					
BLOCKOUT THROUGH CONCRETE PARAPET					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					A-9
TOTAL SHEETS					9

5/20/2013
 DRAWN BY: CRA DATE: 5/13
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 ENGINEER OF RECORD: CLN DATE: 5/13

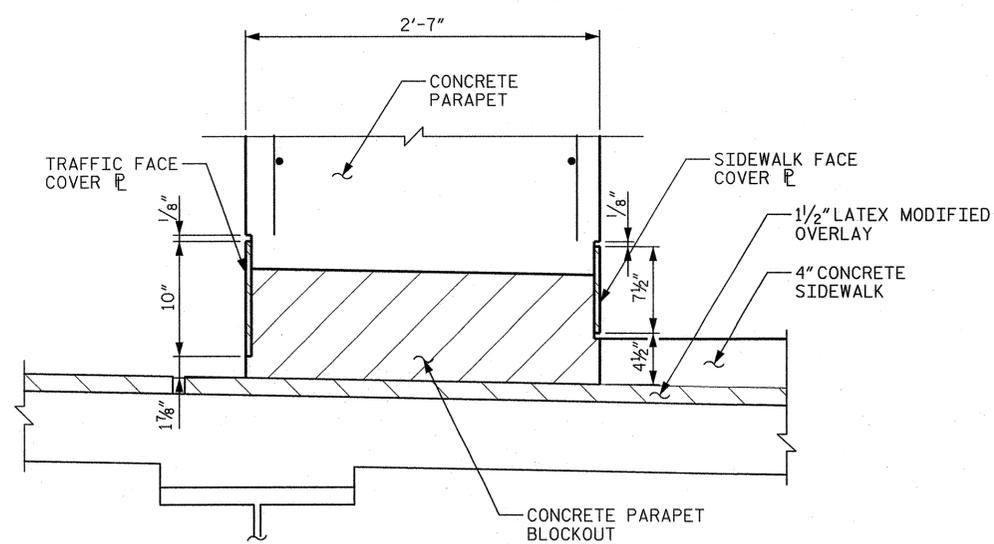
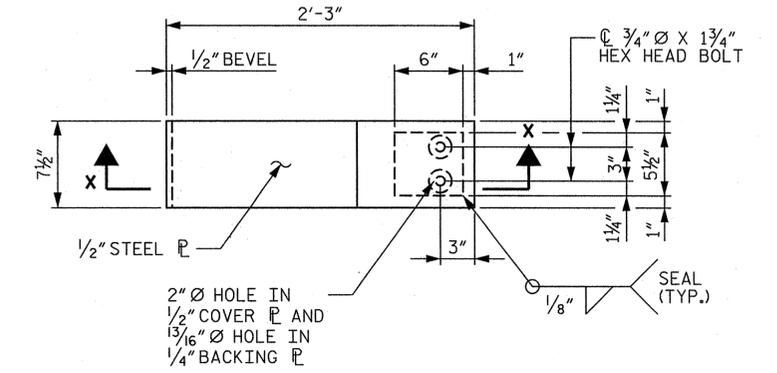
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NOTES:
FOR NOTES SEE SHEET A-11.
FOR VIEW A-A CUT SEE SHEET A-9.



SECTION X-X
@ RIGHT PARAPET B2 & LEFT PARAPET B1

SECTION X-X
@ RIGHT PARAPET EB2 & LEFT PARAPET EB1



TRAFFIC FACE COVER PLATE DETAIL &
SIDEWALK FACE COVER PLATE DETAIL
@ RIGHT PARAPET EB1 & B1 & LEFT PARAPET B2 & EB2
(8 REQ'D TRAFFIC FACE, 4 REQ'D SIDEWALK FACE)
SCALE: 1/2" = 1'-0"



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MECKLENBURG COUNTY
STATION: 23+03.06 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE ENHANCEMENT
PARAPET COVER PLATE

REVISIONS						SHEET NO. A-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS
2			4			

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CHECKED BY: CLN DATE: 5/13
ENGINEER OF RECORD: CLN DATE: 5/13

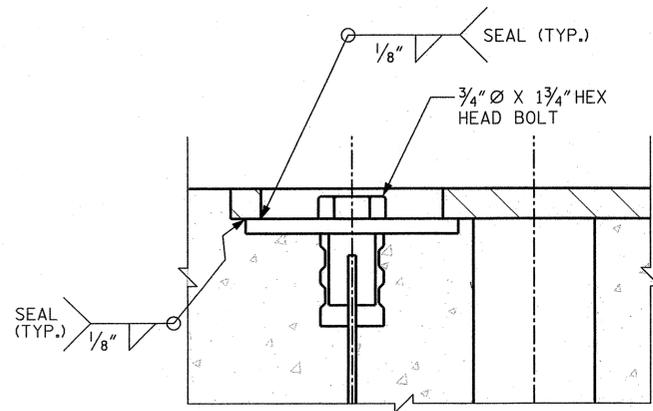
NOTE:
 THE STEEL PLATES SHALL CONFORM TO AASHTO M270
 GRADE 36 OR APPROVED EQUAL. AFTER FABRICATION,
 THE PLATES SHALL BE COMMERCIALY BLAST CLEANED
 AND COATED WITH A MINIMUM THICKNESS OF 4 MILS
 (DRY) OF ZINC-RICH PAINT, GALVANIZED OR METALLIZED
 TO A MINIMUM THICKNESS OF 6 MILS IN ACCORDANCE
 WITH THE STANDARD SPECIFICATIONS. FOR THERMAL
 SPRAYED COATINGS (METALLIZATION), SEE SPECIAL PROVISIONS.

THE 3/4" Ø HEX HEAD BOLTS SHALL CONFORM TO ASTM
 F593 ALLOY 304 STAINLESS STEEL.

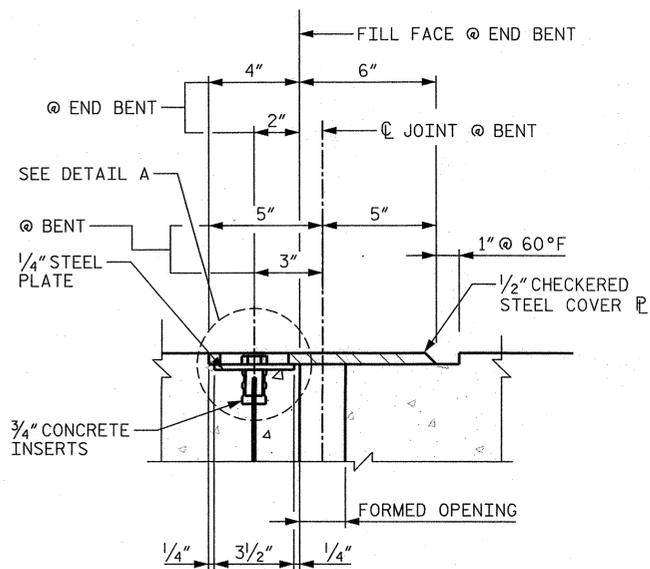
THE 3/4" CONCRETE INSERTS SHALL BE CLOSED-END
 FERRULES WITH LOOPED WIRE STRUTS ATTACHED TO
 THEM. THE INSERTS SHALL CONFORM TO AASHTO M169,
 GRADE 12L14, AND SHALL HAVE A TENSILE WORKING
 LOAD CAPACITY OF 3000 LBS.

NO SEPARATE PAYMENT WILL BE MADE FOR FURNISHING
 AND INSTALLING THE PARAPET AND SIDEWALK COVER PLATES.
 THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN
 THE PAYMENT FOR "FOAM JOINT SEALS", SEE STRUCTURE PLANS.

FOR JOINT DETAILS SEE DECK REHABILITATION TYPICAL
 SECTION AND JOINT DETAIL SHEET, SEE STRUCTURE PLANS.

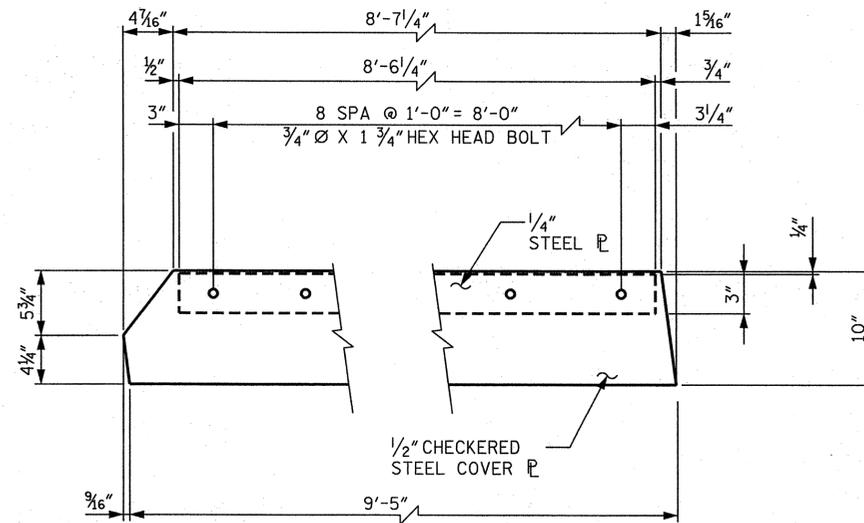


DETAIL A



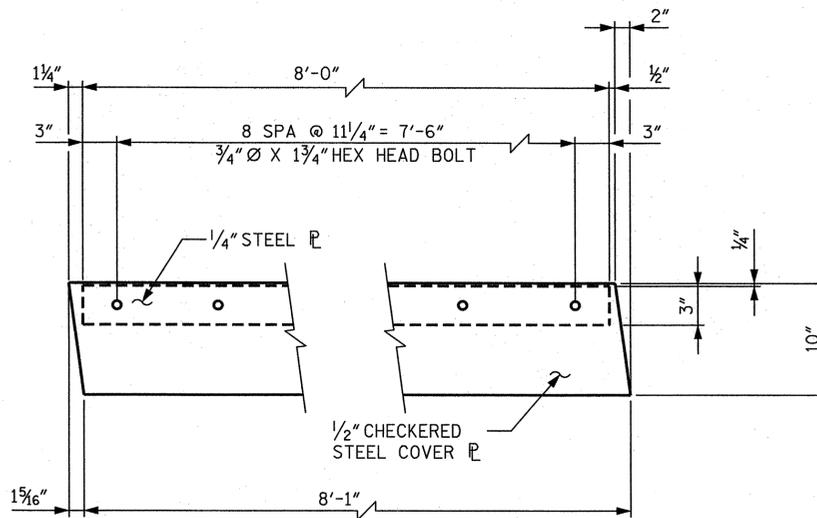
COVER PLATE ANCHOR DETAIL

SCALE: 3" = 1'-0"



COVER PLATE DETAIL FOR END BENT

SCALE: 1 1/2" = 1'-0"



COVER PLATE DETAIL FOR BENT 1&2

SCALE: 1 1/2" = 1'-0"

PROJECT NO. I-4733
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 STATION: 23+03.06 -L-



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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE ENHANCEMENT
 SIDEWALK COVER PLATES

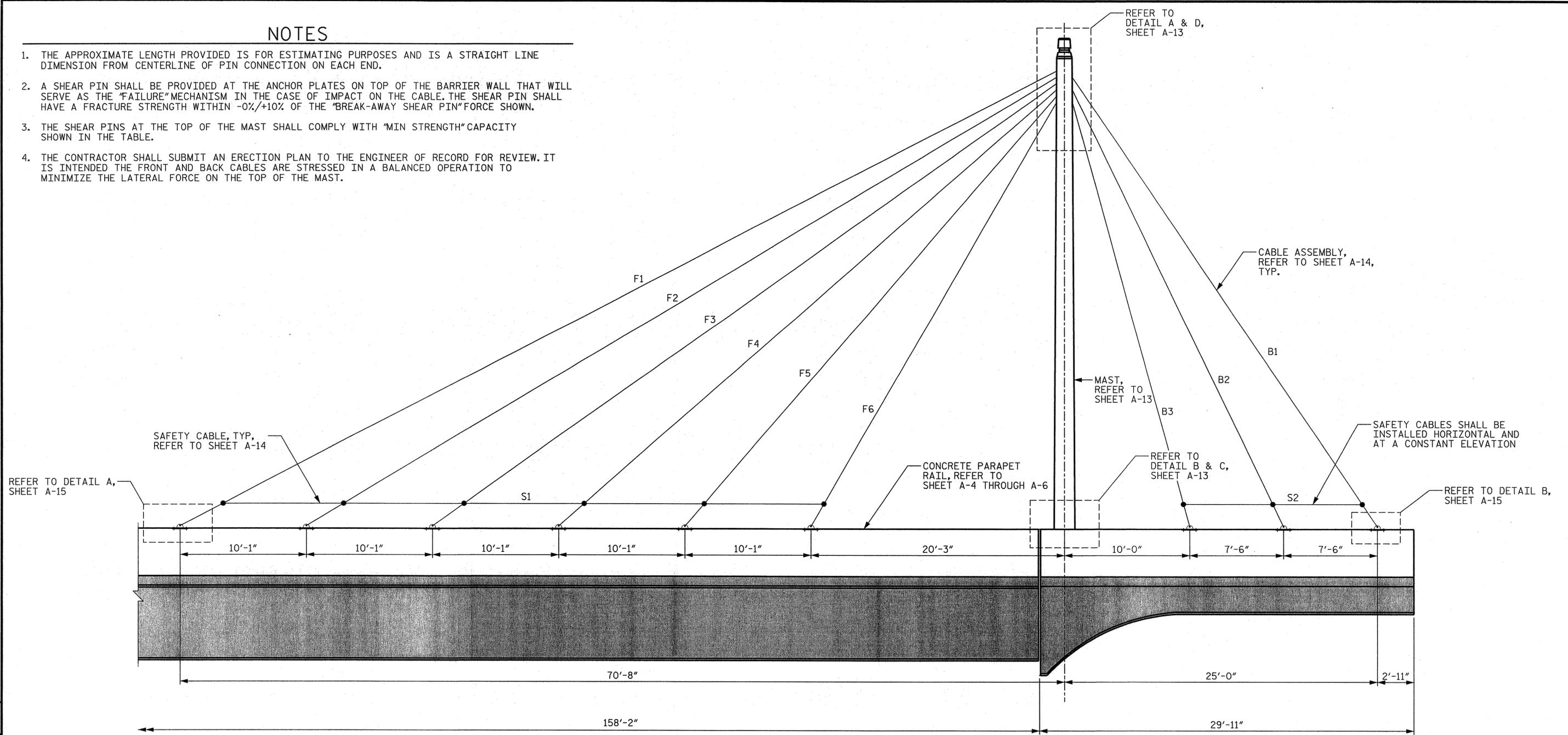
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 ENGINEER OF RECORD: CLN DATE: 5/13

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

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NOTES

1. THE APPROXIMATE LENGTH PROVIDED IS FOR ESTIMATING PURPOSES AND IS A STRAIGHT LINE DIMENSION FROM CENTERLINE OF PIN CONNECTION ON EACH END.
2. A SHEAR PIN SHALL BE PROVIDED AT THE ANCHOR PLATES ON TOP OF THE BARRIER WALL THAT WILL SERVE AS THE "FAILURE" MECHANISM IN THE CASE OF IMPACT ON THE CABLE. THE SHEAR PIN SHALL HAVE A FRACTURE STRENGTH WITHIN -0%/+10% OF THE "BREAK-AWAY SHEAR PIN" FORCE SHOWN.
3. THE SHEAR PINS AT THE TOP OF THE MAST SHALL COMPLY WITH "MIN STRENGTH" CAPACITY SHOWN IN THE TABLE.
4. THE CONTRACTOR SHALL SUBMIT AN ERECTION PLAN TO THE ENGINEER OF RECORD FOR REVIEW. IT IS INTENDED THE FRONT AND BACK CABLES ARE STRESSED IN A BALANCED OPERATION TO MINIMIZE THE LATERAL FORCE ON THE TOP OF THE MAST.



