STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PITT COUNTY

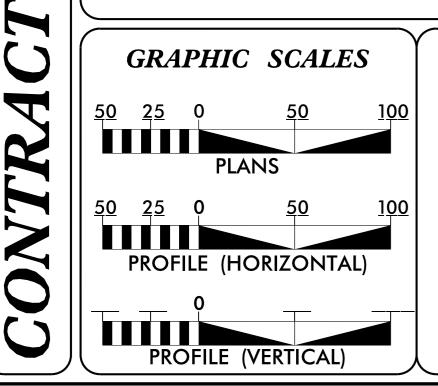
LOCATION: THE INTERSECTION OF

GREENVILLE BLVD AND WILLIAMS RD

TYPE OF WORK: GRADING PAVING DRAINAGE

HYDRAULICS ENGINEER,

| <u> </u> | | |
|---|--|----------------------|
| | PI Sta I7+10.72 \[\D = 25 \cdot 45 \cdot 58.6 \cdot (RT) \] \[D = 6 \cdot 44 \cdot 26.4 \cdot \] \[L = 382.25 \cdot T = 194.4 \cdot T \] \[-Y- STA 16+43.55 \] \[R = 850.00 \cdot T \] | |
| <u>-Y- PC Sta, 15+16.31</u> | 25.00 RT END TAPER 25.00 RT END TAPER 25.00 RT END/BEG TAPER | NC GRID NAD 83/95 |
| PAYE DRIVE 10 Rw | G' ACP WATER MAIN | |
| PAYE DRIVE TO RW 1. STA 11+46.10 REMOVE EXISTING C&G INSTALL 4'VALLEY GUTTER 20' DIP NATER MAIN 2' PVC WATER 4' Plastic 8' ABS 8' ABS -Y - POT Sta, 10+00.00 -L - POT Sta, 10+00.00 -L - POT Sta, 10+00.00 | 26.00 RT BEC TAPER 26.00 RT BEC TAPER 39.5: RADIUS BACK OF CURB 6' ACP WATER MAIN 8' ACP WATER MAIN 5 79 66 519 F | Sta. 16+57.41 |
| | 4 Plastic | |

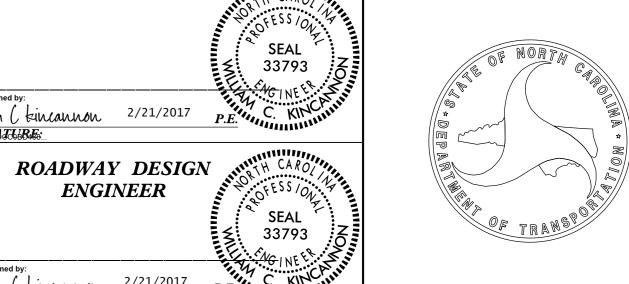


PROJECT LENGTH

TOTAL LENGTH TIP PROJECT W5601CY = 0.122 MILES

| | | OF HIGHWAYS Street Greenville, NC 27835 | |
|---|------------------------------|--|--|
| | 2012 STANDARD SPECIFICATIONS | | DocuSigned by: |
| | | | William C Eincannon 2/21/2017 SIGNATURE: |
| | RIGHT OF WAY DATE: | WILLIAM C KINCANNON, PE | 344E N7B (COBCMER) |
| | JANUARY 2017 | PROJECT ENGINEER | ROADWAY DESIGN ENGINEER |
| | LETTING DATE: | LANG JONES | |
| | MARCH 2017 | PROJECT DESIGN ENGINEER | DocuSigned by: |
| | | | William C kincannon 2/21/2017 |
| ノ | | | SIGNATURE: |

Prepared in the Office of:



| | | NO. | SHEET | NO. |
|---|---------|-----|-------|-----|
| W | -560ICY | | IΑ | |

INDEX OF SHEETS

SHEET NUMBER SHEET

INDEX OF SHEETS, GENERAL NOTES, STANDARD DRAWINGS

CONVENTIONAL SYMBOLS TYPICAL SECTIONS

SUMMARY OF DRAINAGE QUANTITIES AND EARTHWORK

SUMMARY OF QUANTITIES

PLAN SHEET SIG1-1.3 SIGNAL SHEETS SCP1-SCP5 CABLE ROUTING SHEETS EC1-EC3 EROSION CONTROL SHEETS PM 1 PAVEMENT MARKINGS X 1 A CROSS-SECTION SUMMARY X1-X2 CROSS-SECTIONS

GENERAL NOTES:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT, THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UTILITY: ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

EFF. 01-17-2012 REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - 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
DIVISION 2 - EARTHWORK
200.02 Method of Clearing - Method II
225.02 Guide for Grading Subgrade - Secondary and Local
DIVISION 8 - INCIDENTALS
846.01 Concrete Curb & Gutter Sheet 3 of 3

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

*S.U.E. = Subsurface Utility Engineering

| BOUNDARIES AND PROPERTY | Y: | Note: Not to S | Scale *. |
|---------------------------------------|-----------|---|--|
| State Line | | | |
| County Line | | D 477 D 0 4 D 0 | |
| Township Line | | RAILROADS: | |
| City Line | | Standard Gauge | CSX TRANSPORTATION |
| Reservation Line | | RR Signal Milepost | MILEPOST 35 |
| Property Line | | Switch — | SWITCH |
| Existing Iron Pin | | RR Abandoned | |
| Property Corner | | RR Dismantled | |
| Property Monument | <u></u> | RIGHT OF WAY: | |
| Parcel/Sequence Number | | Baseline Control Point | • |
| Existing Fence Line | • | Existing Right of Way Marker | \triangle |
| Proposed Woven Wire Fence | | Existing Right of Way Line | |
| Proposed Chain Link Fence | | Proposed Right of Way Line | $\frac{R}{W}$ |
| • | | Proposed Right of Way Line with | R |
| Proposed Barbed Wire Fence | WI D | Iron Pin and Cap Marker | w – |
| Existing Wetland Boundary | | Proposed Right of Way Line with Concrete or Granite R/W Marker | $\frac{R}{W}$ |
| Proposed Wetland Boundary | | Proposed Control of Access Line with | |
| Existing Endangered Animal Boundary | | Concrete C/A Marker | |
| Existing Endangered Plant Boundary | | Existing Control of Access | —————————————————————————————————————— |
| Existing Historic Property Boundary | | Proposed Control of Access ————— | |
| Known Contamination Area: Soil | | Existing Easement Line ———————————————————————————————————— | ——— E ——— |
| Potential Contamination Area: Soil | | Proposed Temporary Construction Easement – | ——Е—— |
| Known Contamination Area: Water | | Proposed Temporary Drainage Easement — | TDE |
| Potential Contamination Area: Water | | Proposed Permanent Drainage Easement — | PDE |
| Contaminated Site: Known or Potential | | Proposed Permanent Drainage / Utility Easemen | ntDUE |
| BUILDINGS AND OTHER CUI | LTURE: | Proposed Permanent Utility Easement ——— | |
| Gas Pump Vent or U/G Tank Cap | <u> </u> | Proposed Temporary Utility Easement ——— | TUE |
| Sign — | <u> </u> | Proposed Aerial Utility Easement ———— | AUE |
| Well — | | · | |
| Small Mine | <u></u> | Proposed Permanent Easement with Iron Pin and Cap Marker | ♦ |
| Foundation — | | ROADS AND RELATED FEATUR | ES: |
| Area Outline | | Existing Edge of Pavement | |
| Cemetery | | Existing Curb | |
| Building — | | Proposed Slope Stakes Cut | |
| School - | | Proposed Slope Stakes Fill | |
| Church — | | Proposed Curb Ramp | (CR) |
| Dam — | | Existing Metal Guardrail | |
| HYDROLOGY: | | Proposed Guardrail | |
| Stream or Body of Water ————— | | Existing Cable Guiderail | |
| Hydro, Pool or Reservoir — | | Proposed Cable Guiderail | |
| Jurisdictional Stream | | Equality Symbol | |
| Buffer Zone 1 | | | |
| Buffer Zone 2 | BZ 2 | Pavement Removal | |
| Flow Arrow | | VEGETATION: | 0- |
| Disappearing Stream — | <u> </u> | Single Tree | |
| Spring — | — O | Single Shrub | |
| Wetland | <u> </u> | Hedge | |
| Proposed Lateral, Tail, Head Ditch | | Woods Line | ,;,-,;,-,;,-,;,-,;,-, |
| False Sump — | < FLOW | | |

| | | Water Marinole |
|--|------------|---|
| | | Water Meter |
| Orchard — | — | Water Valve ——— |
| Vineyard — | — Vineyard | Water Hydrant —— |
| EXISTING STRUCTURES: | | U/G Water Line LOS |
| MAJOR: | | U/G Water Line LOS |
| Bridge, Tunnel or Box Culvert | - CONC | U/G Water Line LOS |
| Bridge Wing Wall, Head Wall and End Wall | | Above Ground Wate |
| MINOR: | | TV: |
| Head and End Wall | CONC HW | TV Pedestal ——— |
| Pipe Culvert | | TV Tower |
| Footbridge — | | U/G TV Cable Hand |
| Drainage Box: Catch Basin, DI or JB | _ СВ | U/G TV Cable LOS |
| Paved Ditch Gutter | | U/G TV Cable LOS |
| Storm Sewer Manhole | - S | U/G TV Cable LOS |
| Storm Sewer | | U/G Fiber Optic Cal |
| | | U/G Fiber Optic Cal |
| UTILITIES: | | U/G Fiber Optic Cal |
| POWER: | 1 | GAS: |
| Existing Power Pole | | Gas Valve |
| Proposed Power Pole | 1 | Gas Meter |
| Existing Joint Use Pole | | U/G Gas Line LOS |
| Proposed Joint Use Pole | | U/G Gas Line LOS |
| Power Manhole | | U/G Gas Line LOS |
| Power Line Tower | | Above Ground Gas |
| Power Transformer | | SANITARY SEWER: |
| U/G Power Cable Hand Hole | | |
| H-Frame Pole | | Sanitary Sewer Manh Sanitary Sewer Clear |
| U/G Power Line LOS B (S.U.E.*) | | U/G Sanitary Sewer |
| U/G Power Line LOS C (S.U.E.*) | | Above Ground Sanit |
| U/G Power Line LOS D (S.U.E.*) | | SS Forced Main Line |
| TELEPHONE: | | SS Forced Main Line |
| Existing Telephone Pole | | SS Forced Main Line |
| Proposed Telephone Pole | | 33 Toresa Main Em |
| Telephone Manhole | | MISCELLANEOUS: |
| Telephone Pedestal | | Utility Pole ——— |
| Telephone Cell Tower | | Utility Pole with Bas |
| U/G Telephone Cable Hand Hole | | Utility Located Object |
| U/G Telephone Cable LOS B (S.U.E.*) | t | Utility Traffic Signal I |
| U/G Telephone Cable LOS C (S.U.E.*) | | Utility Unknown U/G |
| U/G Telephone Cable LOS D (S.U.E.*) | | U/G Tank; Water, G |
| U/G Telephone Conduit LOS B (S.U.E.*) — | | Underground Storag |
| U/G Telephone Conduit LOS C (S.U.E.*)— | | A/G Tank; Water, Go |
| U/G Telephone Conduit LOS D (S.U.E.*)— | | Geoenvironmental Bo |
| U/G Fiber Optics Cable LOS B (S.U.E.*) | | U/G Test Hole LOS |
| U/G Fiber Optics Cable LOS C (S.U.E.*) | | Abandoned According |
| U/G Fiber Optics Cable LOS D (S.U.E.*) | | End of Information – |
| | | |

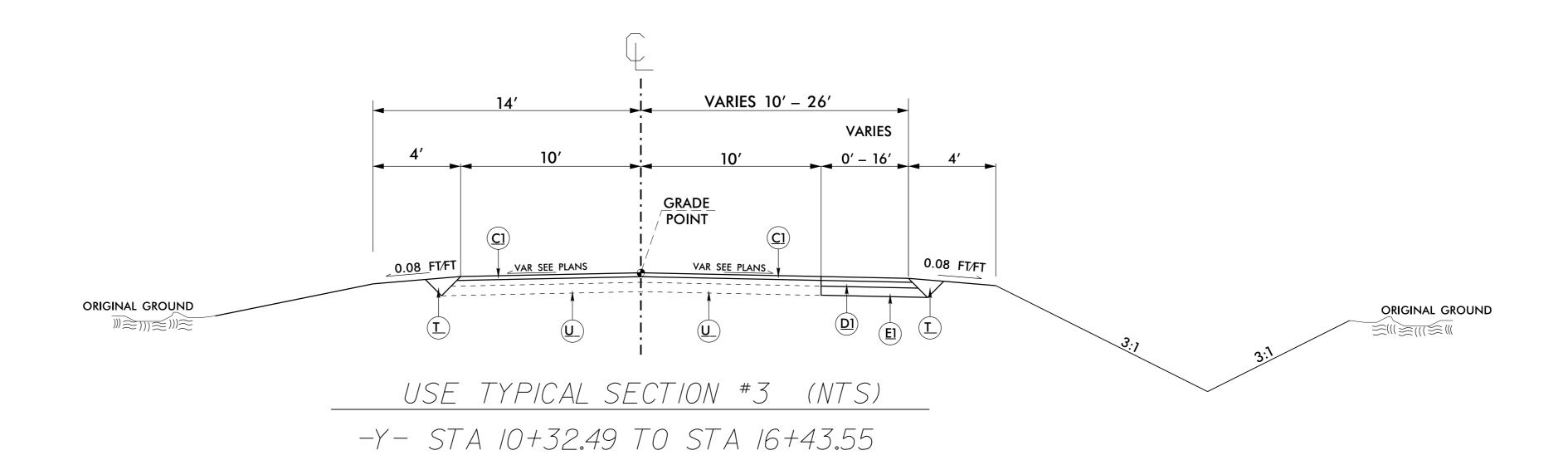
| WATER: | |
|---|------------------|
| Water Manhole | - W |
| Water Meter | - 🔘 |
| Water Valve | - ⊗ |
| Water Hydrant | - ♦ |
| U/G Water Line LOS B (S.U.E*) | - — — — w— — — — |
| U/G Water Line LOS C (S.U.E*) | |
| U/G Water Line LOS D (S.U.E*) | - W |
| Above Ground Water Line | A/G Water |
| TV: | |
| TV Pedestal | - C |
| TV Tower | |
| U/G TV Cable Hand Hole | - H _H |
| U/G TV Cable LOS B (S.U.E.*) | |
| U/G TV Cable LOS C (S.U.E.*) | |
| U/G TV Cable LOS D (S.U.E.*) | TV |
| U/G Fiber Optic Cable LOS B (S.U.E.*) | TV FO— — |
| U/G Fiber Optic Cable LOS C (S.U.E.*) | |
| U/G Fiber Optic Cable LOS D (S.U.E.*) | TV F0 |
| GAS: | |
| Gas Valve | - \Q |
| Gas Meter | ⇔ |
| U/G Gas Line LOS B (S.U.E.*) | |
| U/G Gas Line LOS C (S.U.E.*) | |
| U/G Gas Line LOS D (S.U.E.*) | - G |
| Above Ground Gas Line | A/G Gas |
| SANITARY SEWER: | |
| Sanitary Sewer Manhole | (|
| Sanitary Sewer Cleanout ———————————————————————————————————— | ÷ |
| U/G Sanitary Sewer Line ———————————————————————————————————— | |
| Above Ground Sanitary Sewer | |
| SS Forced Main Line LOS B (S.U.E.*) | |
| SS Forced Main Line LOS C (S.U.E.*) | |
| SS Forced Main Line LOS D (S.U.E.*)——— | - FSS |
| MISCELLANEOUS: | |
| Utility Pole — | - • |
| Utility Pole with Base ———————————————————————————————————— | |
| Utility Located Object — | |
| Utility Traffic Signal Box — | - <u>S</u> |
| Utility Unknown U/G Line LOS B (S.U.E.*) | |
| U/G Tank; Water, Gas, Oil ——————————————————————————————————— | - |
| Underground Storage Tank, Approx. Loc. —— | UST |
| A/G Tank; Water, Gas, Oil — | - |
| Geoenvironmental Boring | |
| _ | - |
| U/G Test Hole LOS A (S.U.E.*) | O |
| U/G Test Hole LOS A (S.U.E.*) Abandoned According to Utility Records | • |

| 0 |
|--------|
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| \sim |
| |

| C <u>1</u> | PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD. |
|------------|--|
| D <u>1</u> | PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. |
| E <u>1</u> | PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD. |
| Ţ | EARTH MATERIAL. |
| U | EXISTING PAVEMENT. |
| V | 1.5" MILLING |

| 10' | 10′ |
|---------------------|---|
| | GRADE POINT V VAR SEE PLANS VAR SEE PLANS |
| i i | |
| USE TYPICAL SECT | T/ON #2 (NTS) |
| MILLING -Y- STA 10+ | 32.49 TO 11+84.28 |

NOTE: PAVEMENT EDGE SLOPES ARE I: IUNLESS SHOWN OTHERWISE.



