

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 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 PC30 JUNCTION BOXES ARE 30" L X 17" W X 18" H.
- 7 LOCATE ALL SINGLE ARM STANDARDS 15 MINIMUM FEET FROM EDGE-OF-TRAVEL OR BEHIND GUARDRAIL.
- 8 CLEAR AND GRUB AN AREA OF 25' IN DIAMETER AROUND CENTER OF HIGH MAST FOUNDATION.

SCOPE OF WORK

KEEP ROADWAY LIGHTING SYSTEM FUNCTIONING FOR DESIGN CHANGE OF INTERCHANGE BY RELOCATING EXISTING HIGH MOUNT STANDARDS, PROVIDING AND INSTALLING 120' & 80' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, RELOCATING EXISTING SINGLE ARM STANDARDS, RELOCATING EXISTING CONTROL SYSTEM AND PROVIDING UNDERGROUND CIRCUITRY 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 90 MPH.
- DESIGN HIGH MOUNT STANDARD FOUNDATION FOR BASIC WIND SPEED OF 110 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
1404.01	LIGHT STANDARDS
1405.01	STANDARD FOUNDATION
1406.01	LIGHT STANDARD 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

- PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 400W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED 120' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- RELOCATED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (4) HM LUMINAIRES 1000W HPS, MEDIUM, CUTOFF, TYPE V
- EXISTING 100' HIGH MAST STANDARD TO BE RELOCATED. ABANDON OR REMOVE FOUNDATION.
- RELOCATED LIGHT STANDARD TYPE MTLT 45' WITH 15' SINGLE ARM. INCLUDES STANARD FOUNDATION TYPE R1 OR R2 & 250W HPS FLAT GLASS ROADWAY LUMINAIRE. IES DISTRIBUTION: MEDIUM, CUTOFF, TYPE III
- EXISTING LIGHT STANDARD TO BE RELOCATED OR RELOCATED. ABANDON OR REMOVE FOUNDATION. SEE SHEET E2 FOR R RELOCATION DETAILS.
- RELOCATED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- EXISTING CONTROL SYSTEM TO BE RELOCATED. REPLACE BREAKERS AND CONTACTORS. SIZE AS SHOWN IN THE PLANS.
- PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- EXISTING ELECTRICAL JUNCTION BOX. REMOVE UNLESS OTHERWISE NOTED IN PLANS.
- 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

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

ABBREVIATIONS

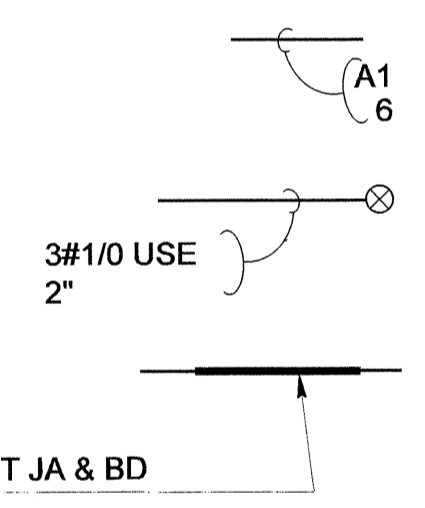
BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
		HM	HIGH MAST

TABLE "B"
JUNCTION BOX SUMMARY

NUMBER	LOCATION	TYPE	SHEET
JB1	21+70 -Y22- 98' LT	PC30	E2
JB2	24+35 -Y22- 65' LT	PC30	E2
JB3	10' FROM HM3	PC18	E2
JB4	20+85 -Y22LPA- 32' RT	PC30	E2
JB5	86+90 -Y13- 100' RT	PC18	E2
JB6	30+77 -Y22- 65' LT	PC18	E2
JB7	10' FROM HM1	PC18	E2
JB8	89+60 -Y13- 100' RT	PC18	E2
JB9	13+40 -Y22LPD- 35' RT	PC18	E2
JB10	13+40 -Y22LPD- 35' LT	PC18	E2
JB11	96+00 -Y13- 90' RT	PC18	E2
JB12	15+10 -Y22LPD- 25' RT	PC18	E2
JB13	15+10 -Y22LPD- 32' LT	PC18	E2
JB14	19+80 -Y22LPA- 25' RT	PC18	E2
JB15	19+80 -Y22LPA- 32' LT	PC18	E2
JB16	90+60 -Y13- 70' LT	PC18	E2
JB17	92+55 -Y13- 70' LT	PC18	E2
JB18	14+65 -Y22RPA- 25' LT	PC18	E2
JB19	14+65 -Y22RPA- 32' RT	PC18	E2
TOTALS		16	3

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

LOCATION	RACEWAY	SHEET	TYPE						
			JACKED (JA) FEET			BURIED (BD) FEET			
			SIZE 3"	SIZE 4"	SIZE 6"	SIZE 2"	SIZE 3"	SIZE 6"	
29+00 -Y22RPA-	JB1 - JB2	E2						130	
29+00 -Y22RPA-		E2							110
86+90 -Y13-	JB4 - JB5	E2				200			
86+90 -Y13-		E2		180					
19+80 -Y22LPA-		E2						60	
14+65 -Y22RPA-		E2						60	
13+40 -Y22LPD-		E2						60	
15+10 -Y22RPD-		E2						60	
TOTALS				180		200	370	110	



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