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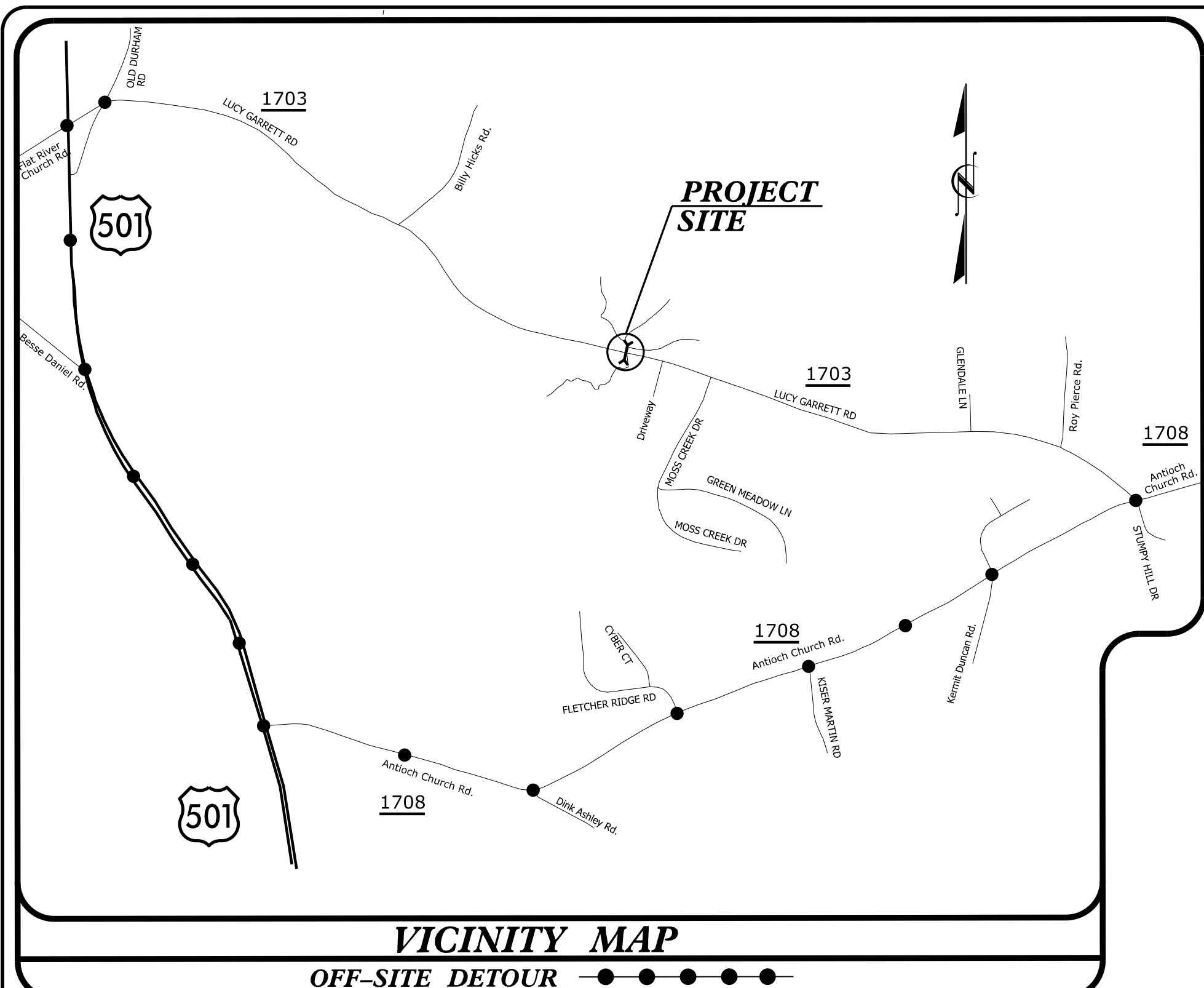
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09_05/19/19

2/22/2023
 U:\5B.207314.4_Lucy Garret Rd..rdy.tsh 01.dgn
 USER:SKENNEDY

PROJECT: 5B.207314.4

CONTRACT: ME00013



VICINITY MAP
 OFF-SITE DETOUR

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

PERSON COUNTY

LOCATION: PIPE CROSSING ON SR 1703 (LUCY GARRETT ROAD)

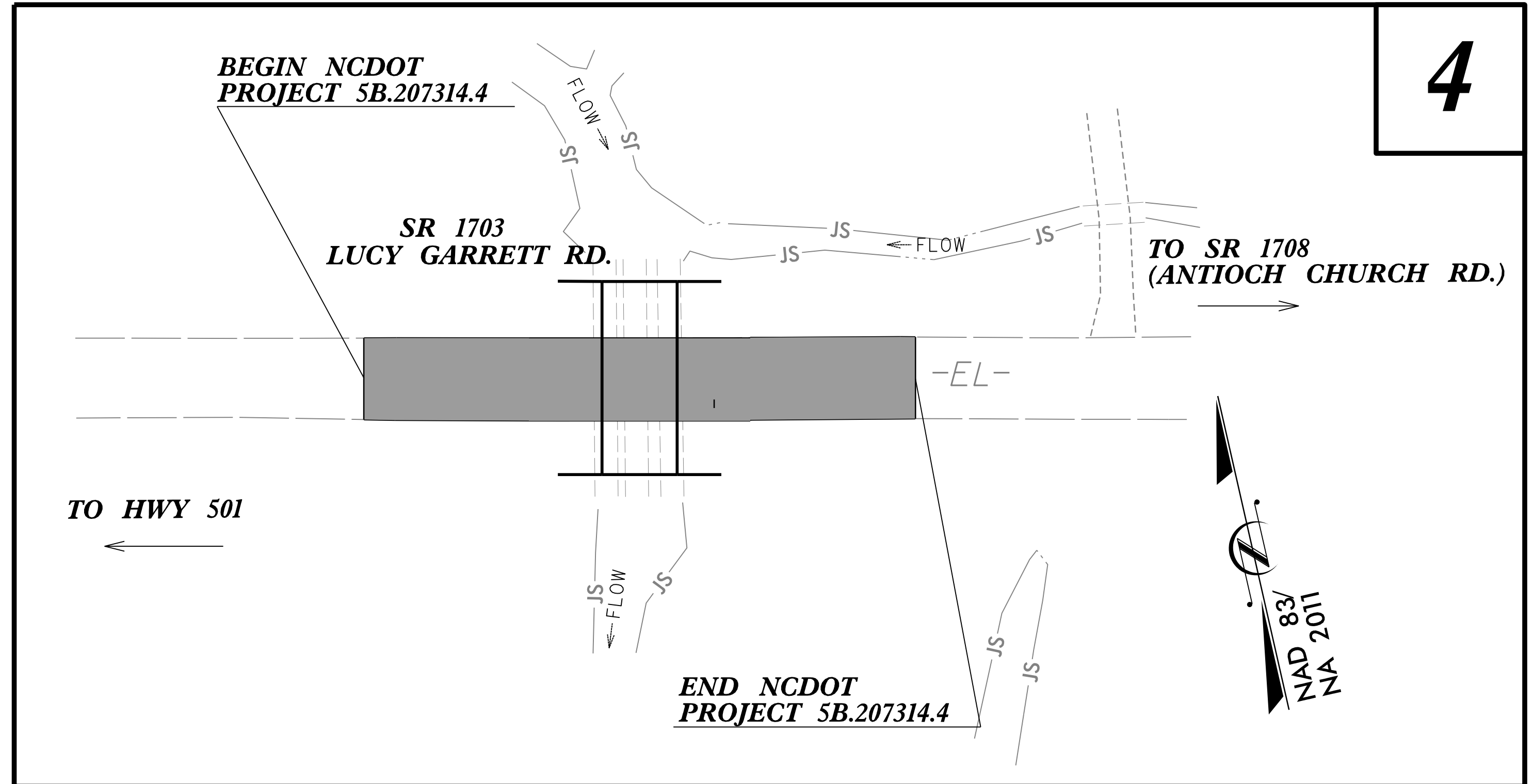
TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE

| | | | |
|-----------------|-----------------------------|----------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 5B.207314.4 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 5B.207314.4 | | PE, UTIL., R/W | |
| 5B.207314.4 | | CONST. | |

WETHERILL ENGINEERING
 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

FINAL PLANS

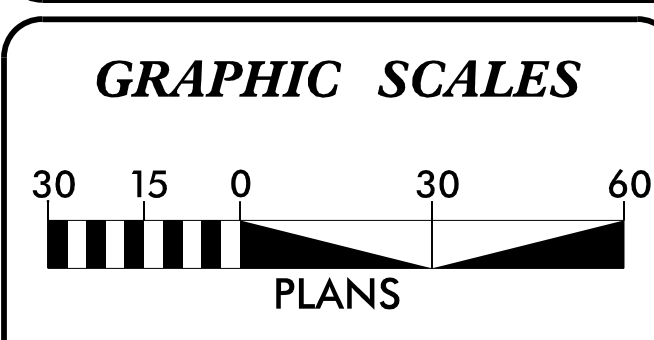


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INDEX OF SHEETS

| SHEET NUMBER | SHEET |
|------------------|--|
| 1 | TITLE SHEET |
| 1-B | CONVENTIONAL SYMBOLS |
| 2A-1 | TYPICAL SECTIONS, PAVEMENT SCHEDULE, & MISCELLANEOUS DETAILS |
| 2D-1 | METHOD OF PIPE INSTALLATION DETAIL |
| 4 | PLAN SHEET |
| 5 | PROFILE AND HEADWALL DETAILS |
| TMP-1 THRU TMP-2 | TRANSPORTATION MANAGEMENT PLANS |
| EC-1 THRU EC-4 | EROSION CONTROL TITLE SHEET, SOIL STABILIZATION TIME FRAMES, PUMP AROUND DETAIL AND PLAN SHEET |
| UO-1 THRU UO-2 | UTILITY BY OTHERS PLANS |

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



PROJECT LENGTH

| | |
|---|--------------------|
| LENGTH ROADWAY PROJECT 5B.207314.4 = | 0.032 MILES |
| LENGTH STRUCTURE PROJECT 5B.207314.4 = | 0.000 MILES |
| TOTAL LENGTH PROJECT 5B.207314.4 = | 0.032 MILES |

NCDOT CONTACT: JEREMY L. WARREN, PE
 ASSISTANT DIVISION MAINTENANCE ENGINEER

Prepared for:
DIVISION OF HIGHWAYS
DIVISION FIVE
 2612 N. Duke Street, Durham NC, 27704

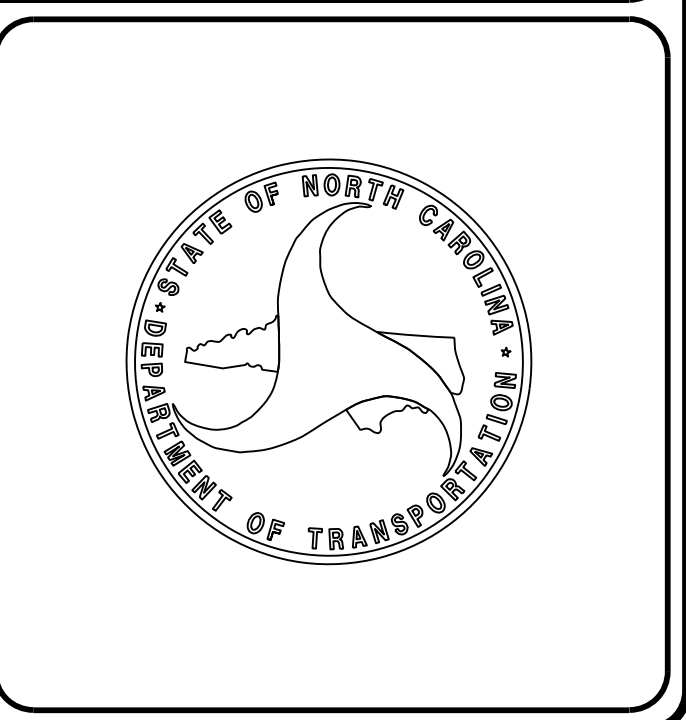
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: EDWARD G. WETHERILL, PE
 PROJECT ENGINEER

LETTING DATE: MARCH 22, 2023
 R.K. MURPHY, JR., PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
 2/22/2023
 SEAL 15833
 JERRY L. LINDSEY, P.E.
 SIGNATURE: [Signature]

ROADWAY DESIGN ENGINEER
 2/22/2023
 SEAL 018981
 R.K. MURPHY, JR., P.E.
 SIGNATURE: [Signature]



STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

| | | |
|---------------------------------------|-------|---------|
| State Line | ----- | |
| County Line | ----- | |
| Township Line | ----- | |
| City Line | ----- | |
| Reservation Line | ----- | |
| Property Line | ----- | |
| Existing Iron Pin (EIP) | ----- | ○ |
| Computed Property Corner | ----- | × |
| Existing Concrete Monument (ECM) | ----- | □ |
| Parcel/Sequence Number | ----- | (23) |
| Existing Fence Line | ----- | -x-x-x- |
| Proposed Woven Wire Fence | ----- | ○ |
| Proposed Chain Link Fence | ----- | □ |
| Proposed Barbed Wire Fence | ----- | ◇ |
| Existing Wetland Boundary | ----- | -w-l-b- |
| Proposed Wetland Boundary | ----- | -w-l-b- |
| Existing Endangered Animal Boundary | ----- | -e-a-b- |
| Existing Endangered Plant Boundary | ----- | -e-p-b- |
| Existing Historic Property Boundary | ----- | -h-p-b- |
| Known Contamination Area: Soil | ----- | -s-s- |
| Potential Contamination Area: Soil | ----- | -s-s- |
| Known Contamination Area: Water | ----- | -w-w- |
| Potential Contamination Area: Water | ----- | -w-w- |
| Contaminated Site: Known or Potential | ----- | ☠ ☢ |

