

PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION

NOTES

- 1 AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC EQUIPMENTS 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.
- 7 INSTALL JUNCTION BOXES AND ROUTE CIRCUITRY TO AVOID GRAVEL ROADSIDE TRUCK PARKING AREAS. EXCEPT FOR JB6, NO JUNCTION BOX SHOULD BE CLOSER THAN 20' TO EDGE OF TRAVEL.
- 8 DIMENSIONS SHOWN ON PLANSHEET ARE FROM THE CENTER OF THE PROPOSED HIGH MAST FOUNDATION TO A POINT PERPENDICULAR TO THE EDGE OF PAVEMENT. HIGH MAST POLES MUST NOT BE PLACED CLOSER THAN 50' TO EDGE OF TRAVEL.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 45' SINGLE ARM ROADWAY LIGHT STANDARDS AND 80' AND 100' HIGH MOUNT STANDARDS ALL WITH HIGH PRESSURE SODIUM LUMINAIRES, 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
1403.01	HIGH MOUNT LUMINAIRES
1404.01	LIGHT STANDARDS
1405.01	STANDARD FOUNDATION
1406.01	LIGHT STANDARD 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

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 & (8) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED 80' HIGH MAST STANDARD W/ HM FOUNDATION & (8) HM LUMINAIRES 400W HPS, MEDIUM, CUTOFF, TYPE V
- PROPOSED LIGHT STANDARD TYPE MTLT 45' WITH 15' SINGLE ARM. INCLUDES STANDARD FOUNDATION TYPE R1 OR R2 & 250W HPS FLAT GLASS ROADWAY LUMINAIRE. IES DISTRIBUTION: MEDIUM, CUTOFF, TYPE III
- 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 (B) 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

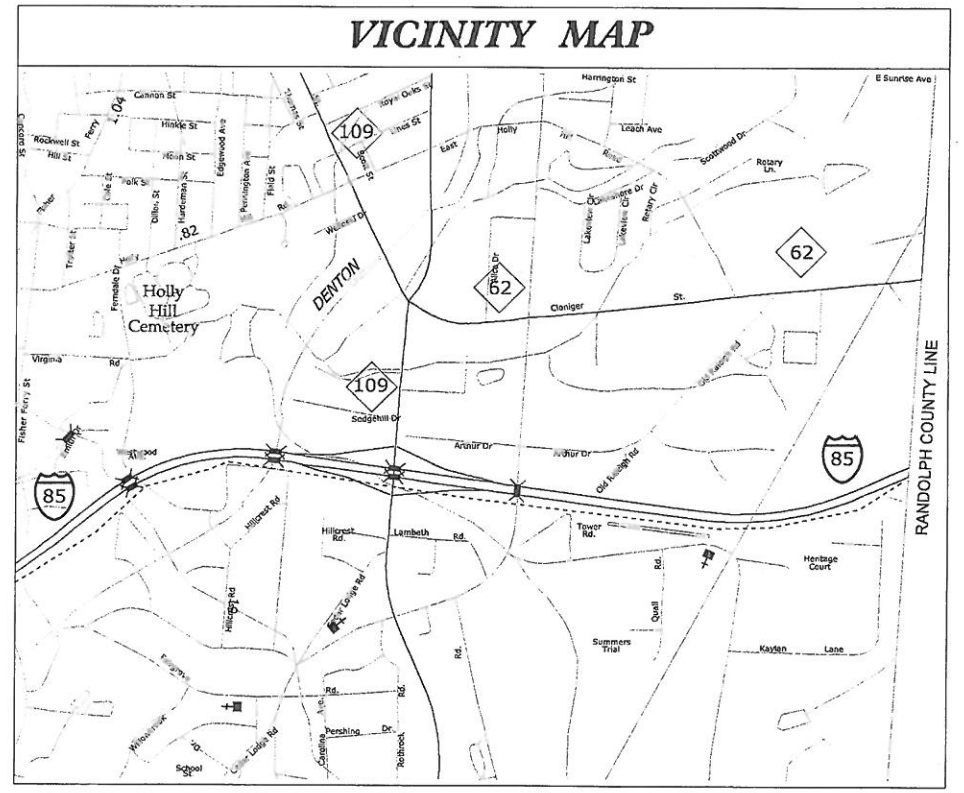
PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM	
8	2 #8 Ø 1 #10G 1.5" P	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 8 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*8	2 #8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR	2 - 8 W/G FEEDER CIRCUIT
6	2 #6 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
4	2 #4 Ø 1 #6G 1.5" P	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR 1.5" PVC CONDUIT	2 - 4 W/G FEEDER CIRCUIT IN 1.5" CONDUIT
*4	2 #4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR	2 - 4 W/G FEEDER CIRCUIT

NUMBER	TYPE	SHEET
JB1	PC18	E2
JB2	PC18	E2
JB3	PC18	E2
JB4	PC36	E2
JB5	PC18	E2
JB6	PC18	E2
JB7	PC18	E2
JB8	PC18	E2
JB9	PC18	E2
JB10	PC18	E2
JB11	PC18	E2
JB12	PC18	E2
JB13	PC18	E2
JB14	PC18	E2
JB15	PC18	E2
TOTALS	14	1

