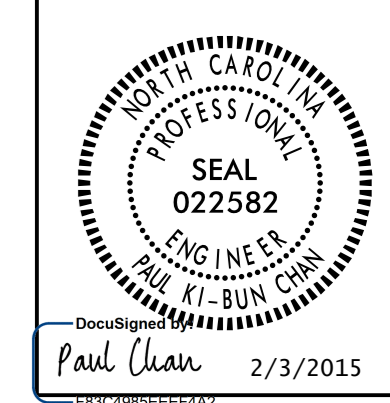


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# PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION



### NOTES

- 1 INSTALL JUNCTION BOX IN SIDEWALK IN FRONT OF ABUTMENT WALL. EXTEND CONDUIT UNDER SIDEWALK PAST THE END OF WALL 3.
- 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 SEE DETAIL SHEETS E3-E6 AND STANDARD DRAWING 1412.01 FOR ATTACHMENT DETAILS
- 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 PC30 JUNCTION BOXES ARE 30" L X 17" W X 18" H.
- 7 CENTER PENDANT MOUNT (TYPE PM) LUMINAIRES IN GIRDER BAY AND POSITION OVER PROPOSED SIDEWALK.
- 8 CONTINUE CIRCUITRY TO DUKE ENERGY PROGRESS METER SERVICE POINT. COORDINATE SERVICE LOCATION WITH DUKE ENERGY PROGRESS AND CITY OF CHARLOTTE PERSONNEL. SEE SHEET E7 FOR METER SERVICE POINT DETAILS.

### SCOPE OF WORK

PROVIDE UNDERPASS LIGHTING AND SWITCHBACK RAMP LIGHTING UTILITZING WALL MOUNT (WM) AND PENDANT MOUNT (PM) LIGHT EMITTING DIODE (LED) LUMINAIRES, INCLUDING ALL CONDUIT, JUNCTION BOXES AND CONTROL SYSTEMS.

### DESIGN CRITERIA

- 2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE
- 2014 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 2012 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
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 WALL PACK LUMINAIRE, TYPE WM, 50W LED MAXIMUM, 1,400 LUMENS MINIMUM
- PROPOSED PENDANT MOUNT LUMINAIRE, TYPE PM, 80W LED MAX, 5,600 LUMENS MIN, LOW BAY WITH SAFTEY CHAIN
- PROPOSED ELECTRICAL JUNCTION BOX, SIZE PC30
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, 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