BUILDINGS AND OTHER CULTURE:

| | | |
|-------------------------------|-------|---|
| Gas Pump Vent or U/G Tank Cap | ----- | ○ |
| Sign | ----- | ○ |
| Well | ----- | ○ |
| Small Mine | ----- | × |
| Foundation | ----- | □ |
| Area Outline | ----- | □ |
| Cemetery | ----- | + |
| Building | ----- | □ |
| School | ----- | □ |
| Church | ----- | □ |
| Dam | ----- | □ |

HYDROLOGY:

| | | |
|------------------------------------|-------|---------|
| Stream or Body of Water | ----- | |
| Hydro, Pool or Reservoir | ----- | |
| Jurisdictional Stream | ----- | -j-s- |
| Buffer Zone 1 | ----- | -b-z-1- |
| Buffer Zone 2 | ----- | -b-z-2- |
| Flow Arrow | ----- | ← |
| Disappearing Stream | ----- | → |
| Spring | ----- | ○ |
| Wetland | ----- | ↓ |
| Proposed Lateral, Tail, Head Ditch | ----- | → |
| False Sump | ----- | ▽ |

RAILROADS:

| | | |
|--------------------|-------|--------------------|
| Standard Gauge | ----- | CSX TRANSPORTATION |
| RR Signal Milepost | ----- | ○ |
| Switch | ----- | SWITCH |
| RR Abandoned | ----- | ----- |
| RR Dismantled | ----- | ----- |

RIGHT OF WAY & PROJECT CONTROL:

| | | |
|--|-------|---------|
| Primary Horiz Control Point | ----- | ○ |
| Primary Horiz and Vert Control Point | ----- | ● |
| Secondary Horiz and Vert Control Point | ----- | ◆ |
| Vertical Benchmark | ----- | ⊕ |
| Existing Right of Way Monument | ----- | △ |
| Proposed Right of Way Monument (Rebar and Cap) | ----- | ▲ |
| Proposed Right of Way Monument (Concrete) | ----- | ▲ |
| Existing Permanent Easement Monument | ----- | ◇ |
| Proposed Permanent Easement Monument (Rebar and Cap) | ----- | ◇ |
| Existing C/A Monument | ----- | △ |
| Proposed C/A Monument (Rebar and Cap) | ----- | ▲ |
| Proposed C/A Monument (Concrete) | ----- | ▲ |
| Existing Right of Way Line | ----- | ○ |
| Proposed Right of Way Line | ----- | ○ |
| Existing Control of Access Line | ----- | ○ |
| Proposed Control of Access Line | ----- | ○ |
| Proposed ROW and CA Line | ----- | ○ |
| Existing Easement Line | ----- | -e- |
| Proposed Temporary Construction Easement | ----- | -e- |
| Proposed Temporary Drainage Easement | ----- | -t-d-e- |
| Proposed Permanent Drainage Easement | ----- | -p-d-e- |
| Proposed Permanent Drainage/Utility Easement | ----- | -d-u-e- |
| Proposed Permanent Utility Easement | ----- | -p-u-e- |
| Proposed Temporary Utility Easement | ----- | -t-u-e- |
| Proposed Aerial Utility Easement | ----- | -a-u-e- |

ROADS AND RELATED FEATURES:

| | | |
|----------------------------|-------|-------|
| Existing Edge of Pavement | ----- | |
| Existing Curb | ----- | |
| Proposed Slope Stakes Cut | ----- | -c- |
| Proposed Slope Stakes Fill | ----- | -f- |
| Proposed Curb Ramp | ----- | CR |
| Existing Metal Guardrail | ----- | T T T |
| Proposed Guardrail | ----- | T T T |
| Existing Cable Guiderail | ----- | □ □ □ |
| Proposed Cable Guiderail | ----- | □ □ □ |
| Equality Symbol | ----- | ⊕ |
| Pavement Removal | ----- | ⊗ |
| VEGETATION: | | |
| Single Tree | ----- | ○ |
| Single Shrub | ----- | ○ |
| Hedge | ----- | ~~~~~ |

| | | |
|------------|-------|----------|
| Woods Line | ----- | ~~~~~ |
| Orchard | ----- | ○ ○ ○ |
| Vineyard | ----- | Vineyard |

EXISTING STRUCTURES:

| | | |
|--|-------|---------|
| MAJOR: | | |
| Bridge, Tunnel or Box Culvert | ----- | CONC |
| Bridge Wing Wall, Head Wall and End Wall | ----- | CONC WW |
| MINOR: | | |
| Head and End Wall | ----- | CONC HW |
| Pipe Culvert | ----- | |
| Footbridge | ----- | |
| Drainage Box: Catch Basin, DI or JB | ----- | CB |
| Paved Ditch Gutter | ----- | |
| Storm Sewer Manhole | ----- | ○ |
| Storm Sewer | ----- | s |

UTILITIES:

* SUE - Subsurface Utility Engineering
LOS - Level of Service - A, B, C or D (Accuracy)

| | | |
|---|-------|-----|
| POWER: | | |
| Existing Power Pole | ----- | ● |
| Proposed Power Pole | ----- | ○ |
| Existing Joint Use Pole | ----- | ● |
| Proposed Joint Use Pole | ----- | ○ |
| Power Manhole | ----- | ⊕ |
| Power Line Tower | ----- | ⊗ |
| Power Transformer | ----- | ⊗ |
| U/G Power Cable Hand Hole | ----- | PH |
| H-Frame Pole | ----- | ● |
| U/G Power Line Test Hole (SUE - LOS A)* | ----- | ⊕ |
| U/G Power Line (SUE - LOS B)* | ----- | -p- |
| U/G Power Line (SUE - LOS C)* | ----- | -p- |
| U/G Power Line (SUE - LOS D)* | ----- | -p- |

TELEPHONE:

| | | |
|--|-------|--------|
| Existing Telephone Pole | ----- | ● |
| Proposed Telephone Pole | ----- | ○ |
| Telephone Manhole | ----- | ⊕ |
| Telephone Pedestal | ----- | ⊕ |
| Telephone Cell Tower | ----- | ⊕ |
| U/G Telephone Cable Hand Hole | ----- | PH |
| U/G Telephone Test Hole (SUE - LOS A)* | ----- | ⊕ |
| U/G Telephone Cable (SUE - LOS B)* | ----- | -t- |
| U/G Telephone Cable (SUE - LOS C)* | ----- | -t- |
| U/G Telephone Cable (SUE - LOS D)* | ----- | -t- |
| U/G Telephone Conduit (SUE - LOS B)* | ----- | -tc- |
| U/G Telephone Conduit (SUE - LOS C)* | ----- | -tc- |
| U/G Telephone Conduit (SUE - LOS D)* | ----- | -tc- |
| U/G Fiber Optics Cable (SUE - LOS B)* | ----- | -t-fo- |
| U/G Fiber Optics Cable (SUE - LOS C)* | ----- | -t-fo- |
| U/G Fiber Optics Cable (SUE - LOS D)* | ----- | -t-fo- |

WATER:

| | | |
|---|-------|-----------|
| Water Manhole | ----- | ⊕ |
| Water Meter | ----- | ○ |
| Water Valve | ----- | ⊗ |
| Water Hydrant | ----- | ⊕ |
| U/G Water Line Test Hole (SUE - LOS A)* | ----- | ⊕ |
| U/G Water Line (SUE - LOS B)* | ----- | -w- |
| U/G Water Line (SUE - LOS C)* | ----- | -w- |
| U/G Water Line (SUE - LOS D)* | ----- | -w- |
| Above Ground Water Line | ----- | A/G Water |

TV:

| | | |
|--------------------------------------|-------|---------|
| TV Pedestal | ----- | ⊕ |
| TV Tower | ----- | ⊗ |
| U/G TV Cable Hand Hole | ----- | PH |
| U/G TV Test Hole (SUE - LOS A)* | ----- | ⊕ |
| U/G TV Cable (SUE - LOS B)* | ----- | -tv- |
| U/G TV Cable (SUE - LOS C)* | ----- | -tv- |
| U/G TV Cable (SUE - LOS D)* | ----- | -tv- |
| U/G Fiber Optic Cable (SUE - LOS B)* | ----- | -tv-fo- |
| U/G Fiber Optic Cable (SUE - LOS C)* | ----- | -tv-fo- |
| U/G Fiber Optic Cable (SUE - LOS D)* | ----- | -tv-fo- |

GAS:

| | | |
|---------------------------------------|-------|---------|
| Gas Valve | ----- | ◇ |
| Gas Meter | ----- | ⊕ |
| U/G Gas Line Test Hole (SUE - LOS A)* | ----- | ⊕ |
| U/G Gas Line (SUE - LOS B)* | ----- | -g- |
| U/G Gas Line (SUE - LOS C)* | ----- | -g- |
| U/G Gas Line (SUE - LOS D)* | ----- | -g- |
| Above Ground Gas Line | ----- | A/G Gas |

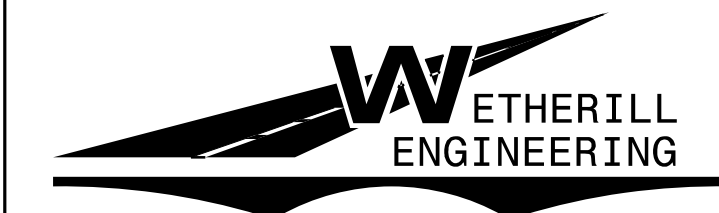
SANITARY SEWER:

| | | |
|---|-------|--------------------|
| Sanitary Sewer Manhole | ----- | ⊕ |
| Sanitary Sewer Cleanout | ----- | ⊕ |
| U/G Sanitary Sewer Line | ----- | -ss- |
| Above Ground Sanitary Sewer | ----- | A/G Sanitary Sewer |
| SS Force Main Line Test Hole (SUE - LOS A)* | ----- | ⊕ |
| SS Force Main Line (SUE - LOS B)* | ----- | -f-ss- |
| SS Force Main Line (SUE - LOS C)* | ----- | -f-ss- |
| SS Force Main Line (SUE - LOS D)* | ----- | -f-ss- |

MISCELLANEOUS:

| | | |
|---|-------|--------|
| Utility Pole | ----- | ● |
| Utility Pole with Base | ----- | □ |
| Utility Located Object | ----- | ○ |
| Utility Traffic Signal Box | ----- | ⊕ |
| Utility Unknown U/G Line (SUE - LOS B)* | ----- | -util- |
| U/G Tank; Water, Gas, Oil | ----- | □ |
| Underground Storage Tank, Approx. Loc. | ----- | UST |
| A/G Tank; Water, Gas, Oil | ----- | □ |
| Geoenvironmental Boring | ----- | ⊕ |
| Abandoned According to Utility Records | ----- | AATUR |
| End of Information | ----- | E.O.I. |

8/17/99



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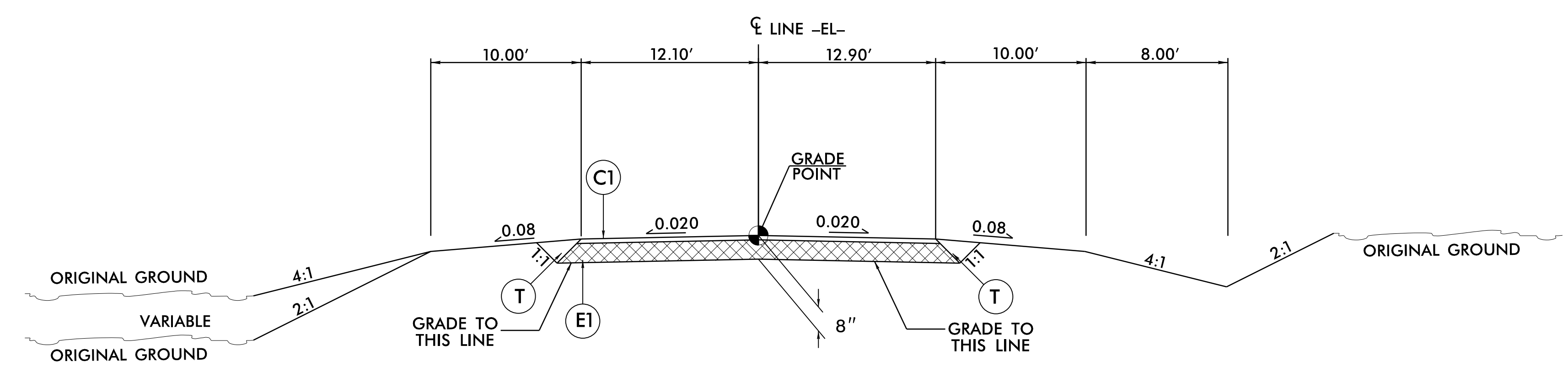
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**LUCY GARRETT ROAD
(SR 1703)**

| | |
|---|--------------------------|
| PROJECT REFERENCE NO. 5B.207314.4 | SHEET NO. 2A-1 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER 2/22/2023 SEAL 018981 P. K. MURPHY ENGINEER | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |

| PAVEMENT SCHEDULE | |
|-------------------|---|
| C1 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| E1 | PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD. |
| T | EARTH MATERIAL. |
| U | EXISTING PAVEMENT. |
| V | MILLING BITUMINOUS PAVEMENT. (SEE MILLING DETAIL) |

