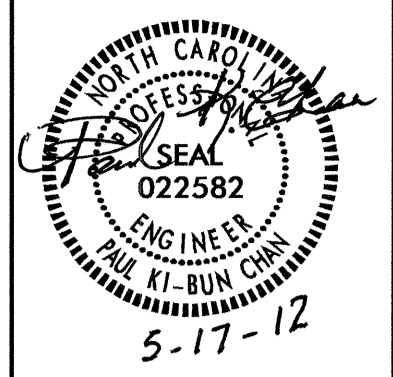


PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION



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 TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.
- 6 TYPE PC30 JUNCTION BOXES ARE 30" L X 17" W X 18" H.
- 7 TYPE PC36 JUNCTION BOXES ARE 36" L X 24" W X 18" H.
- 8 THE MINIMUM POLE SETBACK REQUIREMENT FOR SINGLE ARM LIGHT STANDARDS IS 15'. IN THE SITUATION WHERE THE POLE SETBACK IS NOT ATTAINABLE, THE POLE SETBACK CAN BE REDUCED TO 10'.
- 9 LOCATE TWIN ARM STANDARD A MINIMUM OF 4' FROM THE BOTTOM OF DITCHLINE.

SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING SINGLE ARM LIGHT STANDARDS, TWIN ARM LIGHT STANDARDS, 80' HIGH MOUNT STANDARDS AND 100' HIGH MOUNT STANDARDS 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
- 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 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 |
| 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 & (6) 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 CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET Ex
- 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
- PROPOSED LIGHT STANDARD TYPE MTLT 45' WITH 15' SINGLE ARM. INCLUDES STANARD FOUNDATION TYPE R1 OR R2 & 250W HPS FLAT GLASS ROADWAY LUMINAIRE. IES DISTRIBUTION: MEDIUM, CUTOFF, TYPE III
- PROPOSED LIGHT STANDARD TYPE MTLT 45' WITH 15' TWIN ARMS. INCLUDES STANARD FOUNDATION TYPE R1 WITH 250W HPS FLAT GLASS ROADWAY LUMINAIRE. IES DISTRIBUTION: MEDIUM, CUTOFF, TYPE III

| 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 |
| *8 | 2 #8 Ø 1 #10G | 2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR |
| 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 |
| *6 | 2 #6 Ø 1 #10G | 2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR |
| 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 |
| *4 | 2 #4 Ø 1 #6G | 2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR |
| 2 | 2 #2 Ø 1 #4G 1.5" P | 2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR 1.5" PVC CONDUIT |
| *2 | 2 #2 Ø 1 #4G | 2 AWG SIZE 2 CONDUCTOR (BK & RD) 1 AWG SIZE 4 GROUNDING CONDUCTOR |

| NUMBER | LOCATION | TYPE | SHEET |
|--------|-----------------------|------|-------|
| JB1 | 20+70 -Y6RMPA- 40' LT | PC36 | E3 |
| JB2 | 18+84 -Y6- 58' LT | PC36 | E3 |
| JB3 | 46+68 -L- 64' LT | PC36 | E3 |
| JB4 | 46+68 -L- 5' RT | PC36 | E3 |
| JB5 | 49+68 -L- 5' RT | PC18 | E3 |
| JB6 | 49+68 -L- 56' RT | PC18 | E3 |
| JB7 | 52+68 -L- 5' RT | PC18 | E3 |
| JB8 | 45+90 -L- 5' RT | PC30 | E3 |
| JB9 | 44+54 -L- 5' RT | PC30 | E3 |
| JB10 | 44+54 -L- 64' RT | PC18 | E3 |
| JB11 | 23+45 -Y6- 94' RT | PC18 | E3 |
| JB12 | 42+16 -L- 5' LT | PC18 | E3 |
| JB13 | 39+92 -L- 5' LT | PC18 | E3 |
| JB14 | 37+42 -L- 5' LT | PC18 | E2 |
| JB15 | 35+10 -L- 5' LT | PC18 | E2 |
| JB16 | 32+68 -L- 5' LT | PC18 | E2 |
| JB17 | 30+34 -L- 5' LT | PC18 | E2 |
| JB18 | 28+00 -L- 5' LT | PC18 | E2 |
| JB19 | 24+96 -L- 10' RT | PC18 | E2 |
| JB20 | 24+76 -L- 36' RT | PC18 | E2 |
| JB21 | 23+45 -L- 38' RT* | PC18 | E2 |
| TOTALS | | 15 | 2 |

| LOCATION | RACEWAY | SHEET | TYPE | | | | | |
|------------------|-------------|-------|------------------|---------|---------|------------------|---------|---------|
| | | | JACKED (JA) FEET | | | BURIED (BD) FEET | | |
| | | | SIZE 3" | SIZE 4" | SIZE 6" | SIZE 2" | SIZE 3" | SIZE 4" |
| 20+74 -Y6RMPA- | | E3 | | | 100 | | | |
| 20+74 -Y6RMPA- | CS"A" - JB1 | E3 | | | | | 120 | |
| 46+68 -L- | | E3 | | | 70 | | | |
| 46+68 -L- | JB3 - JB4 | E3 | | | | | 90 | |
| 49+68 -L- | | E3 | 70 | | | | | |
| 45+00 -L- | | E3 | | 100 | | | | |
| 45+00 -L- | JB8 - JB9 | E3 | | | | | 120 | |
| 44+54 -L- | | E3 | 70 | | | | | |
| 24+86 -L- 24' RT | | E2 | 50 | | | | | |
| TOTALS | | | 190 | 100 | 170 | 120 | 210 | |

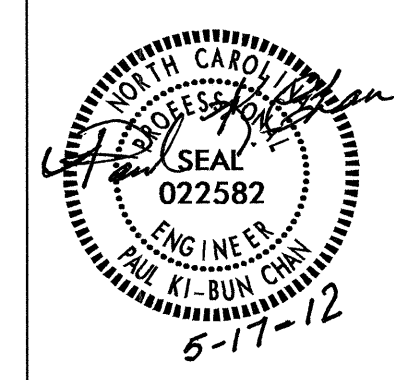
| TRADE SIZE | METRIC | ENGLISH |
|------------|--------|---------|
| 1/2 | 16mm | 1/2" |
| 3/4 | 21mm | 3/4" |
| 1 | 27mm | 1" |
| 1.5 | 41mm | 1 1/2" |
| 2 | 53mm | 2" |
| 3 | 78mm | 3" |

| | | | |
|---------|-----------------|-----|--------------------------------|
| 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 |

