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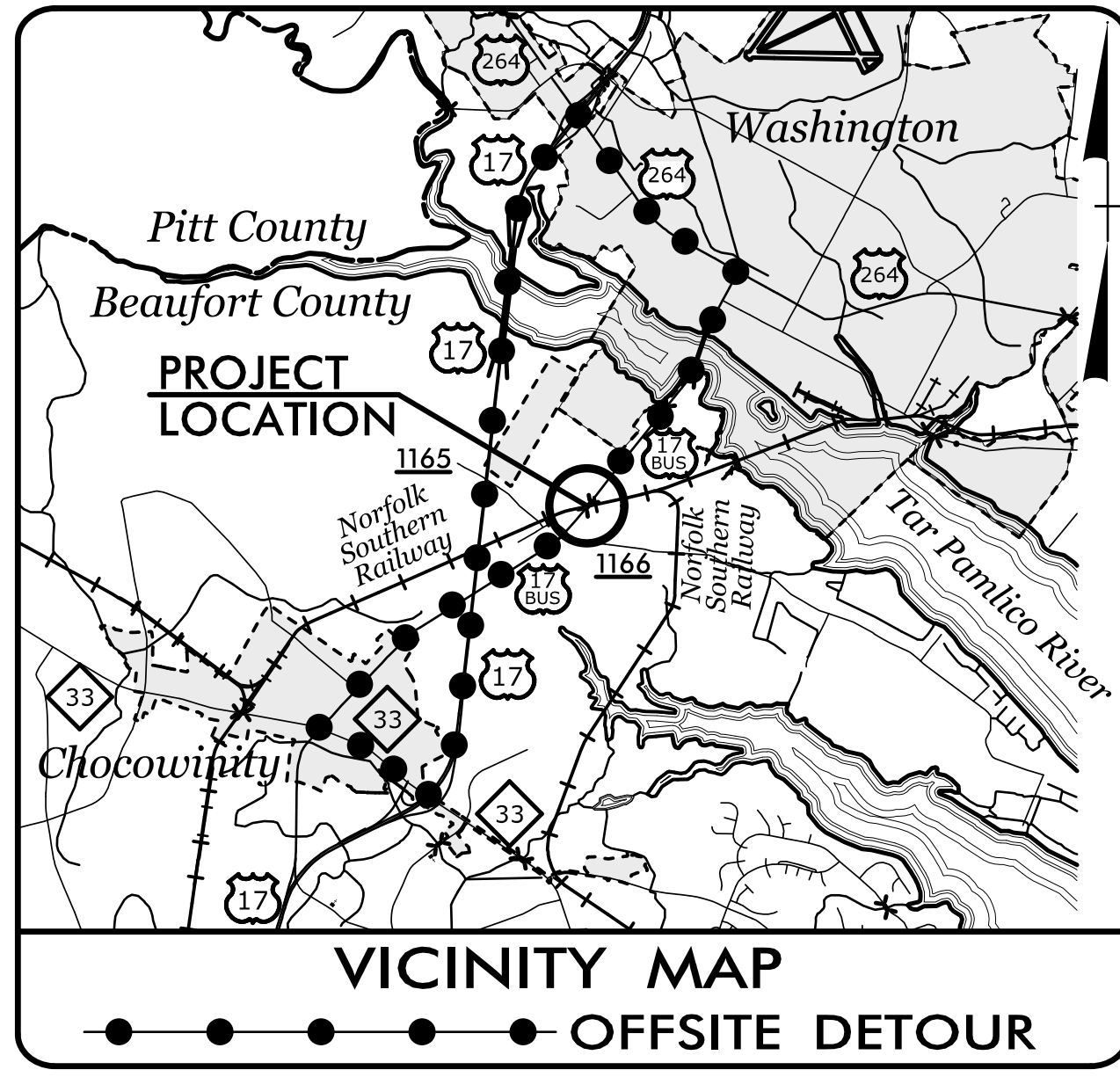
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09/28/2019

TIP PROJECT: B-5302

CONTRACT: C204219

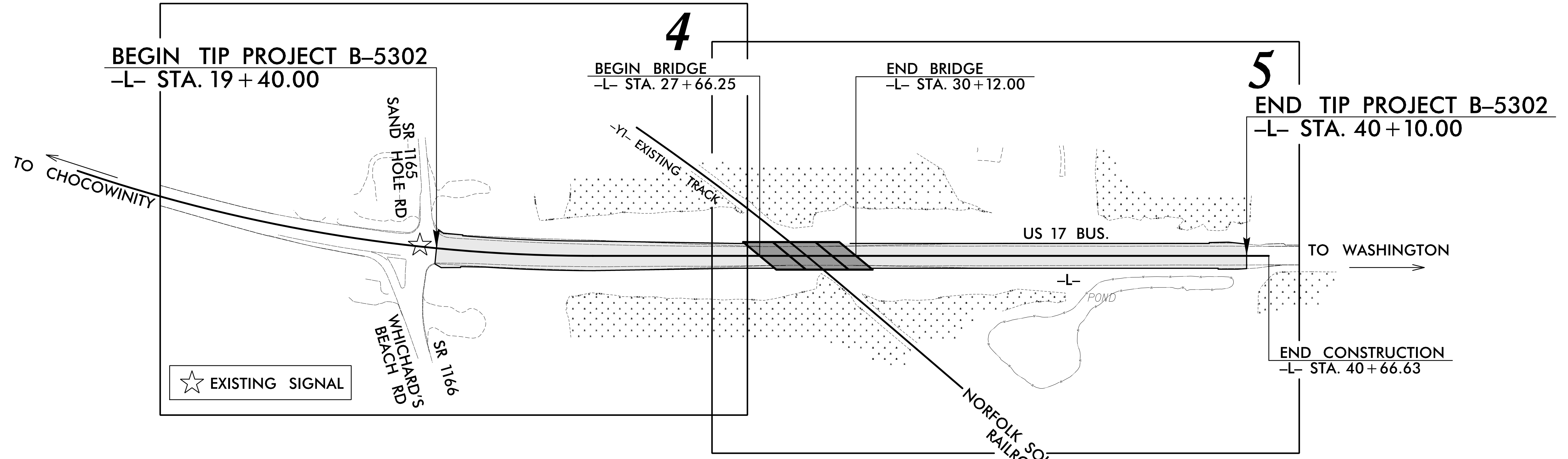
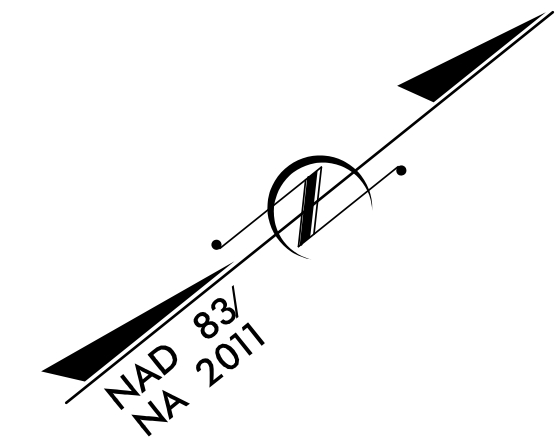
See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols
See Sheet 1C-1 Through 1C-2 For Survey Control Sheets



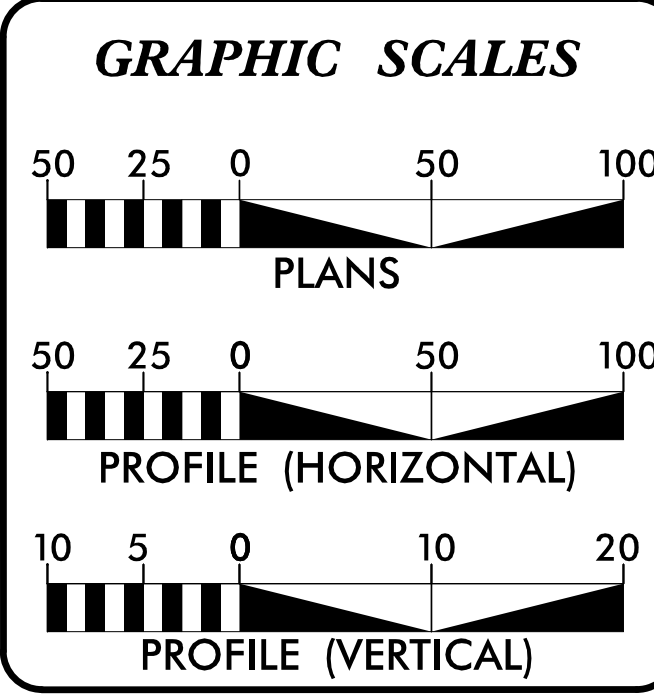
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
BEAUFORT COUNTY

LOCATION: REPLACE BRIDGE NO. 3 OVER NORFOLK SOUTHERN RAILROAD ON US 17 BUS.
BRIDGE NO. 25 ON US 17 BUS. OVER PAMLICO RIVER
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURES

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---------------------|-----------------------------|--------------------|--------------|
| N.C. | B-5302 /15BPR.42 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 46016.1.1 | BRNHPP-0017(127) | PE (B-5302) | |
| 46016.2.1 | | RW & UTIL (B-5302) | |
| 46016.3.1 /15BPR.42 | | CONST. (B-5302) | |



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

| | |
|-----------------------|------------------------------------|
| ADT 2019 = | 14,909 |
| ADT 2039 = | 20,273 |
| K = | 9 % |
| D = | 60 % |
| T = | 8 % * |
| V = | 60 MPH |
| * TTST = 4% DUAL = 4% | |
| FUNC CLASS = | RURAL MINOR ARTERIAL REGIONAL TIER |

PROJECT LENGTH

| | | |
|--------------------------------------|---|------------|
| LENGTH ROADWAY TIP PROJECT B-5302 | = | 0.345 mile |
| LENGTH STRUCTURES TIP PROJECT B-5302 | = | 0.047 mile |
| TOTAL LENGTH TIP PROJECT B-5302 | = | 0.392 mile |

Prepared For:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

By:
 TGS ENGINEERS
706 HILLSBOROUGH ST SUITE 200 RALEIGH, NC 27603
 PH (919) 773-8887
CORP. LICENSE NO.: C-0275

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 22, 2017

LETTING DATE:
JUNE 18, 2019

V. MARCUS LOWERY, PE
PROJECT ENGINEER

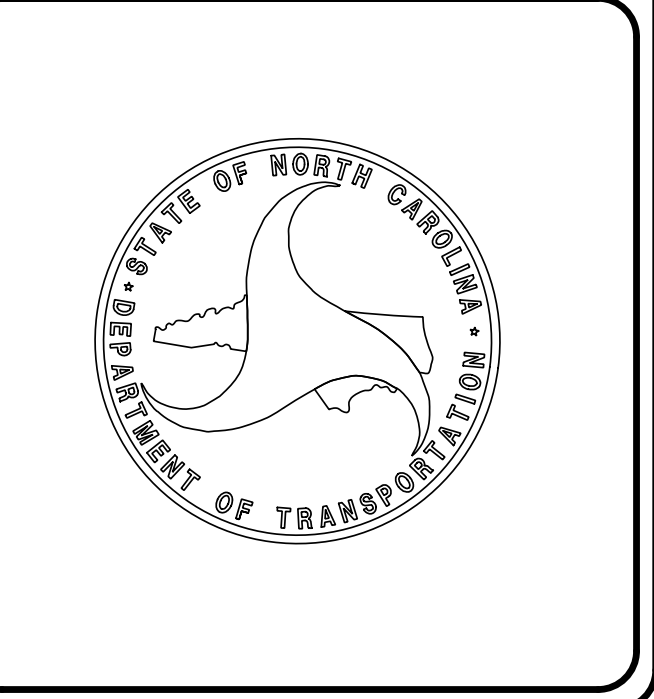
DAVID STUTTS, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