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION WITHIN EXCAVATION

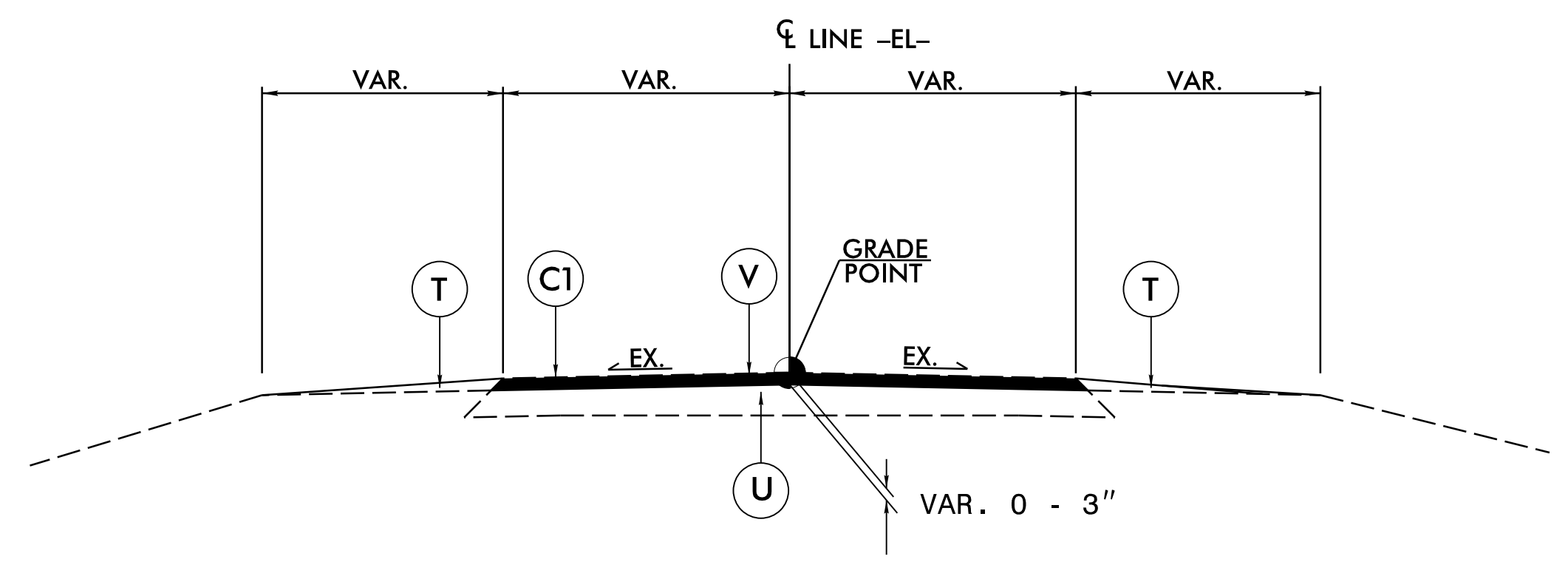
NOTES TO CONTRACTOR

Perform the work in accordance with Section 607 of the January 2018 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.

BEGINEND OF PROJECT

The diagram shows a cross-section of pavement with a 3" thick surface layer (C1) and a 5" thick base layer (E1). A 3" depth is also indicated for the milling operation.

NOTE: UTILIZE INCIDENTAL MILLING TO MAKE PAVEMENT TIE-INS

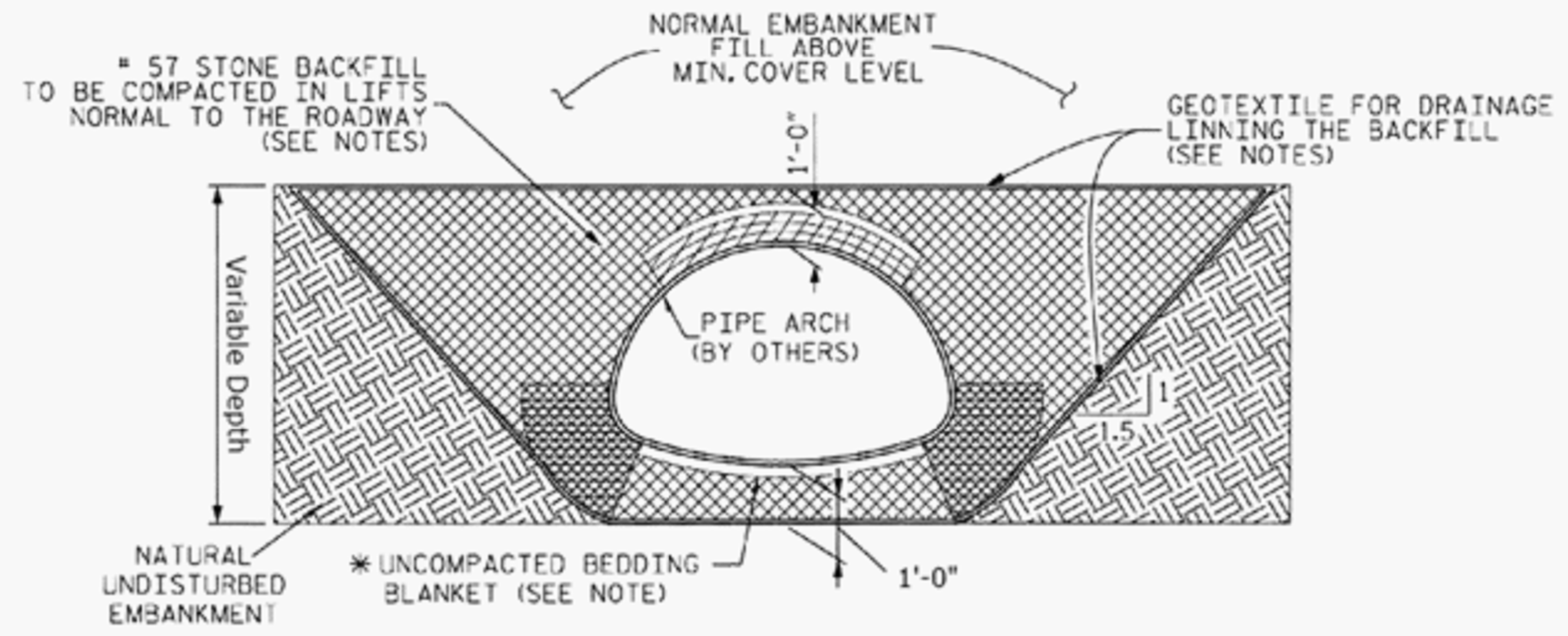


V: MILLING DETAIL

REVISIONS

2/22/2023
5B.207314.4-Lucy Garrett Rd.-rdy.psh 2A-1.dgn
P. K. MURPHY

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- CRITICAL BACKFILL ZONE, PRESSURE ON SOIL GREATEST HERE.
- INITIAL LIFTS OVER CROWN OF STRUCTURE AS INDICATED BY SHADED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HAND OPERATED EQUIPMENT
- # 57 STONE BACKFILL LIMITS.

NOTES:

ALL BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6"-8" LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-180.

GEOTEXTILE FOR DRAINAGE IN FOUNDATION BEDDING AND BACKFILL IS INCIDENTAL TO COST OF PIPE ARCH.

COMPLETE AND REGULAR MONITORING OF THE CSP ARCH SHAPE IS NECESSARY DURING ALL BACKFILLING OF THE STRUCTURE.

PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.

* SHAPED BED FOR A MINIMUM WIDTH OF SPAN/2. MINIMUM BEDDING THICKNESS IS TWICE THE CORRUGATION DEPTH.

EMBANKMENT SLOPE TO BE 1.5:1 MINIMUM SUCH THAT A STABLE EMBANKMENT CAPABLE OF RESISTING SIDE PRESSURES FROM CSP PIPE-ARCH SHAPE WILL BE MAINTAINED THROUGHOUT THE LIFE OF INSTALLATION.

TYPICAL BACKFILL SECTION ALONG PIPE

NTS

B:17/99



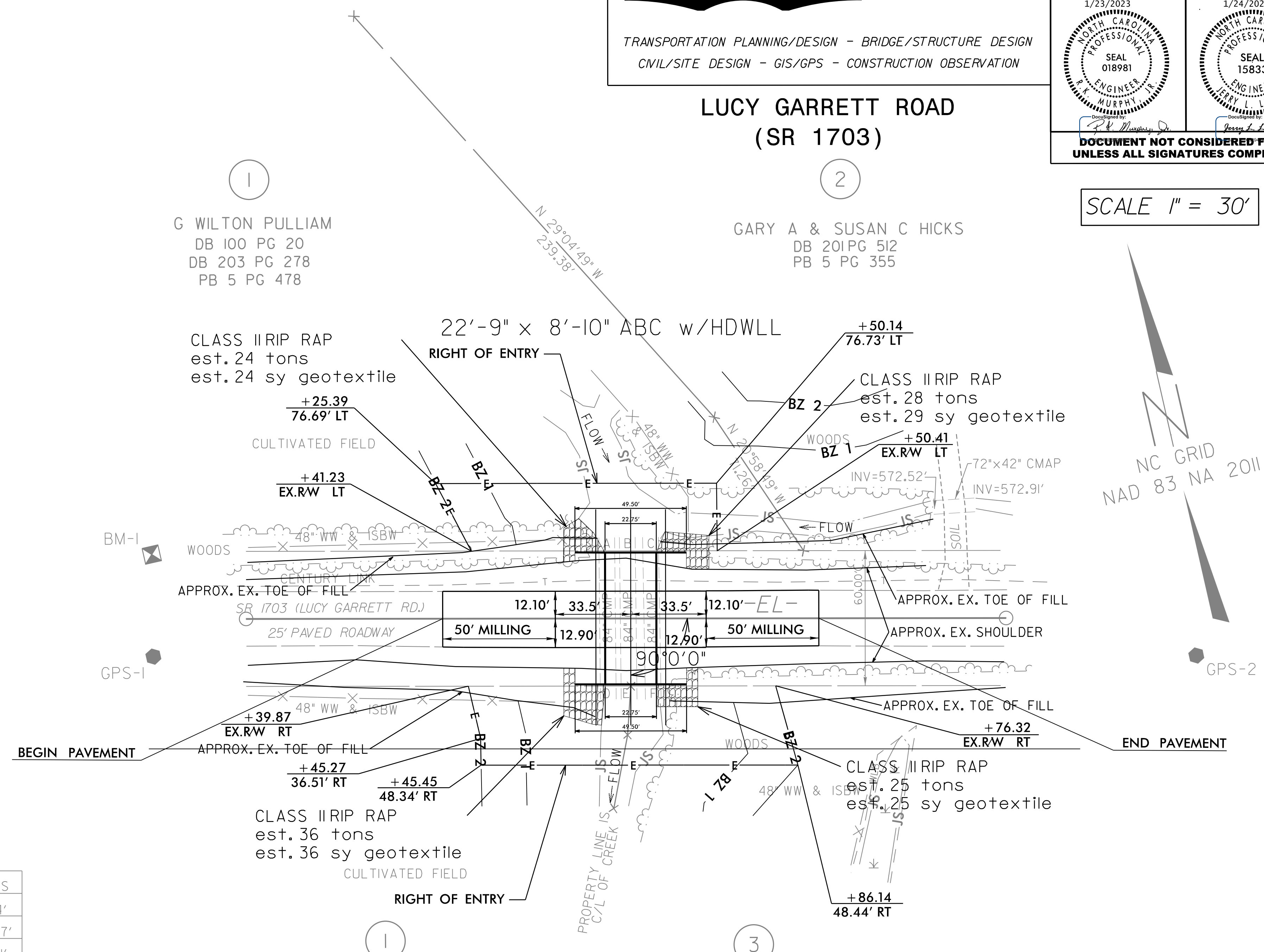
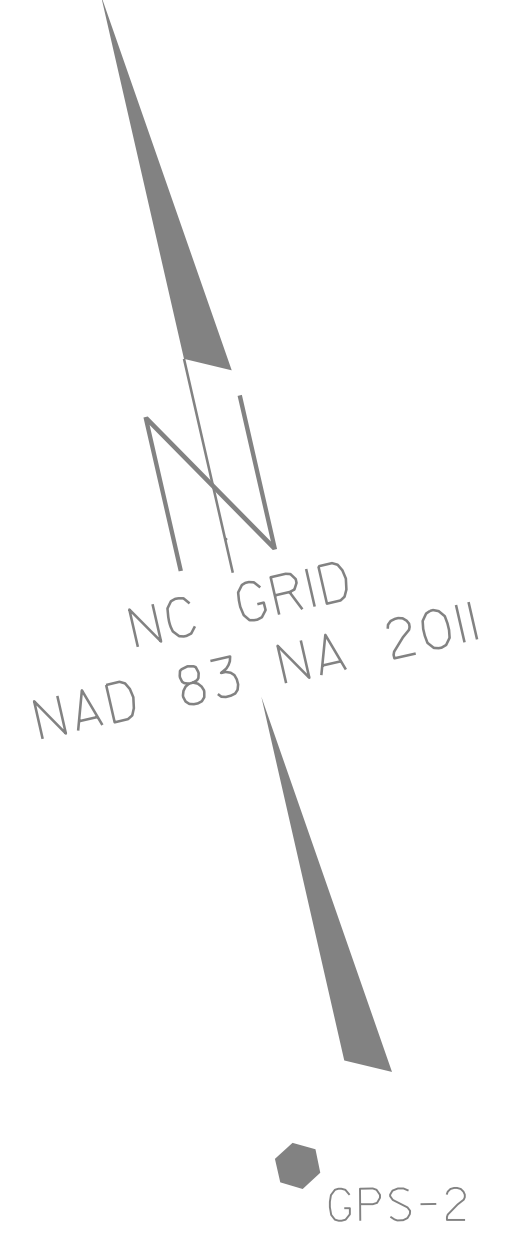
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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**LUCY GARRETT ROAD
(SR 1703)**

| | |
|---|--|
| PROJECT REFERENCE NO. 5B.207314.4 | SHEET NO. 4 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER 1/23/2023 SEAL 018981 R.K. MURPHY, JR. | HYDRAULICS ENGINEER 1/24/2023 SEAL 15833 JERRY L. LINDSEY |
| <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> | |

