PLANS AND DETAILS FOR PROPOSED

LIGHTING /ELECTRICAL CONSTRUCTION

\triangle NOTES

AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "B"

INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 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 4 FOR MAINTENANCE VEHICLES AND OUTSIDE OF CLEAR ZONE AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE.

INSTALL RIGID GALVANIZED CONDUIT (RGC) ABOVE GROUND, AND POLYVINYL CHLORIDE (PVC) SCHEDULE 40 CONDUIT UNDERGROUND, EXCEPT AS MODIFIED ON THESE PLANSHEETS OR IN APPLICABLE SECTIONS OF THE ROADWAY STANDARD DRAWINGS FOR THIS PROJECT.

/6\ ALL JUNCTION BOXES SHALL BE 18" HIGH, UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL RECORD THE GPS COORDINATES OF EACH JUNCTION BOX IN THE JUNCTION BOX SUMMARY, TABLE C. PROVIDE A COPY OF THE JUNCTION BOX SUMMARY WITH THESE COORDINATES TO THE LIGHTING ENGINEER DURING PROJECT INSPECTION.

INSTALL SINGLE ARM LIGHT STANDARD OUTSIDE OF THE EASEMENT OF THE OVERHEAD PRIMARY POWER LINE.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' HIGH MOUNT STANDARDS, 70' HIGH MOUNT STANDARDS AND SINGLE ARM LIGHT STANDARDS WITH LIGHT EMITTING DIODE LUMINAIRES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

0.8 AVERAGE FOOTCANDLE ON TRAVEL LANES

4:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES

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 100 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

2014 NATIONAL ELECTRICAL CODE 2011 AASHTO ROADSIDE DESIGN GUIDE

ROADWAY STANDARDS

TITLE

STD NO.

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 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

HIGH MOUNT STANDARD 1404.01 LIGHT STANDARDS STANDARD FOUNDATION ELECTRIC SERVICE POLE AND LATERAL 1407.01 LIGHT CONTROL SYSTEM (USE ATTACHED DETAIL SHEETS E5 & E6 IN LIEU OF STANDARD DRAWING 1408.01, SHEETS 1 & 2) 1409.01 ELECTRICAL DUCT FEEDER CIRCUITS 1410.01 ELECTRICAL JUNCTION BOXES

ALL WORK SHALL BE IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JANUARY 2018.

LEGEND

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

> 022582 Paul Chan 11/17/2017

OKESS 101

SEAL

SHEET NO.

E1



PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION, JUNCTION BOX (HMXXJB) & (6) HM LED LUMINAIRES. 550W MAX, 44,250 MIN. MAINTAINED DELIVERED LUMENS, TYPE V MAXIMUM BUG RATING 5-0-5. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING

PROJECT REFERENCE NO.

I-5506

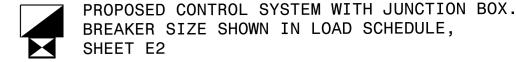


PROPOSED 70' HIGH MAST STANDARD W/ HM FOUNDATION JUNCTION BOX (HMXXJB) & (6) HM LED LUMINAIRES 550W MAX, 44,250 MIN. MAINTAINED DELIVERED LUMENS, TYPE V MAXIMUM BUG RATING 5-0-5. USE 80' FOUNDATION DIMENSIONS AND QUANTITIES AS SHOWN IN STANDARD DRAWING 1402.01. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING.



PROPOSED LIGHT STANDARD TYPE MTLT 30' WITH 10' SINGLE ARM. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2, 285W MAX LED ROADWAY LUMINAIRE AND JUNCTION BOX (SAXXJB). IES DISTRIBUTION: TYPE II OR III AS REQUIRED. MAXIMUM BUG RATING 3-0-3. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING

PROPOSED LIGHT STANDARD TYPE MTLT 45' WITH 15' SINGLE ARM. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2, 285W MAX LED ROADWAY LUMINAIRE AND JUNCTION BOX (SAXXJB). IES DISTRIBUTION: TYPE II OR IIIAS REQUIRED. MAXIMUM BUG RATING 3-0-3. SEE TABLE C, SHEET E1A FOR JUNCTION BOX SIZING



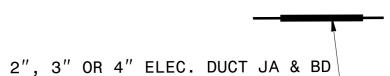
BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2



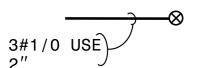
PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE C, SHEET E1A FOR JUNCTION BOX SIZING



REFERENCE TO CORRESPONDING NOTE AS NUMBERED



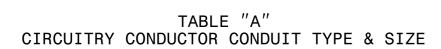
PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE B, THIS SHEET



→ PROPOSED SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 2" CONDUIT



PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), (A1 CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, √6 THIS SHEET



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 #8Ø 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" ELECTRICAL DUCT SUMMARY								
(ESTIMATED LENGTH IN FEET)								
			TYPE					
			JACKED (JA) FEET			BURIED (BD) FEET		
LOCATION	RACEWAY 🛆	SHEET	SIZE 2"	SIZE 3"	SIZE 4"	SIZE 2"	SIZE 3"	SIZE 4"
28+66 -PRC-		E3		180				
104+2 -Y-		E3		224				
16+70 -RPB-		E2		92				
42+78 -L-		E3			110			
42+78 -L-	JB8 - CSAJB	E3				130		
26+20 -RPD-		E2			60			
26+20 -RPD-	JB9 - JB11	E3				80		
17+65 -RPD-		E4		82				
24+50 -RPC-		E3		80				
110+61 -Y-		E3			175			
110+61 -Y-	SA34JB - SA35JB	E3				195		
17+44 -RPA-		E3		100				
25+60 -RPA-		E3		100				
54+90 -L-		E3		120				
25+00 -RPB-		E3		120				
TOTALS				1128	345	405		

Α	BBRE	VIA	TIONS

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDU
JA	JACKED	С	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
IG	IN GROUND	HM	HIGH MAST
LED	LIGHT EMITTING DIODE	LSJB	LIGHT STANDARD JUNCTION BOX
HMJB	HIGH MAST JUNCTION BOX	CSJB	CONTROL SYSTEM JUNCTION BOX

COMPUTED BY:	DATE:
CHECKED BY:	DATE: