

NOTES

- 1 AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ONE CONTINUOUS RUN. CUT IN TWO AFTER INSTALLATION. SEE NOTE 5.
- 2 LOCATE ALL JUNCTION BOXES OUTSIDE OF CLEAR ZONE AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
- 3 LOCATE PROPOSED ELECTRICAL DUCT BENEATH RAMPS AND LOOPS FOR BEST ALIGNMENT OF CIRCUITS. LOCATE BORE PIT OUTSIDE CLEAR ZONE AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE. PROVIDE TRAFFIC CONTROL DEVICES AS REQUIRED FOR TRENCHING CIRCUITRY.
- 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 INTERCEPT AND CUT JACKED ELECTRICAL DUCT. INSTALL CIRCUITS TO JB2 AS SHOWN.
- 6 PC18 JUNCTION BOXES SHALL BE 18"(L) X 12"(W) X 18"(H).

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

ROADWAY STANDARDS

THE FOLLOWING ROADWAY ENGLISH STANDARDS AS APPEAR IN "ROADWAY ENGLISH STANDARD DRAWINGS", ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD NO.	TITLE
1404.01	LIGHT STANDARDS
1405.01	STANDARD FOUNDATION
1406.01	LIGHT STANDARD LUMINAIRES
1407.01	ELECTRICAL 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 THE SPECIAL PROVISIONS AND DIVISION 14 OF THE ENGLISH STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JULY 2006.

SCOPE OF WORK

PROVIDE ROADWAY LIGHTING BY FURNISHING AND INSTALLING HIGH PRESSURE SODIUM WALLMOUNT LUMINAIRES AT UNDERPASSES AND COBRAHEAD LUMINAIRES ON 35' MOUNTING HEIGHT STANDARDS, INCLUDING CONTROL SYSTEMS, UNDERGROUND CIRCUITRY AND JUNCTION BOXES.

DESIGN CRITERIA

- 2005 AASHTO "ROADWAY LIGHTING DESIGN GUIDE"
- 2005 NATIONAL ELECTRICAL CODE
- 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS
- 2002 AASHTO ROADSIDE DESIGN GUIDE

LEGEND

- PROPOSED LIGHT STANDARD TYPE MTLT 35' SA 15' W/ STANDARD FOUNDATION TYPE R1, 250W HPS FLAT GLASS ROADWAY LUMINAIRE MEDIUM CUTOFF, TYPE III
- UNDERPASS LUMINAIRE 150W HPS TYPE WM
- UNDERPASS CIRCUIT BREAKER
- JB1 PROPOSED ELECTRICAL JUNCTION BOX SEE DETAILS & TABLE B, THIS SHEET
- PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1), PLAN SYMBOL (8) SEE TABLE A, THIS SHEET
- PROPOSED CONTROL SYSTEM
- SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 1 2" CONDUIT
- PROPOSED ELECTRICAL DUCT SIZE 3" TYPE (JA) OR (BD) SEE TABLE C, THIS SHEET
- 3" ELEC. DUCT JA & BD STA. 17+12.00 -L2-
LINE CONTINUED
- REFERENCE TO CORRESPONDING NOTE AS NUMBERED

**TABLE "A"
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE**

PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM
8	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1 1/2" PVC CONDUIT	2 - 8 W/G FEEDER CIRCUIT IN SIZE 1 1/2" CONDUIT