SCALE 1" = 30'



 BM1 ELEVATION = 580.83
 N 941254 E 2012342
 BL STATION 5+00.00
 N 11+58'04.5" E DIST 45.31
 BM SET IN 20" HARDWOOD

| Point | North | East | Elevation |
|-------|-------------|--------------|-----------|
| GPS-1 | 941209.2600 | 2012332.9200 | 582.67' |
| GPS-2 | 941106.5800 | 2012784.4900 | 583.16' |

| PIPE INVERTS | |
|--------------|-------------|
| A | INV=571.24' |
| B | INV=570.97' |
| C | INV=570.31' |
| D | INV=571.31' |
| E | INV=571.12' |
| F | INV=571.01' |

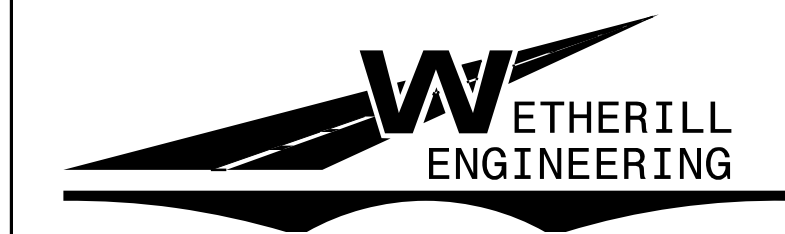
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS-2"
 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 941106.584(±) EASTING: 2012784.485(±)
 ELEVATION: 583.16(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000028632
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-2" TO -L- STATION IS
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

REVISIONS

1/23/2023
 5B.207314.4.Lucy_Garret_Rd_rdy.psh 4.dgn
 JSE/RSK/ENDY

8/17/99

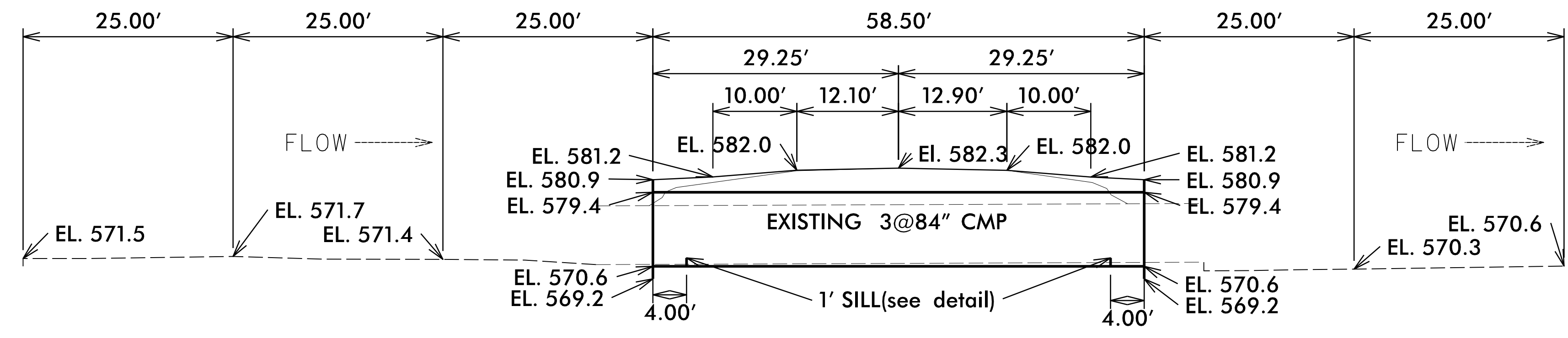


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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

| | |
|--|-------------------------------------|
| PROJECT REFERENCE NO. 5B207314.4 | SHEET NO. 5 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER 1/23/2023 | HYDRAULICS ENGINEER 1/24/2023 |
| | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |

LUCY GARRETT ROAD (SR 1703)



22'-9" x 8'-10" ABC w/HDWLL
90 DEGREE SKEW

PROPOSED ELEVATIONS:
CENTERLINE ROADWAY OVER PIPE
ELEVATION = 582.30

CENTERLINE LENGTH = 58'-6" OF 22'-9" X 8'-10"
CORRUGATED ALLUMINUM BOX CULVERT

INLET:

TOP OF HEADWALL = 580.90
 TOP OF PIPE = 579.40
 STREAM BED = 571.2
 INVERT PIPE = 570.57

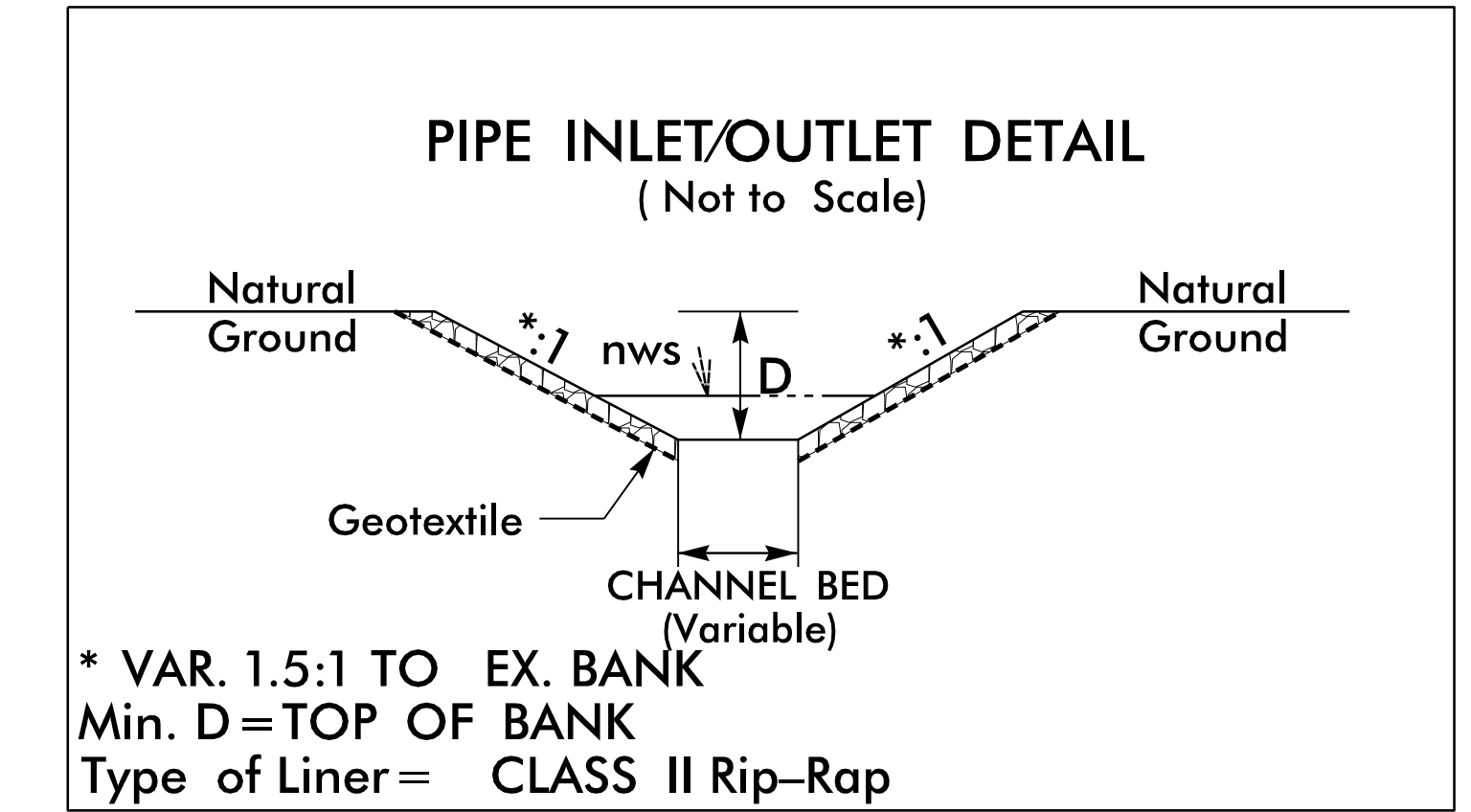
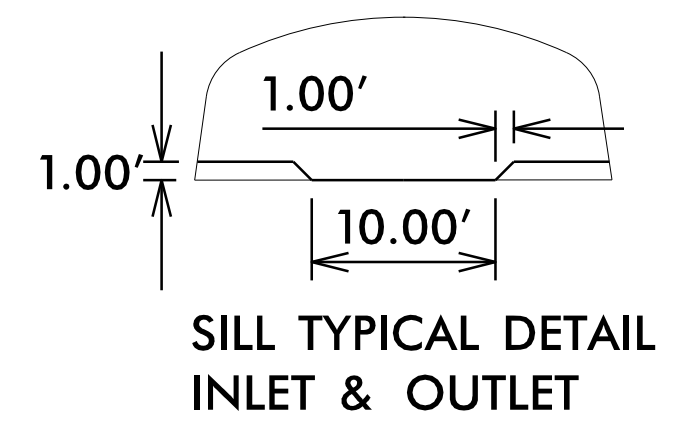
TWO 49'-6" WIDE BY 11'-8" TALL FULLY WELDED
 STRUCTURAL ALUMINUM STRUCTURAL PLATE HEADWALLS
 W/2 SECTIONS OF 22'-9" X 8'-10" ABC
 PLATE STUBBED OUT, WHICH SHALL BE FULLY WELDED
 TO ALUMINUM STRUCTURAL PLATE HEADWALL.

OUTLET:

TOP OF HEADWALL = 580.90
 TOP OF PIPE = 579.40
 STREAM BED = 570.1
 INVERT PIPE = 570.57

MINIMUM COVER = 1.5' AT HEADWALL;
 1.8' AT SHOULDER POINT.
 MAXIMUM COVER OVER PIPE = 2.8' AT CL

Note: Inverts shown are based on existing
 pipe inverts due to presence of rock at site.
 Every effort shall be made during installation to
 bury invert 1' and still provide sufficient
 bedding beneath pipe. Rock may be encountered.



* VAR. 1.5:1 TO EX. BANK
 Min. D = TOP OF BANK
 Type of Liner = CLASS II Rip-Rap

REVISIONS

1/23/2023
1:56:00 PM
15B207314.4 - Lucy Garrett Rd., rdy.psh 5.dgn
JSE/RSK/NNEDY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|--|
| 1101.03 | TEMPORARY ROAD CLOSURES |
| 1101.11 | TRAFFIC CONTROL DESIGN TABLES |
| 1110.01 | STATIONARY WORK ZONE SIGNS |
| 1145.01 | BARRICADES |
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES & OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS |
| 1261.01 | GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING |
| 1261.02 | GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING |
| 1262.01 | GUARDRAIL END DELINEATION |

PHASING

PHASE I

- STEP 1: - USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 AND SHEET TMP-2 CLOSE LUCY GARRETT ROAD (SR 1703) TO TRAFFIC.
- STEP 2: - INSTALL PROPOSED DRAINAGE AND RECONSTRUCT PROPOSED ROADWAY, UP TO & INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE ROADWAY PLANS).
- PLACE THE FINAL MARKINGS (THEROPLASTIC) IN THE EXISITNG TRAFFIC PATTERN.
- STEP 3: - OPEN LUCY GARRETT ROAD (SR 1703) TO THE FINAL TRAFFIC PATTERN AND REMOVE ALL TRAFFIC CONTROL DEVICES FROM THE PROJECT.

| | | | | | | | | | | | |
|---|------|--|---|---------------------------|--------------|-------------|------|------|----|--------|----|
| SIGN NUMBER: name TYPE: STATIONARY | | BACKG COLOR: Fluorescent Orange COPY COLOR: Black | DESIGN BY: SLK PROJECT ID: 17BP.5.C.PE | CHECKED BY: JWG DIV: 5 | Apr 16, 2018 | | | | | | |
| QUANTITY: SEE PLANS | | SYMBOL | X | Y | WID | HT | | | | | |
| SIGN WIDTH: 3'-6" HEIGHT: 2'-0" TOTAL AREA: 7.0 Sq.Ft. | | | | | | | | | | | |
| BORDER TYPE: INSET RECESS: 0.38" WIDTH: 0.63" RADIUS: 1.5" | | MAT'L: 0.080" (2.0 mm) ALUMINUM | | | | | | | | | |
| NO. Z BARS: LENGTH: | | | | | | | | | | | |
| USE NOTES: 1,2 | | | | | | | | | | | |
| 1. Legend and border shall be direct applied black non-reflective sheeting. 2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting. | | | | | | | | | | | |
| | | | | | | | | | | | |
| Spacing Factor is 1 unless specified otherwise | | | | | | | | | | | |
| LETTER POSITIONS | | | | | | | | | | | |
| Letter locations are panel edge to lower left corner | | | | | | | | | | | |
| L | u | c | y | | | Series/Size | | | | | |
| 13.8 | 17.5 | 21.3 | 24.5 | | | D 2000 | | | | | |
| | | | | | | 14.4 | | | | | |
| G | a | r | r | e | t | R | D | | | D 2000 | |
| 5 | 9.2 | 13 | 15.5 | 17.8 | 21 | 23.1 | 25.1 | 30.1 | 34 | | 32 |
| <p>FILENAME: Guidesign6_022617</p> <p>NORTH CAROLINA D.O.T. SIGN DETAIL</p> | | | | | | | | | | | |

NOTE: TEMPORARY SIGNS TO BE PAID FOR AS "STATIONARY WORK ZONE SIGNS".

