

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

NOTES

- ⚠ AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC EQUIRMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "C"
- ⚠ INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
- ⚠ LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
- ⚠ LOCATE PROPOSED CONTROL SYSTEM IN AN AREA ACCESSIBLE FOR MAINTENANCE VEHICLES AND OUTSIDE OF CLEAR ZONE AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE.
- ⚠ TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.
- ⚠ TYPE PC30 JUNCTION BOXES ARE 30" L X 17" W X 18" H.
- ⚠ TYPE PC36 JUNCTION BOXES ARE 36" L X 24" W X 18" H.
- ⚠ FOR GUARDRAIL INSTALLATION SEE ROADWAY PLANS

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' AND 60' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

- 2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE
- 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING
- FATIGUE CATEGORY II SHALL BE USED IN DESIGN
- DESIGN HIGH MOUNT SUPPORT FOR BASIC WIND SPEED SHOWN IN AASHTO (110 MPH)
- DESIGN HIGH MOUNT STANDARD FOUNDATION FOR BASIC WIND SPEED OF 130 MPH. ANY CONTRACTOR-DESIGNED SITE SPECIFIC FOUNDATION DESIGN SHALL BE DESIGNED FOR THE SAME WIND SPEED
- 2008 NATIONAL ELECTRICAL CODE
- 2002 AASHTO ROADSIDE DESIGN GUIDE

ROADWAY STANDARDS

THE FOLLOWING ROADWAY ENGLISH STANDARDS AS APPEAR IN "NCDOT ROADWAY STANDARD DRAWINGS", ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	TITLE
1401.01	HIGH MOUNT STANDARD
1402.01	HIGH MOUNT FOUNDATION
1403.01	HIGH MOUNT LUMINAIRES
1407.01	ELECTRIC SERVICE POLE AND LATERAL
1408.01	LIGHT CONTROL SYSTEM (USE ATTACHED DETAIL SHEET 1408D01 IN LIEU OF STANDARD DRAWING 1408.01 SHEET 2)
1409.01	ELECTRICAL DUCT
1410.01	FEEDER CIRCUITS
1411.01	ELECTRICAL JUNCTION BOXES

ALL WORK SHALL BE IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JULY 2006.

LEGEND

- ⬡ PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- ⬡ PROPOSED 60' HIGH MAST STANDARD W/ HM FOUNDATION & (4) HM LUMINAIRES 400W HPS, MEDIUM, CUTOFF, TYPE V
- ⬡ PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E4
- JB1 PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- ⚠ REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- ⚠ PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET
- ⚠ PROPOSED SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 2" CONDUIT
- ⚠ PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE C, THIS SHEET

2", 3" OR 4" ELEC. DUCT JA & BD

CS "A"
HONETCUTT RD./NC210 INTERCHANGE, SW QUAD

NUMBER	LOCATION	TYPE	SHEET
JB1	31+33 -Y2RPA- 40' LT	PC30	E2
JB2	88+52 -L- 95' LT	PC18	E3
JB3	25+85 -Y2RPA- 38' LT	PC18	E3
JB4	92+75 -L- 90' LT	PC18	E3
JB5	82+50 -L- 105' LT	PC30	E2
JB6	81+24 -L- 78' LT	PC30	E2
JB7	79+18 -L- 78' LT	PC30	E2
JB8	76+55 -L- 87' LT	PC18	E2
JB9	77+74 -L- 97' RT	PC18	E2
JB10	28+38 -Y2- 95' LT	PC18	E2
JB11	26+02 -Y2- 112' LT	PC18	E2
JB12	73+85 -L- 72' LT	PC18	E2
JB13	12+75 -Y2LPC- 35' LT	PC18	E2
JB14	12+75 -Y2LPC- 35' RT	PC18	E2
JB15	69+30 -L- 120' RT	PC18	E2
JB16	68+78 -L- 86' RT	PC18	E2
JB17	66+8 -L- 80' RT	PC18	E2
JB18	64+05 -L- 95' RT	PC18	E2
TOTALS		14	4

CS "A"
HONETCUTT RD./NC210 INTERCHANGE, SW QUAD

LOCATION	RACEWAY	SHEET	TYPE					
			JACKED (JA) FEET		BURIED (BD) FEET			
			SIZE 3"	SIZE 4"	SIZE 2"	SIZE 3"	SIZE 4"	SIZE 6"
31+33 -Y2RPA-	CS "A" - JB1	E2						60
31+33 -Y2RPA-		E2				80		
26+10 -Y2-	JB8 - JB9	E2					160	
26+10 -Y2-		E2			180			
12+75 -Y2LPC-		E2				50		
TOTALS					180	130	160	60

PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM
8	2#8 Ø 1 #10G 1.5" P	2 - 8 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*8	2#8 Ø 1 #10G	2 - 8 W/G FEEDER CIRCUIT
6	2#6 Ø 1 #8G 1.5" P	2 - 6 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*6	2#6 Ø 1 #8G	2 - 6 W/G FEEDER CIRCUIT
4	2#4 Ø 1 #6G 1.5" P	2 - 4 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*4	2#4 Ø 1 #6G	2 - 4 W/G FEEDER CIRCUIT
2	2#2 Ø 1 #4G 1.5" P	2 - 2 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*2	2#2 Ø 1 #4G	2 - 2 W/G FEEDER CIRCUIT

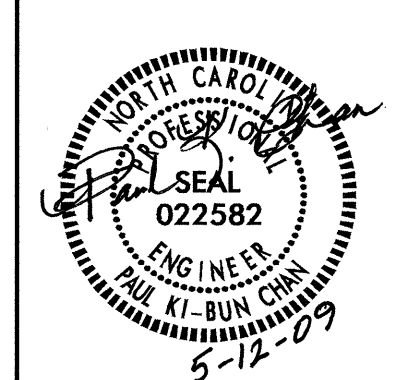
ABBREVIATIONS

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
		HM	HIGH MAST

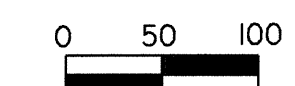
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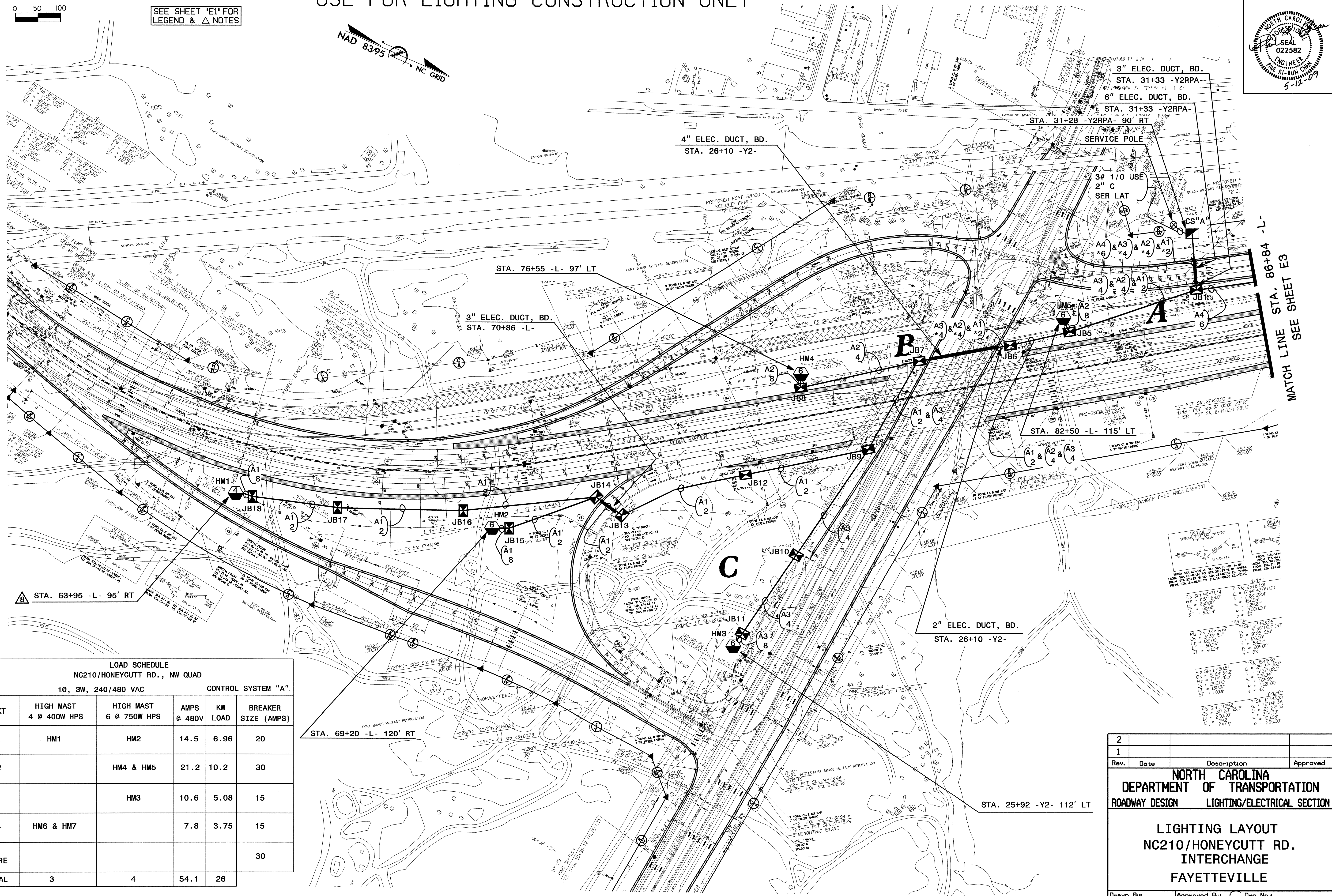
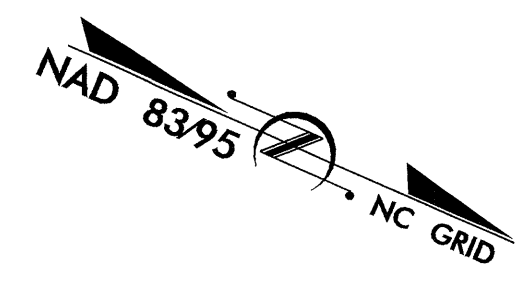
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USE FOR LIGHTING CONSTRUCTION ONLY



