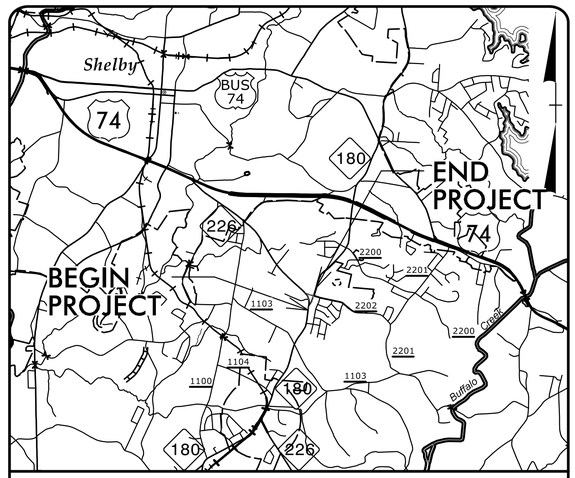
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09/08/99

TIP PROJECT: W-5712A

CONTRACT: DL00350

See Sheet 1A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5712A	1	

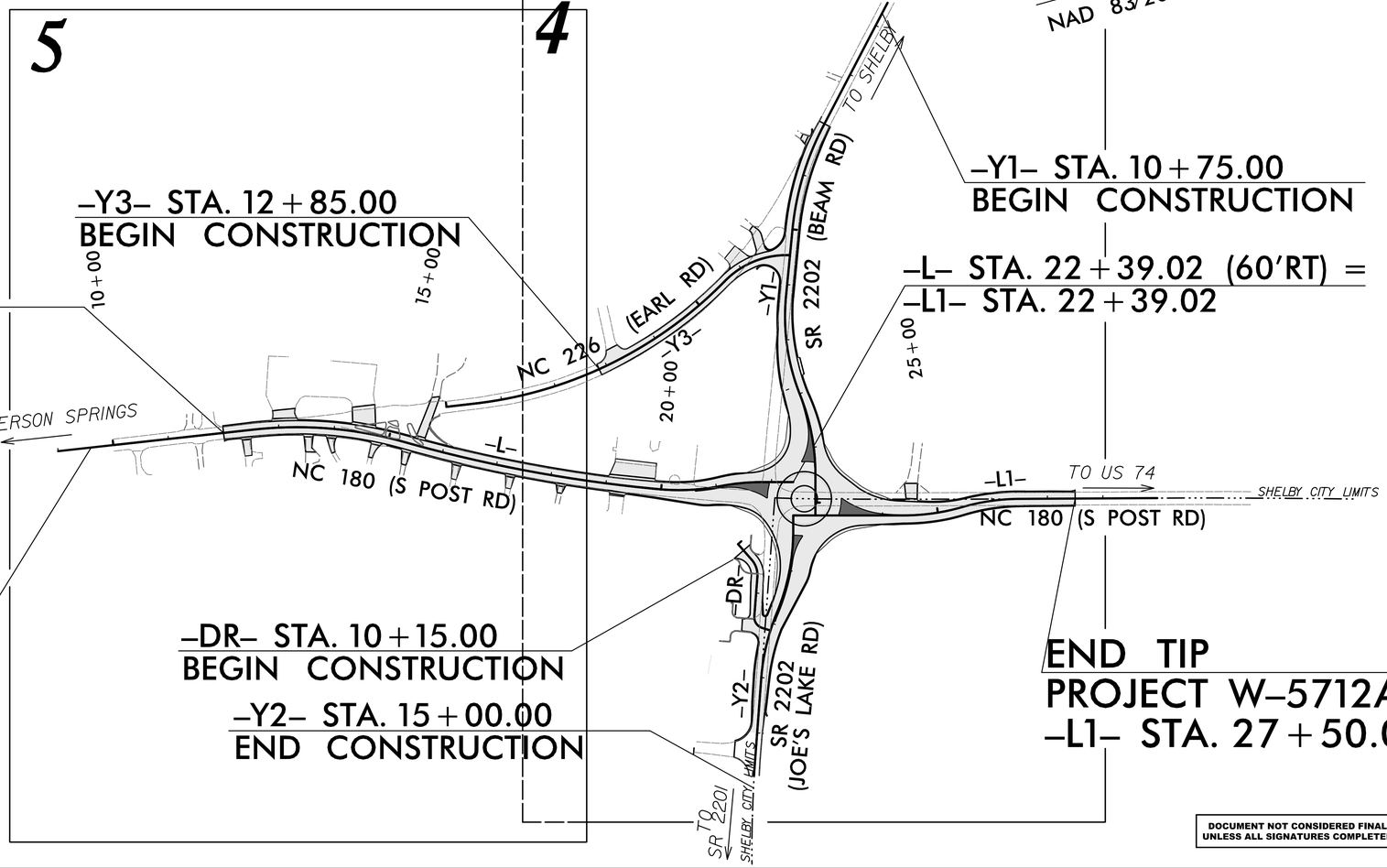
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44858.1.1	HSIP-0180(006)	PE
44858.2.1	HSIP-0180(006)	ROW
44858.3.1	HSIP-0180(006)	CONST.

CLEVELAND COUNTY

LOCATION: NC 180 (S. POST RD), NC 226 (EARL RD) AND SR 2202 (JOE'S LAKE RD) INTERSECTION IMPROVEMENTS

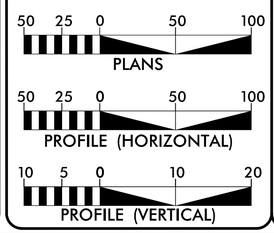
TYPE OF WORK: GRADING, PAVING, AND DRAINAGE

NAD 83/2001



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2016 = 13,500
ADT 2040 = 18,600
K = 8 %
D = 60 %
T = 4 % *
V = 50 MPH
* TTST = 1% DUAL = 3%
FUNC CLASS = MINOR ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT W-5712A = 0.294 MILES
TOTAL LENGTH TIP PROJECT W-5712A = 0.294 MILES

NCDOT CONTACT: BRYAN SOWELL

PLANS PREPARED BY:	*PLANS PREPARED FOR:*
TGS ENGINEERS 201 W MARION ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	NORTH CAROLINA DEPARTMENT OF TRANSPORATION DIVISION 12 1710 E. MARION ST Shelby, NC 28151
RIGHT OF WAY DATE: NOVEMBER 1, 2017	JIMMY L. TERRY, PE *PROJECT ENGINEER*
LETTING DATE: MAY 13, 2025	SANDRA G. MELVIN *PROJECT DESIGN ENGINEER*
2024 STANDARD SPECIFICATIONS	

HYDRAULICS ENGINEER

1/30/2025

Signed by: Benjamin J. Henegar P.E.

SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 044158 ENGINEER BENJAMIN J HENEGAR

ROADWAY DESIGN ENGINEER

1/30/2025

DocuSigned by: Jimmy Terry P.E.

SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

1/29/2025
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8/17/99

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35018 JIMMY L. TERRY ENGINEER

1/30/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	ROADWAY DETAIL - ROUNDABOUT LAYOUT
2C-1 THRU 2C-2	SPECIAL DETAILS - METHOD OF PIPE INSTALLATION
3B-1	EARTHWORK SUMMARY, ASPHALT PAVEMENT BREAKING AND REMOVAL SUMMARY
3D-1 THRU 3D-3	DRAINAGE SUMMARIES
4 THRU 5	PLAN SHEETS
6 THRU 7	PROFILE SHEETS
RW-01 THRU RW-05	SURVEY CONTROL AND RIGHT OF WAY CONTROL SHEETS
TMP-1 THRU TMP-6	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-7	SIGNING PLANS
UC-1 THRU UC-10	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX SHEET
X-1A	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-16	CROSS-SECTIONS

GENERAL NOTES

GENERAL NOTES: 2024 SPECIFICATIONS
EFFECTIVE: 01-16-2024
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

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.

SUBSURFACE DRAINS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

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.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE AT&T, DUKE ENERGY, BROADPLEX, SPECTRUM, CLEVELAND COUNTY WATER, AND CITY OF SHELBY GAS/POWER/WATER/SEWER.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

STANDARD DRAWINGS

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 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
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
	DIVISION 3 - PIPE CULVERTS
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.10	Driveway Pipe Construction
	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
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.52	Precast Manhole - 4', 5' and 6' Diameter 12" thru 48" Pipe
840.53	Precast Manhole with Masonry Base - 12" thru 42" Pipe
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
852.01	Concrete Islands
852.05	Median Curb for Catch Basin - for Use with 1'-6" Curb and Gutter
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

1/29/2025
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5/20/24

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	1B

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
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- 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
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:

- Standard Gauge
- RR Signal Milepost
- 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
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage/Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- 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
- Bridge Wing Wall, Head Wall and End Wall

MINOR:
- Head and End Wall
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer

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
- H-Frame Pole
- U/G Power Line Test Hole (SUE - LOS A)*
- U/G Power Line (SUE - LOS B)*
- U/G Power Line (SUE - LOS C)*
- U/G Power Line (SUE - LOS D)*

TELEPHONE:
- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Test Hole (SUE - LOS A)*
- U/G Telephone Cable (SUE - LOS B)*
- U/G Telephone Cable (SUE - LOS C)*
- U/G Telephone Cable (SUE - LOS D)*
- U/G Telephone Conduit (SUE - LOS B)*
- U/G Telephone Conduit (SUE - LOS C)*
- U/G Telephone Conduit (SUE - LOS D)*
- U/G Fiber Optics Cable (SUE - LOS B)*
- U/G Fiber Optics Cable (SUE - LOS C)*
- U/G Fiber Optics Cable (SUE - LOS D)*

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)*
- U/G Water Line (SUE - LOS C)*
- U/G Water Line (SUE - LOS D)*
- Above Ground Water Line

TV:
- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- U/G TV Test Hole (SUE - LOS A)*
- U/G TV Cable (SUE - LOS B)*
- U/G TV Cable (SUE - LOS C)*
- U/G TV Cable (SUE - LOS D)*
- U/G Fiber Optic Cable (SUE - LOS B)*
- U/G Fiber Optic Cable (SUE - LOS C)*
- U/G Fiber Optic Cable (SUE - LOS D)*

GAS:
- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE - LOS A)*
- U/G Gas Line (SUE - LOS B)*
- U/G Gas Line (SUE - LOS C)*
- U/G Gas Line (SUE - LOS D)*
- Above Ground Gas Line

SANITARY SEWER:
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer
- SS Force Main Line Test Hole (SUE - LOS A)*
- SS Force Main Line (SUE - LOS B)*
- SS Force Main Line (SUE - LOS C)*
- SS Force Main Line (SUE - LOS D)*

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

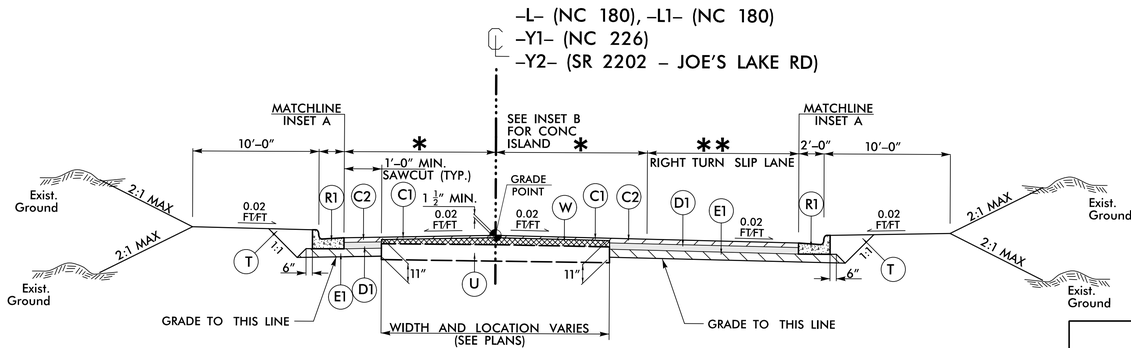
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FINAL PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	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.
C3	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	8" AGGREGATE BASE COURSE
P1	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	1'-6" CONCRETE CURB AND GUTTER.
R3	4" CONCRETE ISLAND COVER
R4	9" X 18" CONCRETE CURB.
R5	12" CONCRETE TRUCK APRON
R6	5" MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	INCIDENTAL MILLING, SEE SHEET 2A-2 FOR DETAIL
W	WEDGING EXISTING PAVEMENT, SEE SHEET 2A-2 FOR DETAILS

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



NOTE: USE FULL DEPTH PAVEMENT AS FOLLOWS:
–Y1– STA. 17+82.14 TO –Y1– STA. 19+26.91
–Y2– STA. 10+34.69 TO –Y2– STA. 11+65.05

TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

*	STA. TO STA.
UNIFORM TAPER EXISTING TO 12'–0"	–L– STA. 12+00.00 TO –L– STA. 12+54.51 –L1– STA. 27+00.00 TO –L1– STA. 27+50.00 –Y1– STA. 13+00.00 TO –Y1– STA. 13+50.00 –Y2– STA. 13+44.19 TO –Y2– STA. 14+00.00
12'–0"	–L– STA. 12+54.51 TO –L– STA. 19+12.70 –L1– STA. 26+70.00 TO –L1– STA. 27+00.00 –Y1– STA. 13+50.00 TO –Y1– STA. 16+30.00
12'–0" TO 14'–0"	–L– STA. 19+12.70 TO –L– STA. 20+62.70 LT –L1– STA. 25+20.00 TO –L1– STA. 26+70.0 –Y1– STA. 16+30.00 TO –Y1– STA. 17+30.00 –Y2– STA. 11+94.19 TO –Y2– STA. 13+44.19 RT
12'–0" TO 18'–0"	–L– STA. 19+12.70 TO –L– STA. 20+62.70 RT –Y2– STA. 11+94.19 TO –Y2– STA. 13+44.19 LT
VARIES (SEE PLAN)	–L– STA. 20+62.70 TO –L– STA. 21+94.02 –L1– STA. 23+24.02 TO –L1– STA. 25+20.00 –Y1– STA. 17+30.00 TO –Y1– STA. 19+26.91 –Y2– STA. 10+34.69 TO –Y2– STA. 11+94.19

NOTE: USE MIRRORED SECTION (SLIP LANE ON LEFT SIDE) FOR LINE –L1– AND LINE –Y2–

**	STA. TO STA.
0' TO 12'–0"	–L– STA. 19+87.00 TO –L– STA. 20+88.51 RT –Y1– STA. 16+80.00 TO –Y1– STA. 17+80.00 RT –L1– STA. 24+30.26 TO –L1– STA 25+55.80 LT –Y2– STA. 11+15.62 TO –Y2– STA. 12+05.09 LT
12'–0" TO 16'–0"	–L– STA. 20+88.51 TO –L– STA. 21+50.35 RT –Y1– STA. 17+80.00 TO –Y1– STA. 18+24.06 RT –L1– STA. 23+56.91 TO –L1– STA 24+30.26 LT
12'–0" TO 18'–0"	–Y2– STA. 10+40.49 TO –Y2– STA 11+15.62 LT
16'–0"	–L– STA. 21+50.35 TO –L– STA. 21+73.95 RT –Y1– STA. 18+24.06 TO –Y1– STA. 19+06.00 RT –L1– STA. 23+31.48 TO –L1– STA 23+56.91 LT
16'–0" TO 0'	–L– STA. 21+73.95 RT TO –Y2– STA. 11+22.84 RT –Y1– STA. 19+06.00 RT TO –L– STA. 21+64.25 LT –Y1– STA. 18+95.98 LT TO –L1– STA 23+31.38 LT
18'–0" TO 0'	–Y2– STA. 10+40.49 LT TO –L1– STA. 23+62.35 RT

PROJECT REFERENCE NO.	SHEET NO.
W–5712A	2A–1

ROADWAY DESIGN ENGINEER

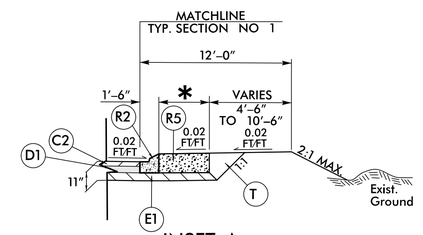
NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY
1/30/2025

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043888 ENGINEER BRYAN K.D. SOWERS
1/30/2025

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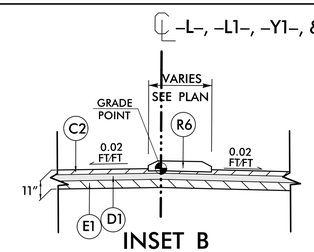
TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275



INSET A

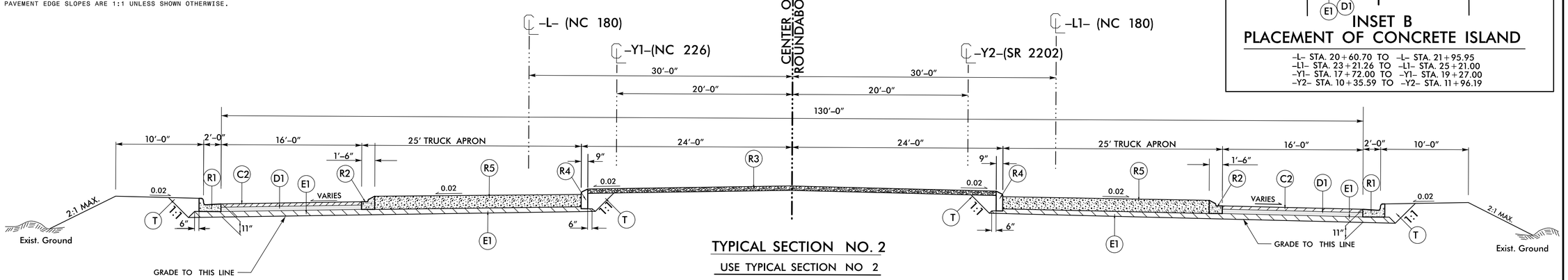
USE INSET A AS FOLLOWS:

*	STA. TO STA.
0' TO 4'–0"	–L– STA. 21+19.09 TO –L– STA. 21+51.40 RT –L1– STA. 23+52.21 TO –L1– STA. 23+99.79 RT –L1– STA. 23+93.64 TO –L1– STA. 24+19.05 LT –Y1– STA. 18+95.98 TO –Y1– STA. 19+13.28 LT –Y2– STA. 10+45.77 TO –Y2– STA. 10+65.23 LT –Y2– STA. 11+08.50 TO –Y2– STA. 11+48.32 RT
4'–0"	–L– STA. 21+51.40 RT TO –Y2– STA. 11+08.50 RT –Y1– STA. 19+13.28 LT TO –L1– STA. 23+93.64 LT –Y2– STA. 10+45.77 LT TO –L1– STA. 23+52.21 RT
0' TO 6'–0"	–L– STA. 21+56.00 TO –L– STA. 21+86.34 LT –Y1– STA. 18+29.94 TO –Y1– STA. 18+73.76 RT
6'–0"	–L– STA. 21+86.34 LT TO –Y1– STA. 18+73.76 RT



INSET B
PLACEMENT OF CONCRETE ISLAND

–L– STA. 20+60.70 TO –L– STA. 21+95.95
–L1– STA. 23+21.26 TO –L1– STA. 25+21.00
–Y1– STA. 17+72.00 TO –Y1– STA. 19+27.00
–Y2– STA. 10+35.59 TO –Y2– STA. 11+96.19



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO 2

–L– STA 21+94.02 TO –L– STA. 22+39.02
–L1– STA 22+39.02 TO –L1– STA. 23+24.02
–Y1– STA. 19+26.91 TO –Y1– STA. 20+23.00
–Y2– STA. 10+00.00 TO –Y2– STA. 10+34.69

5/28/2025
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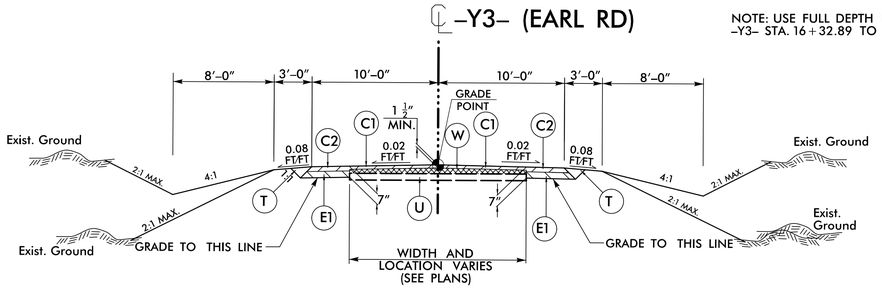
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6/2/99

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C
C3	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C
J1	8" AGGREGATE BASE COURSE
P1	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YD.
R2	1'-6" CONCRETE CURB AND GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	INCIDENTAL MILLING, SEE THIS SHEET FOR DETAIL
W	WEDGING EXISTING PAVEMENT, SEE THIS SHEET FOR DETAILS

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

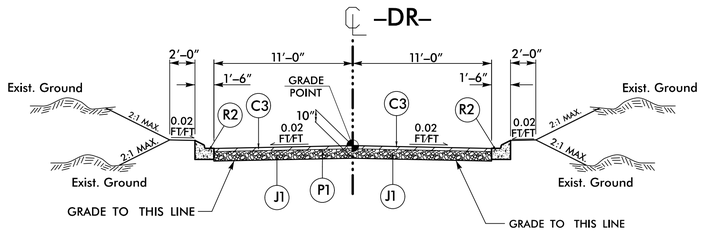


NOTE: USE FULL DEPTH PAVEMENT AS FOLLOWS:
–Y3– STA. 16+32.89 TO –Y3– STA. 16+81.13

TYPICAL SECTION NO. 3

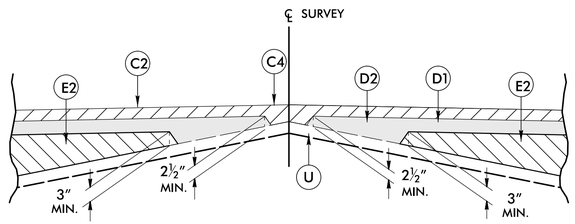
USE TYPICAL SECTION NO. 3
–Y3– STA. 13+48.80 TO –Y3– STA. 16+81.13

NOTE: TRANSITION BETWEEN TYP. SECT. NO. 3 AND EXISTING AS FOLLOWS:
–Y3– STA. 12+85.00 TO –Y3– STA. 13+48.80

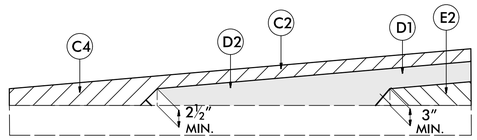


TYPICAL SECTION NO. 4

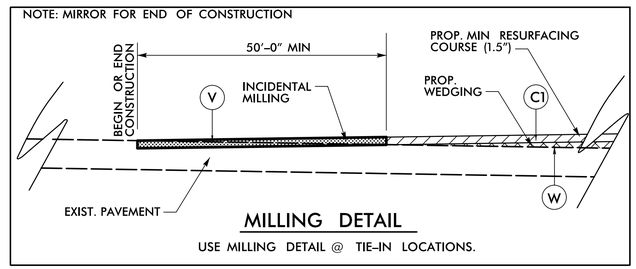
USE TYPICAL SECTION NO. 4
–DR– STA. 10+15.00 TO –DR– STA. 11+71.06



Detail Showing Method of Wedging



Wedging Detail For Resurfacing



MILLING DETAIL

USE MILLING DETAIL @ TIE–IN LOCATIONS.

PROJECT REFERENCE NO.	SHEET NO.
W–5712A	2A–2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

1/30/2025

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043888 ENGINEER BRYAN K.D. SOMERLOT

1/30/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

V28/2025
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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35018 ENGINEER JIMMY L. TERRY

1/30/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

8/17/99

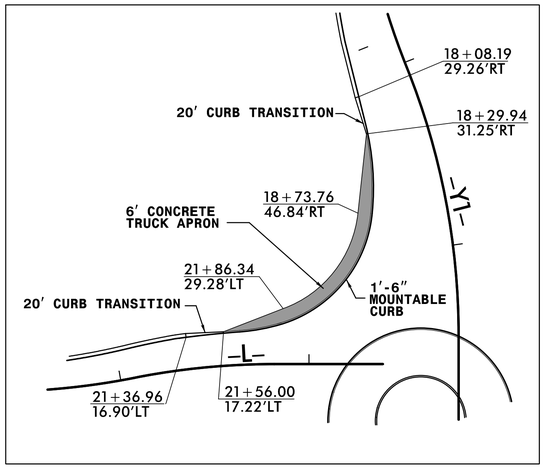
REVISIONS

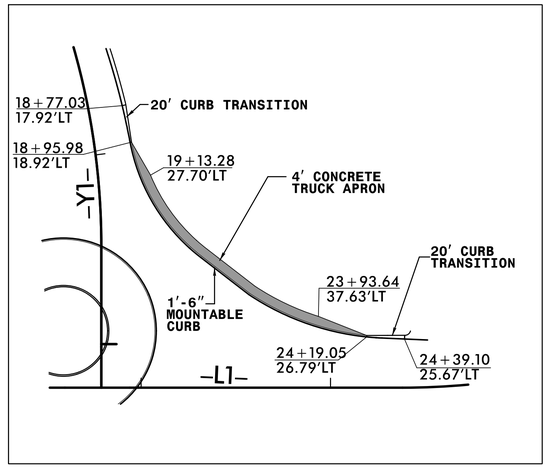
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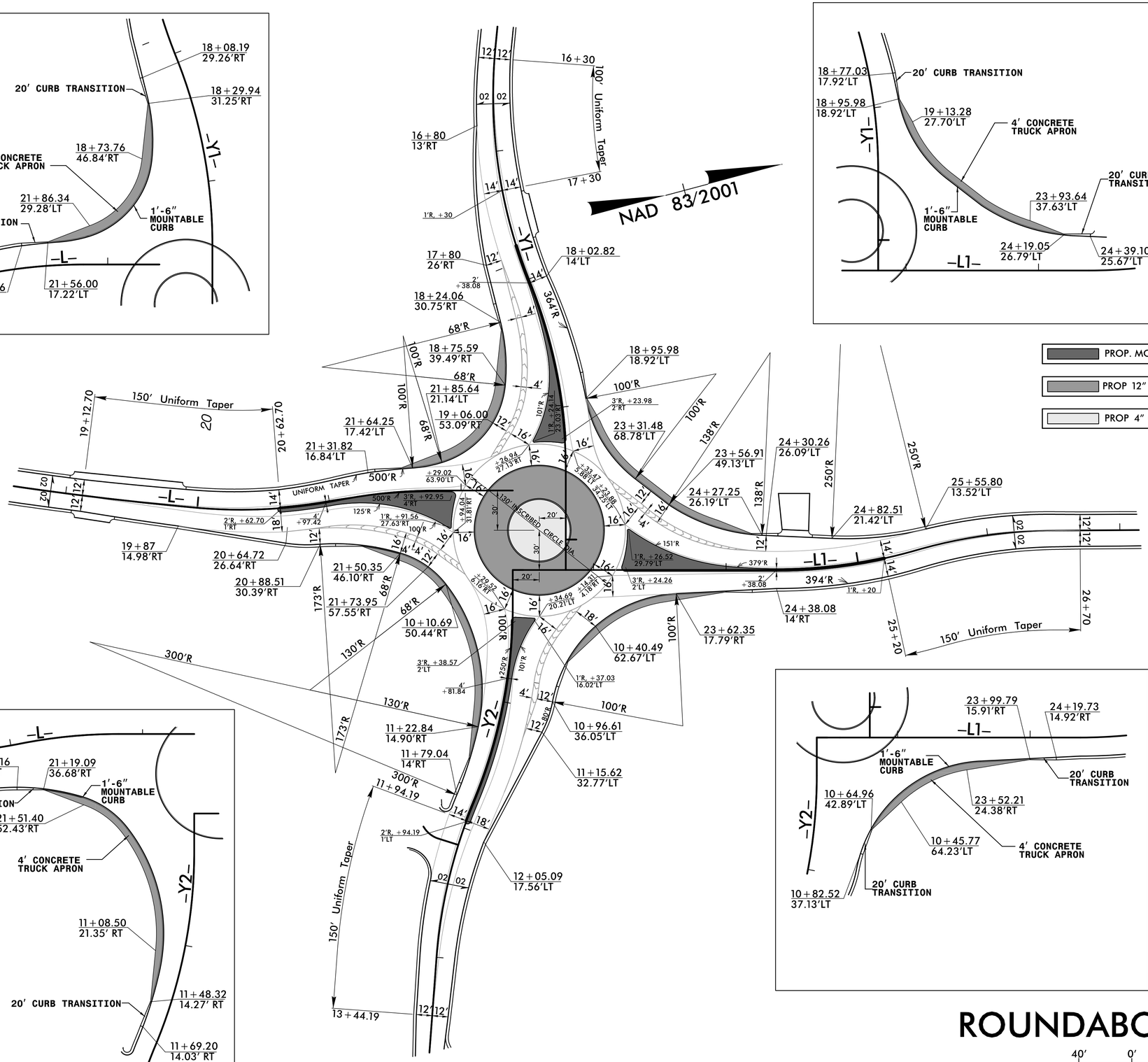
PROP. MONOLITHIC CONCRETE ISLAND (SURFACE MOUNTED)