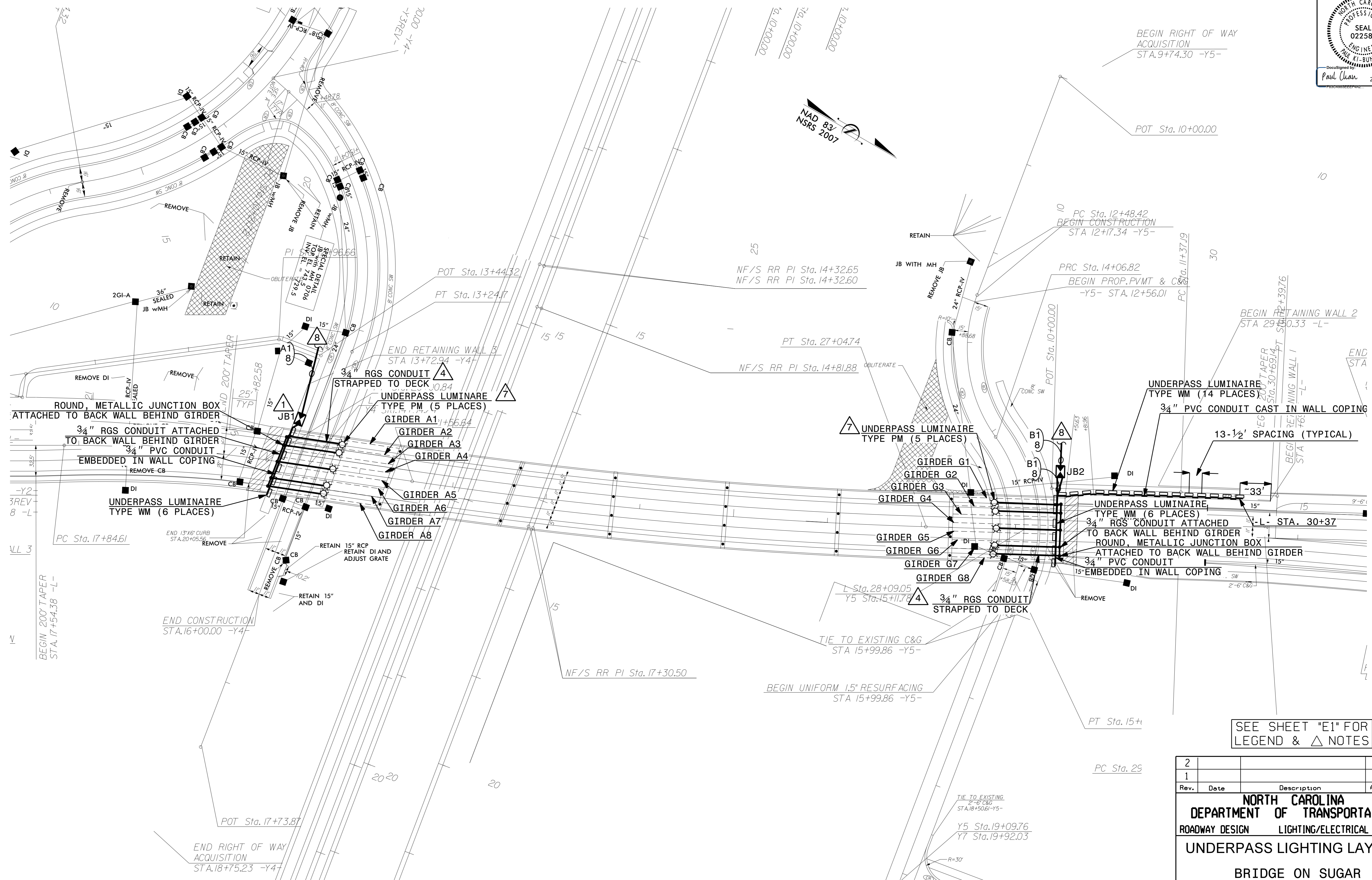
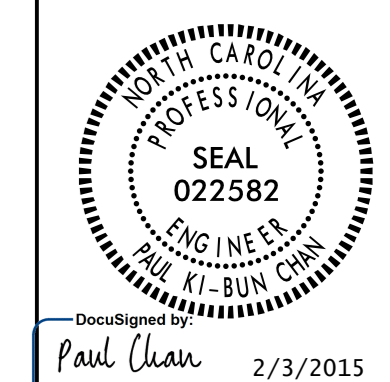
### ABBREVIATIONS

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGS/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: 2/2/15  
 CHECKED BY: PL DATE: \_\_\_\_\_