SEE SHEET 'E1' FOR LEGEND & Δ NOTES



LOAD SCHEDULE
NC210/HONEYCUTT RD., NW QUAD
1Ø, 3W, 240/480 VAC CONTROL SYSTEM "A"

CKT	HIGH MAST 4 @ 400W HPS	HIGH MAST 6 @ 750W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	HM1	HM2	14.5	6.96	20
A2		HM4 & HM5	21.2	10.2	30
A3		HM3	10.6	5.08	15
A4	HM6 & HM7		7.8	3.75	15
SPARE					30
TOTAL	3	4	54.1	26	

Rev.	Date	Description	Approved
2			
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NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

LIGHTING LAYOUT
NC210/HONEYCUTT RD.
INTERCHANGE
FAYETTEVILLE

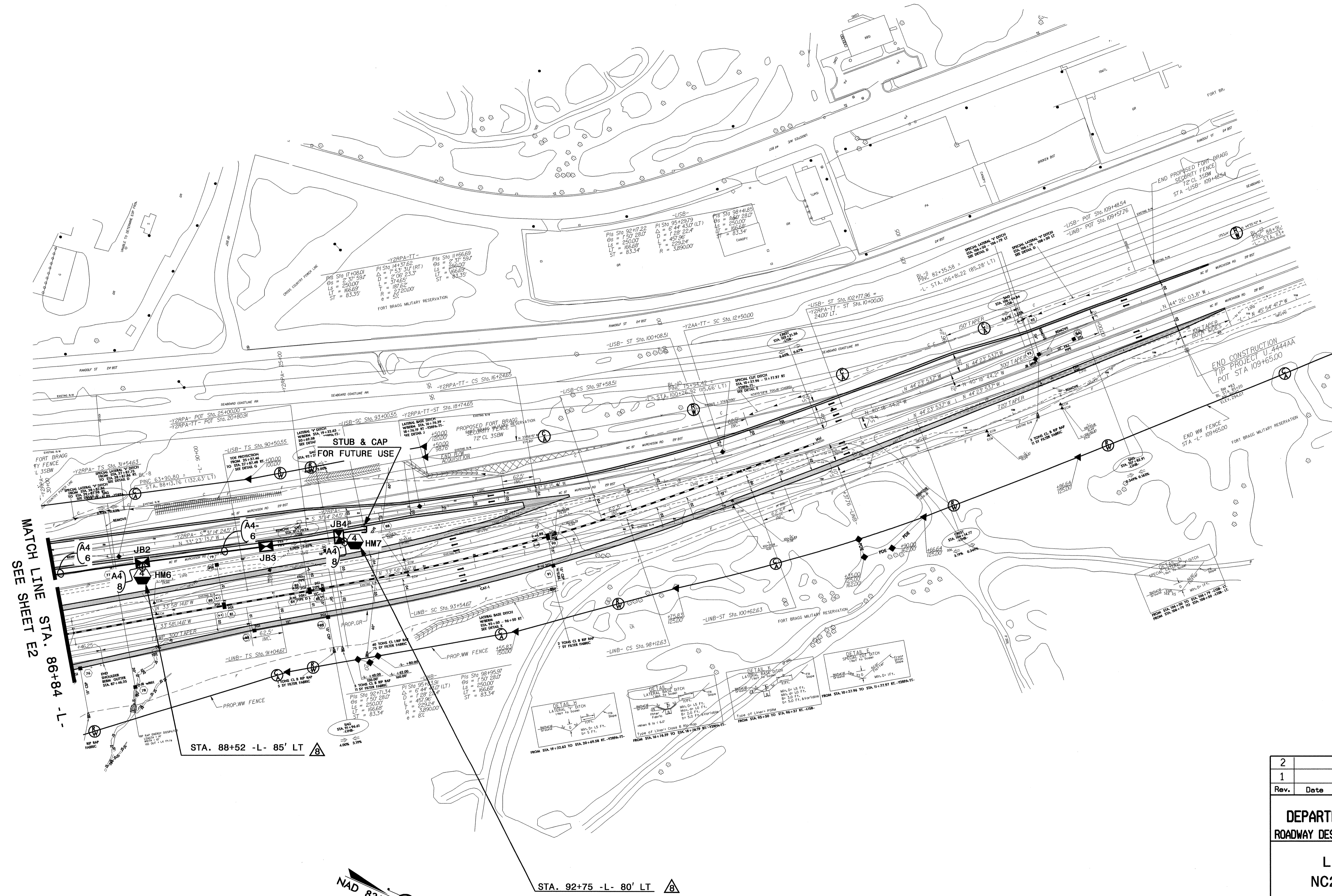
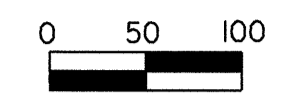
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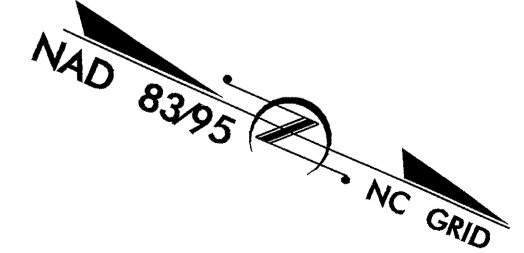