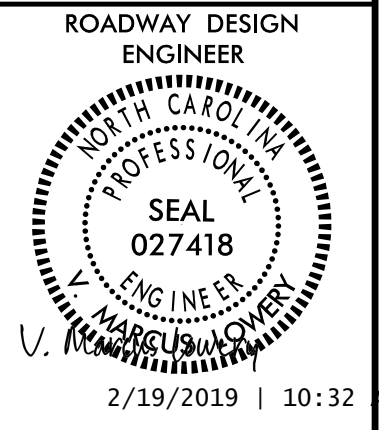
DocuSigned by:
David B. Petty
DAVID B. PETTY
P.E.
5/21/2019 11:13 AM EDT

ROADWAY DESIGN ENGINEER

DocuSigned by:
V. Marcus Lowery
V. MARCUS LOWERY
P.E.
5/21/2019 11:35 AM EDT



| | |
|--|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| B-5302 / 15BPR.42 | 1A |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |



INDEX OF SHEETS

| SHEET NUMBER | SHEET |
|--------------------|--|
| 1 | TITLE SHEET |
| 1A | INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS |
| 1B | CONVENTIONAL SYMBOLS |
| 1C-1 THRU 1C-2 | SURVEY CONTROL SHEETS |
| 2A-1 | PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND DETAIL SHOWING METHOD OF SHOULDER CONSTRUCTION |
| 2C-1 | DETAIL OF STRUCTURE ANCHOR UNITS: GUARDRAIL ANCHOR UNIT, TYPE III |
| 2C-2 | DETAIL FOR GUARDRAIL INSTALLATION |
| 2C-3 | COAL COMBUSTION PRODUCT PLACEMENT DETAIL |
| 3B-1 | SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY, SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT, SHOULDER BERM GUTTER SUMMARY, & GUARDRAIL SUMMARY |
| 3D-1 | DRAINAGE SUMMARY |
| 3G-1 | GEOTECHNICAL SUMMARY |
| 4 THRU 5 | PLAN SHEETS |
| 6 | PROFILE SHEET |
| TMP-1 THRU TMP-9 | TRANSPORTATION MANAGEMENT PLAN |
| PMP-1 THRU PMP-3 | PAVEMENT MARKING PLANS |
| EC-1 THRU EC-7 | EROSION CONTROL PLANS |
| RF-1 | REFORESTATION PLANS |
| SIGN-1 THRU SIGN-3 | SIGNING PLANS |
| SIG-1 THRU SIG-4.2 | SIGNAL PLANS |
| UO-1 THRU UO-3 | UTILITIES BY OTHERS PLANS |
| X-1A | CROSS SECTION EARTHWORK VOLUME SUMMARY |
| X-1 THRU X-12 | CROSS SECTIONS |
| S-1 THRU S-43 | B-5302 STRUCTURE PLANS |
| S-1 THRU S-58 | 15BPR.42 BRIDGE PRESERVATION PLANS |

GENERAL NOTES

GENERAL NOTES: 2018 SPECIFICATIONS EFFECTIVE: 01-16-2018
REVISED:

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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 III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

City of Washington (Water & Sewer), Town of Chocowinity (Sewer),

Duke Energy (Power), CenturyLink (Tel), Suddenlink (CATV)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

STANDARD DRAWINGS

2018 ROADWAY ENGLISH STANDARD DRAWINGS EFF. 01-16-2018
REV.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch – 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 |
|--|---|
| DIVISION 2 – EARTHWORK | |
| 200.03 | Method of Clearing – Method III |
| 225.01 | Guide for Grading Subgrade – Interstate and Freeway |
| 225.04 | Method of Obtaining Superelevation – Two Lane Pavement |
| DIVISION 3 – PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| DIVISION 4 – MAJOR STRUCTURES | |
| 422.01 | Bridge Approach Fills – Type I Standard Approach Fill |
| DIVISION 5 – SUBGRADE, BASES AND SHOULDERS | |
| 560.01 | Method of Shoulder Construction – High Side of Superelevated Curve – Method I |
| DIVISION 6 – ASPHALT BASES AND PAVEMENTS | |
| 654.01 | Pavement Repairs |
| DIVISION 8 – INCIDENTALS | |
| 815.02 | Subsurface Drain |
| 840.25 | Anchorage for Frames – Brick or Concrete or Precast |
| 840.29 | Frames and Narrow Slot Flat Grates |
| 840.35 | Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates |
| 840.46 | Traffic Bearing Precast Drainage Structure |
| 840.66 | Drainage Structure Steps |
| 846.01 | Concrete Curb, Gutter and Curb & Gutter |
| 846.04 | Drop Inlet Installation in Shoulder Berm Gutter |
| 862.01 | Guardrail Placement |
| 862.02 | Guardrail Installation |
| 862.03 | Structure Anchor Units |
| 876.02 | Guide for Rip Rap at Pipe Outlets |

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = *Subsurface Utility Engineering*

04/06/15

BOUNDARIES AND PROPERTY:

| | |
|---------------------------------------|---------|
| State Line | _____ |
| County Line | _____ |
| Township Line | _____ |
| City Line | _____ |
| Reservation Line | _____ |
| Property Line | _____ |
| Existing Iron Pin | ○ EIP |
| Property Corner | _____ |
| Property Monument | □ ECM |
| Parcel/Sequence Number | ⑩ 23 |
| Existing Fence Line | -x-x-x- |
| Proposed Woven Wire Fence | ○ |
| Proposed Chain Link Fence | □ |
| Proposed Barbed Wire Fence | ◇ |
| Existing Wetland Boundary | -WLB- |
| Proposed Wetland Boundary | -WLB- |
| Existing Endangered Animal Boundary | -EAB- |
| Existing Endangered Plant Boundary | -EPB- |
| Existing Historic Property Boundary | -HPB- |
| Known Contamination Area: Soil | ☠ ☠ |
| Potential Contamination Area: Soil | ☠ ☠ |
| Known Contamination Area: Water | ☠ ☠ |
| Potential Contamination Area: Water | ☠ ☠ |
| Contaminated Site: Known or Potential | ☠ ☠ |

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

| | |
|------------------------------------|--------|
| Stream or Body of Water | _____ |
| Hydro, Pool or Reservoir | _____ |
| Jurisdictional Stream | -JS- |
| Buffer Zone 1 | -BZ 1- |
| Buffer Zone 2 | -BZ 2- |
| Flow Arrow | ← |
| Disappearing Stream | → |
| Spring | ○ |
| Wetland | _____ |
| Proposed Lateral, Tail, Head Ditch | _____ |
| False Sump | _____ |

RAILROADS:

| | |
|--------------------|---------------|
| Standard Gauge | _____ |
| RR Signal Milepost | ○ MILEPOST 35 |
| Switch | □ SWITCH |
| RR Abandoned | _____ |
| RR Dismantled | _____ |

RIGHT OF WAY:

| | |
|---|---------|
| Baseline Control Point | ◆ |
| Existing Right of Way Marker | △ |
| Existing Right of Way Line | _____ |
| Proposed Right of Way Line | ○ R/W |
| Proposed Right of Way Line with Iron Pin and Cap Marker | ○ R/W ▲ |
| Proposed Right of Way Line with Concrete or Granite RW Marker | ○ R/W ▲ |
| Proposed Control of Access Line with Concrete C/A Marker | ○ C/A |
| Existing Control of Access | ○ C/A |
| Proposed Control of Access | ○ C/A |
| Existing Easement Line | -E- |
| Proposed Temporary Construction Easement | -E- |
| Proposed Temporary Drainage Easement | -TDE- |
| Proposed Permanent Drainage Easement | -PDE- |
| Proposed Permanent Drainage / Utility Easement | -DUE- |
| Proposed Permanent Utility Easement | -PUE- |
| Proposed Temporary Utility Easement | -TUE- |
| Proposed Aerial Utility Easement | -AUE- |
| Proposed Permanent Easement with Iron Pin and Cap Marker | ◆ |

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 | _____ |
| Proposed Guardrail | _____ |
| Existing Cable Guiderail | _____ |
| Proposed Cable Guiderail | _____ |
| Equality Symbol | ⊕ |
| Pavement Removal | _____ |

VEGETATION:

| | |
|--------------|-------|
| Single Tree | ☼ |
| Single Shrub | ☼ |
| Hedge | _____ |
| Woods Line | _____ |

| | |
|----------|-------|
| Orchard | _____ |
| 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 | ○ S |
| Storm Sewer | -S- |

UTILITIES:

| | |
|--------------------------------|---------|
| POWER: | |
| Existing Power Pole | ● |
| Proposed Power Pole | ○ |
| Existing Joint Use Pole | ● |
| Proposed Joint Use Pole | ○ |
| Power Manhole | ○ P |
| Power Line Tower | □ |
| Power Transformer | □ |
| U/G Power Cable Hand Hole | _____ |
| H-Frame Pole | ● |
| U/G Power Line LOS B (S.U.E.*) | _____ P |
| U/G Power Line LOS C (S.U.E.*) | _____ P |
| U/G Power Line LOS D (S.U.E.*) | _____ P |

TELEPHONE:

| | |
|--|------------|
| Existing Telephone Pole | ● |
| Proposed Telephone Pole | ○ |
| Telephone Manhole | ○ T |
| Telephone Pedestal | □ |
| Telephone Cell Tower | _____ |
| U/G Telephone Cable Hand Hole | _____ |
| U/G Telephone Cable LOS B (S.U.E.*) | _____ T |
| U/G Telephone Cable LOS C (S.U.E.*) | _____ T |
| U/G Telephone Cable LOS D (S.U.E.*) | _____ T |
| U/G Telephone Conduit LOS B (S.U.E.*) | _____ TC |
| U/G Telephone Conduit LOS C (S.U.E.*) | _____ TC |
| U/G Telephone Conduit LOS D (S.U.E.*) | _____ TC |
| U/G Fiber Optics Cable LOS B (S.U.E.*) | _____ T FO |
| U/G Fiber Optics Cable LOS C (S.U.E.*) | _____ T FO |
| U/G Fiber Optics Cable LOS D (S.U.E.*) | _____ T FO |

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.*) | _____ W |
| U/G Water Line LOS D (S.U.E.*) | _____ W |
| Above Ground Water Line | _____ A/G Water |

TV:

| | |
|---------------------------------------|-------------|
| TV Pedestal | □ |
| TV Tower | ⊗ |
| U/G TV Cable Hand Hole | _____ |
| U/G TV Cable LOS B (S.U.E.*) | _____ TV |
| U/G TV Cable LOS C (S.U.E.*) | _____ TV |
| 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.*) | _____ TV FO |
| U/G Fiber Optic Cable LOS D (S.U.E.*) | _____ TV FO |

GAS:

| | |
|------------------------------|---------------|
| Gas Valve | ◇ |
| Gas Meter | ◇ |
| U/G Gas Line LOS B (S.U.E.*) | _____ G |
| U/G Gas Line LOS C (S.U.E.*) | _____ G |
| 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 | _____ SS |
| Above Ground Sanitary Sewer | _____ A/G Sanitary Sewer |
| SS Forced Main Line LOS B (S.U.E.*) | _____ FSS |
| SS Forced Main Line LOS C (S.U.E.*) | _____ FSS |
| SS Forced Main Line LOS D (S.U.E.*) | _____ FSS |

MISCELLANEOUS:

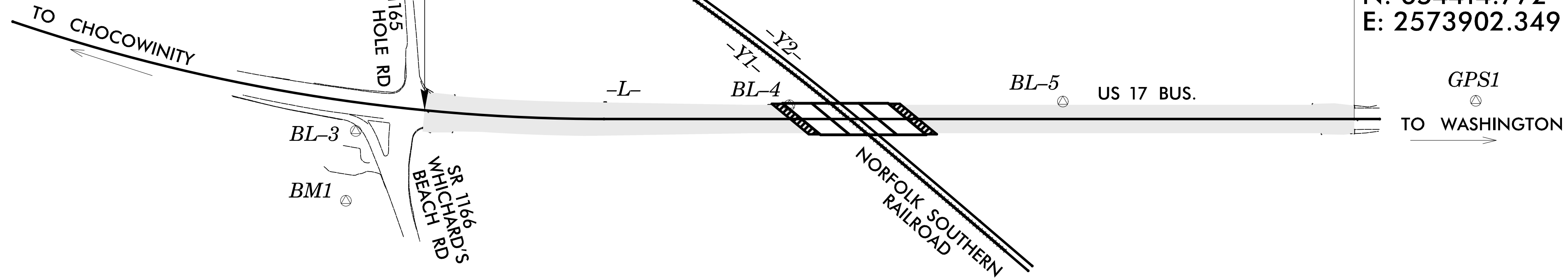
| | |
|--|------------|
| Utility Pole | ● |
| Utility Pole with Base | □ |
| Utility Located Object | ○ |
| Utility Traffic Signal Box | □ |
| Utility Unknown U/G Line LOS B (S.U.E.*) | _____ 2UTL |
| U/G Tank; Water, Gas, Oil | _____ |
| Underground Storage Tank, Approx. Loc. | _____ UST |
| A/G Tank; Water, Gas, Oil | _____ |
| Geoenvironmental Boring | ⊕ |
| U/G Test Hole LOS A (S.U.E.*) | _____ |
| Abandoned According to Utility Records | AATUR |
| End of Information | E.O.I. |

SURVEY CONTROL SHEET B-5302



-L- STA. 19+40.00
BEGIN TIP PROJECT B-5302
LOCALIZED PROJECT COORDINATES
 N: 652813.637
 E: 2572591.234

-L- STA. 40+10.00
END TIP PROJECT B-5302
LOCALIZED PROJECT COORDINATES
 N: 654414.772
 E: 2573902.349



BASELINE

| BL POINT | DESC. | NORTH | EAST | ELEVATION | L STATION | OFFSET |
|----------|-----------------|-------------|--------------|-----------|------------------------|----------|
| 3 | BL-3 | 652665.3740 | 2572531.1570 | 6.75 | 17+94.22 | 63.34 RT |
| 4 | BL-4 | 653453.6980 | 2573091.0230 | 28.83 | 27+52.63 | 30.67 LT |
| 5 | BL-5 | 653933.4780 | 2573465.8060 | 23.30 | 33+61.39 | 38.94 LT |
| GPS1 | NCDOT GPS B5302 | 654651.1030 | 2574040.0820 | 4.36 | OUTSIDE PROJECT LIMITS | |

BENCHMARK

.....
 BM1 ELEVATION = 4.82
 N 652551 E 2572639
 L STATION 17+93.00 220 RIGHT
 RR SPIKE IN 16' GUM TREE

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 B5302_LS_CONTROL.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NCGS REAL TIME NETWORK
 VERTICAL CONTROL ESTABLISHED FROM NCGS VERTICAL BENCHMARK E213

DATUM DESCRIPTION

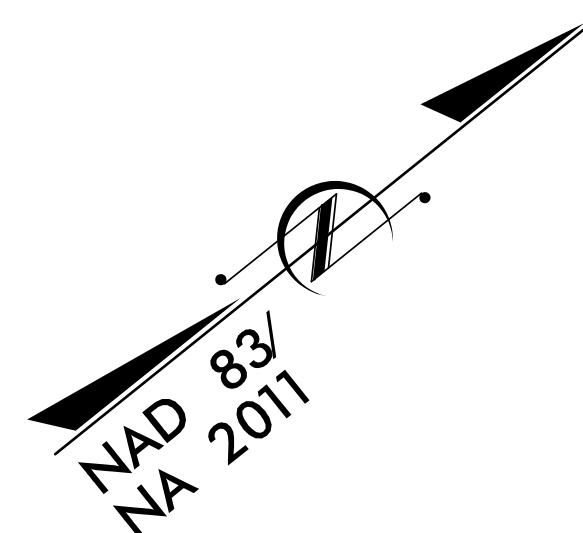
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5302-1"
 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
 NORTHING: 654651.103(ft) EASTING: 2574040.082(ft)
 ELEVATION: 4.363(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989018
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5302-1" TO -L- STATION 19+40.00 IS
 S 38° 15' 21.3" W 2339.97'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

6/2/09 2:44:20 PM \\NCDOT\B-5302\Roadway\Proj\B5302.LS_1C-1.dgn

SURVEY CONTROL SHEET B-5302

| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| 46016.1.1 | 1C-2 |
| Location and Surveys | |



ROW MARKER IRON PIN AND CAP-E

| ALIGN | STATION | OFFSET | NORTH | EAST | |
|-------|----------|---------|--------------|---------------|-----------|
| L | 19+52.86 | -55.00 | 652861.17995 | 2572560.77159 | |
| L | 19+55.38 | 70.00 | 652775.89629 | 2572652.19392 | |
| L | 20+00.00 | -60.00 | 652898.15808 | 2572589.36455 | |
| L | 20+50.00 | 60.00 | 652852.51672 | 2572711.08678 | |
| L | 22+00.00 | 95.00 | 652943.17241 | 2572839.00151 | |
| L | 23+00.00 | -60.00 | 653119.75496 | 2572784.91752 | |
| L | 23+45.00 | -115.00 | 653188.70544 | 2572770.00169 | *NOT SET |
| L | 23+75.00 | 125.00 | 653061.79675 | 2572975.90018 | *NOT SET |
| L | 26+33.87 | -135.00 | 653426.44448 | 2572935.31298 | *NOT SET |
| L | 27+50.00 | 140.00 | 653344.76453 | 2573222.43463 | *NOT SET |
| L | 27+91.60 | -140.00 | 653552.54792 | 2573030.19258 | *NOT SET |
| L | 29+75.12 | 140.00 | 653520.27712 | 2573363.41555 | *NOT SET |
| L | 31+00.00 | -140.00 | 653792.98235 | 2573223.32213 | *NOT SET |
| L | 31+23.87 | 135.00 | 653639.37248 | 2573452.66589 | *NOT SET |
| L | 35+00.00 | -105.00 | 654082.91609 | 2573501.10519 | |
| L | 35+00.00 | 110.00 | 653948.27449 | 2573668.72571 | *NOT SET |
| L | 36+00.00 | 50.00 | 654063.81192 | 2573684.57189 | *NAIL SET |
| L | 36+20.00 | -50.00 | 654142.02775 | 2573619.13303 | |

ROW MARKER PERMANENT EASEMENT-E

| ALIGN | STATION | OFFSET | NORTH | EAST | |
|-------|----------|---------|-------------|--------------|----------|
| L | 20+00.00 | -64.00 | 652900.9127 | 2572586.4642 | |
| L | 20+02.00 | 76.00 | 652805.9785 | 2572689.3792 | |
| L | 20+02.00 | 64.79 | 652813.6946 | 2572681.2469 | |
| L | 20+21.00 | -60.00 | 652913.1986 | 2572603.5762 | |
| L | 20+21.00 | -67.00 | 652917.9931 | 2572598.4759 | |
| L | 20+22.00 | 76.00 | 652820.7901 | 2572703.3643 | |
| L | 20+22.00 | 62.72 | 652829.8814 | 2572693.6886 | |
| L | 20+27.00 | -85.00 | 652934.6058 | 2572589.3822 | |
| L | 20+27.00 | -60.00 | 652917.5092 | 2572607.6225 | |
| L | 20+75.00 | -89.00 | 652971.7895 | 2572618.3755 | |
| L | 20+95.00 | -115.00 | 653003.7162 | 2572612.2904 | |
| L | 21+07.00 | 86.00 | 652877.7992 | 2572769.4172 | |
| L | 21+07.00 | 72.57 | 652886.7883 | 2572759.4437 | |
| L | 21+49.00 | -60.00 | 653006.4290 | 2572688.5160 | |
| L | 21+49.00 | -82.00 | 653020.9898 | 2572672.0241 | |
| L | 21+57.00 | 92.00 | 652911.9640 | 2572807.8678 | |
| L | 21+69.00 | -85.00 | 653037.6887 | 2572682.7020 | |
| L | 21+69.00 | -60.00 | 653021.2340 | 2572701.5233 | |
| L | 21+79.00 | 117.00 | 652912.4860 | 2572841.5383 | |
| L | 23+04.00 | -100.00 | 653148.1268 | 2572756.4497 | |
| L | 23+27.00 | -93.13 | 653161.2181 | 2572775.9479 | |
| L | 23+27.00 | -100.00 | 653165.5369 | 2572770.6059 | |
| L | 25+03.00 | 130.12 | 653158.3831 | 2573060.0506 | *NOT SET |
| L | 25+22.00 | -151.00 | 653349.2447 | 2572852.7795 | *NOT SET |
| L | 25+47.00 | -184.00 | 653389.4013 | 2572842.7077 | *NOT SET |
| L | 25+66.45 | -185.00 | 653405.1895 | 2572854.1069 | *NOT SET |
| L | 27+28.20 | -189.00 | 653533.8030 | 2572952.2854 | *NOT SET |
| L | 27+38.00 | -211.00 | 653555.2192 | 2572941.2695 | *NOT SET |
| L | 28+23.00 | -225.00 | 653630.2551 | 2572983.5851 | *NOT SET |
| L | 28+71.00 | 150.00 | 653432.8374 | 2573306.0060 | *NOT SET |
| L | 29+08.00 | -160.00 | 653655.8181 | 2573087.4914 | *NOT SET |
| L | 29+28.00 | 198.00 | 653447.2168 | 2573379.1239 | *NOT SET |
| L | 29+91.00 | 191.00 | 653500.7172 | 2573413.1196 | *NOT SET |
| L | 30+04.68 | 165.00 | 653527.6684 | 2573401.4191 | *NOT SET |
| L | 31+68.43 | 173.00 | 653650.3186 | 2573510.1995 | *NOT SET |
| L | 32+12.00 | 168.00 | 653687.4190 | 2573533.5872 | *NOT SET |
| L | 32+29.00 | 141.00 | 653717.5812 | 2573523.1832 | *NOT SET |
| L | 37+79.00 | -50.00 | 654265.9898 | 2573718.7058 | |
| L | 37+79.00 | -88.00 | 654289.7869 | 2573689.0799 | *NOT SET |
| L | 37+80.00 | 50.00 | 654204.1454 | 2573797.2951 | |
| L | 37+80.00 | 63.00 | 654196.0043 | 2573807.4303 | *NOT SET |
| L | 37+99.00 | -88.00 | 654305.3795 | 2573701.6047 | |
| L | 37+99.00 | -50.00 | 654281.5824 | 2573731.2306 | |
| L | 38+00.00 | 50.00 | 654219.7380 | 2573809.8199 | |
| L | 38+00.00 | 63.00 | 654211.5969 | 2573819.9551 | *NOT SET |
| L | 39+00.00 | -80.00 | 654379.1122 | 2573771.0919 | |
| L | 39+00.00 | -50.00 | 654360.3250 | 2573794.4809 | |
| L | 39+20.00 | -80.00 | 654394.7048 | 2573783.6167 | |
| L | 39+20.00 | -50.00 | 654375.9176 | 2573807.0057 | |
| L | 39+20.00 | 50.00 | 654313.2936 | 2573884.9687 | |
| L | 39+20.00 | 63.00 | 654305.1525 | 2573895.1039 | *NOT SET |
| L | 39+40.00 | 63.00 | 654320.7451 | 2573907.6287 | *NOT SET |
| L | 39+40.00 | 50.00 | 654328.8862 | 2573897.4935 | |
| L | 40+12.00 | -82.00 | 654467.6833 | 2573839.6716 | |
| L | 40+33.00 | -57.00 | 654468.3995 | 2573872.3134 | |
| L | 40+66.63 | 50.00 | 654427.6108 | 2573976.7943 | |
| L | 40+66.63 | 55.00 | 654424.4796 | 2573980.6924 | |
| L | 40+66.63 | -50.00 | 654490.2348 | 2573898.8312 | |

DESIGN ALIGNMENTS

L

| TYPE | STATION | NORTH | EAST |
|------|----------|-------------|--------------|
| PC | 10+00.00 | 652222.4834 | 2571863.0351 |
| PT | 23+39.93 | 653112.7374 | 2572856.4860 |
| POT | 40+66.63 | 654458.9243 | 2573937.8139 |

Y1

| TYPE | STATION | NORTH | EAST |
|------|----------|-------------|--------------|
| PC | 10+00.00 | 653405.1982 | 2572671.2134 |
| PCC | 15+91.97 | 653547.9900 | 2573245.4723 |
| PT | 19+12.70 | 653608.8949 | 2573560.3691 |
| POT | 20+66.09 | 653637.2019 | 2573711.1278 |

*ROW MONUMENTS NOT SET DUE TO FLOODED AREAS

NOTE: DRAWING NOT TO SCALE

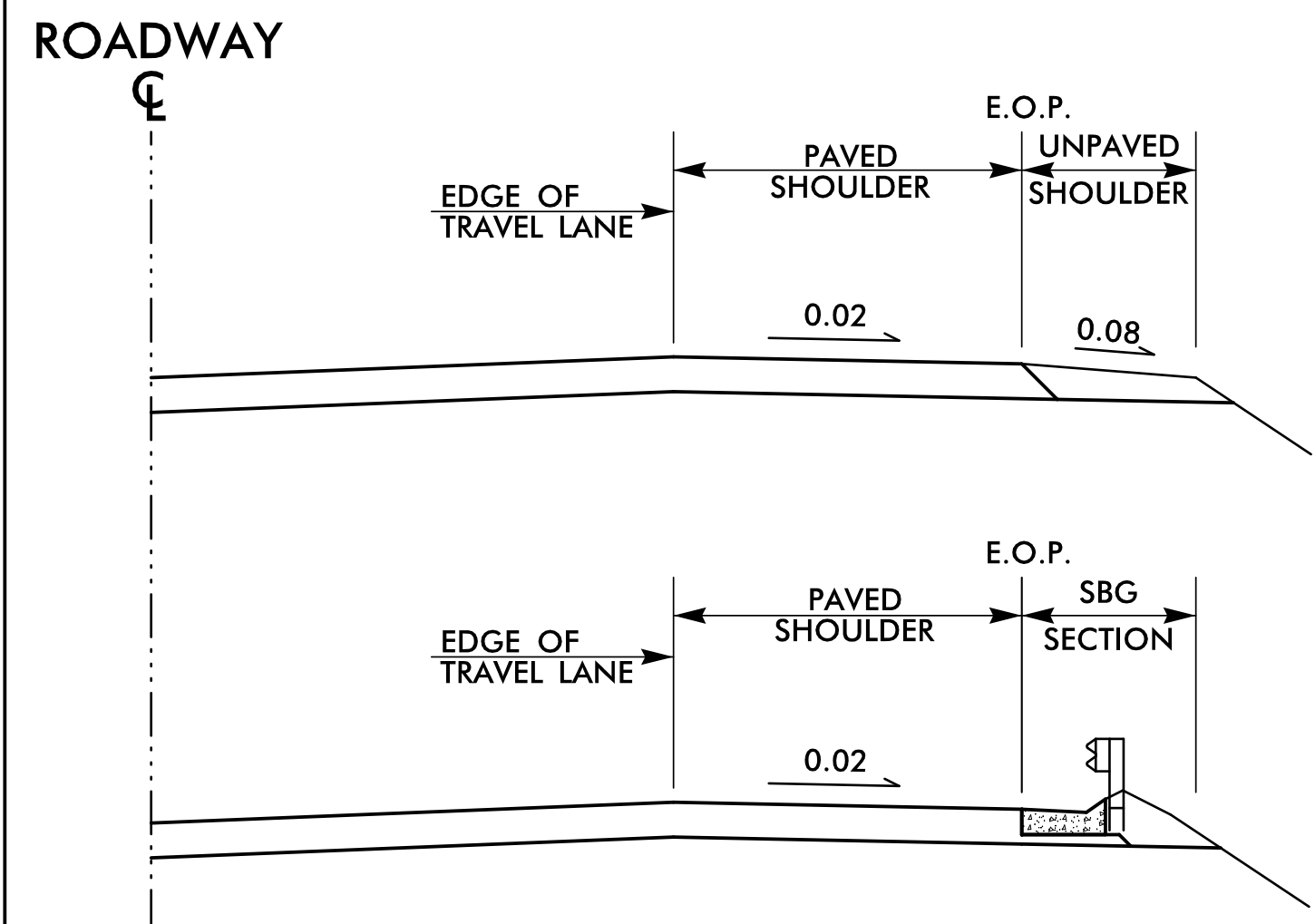
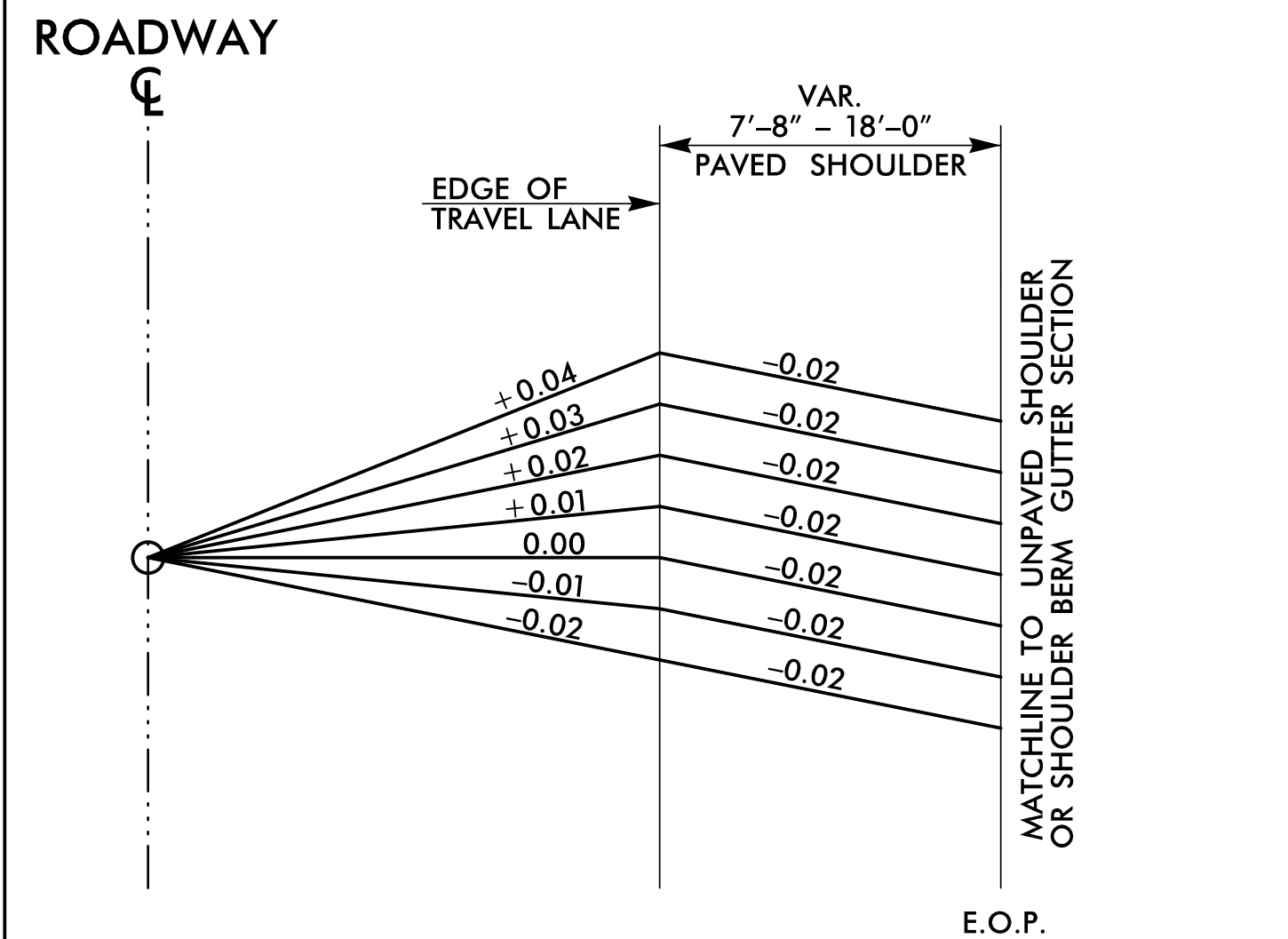
5/14/19

PAVEMENT SCHEDULE

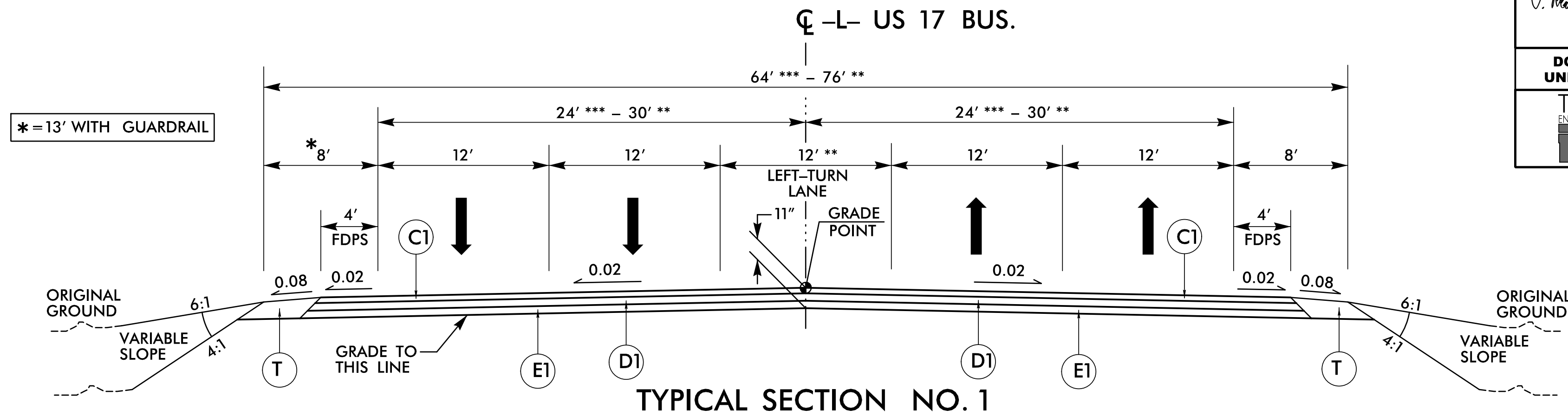
| | |
|----|---|
| C1 | PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| D1 | PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E1 | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| R | SHOULDER BERM GUTTER |
| T | EARTH MATERIAL |

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

DETAIL SHOWING METHOD OF SHOULDER CONSTRUCTION (HIGH SIDE OF SUPERELEVATED CURVE)

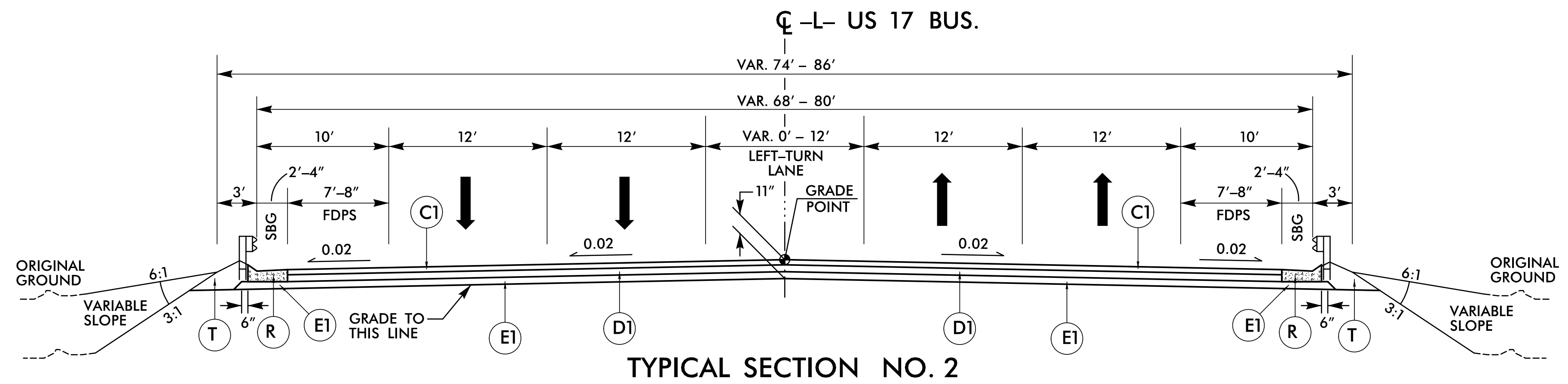


USE THIS DETAIL AS FOLLOWS:
FROM -L- STA 19+40.00 (RT.) TO STA 25+73.26 (RT.)