WETHERILL ENGINEERING

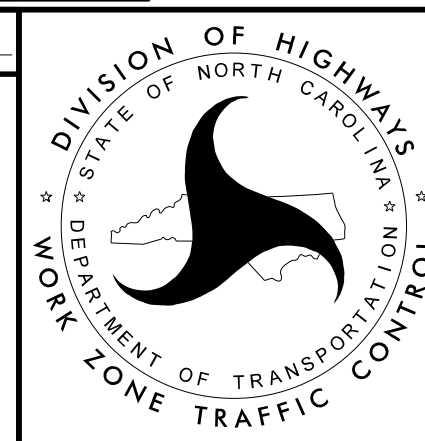
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

APPROVED: *Greg S. Purnis* DATE: 2/12/2019

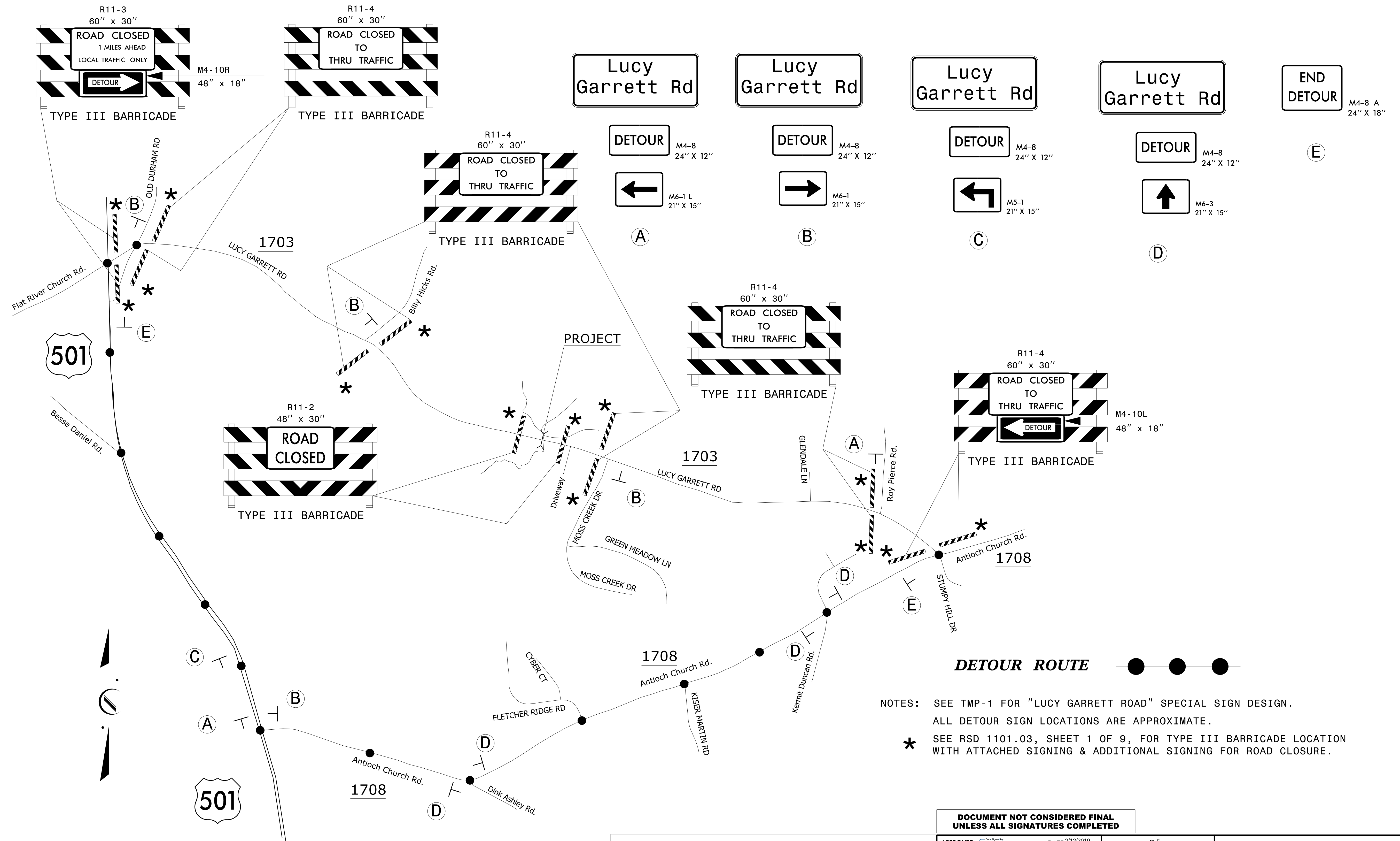
SEAL



ROAD STANDARD DRAWINGS,
PHASING AND SPECIAL
SIGN DESIGN FOR
LUCY GARRETT ROAD
(SR 1703)

2/12/2019 \\FileServer\proj\cts\2018\B21\09_DIV 5 PIPE REPLACEMENT\Person SR 1703\TC_TMP_PSH_01.dgn User: SKENNEDY

DETOUR SIGNING



NOTES: SEE TMP-1 FOR "LUCY GARRETT ROAD" SPECIAL SIGN DESIGN.
 ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.
 * SEE RSD 1101.03, SHEET 1 OF 9, FOR TYPE III BARRICADE LOCATION WITH ATTACHED SIGNING & ADDITIONAL SIGNING FOR ROAD CLOSURE.

2/12/2019
 \\filer\server\projects\2018\1821\09_DIV 5 PIPE REPLACEMENT\Person SR 1703\TC_TMP_PSH_02.dgn
 User: SKENNEDY

WETHERILL ENGINEERING

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
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 UNLESS ALL SIGNATURES COMPLETED**

APPROVED: *Greg S. Purvis* DATE: 2/12/2019

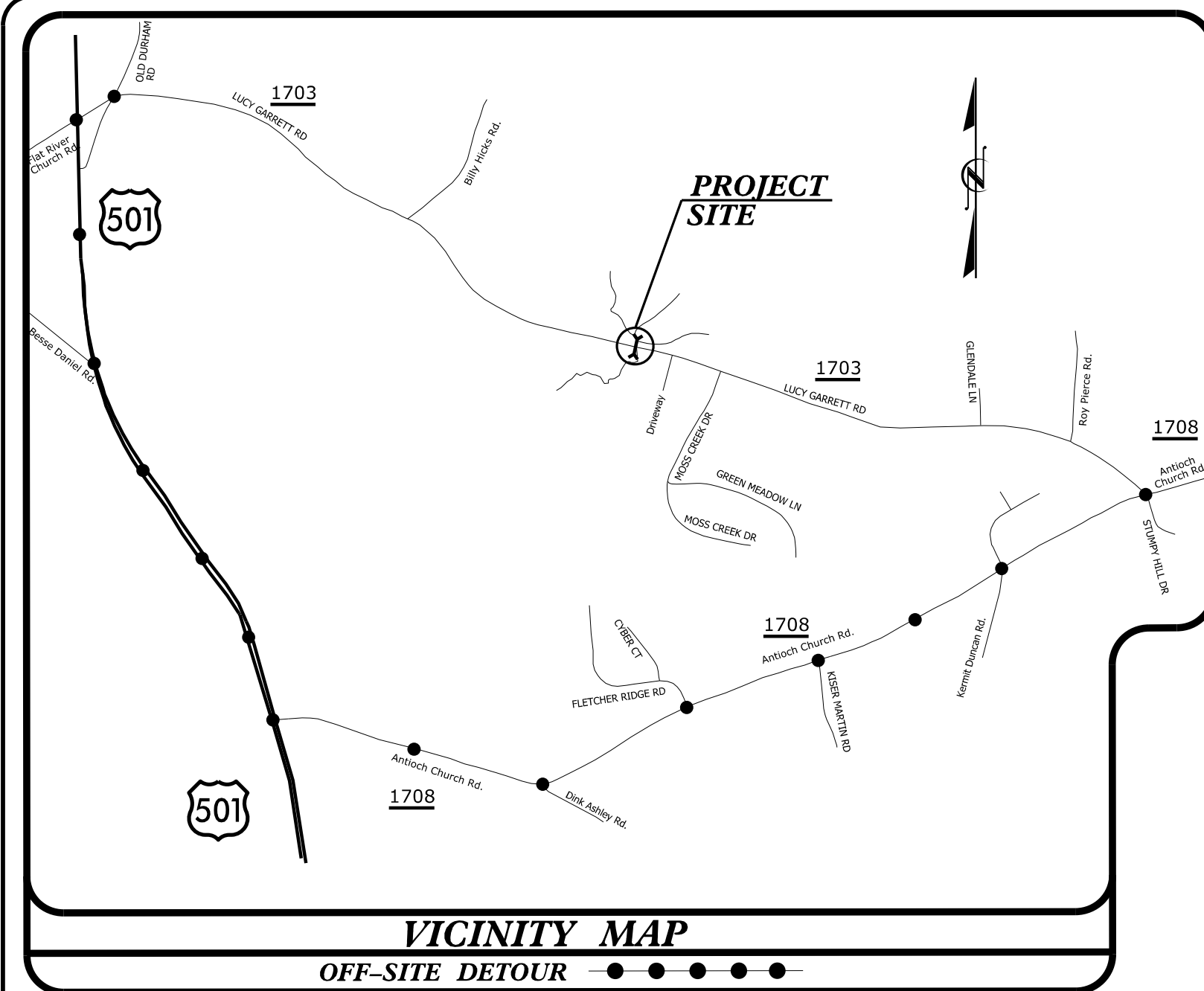
SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER
 GREG S. PURVIS

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 WORK ZONE TRAFFIC CONTROL

**DETOUR
 LUCY GARRETT ROAD
 (SR 1703)**

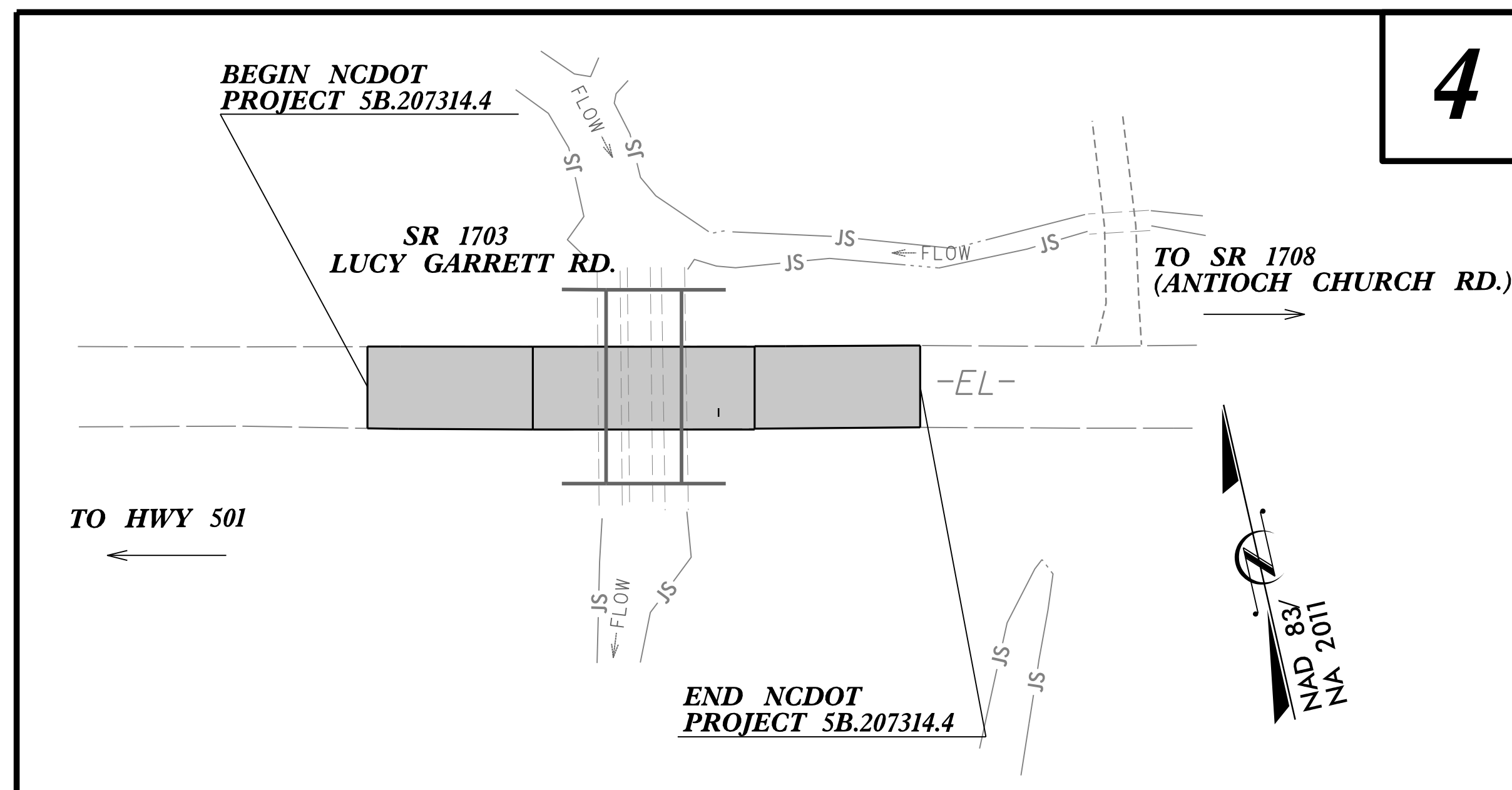
TIP PROJECT: 5B.207314.4



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
PERSON COUNTY

LOCATION: PIPE CROSSING ON SR 1703 (LUCY GARRETT ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE



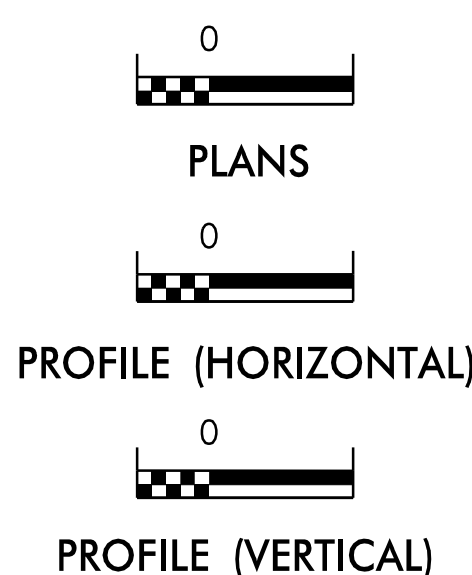
| | | | |
|-----------------|-----------------------------|-------------|--------------|
| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| N.C. | 5B.207314.4 | EC-1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| | | | |
| | | | |