ROADWAY DESIGN ENGINEER PAVEMENT DESIGN ENGINEER

PROJECT REFERENCE NO. W-560/CY

PROJECT REFERENCE NO. SHEET NO. 3

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS SUMMARY OF QUANTITIES

| SECT | QUANTITY | UNIT | ITEM DESCRIPTION | SECT | QUANTITY | UNIT | ITEM DESCRIPTION |
|------|----------|-------------|---|------|----------|------|--|
| 800 | / | LS | MOBILIZATION | 1705 | 735 | LF | SIGNAL CABLE |
| 801 | / | LS | CONSTRUCTION SURVEYING | 1705 | 8 | EA | VEHICLE SIGNAL HEAD (12", 3 SECTION) |
| 226 | / | LS | GRADING | 1705 | / | EA | VEHICLE SIGNAL HEAD (12",4 SECTION) |
| 226 | 100 | CY | UNDERCUT EXCAVATION | 1710 | 4560 | LF | MESSENGER CABLE 1/4" |
| 607 | 545 | SY | MILLING ASPHALT PAVEMENT, 1.5" DEPTH | 1715 | 632 | LF | TRACER WIRE |
| 610 | 275 | TON | ASPHALT CONCRETE BASE COURSE, TYPE B25.0B | 1715 | 570 | LF | UNPAVED TRENCHING (I CONDUIT, 2 INCH) |
| 610 | 154 | TON | ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B | 1715 | 905 | LF | DIRECTIONAL DRILL (I CONDUIT, 2 INCH) |
| 610 | 242 | TON | ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B | 1715 | 100 | LF | DIRECTIONAL DRILL (I CONDUIT, 3 INCH) |
| 620 | 40 | TON | ASPHALT BINDER FOR PLANT MIX,GRADE PG64-22 | 1715 | 95 | LF | DIRECTIONAL DRILL (I CONDUIT, 4 INCH) |
| 846 | 140 | LF | 2'-6" CONCRETE CURB & GUTTER | 1716 | 6 | EA | JUNCTION BOX (STANDARD SIZE) |
| 852 | 70 | SY | 5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED) | 1716 | 6 | EA | JUNCTION BOX (OVER-SIZED, HEAVY DUTY) |
| SP | 96 | SF | WORK ZONE ADVANCE/GENERAL WARNING SIGNING | 1722 | 3 | EA | 2" RISER W/ HEAT SHRINK TUBING |
| SP | / | LS | TEMPORARY TRAFFIC CONTROL | 1725 | 970 | LF | INDUCTIVE LOOP SAWCUT |
| 1205 | 1152 | LF | THERMOPLASTIC PAVEMENT MARKING LINES (4",90 MILS) | 1726 | 2300 | LF | LEAD-IN CABLE (14-2) |
| 1205 | 1620 | LF | THERMOPLASTIC PAVEMENT MARKING LINES (4",120 MILS) | 1730 | 6250 | LF | COMMUNICATIONS CABLE (12 FIBER) |
| 1205 | 200 | LF | THERMOPLASTIC PAVEMENT MARKING LINES (24",120 MILS) | 1731 | / | EA | MODIFY SPLICE ENCLOSURE |
| 1205 | 13 | EA | THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS) | 1731 | / | EA | INTERCONNECT CENTER |
| 1205 | 6 | EA | THERMOPLASTIC PAVEMENT MARKING CHARACTER (120 MILS) | 1732 | / | EA | FIBER-OPTIC TRANSCEIVER, DROP & REPEAT |
| 1205 | 200 | LF | REMOVAL OF PAVEMENT MARKING LINES (4") | 1733 | 4 | EA | DELINEATOR MARKER |
| 1631 | 945 | SY | MATTING FOR EROSION CONTROL | SP | 2 | EA | METAL POLE W/ SINGLE MAST ARM |
| 1632 | 20 | LF | 1/4" HARDWARE CLOTH | SP | / | EA | METAL POLE W/ DUAL MAST ARM |
| 1605 | 405 | LF | TEMPORARY SILT FENCE | SP | 3 | EA | SOIL TEST |
| 1610 | 5 | TON | STONE FOR EROSION CONTROL, CLASS B | SP | 30 | CY | DRILLED PIER FOUNDATION |
| 1620 | 50 | LB | SEED FOR TEMPORARY SEEDING | SP | 3 | EA | MAST ARM W/ METAL POLE DESIGN |
| 1620 | 0.2 | TON | FERTILIZER FOR TEMPORARY SEEDING | 1745 | 2 | EA | SIGN FOR SIGNALS |
| SP | 120 | LF | COIR FIBER WATTLE | 1750 | / | EA | SIGNAL CABINET FOUNDATION |
| SP | 5 | LB | POLYACRYMALIDE (PAM) | 1751 | / | EA | CONTROLLER W/ CABINET (TYPE 2070L, BASE MOUNTED) |
| 1660 | 0.5 | <i>ACRE</i> | SEEDING AND MULCHING | 1751 | 7 | EA | DETECTOR CARD (TYPE 2070L) |
| 1661 | 50 | LB | SEED FOR REPAIR SEEDING | 1753 | / | EA | CABINET BASE EXTENDER |
| 1661 | 0.2 | TON | FERTILIZER FOR REPAIR SEEDING | SP | 2 | EA | POWDER COAT FOR SINGLE MAST ARM W/ METAL POLE |
| SP | 3 | EA | RESPONSE FOR EROSION CONTROL | SP | / | EA | POWDER COAT FOR DOUBLE MAST ARM W/ METAL POLE |

PROJECT REFERENCE NO. SHEET NO. W-560/CY 3A

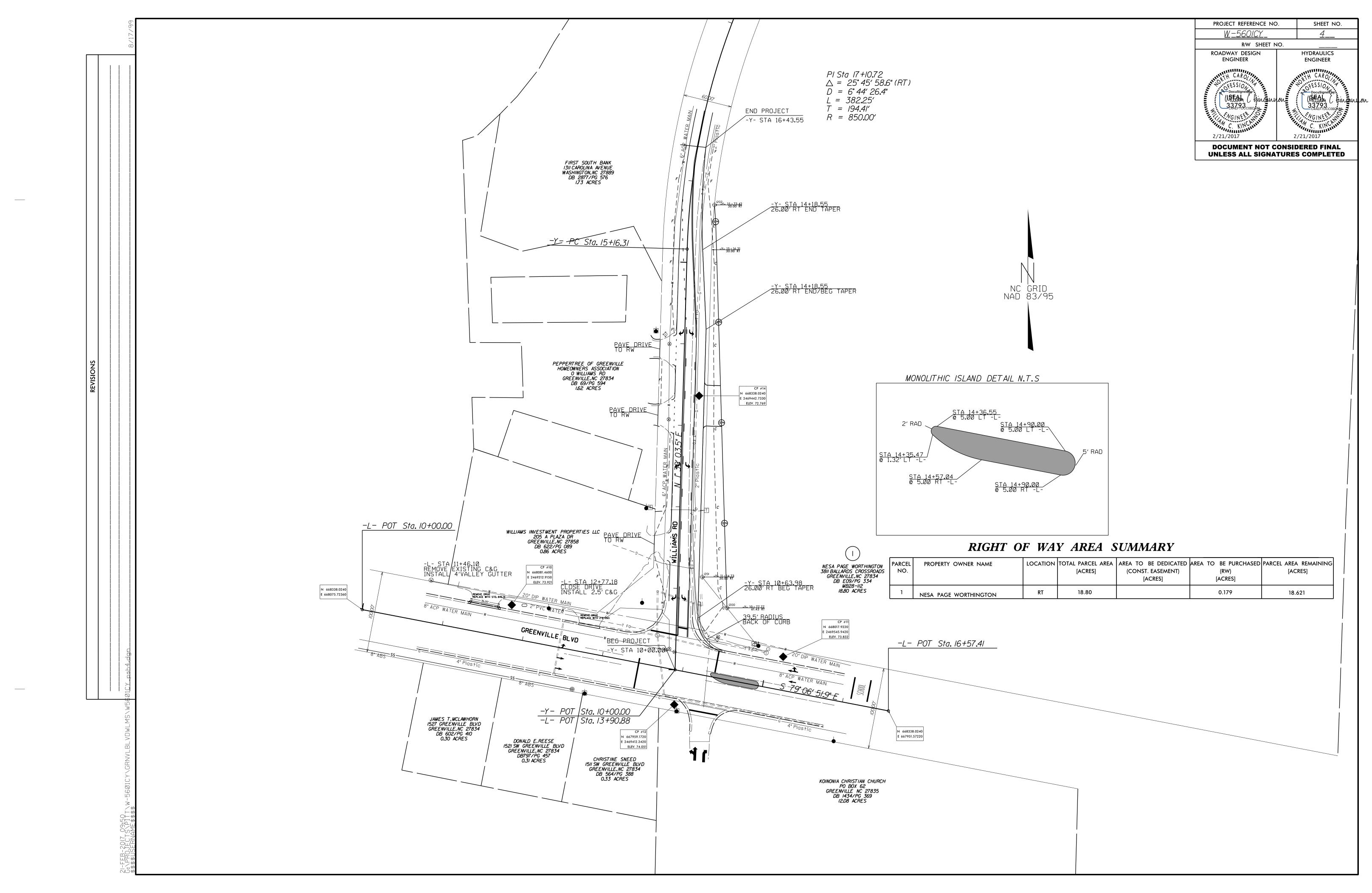
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

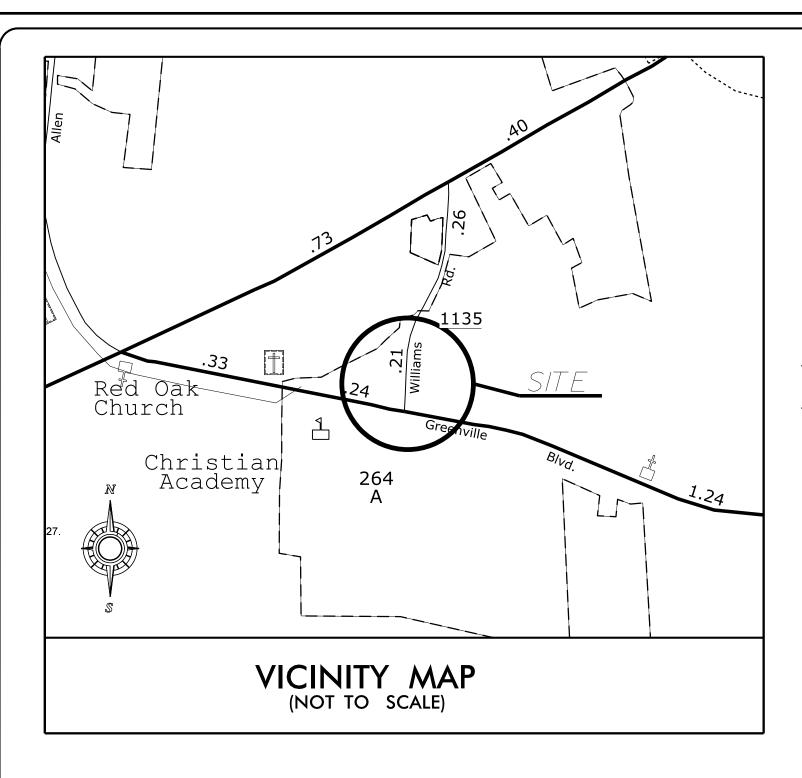
SUMMARY OF EARTHWORK IN CUBIC YARDS

| LOCATION | UNCLASSIFIED EXCAVATION | UNDERCUT | EMBT + % | BORROW | WASTE |
|-----------------------------|-------------------------|----------|----------|--------|-------|
| -Y- 10 + 50.00 - 16 + 43.55 | 369 | 0 | 208 | 0 | 161 |
| | | | | | |
| UNDERCUT CONTINGENY | | 100 | 120 | 120 | -100 |
| | | | | | |
| | | | | | |
| | | | | | |
| SUB TOTAL | 369 | 100 | 328 | 120 | 61 |
| | | | | | |
| SAY | 370 | 100 | 330 | 120 | 65 |

NOTE:

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."