CABLE INFORMATION SUMMARY (2 SETS OF CABLES TOTAL)					
DESIGNATION	DIA.	APPROX. LENGTH (FT.)	DESIGN TENSION (K)	MIN. STRENGTH (K)	BREAK-AWAY SHEAR PIN (K)
F1	5/8"	79.47	5.0	15.0	11.0
F2	5/8"	70.60	4.0	15.0	11.0
F3	5/8"	62.04	4.0	15.0	11.0
F4	5/8"	54.10	3.0	15.0	11.0
F5	5/8"	47.00	2.0	15.0	11.0
F6	5/8"	41.14	2.0	15.0	11.0
B1	7/8"	44.37	15.0	49.0	35.0
B2	7/8"	40.37	13.0	49.0	35.0
B3	7/8"	37.46	9.0	49.0	35.0
S1	5/8"	48.00	0.0	10.0	-
S2	7/8"	14.28	0.0	10.0	-

PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-



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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 MAST AND CABLE
 ELEVATION

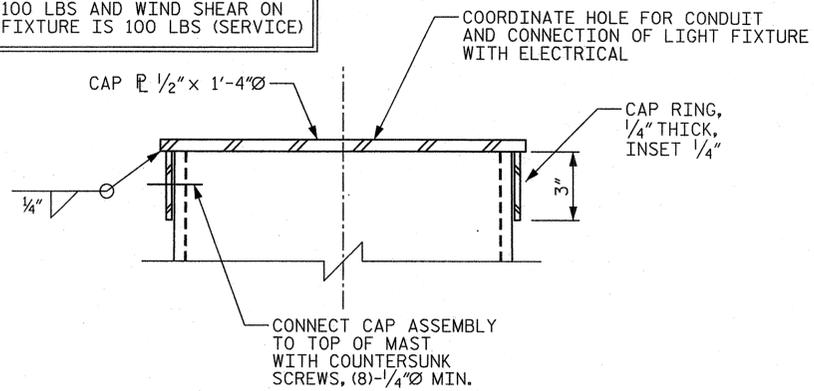
REVISIONS					
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1			3		
2			4		

SHEET NO. A-12
 TOTAL SHEETS

DRAWN BY: CRA DATE: 5/13
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 ENGINEER OF RECORD: JWG DATE: 5/13

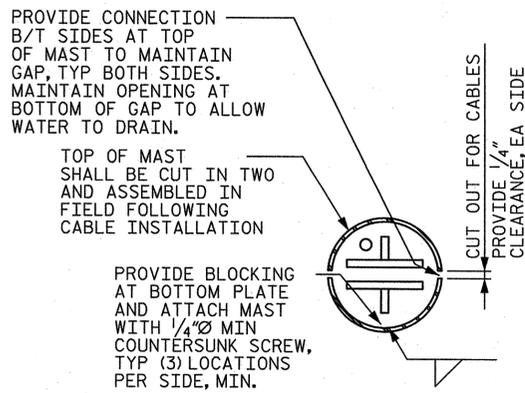
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ASSUME FIXTURE WEIGHT IS 100 LBS AND WIND SHEAR ON FIXTURE IS 100 LBS (SERVICE)



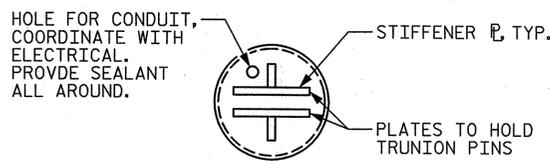
DETAIL A - TOP CAP

SCALE: NTS



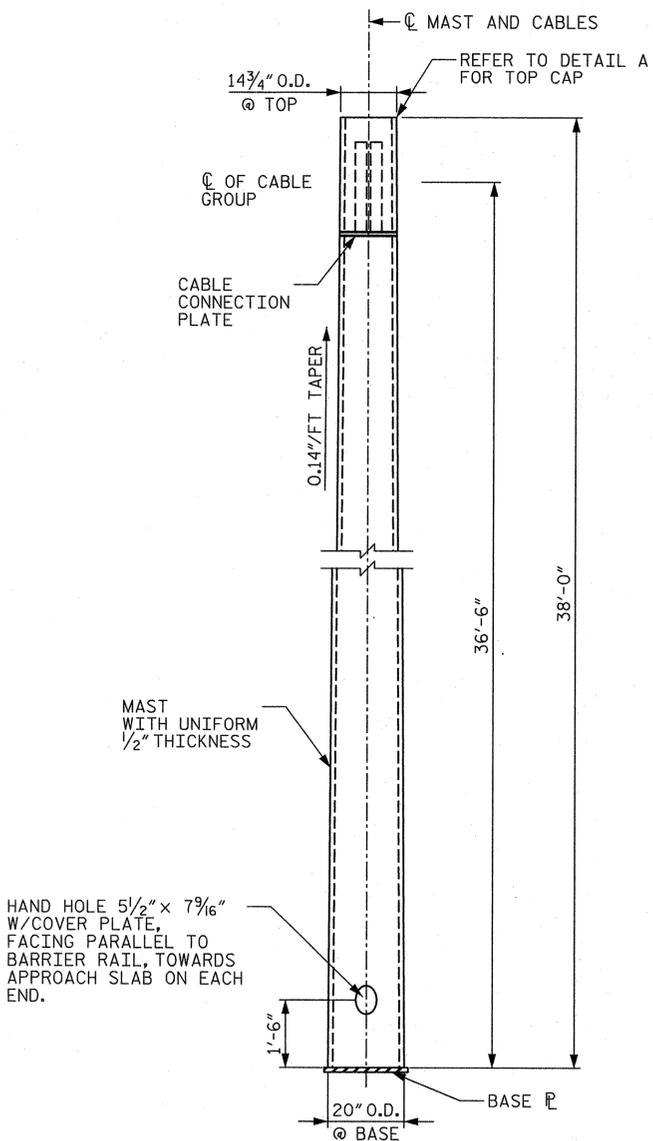
SECTION C-C W/ SIDES

SCALE: NTS



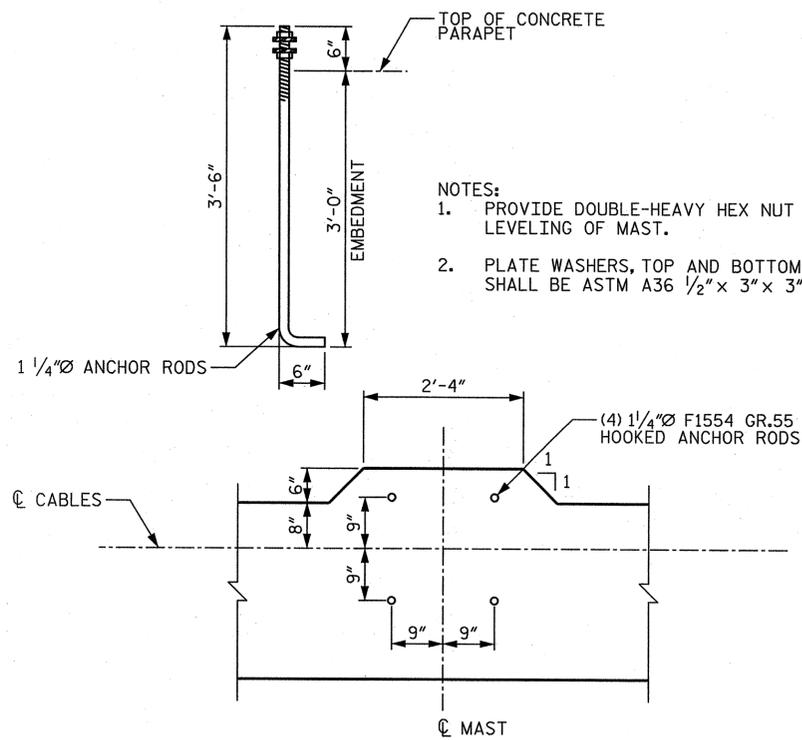
SECTION C-C W/O SIDES

SCALE: NTS



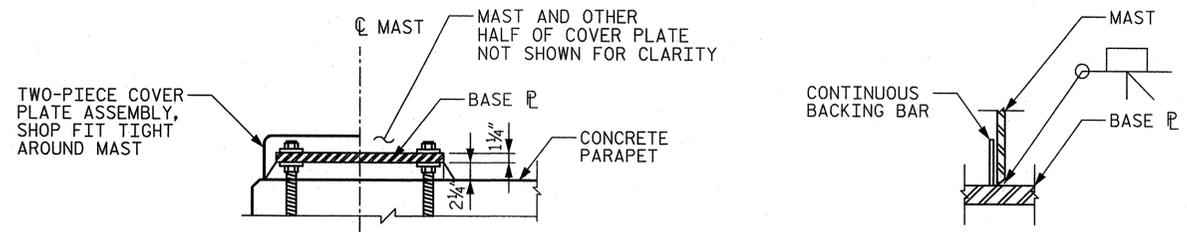
MAST DETAIL

SCALE: NTS



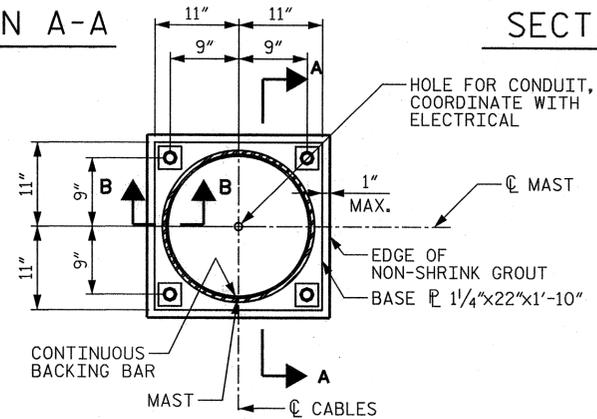
DETAIL B - MAST ANCHOR PLAN

SCALE: NTS



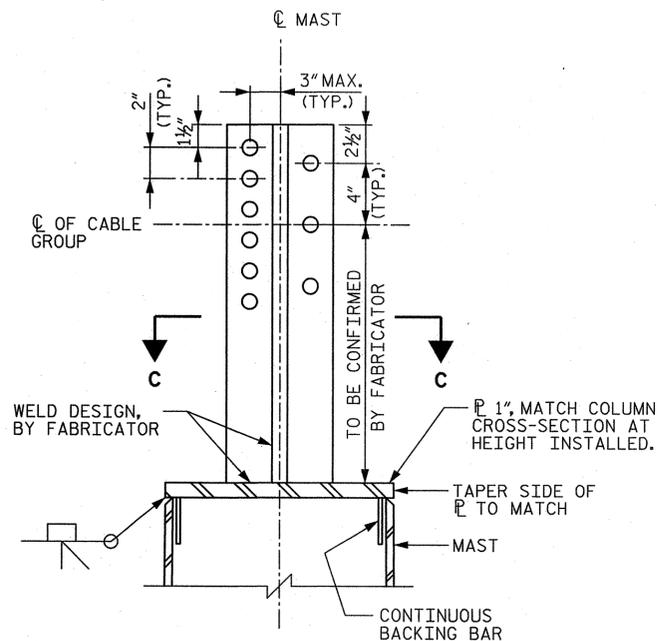
SECTION A-A

SECTION B-B



DETAIL C - MAST BASE PLATE

SCALE: NTS



DETAIL D - CABLE CONNECTION PLATE

SCALE: NTS

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 CHECKED BY: JWG DATE: 5/13
 ENGINEER OF RECORD: JWG DATE: 5/13

NORTH CAROLINA
 PROFESSIONAL SEAL
 038842
 J. W. GRIFFIN
 5/24/13

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PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-

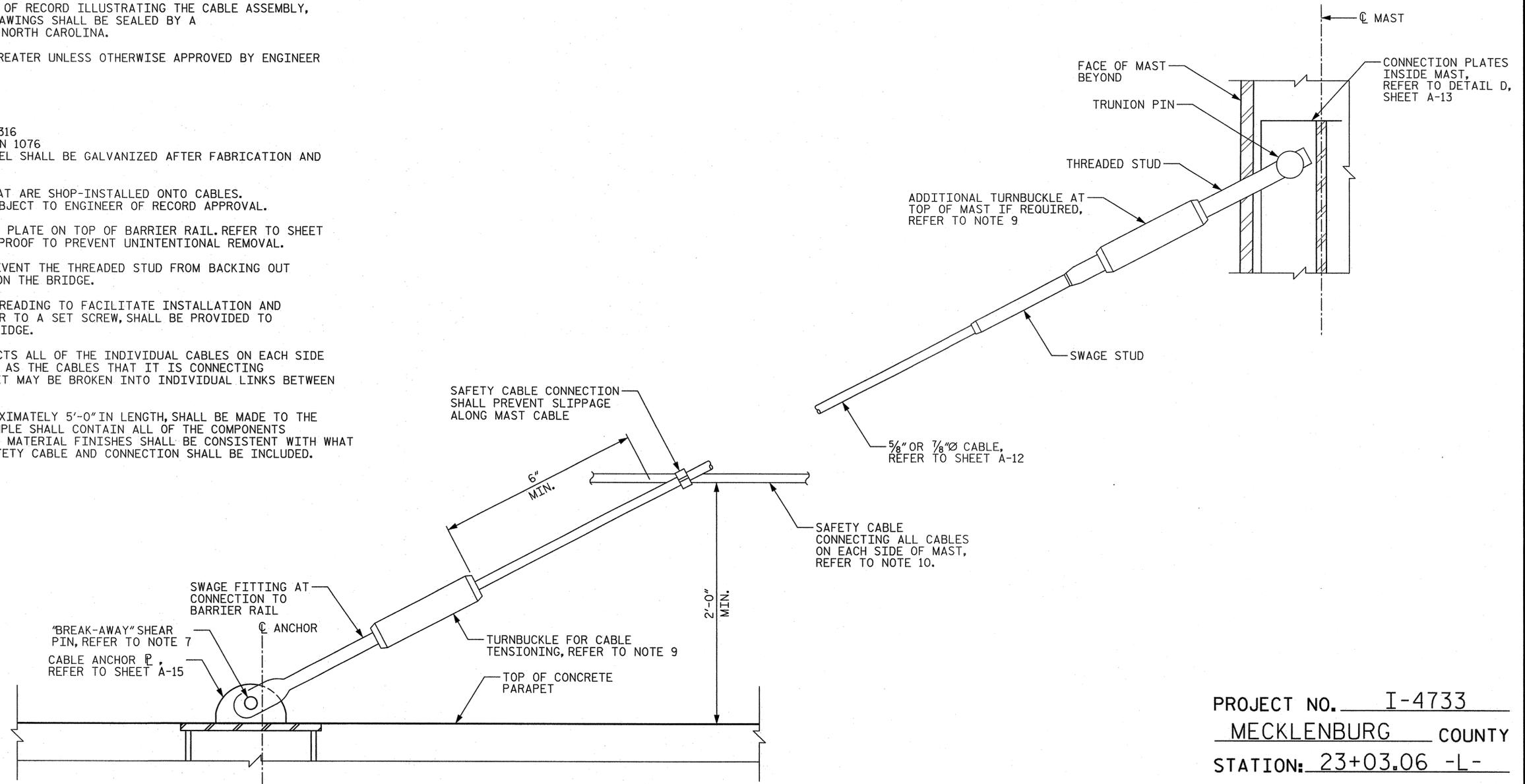
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE					
MAST DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. A-13 TOTAL SHEETS

NOTES

1. DETAIL A ILLUSTRATES THE DESIGN INTENT FOR THE CABLE ASSEMBLY. THE MAST AND CABLE ELEMENTS ARE EXPOSED ARCHITECTURAL ELEMENTS AND SHOULD BE PROVIDED WITH WORKMANSHIP AND MATERIALS THAT CREATE A UNIFORM FINISH, FREE OF BURRS, BLEMISHES AND OTHER DEFECTS. THE BASIS OF DESIGN FOR THE CABLE ASSEMBLY WAS TRIPYRAMID STRUCTURES, INC. POINT OF CONTACT IS JOHN RAPPA AT (978) 692-0555.
2. THE CABLE ASSEMBLY SHALL BE PROVIDED BY THE FABRICATOR RESPONSIBLE FOR THE MAST AND ANCHOR PLATES. DETAILS ILLUSTRATED ON SHEET A-12 THROUGH A-15 REPRESENT THE DESIGN INTENT. THE FABRICATOR SHALL BE RESPONSIBLE FOR COORDINATING CLEARANCES REQUIRED BY THE CABLE ASSEMBLY AND CHECKING STRUCTURAL LIMIT STATES AT THE CABLE CONNECTION POINTS AND WHERE DELEGATED ON A GIVEN DETAIL.
3. EACH CABLE ASSEMBLY SHALL BE PROOF-LOADED TO MINIMUM STRENGTH REQUIREMENTS SHOWN ON SHEET A-12. EVERY ASSEMBLY MUST BE LOADED AND DOCUMENTATION SHALL BE PROVIDED ALONG WITH SHIPMENT OF CABLES.
4. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD ILLUSTRATING THE CABLE ASSEMBLY, ANCHOR/EMBED PLATES, AND MAST DETAILS. THE SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA.
5. MATERIAL SPECIFICATIONS SHALL BE AS FOLLOWS OR GREATER UNLESS OTHERWISE APPROVED BY ENGINEER OF RECORD:

MAST	ASTM A572	GR. 55
PLATE	ASTM A36	GR. 36
SHEAR STUDS	TYPE B	
CABLE	ASTM A368	
FITTINGS	ASTM A276	TYPE 316
GALVANIZING	NCDOT STANDARD SPEC SECTION 1076	

 ALL ASSEMBLIES THAT DO NOT CONTAIN STAINLESS STEEL SHALL BE GALVANIZED AFTER FABRICATION AND WELDING.
6. HARDWARE SHALL CONSIST OF SWAGE-TYPE FITTINGS THAT ARE SHOP-INSTALLED ONTO CABLES. ALTERNATE CONNECTION TYPES MAY BE SUBSTITUTED SUBJECT TO ENGINEER OF RECORD APPROVAL.
7. "BREAK-AWAY" SHEAR PIN SHALL BE PROVIDED AT ANCHOR PLATE ON TOP OF BARRIER RAIL. REFER TO SHEET A-12 FOR FRACTURE LOAD. SHEAR PIN SHALL BE TAMPER-PROOF TO PREVENT UNINTENTIONAL REMOVAL.
8. PIN AT TOP OF MAST SHALL HAVE A MECHANISM TO PREVENT THE THREADED STUD FROM BACKING OUT DURING THERMAL MOVEMENTS AND DYNAMIC MOVEMENTS ON THE BRIDGE.
9. TURNBUCKLE(S) SHALL BE PROVIDED WITH SUFFICIENT THREADING TO FACILITATE INSTALLATION AND ELONGATION DURING TENSIONING. A MECHANISM, SIMILAR TO A SET SCREW, SHALL BE PROVIDED TO PREVENT LOOSENING DUE TO DYNAMIC MOVEMENTS OF BRIDGE.
10. A SAFETY CABLE SHALL BE PROVIDED THAT INTERCONNECTS ALL OF THE INDIVIDUAL CABLES ON EACH SIDE OF THE MAST. THE CABLE SHALL BE THE SAME DIAMETER AS THE CABLES THAT IT IS CONNECTING TOGETHER. THE SAFETY CABLE MAY BE CONTINUOUS, OR IT MAY BE BROKEN INTO INDIVIDUAL LINKS BETWEEN ADJACENT CABLES.
11. A MATERIAL SUBMITTAL OF THE CABLE ASSEMBLY, APPROXIMATELY 5'-0" IN LENGTH, SHALL BE MADE TO THE ARCHITECT PRIOR TO BEGINNING FABRICATION. THE SAMPLE SHALL CONTAIN ALL OF THE COMPONENTS REQUIRED WITHIN THE ASSEMBLY. COMPONENT SIZES AND MATERIAL FINISHES SHALL BE CONSISTENT WITH WHAT WILL BE PROVIDED IN THE FIELD. A SAMPLE OF THE SAFETY CABLE AND CONNECTION SHALL BE INCLUDED.



DETAIL A - CABLE DESIGN INTENT

SCALE: 3/4" = 1'-0"

PROJECT NO. I-4733
MECKLENBURG COUNTY
 STATION: 23+03.06 -L-

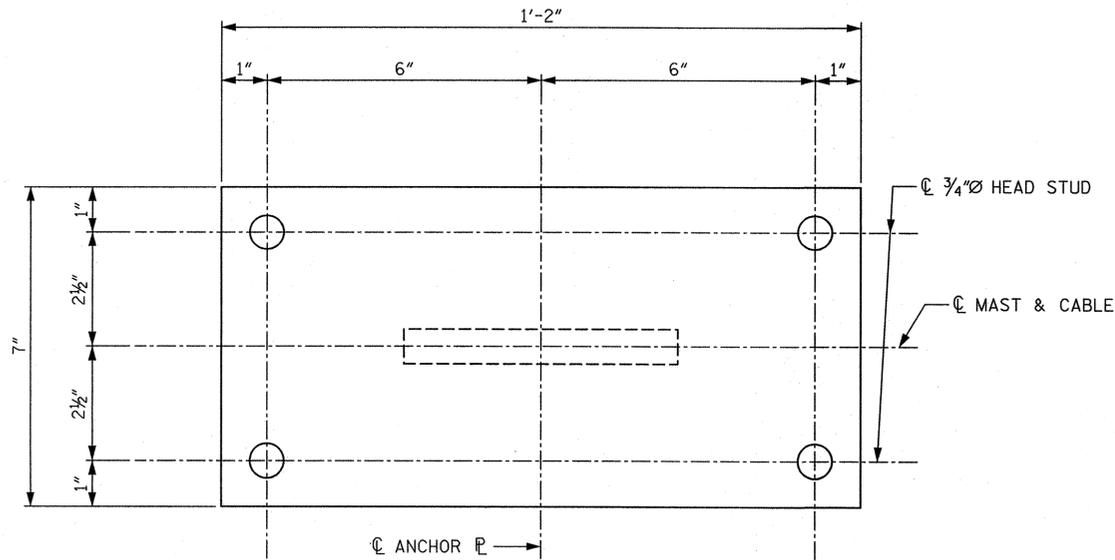


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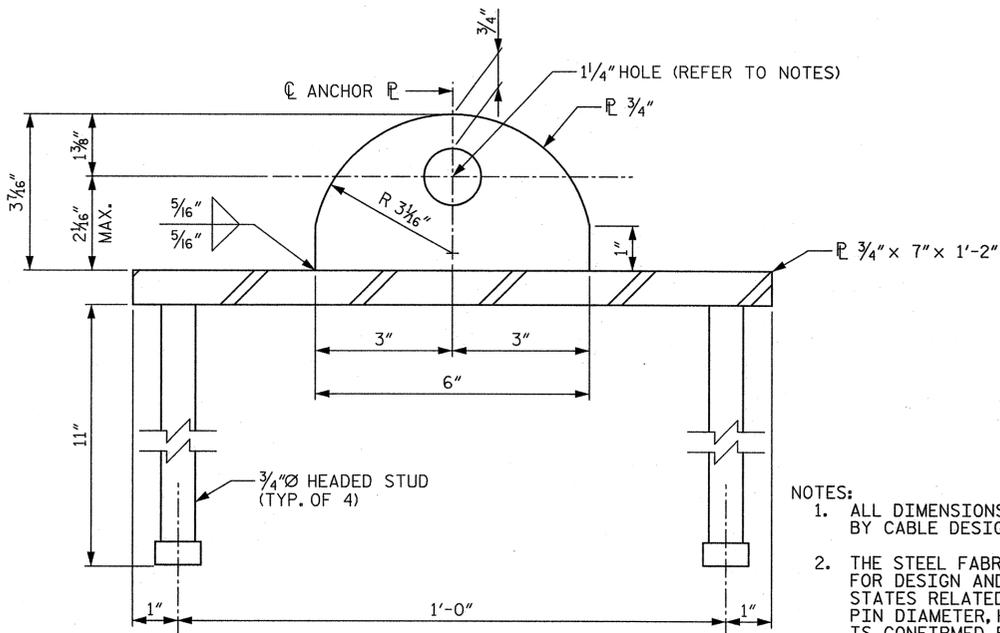
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE					
CABLE DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					A-14
TOTAL SHEETS					1

5/20/2013
 DRAWN BY: CRA DATE: 5/13
 CHECKED BY: JWG DATE: 5/13
 ENGINEER OF RECORD: JWG DATE: 5/13

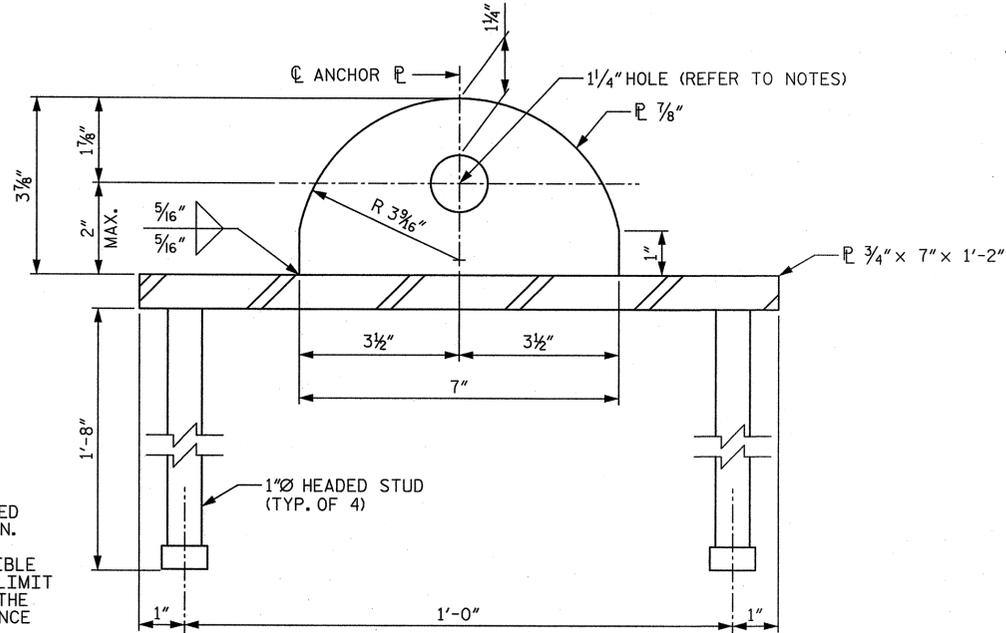
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DETAIL C - BOTTOM VIEW OF ANCHOR
SCALE: NTS



DETAIL A - ANCHOR FOR 5/8" CABLE
SCALE: 1/4" = 1'-0"



DETAIL B - ANCHOR FOR 7/8" CABLE
SCALE: 1/4" = 1'-0"

- NOTES:
1. ALL DIMENSIONS SHOWN SHALL BE CONFIRMED BY CABLE DESIGNER PRIOR TO FABRICATION.
 2. THE STEEL FABRICATOR SHALL BE RESPONSIBLE FOR DESIGN AND CALCULATIONS OF STEEL LIMIT STATES RELATED TO THE SHEAR PIN ONCE THE PIN DIAMETER, HOLE SIZE, AND EDGE DISTANCE IS CONFIRMED BY THE CABLE DESIGNER.
 3. DESIGN OF THE STEEL PLATE SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.

PROJECT NO. I-4733
MECKLENBURG COUNTY
STATION: 23+03.06 -L-



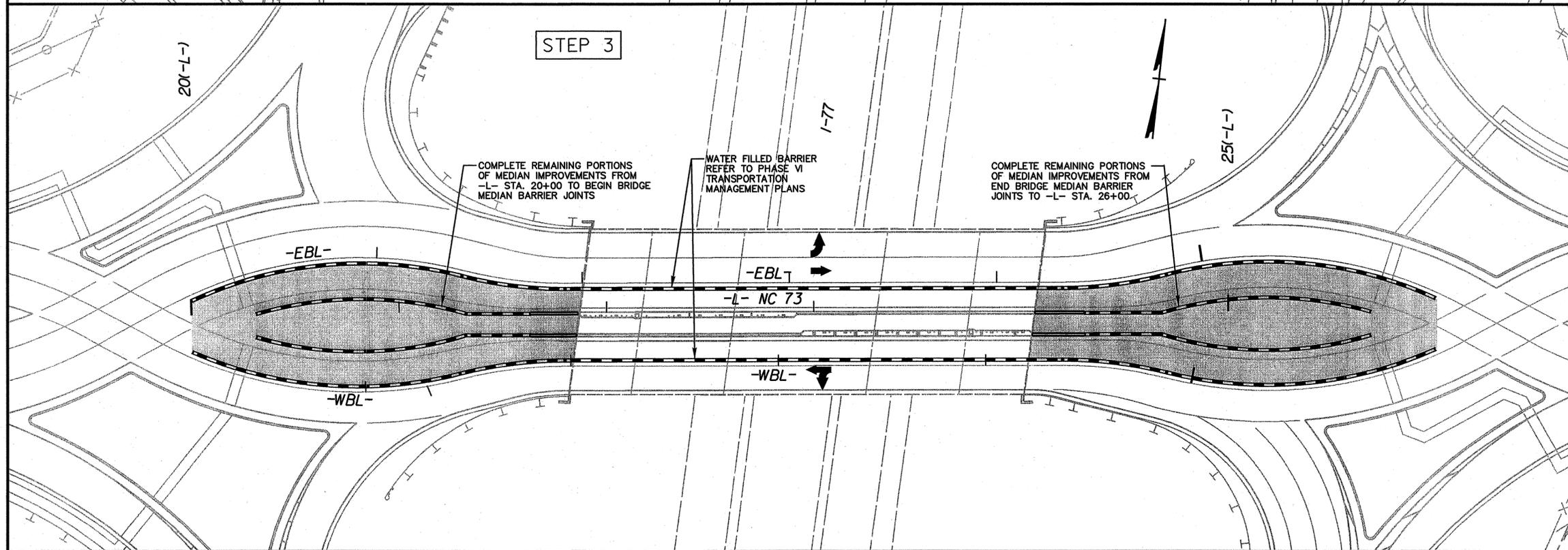
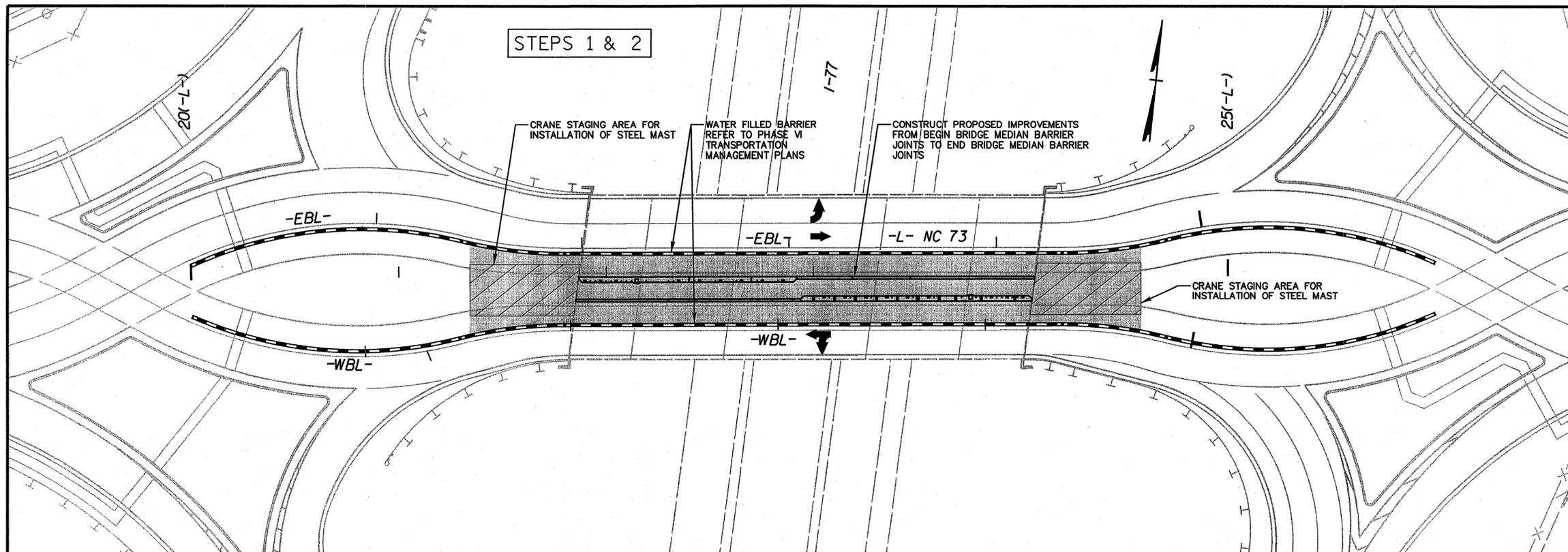
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
CABLE ANCHOR PLATE
DETAILS

Kimley-Horn and Associates, Inc.
333 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
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NC LICENSE # F-0102

DRAWN BY: CRA DATE: 5/13
CHECKED BY: JWG DATE: 5/13
ENGINEER OF RECORD: JWG DATE: 5/13

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	A-15
1			3			TOTAL SHEETS
2			4			

5/20/2013 K:\NDDT\Structures\Bridges\NC\018686001\Cornelius_Br_SignAddition\Cad\SignA-15.dgn



NOTES:

THIS FIGURE ILLUSTRATES THE NECESSARY CONSTRUCTION SEQUENCE OF THE MEDIAN IMPROVEMENTS WITHIN THE WORK AREA DEFINED BY THE I-4733 TRANSPORTATION MANAGEMENT PLANS. REFER TO THE I-4733 TRANSPORTATION MANAGEMENT PLANS AND THE I-4733 ROADWAY PLANS FOR ALL OTHER INFORMATION.

CONSTRUCTION OF THE MEDIAN IMPROVEMENTS SHALL OCCUR WITHIN PHASE VI, STEP 3B OF THE I-4733 TRANSPORTATION MANAGEMENT PLANS. REFER TO SHEETS TMP-3A FOR PHASE VI PHASING NOTES AND TMP-9 THRU TMP-10B FOR PHASE VI DETAILS. REFER TO THE I-4733 PROJECT SPECIAL PROVISIONS, INTERMEDIATE CONTRACT TIMES, FOR CONSTRUCTION DURATIONS.

CONSTRUCTION SEQUENCE:

STEP 1:

CONSTRUCT PROPOSED IMPROVEMENTS FROM BEGIN BRIDGE MEDIAN BARRIER JOINTS TO END BRIDGE MEDIAN BARRIER JOINTS INCLUDING: INSTALLATION OF CUSTOM MEDIAN BARRIER, STEEL MAST FOUNDATIONS, AND SIDEWALK. REFER TO STRUCTURAL PLANS FOR EXACT JOINT LOCATIONS.

STEP 2:

UPON COMPLETION OF STEP 1, AFTER STEEL MAST FOUNDATIONS HAVE CURED 28 DAYS, INSTALL THE STEEL MASTS AND CABLES.

STEP 3:

COMPLETE THE REMAINING PORTIONS OF MEDIAN IMPROVEMENTS FROM -L- STA. 20+00.00 TO BEGIN BRIDGE MEDIAN BARRIER JOINTS AND FROM END BRIDGE MEDIAN BARRIER JOINTS TO -L- STA. 26+00.00 INCLUDING: INSTALLATION OF SIDEWALK, STANDARD MEDIAN BARRIER, AND THE REMAINING PORTION OF CUSTOM MEDIAN BARRIER. REFER TO STRUCTURAL PLANS FOR EXACT JOINT LOCATIONS.

■ DENOTES WORK AREA
SCALE: 1" = 30'

PROJECT NO. I-4733
MECKLENBURG COUNTY
STATION: 23+03.06 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE ENHANCEMENT
CONSTRUCTION SEQUENCE
OF MEDIAN IMPROVEMENTS

5/20/2013
DRAWN BY: DAS DATE: 5/13
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ABBREVIATIONS & ACRONYMS

THIS SCHEDULE IS REPRESENTATIVE OF THOSE TYPICALLY FOUND ON THE PLANS BUT NOT ALL MAY BE UTILIZED

A	AMPERE, AMMETER	FACP	FIRE ALARM CONTROL PANEL	PNL	PANEL
AAP	ALARM ANNUNCIATOR PANEL	FPN	FUSE PER NAMEPLATE	PP	POWER POLE
A/C	AIR CONDITIONING	FIXT	FIXTURE	PROVIDE	FURNISH, INSTALL & CONNECT
ADMIN	ADMINISTRATION	FR	FULLY RATED	PS	PRESSURE SWITCH
AF	AMPERE FRAME	GFI	GROUND FAULT INTERRUPTER	PVC	POLYVINYL CHLORIDE
AFF	ABOVE FINISHED FLOOR	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	RCP	REFLECTED CEILING LAMP
AFG	ABOVE FINISHED GRADE	G, GND	GROUND	RECP	RECEPTACLE
AHJ	AUTHORITY HAVING JURISDICTION	HD	HAND DRYER	RGS	RIGID GALVANIZED STEEL
AHU	AIR HANDLING UNIT	HH	HANDHOLE	RL	EXISTING ITEM TO BE RELOCATED
AIC	AMPERES INTERRUPTING CAPACITY	HID	HIGH INTENSITY DISCHARGE	RM	EXISTING ITEM TO REMAIN
AMP	AMPERE	HP	HORSEPOWER	RP	EXISTING ITEM TO BE REPLACED
AT	AMPERE TRIP	HVAC	HEATING, VENTILATING & AIR CONDITIONING	RV	EXISTING ITEM TO BE REMOVED
ATS	AUTOMATIC TRANSFER SWITCH	HZ	HERTZ	SC	SECURITY CAMERA OUTLET
AWG	AMERICAN WIRE GAUGE	IC	INTERCOM	SE	SERVICE ENTRANCE
C	CONDUIT	ICJB	INTERCOM JUNCTION BOX	SEC	SECURITY
CB	CIRCUIT BREAKER	ICTC	INTERCOM TERMINAL CABINET	SN	SOLID NEUTRAL
CLG	CEILING	IG	ISOLATED GROUND	SPD	SURGE PROTECTION DEVICE
COMM	COMMUNICATION	ISC	RMS SYMMETRICAL SHORT CIRCUIT	SPEC	SPECIFICATION
CONC	CONCRETE	JB	JUNCTION BOX	SPST	SINGLE POLE SINGLE THROW
CP	CIRCULATING PUMP	KAIC	(THOUSAND) AMPERE INTERRUPTING CAPACITY	SS	STAINLESS STEEL
CT	CURRENT TRANSFORMER	kcmil	THOUSAND OF CIRCULAR MILS	SQ	SQUARE
CTRL	CONTROL	KVA	KILOVOLT-AMPERES	SW	SWITCH
CR	CARD READER ACCESS	KW	KILOWATTS	SWBD	SWITCHBOARD
CU	COPPER	LC	LIGHTING CONTACTOR	TEL	TELEPHONE
DH	DOOR HOLDER	LED	LIGHT EMITTING DIODE	TTC	TELEPHONE TERMINAL CABINET
DISC	DISCONNECT	LTG	LIGHTING	TV	COMBINATION TV & RECEPTACLE OUTLETS
DIV	DIVISION	MC	MECHANICAL CONTRACTOR	TVTC	TELEVISION TERMINAL CABINET
DWG	DRAWING	MH	METAL HALIDE	TYP	TYPICAL
EC	ELECTRICAL CONTRACTOR	MTD	MOUNTED	UG	UNDER GROUND
ECB	ENCLOSED CIRCUIT BREAKER	N	NEUTRAL	UGC	UNDERGROUND COMMUNICATIONS
EF	EXHAUST FAN	NA	NOT APPLICABLE	UH	UNIT HEATER
ELEC	ELECTRICAL	NC	NORMALLY CLOSED	UNO	UNLESS NOTED OTHERWISE
EM	EMERGENCY	NF	NON-FUSED	V	VOLT
EMCS	EMERGENCY MANAGEMENT CONTROL SYSTEM	NEC	NATIONAL ELECTRICAL CODE	W	WIRE
EMT	ELECTRICAL METALLIC TUBING	NIC	NOT IN CONTRACT	WG	WIRE GUARD OVER DEVICE
EP	EXPLOSION PROOF	NL	NIGHT LIGHT	WP	WEATHERPROOF (WEATHERTIGHT)
EQP	EQUIPMENT	NO	NUMBER	XFMR	TRANSFORMER
ER	EXISTING ITEM RELOCATED TO HERE	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.	Y	WYE (CONNECTED)
EWC	ELECTRIC WATER COOLER	NFPA	NATIONAL FIRE PROTECTION ASSOC.	1PH	SINGLE-PHASE
EWH	ELECTRIC WATER HEATER	NO	NORMALLY OPEN	1P	SINGLE-POLE
EXTG	EXISTING	OHE	OVERHEAD ELECTRIC	3PH	THREE-PHASE
FA	FIRE ALARM	PC	PHOTO CONTROL		
FAAP	FIRE ALARM ANNUNCIATOR PANEL	PBC	PLUMBING CONTRACTOR		

2012 NORTH CAROLINA ENERGY CONSERVATION CODE

COMMERCIAL ENERGY EFFICIENCY - ELECTRICAL SUMMARY

- 501.1 METHOD OF COMPLIANCE NC SPECIFIC COMCHECK PROVIDED
 2012 NCECC CHAPTER 5 20% IMPROVEMENT OVER ASHRAE 90.1-2007
 NOT APPLICABLE BASED ON PROJECT SCOPE
- 501.2 APPLICATION COMPLIANCE
 506.2.1 EFFICIENT MECH EQUIPMENT 506.2.4 HI EFFICIENCY DOMESTIC HW
 506.2.2 REDUCED LTG DENSITY 506.2.5 ONSITE RENEWABLE ENERGY
 506.2.3 ENERGY RECOVERY SYSTEMS 506.2.6 DAYLIGHTING CONTROLS
 NOT APPLICABLE BASED ON PROJECT SCOPE
- 505.2 - INTERIOR LIGHTING CONTROLS (MANDATORY REQUIREMENTS):
 INTERIOR LIGHTING SYSTEMS ARE PROVIDED WITH CONTROLS AS REQUIRED PER SECTION 505.2, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- 505.3 - TANDEM WIRING (MANDATORY REQUIREMENTS):
 FLUORESCENT LUMINAIRES LOCATED WITHIN THE SAME AREA ARE TANDEM WIRED AS REQUIRED PER SECTION 505.3, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- 505.4 - EXIT SIGNS (MANDATORY REQUIREMENTS):
 INTERNALLY ILLUMINATED EXIT SIGNS DO NOT EXCEED 5 WATTS PER SIDE.
 NOT APPLICABLE
- 505.5 - INTERIOR LIGHTING POWER REQUIREMENTS (PRESCRIPTIVE) (NON-EXEMPT):
 NOT APPLICABLE PER 2012 NCECC 101.4.3, EXCEPTION 1.G.
 505.5.1 - TOTAL CONNECTED INTERIOR LIGHTING POWER:
N/A WATTS SPECIFIED
N/A % REDUCTION OF SPECIFIED VS. ALLOWED (506.2.2)
 505.5.2 - TOTAL ALLOWABLE INTERIOR LIGHTING POWER:
 METHOD OF COMPLIANCE:
 BUILDING AREA METHOD SPACE-BY-SPACE METHOD
N/A WATTS ALLOWED
- 505.6.1 - EXTERIOR BUILDING GROUNDS LIGHTING:
 LAMPS OPERATING AT GREATER THAN 100 WATTS FOR EXTERIOR BUILDING GROUNDS LUMINAIRES HAVE A MINIMUM EFFICACY OF 60 LUMENS PER WATT, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- 505.6.2 - EXTERIOR BUILDING LIGHTING POWER (NON-EXEMPT):
 NOT APPLICABLE
 TOTAL CONNECTED EXTERIOR LIGHTING POWER:
N/A WATTS SPECIFIED
 TOTAL ALLOWABLE EXTERIOR LIGHTING POWER:
N/A WATTS ALLOWED
- 505.6.3 - SHIELDING OF EXTERIOR BUILDING LIGHTING FIXTURES:
 ONLY FULLY SHIELDED EXTERIOR BUILDING LIGHTING FIXTURES ARE PROVIDED, EXCEPT WHERE EXEMPT.
 ALTERNATIVE EXTERIOR BUILDING LIGHTING FIXTURES ARE PROVIDED FOR GREATER ENERGY EFFICIENCY OVER FULLY SHIELDED EXTERIOR BUILDING LIGHTING FIXTURES.
 NOT APPLICABLE
- 505.7 - ELECTRICAL ENERGY CONSUMPTION (DWELLING UNITS):
 SEPARATE TENANT METERING TO DETERMINE ELECTRICAL ENERGY CONSUMPTION HAS BEEN PROVIDED FOR BUILDINGS HAVING INDIVIDUAL DWELLING UNITS.
 NOT APPLICABLE

SYMBOL SCHEDULE

POWER

- WIRING SYSTEM CONCEALED IN CONCRETE PARAPET. WHEN SHOWN, CROSS LINES INDICATE NUMBER OF WIRES. (GROUND WIRES ARE NOT SHOWN)
- WIRING SYSTEM CONCEALED IN OR UNDER SLAB OR UNDERGROUND.
- WIRING SYSTEM EXPOSED.
- CONDUIT TURNED UP TO FLOOR ABOVE.
- CONDUIT TURNED DOWN TO FLOOR BELOW.
- BRANCH CIRCUIT HOMERUN TO PANEL.
- JUNCTION BOX WITH CONNECTION TO EQUIPMENT SERVED.
- 208Y/120V PANELBOARD. SEE SCHEDULE FOR MOUNTING. TOP OF PANEL AT 6'-6" AFF.
- 480Y/277V PANELBOARD. SEE SCHEDULE FOR MOUNTING. TOP OF PANEL AT 6'-6" AFF.
- 480-208Y/120V TRANSFORMER. SEE RISER FOR SIZE. PROVIDE 4" HOUSEKEEPING PAD.
- DUPLEX RECEPTACLE, 15 AMP, 120 VOLT (USE 20 AMP FOR SINGLE RECEPTACLE ON A CIRCUIT.) COOPER 5252, PS 5252, OR EQUAL.

LIGHTING

- LED OR H.I.D. LIGHTING FIXTURE. SEE FIXTURE SCHEDULE.
- IN-GRADE LIGHT. SEE FIXTURE SCHEDULE.
- FLOODLIGHT. SEE FIXTURE SCHEDULE.
- IN-PARAPET STEP LIGHT. SEE FIXTURE SCHEDULE.
- SINGLE POLE SWITCH, 20 AMP, 120/277 VOLT, COOPER 1221, OR EQUAL.

PROJECT NO. 1-4733
MECKLENBURG COUNTY
 STATION: 23+03.06-L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE ENHANCEMENT
 ELECTRICAL SYMBOLS
 AND ABBREVIATIONS



RATIO
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1			3			TOTAL SHEETS
2			4			25