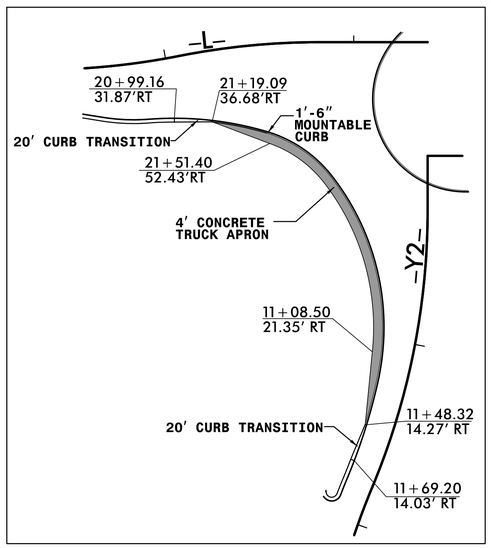
PROP 12" CONCRETE TRUCK APRON

PROP 4" CONCRETE ISLAND COVER









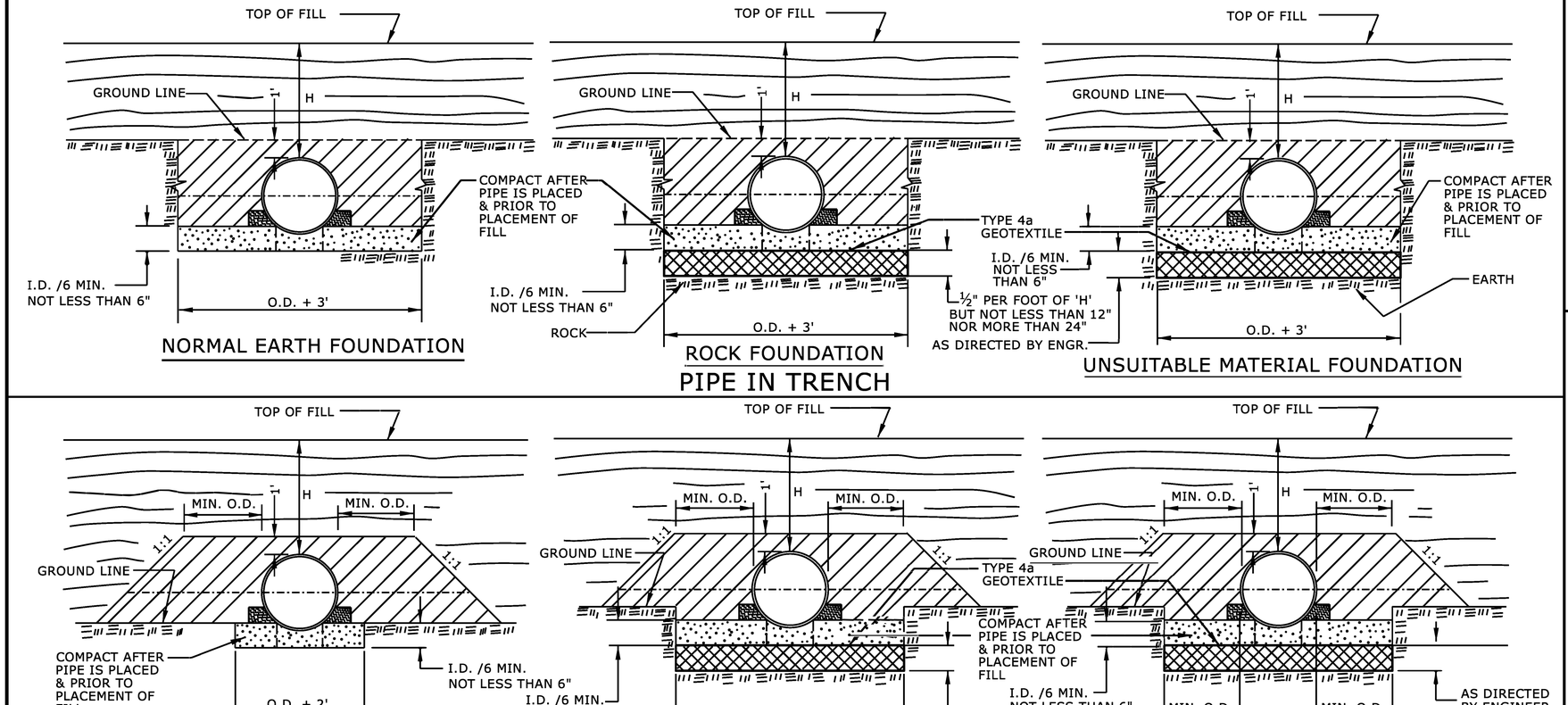
ROUNDABOUT LAYOUT

40' 0' 40' 80'
20'

1/29/2025
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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	2C-1



GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

SHEET 1 OF 2

300.01



1/30/2025

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CONTRACTS STANDARDS AND DEVELOPMENT UNIT

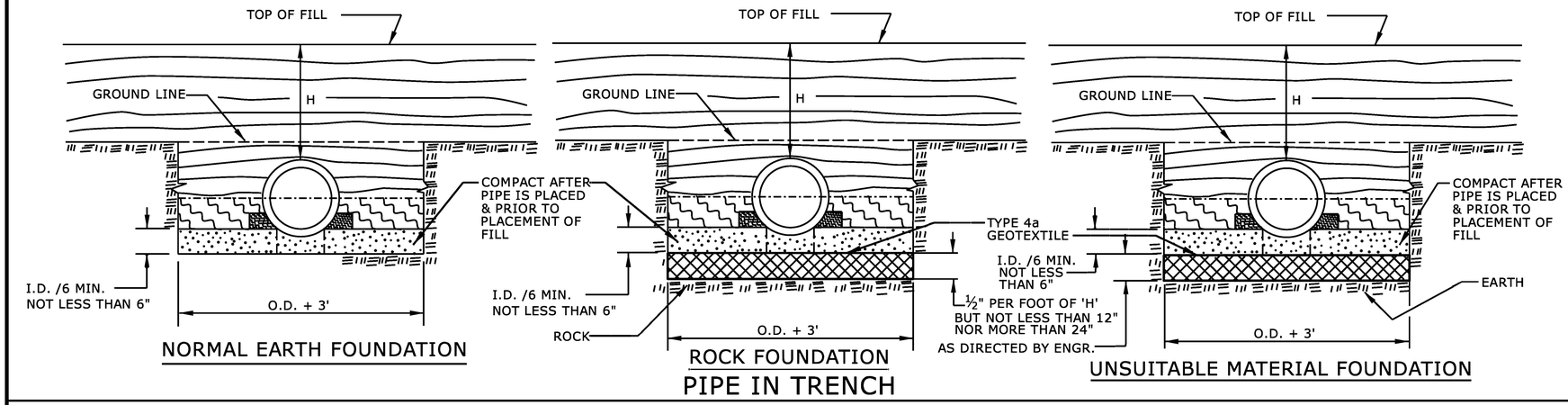
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

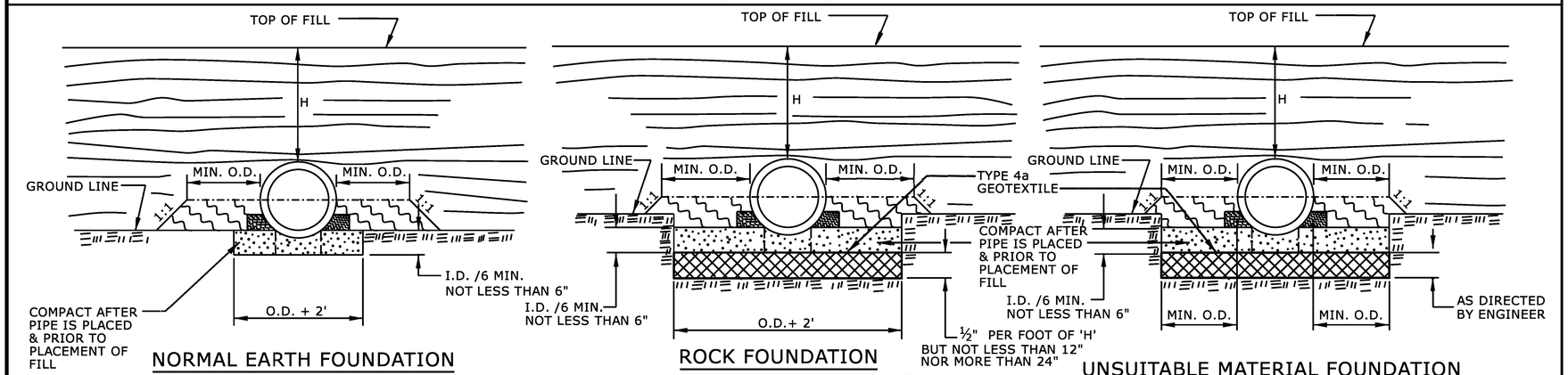
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	2C-2



PIPE IN TRENCH



PIPE ABOVE GROUND

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

RIGID PIPE



SHEET 2 OF 2

300.01

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

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MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

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COMPUTED BY: SGM DATE: 11/02/2018
CHECKED BY: JLT DATE: 1/27/2025

PROJECT NO.	SHEET NO.
W-5712A	3B-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- 12+00.00	-L- 22+01.35	310	1,576	1,266	
-Y1- 13+00.00	-Y1- 20+23.00	188	3,006	2,818	
-Y2- 10+00.00	-Y2- 14+00.00	137	912	775	
-Y3- 12+85.00	-Y3- 16+81.13	123	82		41
-DR- 10+15.00	-DR- 11+71.06	144	30		114
SUBTOTAL 1:		902	5,606	4,859	155
-L1- 23+16.68	-L1- 27+50.00	97	854	757	
SUBTOTAL 2:		97	854	757	
TOTALS:		999	6,460	5,616	155
LOSS DUE TO CLEARINNG & GRUBBING		-200		200	
WASTE IN LIEU OF BORROW				-155	-155
PROJEECT TOTALS:		799	6,460	5,661	0
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				283	
GRAND TOTALS:		799	6,460	5,944	
SAY:		**900**		**6,200**	

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum price for "Grading".

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
Earl St	-L- 12+00	-Y3- 12+85		1666.5			
Earl St	-Y3- 15+46	-Y1- 13+00		543.68			
Beam St	-Y1- 16+68	-Y1- 19+05	RT	373.77			
Joe's Lake Rd	-Y2- 10+05	-Y2- 11+93	RT	284.97			
NC 180	-L- 22+10	-L1- 23+08			259.88		
Temporay Pavement							
Beam Rd				183.62			
Joe's Lake Rd				250.71			
			TOTAL	3,303.25	259.88		
			SAY	**3,400**	**300**		

EST. DDE = 155 CUBIC YARDS
TOTAL SHALLOW UNDERCUT = 500 CUBIC YARDS
CLASS IV SUBGRADE STABILIZATION = 1,000 TONS
ESTIMATED 500 CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER.

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS							END SECTION		IMPACT ATTENUATOR TYPE 350		SINGLE FACED CONCRETE	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING	REMARKS
				STRAIGHT	CURVED	FACED	END	END			END	END	END	END	MOD	XI	350	M-350	XIII	CAT-1	MOD			G	NG				
-Y3-	12+85		CL	25.00																		2							
			TOTAL	**25**																		**2**							

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TGSBEN-LAPTOP

COMPUTED BY: BAC DATE: 10/19/17

CHECKED BY: BJH DATE: 1/28/25

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
W-5712A	3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| LINE & STATION | OFFSET | | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | MINIMUM REQUIRED SLOPE % | R.C. PIPE CLASS III 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R.C. PIPE CLASS IV 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R.C. PIPE CLASS V 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 15" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS CY | DRAINAGE STRUCTURE MASONRY CY | QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) 0' THRU 5' EACH | A 5' THRU 10' LIN. FT. | B 10' AND ABOVE LIN. FT. | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E | F | G | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06 | C.B. STD. 852.05 | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | CONCRETE BRIDGE APPROACH D.I. STD. 840.13 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | DRIVEWAY D.I. STD. 840.30 | FRAME W/ GRATE FOR DRIVEWAY STD. 840.30 | J.B. STD. 840.31 OR STD. 840.32 | ANGLED VANE GRATES AND FRAMES STD. 840.33 | T.B.J.B. STD. 840.34 | T.B.D.I. STD. 840.35 | T.B.D.I. FOR STEEL GRATES STD. 840.36 | STEEL FRAME WITH TWO GRATES STD. 840.37 | TEMP STEEL PLATE COVER MASONRY DRAINAGE | SPRING BOX STD. 840.41 | | M.H. STD. 840.51, STD. 840.52, OR STD. 840.53 | M.H. FRAME AND COVER STD. 840.54 | CONVERT EXISTING C.B. TO J.B. | CONVERT EXISTING C.B. TO D.I. | CONVERT EXISTING D.I. TO J.B. | CONVERT EXISTING J.B. TO D.I. | ADJUST C.B. | ADJUST D.I. | MODIFIED CONC. FLUME | PREFORMED SCOUR HOLE (PER EACH) | ENERGY DISSIPATION BASIN | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

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TGSBEN-LAPTOP

COMPUTED BY: BAC DATE: 10/19/17

CHECKED BY: BJH DATE: 1/28/25

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
W-5712A	3D-2

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| LINE & STATION | OFFSET | | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | MINIMUM REQUIRED SLOPE % | R.C. PIPE CLASS III SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R.C. PIPE CLASS IV SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R.C. PIPE CLASS V SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 15" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS CY | DRAINAGE STRUCTURE MASONRY CY | QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) 0' THRU 5' EACH | A 5' THRU 10' LIN. FT. | B 10' AND ABOVE LIN. FT. | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E | F | G | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06 | C.B. STD. 852.05 | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | CONCRETE BRIDGE APPROACH D.I. STD. 840.13 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | DRIVEWAY D.I. STD. 840.30 | FRAME W/ GRATE FOR DRIVEWAY STD. 840.30 | J.B. STD. 840.31 OR STD. 840.32 | ANGLED VANE GRATES AND FRAMES STD. 840.33 | T.B.J.B. STD. 840.34 | T.B.D.I. STD. 840.35 | T.B.D.I. FOR STEEL GRATES STD. 840.36 | STEEL FRAME WITH TWO GRATES STD. 840.37 | TEMP STEEL PLATE COVER MASONRY DRAINAGE | SPRING BOX STD. 840.41 | M.H. STD. 840.51, STD. 840.52, OR STD. 840.53 | M.H. FRAME AND COVER STD. 840.54 | CONVERT EXISTING C.B. TO J.B. | CONVERT EXISTING C.B. TO D.I. | CONVERT EXISTING D.I. TO J.B. | CONVERT EXISTING J.B. TO D.I. | ADJUST C.B. | ADJUST D.I. | MODIFIED CONC. FLUME | PREFORMED SCOUR HOLE (PER EACH) | ENERGY DISSIPATION BASIN | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