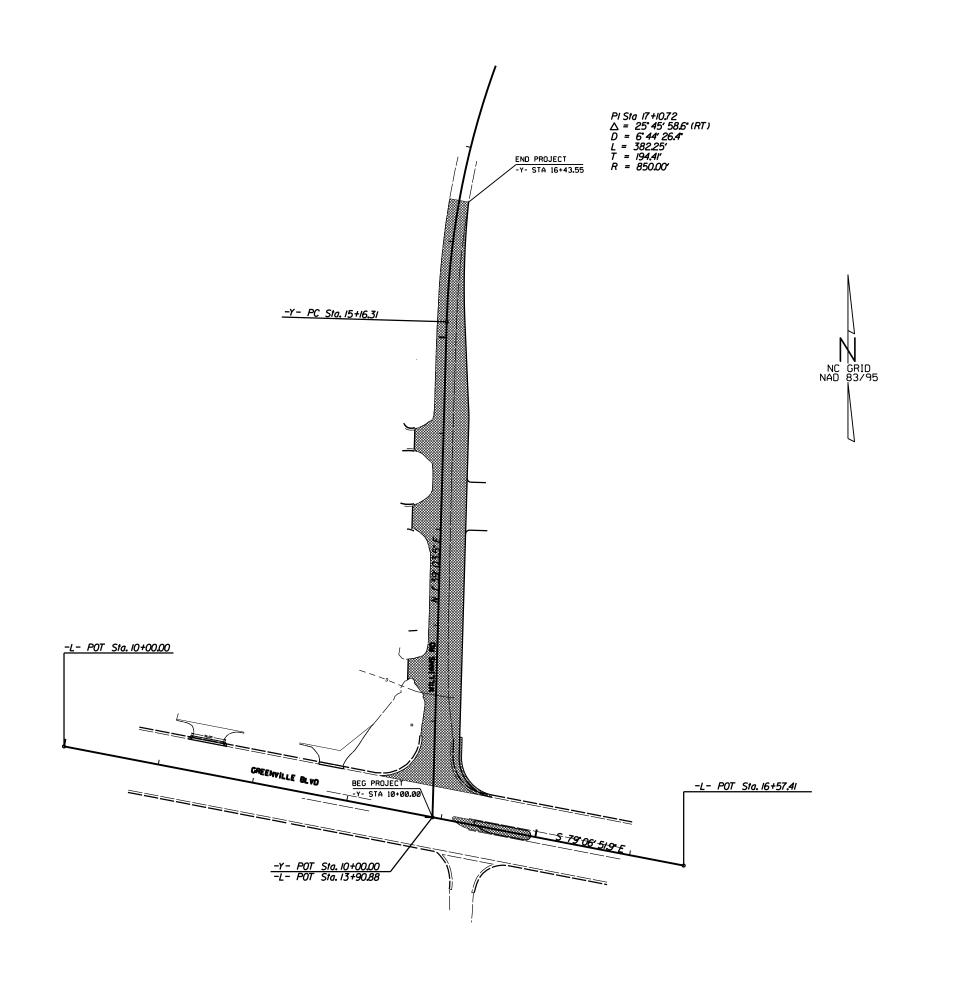




STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

LOCATION: PITT COUNTY AT THE INTERSECTION OF GREENVILLE BLVD AND WILLIAMS RD



| N.C. | | AAA A C V 4 CJ Z Z | | l | |
|----------|----------|--------------------|-------------|---|--|
| | W=5601CY | | EC=1 | | |
| STATE PI | OJ. NO. | F. A. PROJ. NO. | DESCRIPTION | | |
| 50138.1 | .104 | HSIP-0264(060) | PE | | |
| 50138.2 | .104 | HSIP-0264(060) | RW | | |
| 50138.3 | 3.104 | HSIP-0264(060) | CONST | 1 | |

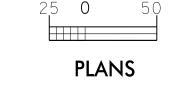
| EROSIO | N AND SEDIMENT CONTROL MEASURES |
|---------------|--|
| <u>Std.</u> # | Description Symbol |
| 1630.03 | Temporary Silt Ditch TSD |
| 1630.05 | Temporary Diversion TD |
| 1605.01 | Temporary Silt Fence ——————————————————————————————————— |
| 1606.01 | Special Sediment Control Fence |
| 1622.01 | Temporary Berms and Slope Drains |
| 1630.02 | Silt Basin Type B |
| 1633.01 | Temporary Rock Silt Check Type-A |
| | Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM) |
| 1633.02 | Temporary Rock Silt Check Type-B |
| | Wattle / Coir Fiber Wattle |
| | Wattle / Coir Fiber Wattle with Polyacrylamide (PAM) |
| 1634.01 | Temporary Rock Sediment Dam Type-A |
| 1634.02 | Temporary Rock Sediment Dam Type-B |
| 1635.01 | Rock Pipe Inlet Sediment Trap Type-A |
| 1635.02 | Rock Pipe Inlet Sediment Trap Type-B |
| 1630.04 | Stilling Basin |
| 1630.06 | Special Stilling Basin |
| | Rock Inlet Sediment Trap: |
| 1632.01 | Туре А |
| 1632.02 | Туре В |
| 1632.03 | Туре С |
| | Skimmer Basin |
| | Tiered Skimmer Basin |
| | Infiltration Basin |
| | |

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF

CONSTRUCTION.

GRAPHIC SCALE



ROADSIDE ENVIRONMENTAL UNIT **DIVISION OF HIGHWAYS** STATE OF NORTH CAROLINA

> THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

2012 STANDARD SPECIFICATIONS

Prepared in the Office of:

DIVISION 2 DDC 1704 NORTH GREENE STREET

GREENVILLE, NC 27835

Timothy Pinkham Level III Certification #3510

Roadway Standard Drawings

1630.05 Temporary Diversion 1630.06 Special Stilling Basin

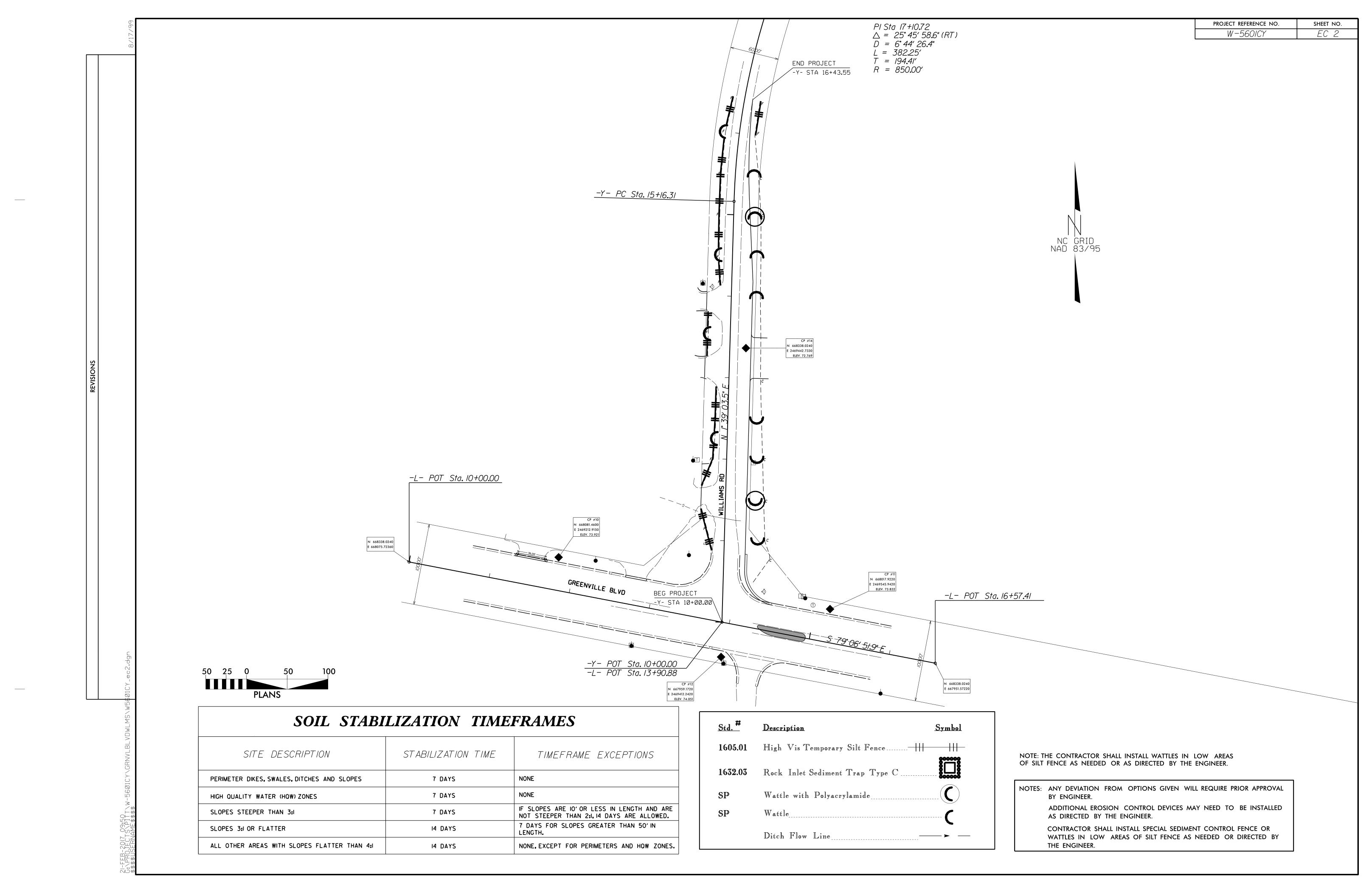
1631.01 Matting Installation

The following roadway english standards as appear in "Roadway Standard Drawings" - Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of

| 04.01 | Railroad Erosion Control Detail |
|-------|----------------------------------|
| 05.01 | Temporary Silt Fence |
| 06.01 | Special Sediment Control Fence |
| 07.01 | Gravel Construction Entrance |
| 22.01 | Temporary Berms and Slope Drains |
| 30.01 | Riser Basin |
| 30.02 | Silt Basin Type B |
| 30.03 | Temporary Silt Ditch |
| 30.04 | Stilling Basin |

1632.01 Rock Inlet Sediment Trap Type A 1632.02 Rock Inlet Sediment Trap Type B 1632.03 Rock Inlet Sediment Trap Type C 1633.01 Temporary Rock Silt Check Type A 1633.02 Temporary Rock Silt Check Type B 1634.01 Temporary Rock Sediment Dam Type A 1634.02 Temporary Rock Sediment Dam Type B
1635.01 Rock Pipe Inlet Sediment Trap Type A
1635.02 Rock Pipe Inlet Sediment Trap Type B

1640.01 Coir Fiber Baffle 1645.01 Temporary Stream Crossing



-8' MAX. WITH WIRE (6' MAX. WITHOUT WIRE) MIDDLE AND VERTICAL WIRES SHALL BE 12½ GAUGE MIN. TOP AND BOTTOM STRAND -SHALL BE 10 GAUGE MIN. FILTER FABRIC — USE WIRE A MINIMUM OF 32" FILTER FABRIC — IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12" STAY COMPACTED FILL SPACING. USE FILTER FABRIC A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER. PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE. STEEL POST - 2'-0" DEPTH EXTENSION OF FABRIC AND WIRE INTO TRENCH 1605.01 1605.01 -1∕4″ WIRE MESH 1∕4″ WIRE MESH — — ¼" WIRE MESH -SEE NOTE FOR POST DESCRIPTION MAXIMUM POST SPACING 4 FT.-USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE. USE 24 GAUGE MINIMUM WIRE SEDIMENT ----MESH HARDWARE CLOTH WITH SEDIMENT ——— WIRE MESH 1/4 INCH MESH OPENINGS.
PLACE TOP OF WIRE MESH
A MINIMUM OF ONE FOOT BELOW DIVERSION POINT. INSTALL WIRE MESH UNDER ►AVERAGE BOX - AVERAGE BOX SEDIMENT CONTROL STONE. DIMENSION VARIABLE DIMENSION VARIABLE USE 5' STEEL POST, INSTALLED 1.5' DEEP MINIMUM, AND FILTERED FILTERED WATER OF THE SELF-FASTENER SECTION A-A ANGLE STEEL TYPE. SECTION Y-Y SPACE POST A MAXIMUM SINGLE-DIRECTIONAL FLOW MULTI-DIRECTIONAL FLOW NOT TO SCALE 1632.03 1632.03 SILT FENCE WATTLE BREAK DETAIL USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT. EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED. DO NOT PLACE WATTLE ON TOE OF SLOPE. USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION. INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND. PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH. INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL. WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED. INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS. ISOMETRIC VIEW 12" WATTLE — / SILT FENCE POST UPSLOPE STAKE —

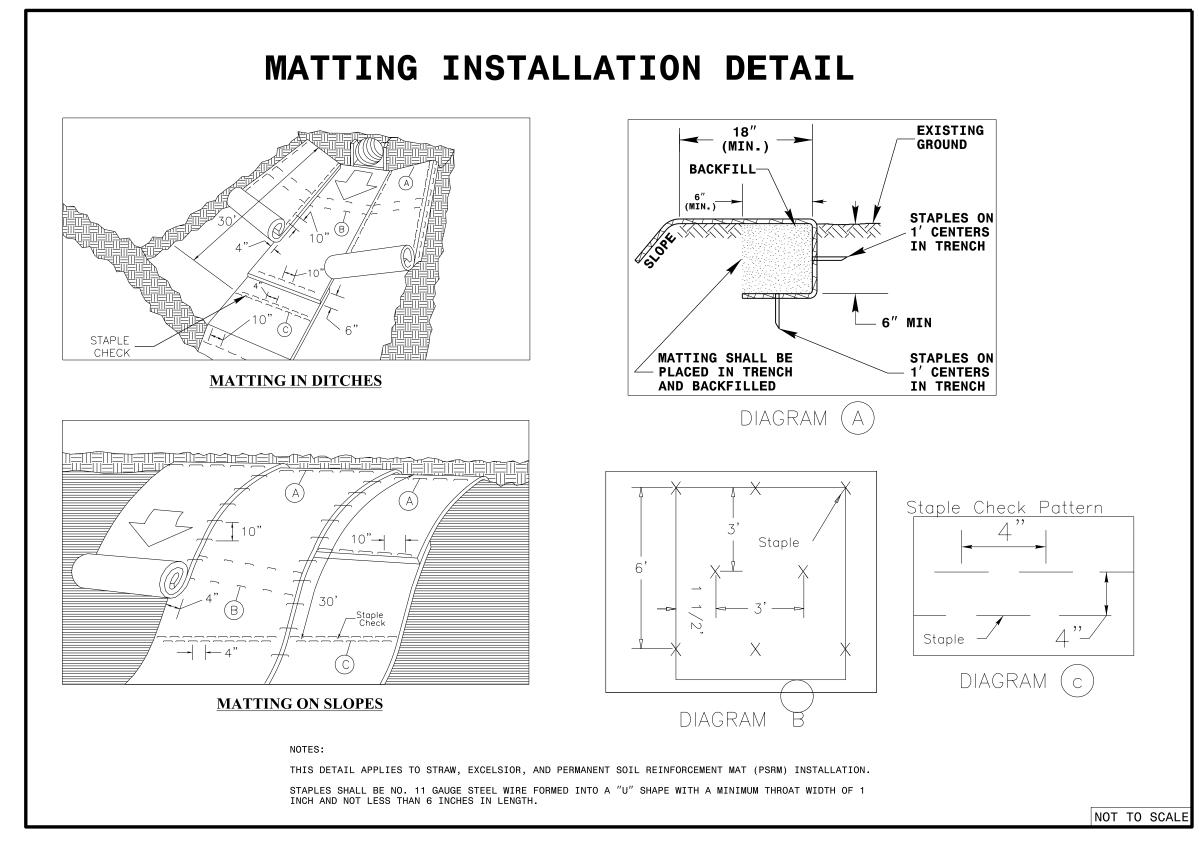
VIEW FROM SLOPE

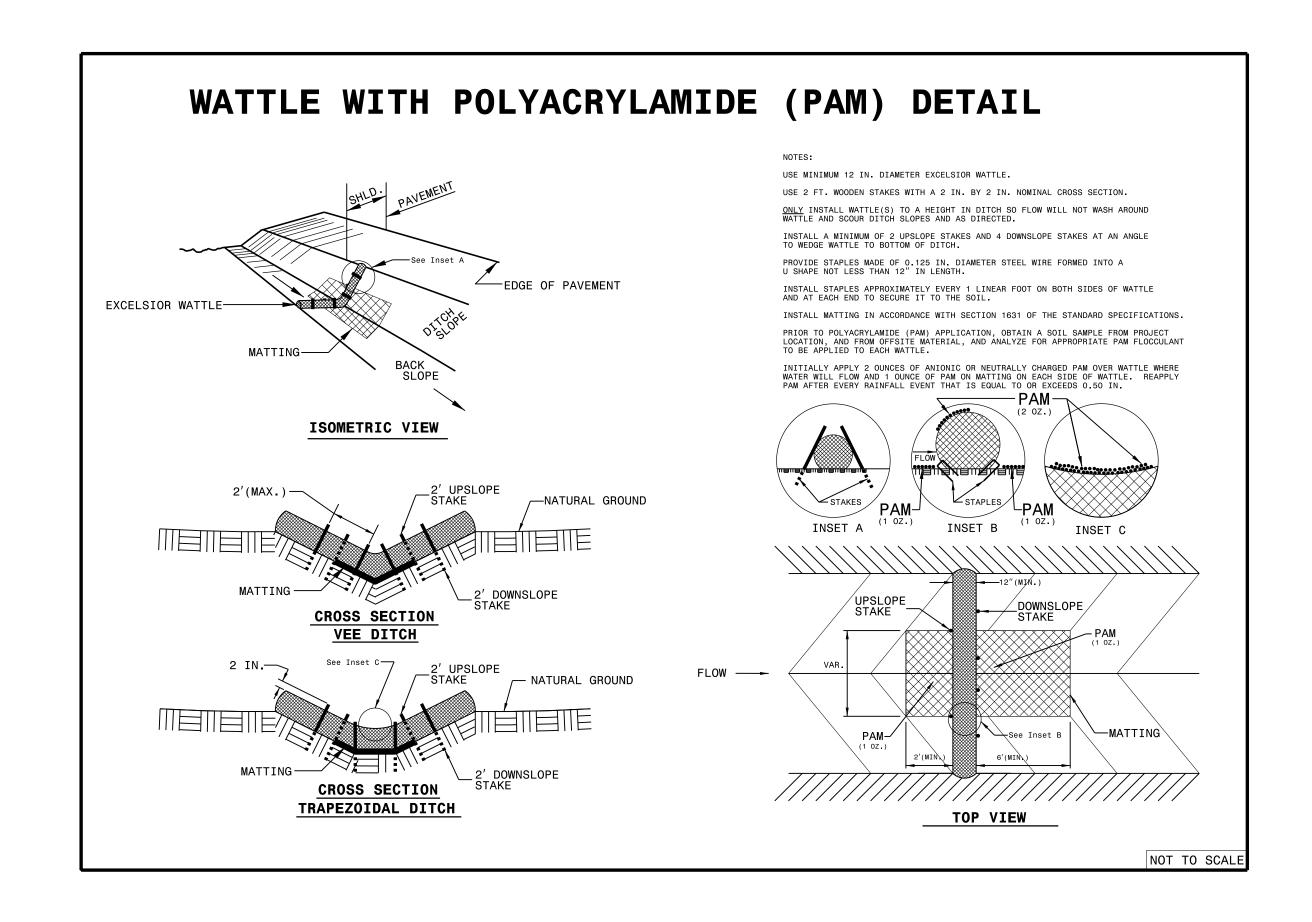
STAPLE —

SIDE VIEW

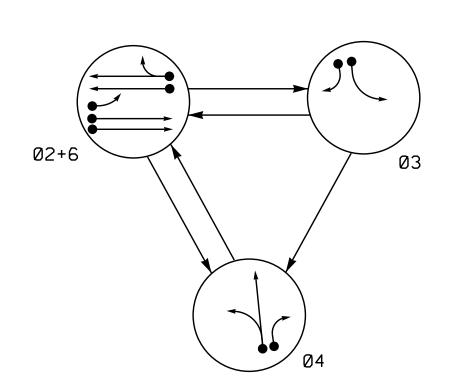
- DOWNSLOPE STAKE

NOT TO SCALE





PHASING DIAGRAM



| TABLE OF | 0PE | ERA ⁻ | TIO | N |
|----------------|----------|------------------|-----|---------------|
| | | PHA | SE | |
| SIGNAL FACE | ØN+6 | Ø۵ | 0 4 | FLGOI |
| 21 | ₽ | ₩ | ₩ | -Y |
| 22,23 | G | R | R | Υ |
| 31,32 | R | G | R | R |
| 41 | R | R | Jٍ∪ | R |
| 42 | R | R | G | R |
| 61,62 | G | R | R | Υ |
| | | | | |

| | ASC/3 DETECTOR INSTALLATION CHART | | | | | | | | | | |
|------|-----------------------------------|-------------------------------------|-------|----------|-------|---------|----------------|---------------|------|-------------|----------|
| | DETE | CTOR | | | PRO | GRAMM | ING | | | | |
| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | NEW LOOP | PHASE | CALLING | EXTEND TIME | DELAY TIME | TYPE | SYSTEM LOOP | NEW CARD |
| 2A | 6X6 | 355 | 5 | Χ | 2 | Yes | - | - | N | - | Χ |
| 2B | 6X6 | 355 | 5 | Χ | 2 | Yes | - | - | N | - | Χ |
| 2C | 6X40 | +5 | 2-4-2 | Χ | 2 | Yes | - | 3 | G | - | Χ |
| 3A | 6X40 | +5 | 2-4-2 | Χ | 3 | Yes | - | - | S | - | Χ |
| 3B | 6X40 | +5 | 2-4-2 | Χ | 3 | Yes | - | 15 | S | - | Χ |
| 4A | 6X40 | +5 | 2-4-2 | Χ | 4 | Yes | - | = | S | - | Χ |
| 4B | 6X40 | +5 | 2-4-2 | Χ | 4 | Yes | - | 15 | S | - | Χ |
| 6A | 6X6 | 355 | 5 | Χ | 6 | Yes | - | - | N | - | Χ |
| 6B | 6X6 | 355 | 5 | Х | 6 | Yes | - | - | N | - | Х |

50 MPH -1% Grade

US 264 Alt. (Greenville Blvd)

US 264 Alt

♦

New Installation/Corr. File No. 02-15-34795

'50 N.Greenfleid Pkwy.Garner.NC 27529 PREPARED BY: EM Minshew

1"=40'

TOOHOS

Metal Pole #3

22**←⊘**Arm "A"

Koinonia Church Exit

10 MPH -1% Grade

US 264 Alt.

SR 1135 (Williams Road)

Koinonia Church Exit

Proposed Stopbar Locations

Arm "B"/

Metal Pole #1

Metal Pole #3

US 264 Alt.

Koinonia Church Exit

PROJECT REFERENCE NO.

W-5601CY

3 Phase

Fully Actuated

Greenville Signal System

NOTES

1. Refer to "Roadway Standard

2012 and "Standard

the Engineer.

presence mode.

4 may be reversed.

4. Set all detector units to

5. Locate new cabinet so as not

6. Maximum times shown in timing

operation only. Coordinated signal system timing values

LEGEND

Traffic Signal Head Modified Signal Head

Sign

Pedestrian Signal Head With Push Button & Sign

Signal Pole with Guy Signal Pole with Sidewalk Guy Metal Pole with Mastarm

Inductive Loop Detector

Controller & Cabinet

Junction Box

2-in Underground Conduit

Directional Arrow

Fire Hydrant

Left Arrow "ONLY" Sign (R3-5L)

Right Arrow "ONLY" Sign (R3-5R)

Greenville

JPG, PE

INIT. DATE

Right of Way

PROPOSED

US 264 Alt. (Greenville Blvd)

SR 1135 (Williams Rd)/

ivision 2 Pitt County

REVISIONS

Koinonia Church Exit

PLAN DATE: September 2016 REVIEWED BY: ME Giles, PE

REVIEWED BY:

EXISTING

DOCUMENT NOT CONSIDERED

FINAL UNLESS ALL

SIGNATURES COMPLETED

042608

Meghan E. Giles 11/30/2016

SIG. INVENTORY NO.

SEAL

chart are for free-run

supersede these values.

to obstruct sight distance of vehicles turning right on red.

Drawings NCDOT" dated January

Specifications for Roads and Structures" dated January 2012.

unless otherwise directed by

2. Do not program signal for late

3. The order of phase 3 and phase

night flashing operation

Sig. 1.0

SIGNAL FACE I.D.

PHASING DIAGRAM DETECTION LEGEND

DETECTED MOVEMENT

UNDETECTED MOVEMENT (OVERLAP) UNSIGNALIZED MOVEMENT

ASC/3 TIMING CHART

0

0

6.0

60

4.9

1.3

1.5

39

30

3.0

'EH. RECAL

* These values may be field adjusted. Do not adjust Min Green and Extension times for

FEATURE

Min Green ³

Walk *

Ped Clear

Max 1 *

Red Clear

Max Initial *

Actuations B4 Add *

Seconds /Actuation *

Time Before Reduction

be lower than 4 seconds.

Time To Reduce *

Minimum Gap

Locking Detector

Recall Position

Dual Entry

Veh. Extension

PHASE

2.0

20

3.8

2.1

0

0

2.0

20

3.0

4.4

14

0

0

6.0

60

4.9

1.3

1**.**5

39

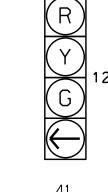
15

30

3.0

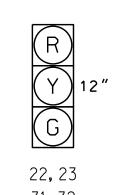
VEH. RECALI

≪--> PEDESTRIAN MOVEMENT



US 264 Alt. (Greenville Blvd)

50 MPH 0% Grade



31, 32 42 61,62

Metal Pole #2

<u>Metal Pole #2</u> → ±23'

Metal Pole #1

Proposed Metal Pole Locations

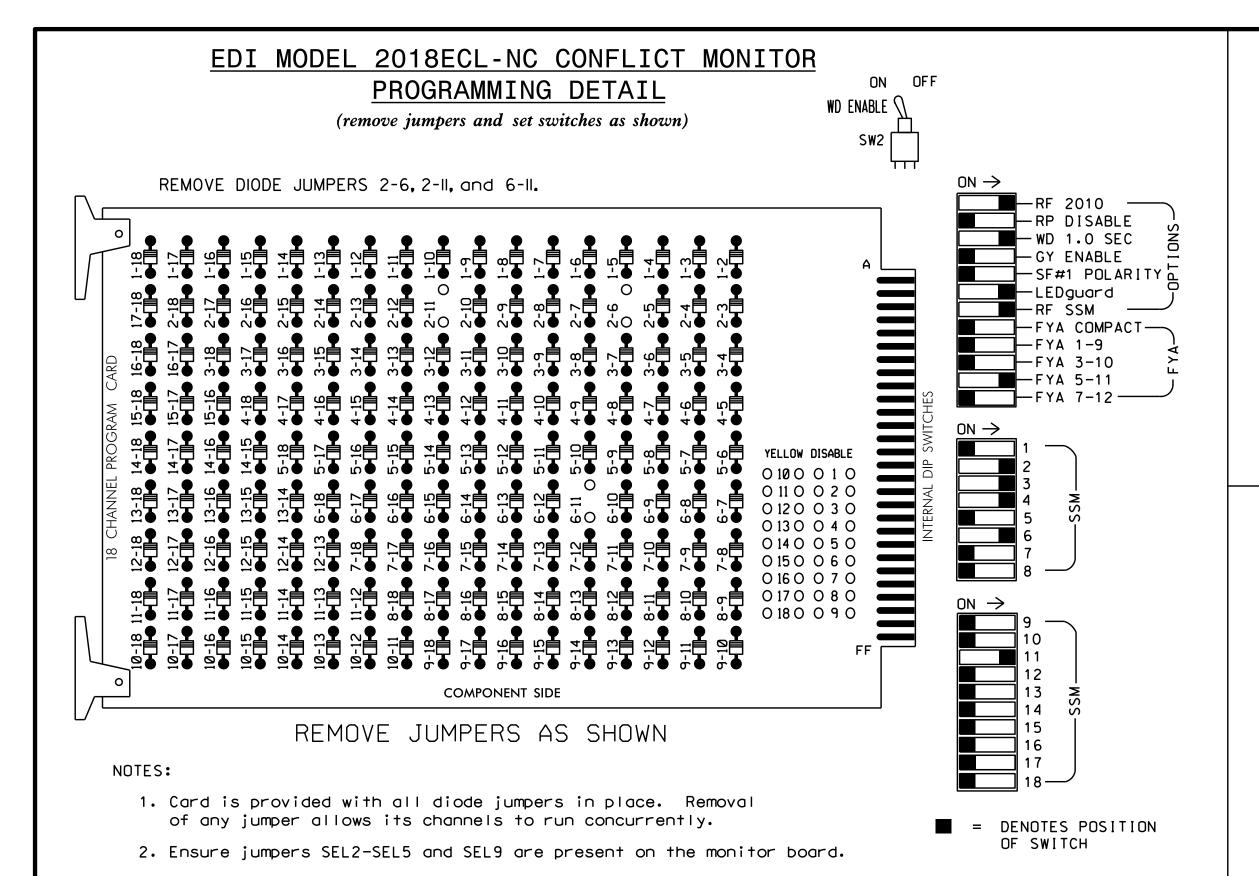
US 264 Alt.

20" DIP WATER MAIN

Gas L'ine

SR 1135 (Williams Road)

AII Heads L.E.D.



3. Ensure that Red Enable is active at all times during normal operation.

3A

4. Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

Ø 2 | Ø 2

EX.: 1A, 2A, ETC. = LOOP NO.'S

2A

NOTES

- 1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
- 2. Enable Simultaneous Gap-Out for all phases.
- 3. Program phases 2 and 6 for volume density operation.
- 4. Program controller to start up in phase 2 Green and
- 5. The cabinet and controller are part of the Greenville Signal System.

EQUIPMENT INFORMATION

| CONTROLLER2070 |
|---|
| CABINET |
| SOFTWAREECONOLITE ASC/3-2070 |
| CABINET MOUNTBASE |
| OUTPUT FILE POSITIONS18 WITH AUX. OUTPUT FILE |
| LOAD SWITCHES USEDS2,S4,S5,S8,AUX S4 |
| PHASES USED2,3,4,6 |
| OVERLAP 'A'NOT USED |
| OVERLAP 'B'NOT USED |
| OVERLAP 'C'* |
| OVERLAP 'D'NOT USED |
| |

* See overlap programming detail this sheet.

| | | | | S. | I GN | AL | HE | AD | НО | OK | -UP | Cl | HAR | T | | | | | |
|-----------------------|----|-------|----------|-------|------|-----|----------|----|-------|----------|-----|-----|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| LOAD SWITCH NO. | S1 | S2 | S3 | S4 | S | 5 | S6 | S7 | S8 | S9 | S10 | S11 | S12 | AUX S1 | AUX S2 | AUX S3 | AUX S4 | AUX S5 | AUX S6 |
| CMU CHANNEL NO. | 1 | 2 | 13 | 3 | 4 | + | 14 | 5 | 6 | 15 | 7 | 8 | 16 | 9 | 10 | 17 | 11 | 12 | 18 |
| PHASE | 1 | 2 | 2 PED | 3 | 4 | ŀ | 4 PED | 5 | 6 | 6 PED | 7 | 8 | 8 PED | OLA | OLB | SPARE | OLC | OLD | SPARE |
| SIGNAL HEAD NO. | NU | 22,23 | NU | 31,32 | 41 | 42 | NU | NU | 61,62 | NU | NU | NU | NU | NU | NU | NU | 21 | NU | NU |
| RED | | 128 | | 116 | 101 | 101 | | | 134 | | | | | | | | | | |
| YELLOW | | 129 | | 117 | 102 | 102 | | | 135 | | | | | | | | | | |
| GREEN | | 130 | | 118 | 103 | 103 | | | 136 | | | | | | | | | | |
| RED ARROW | | | | | | | | | | | | | | | | | A114 | | |
| YELLOW ARROW | | | | | | | | | | | | | | | | | A115 | | |

PROJECT REFERENCE NO.

W-5601CY

A116

Sig. 1.1

NU = Not Used

FLASHING YELLOW ARROW

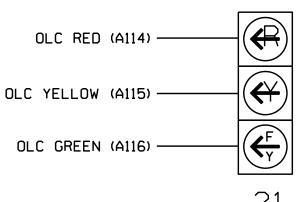
GREEN

★ See pictorial of head wiring in detail below.

103

FYA SIGNAL WIRING DETAIL

(wire signal head as shown)



THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 02-0910 DESIGNED: September 2016 SEALED: 11/30/2016 REVISED: N/A

ECONOLITE ASC/3-2070 OVERLAP PROGRAMMING DETAIL

(program controller as shown)

- 1. From Main Menu select | 2. CONTROLLER
- 2. From CONTROLLER Submenu select | 2. VEHICLE OVERLAPS

Toggle Twice

OVERLAP C

Select TMG VEH OVLP [C] and 'OTHER/ECONOLITE'

| TMG VEH OVLP[C] TYPE: OTHER/ECONOLITE |
|---|
| PHASES 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 |
| INCLUDED X |
| PROTECT |
| PED PRTC |
| NOT OVLP |
| FLSH GRN 1 |
| LAG X PH |
| LAG 2 PH |
| |
| LAG GRN 0.0 YEL 0.0 RED 0.0 ADV GRN 0.0 |
| |

END PROGRAMMING

INPUT FILE CONNECTION & PROGRAMMING CHART

INPUT FILE POSITION LAYOUT

10

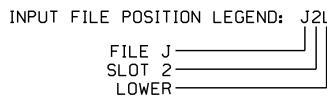
11 12 13 14

FS = FLASH SENSE

ST = STOP TIME

(front view)

| LOOP NO | LOOP TERMINAL | INPUT FILE POS. | PIN NO. | DETECTOR NO. | NEMA PHASE | CALL | EXTEND TIME | DELAY TIME | DETECTOR TYPE |
|---------|------------------|--------------------|------------|-----------------|---------------|------|----------------|---------------|------------------|
| 2A | TB2-5,6 | I2U | 39 | 2 | 2 | YES | | | N |
| 2B | TB2-7,8 | I2L | 43 | 12 | 2 | YES | | | N |
| 2C | TB2-9,10 | I3U | 63 | 32 | 2 | YES | | 3 | G |
| 3A | TB4-9,10 | I6U | 41 | 4 | 3 | YES | | | S |
| 3B | TB4-11,12 | I6L | 45 | 14 | 3 | YES | | 15 | S |
| 4A | TB6-1,2 | I7U | 65 | 34 | 4 | YES | | | S |
| 4B | TB6-3,4 | I7∟ | 78 | 44 | 4 | YES | | 15 | S |
| 6A | TB3-5,6 | J2U | 40 | 6 | 6 | YES | | | N |
| 6B | TB3-7,8 | J2L | 44 | 16 | 6 | YES | | | N |



Electrical Detail ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

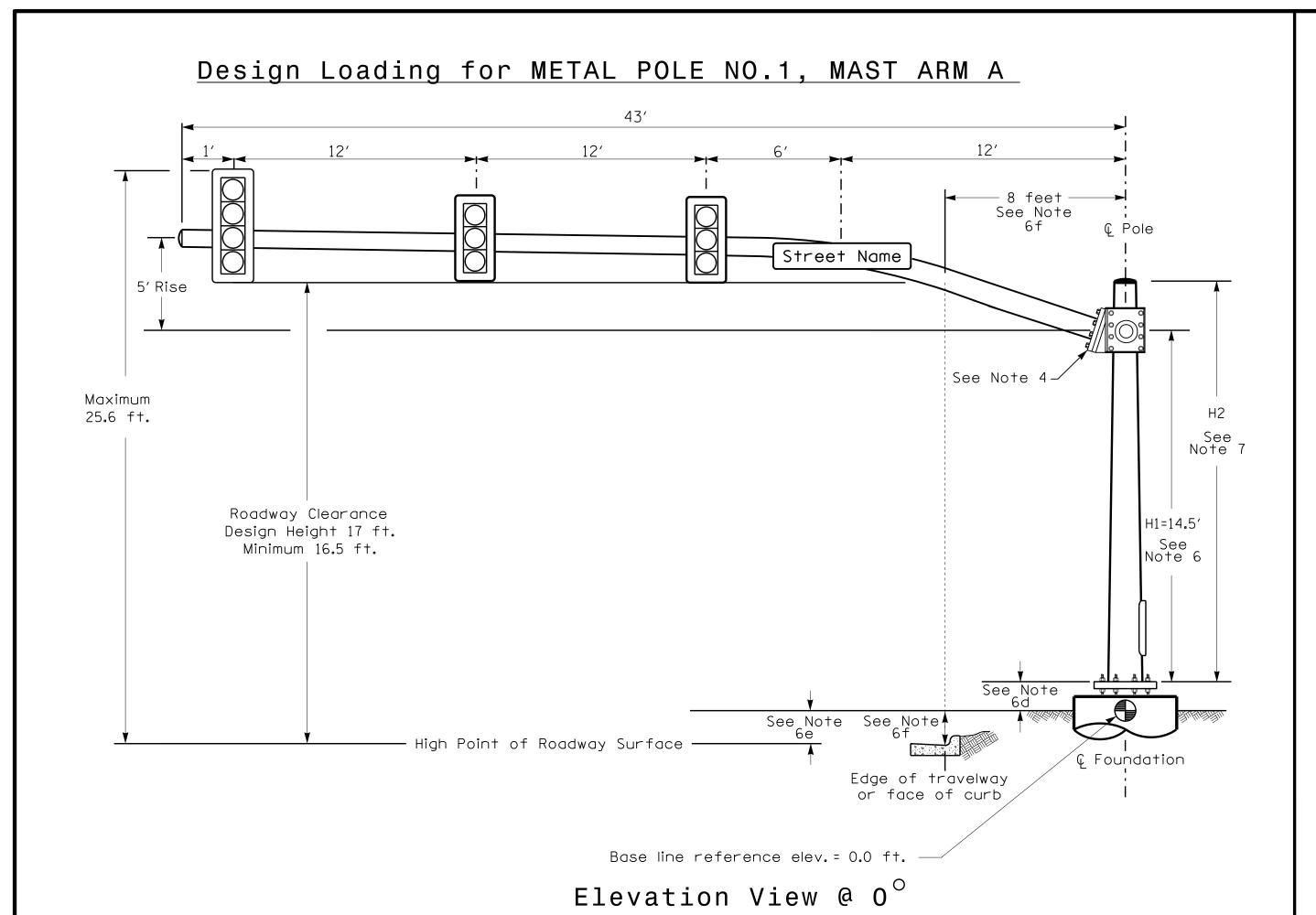
US 264 Alt. (Greenville Blvd.) SR 1135 (Williams Rd.)/

Koinonia Church Exit Greenville BAS

ivision 2 PLAN DATE: November 2016 REVIEWED BY: PREPARED BY: S. Armstrong Reviewed BY: REVISIONS INIT. DATE

SIG. INVENTORY NO. 02-0910

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



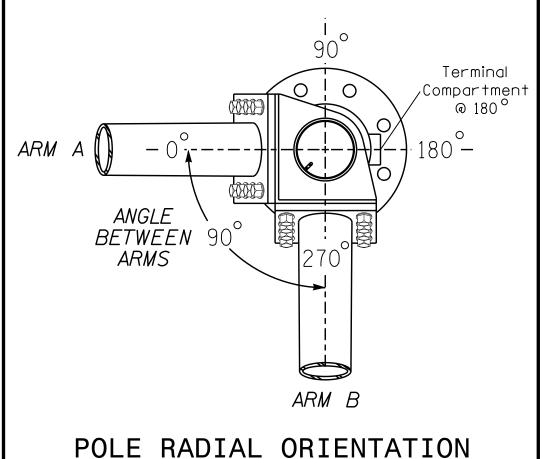
Design Loading for METAL POLE NO.1, MAST ARM B 29' Note 7 Driveway Clearance Design High 12.5 ft. Minimum 8.0 ft. Bose Note 6 Foundation Bose line reference elev. - 0.0 ft. Elevation View @ 270

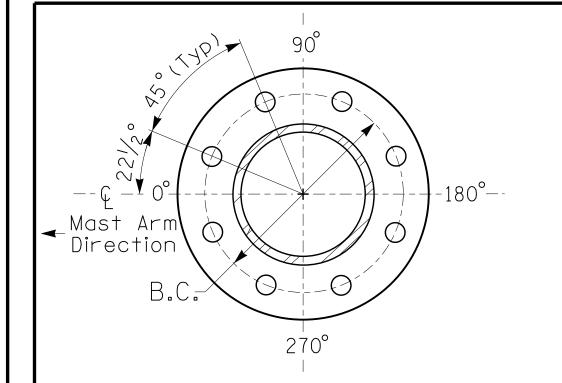
SPECIAL NOTE

The contractor is responsible for verifying that the mast arm attachment height (H1) will provide the "Design Height" clearance from the roadway before submitting final shop drawings for approval. Verify elevation data below which was obtained by field measurement or from available project survey data.

Elevation Data for Mast Arm Attachment (H1)

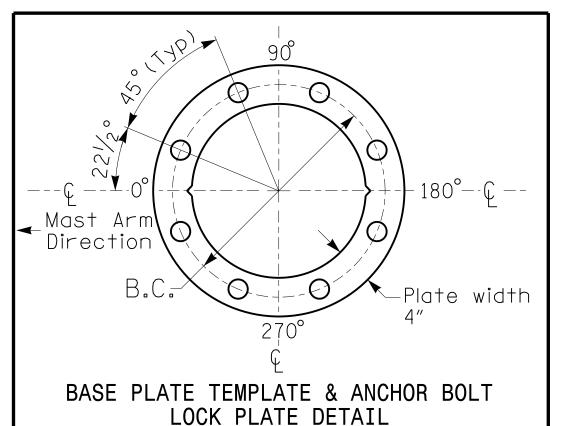
| Elevation Differences for: | Pole 1 | |
|--|----------|---------|
| Baseline reference point at © Foundation @ ground level | 0.0 ft. | 0.0 ft. |
| Elevation difference at High point of roadway surface | +0.4 ft. | |
| Elevation difference at Edge of travelway or face of curb | +0.1 ft. | |





8 BOLT BASE PLATE DETAIL

See Note 5



For 8 Bolt Base Plate

METAL POLE No. 1

PROJECT REFERENCE NO. SHEET NO. W-5601CY Sig. 1.2

| | MAST ARM LOADING SC | HEDU | LE | |
|-------------------|---|-----------|------------------------|---------|
| LOADING SYMBOL | DESCRIPTION | AREA | SIZE | WEIGHT |
| | RIGID MOUNTED SIGNAL HEAD 12"-5 SECTION-WITH BACKPLATE | 16.3 S.F. | 42.0"W X 56.0"L | 103 LBS |
| | RIGID MOUNTED SIGNAL HEAD 12"-4 SECTION-WITH BACKPLATE | 11.5 S.F. | 25.5″W X 66.0″L | 74 LBS |
| | RIGID MOUNTED SIGNAL HEAD 12"-3 SECTION-WITH BACKPLATE | 9.3 S.F. | 25.5″W X 52.5″L | 60 LBS |
| 1 | SIGN RIGID MOUNTED | 5.0 S.F. | 24.0" W X 30.0"L | 11 LBS |
| Street Name | STREET NAME SIGN RIGID MOUNTED | 16.0 S.F. | 24.0″W X 96.0″L | 36 LBS |

DESIGN REFERENCE MATERIAL

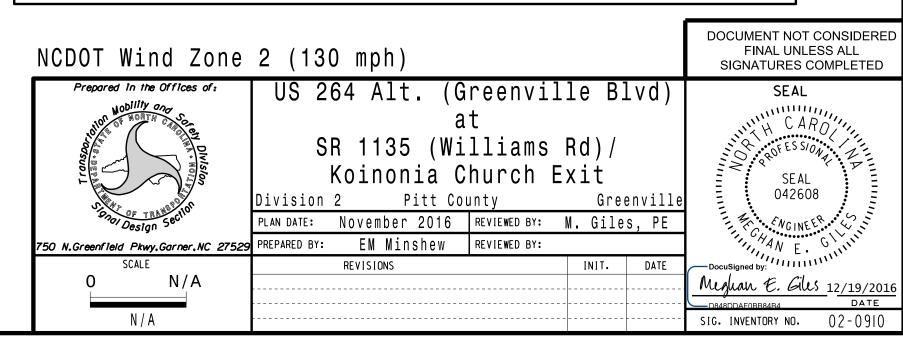
<u>NOTES</u>

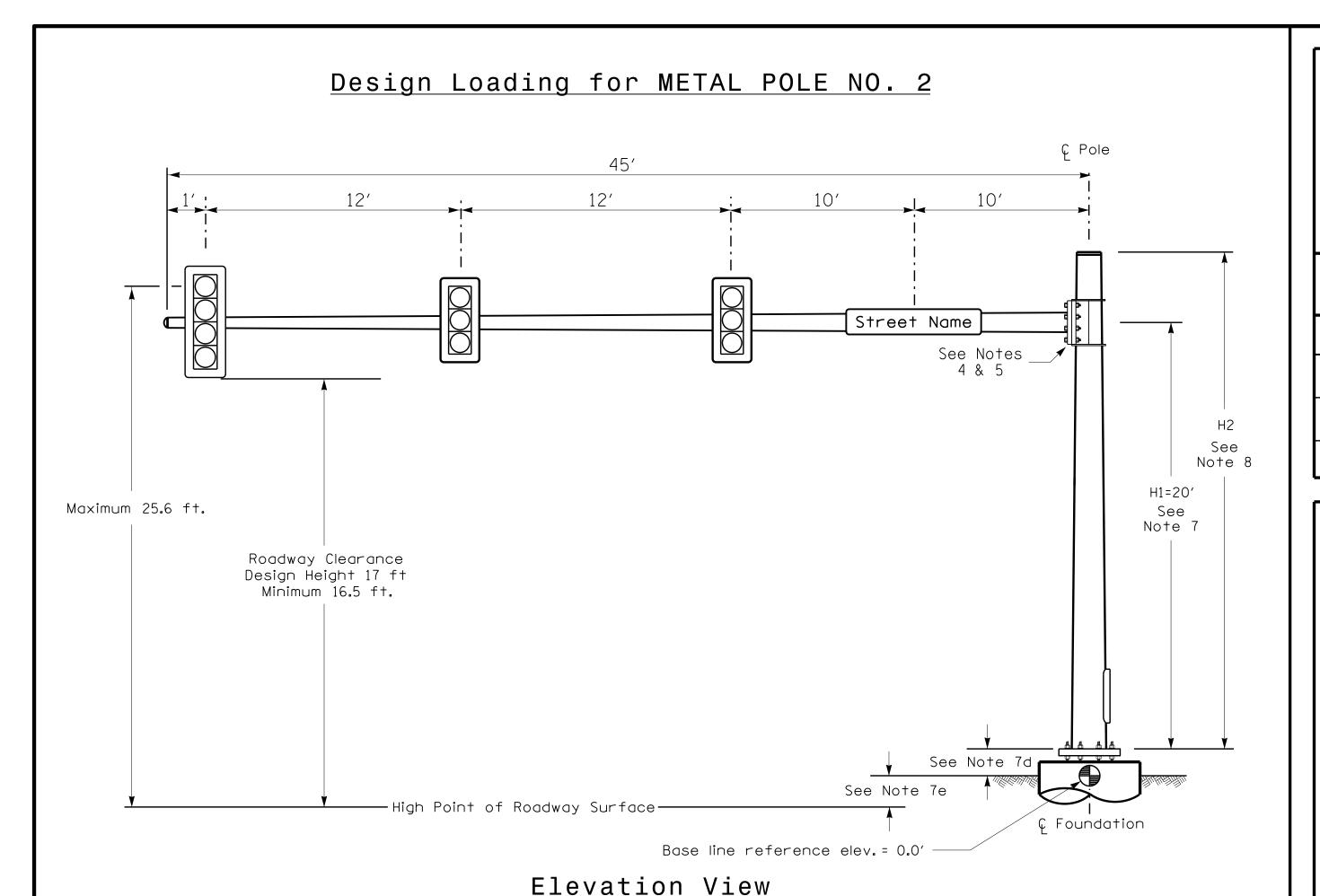
1. Design the traffic signal structure and foundation in accordance with:

- The 6th Edition 2013 AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions.
- The 2012 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.
- The 2012 NCDOT Roadway Standard Drawings.
- The traffic signal project plans and special provisions.
- The NCDOT "Metal Pole Standards" located at the following NCDOT website: https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx

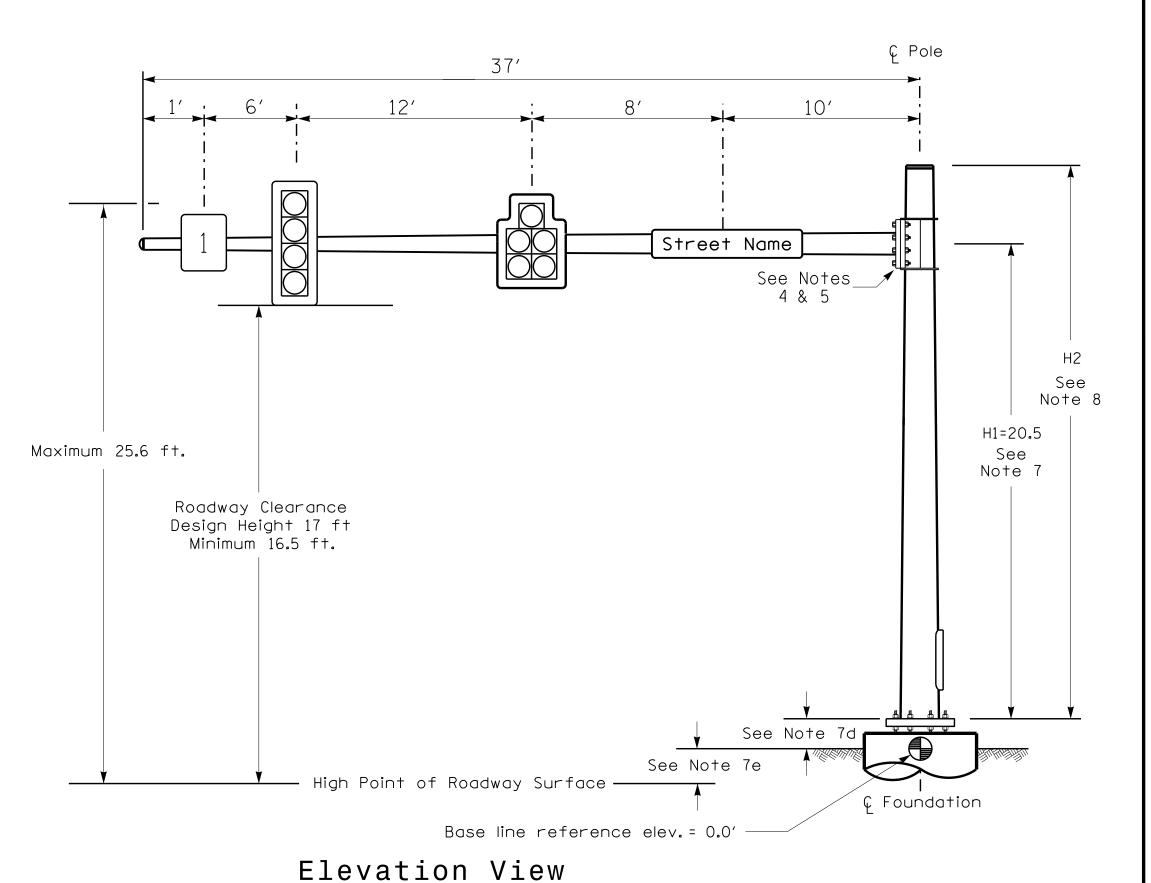
DESIGN REQUIREMENTS

- 2. Design the traffic signal structure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation.
- 3. Design all signal supports using stress ratios that do not exceed 0.9.
- 4. A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design requirements. This requires staggering the connections. Use elevation data for each arm to determine appropriate connection points.
- 5. Design base plate with 8 anchor bolt holes. Provide 2 inch x 60 inch anchor bolts.
- 6. The mast arm attachment height (H1) shown is based on the following design assumptions:
 a. Nominal vertical rise in mast arm is 5 feet as measured from the centerline of the arm
 - base to the centerline of the free end of the arm.
- b. Signal heads are rigidly mounted and vertically centered on the mast arm. c. The roadway clearance height for design is as shown in the elevation views.
- d. The top of the pole base plate is 0.75 feet above the ground elevation.
- e. Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground level and the high point of the roadway.
- f. Provide horizontal distance from the proposed centerline of the foundation to the edge of travelway. Refer to the Elevation Data Chart for elevation difference between the proposed foundation ground level and the edge of travelway. This information is necessary to ensure that the roadway clearance is maintained at the edge of the travelway and to aid in the camber design of the arm.
- 7. The pole manufacturer will determine the total height (H2) of each pole using the greater of the following:
- Mast arm attachment height (H1) plus 2 feet, or
- H1 plus 1/2 of the total height of the mast arm attachment assembly plus 1 foot.
- 8. If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the Signal Design Section Senior Structural Engineer for assistance at (919) 773-2800.
- 9. The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signal heads over the roadway.
- 10. The contractor is responsible for providing soil penetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.
 - All metal poles and arms should be black powder coated in color as specified in the project special provisions.





Design Loading for METAL POLE NO.3

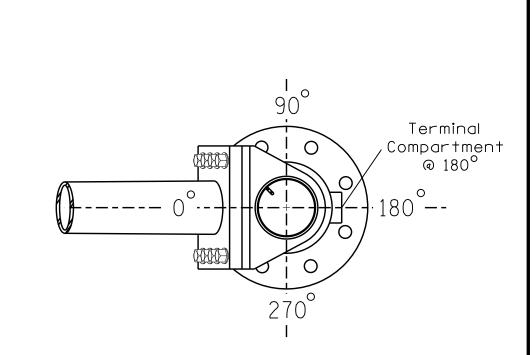


SPECIAL NOTE

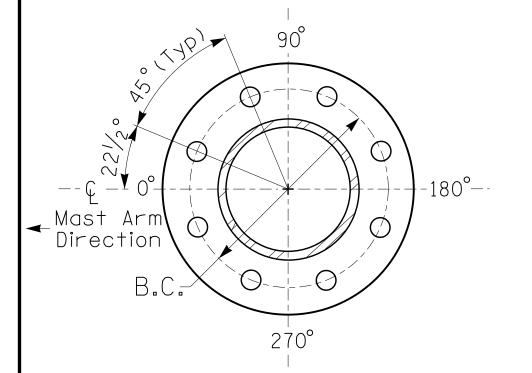
The contractor is responsible for verifying that the mast arm attachment height (H1) will provide the "Design Height" clearance from the roadway before submitting final shop drawings for approval. Verify elevation data below which was obtained by field measurement or from available project survey data.

Elevation Data for Mast Arm Attachment (H1)

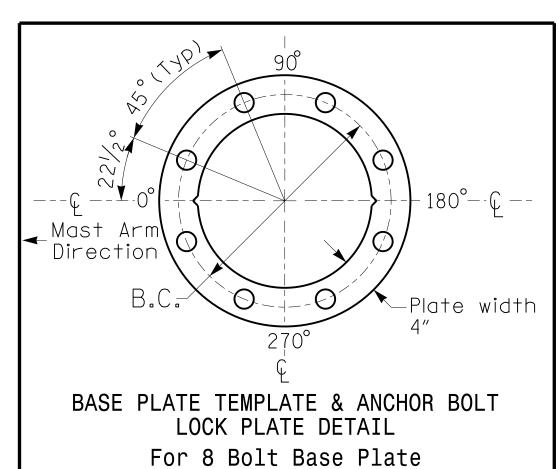
| Elevation Differences for: | Pole 2 | Pole 3 |
|--|----------|----------|
| Baseline reference point at © Foundation @ ground level | 0.0 ft. | 0.0 ft. |
| Elevation difference at High point of roadway surface | +0.6 ft. | +1.0 ft. |
| Elevation difference at Edge of travelway or face of curb | +0.3 ft. | +1.5 ft. |



POLE RADIAL ORIENTATION



8 BOLT BASE PLATE DETAIL
See Note 6



METAL POLE No. 2 and 3

| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| W-5601CY | Sig. 1.3 |

| | MAST ARM LOADING SC | HEDU | LE | |
|-------------------|---|-----------|------------------------|---------|
| LOADING SYMBOL | DESCRIPTION | AREA | SIZE | WEIGHT |
| | RIGID MOUNTED SIGNAL HEAD 12"-5 SECTION-WITH BACKPLATE | 16.3 S.F. | 42.0″W X 56.0″L | 103 LBS |
| | RIGID MOUNTED SIGNAL HEAD 12"-4 SECTION-WITH BACKPLATE | 11.5 S.F. | 25.5″W X 66.0″L | 74 LBS |
| | RIGID MOUNTED SIGNAL HEAD 12"-3 SECTION-WITH BACKPLATE | 9.3 S.F. | 25.5″W X 52.5″L | 60 LBS |
| Street Name | STREET NAME SIGN RIGID MOUNTED | 16.0 S.F. | 24.0" W X 96.0"L | 36 LBS |

NOTES

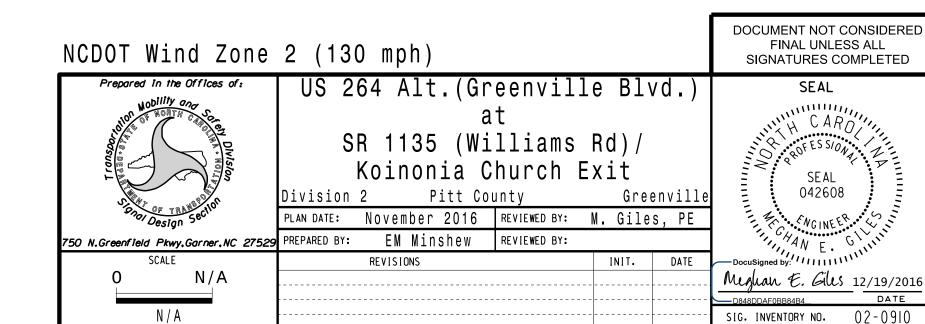
DESIGN REFERENCE MATERIAL

- 1. Design the traffic signalstructure and foundation in accordance with:
- The 6th Edition 2013 AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions.
- The 2012 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.
- The 2012 NCDOT Roadway Standard Drawings.
- The traffic signalproject plans and specialprovisions.
- The NCDOT "MetalPole Standards" located at the following NCDOT website: https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx

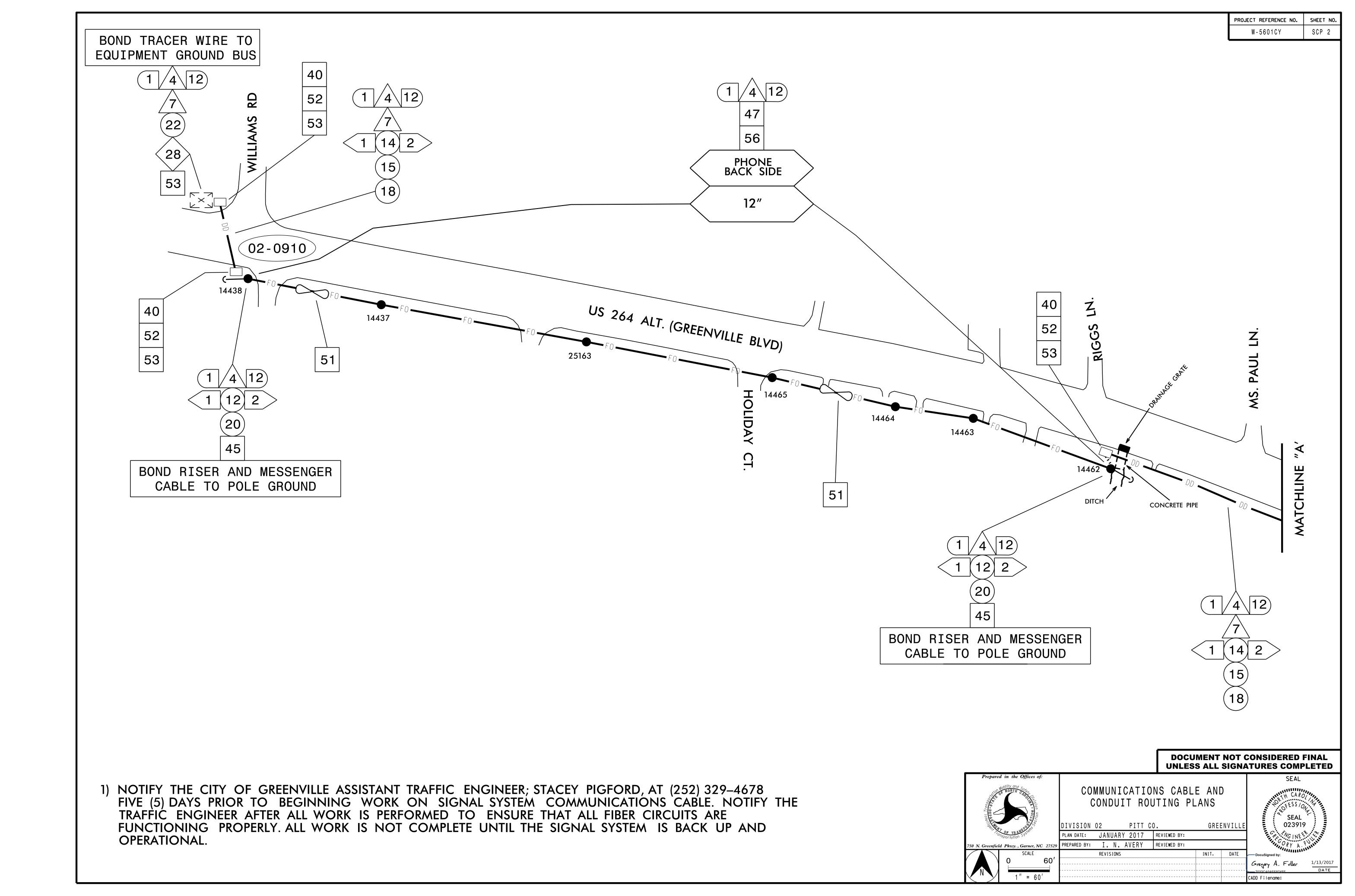
DESIGN REQUIREMENTS

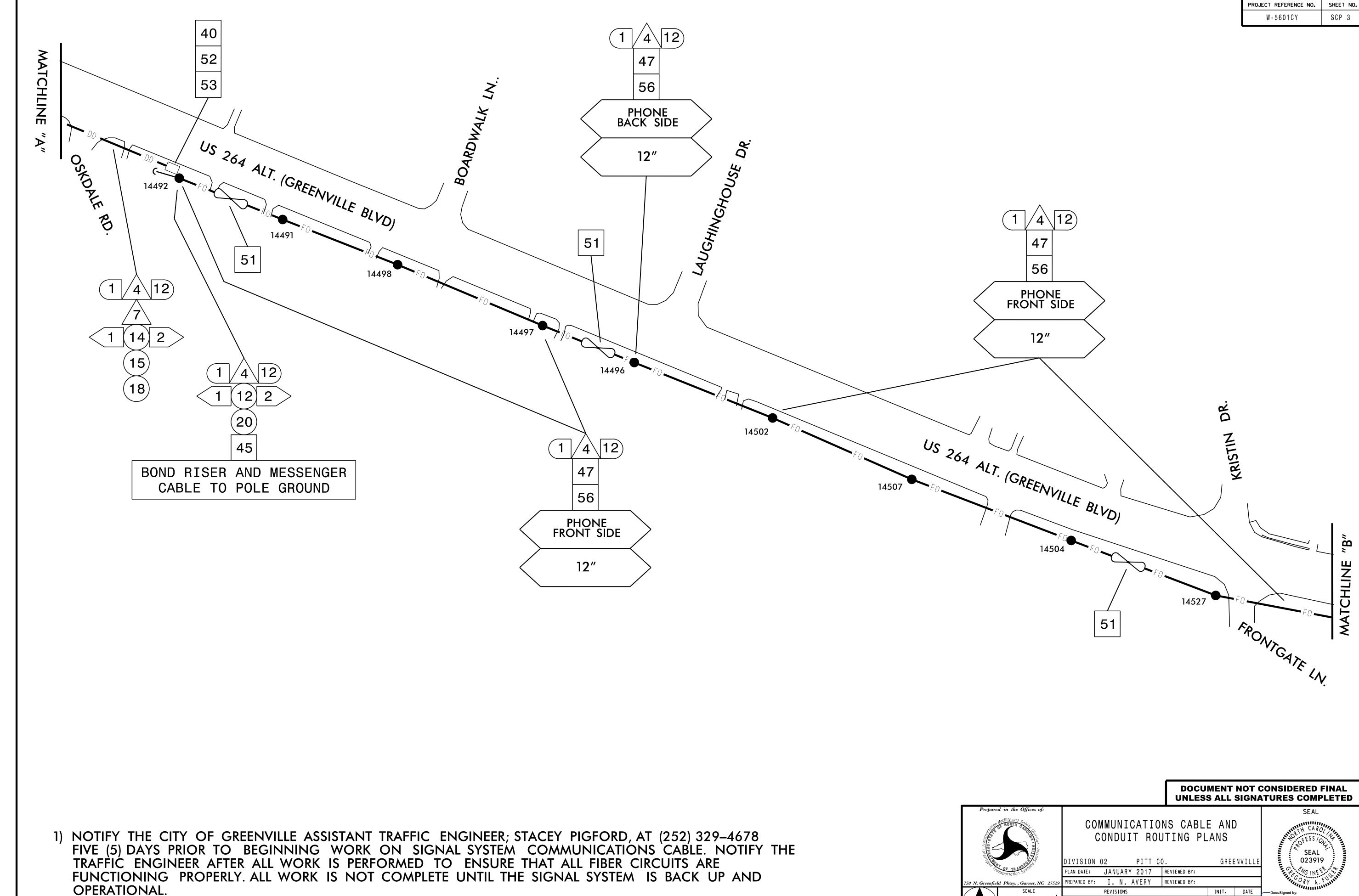
- Design the traffic signal structure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation.
 Design all signal supports using stress ratios that do not exceed 0.9.
- 4. The camber design for the mast arm deflection should provide an appearance of a low pitched arch where the tip or the free end of the mast arm does not deflect below horizontal when fully loaded.
- 5. A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design requirements.
- 6. Design base plate with 8 anchor bolt holes. Provide 2 inch \times 60 inch anchor bolts.
- 7. The mast arm attachment height (H1) shown is based on the following design assumptions: a. Mast arm slope and deflection are not considered in determining the arm attachment height as they are assumed to offset each other.
- b. Signalheads are rigidly mounted and vertically centered on the mast arm.
- c. The roadway clearance height for design is as shown in the elevation views.
- d. The top of the pole base plate is 0.75 feet above the ground elevation.
- e. Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground level and the high point of the roadway.
- 8. The pole manufacturer will determine the total height (H2) of each pole using the greater of the following:
- Mast arm attachment height (H1) plus 2 feet, or
- H1 plus 1/2 of the totalheight of the mast arm attachment assembly plus 1 foot.
- 9. If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the Signal Design Section Senior Structural Engineer for assistance at (919) 773-2800.
- 10. The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signal heads over the roadway.
- 11. The contractor is responsible for providing soilpenetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.

All metal poles and arms should be Black Powder Coated in color as specified in the project special provisions.

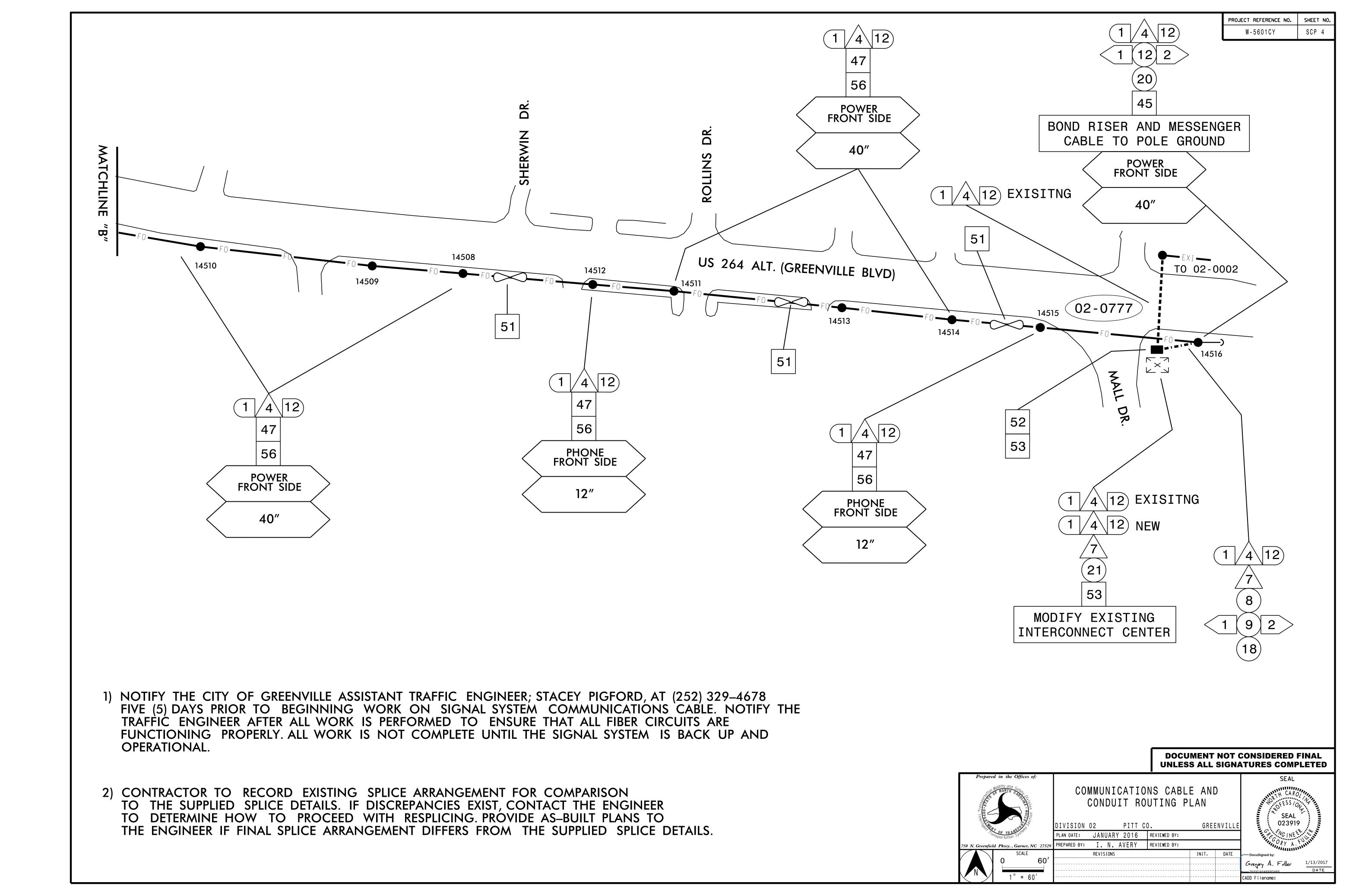


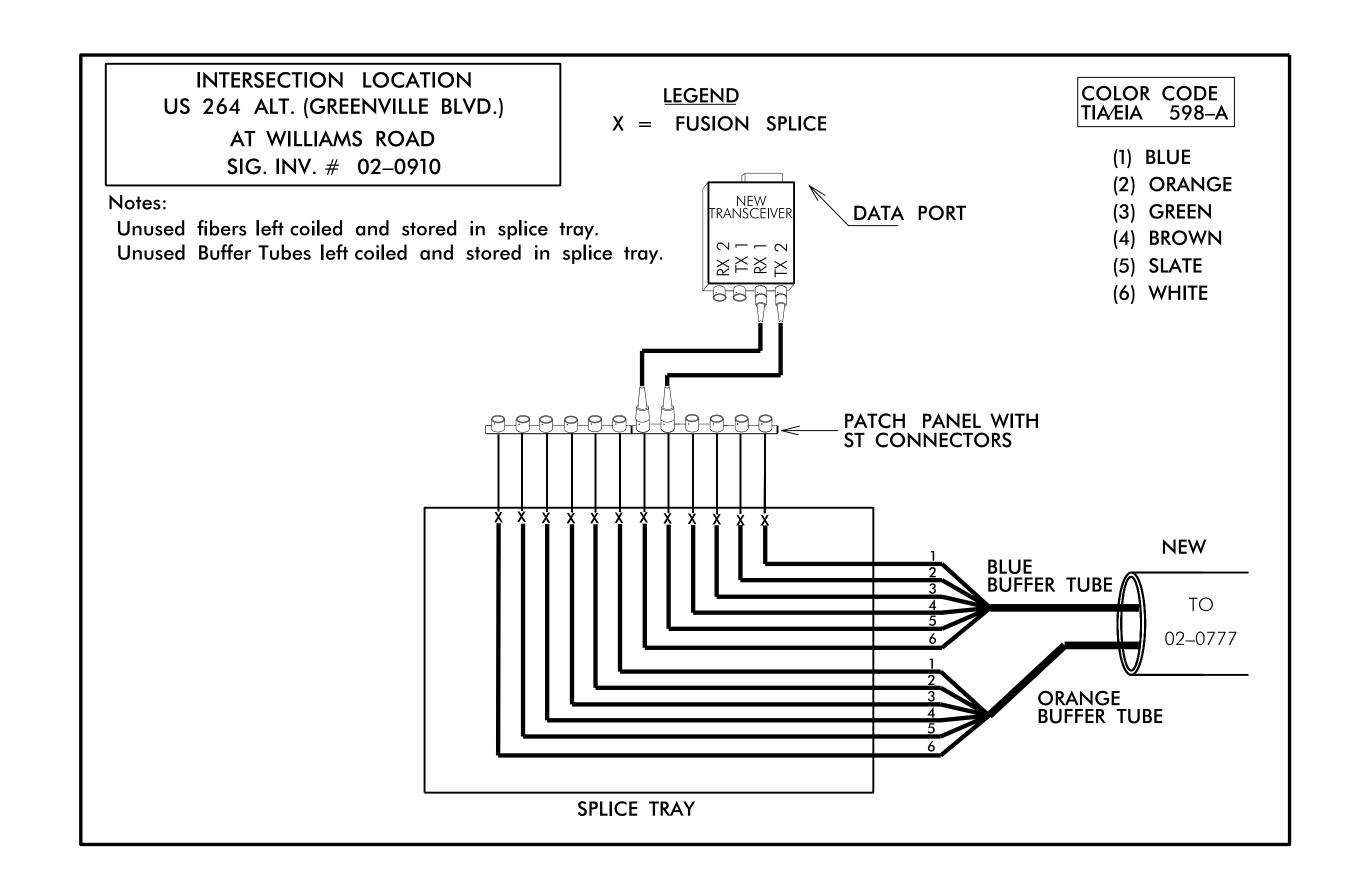
| | | | W-5601CY |
|---|-----|--|--|
| INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE | 34 | INSTALL CABINET FOUNDATION | LEGEND |
| | 35 | REMOVE EXISTING CABINET FOUNDATION | NEW FIBER OPTIC COMMUNICATIONS CABLE |
| TWISTED PAIR COMMUNICATIONS CABLE | 36 | INSTALL CCTV CAMERA ASSEMBLY | |
| INSTALL REA, PE = 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE | 37 | INSTALL CCTV CAMERA WOOD POLE | REM EXISTING COMMUNICATIONS CABLE TO BE REMOVED |
| INSTALL SMFO CABLE | 38 | INSTALL CCTV CAMERA METAL POLE AND FOUNDATION | |
| 1NSTALL MMFO CABLE | 39 | INSTALL JUNCTION BOX | E I E I E I E I E I E I E I E I EXISTING CONDUIT |
| INSTALL FIBER OPTIC DROP CABLE | 40 | INSTALL OVERSIZED JUNCTION BOX | NEW DIRECTIONAL DRILLED CONDUIT |
| 7 INSTALL TRACER WIRE | 41 | REMOVE EXISTING JUNCTION BOX | NEW BORED AND JACKED CONDUIT NEW JUNCTION BOX |
| 8 TRENCH | 42 | INSTALL WOOD POLE | EXISTING JUNCTION BOX |
| INSTALL PVC CONDUIT | 42 | | NEW WOOD POLEEXISTING WOOD POLE |
| | 43 | REMOVE EXISTING WOOD POLE | S AERIAL SPLICE ENCLOSURE |
| (10) INSTALL RIGID, GALVANIZED STEEL CONDUIT | 44 | INSTALL AERIAL GUY ASSEMBLY | NEW METAL POLE EXISTING METAL POLE |
| 11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD | 45 | INSTALL STANDARD GUY ASSEMBLY | NEW CCTV ASSEMBLY (——————————————————————————————————— |
| 12 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL | 46 | INSTALL SIDEWALK GUY ASSEMBLY | NEW SIDEWALK GUY ASSEMBLY |
| | 47 | INSTALL MESSENGER CABLE | NEW CABLE STORAGE RACKS (SNOW SHOES) EXISTING CONTROLLER AND CABINET |
| (13) INSTALL OUTER-DUCT POLYETHYLENE CONDUIT | 48 | REMOVE EXISTING COMMUNICATIONS AND MESSENGER CABLE | S EXISTING SPLICE CABINET |
| (14) INSTALL POLYETHYLENE CONDUIT | 49 | REMOVE EXISTING MESSENGER CABLE | S NEW SPLICE CABINET SP SIGNAL POLE |
| 15 DIRECTIONAL DRILL CONDUIT | 50 | INSTALL TELEPHONE SERVICE | XX-XXXX SIGNAL INVENTORY NUMBER |
| 16) BORE AND JACK CONDUIT | 51 | INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE | CONSTRUCTION NOTE SYMBOLOGY KEY |
| 17) INSTALL CABLE(S) IN EXISTING CONDUIT | 52 | INSTALL DELINEATOR MARKER | INDICATES NUMBER OF CABLES, LOOPS, ETC. |
| 18) INSTALL CABLE(S) IN NEW CONDUIT | 53 | STORE 20 FEET OF COMMUNICATIONS CABLE | INDICATES AND OF FIREDS DED CARLE |
| | 54 | LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE | TWISTED PAIRS PER CABLE, ETC. |
| (19) INSTALL CABLE(S) IN EXISTING RISER | 55 | LASH CABLE(S) TO EXISTING MESSENGER CABLE | INDICATES NUMBER OF RISER(S)/CONDUIT(S) |
| (20) INSTALL CABLE(S) IN NEW RISER | 56 | LASH CABLE(S) TO NEW MESSENGER CABLE | INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH) |
| 21 INSTALL CABLE(S) IN EXISTING CONDUIT STUB-OUTS | 57 | MODIFY EXISTING ELECTRICAL SERVICE | NUMBER OF STREET BANKS |
| INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE) | 58 | INSTALL NEW ELECTRICAL SERVICE | CABLE(S) FIBERS/TWISTED PAIRS |
| INSTALL NEW RISER INTO EXISTING CABINET BASE | _36 | HIGHALL HEW ELLCTRICAL SERVICE | |
| (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE) | | | |
| (24) INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET | | NCDOT CABLE | |
| 25) INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET | | ATTACHMENT POINT: | |
| TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET | | XXXX DISTANCE ABOVE (INCHES) | |
| INSTALL NEW TELEMETRY INTERFACE PANEL | | YYYY REFERENCE POINT | DIAMETER |
| in traffic signal controller cabinet | | | NUMBER DIAMETER OF OF DISERSON CONDITION DISERSON CONDITI |
| 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPLICE CABLE IN CABINET | | DEFENENCE POINT | RISER(S)/CONDUIT(S) RISER(S)/CONDUIT(S) (INCH) |
| 29 INSTALL UNDERGROUND SPLICE ENCLOSURE | | YYYY REFERENCE POINT | DOCUMENT NOT CONSIDERED UNLESS ALL SIGNATURES COM Prepared in the Offices of: SEAL |
| 30 INSTALL AERIAL SPLICE ENCLOSURE | | XXXX DISTANCE BELOW (INCHES) | SEAL STATE HORIZAN CAN THE CAN |
| 31) INSTALL POLE MOUNTED SPLICE CABINET | | | CONSTRUCTION NOTES SEA |
| 32) INSTALL BASE MOUNTED SPLICE CABINET | | | DIVISION 02 PITT CO. GREENVILLE PLAN DATE: JANUARY 2017 REVIEWED BY: O239 |
| | | | 750 N. Greenfield Pkwy., Garner, NC 27529 PREPARED BY: I. N. AVERY REVISIONS INIT. DATE Docusigned by: |
| (33) REMOVE EXISTING SPLICE CABINET | | | Gregory A. Fuller 70320A0AEE874FF |

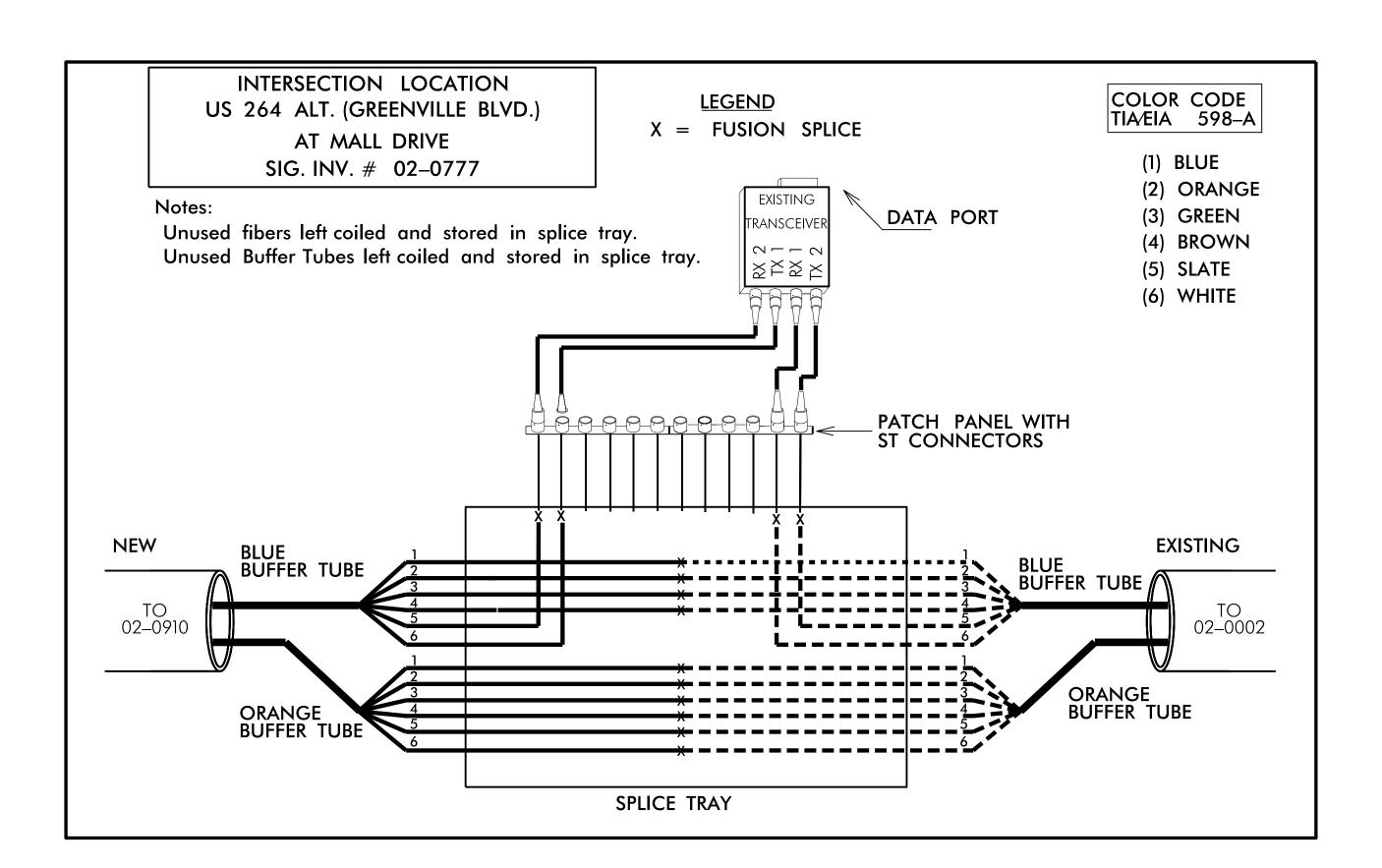




INIT. DATE Gregory A. Fuller CADD Filename:

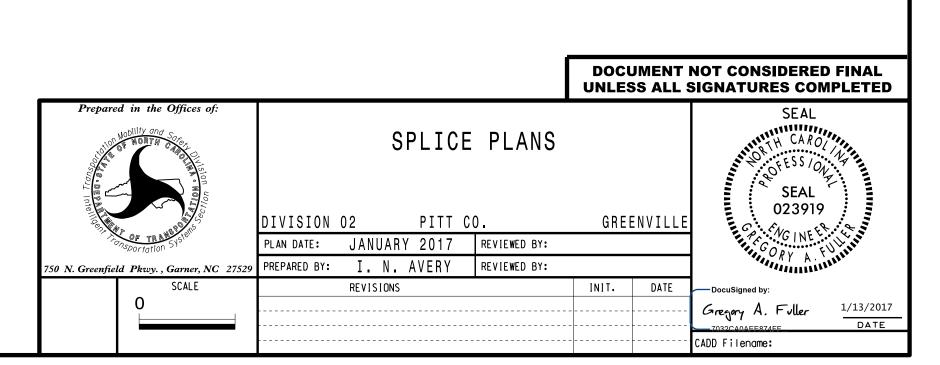


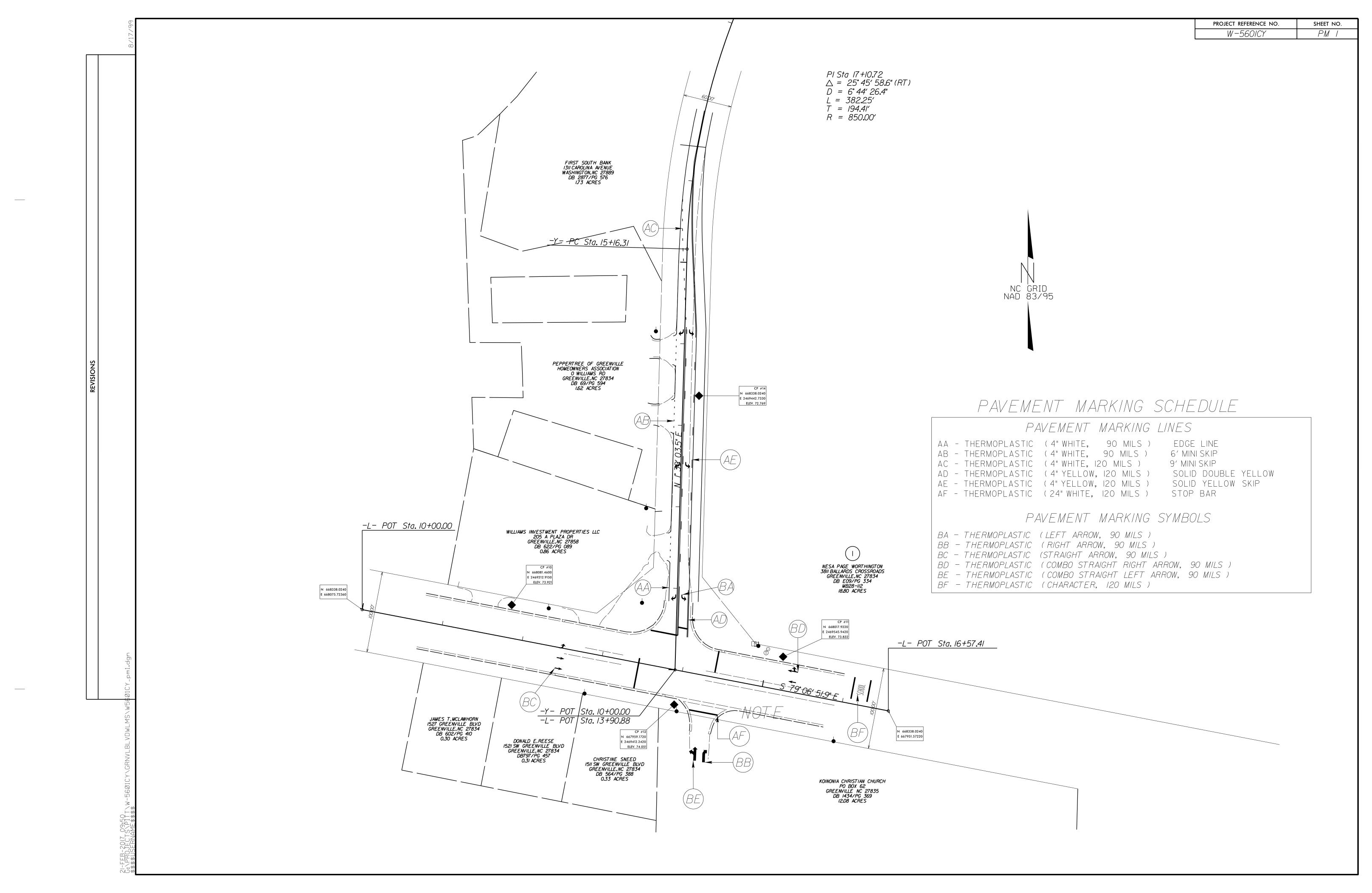




- 1) NOTIFY THE CITY OF GREENVILLE ASSISTANT TRAFFIC ENGINEER; STACEY PIGFORD, AT (252) 329–4678 FIVE (5) DAYS PRIOR TO BEGINNING WORK ON SIGNAL SYSTEM COMMUNICATIONS CABLE. NOTIFY THE TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- 2) CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
- 3) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
- 4) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
 - 1) SPLICE LOCATION
 - 2) DATE
 - 3) COMPANY NAME
 - 4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1–4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.





DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

CROSS-SECTION SUMMARY

IN CUBIC YARDS

| LOCATION (-Y-) | UNCLASSIFIED EXCAVATION | UNDERCUT | EMBANKMENT |
|-------------------|-------------------------|----------|------------|
| 10+50.00 | 0 | | 0 |
| 10 + 79.00 | 30 | | 11 |
| 10 + 84.00 | 7 | | 4 |
| 11 + 00.00 | 18 | | 17 |
| 11 + 50.00 | <i>38</i> | | 51 |
| 12 + 00.00 | 35 | | 30 |
| 12 + 50.00 | <i>34</i> | | 24 |
| 13+00.00 | 28 | | 13 |
| 13 + 50.00 | 38 | | 20 |
| 14 + 00.00 | 46 | | 17 |
| 14 + 50.00 | 40 | | 2 |
| 15 + 00.00 | 31 | | 4 |
| 15 + 50.00 | 15 | | 6 |
| 16 + 00.00 | 6 | | 6 |
| 16 + 43.55 | 3 | | 3 |

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

NOTE:

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING."