02/03/98

PROJECT REFERENCE NO.	SHEET NO.
U-4444AB	E1

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAK KI-BUN CHAN 8-21-12

△ 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. LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
4. 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.
5. TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.
6. TYPE PC36 JUNCTION BOXES ARE 36" L X 24" W X 18" H.
7. COORDINATE WITH PRIME CONTRACTOR TO INSTALL CONDUIT RUN FROM JB11 TO JB13 PRIOR TO PAVED SHOULDER FINISHED GRADE.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' & 80' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE

2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 5TH EDITION 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 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

2011 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 JANUARY 2012 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
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 JANUARY 2012.

LEGEND

- 100' — PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- 80' — PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 400W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- JB1 — PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- 1 — REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- A1 / 6 — PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET
- 3#1/0 USE 2" — PROPOSED SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 2" CONDUIT
- 2", 3",4" OR 6" ELEC. DUCT JA & BD — PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE C, THIS SHEET

TABLE "A"
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

PLAN SYMBOL	DESCRIPTION		CONTRACT ITEM
8	2 #8 Ø 1 #10G 1.5" P	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 8 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*8	2 #8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR	2 - 8 W/G FEEDER CIRCUIT
6	2 #6 Ø 1 #8G 1.5" P	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 6 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*6	2 #6 Ø 1 #10G	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR	2 - 6 W/G FEEDER CIRCUIT
4	2 #4 Ø 1 #6G 1.5" P	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 4 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*4	2 #4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR	2 - 4 W/G FEEDER CIRCUIT
2	2 #2 Ø 1 #4G 1.5" P	2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 2 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*2	2 #2 Ø 1 #4G	2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR	2 - 2 W/G FEEDER CIRCUIT

TABLE "B"
JUNCTION BOX SUMMARY

NUMBER	LOCATION	TYPE		SHEET
JB1	17+75 -Y3RPA- 35' RT		PC36	E2
JB2	144+85 -L- 83' LT		PC36	E2
JB3	142+20 -L- 75' LT		PC36	E2
JB4	139+46 -L- 75' LT		PC36	E2
JB5	139+46 -L- 100' RT	PC18		E2
JB6	14+20 -Y3LPD- 30' LT	PC18		E2
JB7	14+20 -LY3LPD- 30' RT	PC18		E2
JB8	19+85 -Y3LPD- 90' RT	PC18		E2
JB9	136+58 -L- 75' LT	PC18		E2
JB10	133+68 -L- 75' LT	PC18		E2
JB11	133+68 -L- 75' LT	PC18		E2
JB12	133+70 -L- 130' LT	PC18		E2
JB13	132+30 -L- 75' LT	PC18		E2
JB14	128+80 -L- 85' LT	PC18		E3
TOTALS		10	4	

TABLE "C"
ELECTRICAL DUCT SUMMARY
(ESTIMATED LENGTH IN FEET)

			TYPE					
			JACKED (JA) FEET			BURIED (BD) FEET		
LOCATION	RACEWAY 1	SHEET	SIZE 3"	SIZE 4"	SIZE 6"	SIZE 2"	SIZE 3"	SIZE 4"
17+75 -Y3RPA-	JB1 - JB2	E2					110	
17+75 -Y3RPA-		E2			60			
139+46 -L-		E2				150		
139+46 -L-		E2		130				
14+20 -Y3LPD-		E2	50					
TOTALS			50	130	60	150	110	

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

COMPUTED BY: AB DATE: 8-21-2012
CHECKED BY: PKC DATE: 8-21-2012

02/03/98

PROJECT REFERENCE NO.	SHEET NO.
U-4444AB	E2

USE FOR LIGHTING CONSTRUCTION ONLY

LOAD SCHEDULE NC 210/RANDOLPH ST., SW QUAD					
1Ø, 3W, 240/480 VAC				CONTROL SYSTEM "B"	
CKT	HIGH MAST 8 @ 400W HPS	HIGH MAST 6 @ 750W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
B1	HM1		8.0	3.84	15
B2		HM2	10.8	5.18	15
B3		HM3	10.8	5.18	15
B4		HM4	10.8	5.18	15
B5	HM5		8.0	3.84	15
SPARE					15
TOTAL	2	3	48.4	23.22	