TGSBEN-LAPTOP

COMPUTED BY: BAC DATE: 10/19/17

CHECKED BY: BJH DATE: 1/28/25

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
W-5712A	3D-3

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| LINE & STATION | OFFSET | | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | MINIMUM REQUIRED SLOPE % | R. C. PIPE CLASS III SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS IV SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | R. C. PIPE CLASS V SIZE 12 | 15 | 18 | 24 | 30 | 36 | 42 | 48 | 15" SIDE DRAIN PIPE | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS CY | DRAINAGE STRUCTURE MASONRY CY | QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B) 0' THRU 5' EACH | A 5' THRU 10' LIN. FT. | B 10' AND ABOVE LIN. FT. | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E | F | G | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06 | C.B. STD. 852.05 | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | CONCRETE BRIDGE APPROACH D.I. STD. 840.13 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 | DRIVEWAY D.I. STD. 840.30 | FRAME W/ GRATE FOR DRIVEWAY STD. 840.30 | J.B. STD. 840.31 OR STD. 840.32 | ANGLED VANE GRATES AND FRAMES STD. 840.33 | T.B.J.B. STD. 840.34 | T.B.D.I. STD. 840.35 | T.B.D.I. FOR STEEL GRATES STD. 840.36 | STEEL FRAME WITH TWO GRATES STD. 840.37 | TEMP STEEL PLATE COVER MASONRY DRAINAGE SPRING BOX STD. 840.41 | M.H. STD. 840.51, STD. 840.52, OR STD. 840.53 | M.H. FRAME AND COVER STD. 840.54 | CONVERT EXISTING C.B. TO J.B. | CONVERT EXISTING C.B. TO D.I. | CONVERT EXISTING D.I. TO J.B. | CONVERT EXISTING J.B. TO D.I. | ADJUST C.B. | ADJUST D.I. | MODIFIED CONC. FLUME | PREFORMED SCOUR HOLE (PER EACH) | ENERGY DISSIPATION BASIN | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

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8/17/99

REVISIONS

END TIP PROJECT W-5712A
-L1- STA 27+50.00

-L- CURVE DATA

PI Sta 17+64.68	PI Sta 20+53.36	PI Sta 21+44.62
△ = 10° 33' 55.1" (LT)	△ = 16° 23' 01.3" (LT)	△ = 11° 12' 49.9" (RT)
D = 2° 15' 04.7"	D = 15° 04' 40.2"	D = 15° 04' 40.2"
L = 469.30'	L = 108.66'	L = 74.37'
T = 235.32'	T = 54.70'	T = 37.31'
R = 2,545.00'	R = 380.00'	R = 380.00'
SE = NC	SE = NC	SE = NC
DS = 45 MPH	DS = 30 MPH	DS = 30 MPH
	① -L-PT 21+81.69	

-LI- CURVE DATA

PI Sta 24+91.77	PI Sta 25+97.29
△ = 16° 04' 59.3" (LT)	△ = 15° 44' 41.5" (RT)
D = 15° 04' 40.2"	D = 15° 04' 40.2"
L = 106.67'	L = 104.42'
T = 53.69'	T = 52.54'
R = 380.00'	R = 380.00'
SE = NC	SE = NC
DS = 30 MPH	DS = 30 MPH

-Y1- CURVE DATA

PI Sta 14+03.93	PI Sta 17+13.59	PI Sta 18+76.30
△ = 21° 58' 49.5" (LT)	△ = 27° 26' 44.6" (LT)	△ = 21° 53' 18.4" (RT)
D = 11° 14' 04.1"	D = 15° 04' 40.2"	D = 15° 04' 40.2"
L = 195.65'	L = 182.03'	L = 145.17'
T = 99.04'	T = 92.79'	T = 73.48'
R = 510.00'	R = 380.00'	R = 380.00'
SE = NC	SE = NC	SE = NC
DS = 35 MPH	DS = 30 MPH	DS = 30 MPH
		② -Y1-PT 19+47.99

-Y2- CURVE DATA

PI Sta 11+04.85	PI Sta 12+40.35	PI Sta 16+20.48
△ = 22° 38' 55.7" (RT)	△ = 18° 21' 06.5" (LT)	△ = 9° 39' 38.0" (LT)
D = 15° 04' 40.2"	D = 15° 04' 40.2"	D = 2° 59' 31.0"
L = 150.21'	L = 121.71'	L = 322.89'
T = 76.10'	T = 61.38'	T = 161.83'
R = 380.00'	R = 380.00'	R = 1,915.00'
SE = NC	SE = NC	
DS = 30 MPH	DS = 30 MPH	
③ -Y2-PC 10+28.75	③ -Y2-PRC 11+78.97	
④ -Y2-PRC 11+78.97		

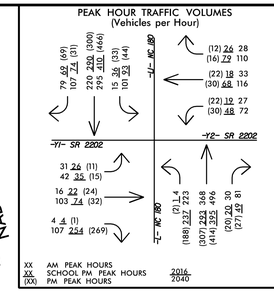
-Y3- CURVE DATA

PI Sta 13+18.48	PI Sta 16+32.35
△ = 38° 59' 33.2" (LT)	△ = 47° 59' 38.9" (RT)
D = 7° 38' 22.0"	D = 36° 57' 54.1"
L = 510.41'	L = 129.84'
T = 265.53'	T = 69.00'
R = 750.00'	R = 155.00'
SE = 08	

-DR- CURVE DATA

PI Sta 10+54.90	PI Sta 11+58.17
△ = 45° 41' 34.9" (RT)	△ = 76° 55' 27.1" (LT)
D = 136° 25' 06.7"	D = 286° 28' 44.0"
L = 33.49'	L = 26.85'
T = 17.70'	T = 15.89'
R = 42.00'	R = 20.00'
⑧ S 70° 40' 57.6" E	⑤ -DR-PC 11+42.28
	⑥ -DR-PT 11+69.13
	⑦ N 32° 23' 35.3" E

PEAK HOUR TRAFFIC VOLUMES (Vehicles per Hour)



PROJECT REFERENCE NO.	SHEET NO.
W-5712A	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — SEAL 35018 — JIMMY L. TERRY — 1/30/2025

HYDRAULICS ENGINEER — SEAL 044158 — BENJAMIN J. HENSDALE — 1/30/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

-Y1- STA 10+75.00
BEGIN CONSTRUCTION

-Y3- STA 12+85.00
BEGIN CONSTRUCTION

-Y2- STA 15+00.00
END CONSTRUCTION

-DR- STA 10+15.00
BEGIN CONSTRUCTION

N 14° 35' 57.3" E
N 14° 56' 15.2" E
S 75° 03' 44.9" E
S 70° 45' 55.6" E
S 69° 30' 18.7" E
S 47° 31' 29.2" E
N 83° 28' 27.2" E
N 22° 53' 16" E
N 21° 02' 22" E
S 72° 03' 00" E
S 71° 42' 27" E
S 70° 50' 33" E
S 16° 20' 40" W
S 72° 43' 40" E
S 69° 38' 40" E
N 69° 02' 09" W
N 15° 19' 07" E
S 35° 22' 35" W
S 35° 22' 35" W
S 35° 22' 35" W
S 35° 24' 20" W
S 44° 54' 48" W
S 50° 53' 34" W
N 65° 42' 25" W
N 65° 42' 25" W
N 47° 47' 52" W
N 55° 55' 10" W
S 89° 10' 01" E
S 89° 10' 01" E
S 89° 10' 01" E

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

8/17/99

REVISIONS

-L- CURVE DATA	
PI Sta 13+93.65	PI Sta 17+64.68
△ = 22° 01' 30.2" (RT)	△ = 10° 33' 55.1" (LT)
D = 8° 00' 48.2"	D = 2° 15' 04.7"
L = 274.85'	L = 469.30'
T = 139.14'	T = 235.32'
R = 715.00'	R = 2,545.00'
SE = NC	SE = NC
DS = 35 MPH	DS = 45 MPH

-Y3- CURVE DATA
PI Sta 13+18.48
△ = 38° 59' 33.2" (LT)
D = 7° 38' 22.0"
L = 510.41'
T = 265.53'
R = 750.00'
SE = 08

MATCH LINE STA. -L- STA. 18+00.00
MATCH TO SHEET NO. 4

NAD 83/2001

TED K. STROUD
DB 1644 PG 1302

ISRD

N 83°29'55" W
199.73' (REBAR-COR)
199.01' (RW-COR)

S 74°25'22" W
236.64'

-Y3-PC 10+52.94

-Y3-POT 10+00.00

S 13°17'44" W
97.39'

S 80°52'27" W
270.19'

MONA C. MCKEE
ESTATE FILE 07E PG 823
DB 1640 PG 37
DB 10V PG 527

PROP. 16' ASPHALT DRIVE

N 79°50'11" W
202.22'

BM

TIMOTHY J. BRADSHAW
LISA B. BRADSHAW
DB 1507 PG 2310

PROP. 42' DRIVE

PROP. 44' DRIVE

ISBKBUS

MTL CANOPY GAS PUMPS

PREGNANCY RESOURCE CENTER OF CLEVELAND COUNTY, INC.
DB 1654 PG 1425

2SFD

S 88°05'16" W
218.53'

S 13°28'39" W
96.97'

S 78°08'25" E
213.20'

S 83°24'00" E
282.18'

ISBKD

DOROTHY HENDRICK
DB 13W PG 86

01

07
RONALD DENTON
DENISE HULLENDER
ESTATE FILE 10E PG 643
DB 10M PG 8
PB 9 PG 13

06
LMABTHG, LLC
DB 1690 PG 34
PB 9 PG 13

05
LYNN K. ALLEN
DB 1230 PG 1846
PB 9 PG 13

04
HELEN E. PATTERSON
DB 9Z PG 631
PB 9 PG 13

03
LAKESHA S. JEFFEIRS
DB 1697 PG 1440
PB 9 PG 13

02
GARY D. PORTER
WANDA H. PORTER
DB 11C PG 254
PB 9 PG 13

01
JAMES M. JONES
DB 18R PG 8
PB 9 PG 13

NORMA S. BARRETT
DB 9D PG 432
PB 9 PG 13

-L-PRC 15+29.36

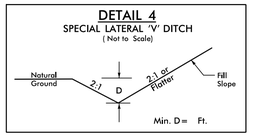
-L-PRC 12+54.51

-L-POT 9+00.00

BEGIN TIP PROJECT W-5712A
-L- STA 12+00.00

BEGIN CONSTRUCTION
-L- STA 9+60.00

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -L- STA. 9+60 TO STA. 11+30 RT
DDE=20CY

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

PAVEMENT REMOVAL

FOR -L- PROFILE, SEE SHEET NO. 6
FOR -Y3- PROFILE, SEE SHEET NO. 7

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	5
RW SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 035018 ENGINEER JIMMY L. TERRY
1/30/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 044158 ENGINEER BENJAMIN J. HENEGAR
1/30/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

1/9/2025
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jsersms\vin

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35018 ENGINEER JIMMY L. TERRY

1/30/2025

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044158 ENGINEER BENJAMIN J. HONEYCUTT

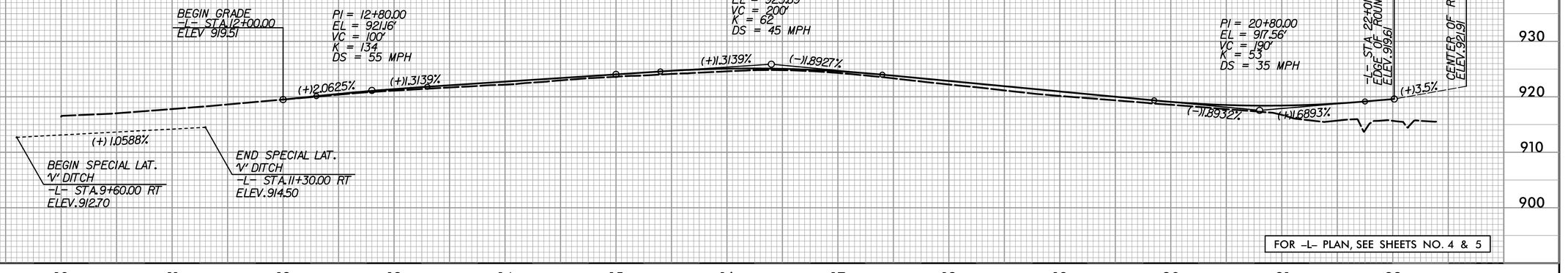
Benjamin J. Honeycutt

1/30/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

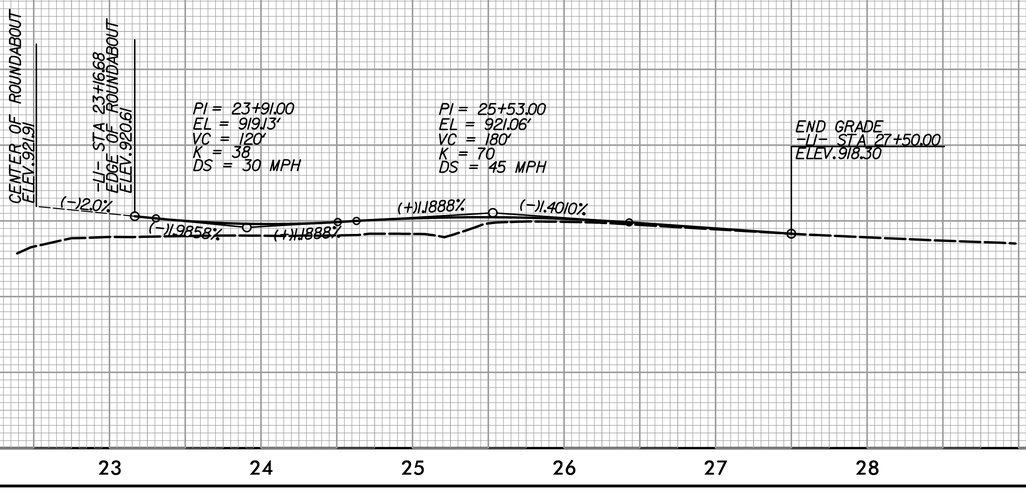
TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