DRAWN BY: BLM DATE: 5/20
 CHECKED BY: BET DATE: 5/20
 DESIGN ENGINEER OF RECORD BLM DATE: 5/20

1. GENERAL:

- A. THE WORK COVERED BY THESE SPECIFICATIONS CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, MATERIALS AND SUPPLIES AS NECESSARY FOR THE COMPLETE AND SATISFACTORY OPERATING ELECTRICAL SYSTEMS AS SHOWN ON THE PLANS.
- B. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NFPA, STATE BUILDING CODE, AND ANY OTHER LOCAL REQUIREMENTS THAT MAY APPLY. CONTRACTOR SHALL PAY FOR ALL REQUIRED PERMITS, FEES, INSPECTIONS, ETC.
- C. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL ELECTRICAL PERMITS AND INSPECTION FEES.
- D. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES, INC. OR BY A STATE APPROVED THIRD PARTY TESTING AGENCY FOR THE USE INTENDED WHERE A STANDARD FOR SUCH MATERIALS AND USE EXISTS. ALL ITEMS OF THE SAME TYPE AND RATING SHALL BE IDENTICAL AND OF THE SAME MANUFACTURER.
- E. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CATALOG DATA IN ELECTRONIC FORMAT (PDF) FOR ALL ELECTRICAL ITEMS IN THE SCOPE OF WORK, INCLUDING, BUT NOT LIMITED TO, RACEWAYS, BOXES, FITTINGS, CONDUCTORS, LUMINAIRES, LAMPS, BALLASTS, WIRING DEVICES, SAFETY SWITCHES, DISCONNECTS, TRANSFORMERS, PANELBOARDS, ETC. FOR APPROVAL AS APPLICABLE FOR THE PROJECT. ONE COMPLETE SET OF APPROVED SUBMITTALS SHALL BE MAINTAINED AT THE JOB SITE.
- F. ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT TO COMPLY WITH THE BASIS OF DESIGN, INCLUDING PROVIDING MAINTENANCE ACCESS, CLEARANCE, CONDUIT, WIRING, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, METHODS, ETC., SHALL BE INCLUDED IN THE ORIGINAL BASE BID. NO ADDITIONAL COSTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT WILL BE APPROVED AFTER BIDS HAVE BEEN ACCEPTED AND ALL COSTS WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. CREDITS SHALL BE GIVEN TO THE OWNER WHERE SUCH EQUIPMENT AND METHODS RESULT IN LESS EXPENSE TO THE CONTRACTOR.
- G. ONE COMPLETE SET OF THE LATEST CONSTRUCTION PLANS OF ALL TRADES SHALL BE MAINTAINED AT THE JOB SITE. IN ADDITION, ALL ADDENDUMS, BULLETINS, AND/OR SKETCHES SHALL BE INCORPORATED INTO THE ON-SITE CONSTRUCTION PLANS AS THE JOB PROGRESSES.
- H. COMPLETELY ADEQUATE HOUSING SHALL BE PROVIDED FOR ALL MATERIALS STORED ON JOB SITE. ALL CONDUIT MAY BE STORED OUTSIDE, BUT NOT IN CONTACT WITH THE GROUND.
- I. THE CONDUIT AND NEUTRAL SYSTEM SHALL BE GROUNDED AT THE MAIN SERVICE EQUIPMENT. GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED PER NEC 250.
- J. PROVIDE AN INTERSYSTEM BONDING TERMINATION DEVICE AT THE MAIN ELECTRICAL SERVICE PER NEC 250.94.
- K. WIRING SHALL BE TESTED FOR CONTINUITY AND GROUNDS BEFORE BEING ENERGIZED. FAULTY WIRING SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- L. PROVIDE ALL CUTTING AND PATCHING FOR INSTALLATION OF WORK AND REPAIR ANY DAMAGE DONE.
- M. THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS (UNLESS OTHERWISE NOTED), EXCEPT FOR CONTROL WIRING FOR EQUIPMENT NOT PROVIDED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING FOR SUCH EQUIPMENT SHALL BE PROVIDED BY THE RESPECTIVE DISCIPLINE.
- N. ALL ELECTRICAL JUNCTION BOXES, CABLING, LOW VOLTAGE CABINETS, ETC. SHALL BE LABELED ACCORDING TO PANEL AND CIRCUIT NUMBER.
- O. UPON COMPLETION OF WORK, CONTRACTOR SHALL PRESENT ENGINEER WITH CERTIFICATE OF APPROVAL FROM LOCAL INSPECTOR AND/OR AUTHORITY HAVING JURISDICTION BEFORE WORK WILL BE APPROVED FOR FINAL PAYMENT.
- P. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR EFFECTIVE THE DATE THE PROJECT IS ACCEPTED BY THE OWNER. ANY IMPERFECT MATERIALS OR WORKMANSHIP SHALL BE REPLACED WITHOUT ADDED COST TO THE PROJECT.
- Q. IT SHALL NOT BE THE INTENT OF ISSUED PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL NECESSARY ITEMS FOR A COMPLETE AND OPERATING SYSTEM.
- R. THE WORD "PROVIDE" MEANS THAT THIS CONTRACTOR SHALL FURNISH, FABRICATE, ERECT, CONNECT, AND COMPLETELY INSTALL SYSTEMS IN PROPER OPERATING CONDITION. ALL LABOR, PRODUCT OPTIONS, ACCESSORIES AND INCIDENTAL MATERIALS REQUIRED SHALL BE INCLUDED AS PART OF THIS WORK TO COMPLETE THE INSTALLATION.
- S. THE WORD "CONNECT" MEANS THAT THIS CONTRACTOR SHALL PROVIDE (SEE DEFINITION ABOVE) ALL DISCONNECTING MEANS, OVERCURRENT PROTECTION AND WIRING REQUIRED TO PLACE THE EQUIPMENT AND SYSTEMS IN PROPER OPERATING CONDITION AND TO COMPLY WITH CODE REQUIREMENTS.
- T. CONTRACTOR SHALL COORDINATE THE ROUGH-IN OF ALL OUTLET LOCATIONS WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS, AND MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
- U. ELECTRICAL CONTRACTOR SHALL NOT SCALE PLANS. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, UNLESS OTHERWISE NOTED.
- V. IF DURING THE COURSE OF WORK, THE CONTRACTOR DISCOVERS A PROBLEM WITH THE PERFORMANCE OF THE INSTALLATION RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC, OR OTHER CODES OR REQUIREMENTS, THE CONTRACTOR SHALL IMMEDIATELY BRING THE PROBLEM TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK.
- W. WHERE THERE ARE CONFLICTS BETWEEN THE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL BRING THE ISSUE TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK OR ORDERING ANY MATERIALS. NO ADDITIONAL COSTS SHALL BE WARRANTED WITHOUT A CHANGE TO THE PROJECT SCOPE.
- X. COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL SERVICE WITH THE POWER COMPANY. WHERE MORE THAN ONE SERVICE IS SUPPLIED TO A BUILDING, PROVIDE IDENTIFICATION AT EACH SERVICE PER NEC 230-2(E).
- Y. EACH BIDDER SHALL VISIT THE JOB SITE PRIOR TO BIDDING TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND TO ASCERTAIN THE EXTENT OF WORK REQUIRED. FAILURE TO VISIT SITE SHALL NOT EXCUSE CONTRACTOR FROM PERFORMING REQUIRED WORK NOR SHALL IT BE AN ACCEPTABLE REASON FOR REQUESTING ADDITIONS TO THE CONTRACT.

2. RACEWAY:

- A. CONDUIT SHALL BE MANUFACTURED BY ALLIED, WHEATLAND, REPUBLIC CONDUIT, WESTERN TUBE, OR APPROVED EQUIVALENT.
- B. CONDUIT SHALL BE ZINC COATED EMT EXCEPT WHERE NOT PERMITTED BY CODE. USE SCHEDULE 40 PVC BELOW CONCRETE SLAB, IN DUCTBANKS, AND FOR EXTERIOR WORK WHERE NOT SUBJECT TO DAMAGE. USE IMC WHERE SUBJECT TO PHYSICAL DAMAGE.
- C. EMT FITTINGS SHALL BE COMPRESSION GLAND TYPE, OF MALLEABLE STEEL. CONNECTORS SHALL HAVE INSULATED THROATS. CAST, SET SCREW, OR INDENTER TYPE FITTINGS ARE NOT ACCEPTABLE. ALL FITTINGS FOR EMT SHALL BE MADE OF STEEL.
- D. ALL RACEWAY SHALL BE RUN CONCEALED, UNLESS OTHERWISE NOTED. FISH ALL NEW OUTLETS IN EXISTING PARAPETS, WHERE POSSIBLE. ALL RUNS SHALL BE NEAT AND SQUARE.
- E. SUPPORT ALL CONDUIT WITH STRAPS AND CLAMPS.
- F. ALL CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES, WHETHER EXPOSED OR NOT AND SUPPORTED FROM STRUCTURE AND PROPERLY SECURED.
- G. WHERE CONDUITS PASS OVER EXPANSION JOINT, PROVIDE GALVANIZED EXPANSION FITTINGS WITH BONDING JUMPERS.
- H. MINIMUM CONDUIT SIZE SHALL BE 3/4" FOR INTERIOR WORK, 1" FOR EXTERIOR WORK.

- I. PROVIDE MINIMUM 210# TEST NYLON PULL CORD AND NYLON BUSHINGS IN ALL EMPTY RACEWAYS.
- J. PROVIDE PULL BOXES, SUCH THAT NO SINGLE CONDUIT RUN HAS BENDS IN EXCESS OF 360°. PULL BOXES SHALL BE SUITABLE AND APPROVED FOR THE INTENDED USE. WHERE CONDUITS PASS UNDER PAVED AREAS, THEY SHALL BE RGS.
- K. ALL CONDUIT BENDS/ELBOWS EMERGING FROM UNDERGROUND SHALL BE IMC AND SHALL EXTEND A MINIMUM OF 18" BELOW GRADE.
- L. ALL UNDERGROUND RACEWAYS SHALL BE THOROUGHLY COATED WITH TWO COATS OF ASPHALTUM BITUMASTIC.
- M. ALL CONDUITS INSTALLED UNDERGROUND OR IN CONCRETE SHALL HAVE JOINTS MADE WATER-TIGHT BY USE OF POLYETRA-FLUOROETHYLENE TAPE.
- N. THE USE OF AC OR NM CABLE IS NOT PERMITTED.

3. OUTLET BOXES:

- A. JUNCTION AND PULL BOXES SHALL BE CODE GAUGE GALVANIZED STEEL. ACCEPTED MANUFACTURERS SHALL BE STEEL CITY (THOMAS & BETTS), RACO, CROUSE-HINDS, APPLETON (EMERSON), OR APPROVED EQUIVALENT.
- B. ATTACH EMT WITH CONNECTORS HAVING INSULATED THROAT.
- C. ALL EXTERIOR BOXES SHALL BE WATER-TIGHT.

4. CONDUCTORS:

- A. CONDUCTORS SHALL BE MANUFACTURED BY SOUTHWIRE (SIMPULL), ENCORE (SUPERSLICK), UNITED COPPER (SLK), CERRO (SLP), OR APPROVED EQUAL, "PRE-LUBRICATED" BY THE MANUFACTURER.
- B. ALL CONDUCTORS SHALL BE COPPER, RATED 75° C WET/DRY EXCEPT WHERE OTHERWISE NOTED OR REQUIRED BY U.L. OR OTHER CODES.
- C. ALL CONDUCTORS SHALL BE SINGLE INSULATED CONDUCTOR, THHN/THWN-2. SIZES #10 AWG AND SMALLER SHALL BE SOLID, SIZES #8 AWG AND LARGER SHALL BE STRANDED.
- D. BRANCH CIRCUITS SHALL NOT BE SMALLER THAN #12 AWG. CONTROL WIRING MAY BE #14 AWG.
- E. CONDUCTORS SHALL BE COLOR CODED BLACK/RED/BLUE FOR 120/208 VOLT SYSTEMS AND BROWN/ORANGE/YELLOW FOR 277/480 VOLT SYSTEMS FOR A, B, AND C PHASES, RESPECTIVELY. NEUTRAL SHALL BE WHITE FOR 120/208 VOLT SYSTEMS AND NATURAL GRAY FOR 277/480 VOLT SYSTEMS. GROUND CONDUCTOR SHALL BE GREEN ON ALL SYSTEMS. ALL CONDUIT SIZES SHALL HAVE COLOR-CODED INSULATION. THE USE OF COLORED TAPE ON LARGER WIRE SIZES SHALL NOT BE ALLOWED.
- F. INSULATION SHALL BE DUAL RATED TYPE THHN/THWN-2 FOR FEEDERS AND BRANCH CIRCUITS. FIXTURE TAPS SHALL BE #12 THHN/THWN-2 IN FLEX WITH GREEN #12 AWG GROUNDING CONDUCTOR.
- G. ALL CONDUCTORS SHALL BE IN CONDUIT.
- H. WIRING TO LIGHTING FIXTURES SHALL BE AS REQUIRED BY UL LABEL.
- I. MULTI-WIRE BRANCH CIRCUITS SHALL NOT BE ALLOWED, UNLESS EXPLICITLY INDICATED ON THE DRAWINGS. WHERE EXPLICITLY INDICATED ON THE DRAWINGS:
 - 1) ALL 20A MULTI-WIRE RECEPTACLE CIRCUITS SHALL UTILIZE A #10 AWG NEUTRAL CONDUCTOR.
 - OR
 - 2) ONLY WHERE PERMITTED UNDER "RACEWAYS", MC CABLE ASSEMBLIES CAN BE AFC "SUPER NEUTRAL" OR EQUAL, UNLESS OTHERWISE INDICATED ON THE DRAWINGS. WHERE MULTI-WIRE BRANCH CIRCUITS ARE EXPLICITLY INDICATED ON THE DRAWINGS, THEY SHALL BE INSTALLED PER NEC 210.4. MEANS SHALL BE PROVIDED TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES IN ADDITION TO OTHER REQUIREMENTS PER NEC 210.4.
- J. JOINTS IN #10 AWG AND SMALLER SHALL BE MADE UP WITH CRIMPED CONNECTORS WITH INSULATING CAPS (NO TAPE) OR WIRENUTS (MAXIMUM OF 3 CONDUCTORS UNDER ANY CONNECTOR OR WIRENUT). LARGER WIRE SHALL USE SPLIT BOLTS OR BOLTED CLAMPS.
- K. ALL WIRING LUGS THROUGHOUT THE PROJECT, INCLUDING, BUT NOT LIMITED TO, BREAKERS, PANELBOARD/SWITCHBOARD LUGS, SAFETY SWITCH LUGS, WIRING DEVICE TERMINALS, AND ALL EQUIPMENT LUGS/TERMINALS SHALL BE RATED FOR USE WITH 75 DEGREE INSULATED CONDUCTORS AT THEIR 75 DEGREE AMPACITY AND SHALL BE SIZED TO MATCH THE CONDUCTOR SIZE.
- L. CIRCUIT JOINTS SHALL NOT BE MADE ON DEVICE TERMINALS.
- M. WIRE WITHIN PANELBOARDS SHALL BE NEATLY TRAINED, SQUARED, BUNCHED, AND TAGGED.
- N. GROUND ALL EQUIPMENT PER NEC ARTICLE 250. BOND WHERE CONDUITS ENTER ENCLOSURES THROUGH CONCENTRIC KNOCKOUTS. ALL FLEX, INCLUDING FIXTURE TAPS, SHALL INCLUDE GREEN GROUNDING CONDUCTOR, #12 AWG MINIMUM. PROVIDE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT, SIZED PER NEC 250-127.
- O. ALL CONDUCTORS INSTALLED IN VERTICAL RACEWAYS SHALL BE SUPPORTED AT INTERVALS AS REQUIRED PER NEC 300-19.
- P. THE ELECTRICAL CONTRACTOR SHALL FOLLOW AND APPLY THE TABLE BELOW, REGARDLESS WHAT THE PANEL SCHEDULE INDICATES, FOR SIZING ALL 120V & 277V, 20 AMP BRANCH CIRCUITS (COPPER CONDUCTORS) TO ALLOW A MAXIMUM OF 3% VOLTAGE DROP FROM THE CIRCUIT BREAKER TO THE FIRST DEVICE ON THE BRANCH CIRCUIT AND ACHIEVE A MAXIMUM OF 5% VOLTAGE DROP ACROSS THE ENTIRE BRANCH CIRCUIT:

VOLTAGE	CONDUCTOR LENGTH *	BRANCH CIRCUIT
120	0' - 50'	#12
120	51' - 90'	#10
120	91' - 140'	#8
120	141' - 225'	#6
208	0' - 125'	#12
208	126' - 200'	#10
208	201' - 330'	#8
208	331' - 525'	#6

* - THE LENGTH IS MEASURED FROM THE CIRCUIT BREAKER TO THE FIRST DEVICE WHICH THE BRANCH CIRCUIT SERVES. WHERE THE DISTANCE EXCEEDS ABOVE, CONSULT WITH THE ENGINEER

5. WIRING DEVICES:

- A. WIRING DEVICES SHALL BE SPECIFICATION GRADE, MINIMUM, EQUAL TO COOPER QUALITY INDICATED BELOW OR AS MANUFACTURED BY HUBBELL, LEGRAND-PASS & SEYMOUR, LEVITON, OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.

- DUPLEX RECEPTACLES SHALL HAVE A NYLON FACE AND SHALL BE AS FOLLOWS:
 - 20 AMP DUPLEX GFCI-TAMPER COOPER TRVGF20F
 - 20 AMP DUPLEX SPD COOPER 5362S
 - 20 AMP DUPLEX CORROSION COOPER 5362CR

THE PART NUMBERS ABOVE ARE FOR WIRING DEVICE TYPE ONLY. SEE BELOW FOR WIRING DEVICE COLOR AND PLATE MATERIAL/COLOR.

- B. MOUNTING HEIGHT ELEVATIONS SHALL COMPLY WITH NEC AND NECA. ALL WIRING DEVICES SHALL BE GRAY, UNLESS OTHERWISE NOTED. ALL COVERS SHALL BE WEATHERPROOF "WHILE-IN-USE" SO PLUGS MAY BE INSTALLED WITHOUT COMPROMISING THE WP FUNCTION. COOPER #WU-2 DOUBLE-GANG WITH CLEAR COVER OR APPROVED EQUAL.
- C. EACH DUPLEX RECEPTACLE INDICATED TO BE ON A DEDICATED CIRCUIT SHALL BE 20 AMP TYPE.
- D. GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI) PROTECTION FOR PERSONNEL SHALL BE PROVIDED IN ALL LOCATIONS PER NEC 210.8. WHERE A DEVICE LOCATION IS NOT ACCESSIBLE, THE GFCI PROTECTION SHALL BE PROVIDED WITH THE BREAKER SERVING THE DEVICE.

THE BREAKER SERVING THE DEVICE.

6. SUPPORTS:

- A. ALL EQUIPMENT SHALL BE ADEQUATELY SUPPORTED FROM STRUCTURE.
- B. INSERTS IN MASONRY SHALL BE LEAD OR FIBER IN DRILLED HOLES, OR CAST IN PLACE.
- C. NAILS OR POWDER ACTUATED FASTENERS SHALL NOT BE USED.
- D. EMT/IMC/RGS SUPPORTS SHALL BE A MAXIMUM OF 8'-0" APART AND A MINIMUM OF 3'-0" FROM BOXES.