USE FOR LIGHTING CONSTRUCTION ONLY



SEE SHEET "E1" FOR LEGEND & △ NOTES

Rev.	Date	Description	Approved
2			
1			

**NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION**  
ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION

**UNDERPASS LIGHTING LAYOUT**

**BRIDGE ON SUGAR  
CREEK ROAD**

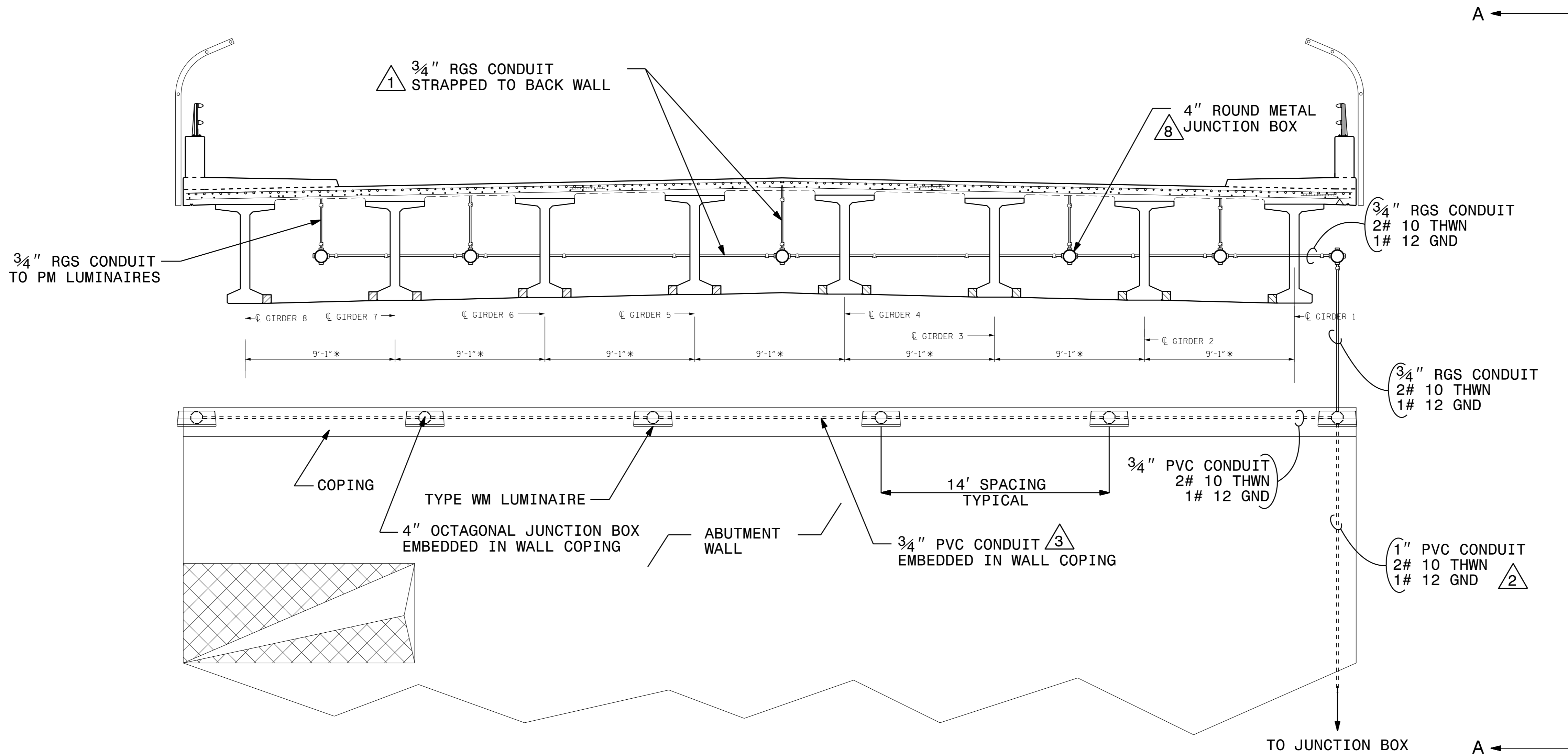
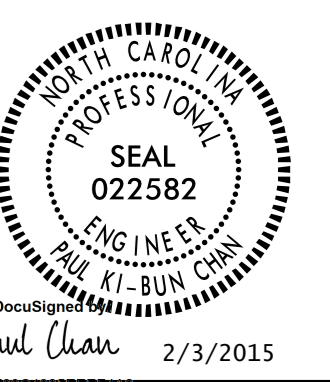
MECKLENBURG COUNTY

Drawn By: RGH Approved By: PC Dwg No.:

