02/03/98

PROJECT REFERENCE NO.	SHEET NO.
U-2826A	E1

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUN CHAN
10/6/08

△ NOTES

1. AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIRMENTS 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. TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.
6. TYPE PC36 JUNCTION BOXES ARE 36" L X 24" W X 18" H.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 80' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, WALL MOUNT UNDERPASS FIXTURES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

DESIGN CRITERIA

2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE

2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING

FATIGUE CATEGORY II SHALL BE USED IN DESIGN OF HIGH MOUNT STANDARDS ONLY

DESIGN HIGH MOUNT STANDARD FOR BASIC WIND SPEED OF 90 MPH

HIGH MOUNT STANDARD FOUNDATION DESIGNED FOR BASIC WIND SPEED OF 110 MPH. ANY CONTRACTOR-DESIGNED SITE SPECIFIC FOUNDATION DESIGN SHALL BE DESIGNED FOR THE SAME WIND SPEED

2008 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 JULY 2006 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 JULY 2006.

LEGEND

- (4) PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION & (4) HM LUMINAIRES 400W HPS, MEDIUM, CUTOFF, TYPE V.
- PROPOSED UNDERPASS LUMINAIRE 150W HPS, TYPE WM.
- PROPOSED CONTROL SYSTEM. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- PROPOSED UNDERPASS BREAKER PANEL
- JB1 PROPOSED ELECTRICAL JUNCTION BOX TYPE PC18 SEE DETAILS & TABLE B, THIS SHEET
- (1) REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- A1 / 6 PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET
- 3#1/0 USE 2" PROPOSED SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 2" CONDUIT
- 2", 3" OR 4" ELEC. DUCT JA & BD PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE C, THIS SHEET

TABLE "A"
CIRCUITRY CONDUCTOR CONDUIT TYPE & SIZE

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

TABLE "B"
JUNCTION BOX SUMMARY

NUMBER	LOCATION	TYPE		SHEET
JB1	22+61 -L- 198' RT		PC36	E2
JB2	22+86 -L- 91' RT	PC18		E2
JB3	23+17 -L- 70' LT	PC18		E2
JB4	23+94 -L- 93' LT	PC18		E2
JB5	10+18 -Y- 61' RT	PC18		E2
JB6	10+25 -Y- 54' LT	PC18		E2
JB7	19+00 -Y2- 94' RT	PC18		E2
JB8	16+05 -Y2- 45' RT	PC18		E2
TOTALS		7	1	

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

			TYPE					
			JACKED (JA) FEET			BURIED (BD) FEET		
LOCATION	RACEWAY (1)	SHEET	SIZE 2"	SIZE 3"	SIZE 4"	SIZE 2"	SIZE 3"	SIZE 4"
23+05 -L-		E2		153				
10+22 -Y-	JB5 - JB6	E2				123		
10+22 -Y-		E2			93			20
TOTALS				153	93	123		20

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
		HM	HIGH MAST

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02/03/98

PROJECT REFERENCE NO.	SHEET NO.
U-2826A	E2

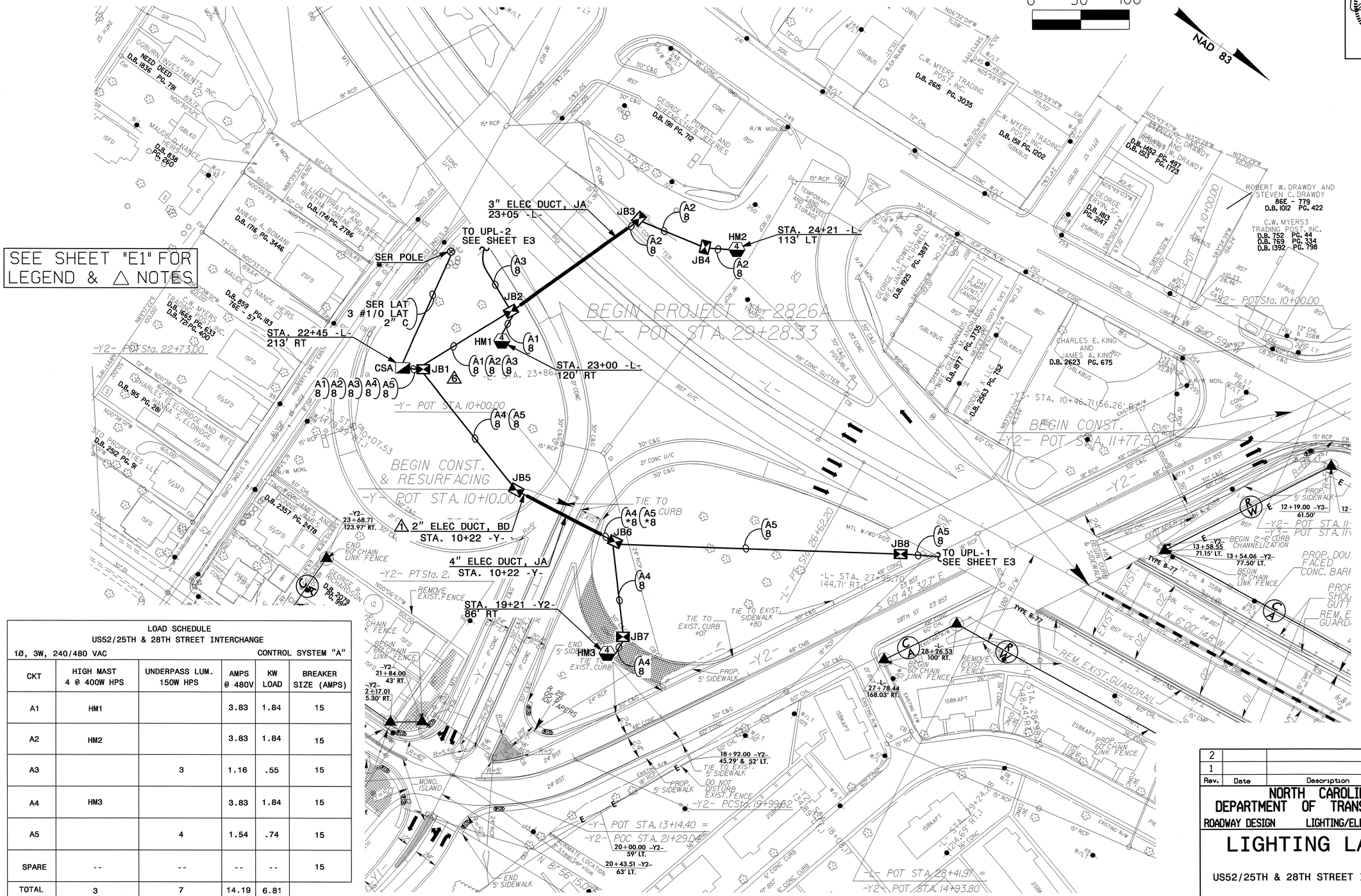
USE FOR LIGHTING CONSTRUCTION ONLY

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER PAUL KI-BUM CHAN 10/6/08

0 50 100

NAD 83

SEE SHEET "E1" FOR LEGEND & △ NOTES



LOAD SCHEDULE US52/25TH & 28TH STREET INTERCHANGE 1Ø, 3W, 240/480 VAC					CONTROL SYSTEM "A"
CKT	HIGH MAST 4 @ 400W HPS	UNDERPASS LUM. 150W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	HM1		3.83	1.84	15
A2	HM2		3.83	1.84	15
A3		3	1.16	.55	15
A4	HM3		3.83	1.84	15
A5		4	1.54	.74	15
SPARE	--	--	--	--	15
TOTAL	3	7	14.19	6.81	

Rev.	Date	Description	Approved
2			
1			

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

LIGHTING LAYOUT

US52/25TH & 28TH STREET INTERCHANGE

FORSYTH COUNTY

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RGH		

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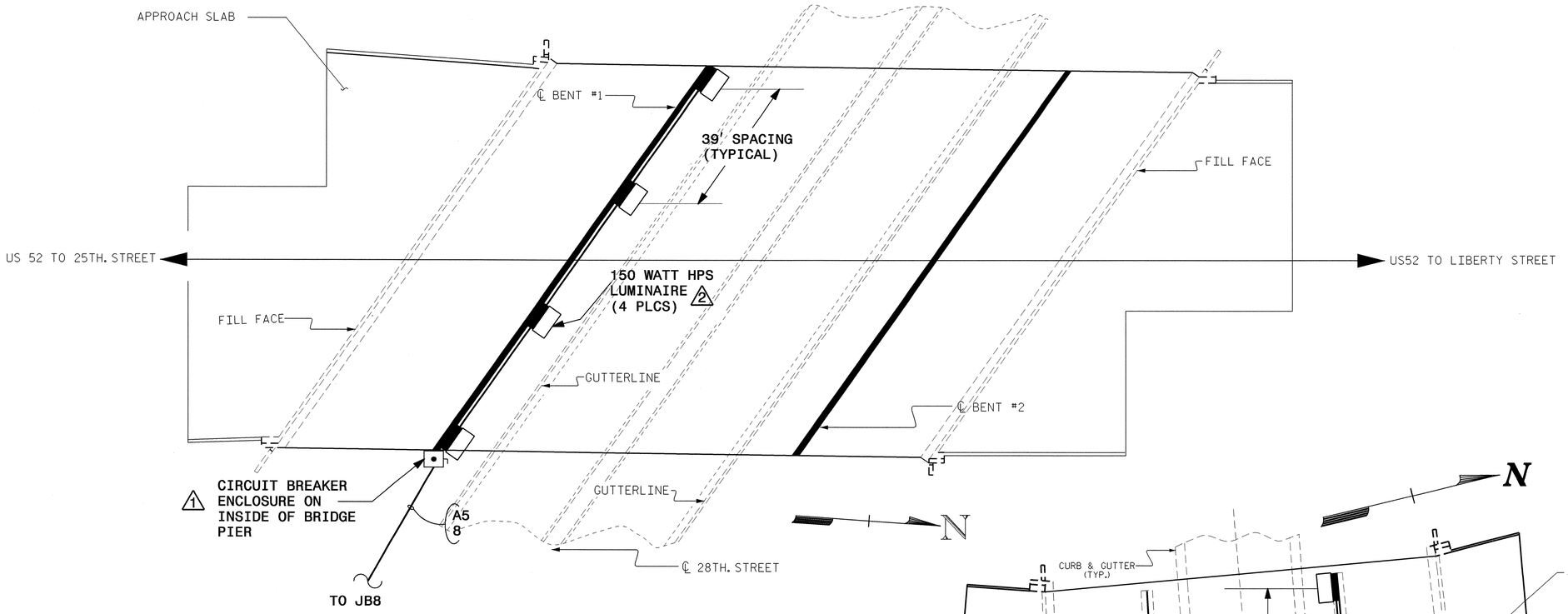
02/03/98

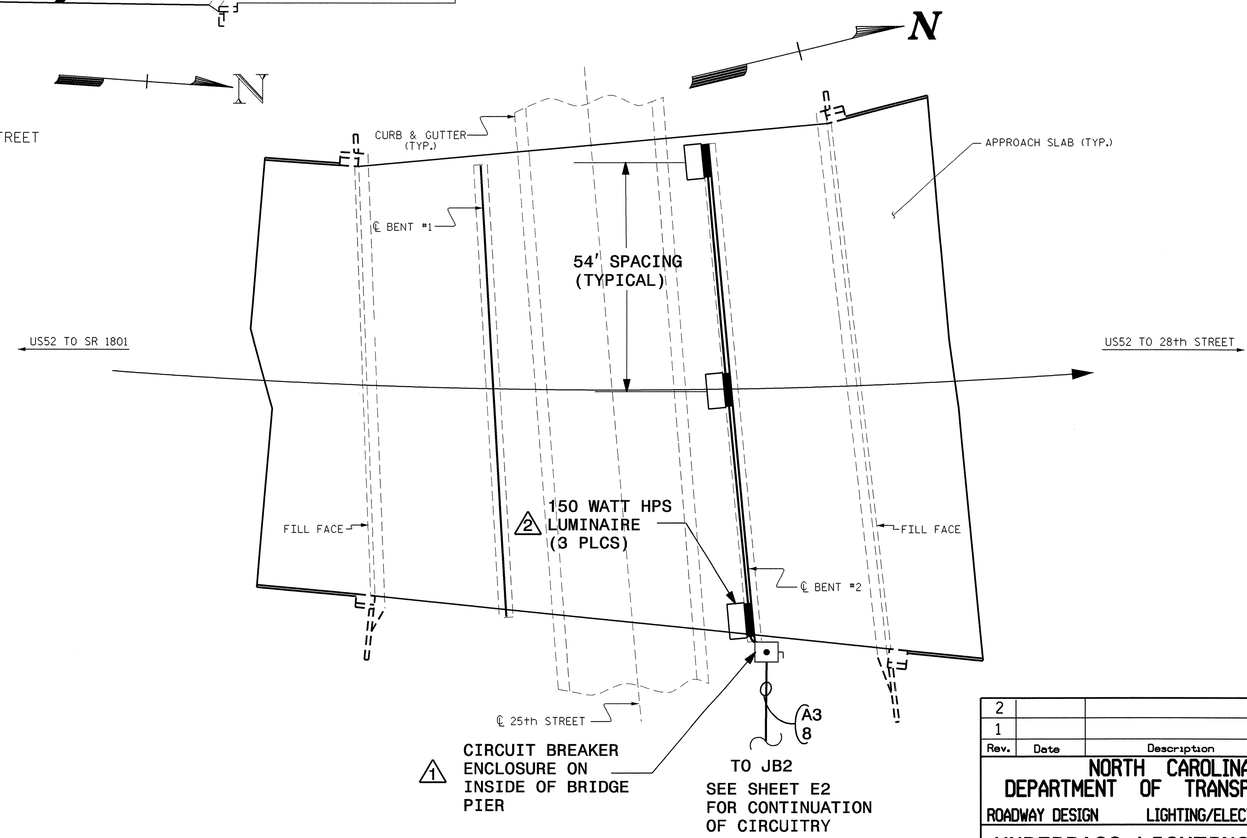
PROJECT REFERENCE NO.	SHEET NO.
U-2826A	E3

NORTH CAROLINA PROFESSIONAL SEAL 022582 ENGINEER RAJU KI-BUN CHIN 10/6/08



28TH STREET

UPL-1



25TH STREET

UPL-2

△ NOTES

△1 ADJUST CONDUIT AND JUNCTION BOX LAYOUT TO ACCOMMODATE DIFFERENCE IN ELEVATION AT EACH SEAT BUILD-UP ON CENTER BENT.

△2 SEE STANDARD DRAWING SECTION 1412.01 FOR OTHER INSTALLATION DETAILS.

USE FOR LIGHTING CONSTRUCTION ONLY

Rev.	Date	Description	Approved
2			
1			

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ROADWAY DESIGN — LIGHTING/ELECTRICAL SECTION

UNDERPASS LIGHTING LAYOUT

US52/25TH STREET & US52/28TH STREET INTERCHANGES

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