USE FOR LIGHTING CONSTRUCTION ONLY

SEE SHEET 'E1' FOR LEGEND & △ NOTES



MATCH LINE SEE SHEET E2



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Rev.	Date	Description	Approved

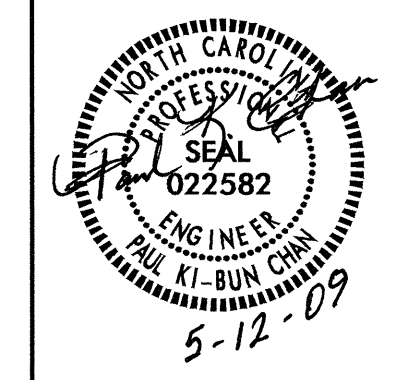
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

LIGHTING LAYOUT NC210/HONEYCUTT RD INTERCHANGE FAYETTEVILLE

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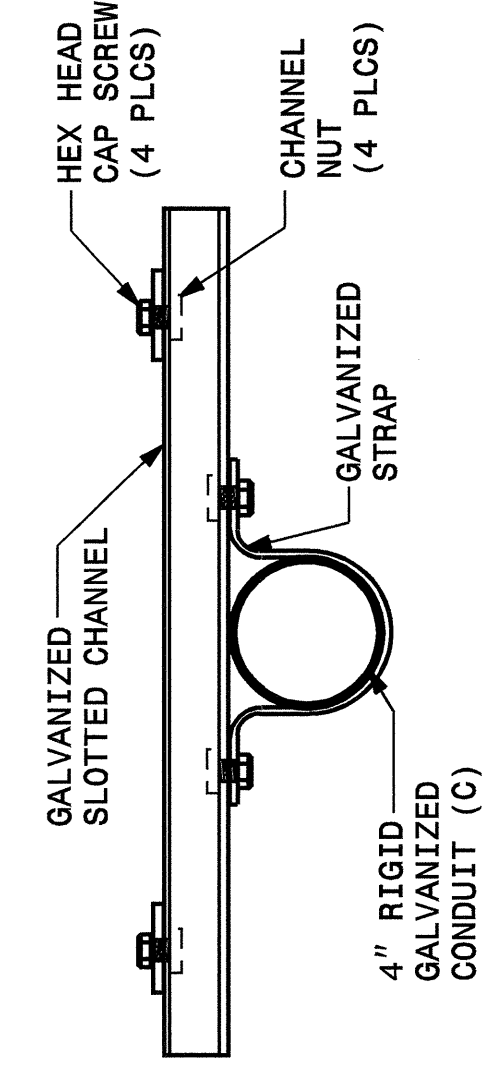
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 RALEIGH, N.C.

