

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

NOTES

1. AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC EQUIRMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "C"
2. INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
3. PROVIDE 4" HDPE ELECTRICAL DUCT BY DIRECTIONAL DRILL TO FUNCTION AS PROTECTIVE SLEEVE FOR CABLE RUN UNDER EAST PRONG CREEK ON SHEET E2.
4. LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
5. 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.
6. TYPE PC18 JUNCTION BOXES MINIMUM SIZE 18" L X 12" W X 18" H.
7. TYPE PC36 JUNCTION BOXES MINIMUM SIZE 36" L X 24" W X 18" H.
8. INSTALL RIGID GALVANIZED CONDUIT (RGC) ABOVE GROUND, AND POLYVINYL CHLORIDE (PVC) SHEDULE 40 CONDUIT UNDERGROUND, EXCEPT AS MODIFIED ON THESE PLANSHEETS OR IN APPLICABLE SECTIONS OF THE ROADWAY STANDARD DRAWINGS FOR THIS PROJECT.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 80' and 120' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, WALL MOUNT UNDERPASS FIXTURES, 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 OF 90 MPH
- HIGH MOUNT STANDARD FOUNDATION IS DESIGNED FOR BASIC WIND SPEED OF 90 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
1412.01	UNDERPASS LIGHTS

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

LEGEND

- PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 400W HPS, MEDIUM, CUTOFF, TYPE V.
- PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V.
- PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- 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
- PROPOSED UNDERPASS LUMINAIRE 150W HPS, TYPE WM.
- PROPOSED UNDERPASS BREAKER PANEL

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
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

NUMBER	LOCATION	TYPE	SHEET
JB1	16+65 -RPC- 60' RT	PC36	E2
JB2	16+65 -RPC- 40' LT	PC36	E2
JB3	26+20 -L- 105' LT	PC36	E2
JB4	14+20 -RPC- 40' LT	PC18	E2
JB5	14+20-RPC- 20' RT	PC18	E2
JB6	DELETED		
JB7	DELETED		
JB8	25+95 -L- 50' LT	PC18	E2
JB9	25+20 -L-78' LT	PC18	E2
JB10	25+95 -L- 36' RT	PC18	E2
JB11	24+80 -L- 60' RT	PC18	E2
JB12	47+75 -Y1- 40' LT	PC18	E2
JB13	47+75 -Y1- 6' RT	PC18	E2
JB14	50+00 -Y1- 78' RT	PC18	E2
JB15	53+00 -Y1- 65' RT	PC18	E2
JB16	16+48 -RPB- 16' RT	PC18	E2
JB17	16+48 -RPB- 30' LT	PC18	E2
JB18	16+30 -RPB- 90' LT	PC18	E2
TOTALS		13	3

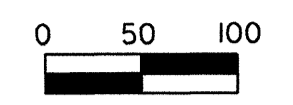
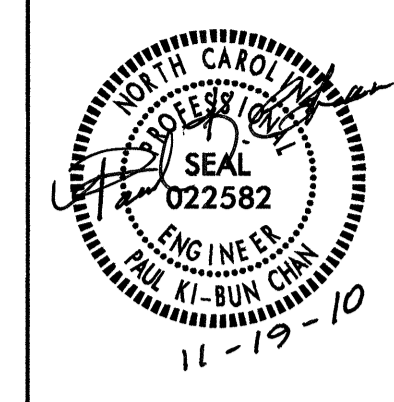
LOCATION	RACEWAY	SHEET	TYPE						
			JACKED (JA) FEET			BURIED (BD) FEET			
			SIZE 2"	SIZE 3"	SIZE 4"	SIZE 2"	SIZE 3"	SIZE 4"	
14+20 -RPC-		E2		65					
17+10 -RPC-	JB1 - JB2	E2				130			
17+10 -RPC-		E2			110				
25+95 -L-	JB8 - JB10	E2				110			
25+95 -L-		E2			90				
47+75 -Y1-	JB12 - JB13	E2				140			
47+75 -Y1-		E2			120				
48+72 -Y1- 70' RT	JB13 - JB14	E2				260			
48+72 -Y1- 70' RT		E2			240				
16+48 -RPB-		E2				70			
TOTAL				65	560	710			

