02/03/98

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| U-6018 | E-1 |

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

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03/05/2025

DocuSigned by: Nathan Dominguez

# *PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION*

## GENERAL NOTES

1. CIRCUIT AND JUNCTION BOX LOCATIONS MAY BE FIELD ADJUSTED AS REQUIRED TO STAY WITHIN THE LIMITS OF CONSTRUCTION, WITHIN RIGHT-OF-WAY, OUT OF DITCH LINES, AWAY FROM FENCE POSTS, GUARDRAILS AND CABLE GUIDERAILS, AND TO CLEAR OBSTRUCTIONS. ADJUSTMENTS RESULTING IN AN OVERALL INCREASE OF 3% OR MORE TO ANY CIRCUIT LENGTH REQUIRES APPROVAL FROM THE ENGINEER.
2. LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
3. ALL IN GROUND JUNCTION BOXES DEPTHS SHALL BE 18″ UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL RECORD THE GPS COORDINATES OF EACH JUNCTION BOX INSTALLED AS PART OF THIS PROJECT 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. COORDINATES ARE NOT REQUIRED FOR FORMED OPENINGS.
5. INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2011 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
6. 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.

## △ NOTES

△1 AT THESE LOCATIONS, PROVIDE A COMMON GROUND PER NEC REQUIREMENTS FOR ALL ELECTRICAL CIRCUITS WITHIN THE RACEWAY. RACEWAY SHALL BE INSTALLED WITHIN A PROTECTIVE SLEEVE UNDER THE ROADWAY. SEE TABLE ″B″ FOR ESTIMATED LENGTHS.

△2 LOCATE AND INTERCEPT EXISTING CIRCUITRY, AND TURN UP IN THIS NEW JUNCTION BOX. USE 3″ SLEEVE AND 1.5″ FEEDER CONDUIT.

△3 EXISTING JUNCTION BOX TO BE REMOVED.

## SCOPE OF WORK

PARTIALLY RENOVATE EXISTING LIGHTING SYSTEM BY EXTENDING DUCT AND FEEDER CIRCUITS FOR Y-LINE WIDENING.

## DESIGN CRITERIA

2018 AASHTO ROADWAY LIGHTING DESIGN GUIDE

2020 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 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD NO. | TITLE |
|---|---|
| 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 2024.

## LEGEND

- 100′ — EXISTING 100′ HIGH MAST STANDARD. LEAVE IN PLACE.
- 1 — REFERENCE TO CORRESPONDING NOTE AS NUMBERED.
- Ø A1 8 — PROPOSED FEEDER CIRCUIT. CONTROL SYSTEM (A), CIRCUIT NUMBER (1) PLAN SYMBOL (6). SEE TABLE A, THIS SHEET.
- 2″, 3″ OR 4″ ELEC. DUCT TL & BD — PROPOSED ELECTRICAL DUCT SIZE 2″, 3″ OR 4″ TYPE (TL) OR (BD) LOCATION: SEE TABLE B, SHEET E1A.
- EXISTING CONTROL SYSTEM.
- EXISTING ELECTRICAL JUNCTION BOX. LEAVE IN PLACE UNLESS OTHERWISE NOTED ON THE PLANS BY DELTA NOTE.
- PROPOSED ELECTRICAL JUNCTION BOX. SEE TABLE C, SHEET E1A, FOR DETAILS AND TYPE.
- EXISTING FEEDER CIRCUIT.
- EXISTING ELECTRICAL DUCT.
- Ø A1 — EXISTING FEEDER CIRCUIT. NO CHANGES REQUIRED.

TABLE ″A″
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

| PLAN SYMBOL | DESCRIPTION | | CONTRACT ITEM |
|---|---|---|---|
| 8 | 2 #8 Ø<br>1 #10G<br>1.5″ P | 2 AWG SIZE 8 CONDUCTOR (BK & RD)<br>1 AWG SIZE 10 GROUNDING CONDUCTOR<br>1.5″ PVC CONDUIT | 2 - 8 W/G FEEDER CIRCUIT IN 1.5″ CONDUIT |
| *8 | 2 #8 Ø<br>1 #10G | 2 AWG SIZE 8 CONDUCTOR (BK & RD)<br>1 AWG SIZE 10 GROUNDING CONDUCTOR | 2 - 8 W/G FEEDER CIRCUIT |
| 6 | 2 #6 Ø<br>1 #8G<br>1.5″ P | 2 AWG SIZE 6 CONDUCTOR (BK & RD)<br>1 AWG SIZE 8 GROUNDING CONDUCTOR<br>1.5″ PVC CONDUIT | 2 - 6 W/G FEEDER CIRCUIT IN 1.5″ CONDUIT |
| *6 | 2 #6 Ø<br>1 #10G | 2 AWG SIZE 6 CONDUCTOR (BK & RD)<br>1 AWG SIZE 8 GROUNDING CONDUCTOR | 2 - 6 W/G FEEDER CIRCUIT |

ABBREVIATIONS

| | | | |
|---|---|---|---|
| BD | BURIED | PVC | PVC SCHEDULE 40 CONDUIT |
| LT | LIGHT | RGC | RIGID GALVANIZED STEEL CONDUIT |
| TL | TRENCHLESS | 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 |
| ABN | ABANDON | | |

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