NORTH CAROLINA PROFESSIONAL SEAL 022382 ENGINEER PAUL KI-BUM CHAN
8-21-12

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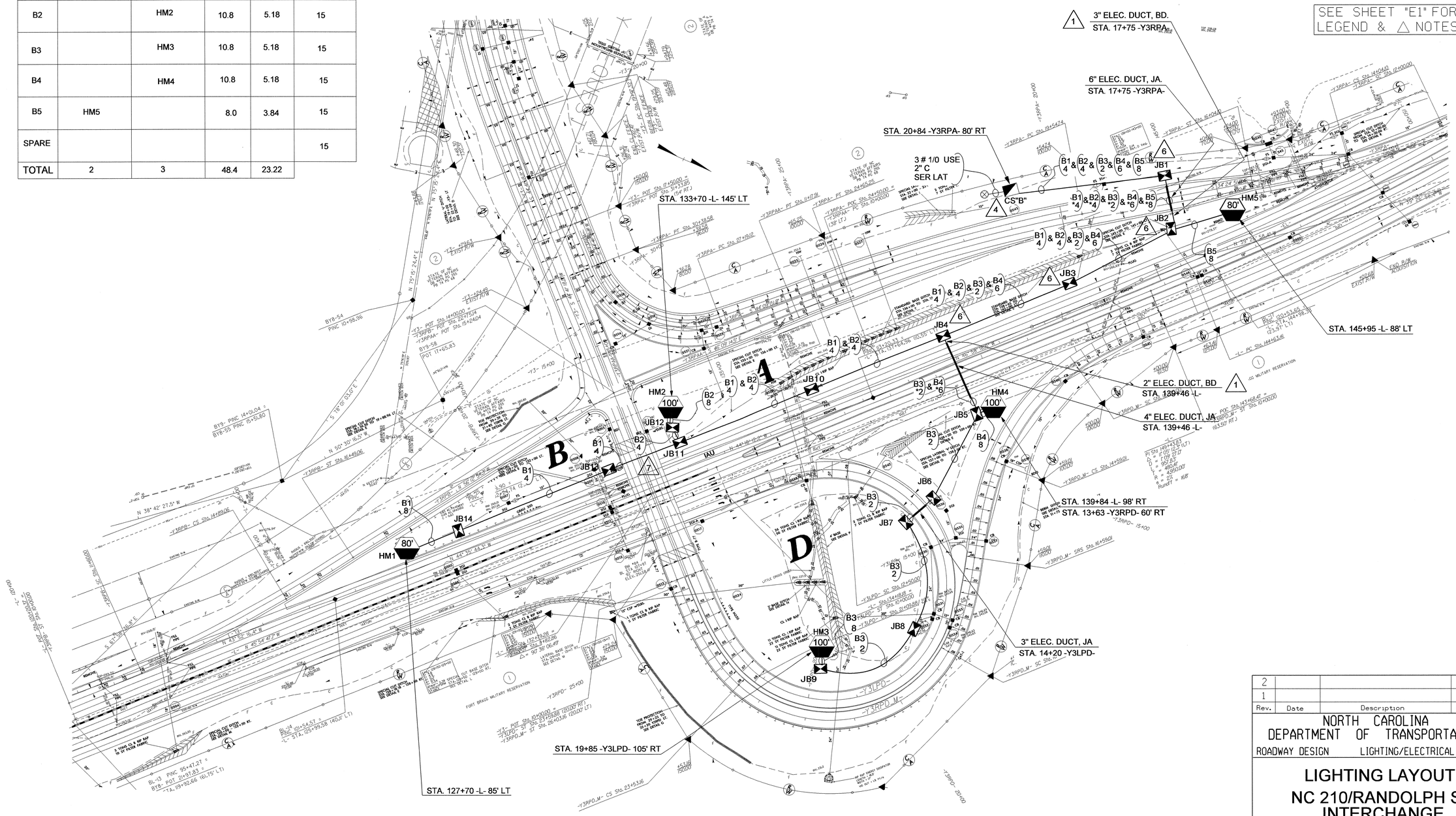
SEE SHEET "E1" FOR LEGEND & △ NOTES



Rev.	Date	Description	Approved
2			
1			

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

LIGHTING LAYOUT
NC 210/RANDOLPH ST. INTERCHANGE

CUMBERLAND COUNTY

Drawn By:	Approved By:	Dwg No.:
AB	PKC	

21-AUG-2012 12:55
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