7. PAINTING:

- A. SUITABLE FINISH COAT SHALL BE PROVIDED FOR ALL EQUIPMENT. PANEL TUBS, COVERS, ETC. SHALL BE PRIMED AND ENAMELED TO BLEND WITH ADJACENT SURFACES, OR SHALL BE MANUFACTURER'S STANDARD COLOR BAKED ENAMEL FINISH, OR AS DIRECTED BY THE ARCHITECT.

9. LIGHTING FIXTURES:

- A. TYPES AND MANUFACTURERS ARE AS SCHEDULED BY OTHERS. ALL FIXTURES SHALL BE U.L. LISTED AND LABELED.
- B. ALL FIXTURES SHALL BE GROUNDED PER THE NEC.
- C. MOUNT ALL FIXTURES PLUMB AND SQUARE WITH ROWS ALIGNED.
- D. SEE ARCHITECTURAL SITE PLANS FOR EXACT LOCATION OF FIXTURES.

E. LIGHTING CONTROLS:

- F. LIGHTING CONTACTOR SHALL SWITCH LOADS AT THE VOLTAGE AND AMPERE RATING INDICATED AND SHALL HAVE THE NUMBER OF POLES INDICATED ON THE DRAWINGS OR AS REQUIRED. THE CONTACTOR AND CONTACTS SHALL BE CONTINUOUSLY RATED FOR THE LOAD SERVED, INCLUDING TUNGSTEN FILAMENT, INDUCTIVE, AND HIGH-INRUSH BALLAST LOADS.
- G. ALL LIGHTING CONTACTOR SHALL BE ELECTRICALLY HELD AND BE INSTALLED IN A NEMA 1 ENCLOSURE, UNLESS OTHERWISE NOTED.

11. EQUIPMENT IDENTIFICATION:

- A. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL ELECTRICAL EQUIPMENT SUPPLIED FOR THE PROJECT, INCLUDING BUT NOT LIMITED TO, WIRING TROUGHS, SAFETY SWITCHES, DISCONNECTS, TRANSFORMERS, PANELBOARDS, ETC. NAMEPLATE SHALL INDICATE THE DEVICE NAME, SYSTEM VOLTAGE (VOLTAGE/PHASE/WIRE), AND UPSTREAM DEVICE AND CIRCUIT. PROVIDE NAMEPLATES FOR CIRCUIT BREAKERS IN SWITCHGEARS, SWITCHBOARDS AND DISTRIBUTION PANELS.
- B. NAMEPLATE COLORS SHALL BE AS FOLLOWS:
 - 120/208V EQUIPMENT BLUE SURFACE WITH WHITE CORE
 - 277/480V EQUIPMENT BLACK SURFACE WITH WHITE CORE
- C. NAMEPLATES UP TO 8 SQUARE INCHES SHALL NOT BE LESS THAN 1/16" THICK. NAMEPLATES LARGER THAN 8 SQUARE INCHES SHALL NOT BE LESS THAN 1/8" THICK.
- D. LETTERING HEIGHT SHALL BE 1/2" MINIMUM.
- E. NAMEPLATES SHALL BE ATTACHED WITH SELF-DRILLING/SELF-TAPPING SCREWS, EXCEPT RIVETS SHALL BE USED WHERE END OF SCREW IS NOT PROTECTED. QUANTITY AS FOLLOWS:
 - UP TO 5 SQUARE INCHES: 2 SCREWS.
 - 5 TO 12 SQUARE INCHES: 4 SCREWS.
 - ABOVE 12 SQUARE INCHES: 6 SCREWS.

13. PANELBOARDS:

- A. PANELBOARDS SHALL BE PROVIDED AS MANUFACTURED BY EATON, SQUARE-D, GENERAL ELECTRIC, OR APPROVED EQUAL. ALL NEW EQUIPMENT FOR THE PROJECT SHALL BE BY THE SAME MANUFACTURER.
- B. ALL BUSSING, INCLUDING NEUTRAL AND GROUND, SHALL BE COPPER.
- C. ALL BREAKERS SHALL BE AUTOMATIC THERMAL-MAGNETIC TYPE MOLDED CASE BOLT-ON TYPE, CALIBRATED FOR 40 DEGREE C, OR AMBIENT COMPENSATION, UNLESS OTHERWISE NOTED.
- D. PANELS SHALL BE FULLY RATED (AIC), NO SERIES AIC RATINGS ARE ALLOWED.
- E. PANELS SHALL HAVE FULL SIZE EQUIPMENT GROUNDING BARS AND NEUTRAL BARS, EXCEPT WHERE INDICATED TO BE 200%.
- F. ALL PANELBOARD AND BREAKER LUGS SHALL BE SIZED AND RATED PER THE CONDUCTOR SIZE AND MATERIAL.
- G. LIGHTING AND APPLIANCE PANELS (100A-600A) SHALL HAVE FRONT ACCESSIBLE HINGED COVERS WITH DEAD FRONT, SHALL BE 20" WIDE MINIMUM WITH MINIMUM 4" WIDE WIRING GUTTERS.
- H. GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI) PROTECTION FOR PERSONNEL SHALL BE PROVIDED IN ALL LOCATIONS PER NEC 210.8. WHERE A DEVICE LOCATION IS NOT ACCESSIBLE, THE GFCI PROTECTION SHALL BE PROVIDED WITH THE BREAKER SERVING THE DEVICE.

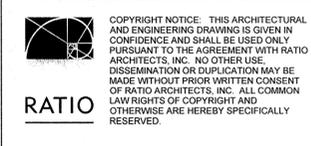
PROJECT QUANTITIES				
ITEM	QUANTITY	LENGTH	REMARKS	
PANEL 100A, 120/208V, 3 PHASE	1 EA			
CIRCUIT BREAKERS	11, 20A, 1P			
	4, 20A, 2P			
LIGHTING CONTACTOR W/WEATHERTIGHT ENCL	1EA			
CONDUIT-3/4"		1950 FEET		
CONDUIT-1"		220 FEET		
CONDUIT-1 1/4"		1425 FEET		
CONDUIT-1 1/2"		550 FEET		
CONDUIT 2-1/2"		300 FEET		
#3/0 COPPER CONDUCTORS		1200 FEET		
#10 COPPER CONDUCTORS		4350 FEET		
#6 COPPER CONDUCTORS		4220 FEET		
PHOTOCCELL	1			
TEST WELL ENCLOSURE	1			
EXPANSION JOINTS	24			
L3	36			LIGHT FIXTURES
L3A	4			LIGHT FIXTURES
L4	44			LIGHT FIXTURES
L5	2			LIGHT FIXTURES

NOTE: THESE QUANTITIES ARE PRELIMINARY ESTIMATES, SEE PLANS FOR LENGTHS OF CIRCUITS, CONDUIT SIZES, CONDUCTOR SIZES, ETC...

PROJECT NO. 1-4733
MECKLENBURG COUNTY
 STATION: 23+03.06-L-



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE ENHANCEMENT
 ELECTRICAL NOTES

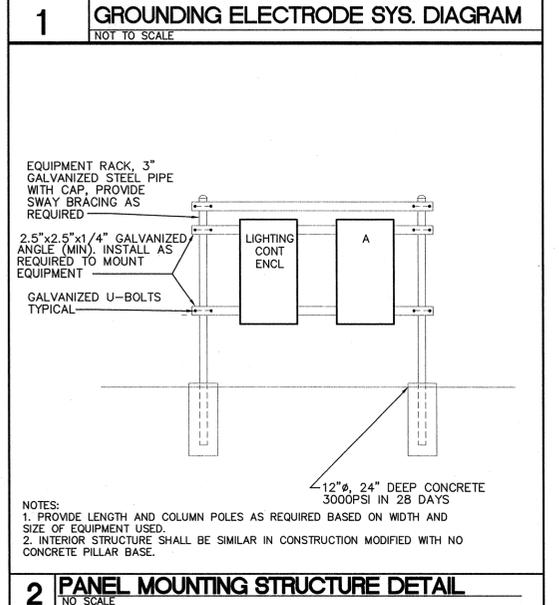
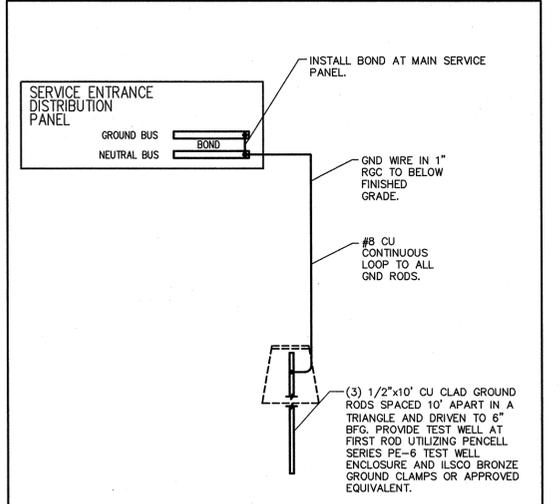
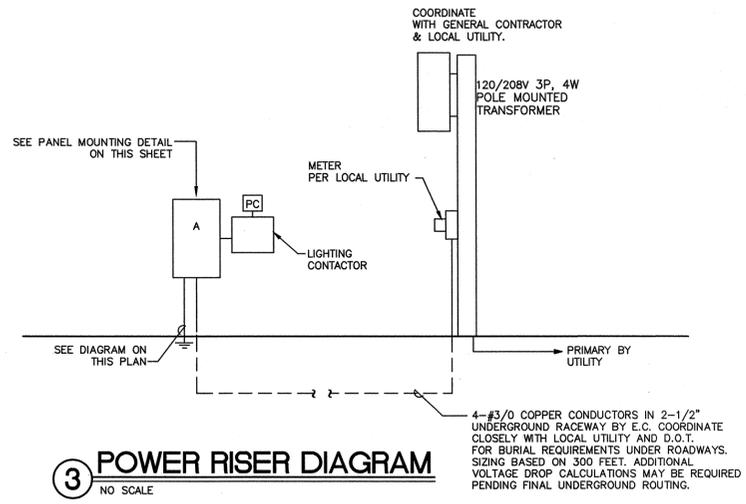


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A-18
1			3			TOTAL SHEETS
2			4			25

DRAWN BY: BLM DATE: 5/20
 CHECKED BY: BET DATE: 5/20
 DESIGN ENGINEER OF RECORD: BLM DATE: 5/20

PANEL: A														MFGR
VOLTAGE: 120 / 208		3 PHASE			4 WIRE			TYPE						
MOUNTING: SURFACE		100 AMP			MAIN CIRCUIT BREAKER			65,000 AC						
LOAD KVA	LOAD SERVED	WIRE	TRIP	CKT NO	A	B	C	CKT NO	TRIP	WIRE	LOAD SERVED	LOAD KVA		
SPARE			20	1				2	20	10	LIGHTING *	1.30		
SPARE			20	3				4				1.30		
FUTURE RECEPT		6	20	5				6	20	10	LIGHTING *	1.30		
FUTURE RECEPT		6	20	7				8				1.30		
SPARE			20	9				10	20	10	LIGHTING *	1.30		
SPARE			20	11				12				1.30		
SPARE			20	13				14	20	10	LIGHTING *	0.00		
SPARE			20	15				16				0.00		
SPARE			20	17				18	20	6	LIGHTING *	1.20		
SPARE			20	19				20						
SPACE ONLY				21				22			SPACE ONLY			
SPACE ONLY				23				24			SPACE ONLY			
SPACE ONLY				25				26			SPACE ONLY			
SPACE ONLY				27				28			SPACE ONLY			
SPACE ONLY				29				30			SPACE ONLY			
				31				32						
				33				34						
				35				36						
				37				38						
				39				40						
				41				42						
SUB-TOTALS												9.0		
LOAD	KVA	TOTAL LOAD PER PHASE		CONNECTED		DEMAND								
LIGHTS	9.0	A = 2.6 KVA	21.7 A	A = 2.6 KVA	21.7 A									
HEATING	0.0	B = 2.6 KVA	21.7 A	B = 2.6 KVA	21.7 A									
COOLING	0.0	C = 3.8 KVA	31.6 A	C = 3.8 KVA	31.6 A									
VENTILATION	0.0			DEMAND @ 125%										
MOTORS	0.0	A = 3.3 KVA	27.1 A	A = 3.3 KVA	27.1 A									
KITCHEN	0.0	B = 3.3 KVA	27.1 A	B = 3.3 KVA	27.1 A									
RECEPTACLES	0.0	C = 4.8 KVA	39.6 A	C = 4.8 KVA	39.6 A									
WATER HEATER	0.0													
MISC.	0.0													
SPARE	0.0													
TOTAL (CONNECTED)	9.0													
TOTAL (DEMAND)	9.0													

- NOTES:
- BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING
 - THIS PANEL SHALL BE U.L. LISTED FOR USE AS S.E. EQUIP.
 - ALL BUSSING, INCL. GND AND NEUTRAL, SHALL BE COPPER.
 - NEMA 3R CONSTRUCTION
 - PROVIDE METAL DIRECTORY FRAME
 - * - DENOTES VIA 12-POLE LIGHTING CONTACTOR CONTROLLED VIA NORTH FACING PHOTOCELL



BASIS OF DESIGN

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	LAMPS	TOTAL FIXTURE WATTAGE	BALLASTS	VOLTAGE	MANUFACTURER	DETAILS
L3	WET LOCATION CERAMIC METAL HALIDE - IN-GRADE ADJUSTABLE UPLIGHT - RECTILINEAR DISTRIBUTION	PHILIPS CDM70/T6/830	90W	ELECTRONIC BALLAST, PULSE START	UNIV	HYDREL: PDX7-SS-70CMT6-208-NSP-FLC/MOD-LINEAR-34S-GEB	CONTRACTOR TO COORDINATE DIMENSIONS WITH CONCRETE PARTITION PRIOR TO ORDERING.
L3A	WET LOCATION CERAMIC METAL HALIDE - IN-GRADE ADJUSTABLE UPLIGHT - SPOT DISTRIBUTION	PHILIPS CDM70/T6/830	90W	ELECTRONIC BALLAST, PULSE START	UNIV	HYDREL: PDX7-SS-70CMT6-208-NSP-FLC-34S-LPI-GEB	CONTRACTOR TO COORDINATE DIMENSIONS WITH CONCRETE PARTITION PRIOR TO ORDERING.
L4	WET LOCATION RECESSED IN-WALL LED STEPLIGHT	10.8W LED SUPPLIED WITH FIXTURE	10.8W	LED DRIVER	UNIV	KIM LIGHTING: EL807-9L3KUV	CONTRACTOR TO COORDINATE DIMENSIONS WITH CONCRETE PARTITION PRIOR TO ORDERING.
L5	WET LOCATION INDUCTION MARKER / BEACON LIGHT	ALLOW 85W INDUCTION	85W	HIGH POWER FACTOR PULSE START MULTI-TAP	UNIV	HOLOPHANE: P3L-85WQL-525-UN	MODIFY IF REQUIRED TO MAINTAIN UL LISTING INVERTED POSITION. WET LOCATION LABEL
L6	OWNER PROVIDED AND INSTALLED POLE MOUNTED LIGHTING FIXTURE	150W MH	150W	HPF	120V	TO BE PROVIDED AND INSTALLED BY OWNER	THIS FIXTURE IS A TOWN OF CORNELIUS STANDARD FIXTURE. E.C. IS TO STUB UP CONDUIT AND PULL CONDUCTORS FOR FIXTURE TO BE INSTALLED BY OTHERS.

PROJECT NO. 1-4733
MECKLENBURG COUNTY
 STATION: 23+03.06-L-



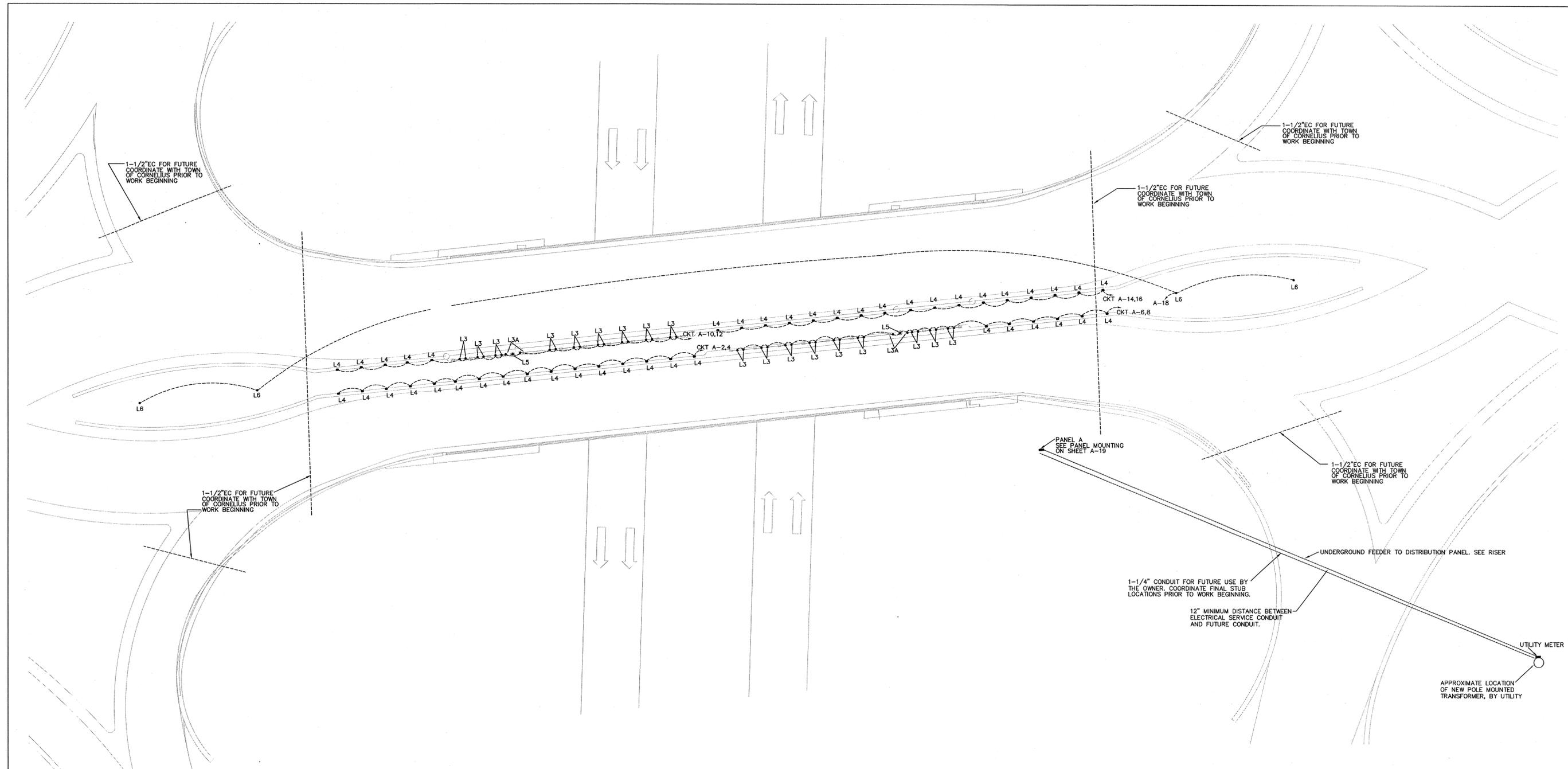
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE ENHANCEMENT
 ELECTRICAL DETAILS

DRAWN BY: BLM DATE: 5/20
 CHECKED BY: BET DATE: 5/20
 DESIGN ENGINEER OF RECORD: BLM DATE: 5/20



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A-19
1			3			TOTAL SHEETS
2			4			25



PROJECT NO. 1-4733
MECKLENBURG COUNTY
 STATION: 23+03.06-L-

- NOTES:
1. SEE SPECIAL PROVISIONS FOR LIGHT FIXTURE SPECIFICATIONS.
 2. SHARED NEUTRALS ARE NOT ALLOWED.
 3. THIS PLAN IS DIAGRAMMATIC TO SHOW CIRCUITING, SEE SHEET A-21 FOR CONDUIT ROUTING AND JUNCTION BOX PLACEMENT.
 4. E.C. IS TO REFER TO STRUCTURAL PLANS FOR DIMENSIONED LOCATIONS OF LIGHT FIXTURES.
 5. THE INTENT OF FIXTURE TYPE "L4" SPACING IS 10' ON CENTER FOR BOTH THE STRUCTURAL PLANS AND THE ROADWAY PLANS.
 6. ALL CONDUIT STUBS ARE TO BE FLAGGED OR MARKED SO THAT THEY CAN BE LOCATED BY OTHERS.

1 SITE PLAN - ELECTRICAL
 1" = 20'-0"

DRAWN BY: BLM DATE: 5/20
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 DESIGN ENGINEER OF RECORD BLM DATE: 5/20

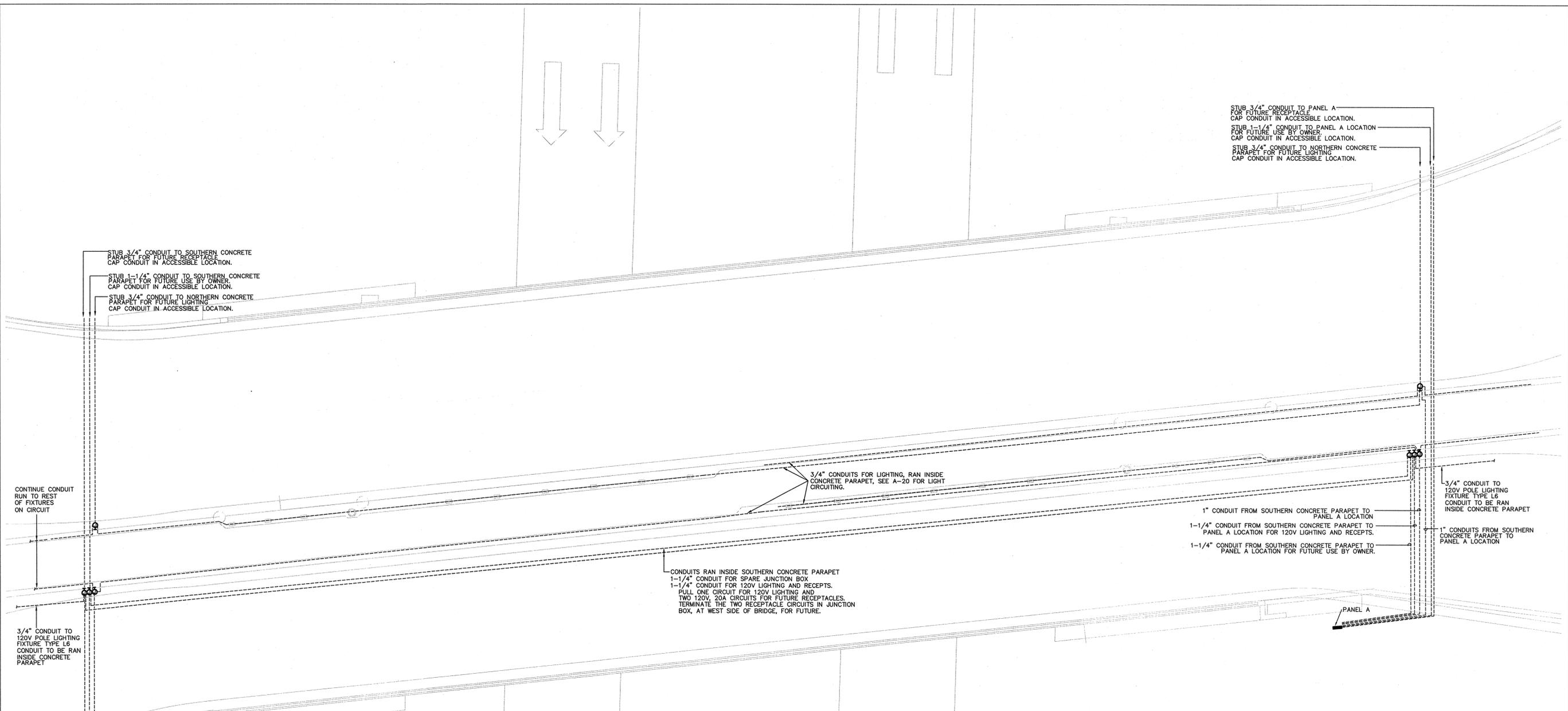


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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE ENHANCEMENT
 ELECTRICAL SITE PLAN

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A-20
1			3			TOTAL SHEETS
2			4			25



- NOTES:
1. ALL WEATHERTIGHT JUNCTION BOXES SHOWN ARE TO BE FLUSH MOUNTED IN CONCRETE PARAPET WITH COVER ON THE TRAFFIC SIDE.
 2. THE E.C. IS TO REVIEW CONDUIT RUNS PRIOR TO WORK BEGINNING TO ENSURE THE NUMBER OF BENDS DOES NOT EXCEED NEC ALLOWANCE.
 3. JUNCTION BOXES ARE TO BE SIZED PER NUMBER OF CONDUITS ENTERING AND THE SIZE AND NUMBER OF CONDUCTORS.
 4. CONDUIT RUNS THAT CROSS THE BRIDGE THROUGH THE CONCRETE PARAPETS WILL REQUIRE EXPANSION JOINTS. EACH PARAPET HAS FOUR EXPANSION JOINTS.
 5. ALL EMPTY CONDUITS ARE TO HAVE PULL STRINGS. E.C. IS TO TEST ALL PULL STRINGS TO ENSURE THAT CONDUIT IS CLEAR OF ANY OBSTRUCTION PRIOR TO COMPLETION OF PROJECT.
 6. CONDUITS NOTED AS FUTURE USE BY OWNER IS NOT TO BE USED FOR ANY REASON AND TO BE LEFT EMPTY.

1 SITE PLAN - ELECTRICAL RACEWAYS

1" = 10'-0"

PROJECT NO. 1-4733
MECKLENBURG COUNTY
 STATION: 23+03.06-L-



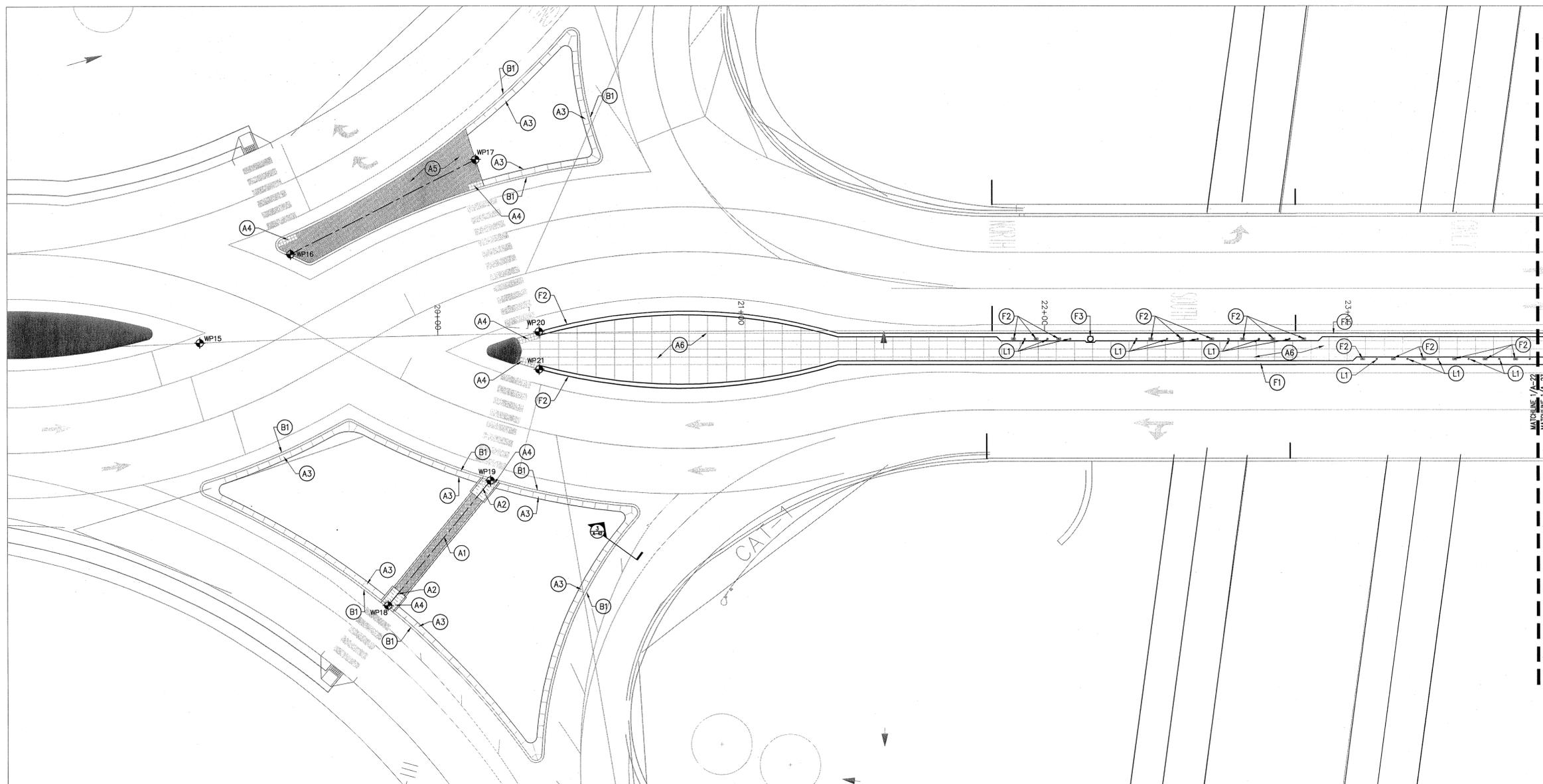
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 BRIDGE ENHANCEMENT
 ELECTRICAL RACEWAY
 PLAN

DRAWN BY: BLM DATE: 5/20
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A-21
1			3			TOTAL SHEETS
2			4			25



1 SITE FEATURES PLAN
A-22
1"=20'-0"

SITE FEATURES NOTES:

NOTED ON PLAN AS: (X) -

SURFACES

- A1. BRICK PAVERS WITH GRANITE EDGING, SEE DETAIL 2/A-25
- A2. GRANITE PAVERS, SEE DETAIL 1/A-25
- A3. C.I.P. PERIMETER COLORED CONCRETE EDGING, SEE DETAIL 3/A-25
- A4. GRANITE DETECTABLE WARNING PAVER, SEE DETAIL 5/A-25
- A5. BRICK PAVERS, SEE DETAIL 6/A-25
- A6. COLORED CONCRETE PAVEMENT 7/A-25

CURBS AND EDGES

- B1. CURB, INCLUDED AS PART OF DOT PROJECT

LIGHTING

- L1. CABLE UPLIGHT, SEE LIGHTING/ELECTRICAL SHEETS

SITE FEATURES

- F1. PEDESTRIAN BARRIER RAIL, SEE ARCH. SHEETS
- F2. CABLE CONNECTION PLATE, SEE STRUCTURAL SHEETS
- F3. MAST ARM, SEE STRUCTURAL SHEETS

SITE UTILITIES - SHOWN FOR REFERENCE ONLY.
SEE APPROPRIATE SHEETS FOR PLANS AND DETAILS

ISLAND AND MEDIAN BETTERMENTS BEGIN AT BACK OF CURB, ALL CURB WORK IS INCLUDED IN DOT PROJECT. KEYNOTE LIST APPEARS ON MULTIPLE SHEETS, NOT ALL KEYNOTES APPEAR ON EACH SHEET
SITE LAYOUT DRAWINGS AVAILABLE AS CAD DRAWINGS UPON REQUEST

WORKPOINT	STATION	OFFSET
WP15	19+2.5	0'-0"
WP16	19+55.73	30'-4" (LEFT)
WP17	20+12.11	59'-3 1/4" (LEFT)
WP18	19+79.53	89'-0" (RIGHT)
WP19	20+17.08	47'-10 3/4" (RIGHT)
WP20	20+30.08	2'-3" (LEFT)
WP21	20+30.08	10'-3" (RIGHT)

PROJECT NO. 1-4733
MECKLENBURG COUNTY
STATION: 23+03.06-L-

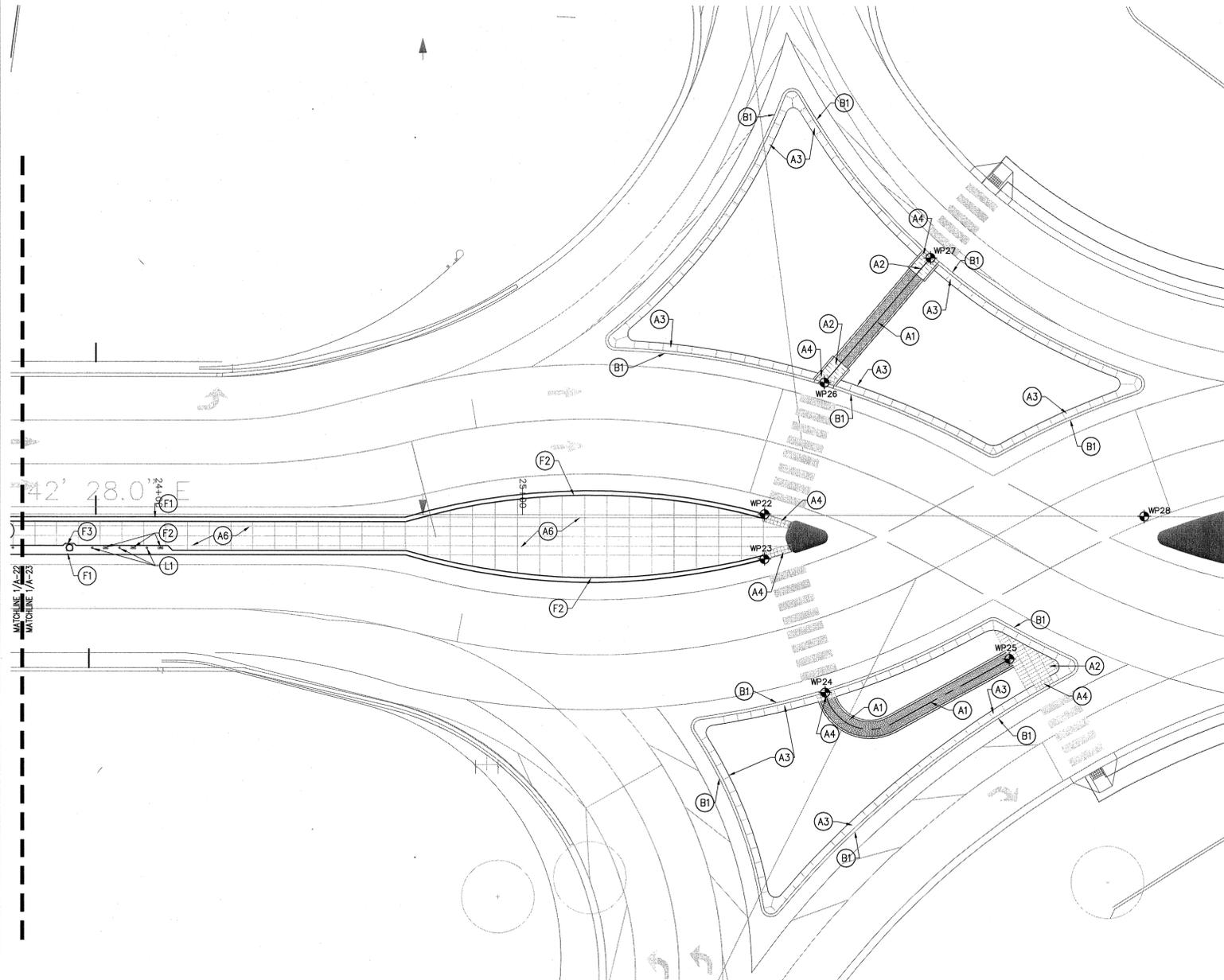


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
BRIDGE ENHANCEMENT
NC73 OVER I-77
CORNELIUS DDI
LANDSCAPE PLANS

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A-22
1			3			TOTAL SHEETS
2			4			25

DATE: 05/20
DRAWN BY: BD, LE
CHECKED BY: JS
DESIGN ARCH OF RECORD: BB



1 SITE FEATURES PLAN
A-23
1"=20'-0"
0 10' 20' 40'

SITE FEATURES NOTES:

NOTED ON PLAN AS: (X) →

- SURFACES**
- A1. BRICK PAVERS WITH GRANITE EDGING, SEE DETAIL 2/A-25
 - A2. GRANITE PAVERS, SEE DETAIL 1/A-25
 - A3. C.I.P. PERIMETER COLORED CONCRETE EDGING, SEE DETAIL 3/A-25
 - A4. GRANITE DETECTABLE WARNING PAVER, SEE DETAIL 5/A-25
 - A5. BRICK PAVERS, SEE DETAIL 6/A-25
 - A6. COLORED CONCRETE PAVEMENT 7/A-25

- CURBS AND EDGES**
- B1. CURB, INCLUDED AS PART OF DOT PROJECT

- LIGHTING**
- L1. CABLE UPLIGHT, SEE LIGHTING/ELECTRICAL SHEETS

- SITE FEATURES**
- F1. PEDESTRIAN BARRIER RAIL, SEE ARCH. SHEETS
 - F2. CABLE CONNECTION PLATE, SEE STRUCTURAL SHEETS
 - F3. MAST ARM, SEE STRUCTURAL SHEETS
- SITE UTILITIES** - SHOWN FOR REFERENCE ONLY.
SEE APPROPRIATE SHEETS FOR PLANS AND DETAILS
- ISLAND AND MEDIAN BETTERMENTS BEGIN AT BACK OF CURB, ALL CURB WORK IS INCLUDED IN DOT PROJECT. KEYNOTE LIST APPEARS ON MULTIPLE SHEETS, NOT ALL KEYNOTES APPEAR ON EACH SHEET
SITE LAYOUT DRAWINGS AVAILABLE AS CAD DRAWINGS UPON REQUEST

WORKPOINT	STATION	OFFSET
WP22	25+68.89	1'-0" (LEFT)
WP23	25+68.89	11'-6" (RIGHT)
WP24	25+83.21	48'-6 3/4" (RIGHT)
WP25	26+33.85	39'-2 3/4" (RIGHT)
WP26	25+82.99	36'-8 1/4" (LEFT)
WP27	26+2.14	70'-9" (LEFT)
WP28	26+70.98	0'-0"

DRAWN BY: BD, LE DATE: 05/20
CHECKED BY: JS DATE: 05/20
DESIGN_ARCH_OF_RECORD_BB DATE: 05/20

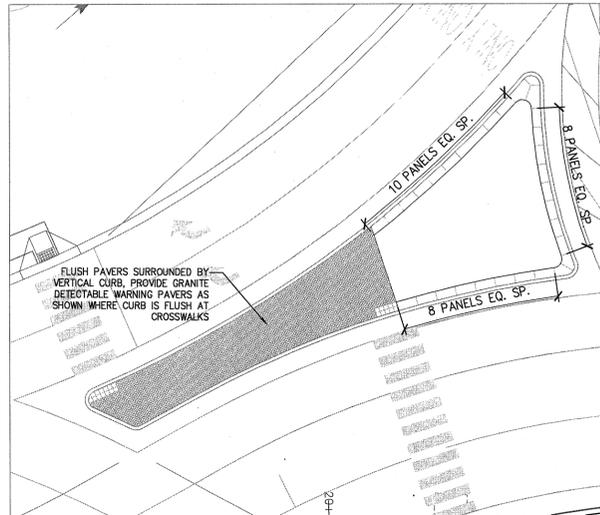
PROJECT NO. I-4733
MECKLENBURG COUNTY
STATION: 23+03.06-L-



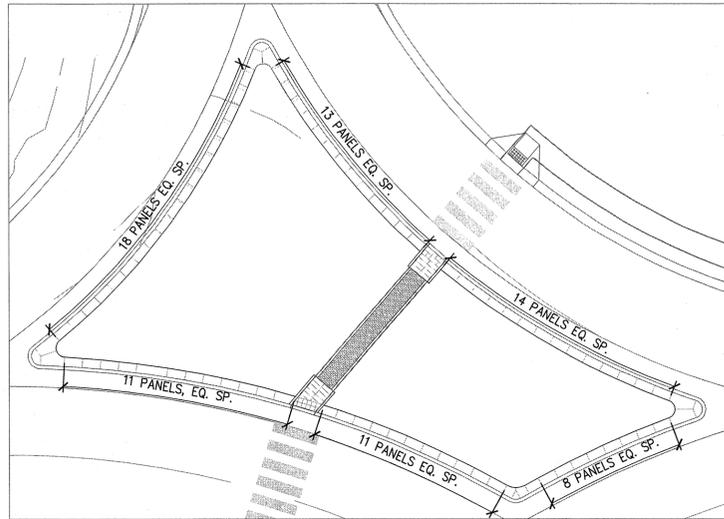
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DEPARTMENT OF TRANSPORTATION
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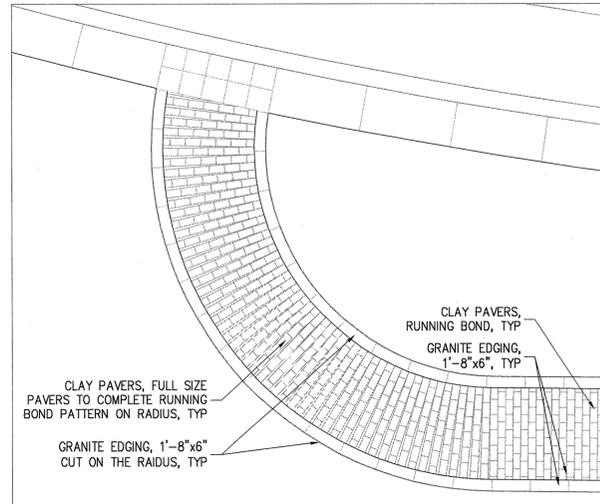
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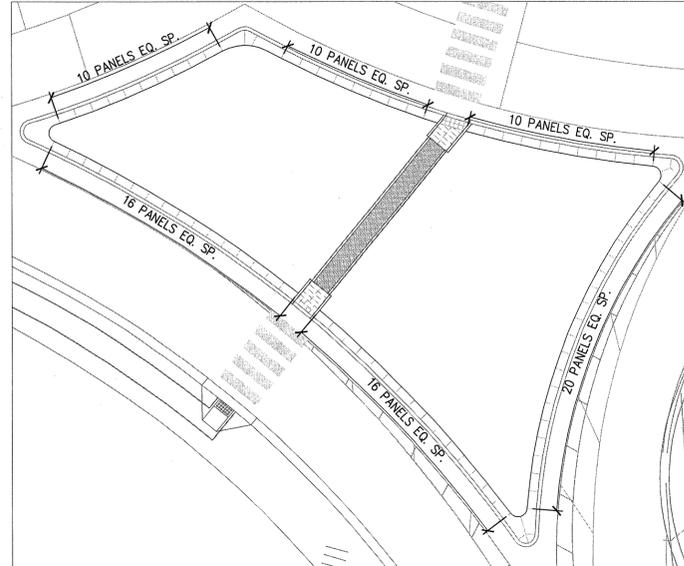
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A-24
PAVEMENT PLAN - NW PEDESTRIAN REFUGE ISLAND
1"=20'-0"



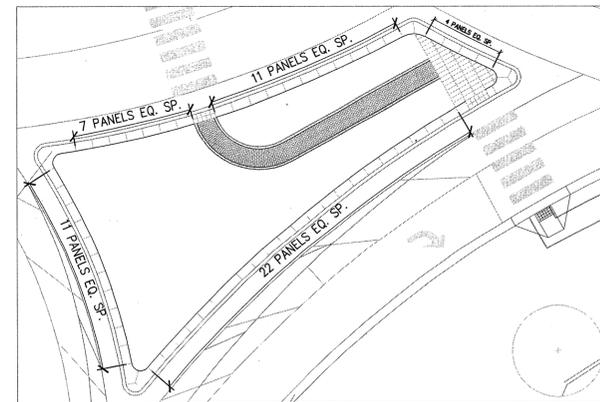
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A-24
PAVEMENT PLAN - NE PEDESTRIAN REFUGE ISLAND
1"=20'-0"



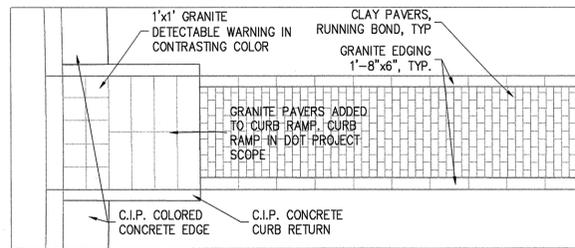
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A-24
PAVEMENT PLAN - SE ISLAND ENLARGEMENT
1/4"=1'-0"



4
A-24
PAVEMENT PLAN - SW PEDESTRIAN REFUGE ISLAND
1"=20'-0"



5
A-24
PAVEMENT PLAN - SE PEDESTRIAN REFUGE ISLAND
1"=20'-0"



6
A-24
CLAY PAVER & GRANITE WARNING ENLARGEMENT - ROTATED
1/4"=1'-0"

PROJECT NO. 1-4733
MECKLENBURG COUNTY
 STATION: 23+03.06-L-



05.20.2013

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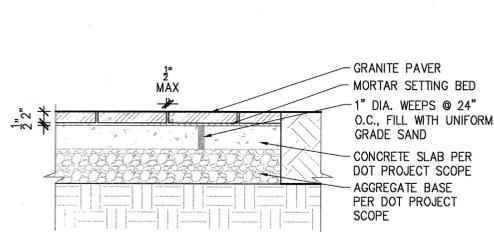


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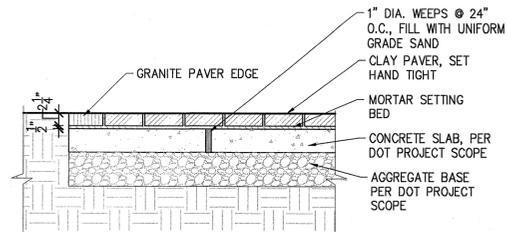
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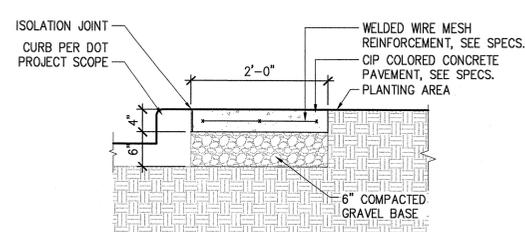
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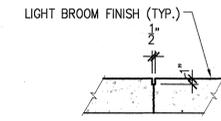
1
A-25
GRANITE PAVERS
3/4"=1'-0"



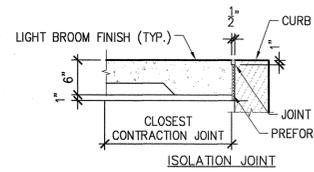
2
A-25
BRICK PAVERS W/ GRANITE EDGE
3/4"=1'-0"



3
A-25
C.I.P. PERIMETER COLORED CONCRETE EDGING
3/4"=1'-0"

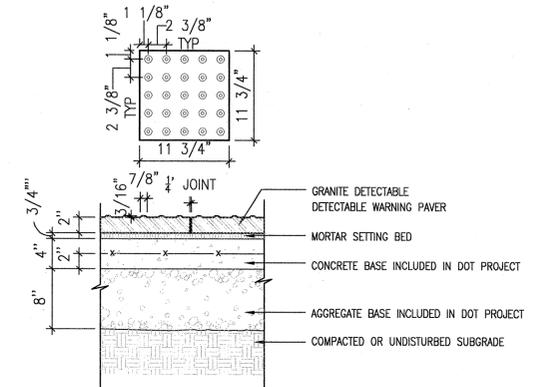


CONTRACTION JOINT

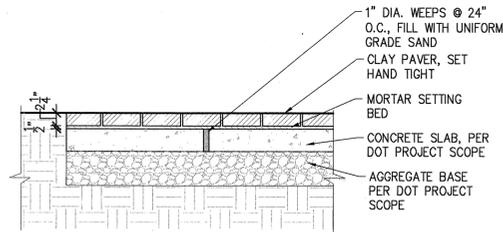


4
A-25
C.I.P. CONCRETE JOINTS
3/4"=1'-0"

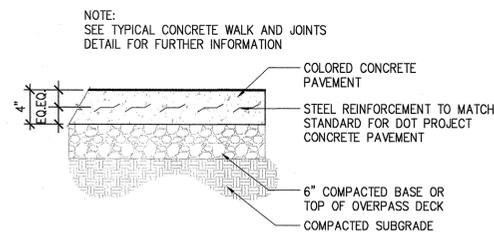
NOTE:
DO NOT RETRACE JOINTS AFTER
BROOM FINISH.



5
A-25
GRANITE DETECTABLE WARNING PAVER
1"=1'-0"

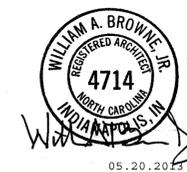


6
A-25
BRICK PAVERS
3/4"=1'-0"



7
A-25
COLORED CONCRETE PAVEMENT
3/4"=1'-0"

PROJECT NO. I-4733
MECKLENBURG COUNTY
STATION: 23+03.06-L-



05.20.2015



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