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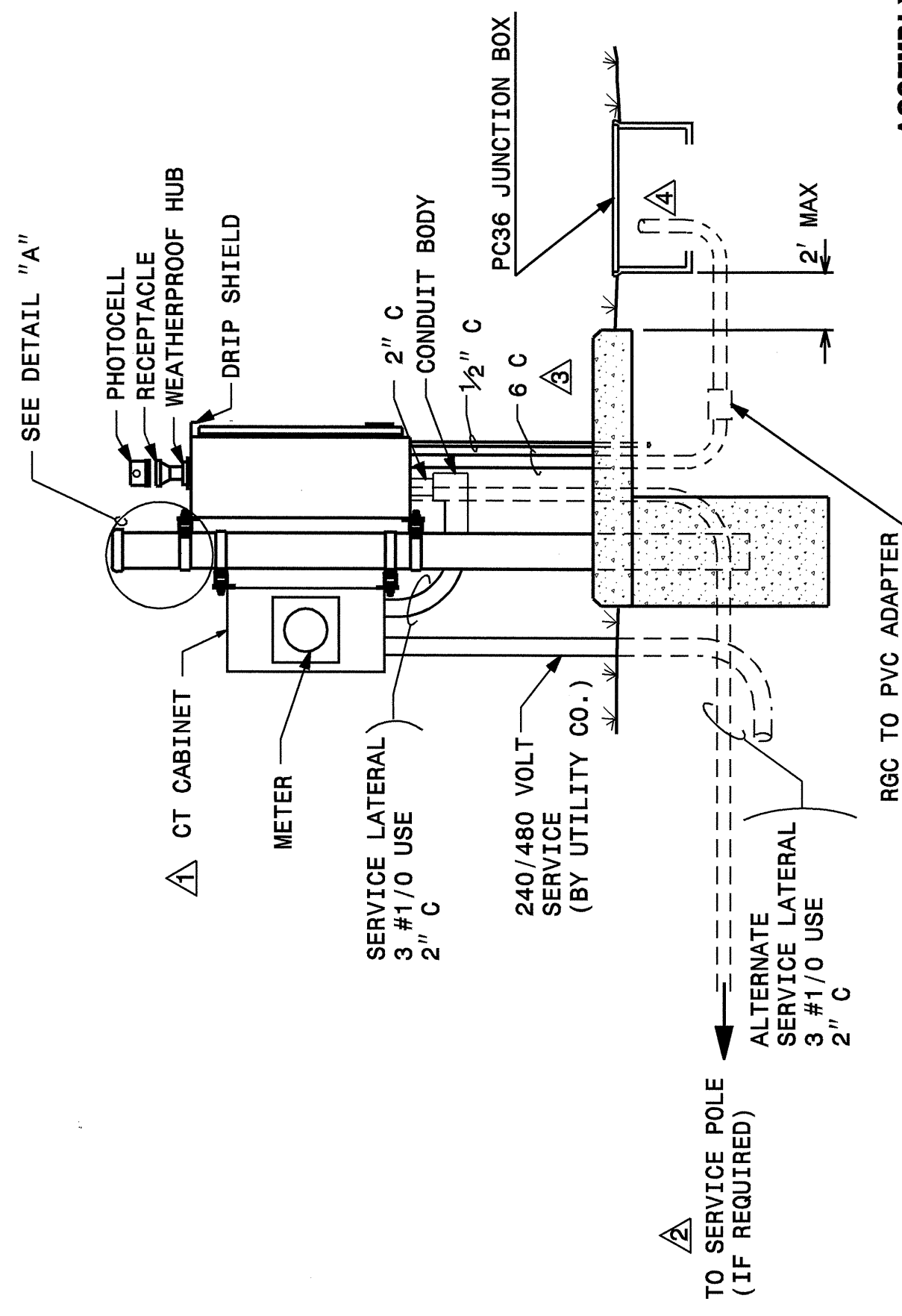
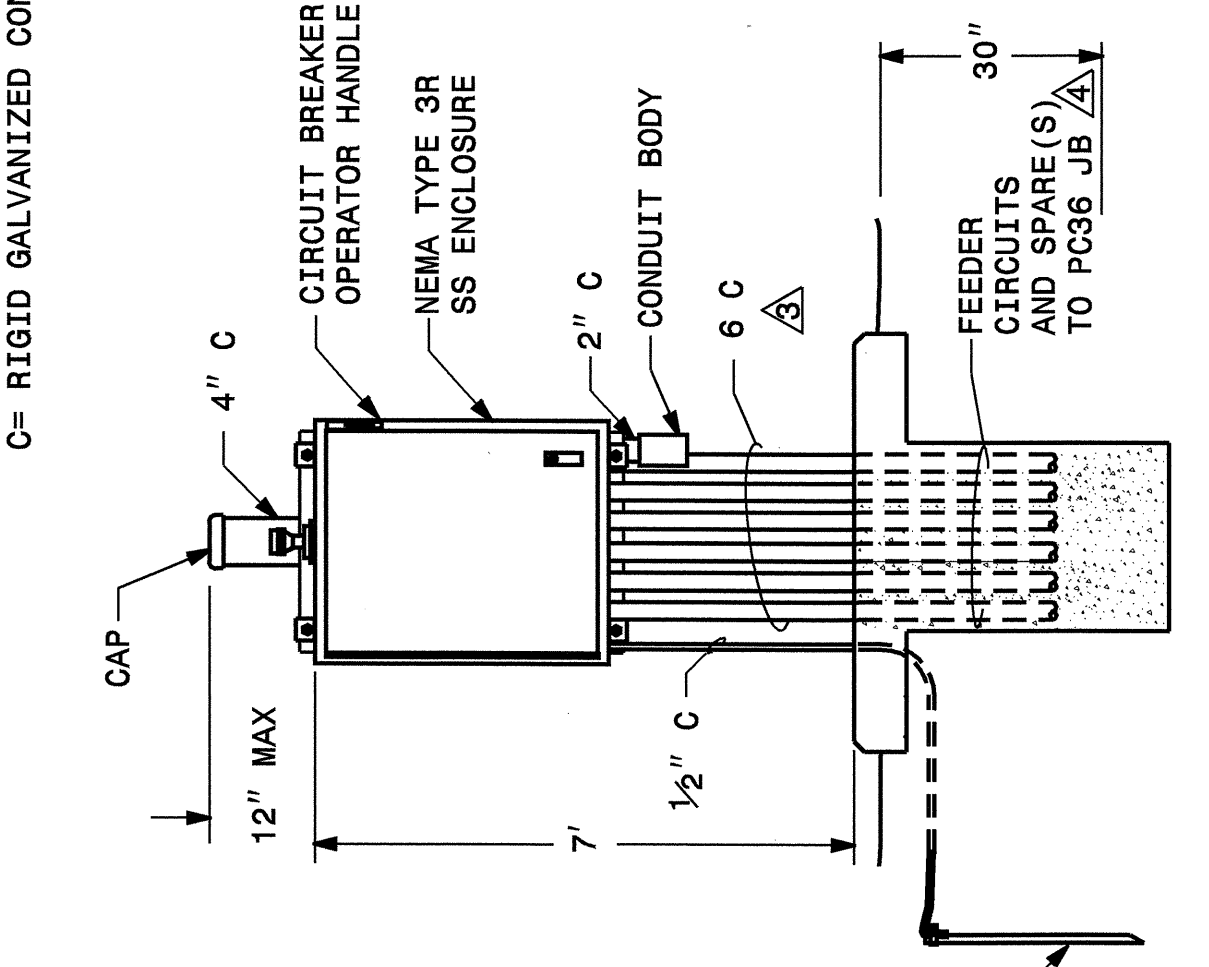
ENGLISH STANDARD DRAWING FOR
LIGHT CONTROL SYSTEM
 ASSEMBLY