**TABLE "B"
JUNCTION BOX SUMMARY**

NUMBER	LOCATION	TYPE	SHEET
JB1	19+58.00 -L2- 61.5' RT.	PC18	E2
JB2	19+65.00 -L2- 27.6' LT.	PC18	E2
TOTALS		2	

**TABLE "C"
ELECTRICAL DUCT SUMMARY
(ESTIMATED LENGTH IN FEET)**

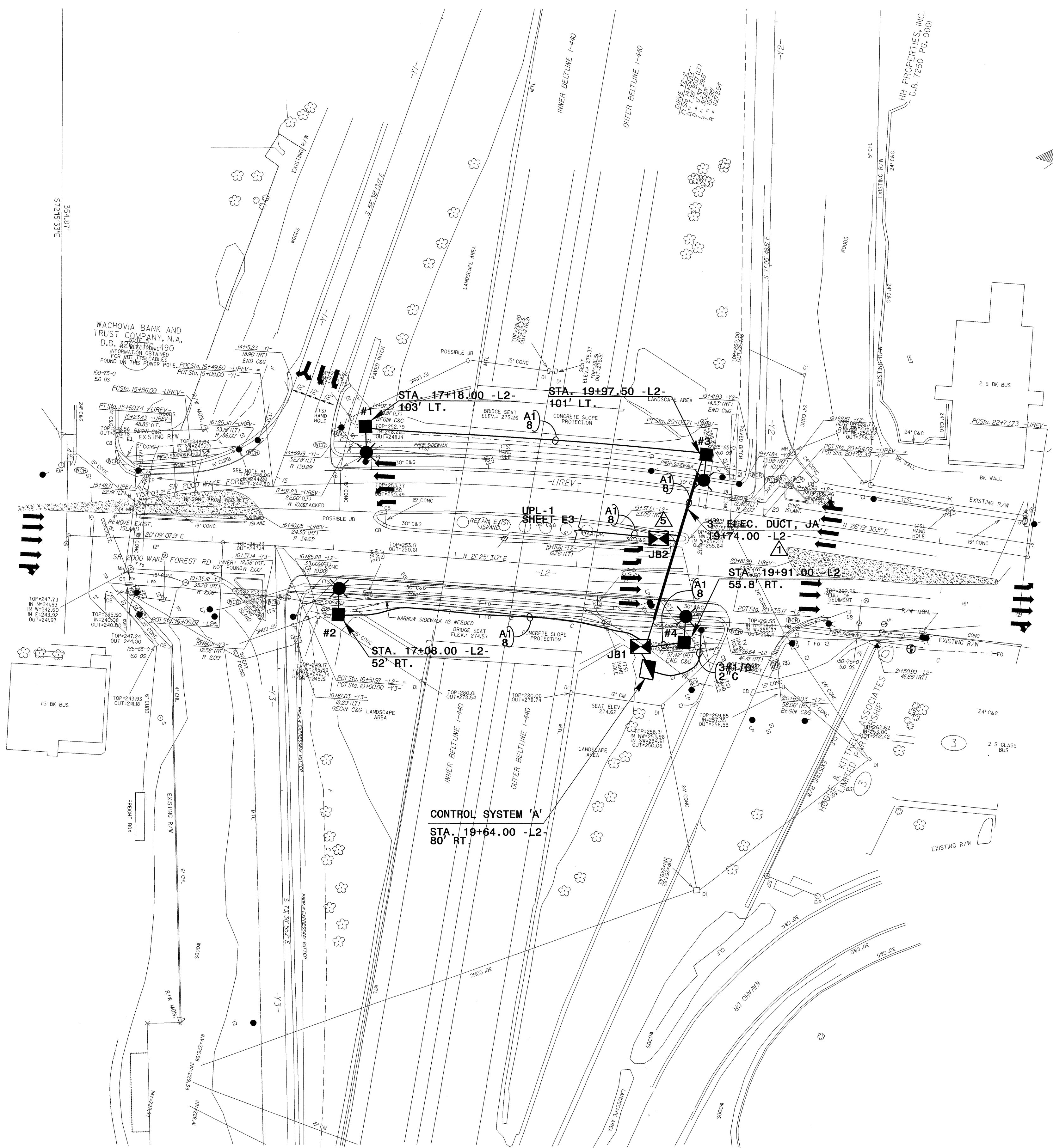
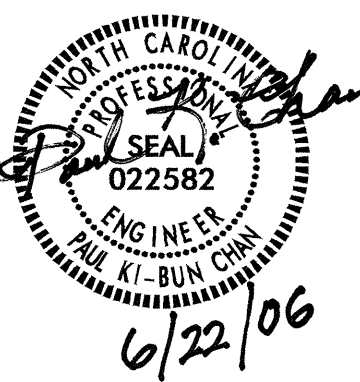
LOCATION	SHEET	TYPE	
		JACKED (JA) FEET	SIZE 2" / SIZE 3"
19+74.00 -L2-	E2		165
TOTALS			165

- ABBREVIATIONS**
- PVC NONMETALLIC CONDUIT - PVC SCHEDULE 40
 - RGC METALLIC CONDUIT - RIGID GALV. STEEL
 - C CONDUIT
 - CKT CIRCUIT
 - N NEUTRAL
 - BD BURIED
 - LGT LIGHT
 - JA JACKED
 - MH MOUNTING HEIGHT
 - Ø PHASE
 - SER LAT SERVICE LATERAL

