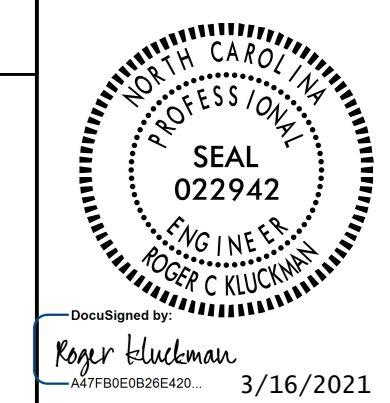


PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTES

- 1 AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "C"
- 2 INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 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 2011 AASHTO ROADSIDE DESIGN GUIDE.
- 5 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.
- 7 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.
- 8 INSTALL NEW CONDUCTORS IN EXISTING CONDUIT
- 9 INTERCEPT EXISTING CONDUIT AND INSTALL ELBOW TO TURN CONDUIT INTO JUNCTION BOX. INSTALL NEW CONDUCTORS IN EXISTING CONDUIT BETWEEN JUNCTION BOX AND EXISTING LIGHT POLE, AND JUNCTION BOX TO EXISTING JUNCTION BOX.
- 10 EXISTING POLE. RELOCATE OR REMAIN IN PLACE AS SHOWN. ALL OTHER EXISTING POLES TO BE REMOVED AND DISPOSED OF.
- 11 ABANDON CIRCUITRY ONLY. CONDUIT TO BE RETAINED AND REUSED
- 12 POLE NUMBERING CONVENTION: CONTROL SYSTEM-POLE #-CKT # (A-3-2).
- 13 INSTALL 6 OF THE REMOVED HIGH MAST LED LUMIANIRES ON THIS POLE.

SCOPE OF WORK

RENOVATE EXISTING ROADWAY LIGHTING SYSTEM BY REPLACING CONTROL SYSTEM, ADDING NEW POLES WITH LED LUMINAIRES, RELOCATING EXISTING POLES AND INSTALLING NEW JUNCTION BOXES, CONDUIT AND CIRCUITRY.

DESIGN CRITERIA

- 0.8 AVERAGE FOOTCANDLE ON TRAVEL LANES
- 4:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES
- 0.3 MAXIMUM VEILING LUMINANCE
- 2018 AASHTO ROADWAY LIGHTING DESIGN GUIDE
- 2013 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 6TH EDITION AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING (HANDHOLE SHAFT DIAMETER REQUIREMENT AND HANDHOLE PLACEMENT REQUIREMENT WAIVED)
- 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 130 MPH. ANY CONTRACTOR-DESIGNED SITE SPECIFIC FOUNDATION DESIGN SHALL BE DESIGNED FOR THE SAME WIND SPEED
- 2017 NATIONAL ELECTRICAL CODE
- 2011 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 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	TITLE
1401.01	HIGH MOUNT STANDARD
1404.01	LIGHT STANDARDS
1405.01	STANDARD FOUNDATION
1407.01	ELECTRIC SERVICE POLE AND LATERAL
1408.01	LIGHT CONTROL SYSTEM (USE ATTACHED DETAIL SHEET 1408D01 IN LIEU OF STANDARD DRAWING 1408.01, SHEETS E6 & E7)
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 2018.

LEGEND

- EXISTING 100' HIGH MAST STANDARD TO BE REMOVED. REMOVE OR ABANDON FOUNDATION.
- PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION, JUNCTION BOX & 6 HM LED LUMINAIRES. 560W MAX, 54,000 MIN. MAINTAINED DELIVERED LUMENS, TYPE V. MAXIMUM BUG RATING 5-0-5.
- PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION, JUNCTION BOX & 8 HM LED LUMINAIRES. 335W MAX, 27,000 MIN. MAINTAINED DELIVERED LUMENS, TYPE V. MAXIMUM BUG RATING 5-0-5.
- PROPOSED CONTROL SYSTEM WITH JUNCTION BOX. SIZE BREAKERS AS SHOWN IN LOAD SCHEDULE. SEE SHEET E5.
- PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE C, SHEET E1A.
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED.
- PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET.
- PROPOSED 30' CLASS 4 SERVICE POLE AND LATERAL 3 #1/0 USE 2" CONDUIT
- PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE B, THIS SHEET
- RELOCATED 45' LIGHT STANDARD. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2 AND JUNCTION BOX. INSTALL NEW SO CONDUCTOR INSIDE LIGHT STANDARD. REINSTALL LED ROADWAY LUMINAIRE.
- EXISTING 45' SINGLE ARM LIGHT STANDARD TO REMAIN IN PLACE. INSTALL NEW SO CONDUCTOR INSIDE LIGHT STANDARD.
- EXISTING CONTROL SYSTEM. REMOVE CONTROL SYSTEM, BUT RETAIN GATEWAY FOR REUSE.
- EXISTING ELECTRICAL JUNCTION BOX. REMOVE UNLESS OTHERWISE NOTED ON THE PLANS.
- EXISTING 45' SINGLE ARM POLE TO BE REMOVED & DISPOSED OF UNLESS NOTED OTHERWISE.

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
*8	2 #8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR
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
*6	2 #6 Ø 1 #10G	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR
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
*4	2 #4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR
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 #2 Ø 1 #4G	2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR

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
IGJB	IN GROUND JUNCTION BOX	HM	HIGH MAST
LED	LIGHT EMITTING DIODE	LSJB	LIGHT STANDARD JUNCTION BOX
HMJB	HIGH MAST JUNCTION BOX	CSJB	CONTROL SYSTEM JUNCTION BOX

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