SHEET 2 OF 3
1408D01

- NOTES**
- △ CURRENT TRANSFORMER (CT) CABINET AND METER MAY BE MOUNTED ON SERVICE POLE OR BACK OF CONTROL ENCLOSURE.
 - △ SEE SECTION 1407 OF THE STANDARD SPECIFICATIONS FOR SERVICE POLE AND SERVICE LATERAL.
 - △ SEE PLANS FOR SIZE OF CONDUITS AND/OR ELECTRICAL DUCT.
 - △ STUB FEEDER CIRCUIT CONDUITS INTO JUNCTION BOX. CAP UNUSED CONDUITS. FEEDER CIRCUITS MUST BE MINIMUM 30" BELOW GRADE.
 - △ SEE SECTION 1411 OF THE STANDARD SPECIFICATIONS FOR JUNCTION BOX INSTALLATION.



C= RIGID GALVANIZED CONDUIT



ASSEMBLY

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ENGLISH STANDARD DRAWING FOR
LIGHT CONTROL SYSTEM
 ASSEMBLY

SHEET 2 OF 3
1408D01

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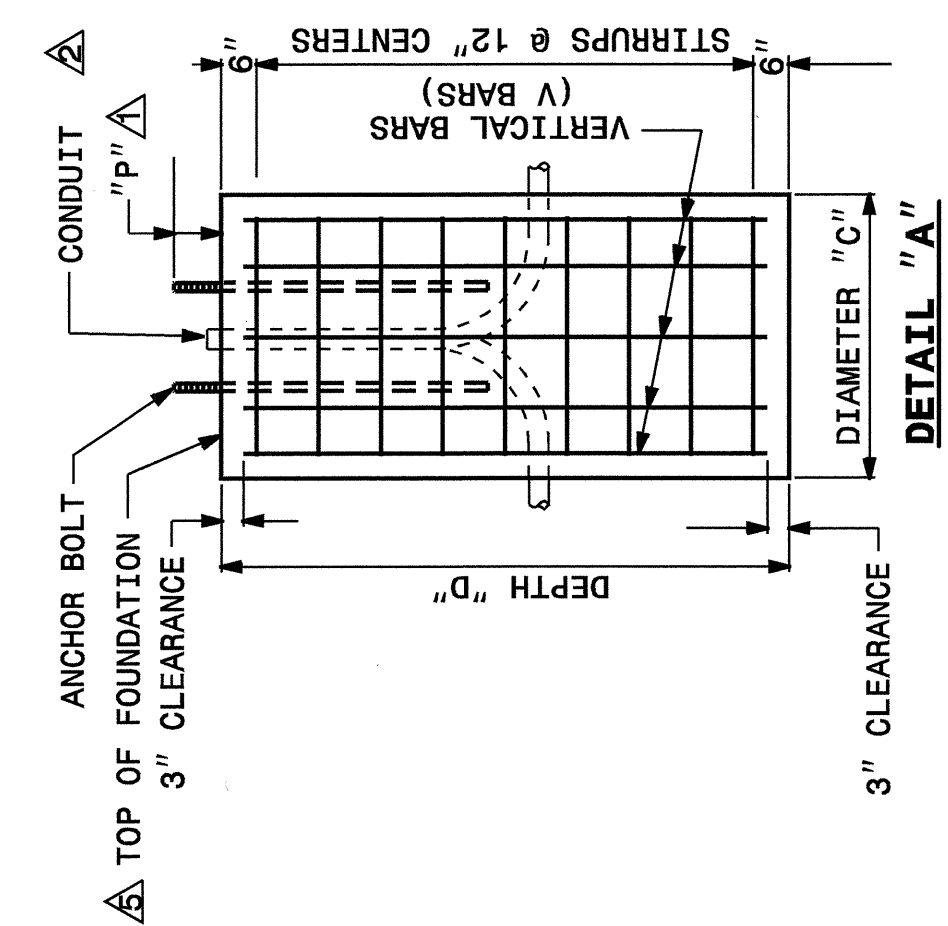
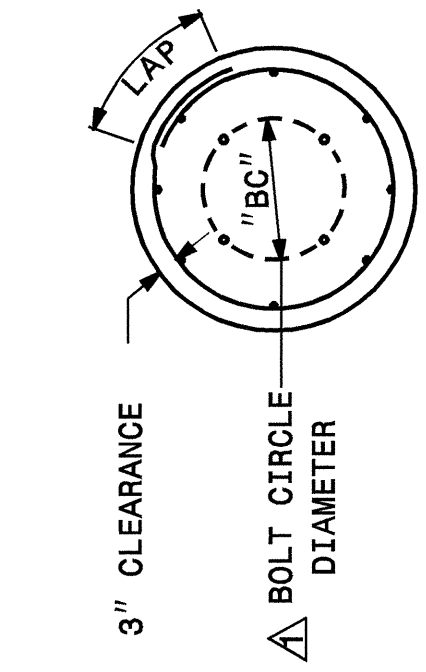
ENGLISH STANDARD DRAWING FOR
HIGH MOUNT FOUNDATION

