

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 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 TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, UNDERPASS LIGHTING, UNDERGROUND CIRCUITRY, CONTROL SYSTEM 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

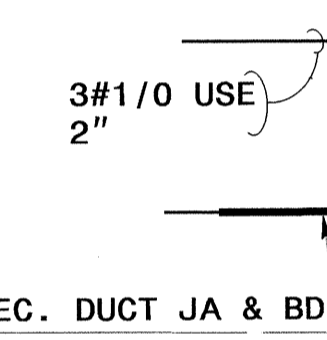
THE FOLLOWING ROADWAY ENGLISH STANDARDS AS APPEAR IN "NCDOT ROADWAY STANDARD DRAWINGS", ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD NO. | TITLE |
|---------|-----------------------------------|
| 1401.01 | HIGH MOUNT STANDARD |
| 1402.01 | HIGH MOUNT FOUNDATION |
| 1403.01 | HIGH MOUNT LUMINAIRES |
| 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 |
| 1412.01 | UNDERPASS LIGHTING |

ALL WORK SHALL BE IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JANUARY 2012.

LEGEND

- PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED UNDERPASS BREAKER PANEL
- PROPOSED UNDERPASS LUMINAIRE, TYPE PM, 70W HPS, LOW BAY WITH SAFTEY CHAIN
- PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- 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



| 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 |

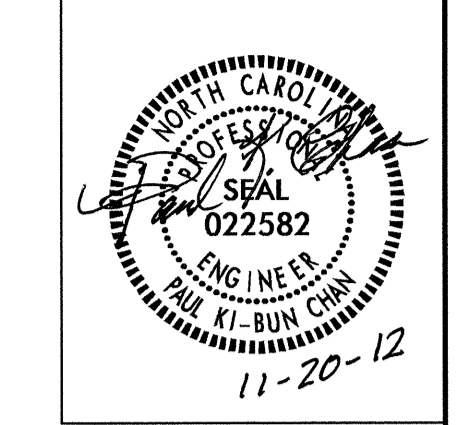
| NUMBER | LOCATION | TYPE | SHEET |
|--------|--------------------|------|-------|
| JB1 | 19+20 -Y4- 65' LT | PC18 | E2 |
| JB2 | 19+20 -Y4- 60' RT | PC18 | E2 |
| JB3 | 25+75 -RPB- 35' LT | PC18 | E2 |
| JB4 | 25+75 -RPB- 35' RT | PC18 | E2 |
| JB5 | 25+75 -RPC- 35' LT | PC18 | E2 |
| JB6 | 25+75 -RPC- 35' RT | PC18 | E2 |
| TOTALS | | 6 | |

| LOCATION | RACEWAY | SHEET | TYPE | | | | | | |
|-------------|-----------|-------|---------------------|---------|---------|---------------------|---------|---------|----|
| | | | JACKED (JA) FEET | | | BURIED (BD) FEET | | | |
| | | | SIZE 2" | SIZE 3" | SIZE 4" | SIZE 2" | SIZE 3" | SIZE 4" | |
| 19+20 -Y4- | | E2 | | | | | | | 90 |
| 19+20 -Y4- | JB1 - JB2 | E2 | | | | 125 | | | |
| 25+75 -RPB- | | E2 | | | | | | | 35 |
| 25+75 -RPB- | JB3 - JB4 | E2 | | | | 75 | | | |
| 79+60 -L- | JB4 - JB5 | E2 | | | | 185 | | | |
| 25+75 -RPB- | | | | | | | | 35 | |
| TOTALS | | | | | | 385 | 35 | 125 | |