2			
1	06/15/06	Updated to 06 Standards	
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
SR 2000 (WAKE FOREST RD) AT I-440 (BELTLINE)			
WAKE COUNTY			
Drawn By: JD	Checked By:	Approved By:	

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USE FOR LIGHTING CONSTRUCTION ONLY



LOAD SCHEDULE
WAKE FOREST RD/I-440 NE

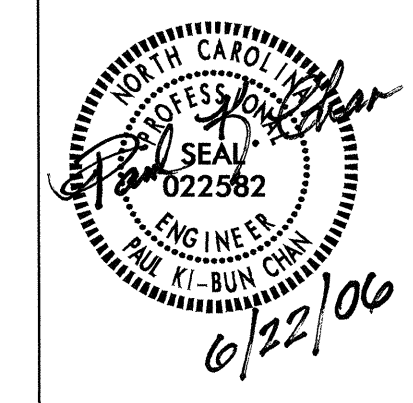
10, 3W, 240/480 VAC CONTROL SYSTEM "A"

CKT	SINGLE ARM @ 250W HPS	WALL MOUNT @ 150W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	4	6	5.1	2.5	15
SPARE					15
TOTAL	4	6	5.1	2.5	

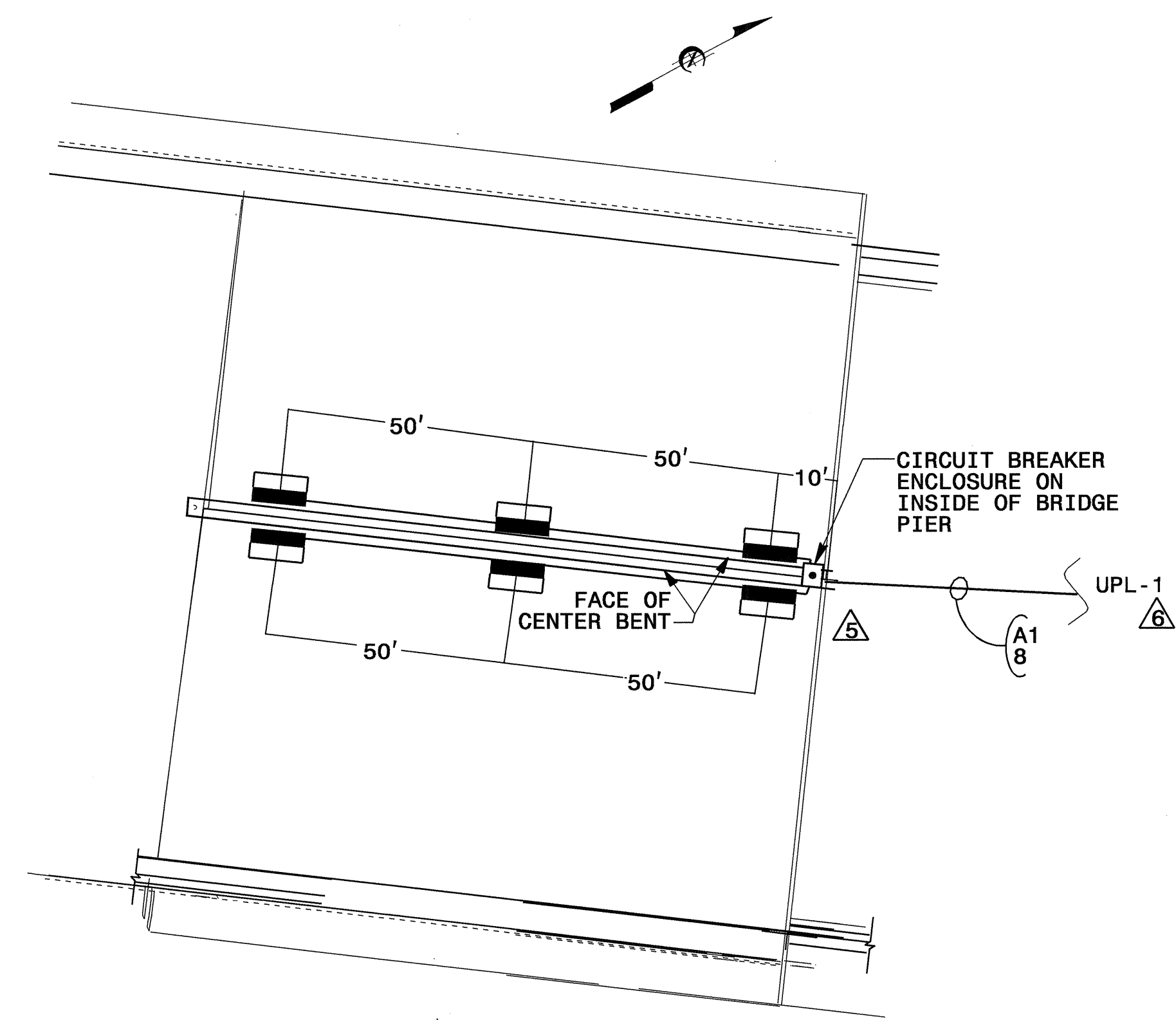
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Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
LIGHTING I-440/WAKE FOREST ROAD WAKE COUNTY			
Drawn By	Approved By	Dwg No.	
JD			