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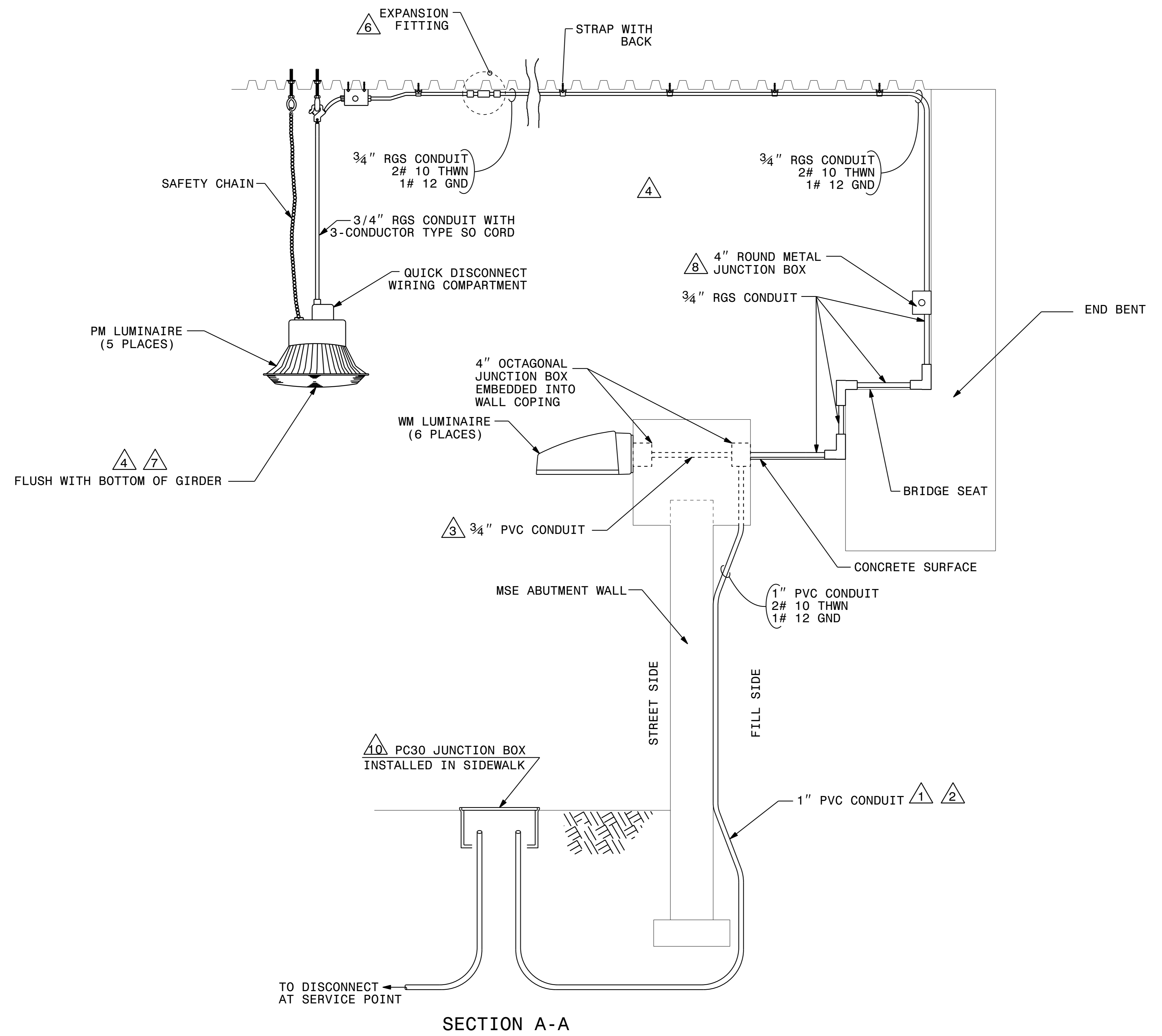
- NOTES
- 1 ATTACH CONDUIT TO BACK OF ABUTMENT WALL USING STRAPS WITH BACKS.
  - 2 COORDINATE WITH PRIME CONTRACTOR TO INSTALL CONDUIT ON BACK OF MSE WALL PRIOR TO PLACEMENT OF FILL.
  - 3 CONDUIT ENCASED IN COPING SHALL BE 3/4" SCHEDULE 40 PVC AND SHALL HAVE A MINIMUM 2" OF CONCRETE COVER.
  - 4 BRIDGE GIRDER NOT SHOWN.
  - 5 SEE STANDARD DRAWING 1412.01 FOR ADDITIONAL INSTALLATION DETAILS.
  - 6 PROVIDE EXPANSION FITTINGS AT BRIDGE EXPANSION JOINTS, AND IN EACH SECTION OF CONDUIT THAT IS GREATER THAN 100' LONG BETWEEN TERMINALS AT JUNCTION BOXES ON RETAINING WALL AND UNDER BRIDGE DECK.
  - 7 CENTER PM LUMINAIRE OVER SIDEWALK. SEE SHEET E2.
  - 8 PLUG ALL UNUSED PORTS IN JUNCTION BOX.
  - 9 DASHED CONDUITS INDICATE CONDUIT IS MOUNTED TO BACK OF MSE WALL OR EMBEDDED IN WALL COPING.
  - 10 INSTALL JUNCTION BOX WITH 1/4" PER FOOT FALL AWAY FOR WATER DRAINAGE.