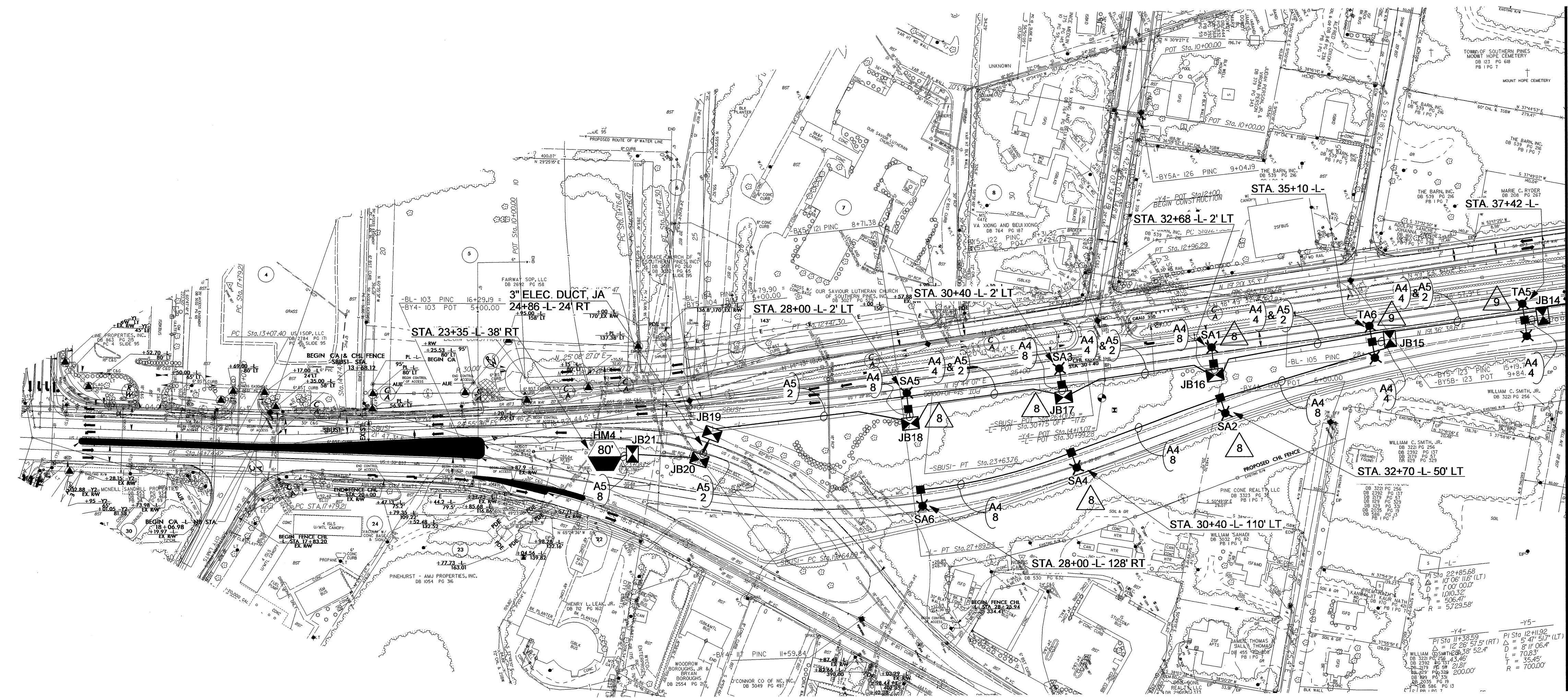
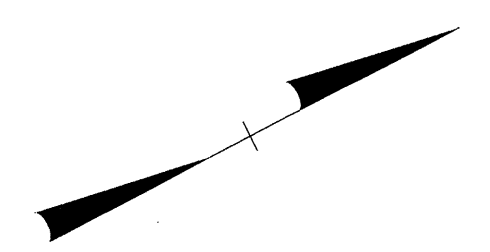
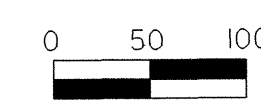
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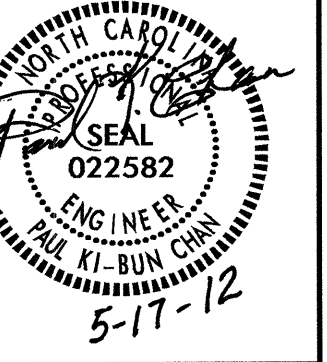
MATCHLINE WITH SHEET E3