EROSION AND SEDIMENT CONTROL MEASURES

| Std. # | Description | Symbol |
|---------|--|-------------|
| 1630.03 | Temporary Silt Ditch | TD |
| 1650.05 | Temporary Diversion | TD |
| 1605.01 | Temporary Silt Fence | III III III |
| 1606.01 | Special Sediment Control Fence | △△△△△ |
| 1622.01 | Temporary Berms and Slope Drains | △ |
| 1650.02 | 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 | ▨ |
| 1655.01 | Rock Pipe Inlet Sediment Trap Type-A | ⊓ |
| 1655.02 | Rock Pipe Inlet Sediment Trap Type-B | ⊓ |
| 1630.04 | Stilling Basin | ▭ |
| 1630.06 | Special Stilling Basin | ▭ |
| | Rock Inlet Sediment Trap: | |
| 1632.01 | Type A | A |
| 1632.02 | Type B | B |
| 1632.03 | Type C | C |
| | Skimmer Basin | ▭ |
| | Tiered Skimmer Basin | ▭ |
| | Infiltration Basin | ▭ |

**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 APRIL 1, 2019
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611
2018 STANDARD SPECIFICATIONS

Designed by:
HARMINDER SINGH 3519
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

| | |
|--|--|
| 1604.01 Railroad Erosion Control Detail | 1632.01 Rock Inlet Sediment Trap Type A |
| 1605.01 Temporary Silt Fence | 1632.02 Rock Inlet Sediment Trap Type B |
| 1606.01 Special Sediment Control Fence | 1632.03 Rock Inlet Sediment Trap Type C |
| 1607.01 Gravel Construction Entrance | 1633.01 Temporary Rock Silt Check Type A |
| 1622.01 Temporary Berms and Slope Drains | 1633.02 Temporary Rock Silt Check Type B |
| 1630.01 Riser Basin | 1634.01 Temporary Rock Sediment Dam Type A |
| 1630.02 Silt Basin Type B | 1634.02 Temporary Rock Sediment Dam Type B |
| 1630.03 Temporary Silt Ditch | 1635.01 Rock Pipe Inlet Sediment Trap Type A |
| 1630.04 Stilling Basin | 1635.02 Rock Pipe Inlet Sediment Trap Type B |
| 1630.05 Temporary Diversion | 1640.01 Coir Fiber Baffle |
| 1630.06 Special Stilling Basin | 1645.01 Temporary Stream Crossing |
| 1631.01 Matting Installation | |

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

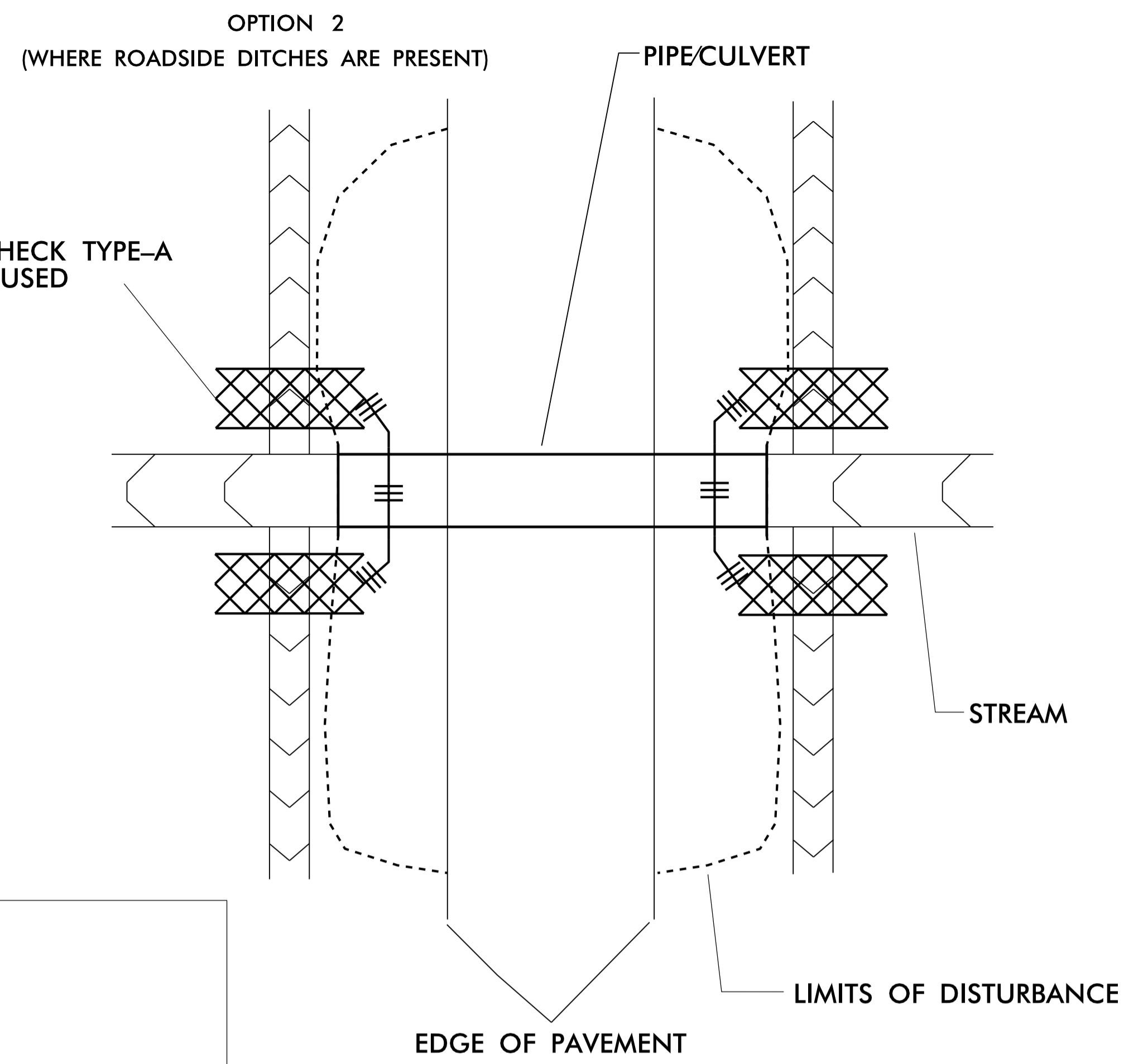
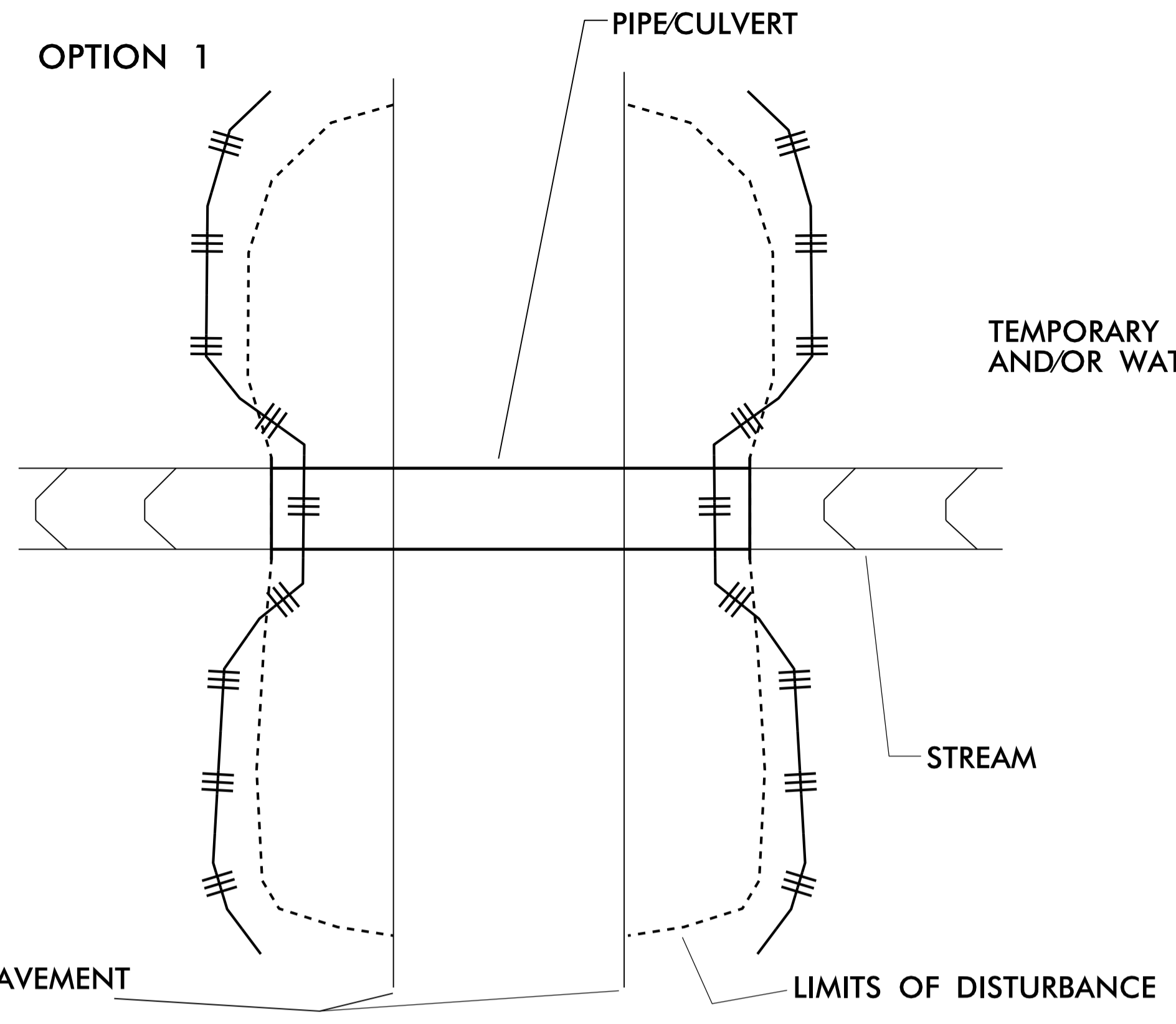
| <i>SITE DESCRIPTION</i> | <i>STABILIZATION TIME</i> | <i>TIMEFRAME EXCEPTIONS</i> |
|--|---------------------------|--|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES | 7 DAYS | NONE |
| HIGH QUALITY WATER (HQW) ZONES | 7 DAYS | NONE |
| SLOPES STEEPER THAN 3:1 | 7 DAYS | IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED. |
| SLOPES 3:1 OR FLATTER | 14 DAYS | 7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH. |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | NONE, EXCEPT FOR PERIMETERS AND HQW ZONES. |

| | |
|--------------------------------------|--------------------------|
| PROJECT REFERENCE NO. 5B.207314.4 | SHEET NO. EC-3 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
2018 STANDARD SPECIFICATIONS
DRAWINGS NOT DRAWN TO SCALE

LEGEND:

| | |
|--|--|
| | IMPERVIOUS DIKE |
| | PUMP |
| | SPECIAL STILLING BASIN |
| | STABILIZED DISCHARGE PAD (GEOTEXTILE) |
| | EDGE OF PAVEMENT |
| | EXISTING TRANSPORTATION FACILITY (ROW) |
| | TEMPORARY ROCK SILT CHECK TYPE-A AND/OR WATTLE |
| | TEMPORARY SILT FENCE |



SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA:

1. INSTALL SPECIAL STILLING BASIN.
2. INSTALL UPSTREAM PUMP, TEMPORARY FLEXIBLE HOSE, AND STABILIZED DISCHARGE PAD.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION DISCHARGING ONTO STABILIZED OUTLET PAD.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER WORK ZONE. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL PIPE(S), STREAM BED STABILIZATION, AND SLOPE STABILIZATION AS DIRECTED.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, TEMPORARY FLEXIBLE HOSE, AND STABILIZED DISCHARGE PAD. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN AND RESTORE AREA TO ORIGINAL CONDITIONS.
8. STABILIZE ALL DISTURBED AREAS THROUGHOUT PROJECT WITH SEED AND MATTING FOR EROSION CONTROL.

NOTES:

INSTALL EROSION CONTROL MEASURES PRIOR TO ANY EARTH DISTURBING ACTIVITIES. INSTALL SPECIAL SEDIMENT CONTROL FENCE BREAKS OR TEMPORARY ROCK SILT CHECKS TYPE-A AT LOW POINTS IN SILT FENCE.

FOR OPTION 1 INSTALL SILT FENCE SUCH THAT ALL EARTH DISTURBANCE IS CONTAINED. FOR CULVERT CONSTRUCTION SEQUENCING SEE THE PUMP AROUND DETAIL OR CONSULT "BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES".

ALL EXCAVATION IN JURISDICTIONAL STREAMS SHALL BE PERFORMED IN ONLY DRY OR ISOLATED SECTIONS OF THE WORK ZONE.

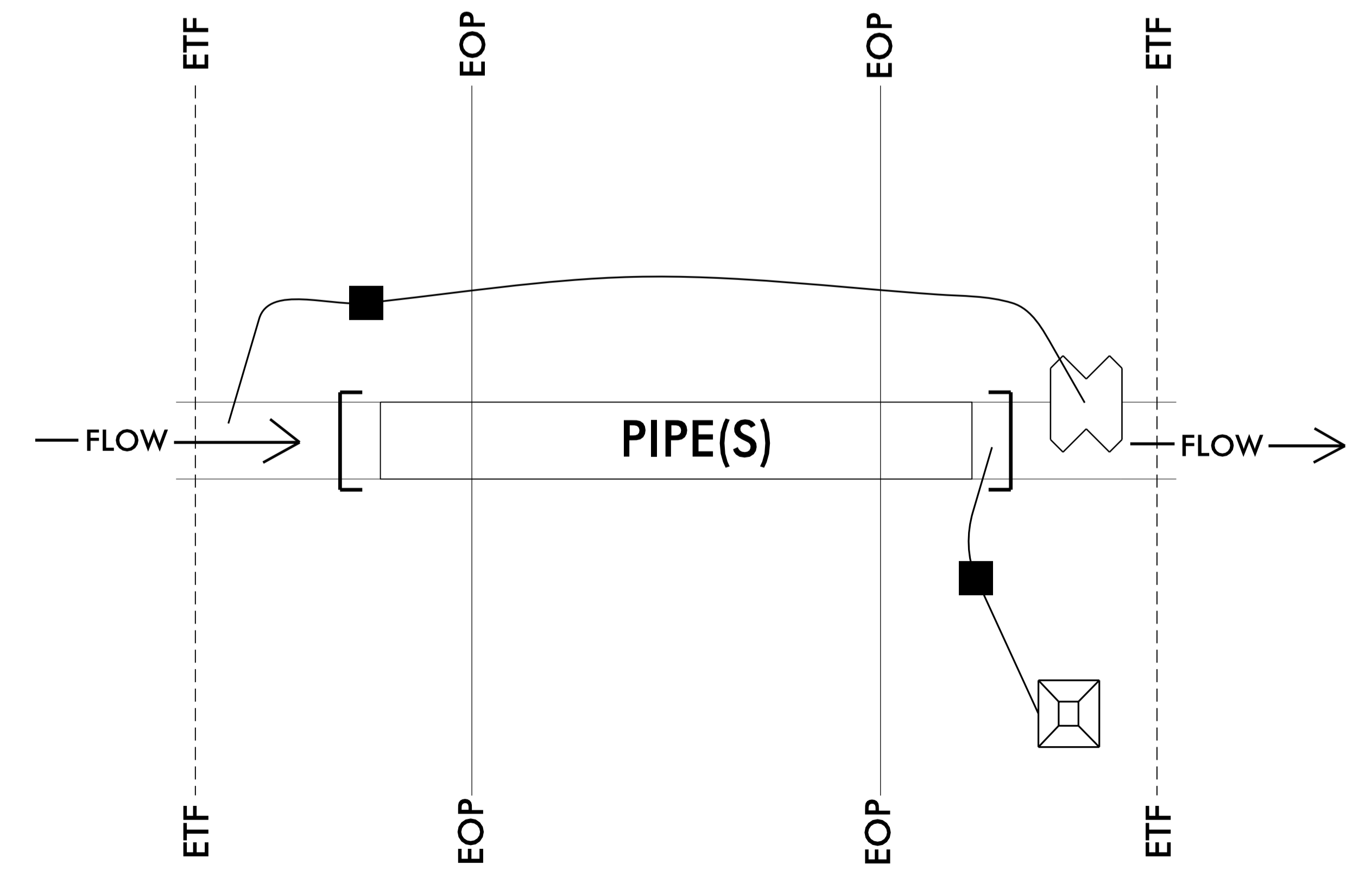
IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE WORK FROM STREAM FLOW WHEN NECESSARY. MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK. THIS INCLUDES THE DISCHARGE PAD, DIVERSION PIPES, PUMPS, AND HOSES.

PUMPS AND HOSES SHALL BE OF SUFFICIENT SIZE TO MAINTAIN STREAM FLOW AND TO DEWATER THE WORK AREA.

INSTALL SPECIAL STILLING BASIN IN VEGETATED AREA WITHIN RIGHT OF WAY. DISCHARGE SHOULD BE DIRECTED THROUGH VEGETATED BUFFER AWAY FROM WORK SITE.

INSTALL SILT FENCE AS DIRECTED TO CONTAIN DISTURBED AREAS AND/OR EXCAVATED STOCKPILES. BORROW MATERIAL FROM OR DISPOSAL OF MATERIAL TO ANY UNPERMITTED SITE WILL REQUIRE A RECLAMATION PLAN.

INSTALL PIPE(S) IN JURISDICTIONAL AREAS IN ACCORDANCE WITH NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.



PUMP-AROUND OPERATION FOR PIPE REPLACEMENT IN JURISDICTIONAL STREAMS EROSION CONTROL DETAIL



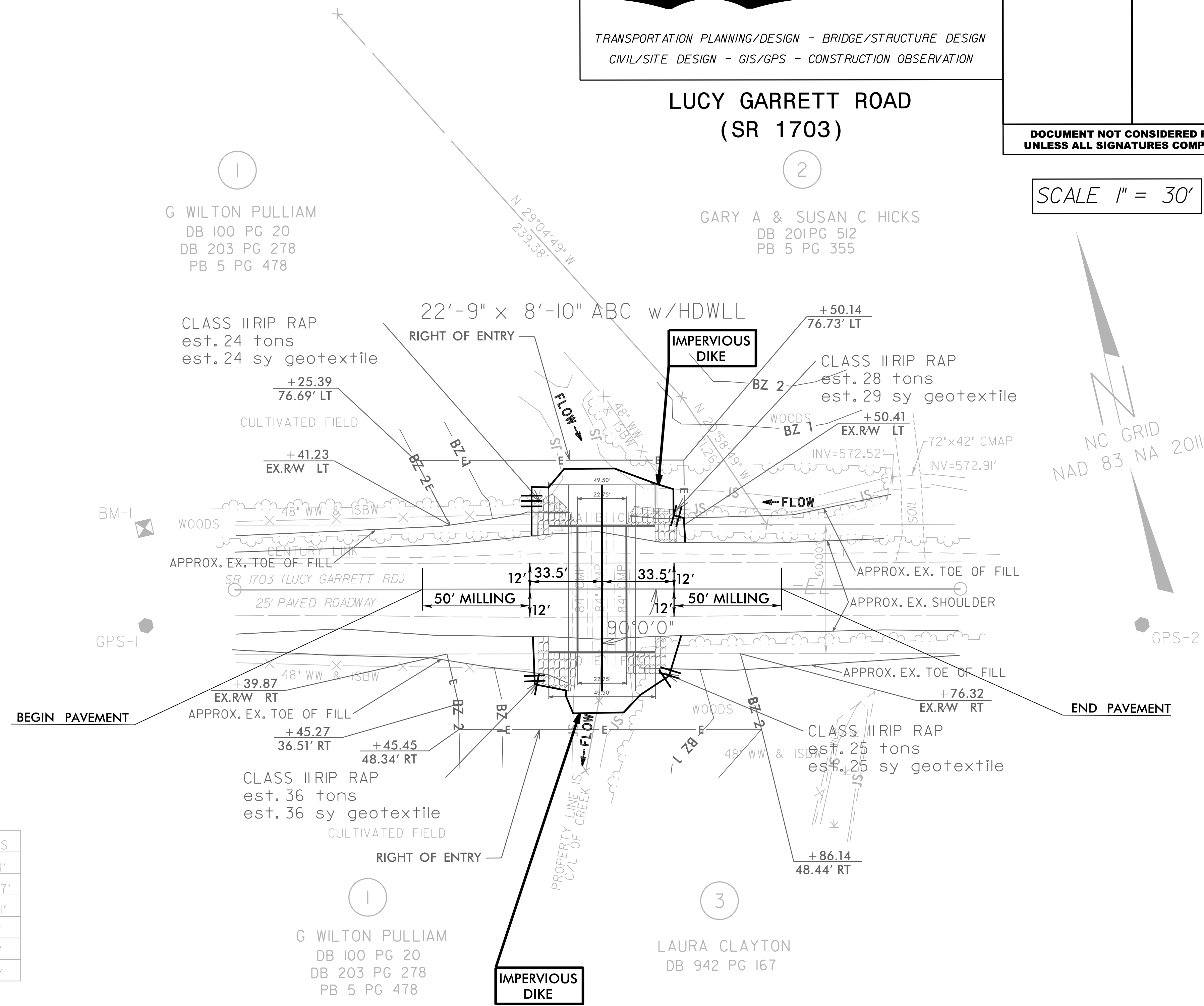
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 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

| | |
|--------------------------------------|---------------------|
| PROJECT REFERENCE NO. 5B.207314.4 | SHEET NO. EC-4 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

LUCY GARRETT ROAD (SR 1703)

SCALE 1" = 30'



NC GRID
 NAD 83 NA 2011

 BM1 ELEVATION = 580.83
 N 941254 E 2012342
 BL STATION 5+00.00
 N 11°58'04.5" E DIST 45.31
 BM SET IN 20" HARDWOOD

| Point | North | East | Elevation |
|-------|-------------|--------------|-----------|
| GPS-1 | 941209.2600 | 2012332.9200 | 582.67' |
| GPS-2 | 941106.5800 | 2012784.4900 | 583.16' |

| PIPE INVERTS | |
|--------------|-------------|
| A | INV=571.24' |
| B | INV=570.97' |
| C | INV=570.31' |
| D | INV=571.31' |
| E | INV=571.12' |
| F | INV=571.01' |

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS-2"
 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 941106.584(±) EASTING: 2012784.485(±) ELEVATION: 583.16(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000028632
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-2" TO -L- STATION IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

EROSION CONTROL PLAN

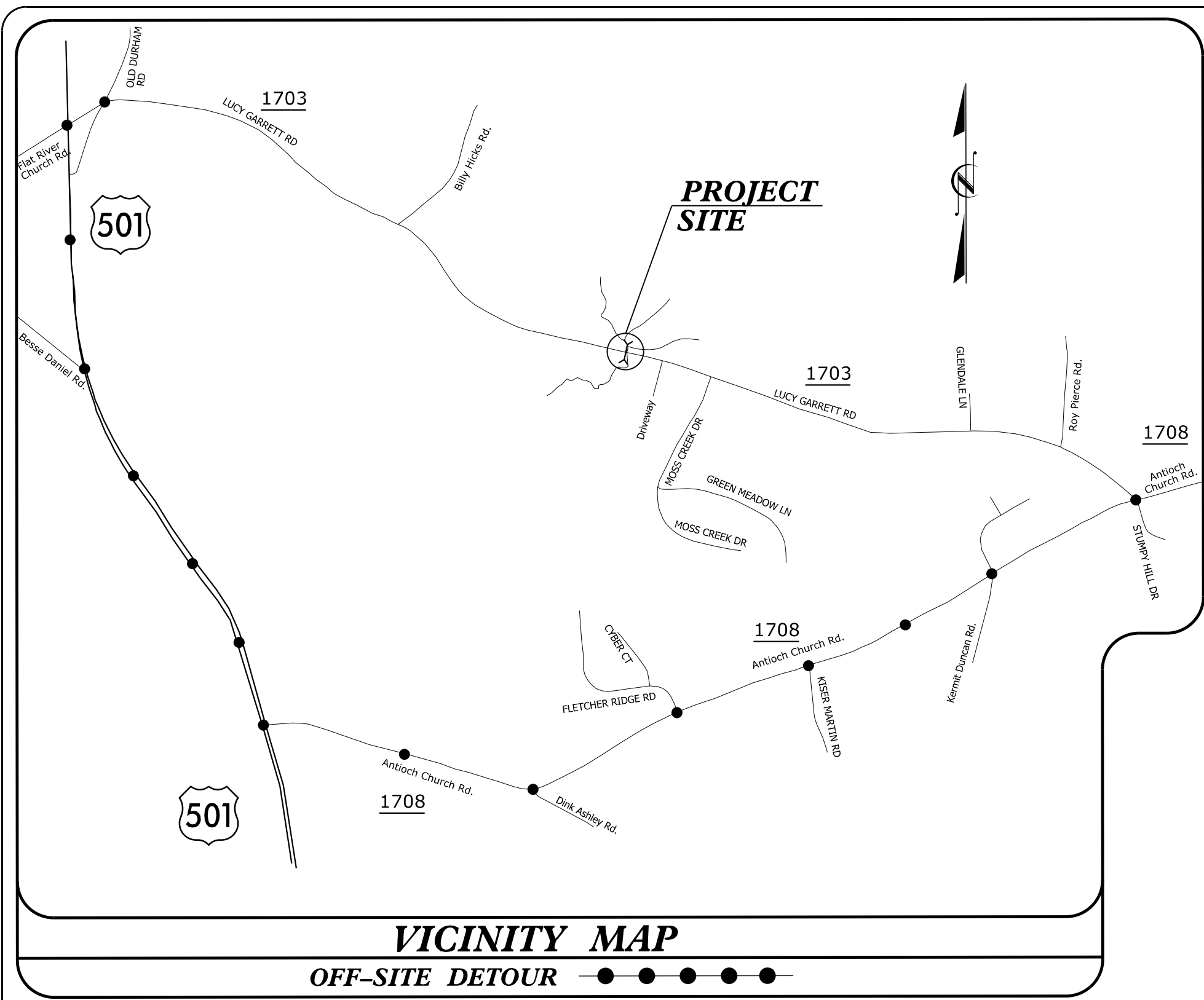
REVISIONS

8/17/99
 1/24/2023
 KPC/ECV/Person_rdlj_psh_EC4.dgn
 IGER/KF/tep

09/08/99
 \$\$\$ SYSTEM \$\$\$
 \$\$\$ DN \$\$\$
 \$\$\$ USERNAME \$\$\$

PROJECT: 5B.207314.4

CONTRACT: ME00013

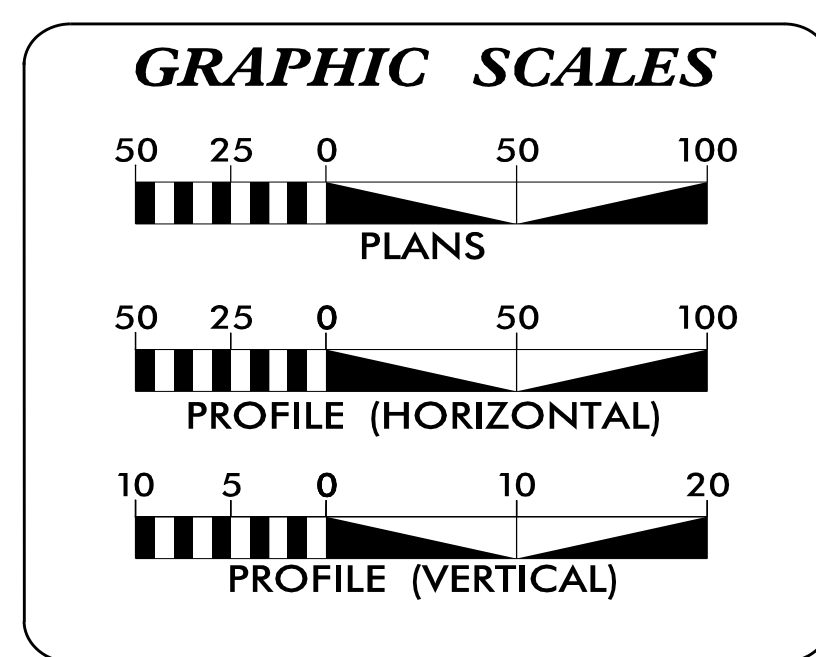
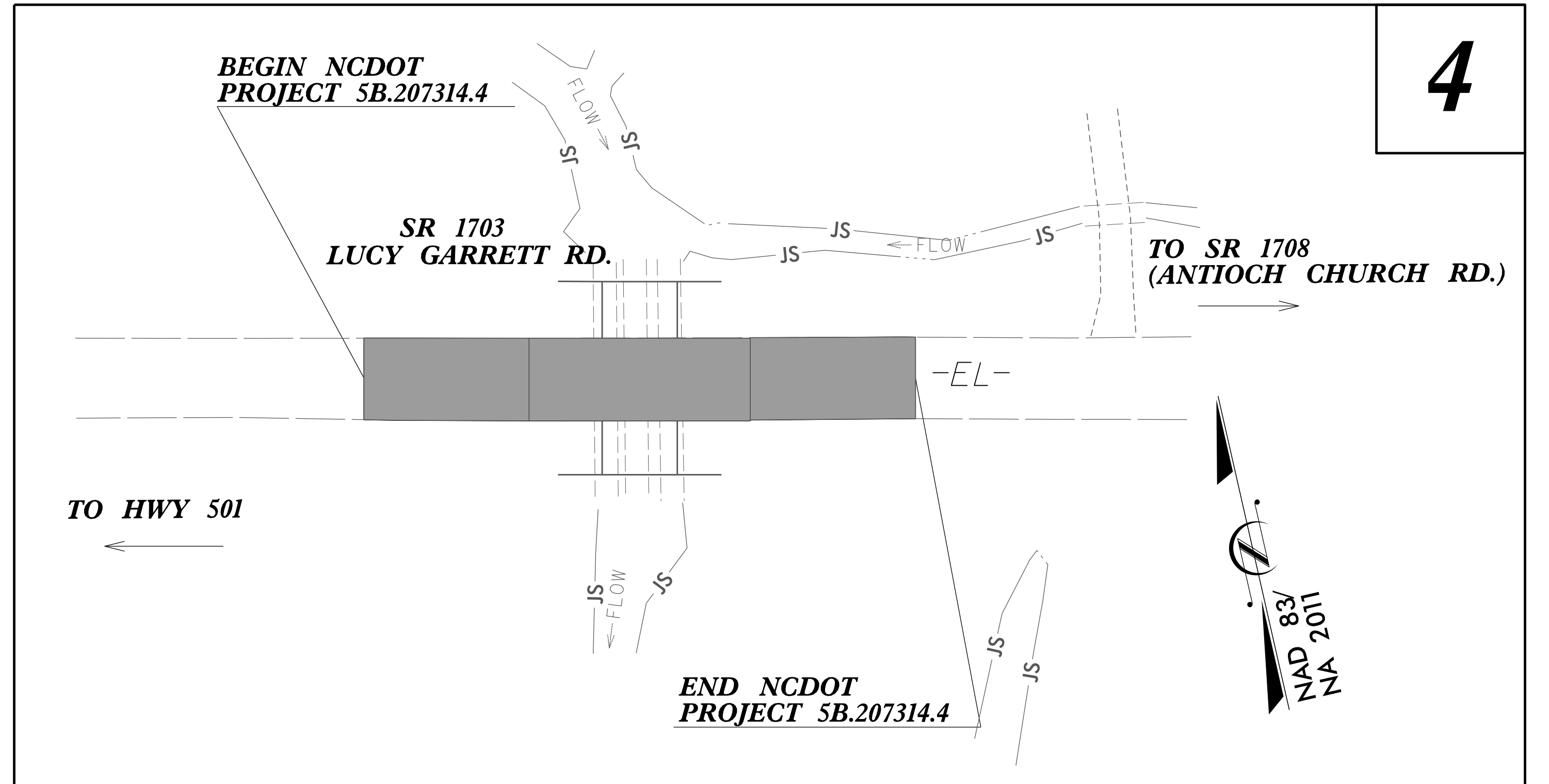


STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
UTILITIES BY OTHERS PLANS
PERSON COUNTY

| | |
|--------------------|-------------|
| T.I.P. NO. | SHEET NO. |
| 5B.207314.4 | UO-1 |

NOTE:
 ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

LOCATION: PIPE CROSSING ON SR 1703 (LUCY GARRETT ROAD)
TYPE OF WORK: COMMUNICATION RELOCATION



INDEX OF SHEETS

| SHEET NO.: | DESCRIPTION: |
|------------|----------------|
| UO-1 | TITLE SHEET |
| UO-2 | UBO PLAN SHEET |

UTILITY OWNERS WITH CONFLICTS

(A) COMMUNICATION - CENTURYLINK

PREPARED IN THE OFFICE OF:

 1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
 License No. F-0377
 Bus: 919 851 8077
 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION
 SURVEY/SUE - UTILITIES

PANKIL PATEL UTILITY PROJECT MANAGER
JOHN SCHRINER, PLS PROJECT UTILITY COORDINATOR

DIVISION OF HIGHWAYS
DIVISION 5
 2612 N. Duke Street
 Durham NC, 27704

JEREMY L. WARREN, PE ASSISTANT DIVISION MAINTENANCE ENGINEER
DON PROPER DIVISION UTILITY COORDINATOR

LUCY GARRETT ROAD
(SR 1703)

| | |
|--------------------------------------|-------------------|
| PROJECT REFERENCE NO. 5B.207314.4 | SHEET NO. U0-2 |
| THIS SHEET CORRESPONDS TO RDY-4 | |

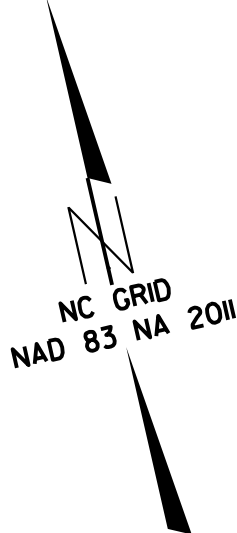
UTILITIES BY OTHERS

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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN - GIS/GPS
CIVIL/SITE DESIGN - CONSTRUCTION OBSERVATION - SURVEY/SUE - UTILITIES



SCALE 1" = 30'

U/G COMMUNICATION
(CENTURYLINK)

ABANDONED
TIED TO EXISTING
U/G COMMUNICATION
OUTSIDE OF PROJECT
LIMITS

TIED TO EXISTING
U/G COMMUNICATION
OUTSIDE OF PROJECT
LIMITS

O/H POWER TO REMAIN
(DUKE ENERGY)

PROPOSED
22' X 8' CUVLERT

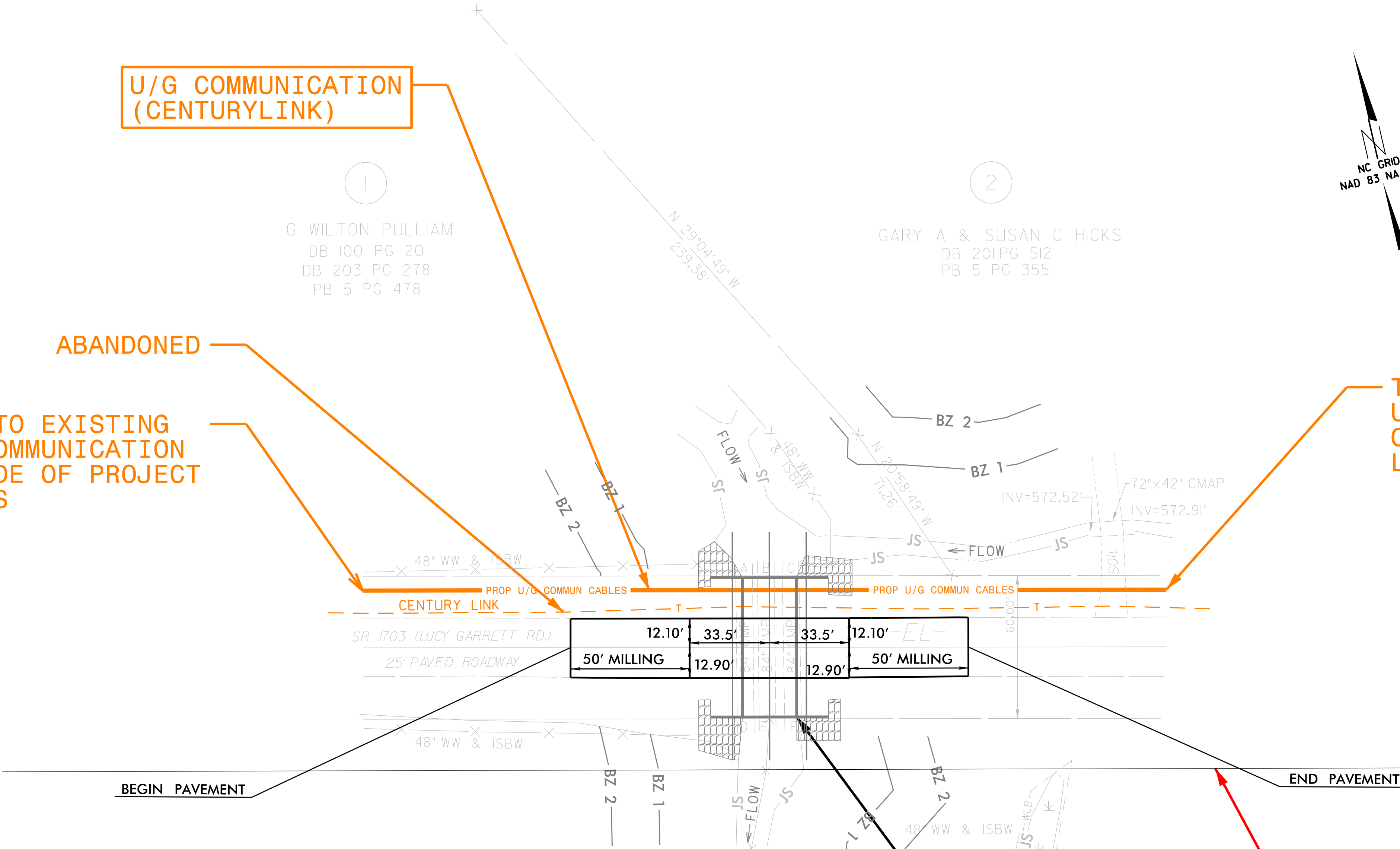
G WILTON PULLIAM
DB 100 PG 20
DB 203 PG 278
PB 5 PG 478

GARY A & SUSAN C HICKS
DB 201 PG 512
PB 5 PG 355

G WILTON PULLIAM
DB 100 PG 20
DB 203 PG 278
PB 5 PG 478

LAURA CLAYTON
DB 942 PG 167

| PIPE INVERTS | |
|--------------|-------------|
| A | INV=571.24' |
| B | INV=570.97' |
| C | INV=570.31' |
| D | INV=571.31' |
| E | INV=571.12' |
| F | INV=571.01' |



5/14/99
I:\83121.09_DIV 5_PIPE REPLACEMENT\Person SR 1703\Utilities\Engineering\UBO\Proj\Person_rdy.ut_rdy4_U02.psh.dgn