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION <b>LIGHTING DETAILS</b> SUGAR CREEK ROAD UNDERPASS LIGHTING AT WALL 3 (BEARWOOD AVENUE) SHEET 1 OF 2 MECKLENBURG COUNTY			
Drawn By:	RGH	Approved By:	PC
Dwg No.:			

USE FOR LIGHTING CONSTRUCTION ONLY

PROJECT REFERENCE NO. U-5008	SHEET NO. E4
<b>NTS</b>	
Paul Chan 2/3/2015	

DCM 0400DEL\_P30



SECTION A-A

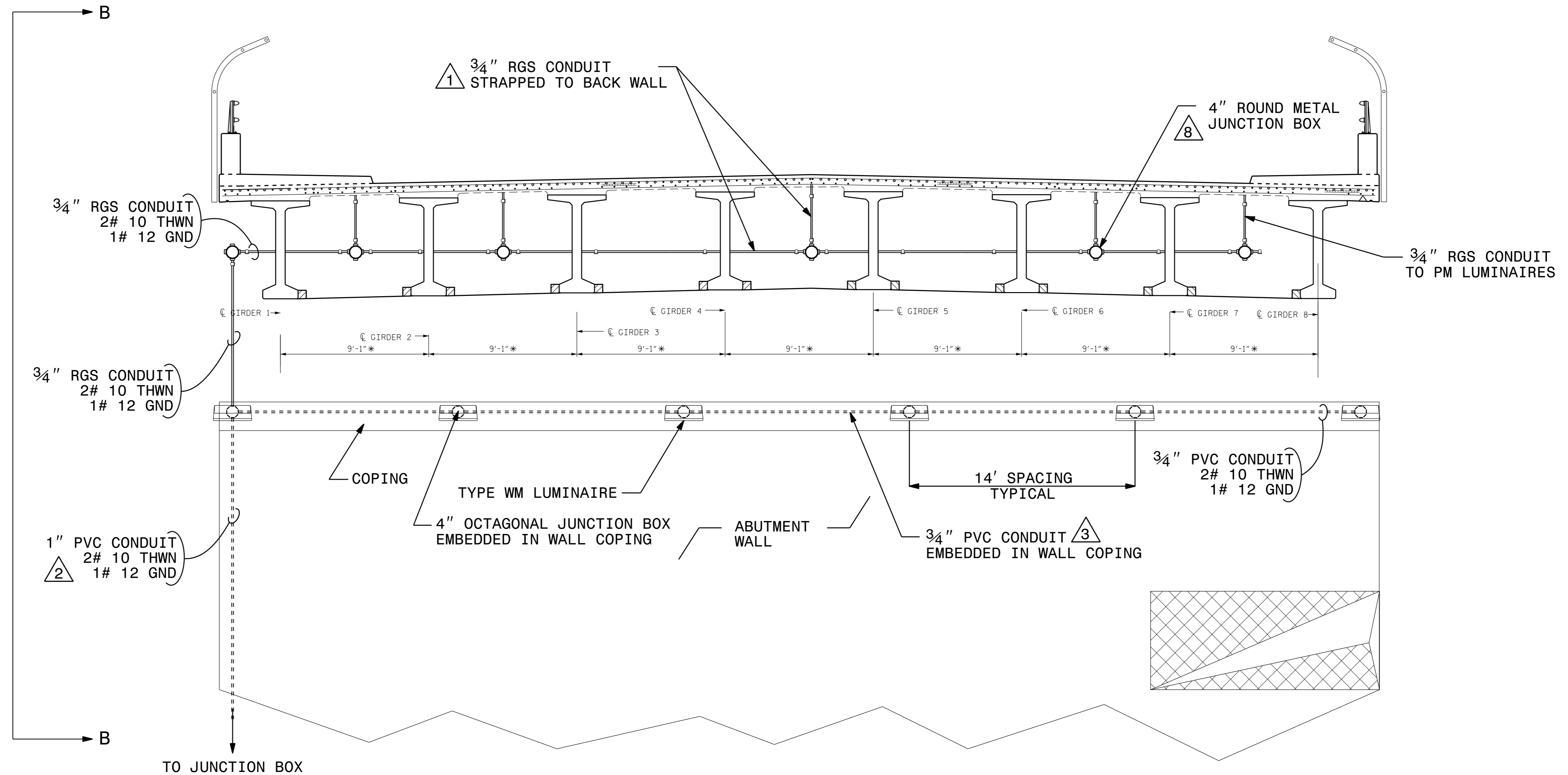
SEE SHEET E3 FOR DELTA NOTES

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1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION			
<b>LIGHTING DETAILS</b> SUGAR CREEK ROAD UNDERPASS LIGHTING AT WALL 3 (BEARWOOD AVENUE) SHEET 2 OF 2 MECKLENBURG COUNTY			
Drawn By:	RGH	Approved By:	PC
Dwg No.:			

USE FOR LIGHTING CONSTRUCTION ONLY

DCM  
0400DEL\_P30

PROJECT REFERENCE NO. U-5008	SHEET NO. E5
NTS	
	Documented by <i>Paul Chan</i> 2/3/2015 <small>PROF. ENGINEER</small>