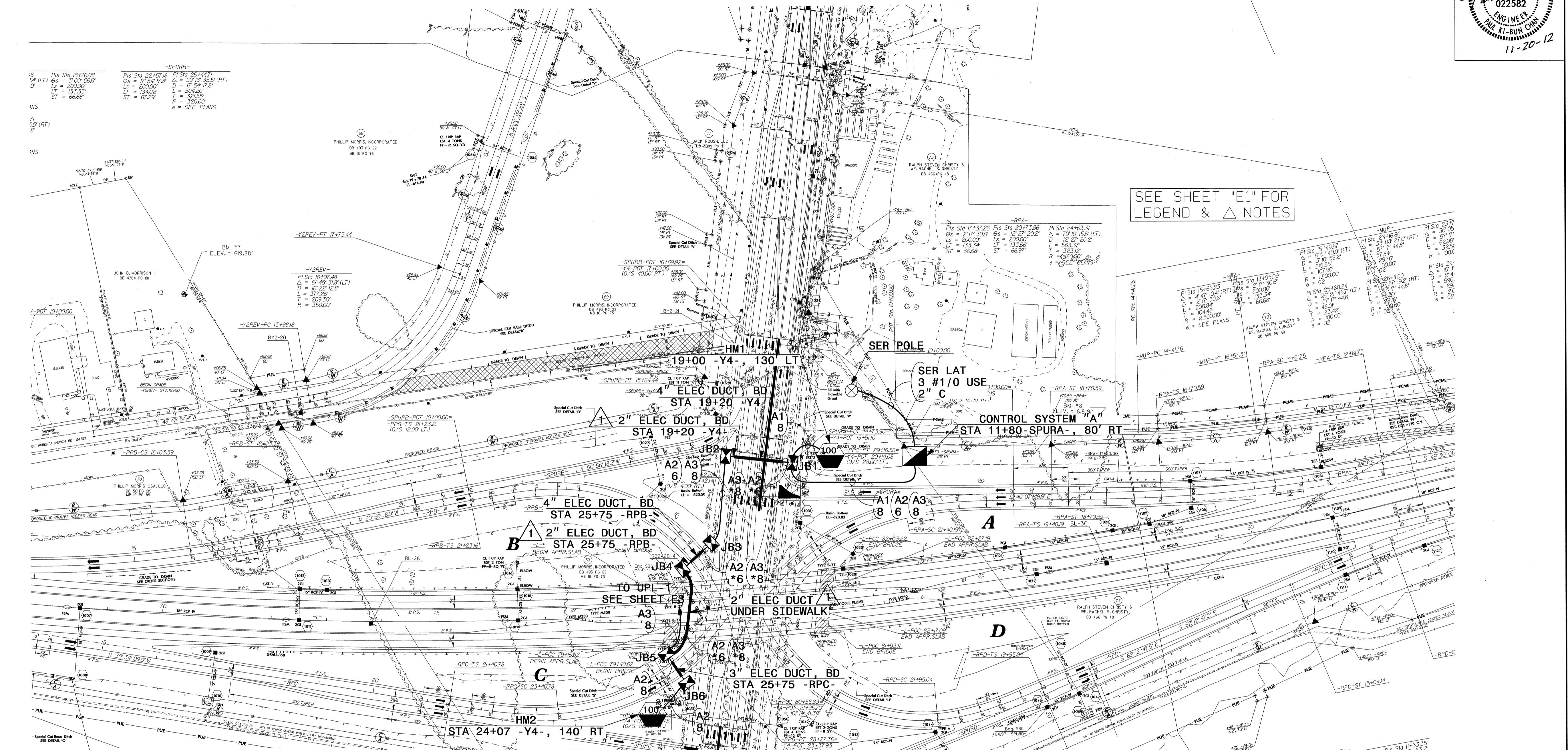
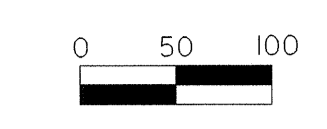
| | | | |
|---------|-----------------|-----|--------------------------------|
| BD | BURIED | PVC | PVC SCHEDULE 40 CONDUIT |
| LT | LIGHT | RGC | RIGID GALVANIZED STEEL CONDUIT |
| JA | JACKED | C | CONDUIT |
| MH | MOUNTING HEIGHT | CKT | CIRCUIT |
| Ø | PHASE | N | NEUTRAL |
| SER LAT | SERVICE LATERAL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

COMPUTED BY: RGH DATE: 11/19/12
 CHECKED BY: PKC DATE: 11-20-12

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USE FOR LIGHTING CONSTRUCTION ONLY



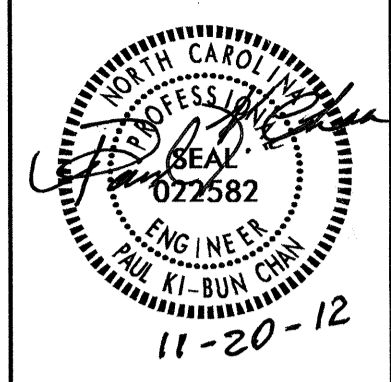
SEE SHEET "E1" FOR LEGEND & Δ NOTES

LOAD SCHEDULE
GEORGE LILES PKWY/US 29 INTERCHANGE, NW QUAD
CONTROL SYSTEM "A"