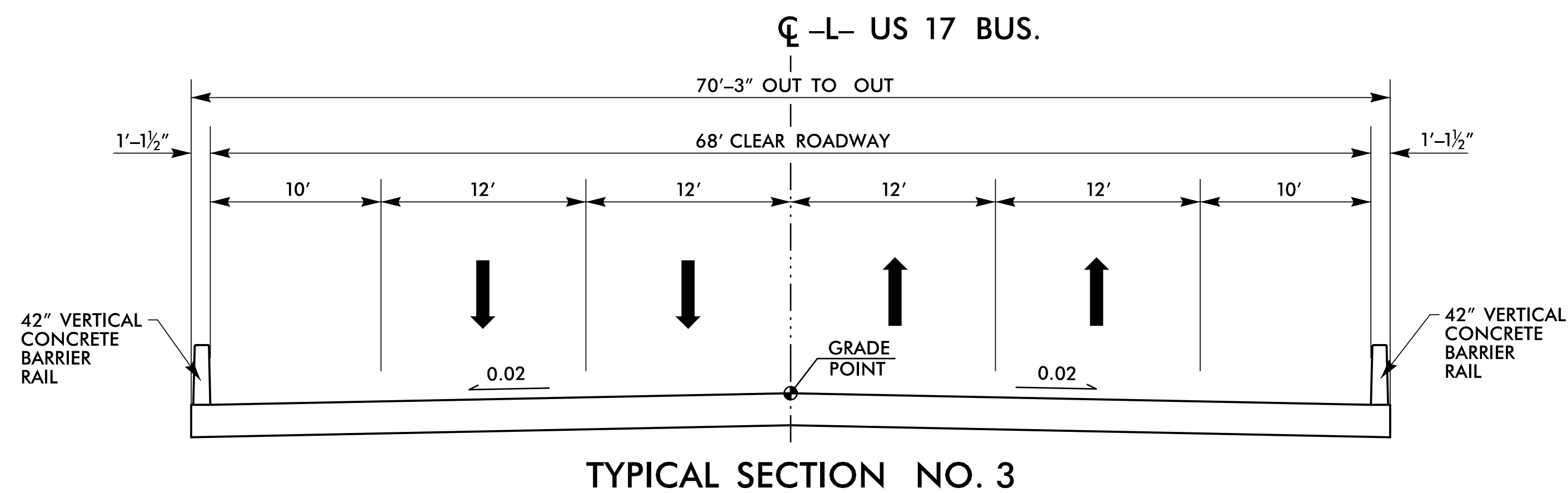


USE TYPICAL SECTION NO. 1 AS FOLLOWS:
** FROM -L- STA 19+40.00 TO STA 20+04.04 (LT.) & STA 20+04.51 (RT.)
*** FROM -L- STA 39+14.55 (LT.) & STA 39+37.18 (RT.) TO STA 40+10.00

SBG=SHOULDER BERM GUTTER
FDPS=FULL DEPTH PAVED SHOULDER



USE TYPICAL SECTION NO. 2 AS FOLLOWS:
FROM -L- STA 20+04.04 (LT.) & STA 20+04.51 (RT.) TO STA 27+66.25 (BEGIN BRIDGE)
FROM -L- STA 30+12.00 (END BRIDGE) TO STA 39+14.55 (LT.) & 39+37.18 (RT.)
NOTE: TURN LANE TRANSITION -L- STA 23+45.00 TO STA 27+05.00



USE TYPICAL SECTION NO. 3 AS FOLLOWS:
FROM -L- STA 27+66.25 (BEGIN BRIDGE) TO STA 30+12.00 (END BRIDGE)

| | |
|--|--------------------------|
| PROJECT REFERENCE NO. B-5302 | SHEET NO. 2A-1 |
| RW SHEET NO. | |
| ROADWAY DESIGN ENGINEER | PAVEMENT DESIGN ENGINEER |
| | |
| 2/19/2019 10:04 AM EST 2/19/2019 4:42 PM EST | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | |
| TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275 | |

2/14/2019 10:04 AM EST
 N:\CDDOT\B-5302\Drawings\Project\5302_2a-1.dgn
 User: jay.d...

I4-DEC-2017 10:36 S:\Contracts\Projects\Special Details\Standard Drawings\Division 8\0862d0301.dgn Jhowerton AT_CSD-292595

| | | |
|---|--|-------------------------------|
| STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE | SHEET 1 OF 7 862D03 |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> </div> <div style="width: 45%;"> <p>NOTE:</p> <ul style="list-style-type: none"> **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER. *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT. -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB. -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER). -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW. -SEE SHEET 3 FOR POST SECTIONS 1 THRU 9. </div> </div> | | |
| GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE | | |

| | | |
|---|--|-------------------------------|
| STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | ROADWAY DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER | SHEET 2 OF 7 862D03 |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> </div> <div style="width: 45%;"> <p>NOTE:</p> <ul style="list-style-type: none"> **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER. *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT. -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB. -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER). -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW. -SEE SHEET 3 FOR POST SECTIONS 1 THRU 9. </div> </div> | | |
| GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER | | |



2/19/2019 | 11:03 AM EST

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

| | |
|--------------------------|----------------|
| ORIGINAL BY: J. HOWERTON | DATE: 06-22-12 |
| MODIFIED BY: | DATE: |
| CHECKED BY: | DATE: |
| FILE SPEC.: | |

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

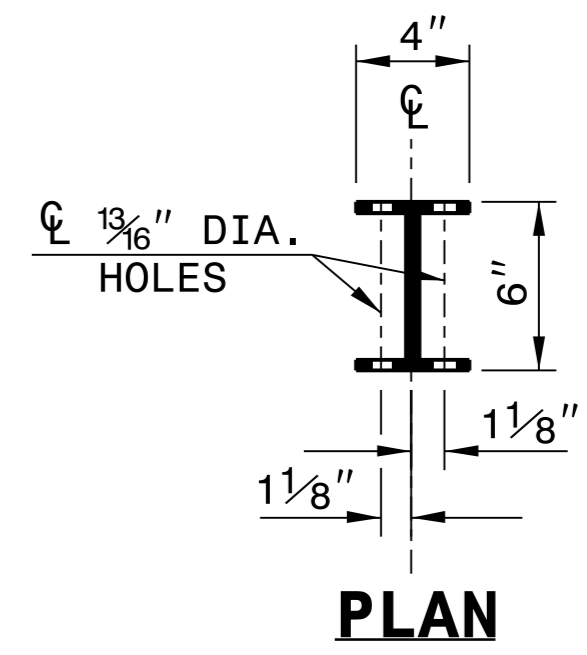
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



