



# PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

## NOTES

- ⚠ LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
- ⚠ TYPE PC18 JUNCTION BOXES ARE 457mm L X 305mm W X 457mm H.
- ⚠ LOCATE ALL BORE PITS OUTSIDE THE CLEAR ZONE AS DEFINED IN THE 2002 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
- ⚠ LOCATE PROPOSED ELECTRICAL DUCT BENEATH RAMP FOR BEST ALIGNMENT OF CIRCUITS.
- ⚠ TRENCH CIRCUITRY THROUGH EXISTING PATH IN TREES INSIDE LOOPS. AVOID DISRUPTING EXISTING LANDSCAPING AS MUCH AS POSSIBLE.
- ⚠ AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "C".
- ⚠ LOCATE PROPOSED CONTROL SYSTEM IN AN AREA ACCESSIBLE FOR MAINTENANCE VEHICLES AND OUTSIDE THE CLEAR ZONE AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE.
- ⚠ SURVEY LINE Y35 EXTENDED FOR REFERENCE ON THESE PLANSHEETS ONLY.

## SCOPE OF WORK

PROVIDE ROADWAY LIGHTING BY PROVIDING AND INSTALLING HIGH PRESSURE SODIUM LUMINAIRES ON 30.5m HIGH MOUNT STANDARDS, INCLUDING UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

## DESIGN CRITERIA

- 1984 AASHTO "AN INFORMATIONAL GUIDE FOR ROADWAY LIGHTING"
- 1994 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS
- 2002 NATIONAL ELECTRICAL CODE
- 2002 AASHTO ROADSIDE DESIGN GUIDE

## ROADWAY STANDARDS

THE FOLLOWING ROADWAY METRIC STANDARDS AS APPEAR IN "NCDOT ROADWAY STANDARD DRAWING - METRIC", ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION RALEIGH, N.C., DATED JANUARY 2002 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 LUMINAIRE
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 2002 AND PROJECT SPECIAL PROVISIONS TITLED "LIGHTING".

## LEGEND

- PROPOSED 30.5M HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS MEDIUM, CUTOFF, TYPE V DISTRIBUTION, 129 KM/H WINDSPEED AND GLARE SHIELDS
- PROPOSED CONTROL SYSTEM. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E3
- PROPOSED ELECTRICAL JUNCTION BOX TYPE PC18 SEE DETAILS & TABLE B, THIS SHEET
- PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET
- PROPOSED SERVICE POLE AND LATERAL 9.1m CLASS 4 3#1/0 USE CONDUCTORS TS 2 CONDUIT
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- PROPOSED ELECTRICAL DUCT SIZE TS 2 (OR TS 3) TYPE (JA) OR (BD) LOCATION: SEE TABLE C, THIS SHEET

PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM
8	2#8 Ø 1 #10G TS 1.5 P	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR TS 1.5 PVC CONDUIT
*8	2#8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR
4	2#4 Ø 1 #6G TS 1.5 P	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR TS 1.5 PVC CONDUIT
*4	2#4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR

NUMBER	LOCATION	TYPE	SHEET
JB1	34+00 -L2- 106M RT	PC18	E2
JB2	33+57 -L2- 86M RT	PC18	E2
JB3	32+92 -L2- 61M RT	PC18	E2
JB4	32+24 -L2- 55M RT	PC18	E2
JB5	31+62 -L2- 50M RT	PC18	E2
JB6	13+19 -Y35- 26M RT	PC18	E2
JB7	13+94 -Y35- 35M RT	PC18	E2
TOTALS		7	

LOCATION	RACEWAY	SHEET	TYPE JACKED (JA)			TYPE BURIED (BD)		
			SIZE TS 2	SIZE TS 3	SIZE TS 4	SIZE TS 2	SIZE TS 3	SIZE TS 4
LOOP B	JB1 - JB2	E2	29			28		
LOOP B		E2			26			
12+34 -Y35-	JB3 - JB4	E2	54			14		
12+34 -Y35-		E2			57			
LOOP A		E2		20				
TOTALS			83	20	83	42		

TRADE SIZE	METRIC	ENGLISH
1/2	16mm	1/2"
3/4	21mm	3/4"
1	27mm	1"
1.5	41mm	1 1/2"
2	53mm	2"
3	78mm	3"

- ### ABBREVIATIONS
- 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