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

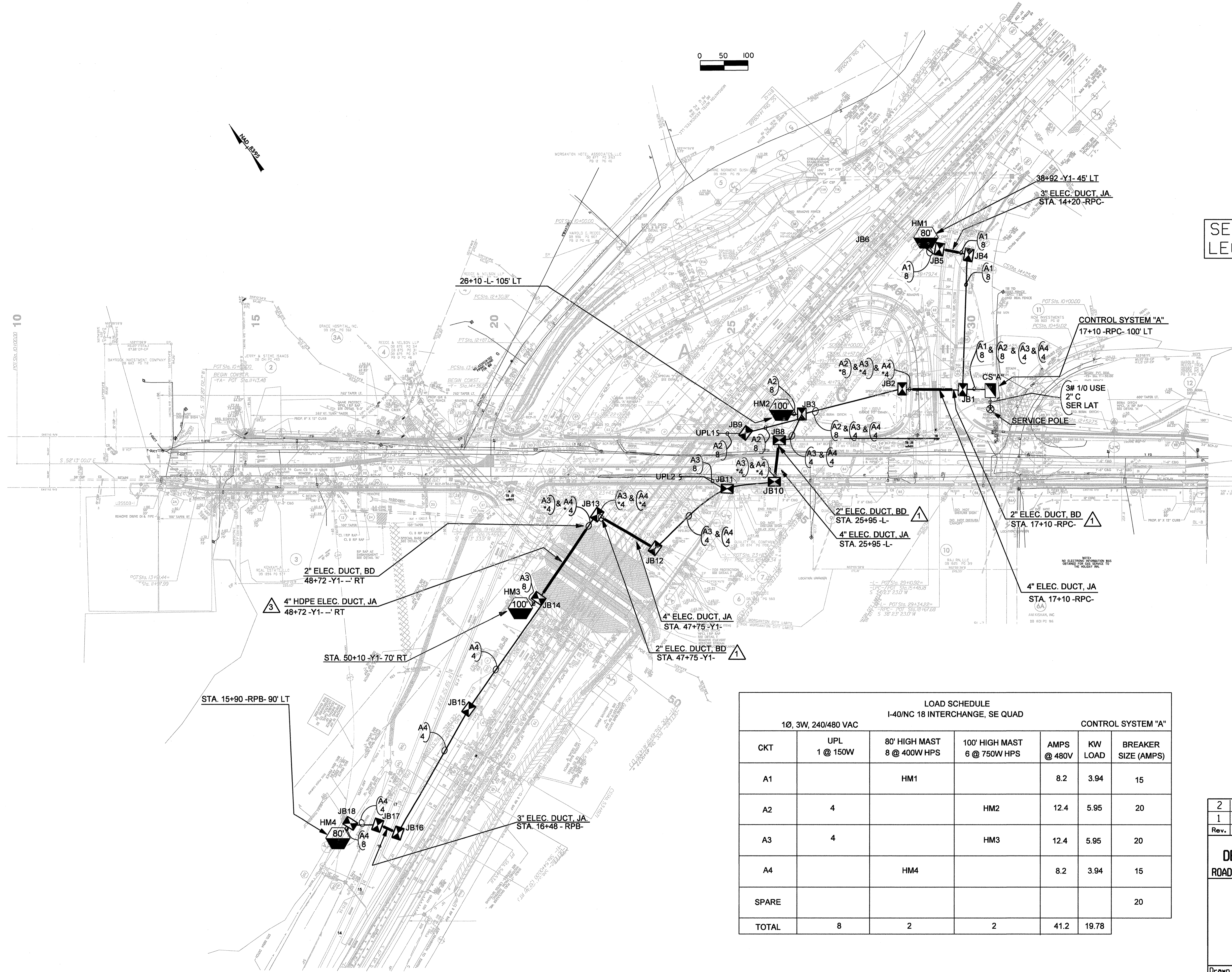
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SEE SHEET "E1" FOR LEGEND & △ NOTES



LOAD SCHEDULE I-40/NC 18 INTERCHANGE, SE QUAD CONTROL SYSTEM "A"						
CKT	1Ø, 3W, 240/480 VAC		CONTROL SYSTEM "A"		BREAKER SIZE (AMPS)	
	UPL 1 @ 150W	80' HIGH MAST 8 @ 400W HPS	100' HIGH MAST 6 @ 750W HPS	AMPS @ 480V		KW LOAD
A1		HM1		8.2	3.94	15
A2	4		HM2	12.4	5.95	20
A3	4		HM3	12.4	5.95	20
A4		HM4		8.2	3.94	15
SPARE						20
TOTAL	8	2	2	41.2	19.78	

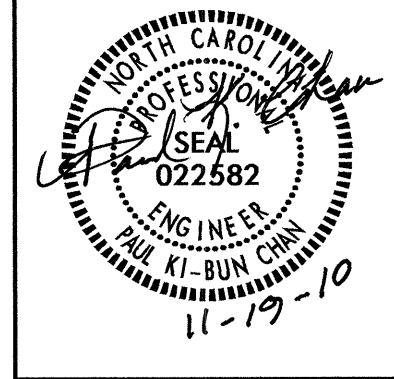
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**NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION**