STANDARD W-BEAM GUARDRAIL



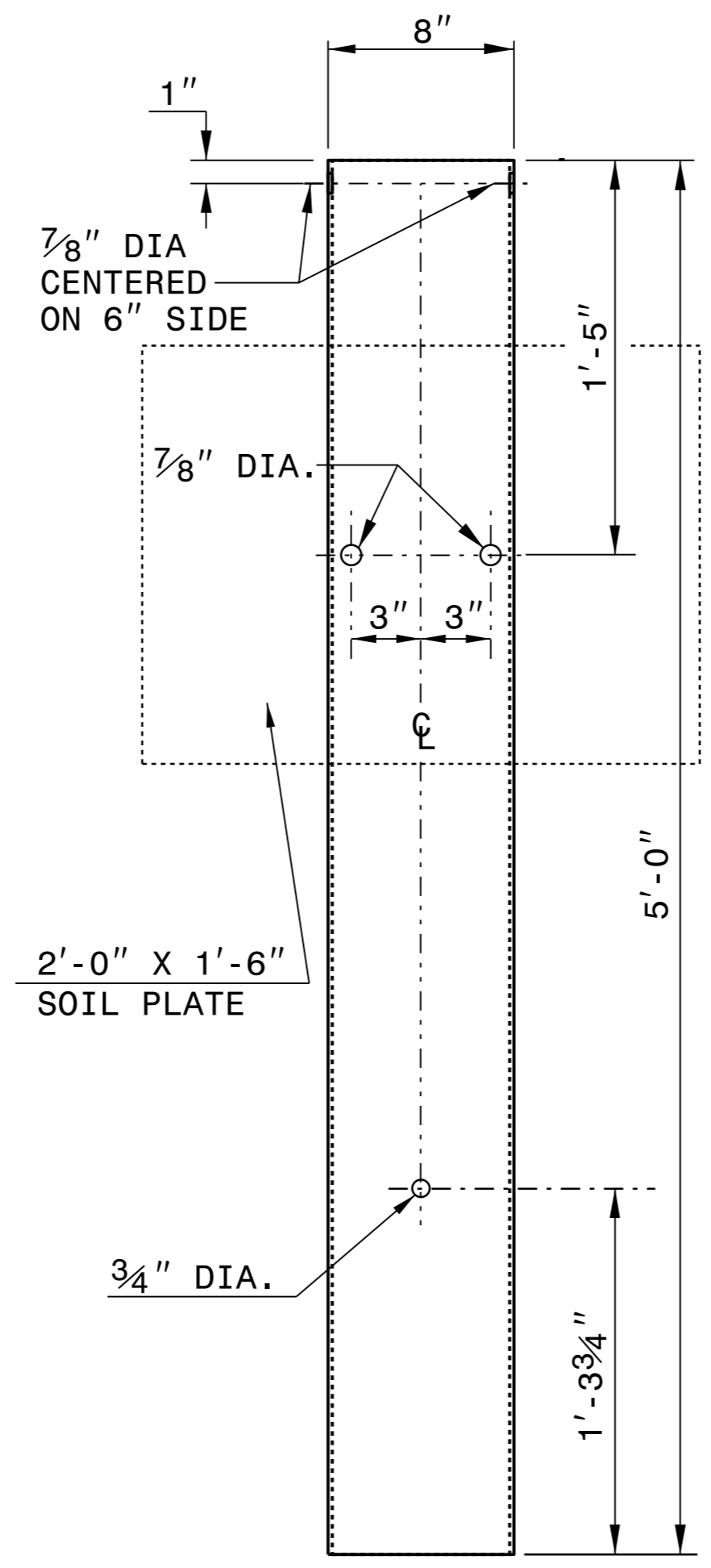
PLAN



**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

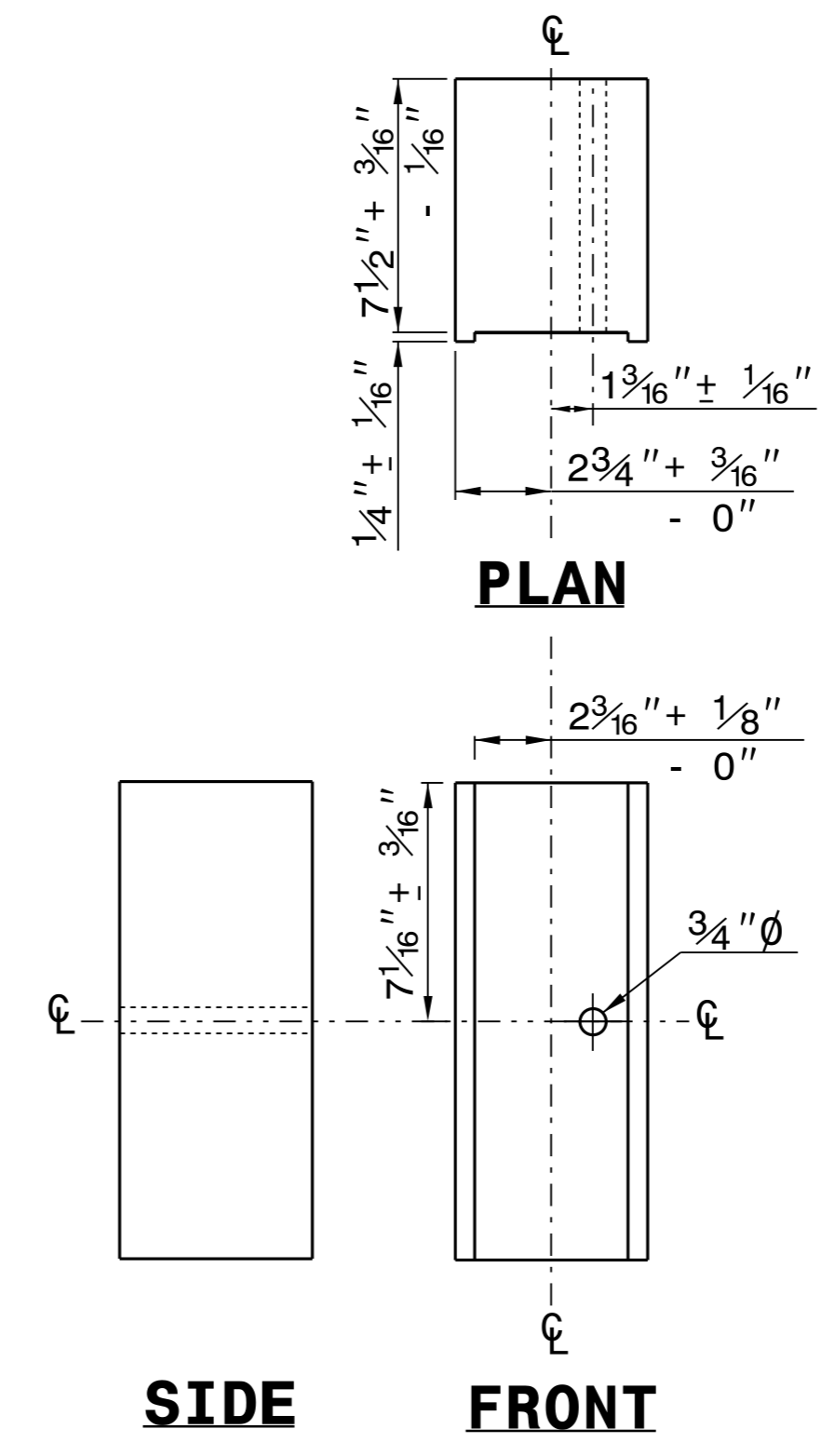
**STANDARD
LINE POST**

**SHORT WOOD
BREAKAWAY POST**



**STEEL TUBE
TS 6"x8"x0.1875"**

SYSTEM PARTS

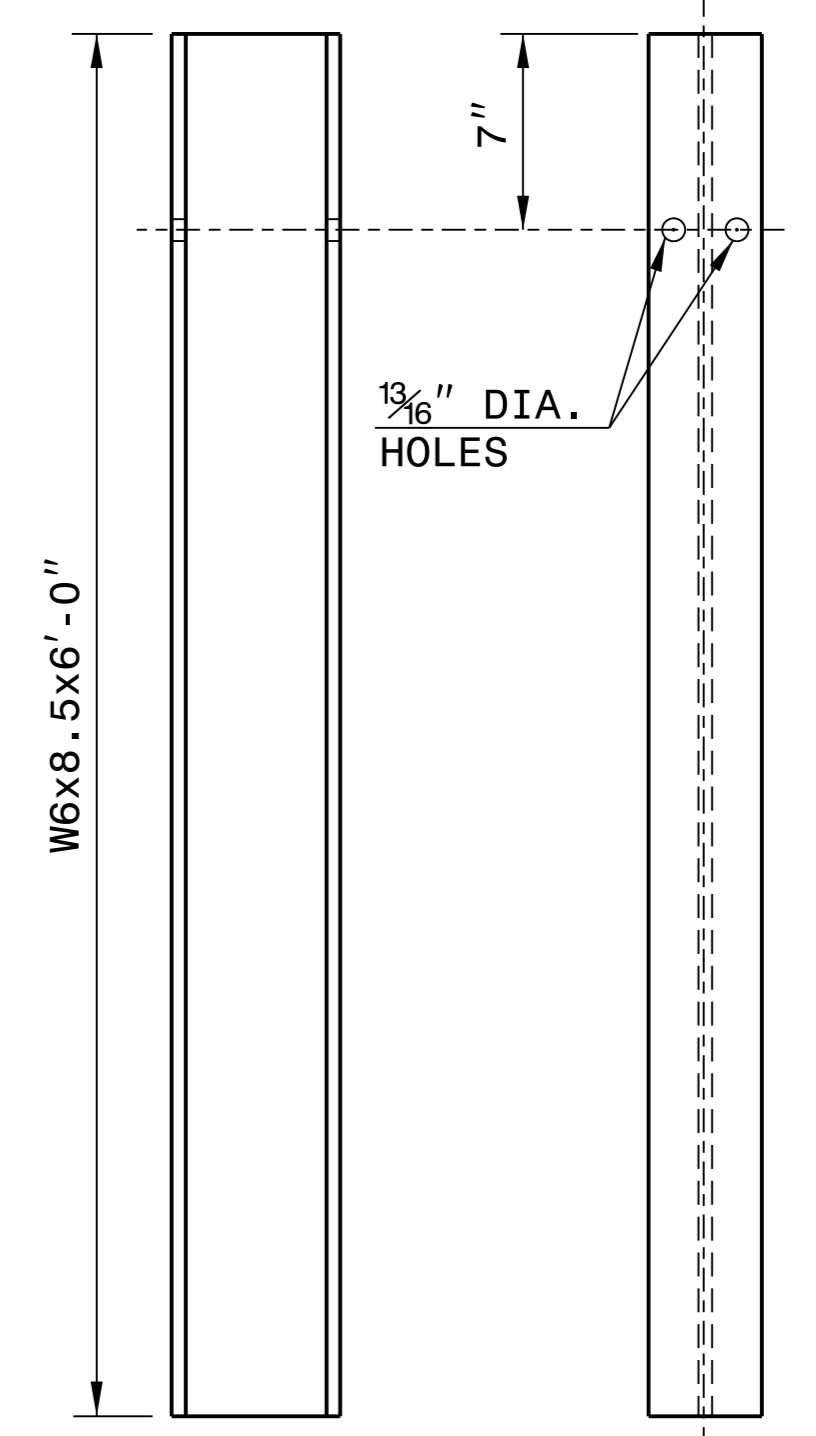


PLAN

SIDE

FRONT

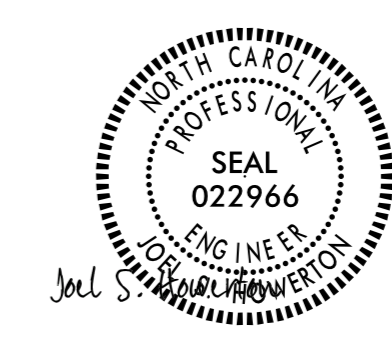
**ROUTED
OFFSET BLOCK**



SIDE

FRONT

"W6" STEEL POST



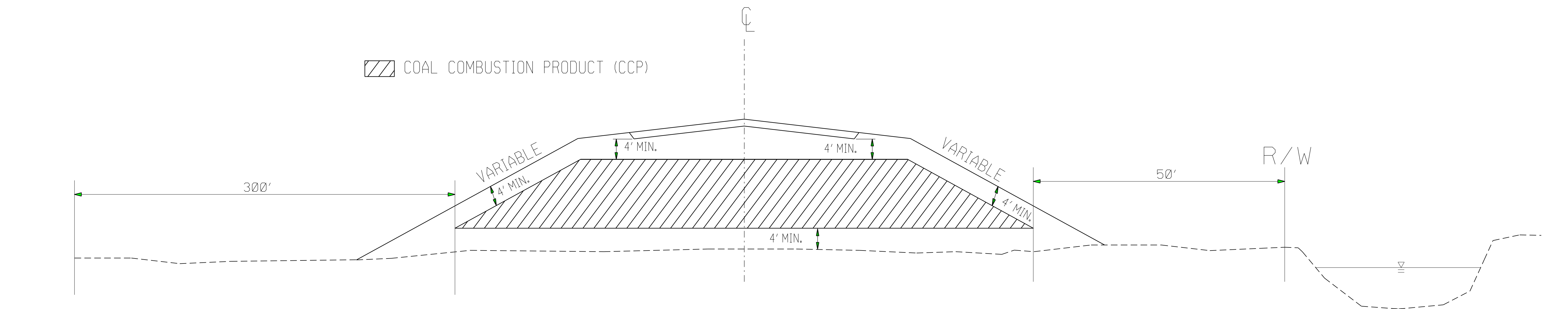
2/19/2019 | 11:03 AM EST

**CONTRACTS STANDARDS
AND DEVELOPMENT UNIT**
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

| | |
|--------------------------|----------------|
| ORIGINAL BY: J. HOWERTON | DATE: 3-7-2018 |
| MODIFIED BY: | DATE: |
| CHECKED BY: | DATE: |
| FILE SPEC.: | |

COAL COMBUSTION PRODUCT PLACEMENT



PRIVATE DWELLING OR WELL

PERENNIAL STREAM, OTHER SURFACE WATER BODY OR *WETLAND

*(OBTAIN PERMISSION FROM ARMY CORPS OF ENGINEERS)

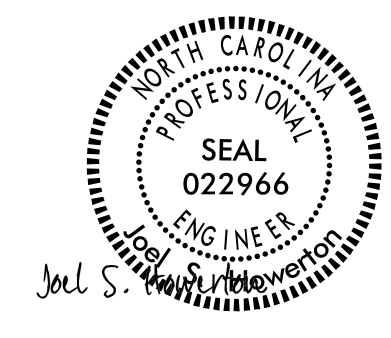
PLACE CCP IN HATCHED AREA IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS

PLACE CCP A MINIMUM OF 5' ABOVE SEASONAL HIGH GROUND WATER

PLACE AT LOCATIONS AS APPROVED BY THE ENGINEER

PLACE SOIL BORROW MATERIAL ON THE OUTSIDE OF CCP AS EACH LIFT OF CCP IS PLACED

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



2/19/2019 | 11:03 AM EST

| | |
|--|---------------|
| CONTRACT STANDARDS AND DEVELOPMENT UNIT | |
| Office 919-707-6950 FAX 919-250-4119 | |
| COAL COMBUSTION PRODUCT PLACEMENT DETAIL | |
| ORIGINAL BY: J.S.H. | DATE: 3/16/15 |
| MODIFIED BY: | DATE: |
| CHECKED BY: | DATE: |
| FILE SPEC.: joel/coal combustion material detail.dgn | |

07-SEP-2017 08:21 S:\Contracts\Projects\Special Details\Jhoverton\Coal Combustion Product Detail.dgn Jhoverton AT USD-232595

COMPUTED BY: VML DATE: 14 FEB 2019
 CHECKED BY: ARM DATE: 14 FEB 2019

(2-16-16)

PROJECT NO.
B-5302

SHEET NO.
3G-1

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

| LINE | Station | Station | Location LT/RT/CL | Drain Type* UD/BD/SD | LF |
|------|-------------|---------|----------------------|-------------------------|-----|
| | | | | | |
| | | | | | |
| | CONTINGENCY | | | SD | 200 |
| | | | | TOTAL LF: | 200 |