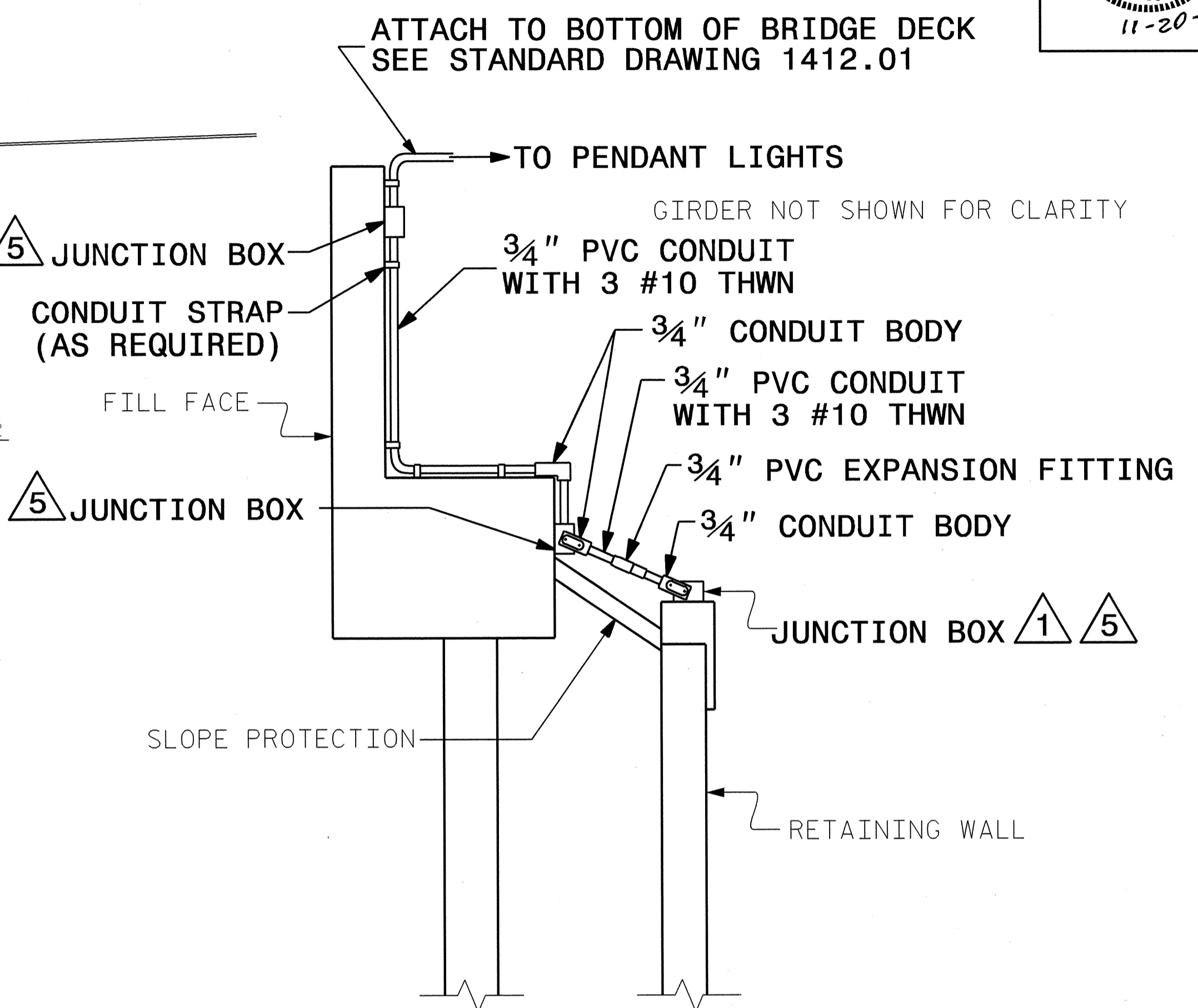
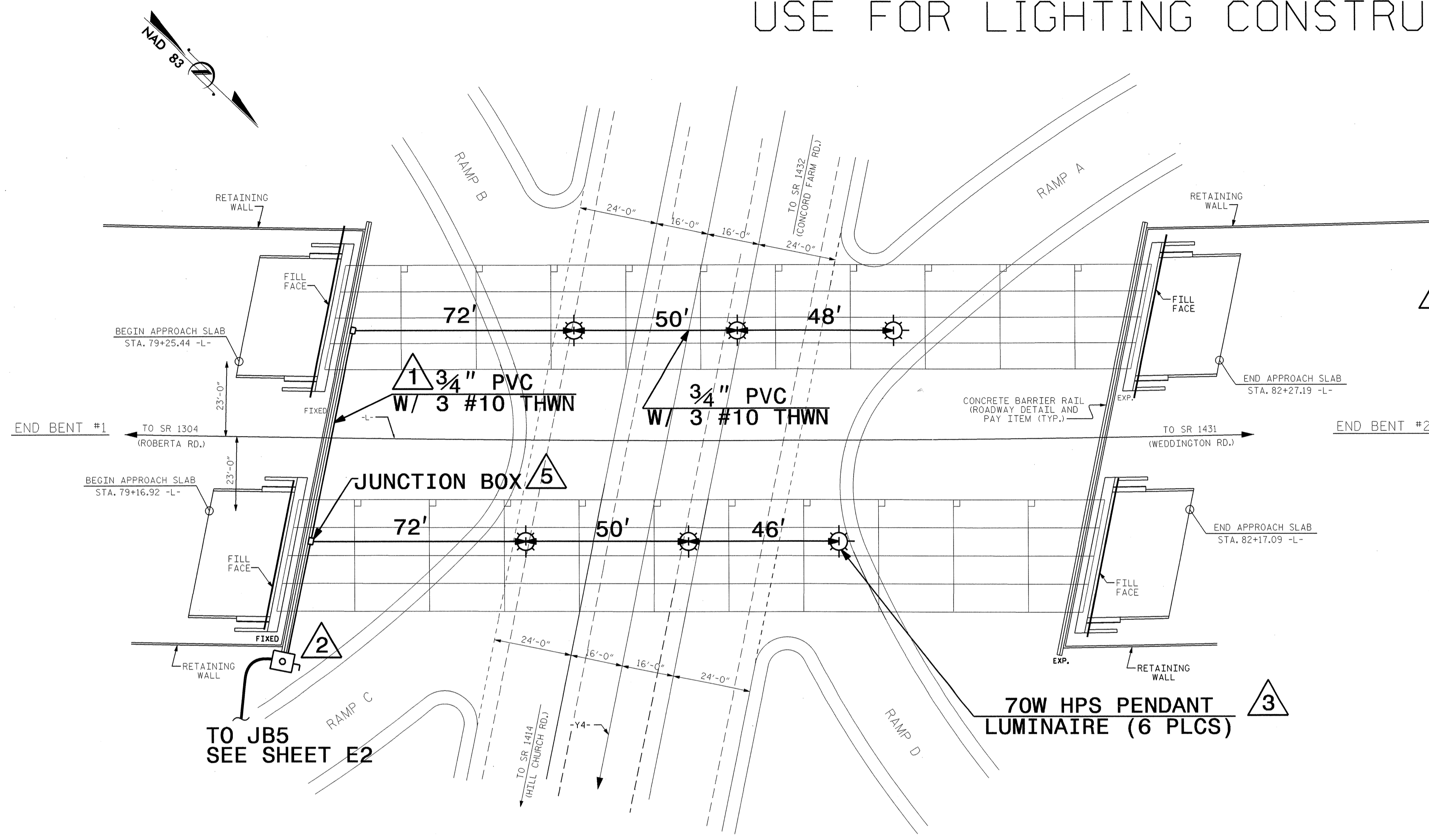
| CIRCUIT ID | HIGH MAST 6 @ 750W HPS | UNDERPASS 6 @ 70W HPS | AMPS @ 480V | KW LOAD | BREAKER SIZE (AMPS) |
|------------|---------------------------|--------------------------|----------------|------------|------------------------|
| A1 | HM1 | | 10.8 | 5.2 | 15 |
| A2 | HM2 | | 10.8 | 5.2 | 15 |
| A3 | | UPL-1 | 1.2 | 0.6 | 15 |
| SPARE | | | | | 15 |
| TOTAL | 2 | 1 | 22.8 | 11.0 | |