SEE SHEET "E1" FOR LEGEND & △ NOTES

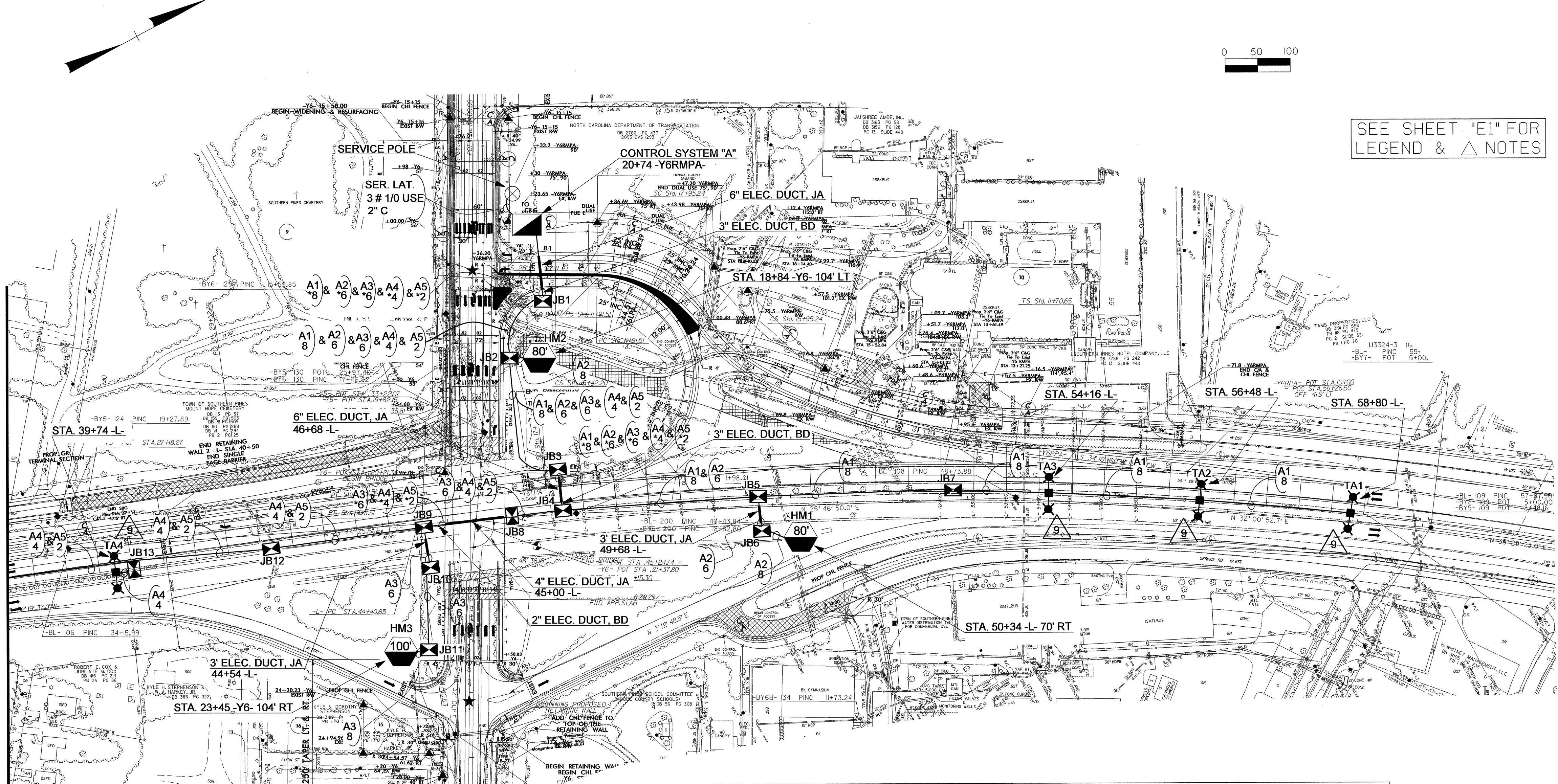
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| Rev. | Date | Description | Approved |
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| Drawn By: | AB | Approved By: | PKC |
| Dwg No.: | | | |

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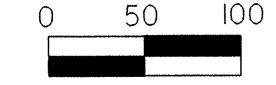
USE FOR LIGHTING CONSTRUCTION ONLY



MATCHLINE WITH SHEET E2

ROTATE PL

SEE SHEET "E1" FOR LEGEND & △ NOTES



| LOAD SCHEDULE NW QUAD., MORGANTON ROAD/RAMP A | | | | | | | |
|--|--------------------------------|--------------------------|-------------------------------|--------------------------------|----------------|------------|------------------------|
| 10, 3W, 240/480 VAC | | | | CONTROL SYSTEM "A" | | | |
| CKT | SINGLE ARM 1 @ 250W HPS | TWIN ARM 2 @ 250W HPS | 80' HIGH MAST 4 @ 400W HPS | 100' HIGH MAST 6 @ 750W HPS | AMPS @ 480V | KW LOAD | BREAKER SIZE (AMPS) |
| A1 | | TA1, TA2 TA3 | | | 4.2 | 2.02 | 15 |
| A2 | | | HM1, HM2 | | 16.0 | 7.68 | 20 |
| A3 | | | | HM3 | 10.8 | 5.18 | 15 |
| A4 | SA1, SA2, SA3 SA4, SA5, SA6 | TA4, TA5 TA6 | | | 8.4 | 4.04 | 15 |
| A5 | | | HM4 | | 8.0 | 3.84 | 15 |
| SPARE | | | | | | | 20 |
| TOTAL | 6 | 6 | 3 | 1 | 47.4 | 22.76 | |

| | | | |
|--|------|-------------|----------|
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| 1 | | | |
| Rev. | Date | Description | Approved |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION LIGHTING LAYOUT US 1/MORGANTON ROAD INTERCHANGE MOORE COUNTY Drawn By: AB Approved By: PKC Dwg No.: | | | |

02/03/12

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