

# PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DocuSigned by: Roger Kluckhohn Date: 13, 2021

## NOTES

- 1 INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
- 2 LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
- 3 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.
- 4 POLE NUMBERING CONVENTION: CONTROL SYSTEM-POLE #-CKT # (A-3-2).
- 5 JUNCTION BOXES SHOWN NEAR LIGHT STANDARDS (LSJB & HMJB) ARE SHOWN FOR CLARITY. THESE JUNCTION BOXES ARE TO BE USED AS A TEE POINT FOR CIRCUITRY TO THE STANDARD, AND SHALL BE INSTALLED FOR BEST ALIGNMENT OF CIRCUITRY WHILE MAINTAINING THE OFFSETS SHOWN IN TABLE "C". SEE STANDARD DRAWINGS 1401.01 AND 1406.01 FOR INSTALLATION DETAILS.
- 6 ALL IN GROUND JUNCTION BOXES SHALL BE 18" HIGH AND ALL BARRIER RAIL AND SIDEWALK JUNCTION BOXES SHALL BE 6" HIGH, UNLESS OTHERWISE NOTED.
- 7 CONTRACTOR SHALL RECORD THE GPS COORDINATES OF EACH JUNCTION BOX WITHIN 3' ACCURACY, 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 REMOVE EXISTING FEEDER CIRCUIT HERE.

## SCOPE OF WORK

REMOVE EXISTING TWIN ARM LIGHT STANDARDS IN CONFLICT WITH CONSTRUCTION. REPLACE WITH NEW TWIN ARM LIGHT STANDARDS WITH LIGHT EMITTING DIODE LUMINAIRES, UNDERGROUND CIRCUITRY, AND JUNCTION BOXES.

## DESIGN CRITERIA

- 0.8 AVERAGE FOOTCANDLE ON TRAVEL LANES
- 4:1 AVERAGE TO MINIMUM UNIFORMITY RATIO ON TRAVEL LANES
- 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
- 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
1405.01	STANDARD FOUNDATION
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 TWIN ARM LIGHT STANDARD TO BE RELOCATED.
- RELOCATED TWIN ARM LIGHT STANDARD. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2.
- EXISTING ELECTRICAL JUNCTION BOX. LEAVE IN PLACE.
- PROPOSED ELECTRICAL JUNCTION BOX. SEE TABLE C, SHEET E1A, FOR DETAILS AND TYPE.
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED.
- EXISTING FEEDER CIRCUIT.
- PROPOSED FEEDER CIRCUIT. CONTROL SYSTEM (A), CIRCUIT NUMBER (1) PLAN SYMBOL (6). SEE TABLE A, THIS SHEET.
- EXISTING 100 FOOT HIGH MAST POLE.
- EXISTING CONTROL PANEL.

TABLE "A" CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM
8	2 #8 Ø 1 #10G 1.5" P	2 - 8 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*8	2 #8 Ø 1 #10G	2 - 8 W/G FEEDER CIRCUIT
6	2 #6 Ø 1 #8G 1.5" P	2 - 6 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*6	2 #6 Ø 1 #10G	2 - 6 W/G FEEDER CIRCUIT
4	2 #4 Ø 1 #6G 1.5" P	2 - 4 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*4	2 #4 Ø 1 #6G	2 - 4 W/G FEEDER CIRCUIT
2	2 #2 Ø 1 #4G 1.5" P	2 - 2 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*2	2 #2 Ø 1 #4G	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
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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