SHEET 1 OF 1
1402D01

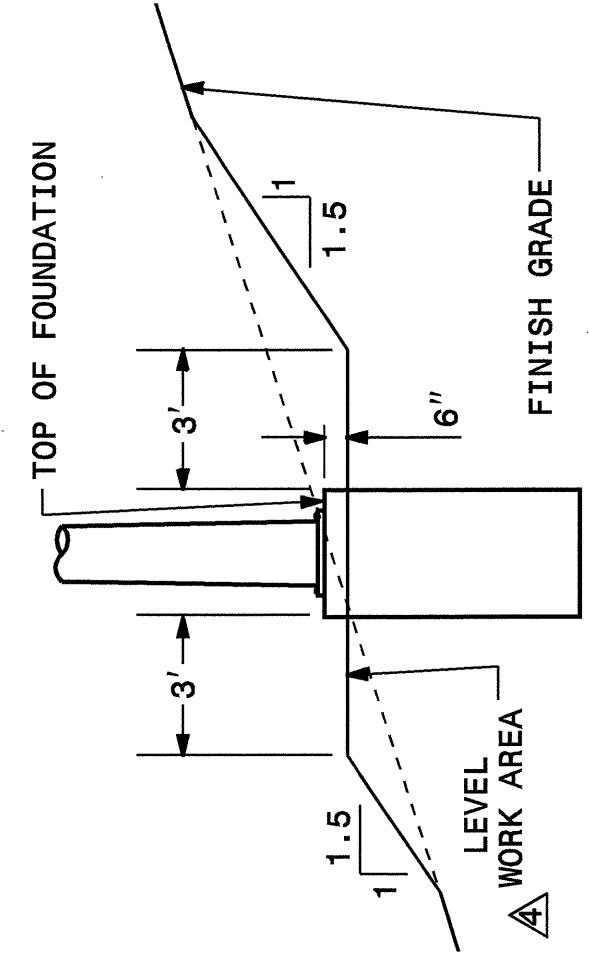
TABLE OF FOUNDATION DIMENSIONS AND QUANTITIES

HEIGHT OF HIGH MOUNT FT	STIRRUPS		DEPTH "D" FT		CONCRETE CY		REINF. STEEL LBS		WIND VELOCITY MPH		DEPTH "D" FT		CONCRETE CY		REINF. STEEL LBS		CONCRETE CY		
	DIAMETER "C" FT	SIZE	LAP-FT	SIZE	SIZE	SIZE	QTY	SIZE	QTY	SIZE	QTY	SIZE	QTY	SIZE	QTY	SIZE	QTY	SIZE	
60	3.5	#3	1.0	#8	11	8	280	#8	8	110	12	8	306	#8	8	130	13	8	4.6
80	3.5	#3	1.0	#8	12	8	306	#8	8	110	13	8	331	#8	8	15	8	382	5.3
100	4.0	#3	1.0	#9	13	8	413	#9	8	110	15	8	477	#9	8	16	8	509	7.4
120	4.5	#3	1.0	#10	15	8	557	#10	8	110	16	8	636	#10	8	18	8	716	10.6

* INCLUDES STIRRUPS AND VERTICAL BARS (V BARS)



- NOTES**
- △ ANCHOR BOLTS CONFORM NUMBER, SIZE, AND LENGTH OF ANCHOR BOLTS, BOLT CIRCLE DIAMETER "BC", AND ANCHOR BOLT PROJECTION "P" TO APPROVED HIGH MOUNT STANDARD DRAWINGS.
 - △ CONDUITS MATCH ORIENTATION, QUANTITY, TYPE AND SIZE OF CONDUITS TO THE LAYOUT SHEETS. STUB AND CAP ONE SPARE CONDUIT AT EACH FOUNDATION. PROJECT CONDUIT A MAXIMUM OF 2' ABOVE TOP OF FOUNDATION. PLACE CONDUIT 30" BENEATH FINISH GRADE.
 - △ DIMENSIONS & QUANTITIES DIMENSIONS AND QUANTITIES OF CONCRETE AND REINFORCING STEEL ARE GIVEN FOR THE PURPOSE OF OBTAINING BID PRICES ONLY. SEE STANDARD SPECIFICATIONS SECTION 1402, FOR OTHER STRUCTURAL REQUIREMENTS.
 - △ WORK AREA PROVIDE A LEVEL WORK AREA AROUND EACH FOUNDATION. CUT/FILL SLOPES MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
 - △ ELEVATION SET TOP OF FOUNDATION AT 6" ABOVE LEVEL WORK AREA. SEE DETAIL "B".



DETAIL "B"

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 RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
HIGH MOUNT FOUNDATION

SHEET 1 OF 1
1402D01

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Rev.	Date	Description	Approved

NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

LIGHT CONTROL ASSEMBLY
 SPECIAL DETAILS &
 HIGH MOUNT FOUNDATIONS

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