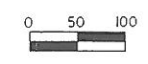
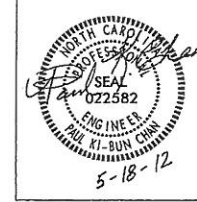
LOCATION	RACEWAY	SHEET	TYPE		
			JACKED (JA) FEET		BURIED (BD) FEET
			SIZE 3"	SIZE 4"	SIZE 2"
RAMP A NEAR HM1		E2	45		
RAMP B AT CS"A"	CS"A" - JB4	E2			110
RAMP B AT CS"A"		E2		40	
NC109 NEAR HM1		E2	70		
RAMP B NEAR HM2		E2	40		
NC109 NEAR HM3		E2	75		
RAMP C NEAR HM3		E2	40		
RAMP D NEAR HM4		E2	40		
TOTALS			310	40	110

ABBREVIATIONS

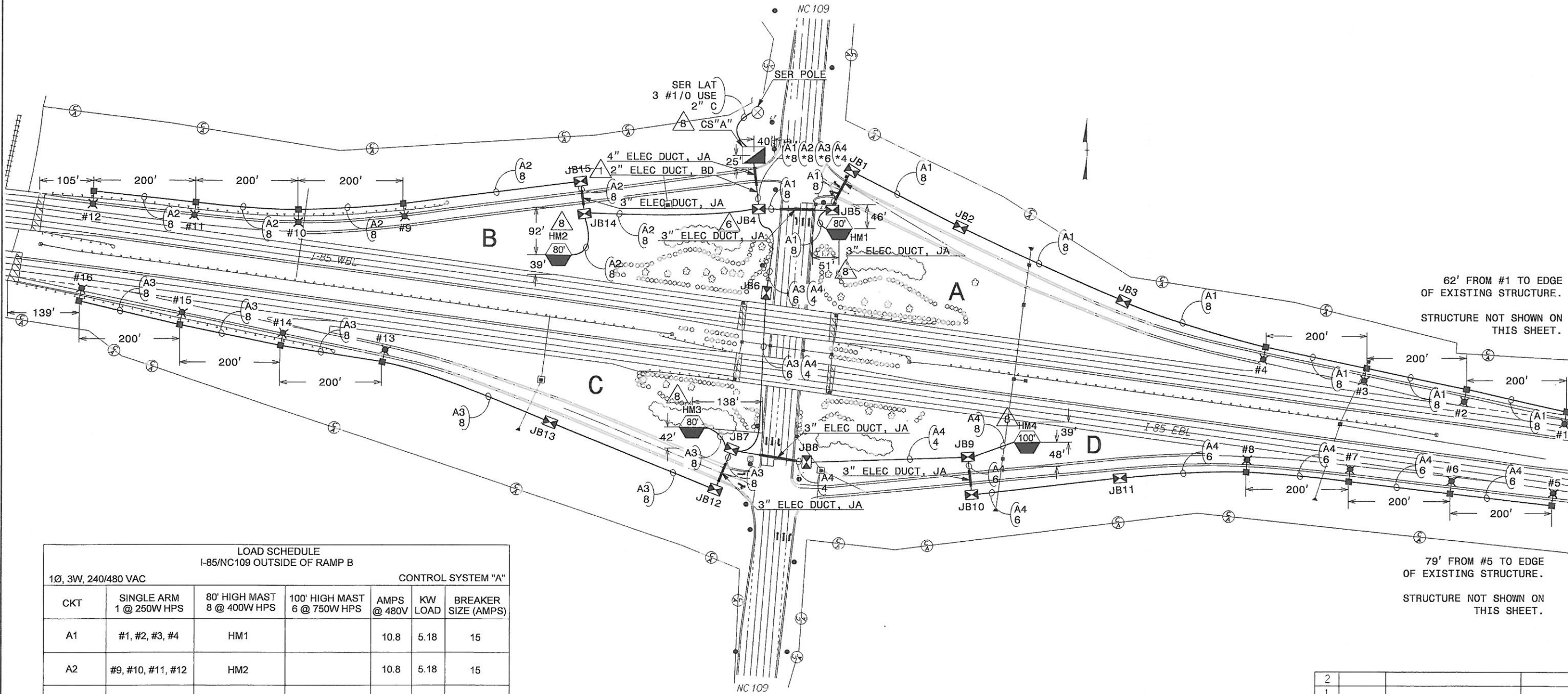
BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
		HM	HIGH MAST



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USE FOR LIGHTING CONSTRUCTION ONLY



62' FROM #1 TO EDGE OF EXISTING STRUCTURE.
STRUCTURE NOT SHOWN ON THIS SHEET.

79' FROM #5 TO EDGE OF EXISTING STRUCTURE.
STRUCTURE NOT SHOWN ON THIS SHEET.

LOAD SCHEDULE I-85/NC109 OUTSIDE OF RAMP B						
1Ø, 3W, 240/480 VAC			CONTROL SYSTEM "A"			
CKT	SINGLE ARM 1 @ 250W HPS	80' HIGH MAST 8 @ 400W HPS	100' HIGH MAST 6 @ 750W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	#1, #2, #3, #4	HM1		10.8	5.18	15
A2	#9, #10, #11, #12	HM2		10.8	5.18	15
A3	#13, #14, #15, #16	HM3		10.8	5.18	15
A4	#5, #6, #7, #8		HM4	13.6	6.53	20
SPARE	-	-	-	-	-	20
TOTAL	16	3	1	46	22.07	

SEE SHEET "E1" FOR
LEGEND & △ NOTES

NOTE: CAD FILES GENERATED FROM ORIGINAL INTERCHANGE PLANS FOR PROJECT 8.1577307 DATED 1968

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1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION LIGHTING LAYOUT I-85/NC109 INTERCHANGE IN THOMASVILLE DAVIDSON COUNTY			
Drawn By:	RGH	Approved By:	PKC
Dwg No.:			

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