| 2 | | | |
|---|------|--------------|----------|
| 1 | | | |
| Rev. | Date | Description | Approved |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION LIGHTING LAYOUT GEORGE LILES PARKWAY/US 29 INTERCHANGE CABARRUS COUNTY | | | |
| Drawn By: | RGH | Approved By: | PKC |
| Dwg No.: | | | |

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USE FOR LIGHTING CONSTRUCTION ONLY



UNDERPASS LIGHTING LAYOUT (UPL-1)
BEGIN LAYOUT AT BACKWALL

DETAIL A

NOTES:

- 1 ATTACH CONDUIT TO TOP OF RETAINING WALL CAP
- 2 MOUNT CIRCUIT BREAKER ASSEMBLY ON FACE OF MSE WALL HIGH ENOUGH TO PREVENT TAMPERING. SEE STANDARD DRAWING 1412.01, SHEET 2 OF 2.
- 3 CENTER PENDANT LIGHTS BETWEEN GIRDERS
- 4 FIELD BEND OR USE CONDUIT BODIES AS REQUIRED FOR EASE OF INSTALLATION WHILE MAINTAINING CONFORMANCE WITH NEC GUIDELINES.
- 5 PROVIDE 4" X 4" X 2" PVC JUNCTION BOX WITH 3/4" HUBS AND GASKETED COVER.

| 2 | | | |
|--|------|-------------|----------|
| 1 | | | |
| Rev. | Date | Description | Approved |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION UNDERPASS LIGHTING LAYOUT GEORGE LILES PARKWAY/US 29 INTERCHANGE CABARRUS COUNTY | | | |
| Drawn By | RGH | Approved By | PKC |
| Dwg No. | | | |

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