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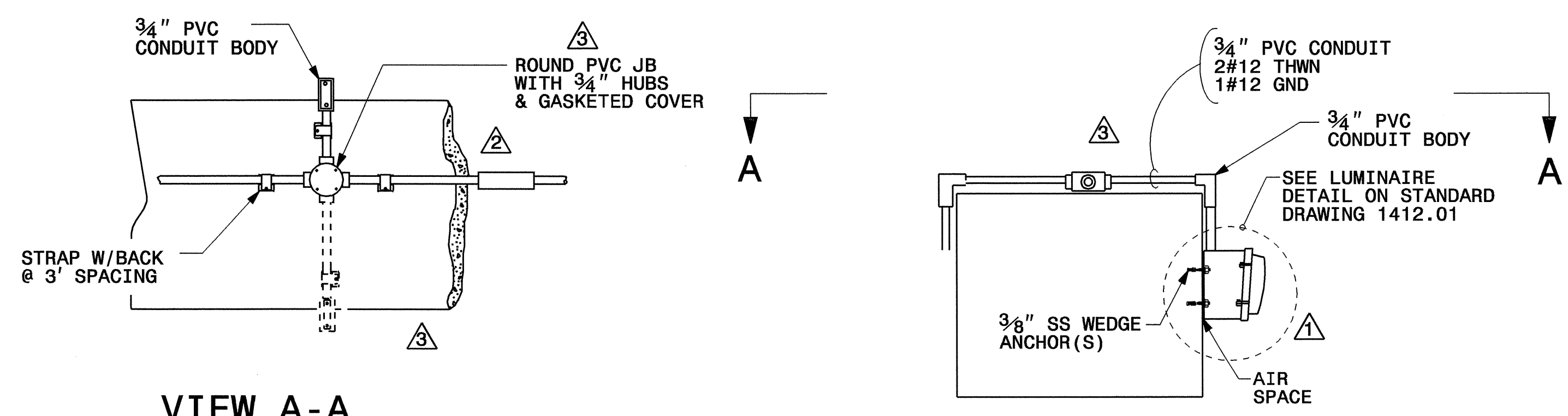


USE FOR LIGHTING CONSTRUCTION ONLY



- △ NOTES
- △ MOUNT TYPE WM LUMINAIRE APPROX. 15' ABOVE ROADWAY.
 - △ PROVIDE EXPANSION FITTINGS IN EACH SECTION OF CONDUIT THAT IS GREATER THAN 20' LONG BETWEEN TERMINALS, AT BRIDGE EXPANSION JOINTS AND AS SHOWN IN DETAIL B.
 - △ ADJUST CONDUIT AND JUNCTION BOX LAYOUT TO ACCOMMODATE DIFFERENCE IN ELEVATION AT EACH SEAT BUILD-UP ON CENTER BENT.
 - △ INSTALL STRAP W/BACK AT ALL CONDUIT BODIES.
 - △ LOCATE ENCLOSURE BETWEEN PIERS TO PROTECT FROM TRAFFIC.
 - △ EXTEND CIRCUIT TO JB2. SEE SHEET E2.
 - △ SEE STANDARD DRAWING SECTION 1412.01 FOR OTHER INSTALLATION DETAILS.

LIGHTING LAYOUT △



TYPE WM LUMINAIRE AND CIRCUITRY

2				
1				
Rev.	Date	Description	Approved	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION				
UNDERPASS LIGHTING WAKE FOREST RD/I-440				
WAKE COUNTY				
Drawn By:	Approved By:	Dwg No.:		
JD				

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