*UD = Underdrain
 *BD = Blind Drain
 *SD = Subsurface Drain

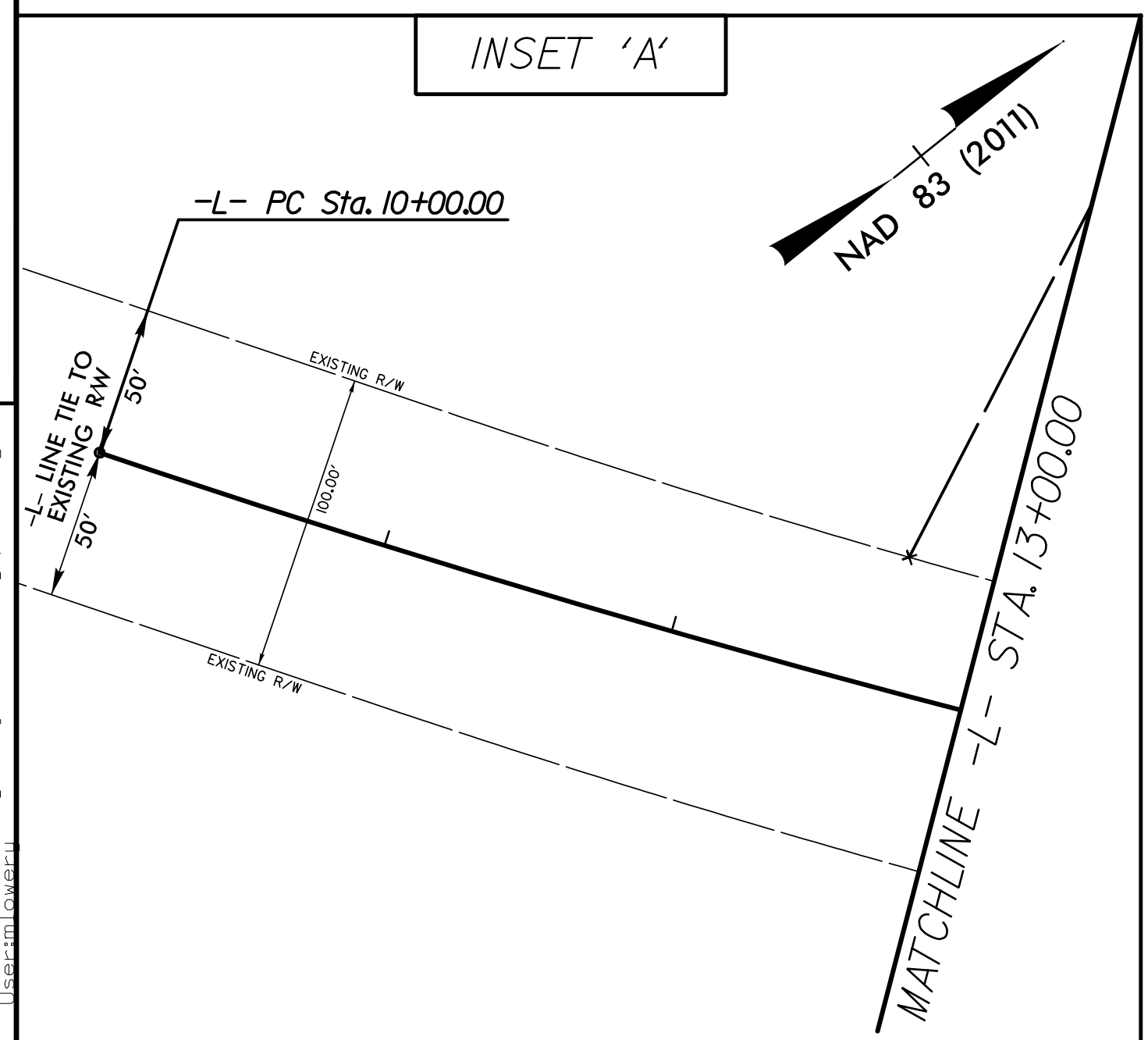
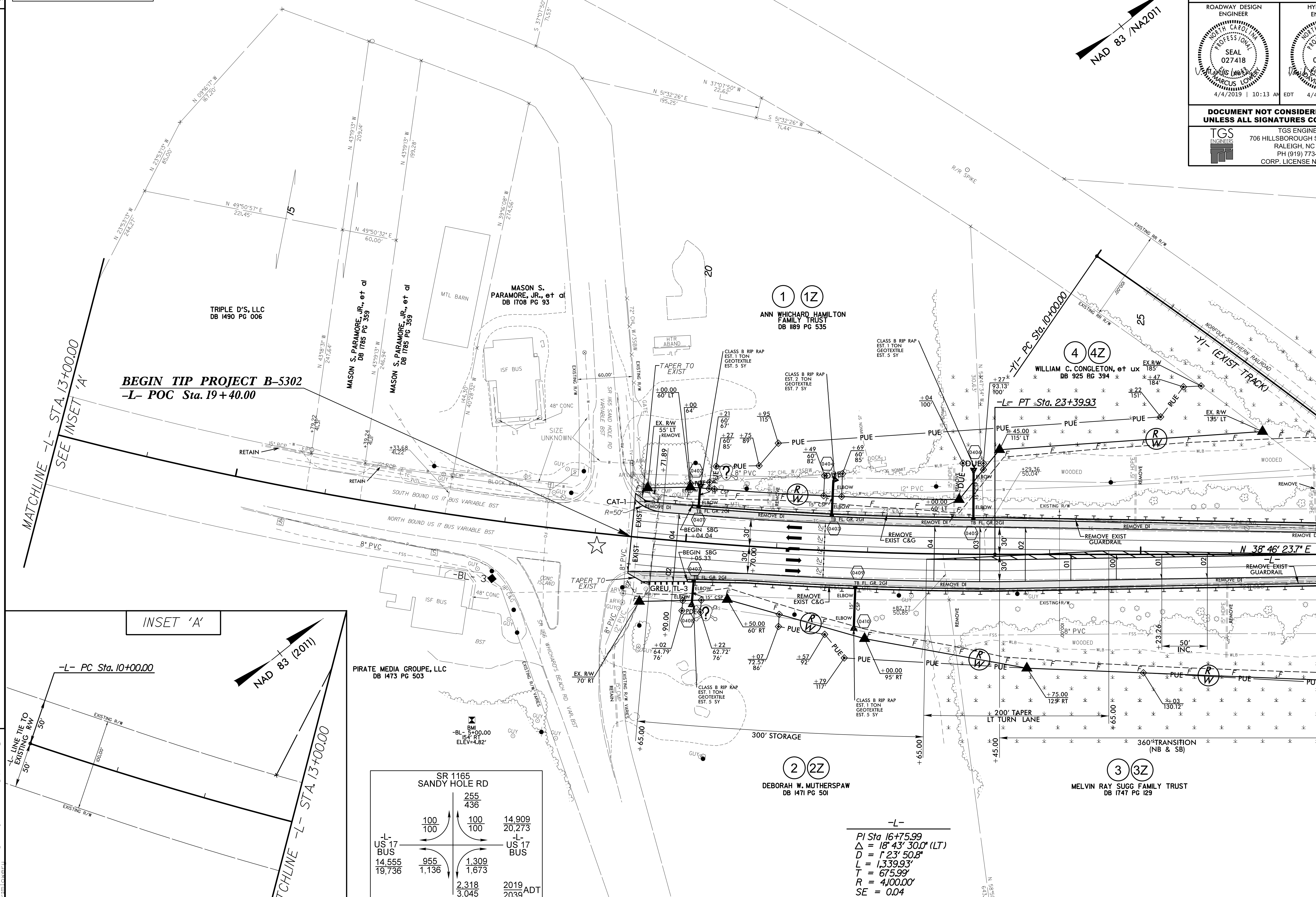
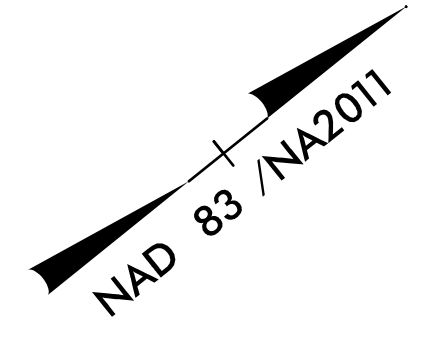
SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

| LINE | Station | Station | Aggregate Type* ASU/AST | Aggregate Thickness INCHES | Shallow Undercut CY | Class IV Subgrade Stabilization TONS | Geotextile for Soil Stabilization SY | Stabilizer Aggregate TONS | Class IV Aggregate Stabilization TONS |
|------|-------------|---------|-------------------------------|----------------------------------|---------------------------|---|---|---------------------------------|--|
| | | | | | | | | | |
| | | | | | | | | | |
| | CONTINGENCY | | | | 100 | 190 | 300 | | |
| | | | TOTAL CY/TONS/SY: | | 100 | 190 | 300** | 0 | 0 |

*ASU = Aggregate Subgrade
 *AST = Aggregate Stabilization
 **Total square yards of "Geotextile for Soil Stabilization" is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

☆ EXISTING SIGNAL

| | | | |
|--|--|---|--|
| PROJECT REFERENCE NO. B-5302 | | SHEET NO. 4 | |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | |
| | | | |
| 4/4/2019 10:13 AM EDT | | 4/4/2019 10:21 AM EDT | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | | | |
| | | TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275 | |



| | | | |
|-------------------------------|--------------|------------------|---------------------|
| SR 1165 SANDY HOLE RD | | | |
| | 255 436 | | |
| 100 100 | 100 100 | 14,909 20,273 | |
| -L- US 17 BUS | 955 1,136 | 1,309 1,673 | -L- US 17 BUS |
| 14,555 19,736 | | | 2,318 3,045 |
| | | 2019 2039 ADT | |
| SR 1166 WHICHARDS BEACH RD | | | |

-L-

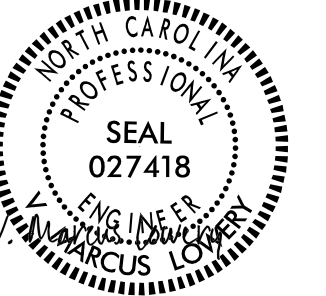

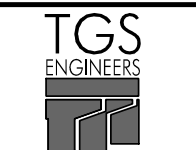
PI Sta 16+75.99
 $\Delta = 18^\circ 43' 30.0''$ (LT)
 $D = 123' 50.8''$
 $L = 1,339.93'$
 $T = 675.99'$
 $R = 4,100.00'$
 $SE = 0.04$
 $Lr = 200'$

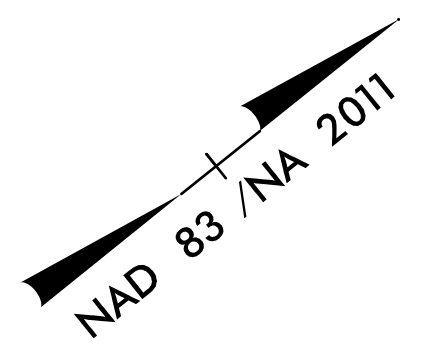
FOR -L- PROFILE SEE SHEET 6

REVISIONS

K:\NCDOT\B-5302\Roadway\Proc\B5302_rdy_psh_4.dgn

5/14/19

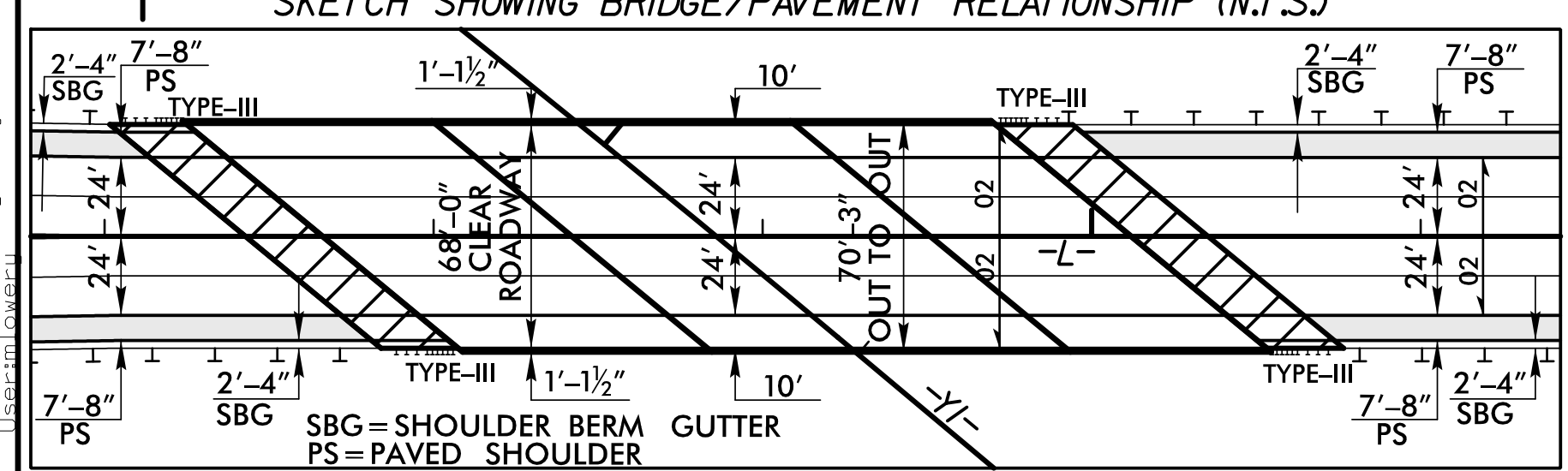
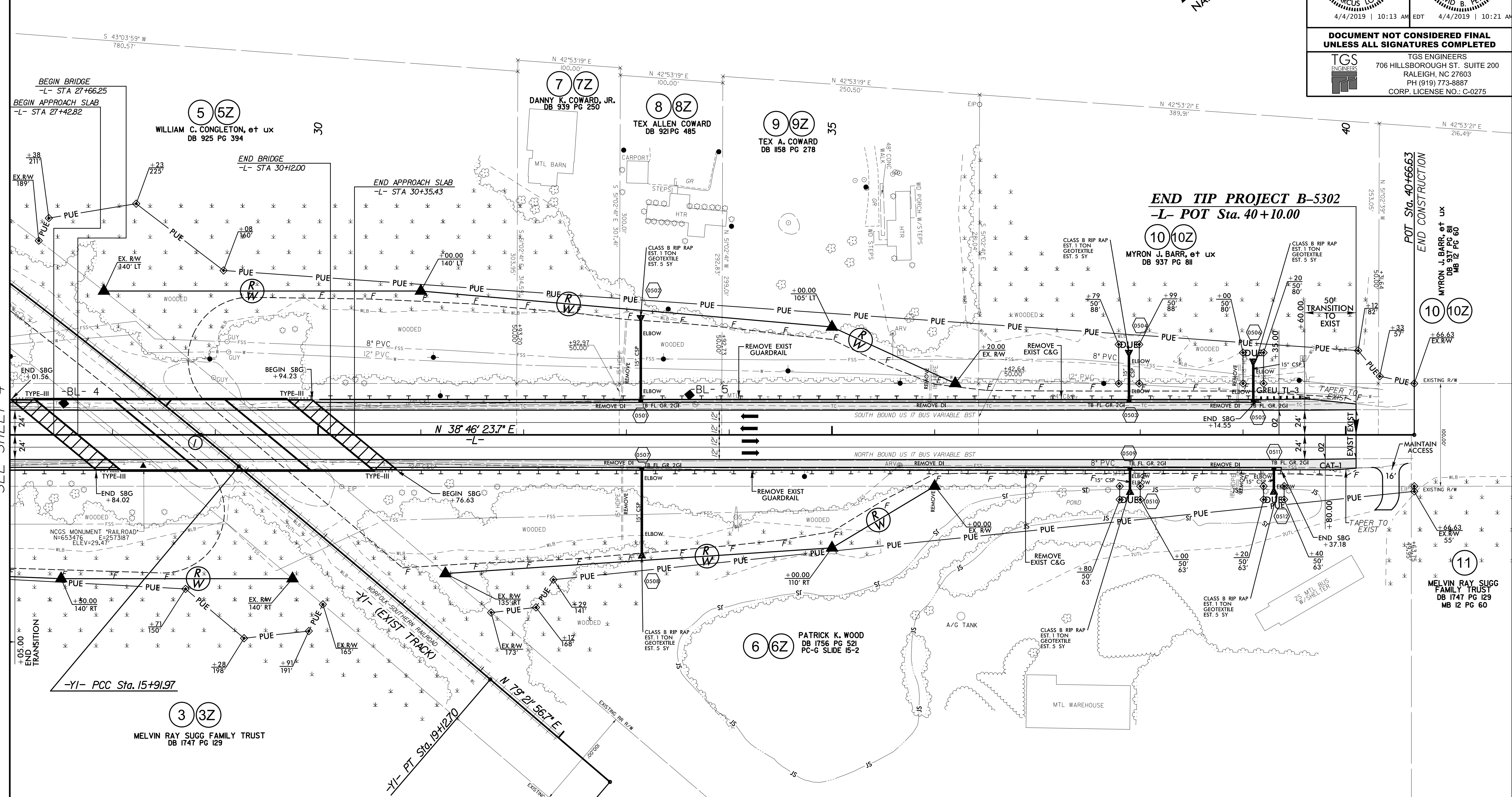
| | | | |
|--|--|--|--|
| PROJECT REFERENCE NO. B-5302 | | SHEET NO. 5 | |
| RW SHEET NO. | | | |
| ROADWAY DESIGN ENGINEER | | HYDRAULICS ENGINEER | |
|  WILLIAM C. CONGLETON, JR. DB 925 PG 394 | |  MYRON J. BARR, et ux DB 937 PG 811 | |
| 4/4/2019 10:13 AM EDT | | 4/4/2019 10:21 AM EDT | |
| DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED | | | |
|  TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275 | | | |



| -YI- (EXIST TRACK) | |
|---|--|
| PI Sta 12+96.20 Δ = 5' 24" 34.5" (RT) D = 0' 54" 49.8" L = 591.97' T = 296.20' R = 6,269.81' | PI Sta 17+52.33 Δ = 0' 37" 28.5" (RT) D = 0' 11" 41.0" L = 320.73' T = 160.37' R = 29,422.30' |

① -L- POT Sta. 28+85.96 = -YI- POC Sta. 15+43.96

MATCHLINE -L- STA. 27+00.00 SEE SHEET 4



 BRIDGE APPROACH SLAB

FOR -L- PROFILE SEE SHEET 6

FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-43

REVISIONS

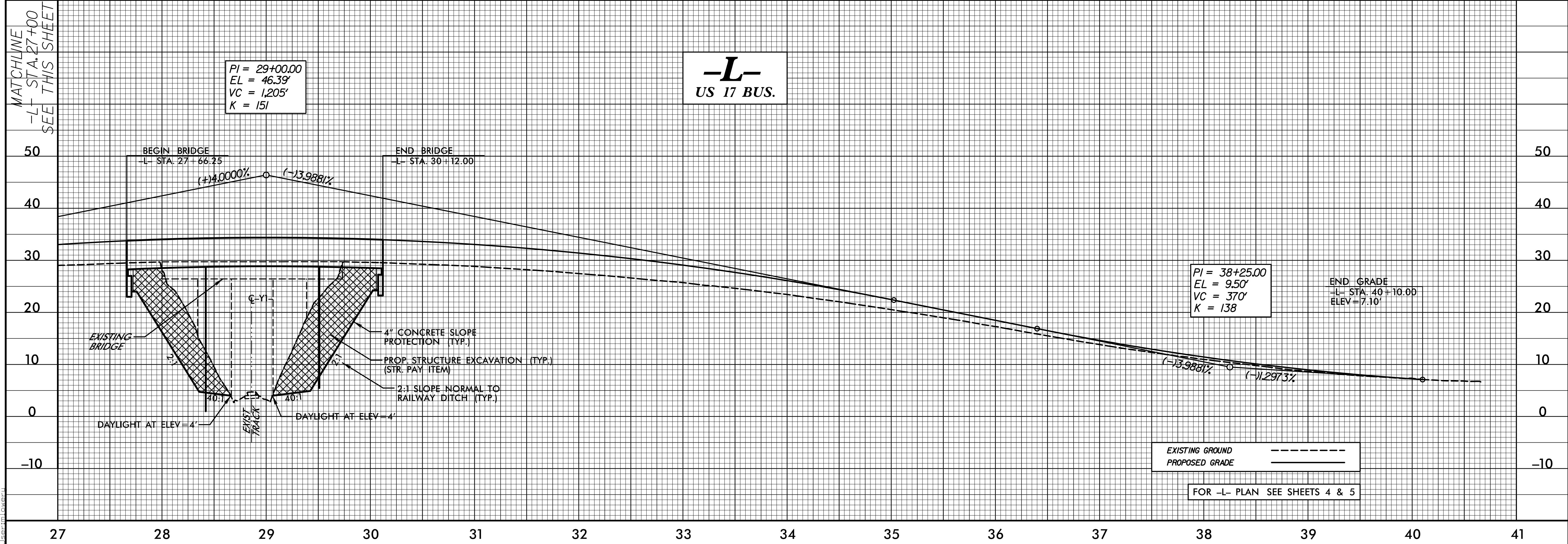
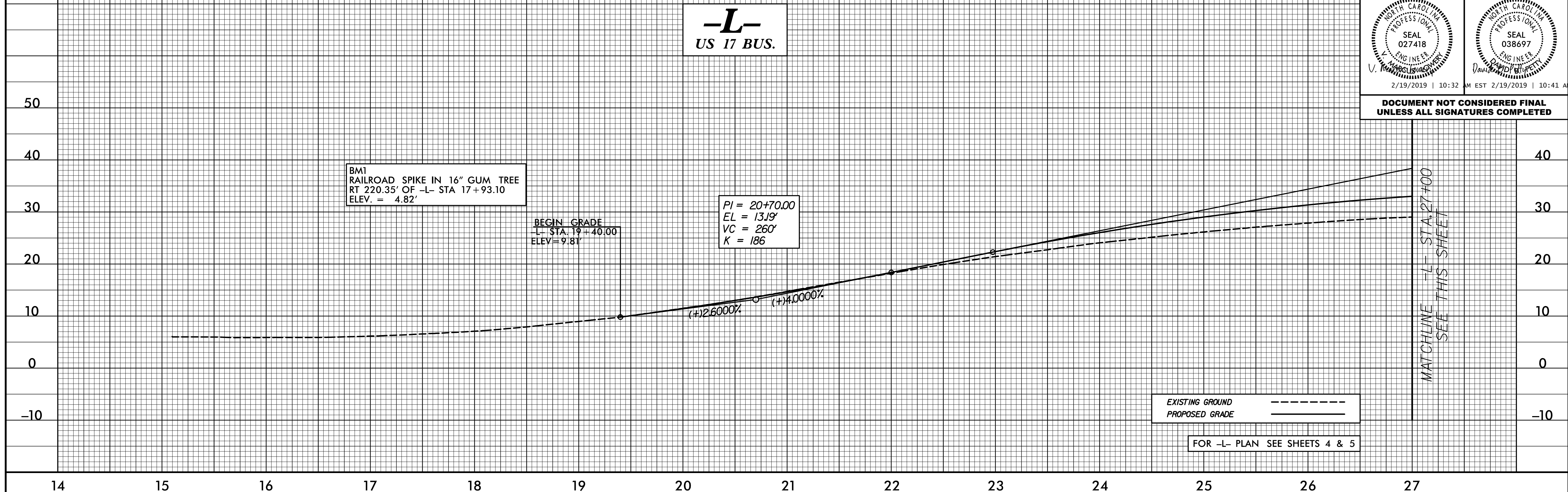
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5/28/19

TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

| | |
|---|-------------------------|
| PROJECT REFERENCE NO. B-5302 | SHEET NO. 6 |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |
| 2/19/2019 10:32 AM EST 2/19/2019 10:41 AM EST | |

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



2/14/2019
\\srm\l\B-5302\Roadway\Proj\B5302_rdy.plt.dgn
User:cm.lawer