**LIGHTING LAYOUT
I-40/NC 18 INTERCHANGE
BURKE COUNTY**

Drawn By: **AB** Approved By: **PKC 11-19-10** Dwg No.:

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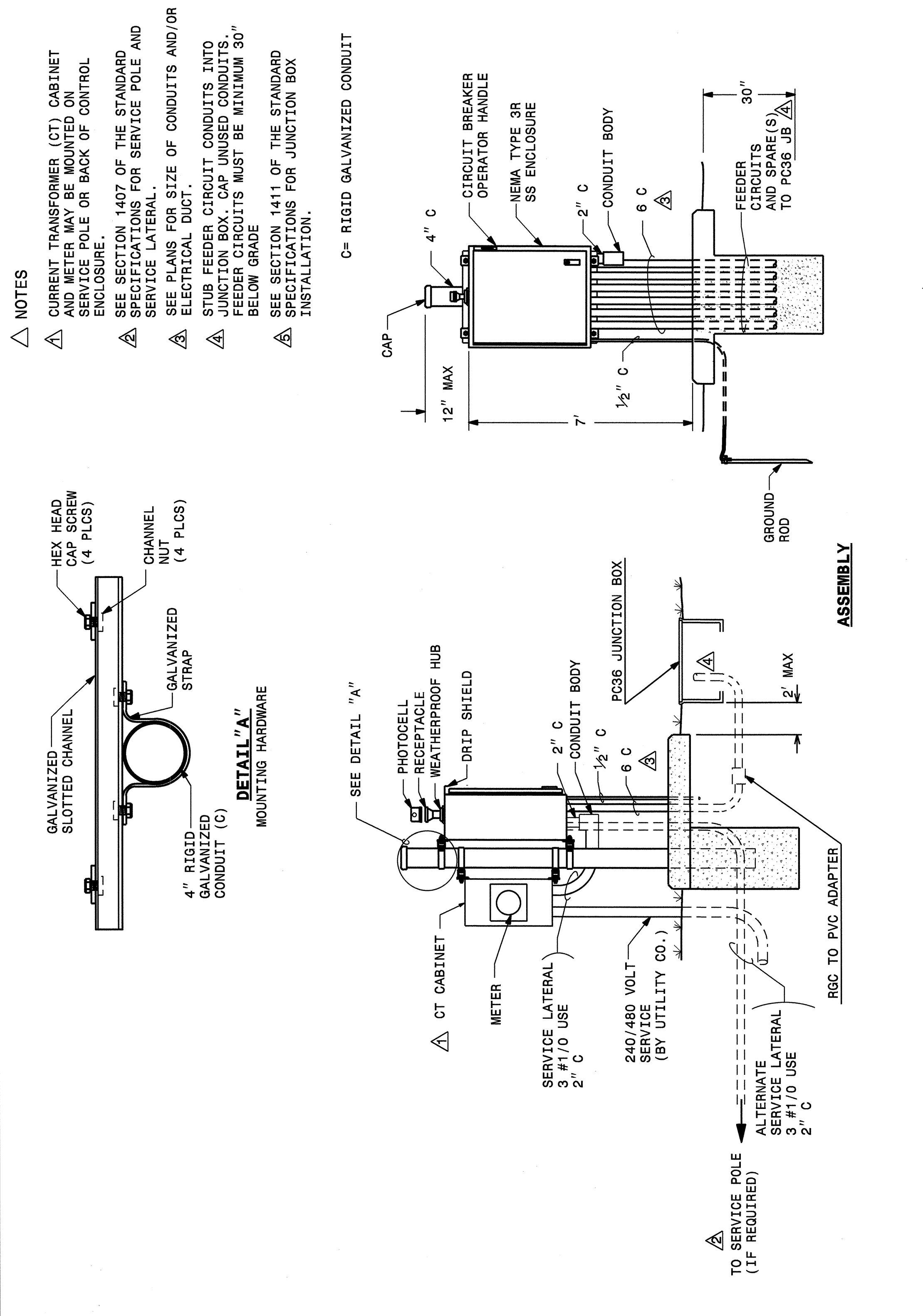
USE FOR LIGHTING CONSTRUCTION ONLY

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
LIGHT CONTROL SYSTEM
ASSEMBLY

SHEET 2 OF 3
1408D01



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

7-06

ENGLISH STANDARD DRAWING FOR
LIGHT CONTROL SYSTEM
ASSEMBLY

SHEET 2 OF 3
1408D01

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

LIGHT CONTROL ASSEMBLY
SPECIAL DETAILS

Drawn By AB	Approved By PHC 11-19-10	Dwg No.
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