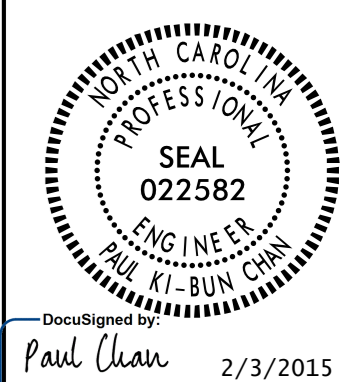


SEE SHEET E3 FOR DELTA NOTES

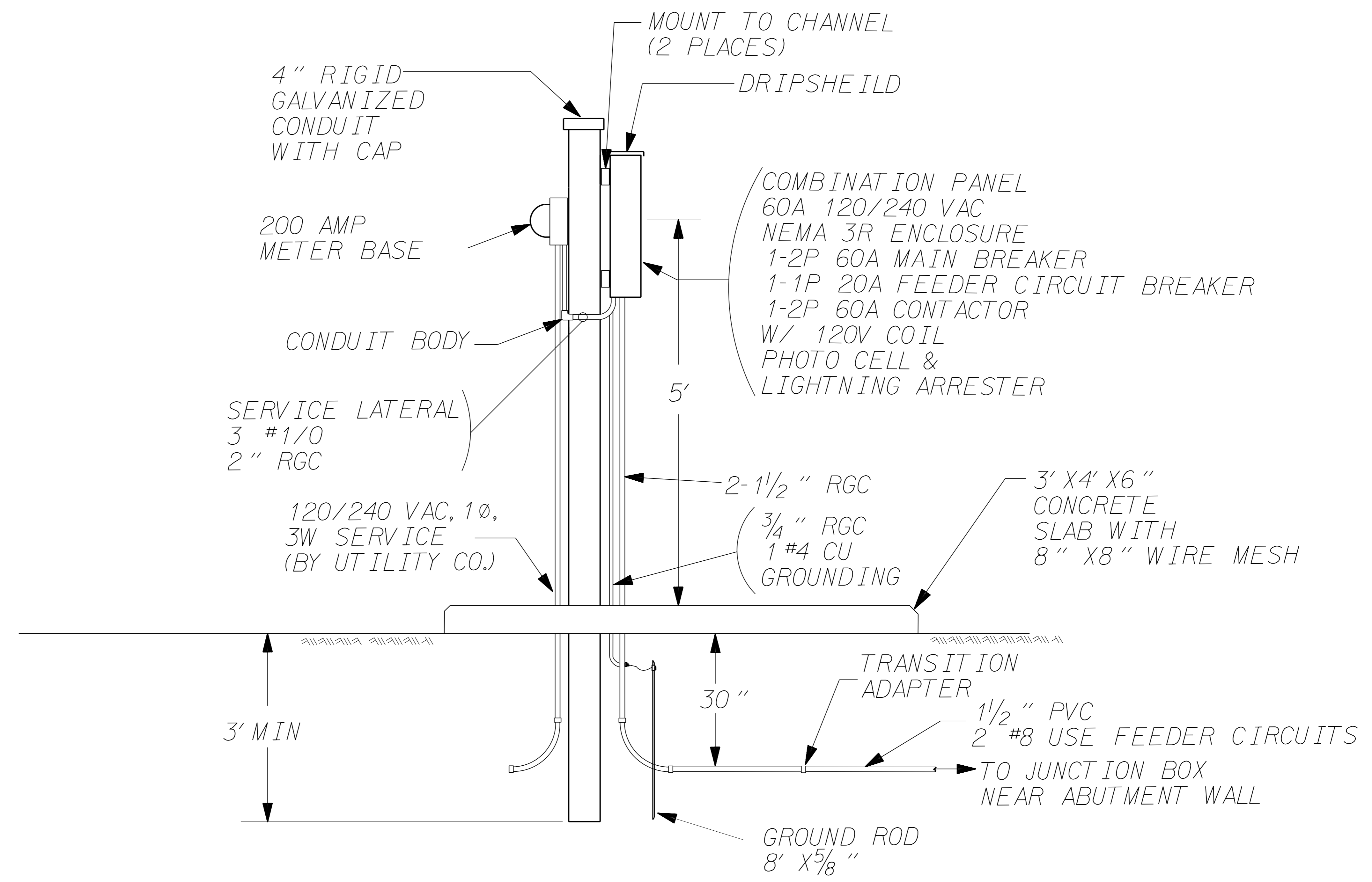
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1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION <b>LIGHTING DETAILS</b> SUGAR CREEK ROAD UNDERPASS LIGHTING AT WALL 1 (RALEIGH STREET) SHEET 1 OF 2 MECKLENBURG COUNTY			
Drawn By:	RGH	Approved By:	PC







USE FOR LIGHTING CONSTRUCTION ONLY



LIGHTING CONTROLLER/SERVICE ENTRANCE EQUIPMENT  
 SQUARE D NIGHT-MASTER CLASS 8903 OR APPROVED EQUAL

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION			
ELECTRICAL LIGHTING CONTROL SYSTEM DETAILS			
Drawn By:	RGH	Approved By:	PC
Dwg No.:			

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 \$\$\$DGERNAME\$\$\$