-L-



FOR -L- PLAN, SEE SHEETS NO. 4 & 5

-L1-



FOR -L1- PLAN, SEE SHEET NO. 4

1/9/2025
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User:jmlyn

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	7

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

1/30/2025

HYDRAULICS ENGINEER

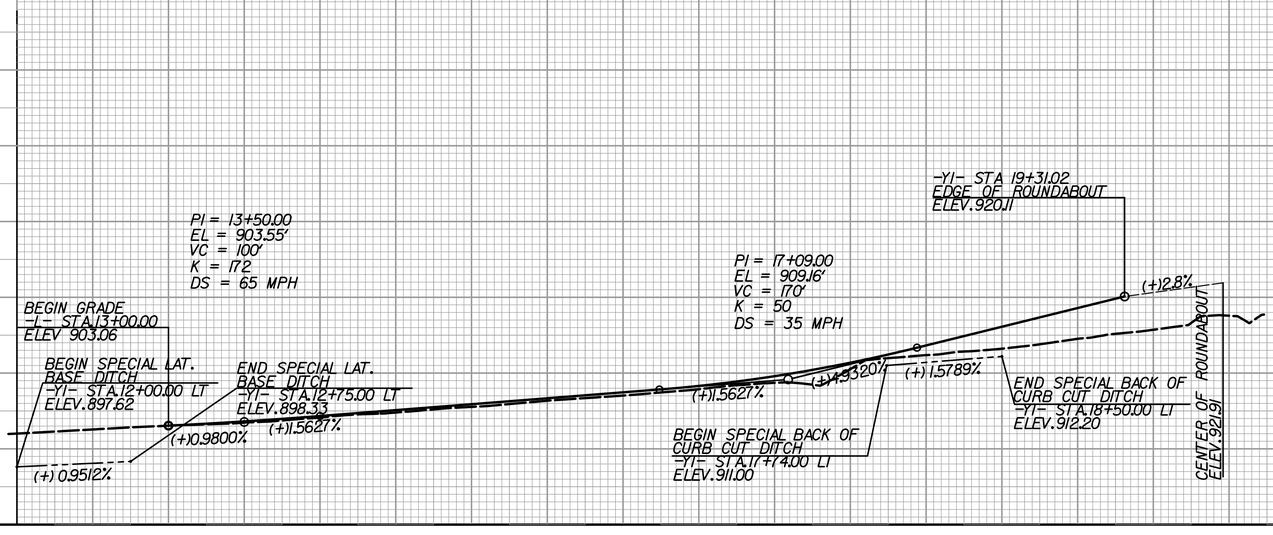
NORTH CAROLINA PROFESSIONAL SEAL 044158 ENGINEER BENJAMIN J. HERRICAN

1/30/2025

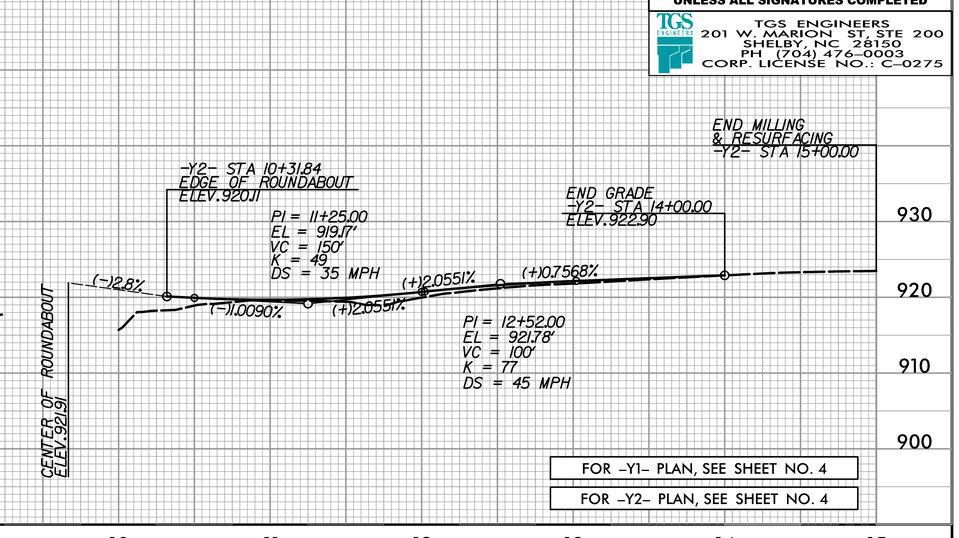
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

–Y1–



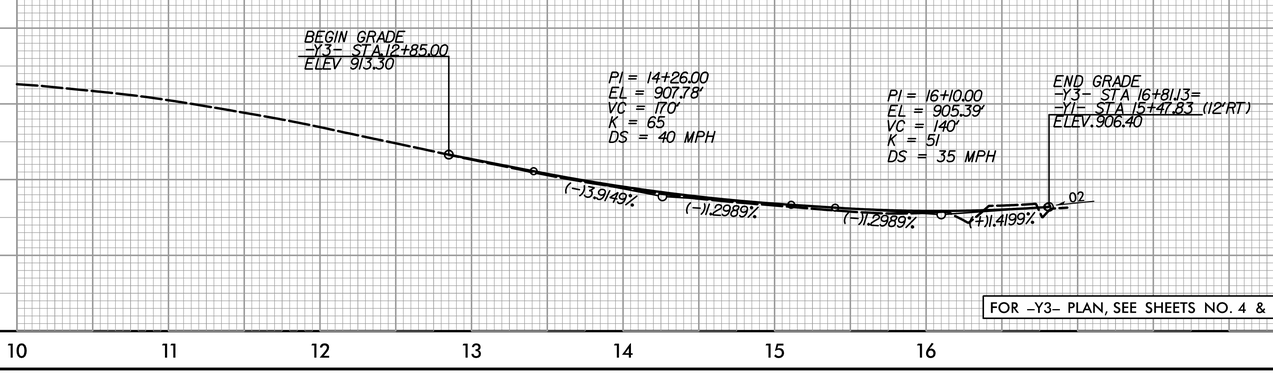
–Y2–



FOR –Y1– PLAN, SEE SHEET NO. 4

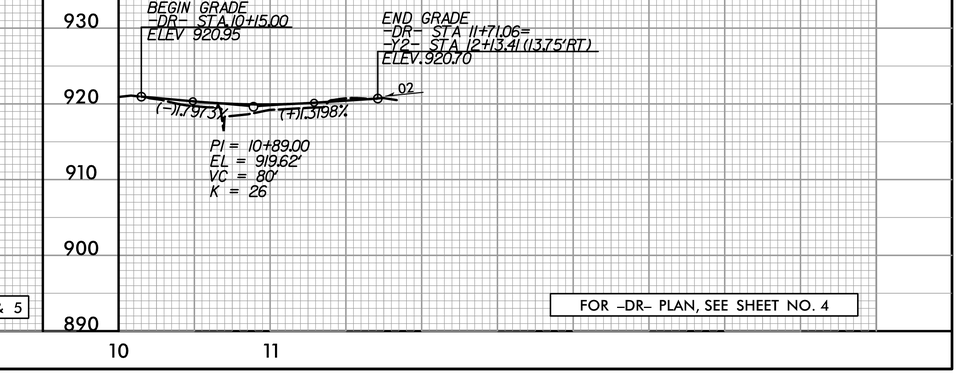
FOR –Y2– PLAN, SEE SHEET NO. 4

–Y3–



FOR –Y3– PLAN, SEE SHEETS NO. 4 & 5

–DR–



FOR –DR– PLAN, SEE SHEET NO. 4

1/9/2025
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User:jmelvin

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

04/12/18

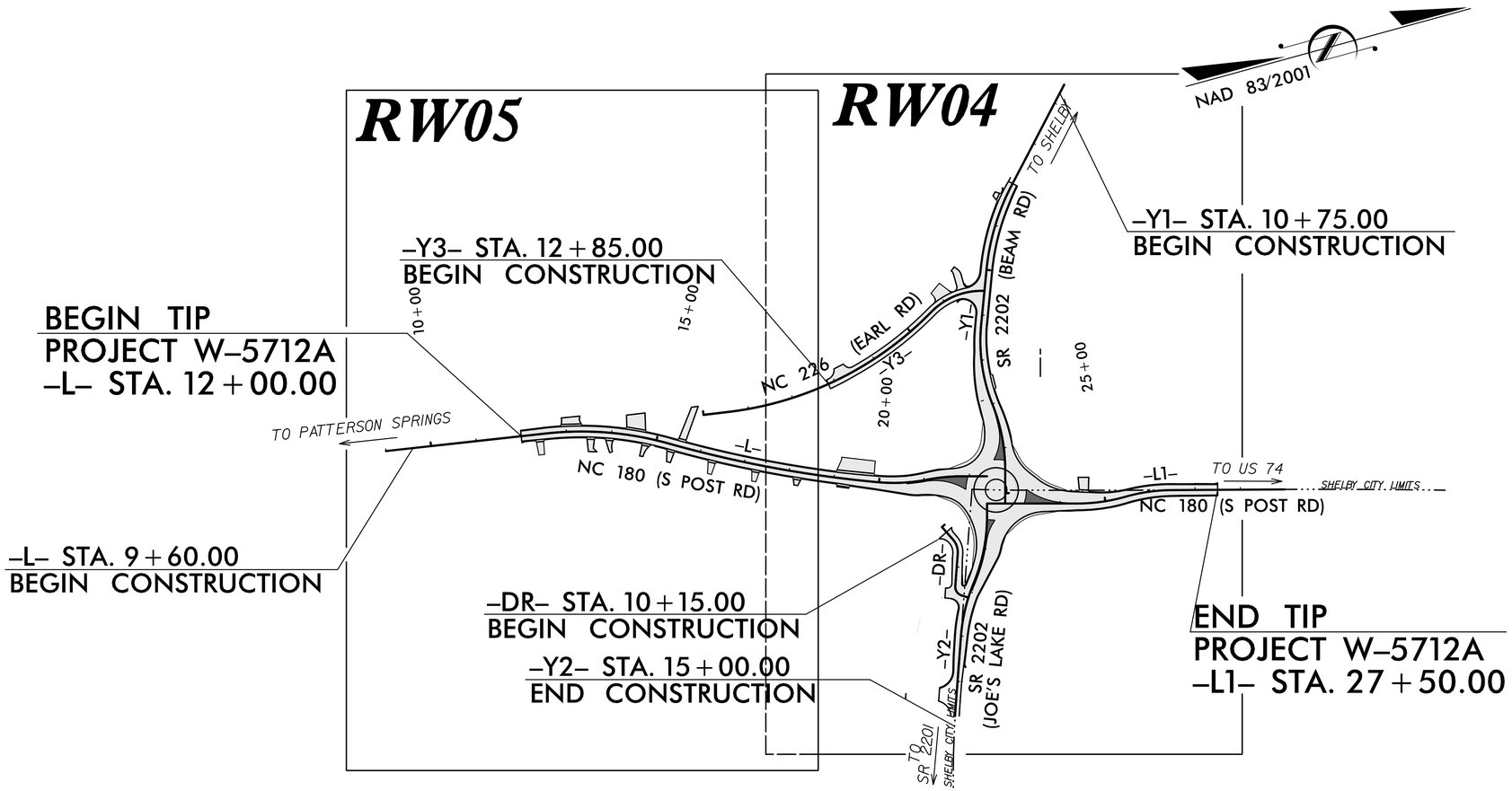
TIP PROJECT: W-5712A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

CLEVELAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5712A	RW01	



GRAPHIC SCALE

50 25 0 50 100

PLANS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "HOKE-2" WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF NORTHING: 557,909.469(ft) EASTING: 1,252,504.858(ft) ELEVATION: 914.04(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99983483
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HOKE-2" TO -L- STATION 9+00.00 IS S 21°39'59.4" W 2,067.915(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared In the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh NC, 27610

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 1, 2017

LETTING DATE:
MAY 13, 2025

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

Matthew T Cornwell

Digitally signed by Matthew T Cornwell
DN: C=US, O=TGS Engineers, CN=Matthew T Cornwell, E=mcornwell@tgsengineers.com
Reason: I am the author of this document
Location:
Date: 2018-11-08 11:53:29
Foxit PhantomPDF Version: 9.2.0

SIGNATURE:

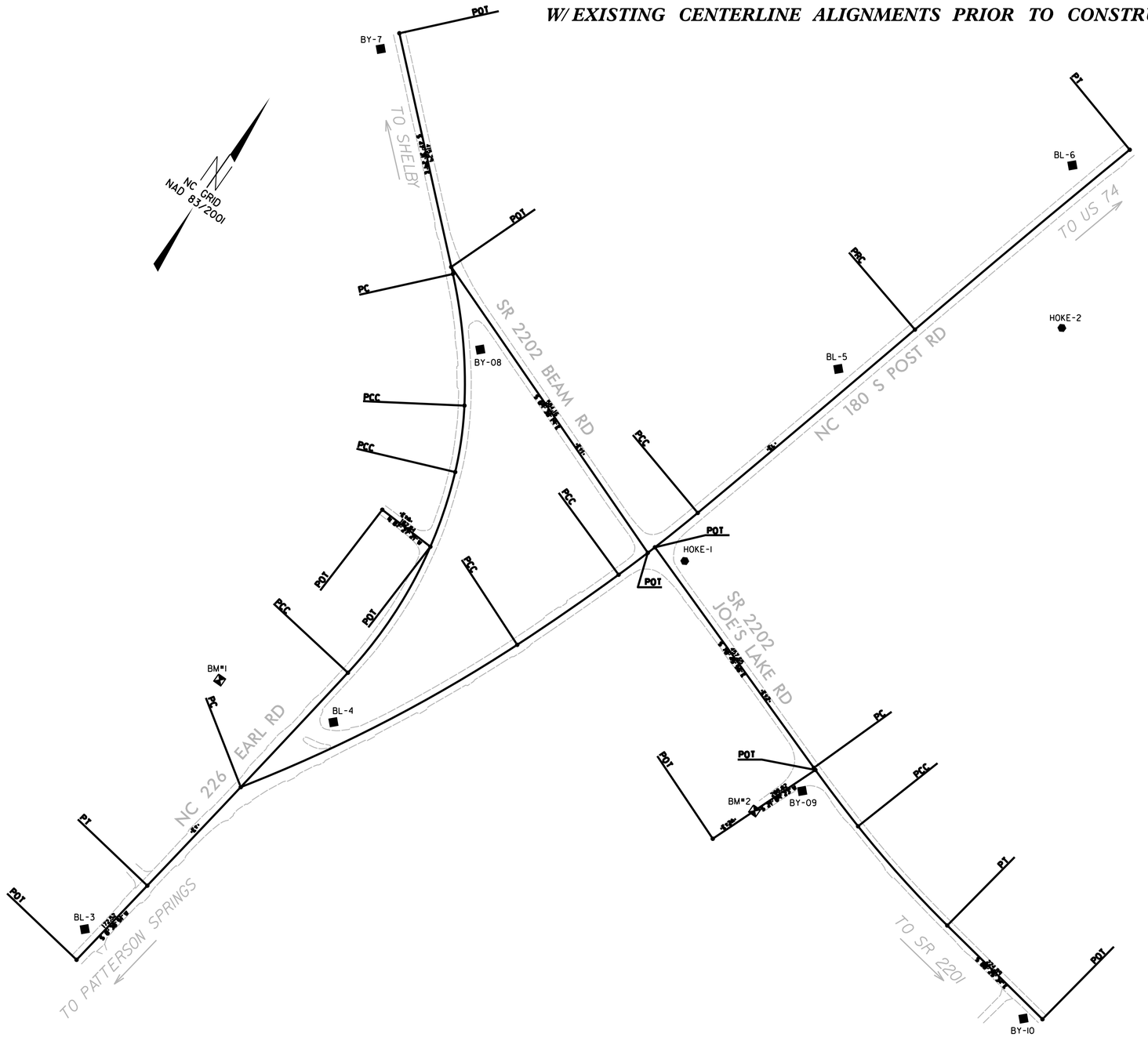
STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	RW02C-1
Location and Surveys	

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "HOKE-2"
WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF
NORTHING: 557909.469(ft) EASTING: 1252504.858(ft)
ELEVATION: 914.04(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99983483
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HOKE-2" TO -L- STATION 9+00.00 IS
S 21°39'59.4" W 2067.915'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

BL

POINT	DESC.	NORTH	EAST	ELEVATION
3	BL-3	556136.6627	1251738.1092	916.80
4	BL-4	556662.2198	1251881.0846	923.49
1	HOKE-1	557223.8420	1252209.9260	918.27
5	BL-5	557637.0599	1252236.1516	917.69
6	BL-6	558143.9209	1252362.2586	911.99
2	HOKE-2	557909.4690	1252504.8580	914.04

BY

POINT	DESC.	NORTH	EAST	ELEVATION
7	BY-7	557636.6810	1251296.0691	897.72
8	BY-08	557318.0653	1251723.7057	906.31
EQ1	HOKE-1	557223.8420	1252209.9260	918.27
9	BY-09	557020.0252	1252593.9436	922.75
10	BY-10	556919.6981	1253118.9160	911.88

BM1 ELEVATION - 920.03
N 556611 E 1251684
RR SPIKE IN BASE 30" WHITE PINE

BM2 ELEVATION - 923.41
N 556946 E 1252548
STEEL COTTON SPINDLE FLUSH IN PAVEMENT
SR 2327 (BEAMAN STREET)

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

6/28/18

REVISIONS

28-JUN-2018 09:50
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SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	556483.236	1251816.065							
CURVE			N 27°45'07.6" E	523.49	11°48'22.4"(LT)	02°15'04.7"	524.42	263.14	2545.00
PCC	556946.509	1252059.826							
CURVE			N 20°19'56.1" E	207.52	03°02'00.5"(LT)	01°27'41.9"	207.54	103.79	3920.00
PCC	557141.096	1252131.930							
CURVE			N 17°00'28.5" E	169.07	03°36'54.7"(LT)	02°08'16.4"	169.10	84.58	2680.00
PCC	557302.774	1252181.385							
CURVE			N 14°49'25.4" E	478.48	00°45'11.4"(LT)	00°09'26.7"	478.49	239.25	36400.00
PCC	557765.330	1252303.802							
CURVE			N 15°03'10.8" E	471.61	01°12'42.2"(RT)	00°15'25.0"	471.62	235.82	22300.00
PT	557765.330	1252303.802							

EY

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	557676.308	1251306.649							
LINE			S 47°31'29.2" E	415.29					
PC	557395.878	1251612.951							
CURVE			S 40°00'19.0" E	222.47	15°02'20.3"(RT)	06°44'26.4"	223.11	112.20	850.00
PCC	557225.471	1251755.966							
CURVE			S 27°05'00.7" E	112.98	10°48'16.5"(RT)	09°32'57.5"	113.15	56.74	600.00
PCC	557124.882	1251807.404							
CURVE			S 06°52'51.3" E	383.18	29°36'02.1"(RT)	07°38'22.0"	387.47	198.16	750.00
PCC	556744.466	1251853.310							
CURVE			S 08°17'00.6" W	492.52	00°43'41.7"(RT)	00°08'52.3"	492.53	246.27	38750.00
PT	556257.081	1251782.352							
LINE			S 08°38'51.4" W	172.52					
POT	556086.518	1251756.412							

EY1

POINT	N	E	BEARING	DIST
POT	557404.045	1251603.901		
LINE			S 69°30'18.7" E	584.16
POT	557199.515	1252151.091		

EY2

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	557213.995	1252155.611							
LINE			S 70°45'55.6" E	457.65					
PC	557063.227	1252587.717							
CURVE			S 72°06'55.1" E	123.44	02°41'59.1"(LT)	02°11'12.7"	123.45	61.74	2620.00
PCC	557025.318	1252705.194							
CURVE			S 76°56'44.1" E	224.62	06°57'38.9"(LT)	03°05'49.4"	224.75	112.52	1850.00
PT	556974.582	1252924.005							
LINE			S 80°25'33.6" E	224.89					
POT	556937.179	1253145.759							

EY2A

POINT	N	E	BEARING	DIST
POT	557061.772	1252591.900		
LINE			S 21°09'23.4" W	208.02
POT	556867.772	1252516.822		

EYA

POINT	N	E	BEARING	DIST
POT	556997.981	1251845.273		
LINE			N 87°27'20.8" W	102.04
POT	557002.511	1251743.333		

NOTES:

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2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

REVISIONS

6/28/19

$$$$$$$SYSTIME$$$$$$$
$$$$$$$DGN$$$$$$$

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

4/13/18

REVISIONS

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	RW02D-1
Location and Surveys	

L

TYPE	STATION	NORTH	EAST
POT	9+00.00	555987.6551	1251741.3763
PC	12+54.51	556338.1330	1251794.6790
PRC	15+29.36	556595.3725	1251886.5822
PCC	19+98.66	557018.7388	1252087.5209
PRC	21+07.32	557124.6964	1252109.8797
PT	21+81.69	557197.9685	1252121.9186
POT	22+39.02	557253.3580	1252136.6955

L1

TYPE	STATION	NORTH	EAST
POT	22+39.02	557237.8920	1252194.6679
PC	24+38.08	557430.2313	1252245.9804
PRC	25+44.75	557535.7798	1252258.7457
PT	26+49.18	557639.1588	1252270.9390
POT	28+97.96	557879.9112	1252333.6470

Y1

TYPE	STATION	NORTH	EAST
POT	10+00.00	557676.7274	1251306.1911
PC	13+04.89	557470.8440	1251531.0685
PT	15+00.54	557369.2854	1251696.8944
PC	16+20.79	557327.1821	1251809.5358
PRC	18+02.82	557305.9225	1251988.5696
PT	19+47.99	557295.8742	1252132.5077
POT	20+23.00	557276.5403	1252204.9786

Y2

TYPE	STATION	NORTH	EAST
POT	10+00.00	557237.8920	1252194.6679
PC	10+28.75	557230.4804	1252222.4496
PRC	11+78.97	557164.4469	1252356.2820
PT	13+00.68	557106.7846	1252462.8796
PC	14+58.65	557054.7424	1252612.0347
PT	17+81.54	556974.5158	1252924.3997

Y3

TYPE	STATION	NORTH	EAST
POT	10+00.00	556684.4658	1251844.5751
PC	10+52.94	556736.8560	1251852.2026
PRC	15+63.35	557227.9185	1251754.8557
PT	16+93.19	557353.1283	1251740.1204

DR

TYPE	STATION	NORTH	EAST
POT	10+00.00	557128.4543	1252219.1544
PC	10+37.20	557144.9825	1252252.4857
PT	10+70.70	557146.9902	1252285.0381
PC	11+42.28	557123.3108	1252352.5901
PT	11+69.13	557131.4703	1252376.0939
POT	11+84.80	557144.7032	1252384.4896

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

4/13/18

REVISIONS

RIGHT OF WAY & PERMANENT EASEMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	RW03E-1
Location and Surveys	

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST	
L	12+54.51	29.91	556333.6353	1251824.2523	
L	15+29.36	30.00	556580.0685	1251912.3851	
L	20+04.11	30.51	557013.7963	1252118.1614	
L	20+40.00	-27.28	557064.7994	1252073.1110	MAG NAIL SET

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L1	23+80.00	-69.28	557391.9673	1252164.0738
L1	24+06.00	30.00	557391.4988	1252266.6966
L1	24+38.08	30.00	557422.4984	1252274.9667
L1	25+44.75	30.00	557536.3796	1252288.7397
L1	26+39.92	30.00	557623.3246	1252297.9229

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	13+04.89	-30.00	557492.9711	1251551.3267
Y1	15+00.54	-30.00	557397.3865	1251707.3981
Y1	16+20.79	-30.00	557355.2832	1251820.0395
Y1	16+22.00	30.00	557298.6255	1251800.2506
Y1	18+02.82	-30.00	557335.7020	1251984.9390
Y1	18+75.00	-30.00	557337.7502	1252062.6720
Y1	19+10.00	110.33	557194.9141	1252077.7159

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	10+10.00	66.37	557171.1911	1252187.2231
Y2	10+77.00	-63.00	557273.4469	1252291.9686
Y2	12+22.00	-30.00	557165.8716	1252407.2906
Y2	13+00.68	-30.00	557135.1099	1252472.7627
Y2	14+65.00	63.57	556992.5678	1252597.2865
Y2	14+90.00	29.63	557016.5218	1252632.4115

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
Y3	15+63.00	29.65	557242.7421	1251780.5329

ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	15+91.22	-42.33	556669.6599	1251880.5705
L	21+03.00	53.72	557116.2922	1252163.1346
L	21+20.00	-66.00	557143.8175	1252045.2334

ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L1	23+83.00	-98.00	557402.2700	1252137.0934
L1	25+44.00	-56.75	557534.0062	1252202.0161
L1	27+39.00	30.09	557718.5003	1252322.6937

ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	11+50.00	60.00	557531.1825	1251376.3102
Y1	11+50.00	30.00	557553.3096	1251396.5684
Y1	11+75.00	-30.00	557580.6820	1251455.5239
Y1	12+10.00	30.00	557512.7933	1251440.8225
Y1	12+10.00	60.00	557490.6662	1251420.5644
Y1	12+16.00	-40.00	557560.3715	1251492.5170
Y1	13+73.00	-40.00	557461.1739	1251607.0639
Y1	14+71.00	-40.00	557417.0185	1251685.6883
Y1	16+18.00	-40.00	557365.6286	1251820.9232
Y1	16+22.26	48.86	557280.8421	1251793.9759
Y1	17+08.00	-40.00	557345.9203	1251899.1091
Y1	17+32.99	-30.00	557333.8119	1251920.7385
Y1	17+33.56	-32.52	557336.2984	1251921.4196
Y1	17+38.00	-50.85	557354.3824	1251926.3732
Y1	18+45.00	119.00	557189.7015	1252031.8633
Y1	18+69.00	-53.00	557361.1111	1252057.4250

ROW MARKER PERMANENT EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
Y2	10+25.00	67.49	557166.2357	1252201.4257
Y2	10+70.00	-112.00	557322.1594	1252302.0707
Y2	11+75.00	-73.00	557225.1588	1252397.0474
Y2	13+92.00	30.00	557048.3750	1252539.2193
Y2	13+92.00	57.00	557022.8822	1252530.3245
Y2	14+05.40	57.00	557018.4687	1252542.9738
Y2	14+32.00	-53.00	557113.5643	1252604.3296
Y2	15+06.00	-53.00	557090.1566	1252673.1446
Y2	15+06.00	-30.43	557068.6736	1252666.2397

I, Matthew T. Cornwell, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 13th day of April, 2018.

Matthew T. Cornwell

Digitally signed by Matthew T. Cornwell
DN: cn=Matthew T. Cornwell, o=TGS Engineers, ou=Location & Surveys, email=mcornwell@tgsengineers.com, c=US
Date: 2018.04.13 15:30:21 -04'00'

Professional Land Surveyor — PLS # L-4775 — Seal

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	RW04

Location and Surveys

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

4/13/18

REVISIONS

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DN: cn=Matthew T. Cornwell, o=TGS Engineers, ou=Location & Surveys, email=mcornwell@tgsengineers.com, c=US
Date: 2018.04.13 10:43:14 -04'00'

Professional Land Surveyor — L-4775 PLS # — Seal

NAD 83/2001

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MATCH LINE STA. -L- STA. 18+00.00
MATCH TO SHEET NO. 5

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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	RW05

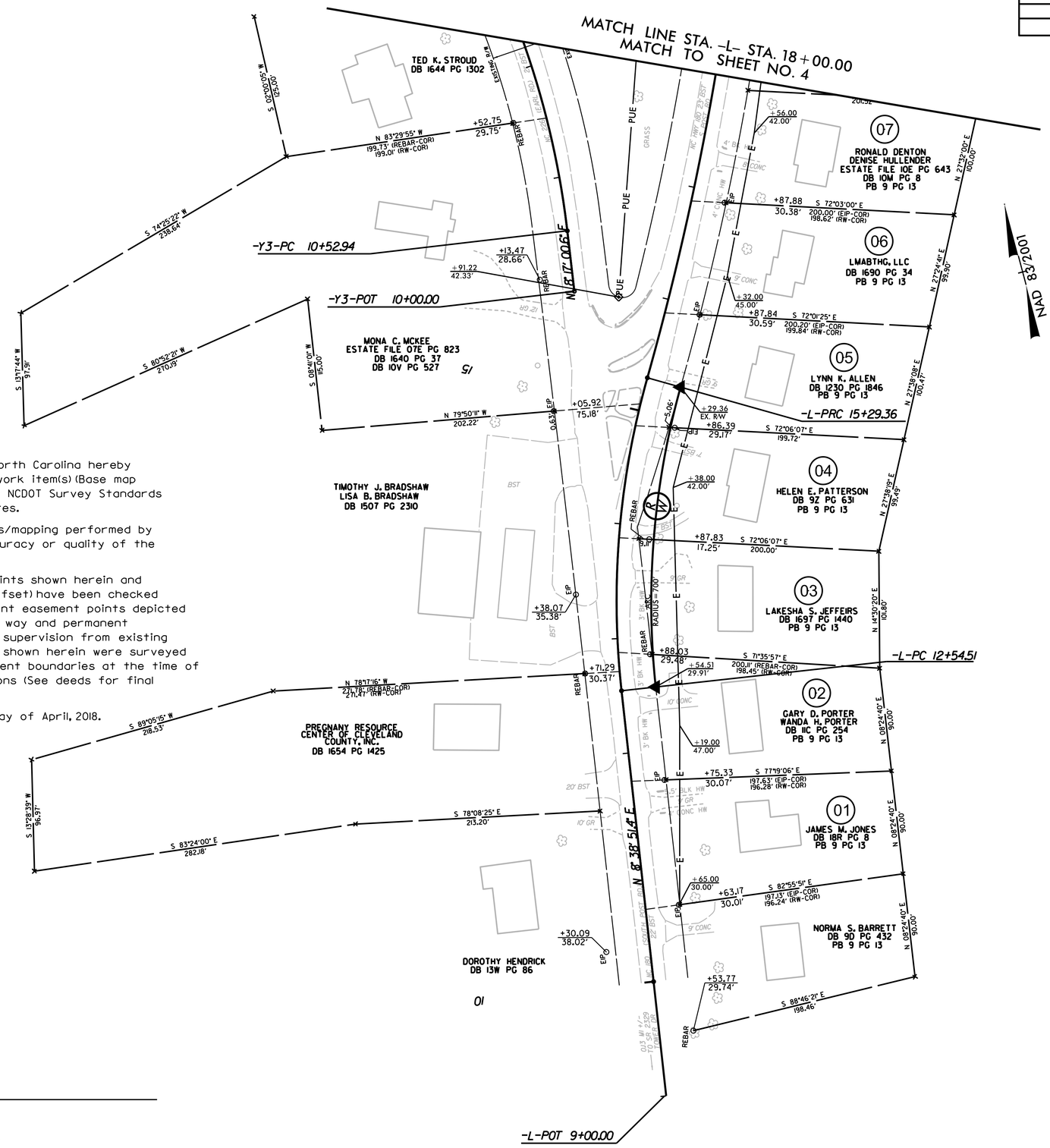
Location and Surveys

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4775 LAND SURVEYOR MATTHEW T. CORNWELL

4/13/18

REVISIONS



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Matthew T. Cornwell

Digitally signed by Matthew T. Cornwell
DN: cn=Matthew T. Cornwell, o=TGS Engineers, ou=Location & Surveys, email=mcornwell@tgsengineers.com, c=US
Date: 2018.04.13 11:17:54 -04'00'

Professional Land Surveyor — L-4775 PLS # — Seal

NOTES:

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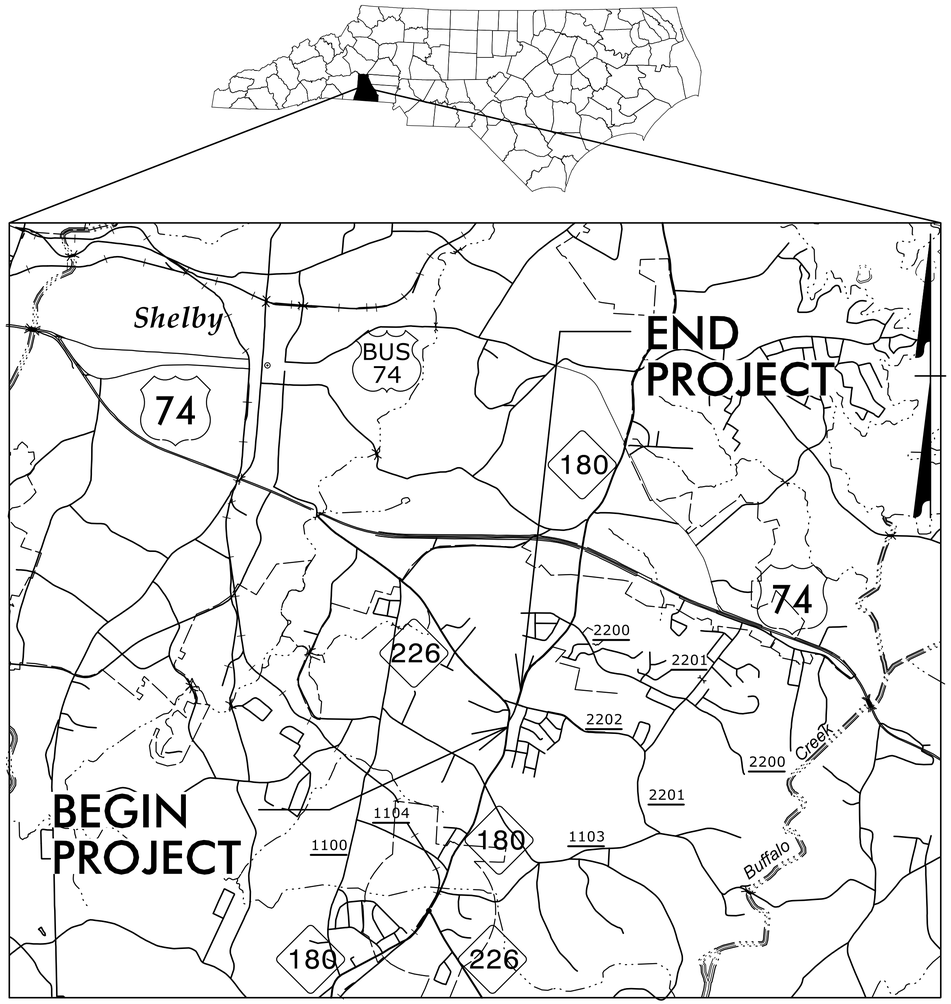
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CLEVELAND COUNTY



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND LOCAL NOTES)
TMP-2	PHASING
TMP-3	PHASE I OVERVIEW
TMP-4	PHASE II OVERVIEW
TMP-5	PHASE III OVERVIEW
TMP-6	PHASE IV OVERVIEW

SHEET NO.
TMP-1

TIP PROJECT: W-5712A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: DocuSigned by: Jimmy Terry FD39F36B62E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLAN PREPARED FOR N.C.D.O.T. BY:

TGS ENGINEERS
201 W. MARION ST
STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

JIMMY L. TERRY, PE — *PROJECT ENGINEER*
SANDRA G. MELVIN — *DESIGN TECHNICIAN*

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

1/9/2025
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User:smelvin

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ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS

PROJ. REFERENCE NO.	SHEET NO.
W-5712A	TMP-1A

TGS ENGINEERS
201 W. MARION ST, STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- WEDGING
- TEMPORARY PAVEMENT

SIGNALS

EXISTING PROPOSED TEMPORARY (TEMP)

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	PAINT (4")
P1	WHITE EDGELINE
P11	YELLOW SINGLE CENTER
P13	YELLOW DOUBLE CENTER

APPROVED: Jimmy Terry (Docusigned by) FD39F36882E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

ROADWAY STANDARD DRAWINGS & LEGEND

1/9/2025
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PROJ. REFERENCE NO.	SHEET NO.
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TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	
NC 180 (S POST RD)	MON THRU FRI	6:00 AM TO 8:00 AM
SR 2202 (BEAM RD & JOE'S LAKE RD)	MON THR FRI	4:00 PM TO 6:00 PM
NC 226 (EARL RD)		

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

NC 180 (S POST RD)
SR 2202 (BEAM RD & JOE'S LAKE RD)
NC 226 (EARL RD)

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 5 FT OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 10 FT OF AN OPEN TRAVEL LANE ON A DIVIDED FACILITY, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

H) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

I) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 350 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

M) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 350 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

N) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

O) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

P) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
NC 180 (S POST Rd)	PAINT	NONE
SR 2022 (BEAM RD & JOE'S LAKE RD)	PAINT	NONE
SR 2022 (EARL RD)	PAINT	NONE

Q) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE.

R) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

S) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

T) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

U) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION

MISCELLANEOUS

V) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

MANAGEMENT STRATEGIES

THE PROPOSED CONSTRUCTION OF NC 180 (S POST RD) AND NC 226/SR 2202 (BEAM RD AND JOE'S LAKE RD) WILL BE UTILIZING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED.

APPROVED: Docusigned by: Jimmy Terry FD39F38882E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TRANSPORTATION OPERATIONS PLAN

1/30/2025
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PROJ. REFERENCE NO.	SHEET NO.
W-5712A	TMP-2

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PHASING NOTES

UNLESS OTHERWISE NOTED PROVIDE ACCESS TO ALL DRIVES AT ALL TIMES.

UNLESS OTHERWISE NOTED TWO WAY THROUGH TRAFFIC SHALL BE MAINTAINED ON TWO 11 FT (MIN.) LANES AT ALL TIMES WHILE FLAGGERS ARE NOT AT WORK.

Phase I

STEP 1:

INSTALL ALL ADVANCE WORK ZONE WARNING SIGNS ON -L- AND ALL -Y- LINES IN ACCORDANCE WITH NCDOT STD DRAWING 1101.01, SHEET 3 OF 3.

STEP 2:

USING FLAGGERS AND TEMPORARY LANE CLOSURES WEDGE THE EXISTING PAVEMENT UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS:

-L- FROM STA. 16+25 TO 22+39+/-
-L1- FROM STA. 22+39+/- TO 27+50
-Y1- FROM STA. 15+00 TO 17+10±
-Y2- FROM STA. 12+15+/- TO 15+00
SEE TMP-3, SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19

USING FLAGGERS AND TEMPORARY LANE CLOSURES WIDEN THE EXISTING PAVEMENT UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AND PLACE CURB AND GUTTER AS FOLLOWS:

-L- FROM STA. 12+00 TO 21+77+/-
-L1- FROM STA. 22+39+/- TO 27+50
-Y1- FROM STA. 17+10± TO 19+81
-Y2- FROM STA. 10+00 TO 12+15+/-
SEE TMP-3, SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19

Phase II

STEP 1:

PLACE TEMPORARY PAVEMENT MARKINGS AS SHOWN ON PLANS AND PLACE JOE'S LAKE RD AND BEAM RD (-Y1- & -Y2-) TRAFFIC ON THE NEWLY CONSTRUCTED PAVEMENT.
SEE TMP-4

STEP 2:

WHILE KEEPING TRAFFIC IN ITS EXISTING PATTERN DO THE FOLLOWING:
A.)USING FLAGGERS AND TEMPORARY LANE CLOSURES WEDGE THE EXISTING PAVEMENT UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS:

-L- FROM STA. 12+00 TO 16+25+/-

B.)REMOVE EXISTING RAISED ISLANDS AT THE NC 226 / NC 180 INTERSECTION AS SHOWN ON PLANS.

C.)USING FLAGGERS AND TEMPORARY LANE CLOSURES WEDGE AND WIDEN THE EXISTING PAVEMENT UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS:

-Y1- FROM STA. 13+00 TO 15+00
SEE TMP -4

USING FLAGGERS AND TEMPORARY LANE CLOSURES IF NEEDED CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE:

-L- FROM STA. 21+77+/- TO 22+27+/-
-Y1- FROM STA. 16+60+/- TO 18+08+/-
-Y2- FROM STA. 10+00 TO 11+92+/-
SEE TMP-4. SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19

PLACE TRUCK MOUNTABLE ISLANDS AS SHOWN ON PLANS.

PLACE CURB AND GUTTER FROM -L1- STA 23+67+/- TO 26+27+/-, INCLUDING THE ADJACENT TRUCK MOUNTABLE ISLAND.
SEE TMP-4. SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19

CONSTRUCT -DR- FROM STA 10+15 TO 11+71.06
SEE TMP-4.

REMOVE EXISTING NC 180 (-L-), BEAM RD (-Y1-), AND JOE'S LAKE RD (-Y2-) PAVEMENT AS SHOWN ON PLANS.
SEE TMP-4.

Phase III

STEP 1:

REVISE TEMPORARY PAVEMENT MARKINGS. USING DRUMS AND PAINT DELINEATE THE ROUNDABOUT SPLITTER ISLANDS AND CENTRAL ISLAND AS SHOWN ON PLANS AND PLACE TRAFFIC IN NEW ROUNDABOUT PATTERN.
SEE TMP-5. SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19

STEP 2:
CLOSE EARL DRIVE (-Y3-) TO THRU TRAFFIC.

CONSTRUCT EARL RD (-Y3-) UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS: -Y3- FROM STA. 12+85 TO 16+81.13
SEE TMP-5.

REMOVE EXISTING EARL ST (-Y3-) PAVEMENT AS SHOWN ON PLANS.

PLACE NEW SIGNAGE CONVERTING EARL STREET INTO A DEAD-END- STREET.
SEE SIGNAGE PLANS

PLACE CURB AND GUTTER AS FOLLOWS:

-L- FROM STA. 12+00+/- TO 16+25+/-, LT
FROM -Y1- STA 13+50+/- TO 15+05+/-, RT.
SEE TMP-5. SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19

CONSTRUCT THE ROUNDABOUT CENTRAL ISLAND.

Phase IV

STEP 1:

USING FLAGGERS AND TEMPORARY LANE CLOSURES PLACE THE FINAL LAYER OF SURFACE COURSE AS FOLLOWS:

-L- FROM STA. 12+00 TO 22+20+/-
-L1- FROM STA. 22+98+/- TO 27+50
-Y1- FROM STA. 13+00 TO 19+48+/-
-Y2- FROM STA 10+15+/- TO 15+00
-Y3- FROM STA 12+85 TO 16+81.13
SEE TMP-6. SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19.

USING FLAGGERS AND TEMPORARY LANE CLOSURES PLACE THE SPLITTER ISLANDS AS SHOWN ON PLANS:

-L- FROM STA. 20+61+/- TO 21+95+/-
-L1- FROM STA. 23+22+/- TO 25+21+/-
-Y1- FROM STA. 17+72+/- TO 19+27+/-
-Y2- FROM STA. 10+36+/- TO 11+96+/-
SEE TMP-6. SEE NCDOT STD DRAWING 1101.02, SHEET 1 OF 19

USING FLAGGERS AND TEMPORARY LANE CLOSURES PLACE THE FINAL PAVEMENT MARKING AS SHOWN IN PAVEMENT MARKING PLANS.
SEE PAVEMENT MARKING PLANS. SEE NCDOT STD DRAWING 1101.02, SHEETS 1 OF 19.

REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN ALL ROADS TO TRAFFIC.

APPROVED: DocuSigned by: Jimmy Terry FD39F38882E94D0...
DATE: 1/30/2025
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

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

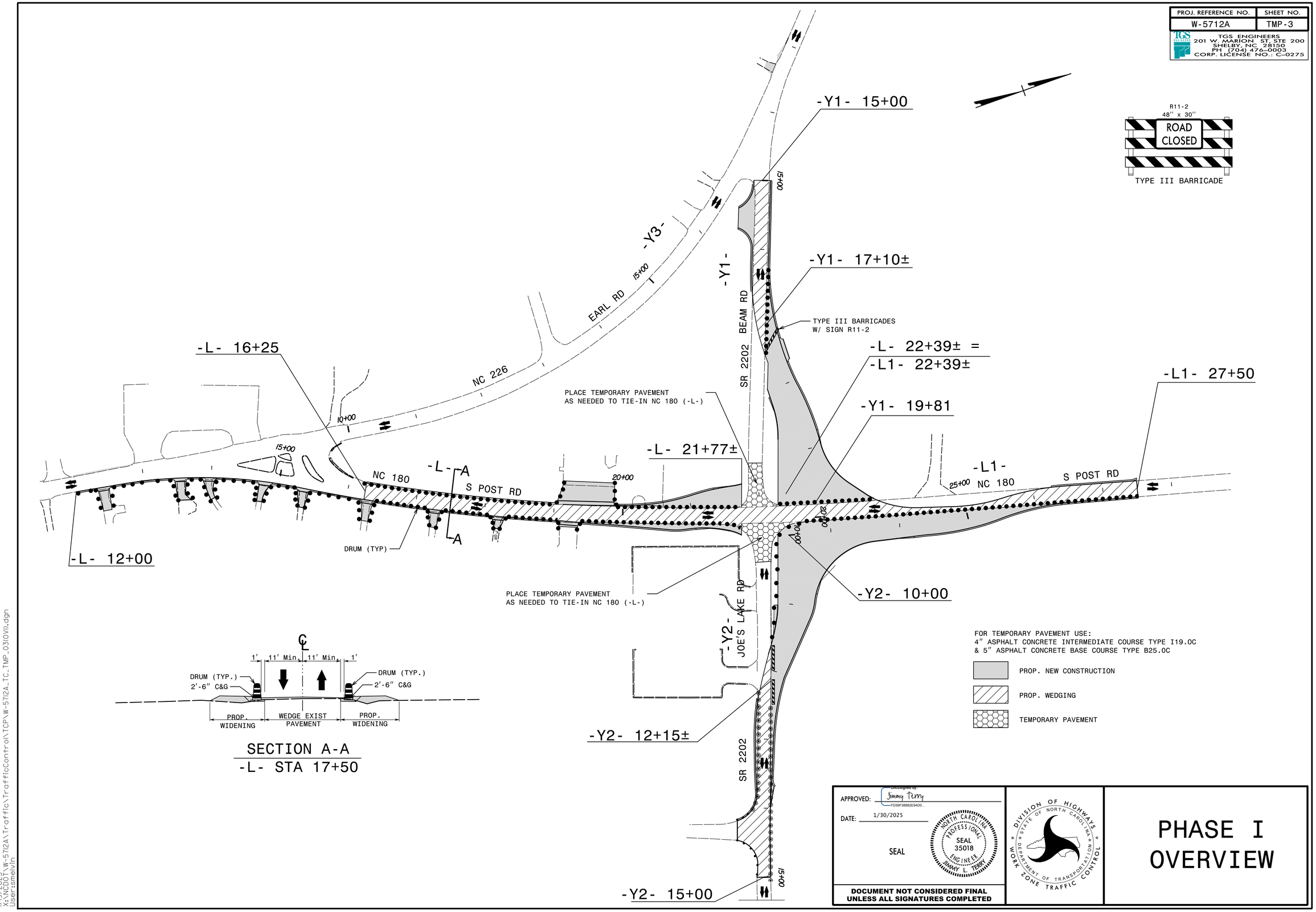
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PROJ. REFERENCE NO.	SHEET NO.
W-5712A	TMP-3

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275



R11-2
48″ x 30″
ROAD CLOSED
TYPE III BARRICADE

SECTION A-A
-L- STA 17+50

FOR TEMPORARY PAVEMENT USE:
4″ ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C
& 5″ ASPHALT CONCRETE BASE COURSE TYPE B25.0C

PROP. NEW CONSTRUCTION

PROP. WEDGING

TEMPORARY PAVEMENT

APPROVED: Docusigned by: Jimmy Terry FD39F38882E94D0...

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

PHASE I OVERVIEW

1/9/2025
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PROJ. REFERENCE NO.	SHEET NO.
W-5712A	TMP-4

SEE SHEET TMP-1A FOR TEMPORARY PAVEMENT SCHEDULE

* = STOP R1-1

PAVEMENT REMOVAL

R11-2
48" x 30"
ROAD CLOSED
TYPE III BARRICADE

-Y1- 13+00
TIE TO EXIST. MARKINGS

-Y1- 15+00

-Y1- 16+60

-Y1- 18+08±

-Y1- 19+74

-L- 12+00
TIE TO EXIST. MARKINGS

-L- 14+00
TIE TO EXIST. MARKINGS

-L- 16+25

-L- 19+40

-L- 20+00

-L- 21+77±

-L- 22+27±

-L1- 23+67±

-L1- 23+43

-L1- 26+27±

-L1- 27+50
TIE TO EXIST. MARKINGS

-Y2- 10+00

-Y2- 11+92±

-Y2- 12+40

-Y2- 15+00
TIE TO EXIST. MARKINGS

-DR- 10+15

-DR- 11+71

-Y3-

-L-

-Y1-

-Y2-

-DR-

-DR-

EARL RD

NC 180 -L- S POST RD

NC 226

BEAM RD

SR 2202

SR 2202 -Y2-

JOE'S LAKE RD

-L1- NC 180 S POST RD

10+00

15+00

20+00

25+00

15+00

20+00

TYPE III BARRICADE W/ SIGN R11-2

TRUCK MOUNTABLE ISLAND

P1

P13

APPROVED: DocuSigned by: Jimmy Perry FD39F38882E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

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

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PHASE II OVERVIEW

1/9/2025
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PROJ. REFERENCE NO.	SHEET NO.
W-5712A	TMP-5

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CORP. LICENSE NO.: C-0275

SEE SHEET TMP-1A FOR TEMPORARY PAVEMENT SCHEDULE

-Y1- 13+50±

-Y1- 15+05±

TYPE III BARRICADE
W/ SIGN R11-2

TYPE III BARRICADE
W/ SIGN R11-4

-Y3- 16+81±

15+00

-Y3-

-Y3- 12+85±

EARL RD

15+00

-Y1-

BEAM RD

SR 2202

-Y1- 17+72±

-L- 12+00
TIE TO EXIST.
MARKINGS

NC 226

10+00

15+00

-L- 16+25±

-L- 20+00±

-L- 21+93±

P11

-Y1- 19+25±

P11

NC 180 -L- S POST RD

20+00

25+00

NC 180 -L1- S POST RD

PI

20+00

10+00

-L1- 25+56±

-L1- 23+25±

-Y2- 10+36±

P11

-DR-

JOE'S LAKE RD

-Y2- 11+96±

-Y2-

SR 2202

15+00

R11-2
48" x 30"
ROAD CLOSED
TYPE III BARRICADE

R11-4
60" x 30"
ROAD CLOSED TO THRU TRAFFIC
TYPE III BARRICADE

APPROVED: Jimmy Terry
FD39F38882E94D0...

DATE: 1/30/2025

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

PHASE III OVERVIEW

1/19/2025
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SEE PMP-2 FOR FINAL PAVEMENT MARKING LAYOUT

-Y1- 13+00
TIE TO EXIST.
MARKINGS

NC 226

15+00

-Y3- 12+85

EARL RD

15+00

-Y3-

TES

-Y1-

SR 2202 BEAM RD

-Y1- 17+72±

-Y1- 19+27±

-L- 12+00
TIE TO EXIST.
MARKINGS

15+00

-L- 21+95±

-L- 20+61±

-L1- 23+22±

-L1- 25+21±

-L1- 27+50
TIE TO EXIST.
MARKINGS

25+00

NC 180 -L- S POST RD

20+00

NC 180 -L1- S POST RD

20+00

18+00

-Y2- 10+36±

JOE'S LAKE RD

-Y2- 11+96±

-Y2-

SR 2202

-Y2- 15+00
TIE TO EXIST.
MARKINGS

15+00

APPROVED: DocuSigned by: Jimmy Terry F239F38882E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PHASE IV OVERVIEW

1/19/2025
X:\NCDOT\W-5712A\Traffic\TrafficControl\TCP\W-5712A_TC_TMP_06(OV4).dgn
User:smelvin

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

T.I.P.: W-5712A

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
W-5712A	PMP-1

APPROVED: DocuSigned by: Jimmy Terry FD39F38882E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT MARKING PLAN

CLEVELAND COUNTY

LOCATION: NC 180 (S. POST RD), NC 226 (EARL RD) AND SR 2202 (JOE'S LAKE RD) INTERSECTION

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
NC 180 (S POST RD)	THERMOPLASTIC	POLYCARBONATE H-SHAPED
NC 226/ SR 2202 (BEAM RD)	THERMOPLASTIC	POLYCARBONATE H-SHAPED
SR 2202 (JOE'S LAKE RD)	THERMOPLASTIC	POLYCARBONATE H-SHAPED

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES AND FINAL PAVEMENT MARKING SCHEDULE
PMP-2	PAVEMENT MARKING DETAIL

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	PAVEMENT MARKINGS
	THERMOPLASTIC (4", 90 MILS)
T4	(4") 3 FT. - 9 FT./SP WHITE MINISKIP
T5	(4") 2 FT. - 6 FT./SP WHITE MINISKIP
T11	(4") YELLOW SINGLE CENTER
T13	(4") YELLOW DOUBLE CENTER
	THERMOPLASTIC (8", 90 MILS)
T40	(8") WHITE GORELINE
T41	(8") WHITE DIAGONAL
	THERMOPLASTIC (12", 90 MILS)
T52	(12") YELLOW DIAGONAL
T55	(12") 3 FT. - 3 FT./SP WHITE MINISKIP
	THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)
T71	RIGHT TURN ARROW
T103	24" YIELD LINE TRIANGLE
T111	FISH-HOOK LEFT/STRAIGHT ARROW

PLAN PREPARED FOR N.C.D.O.T. BY:

TGS ENGINEERS
201 W. MARION ST, STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

JIMMY L. TERRY, PE — PROJECT ENGINEER

SANDRA MELVIN — DESIGN TECHNICIAN

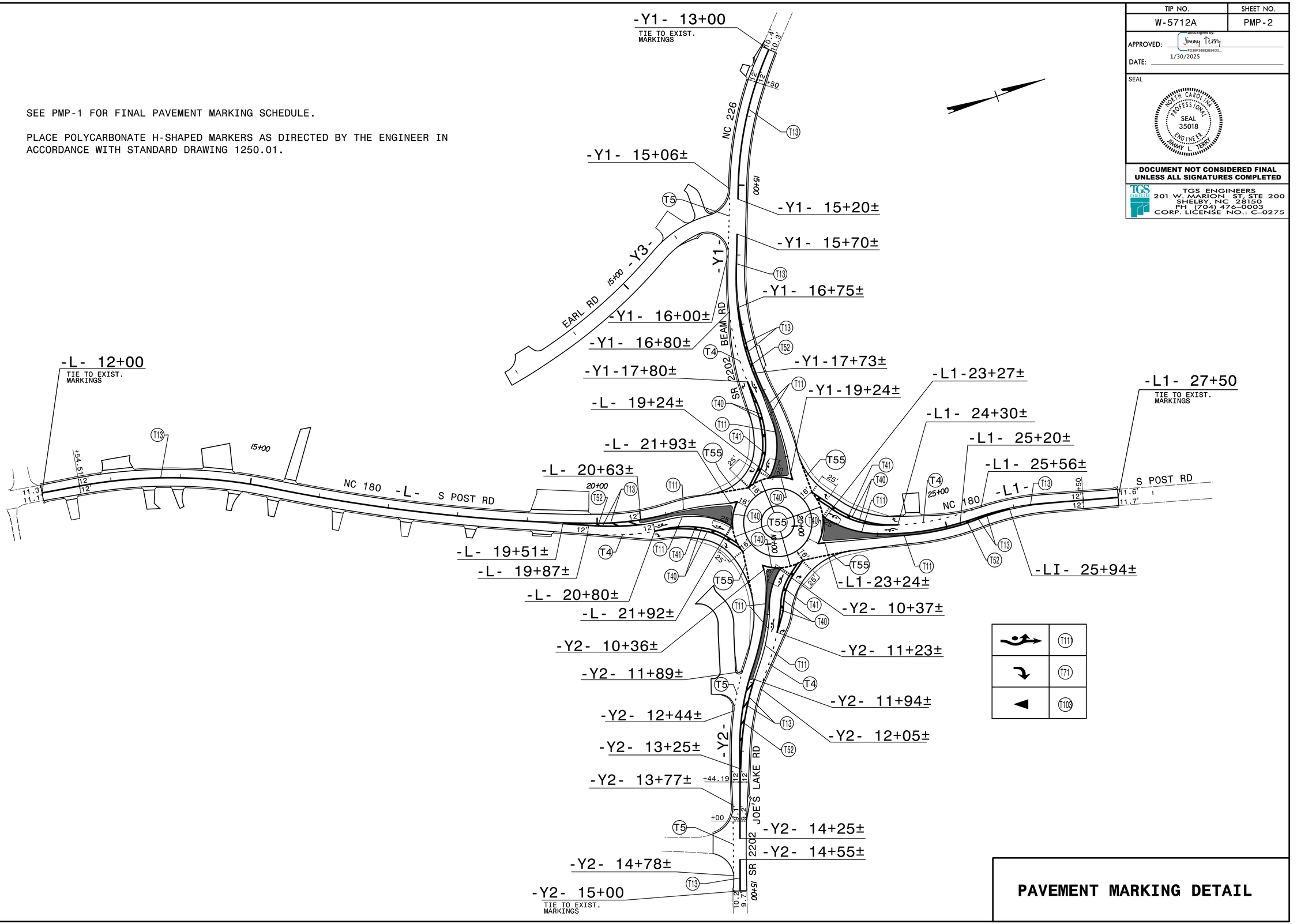
STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

1/29/2025
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SEE PMP-1 FOR FINAL PAVEMENT MARKING SCHEDULE.

PLACE POLYCARBONATE H-SHAPED MARKERS AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH STANDARD DRAWING 1250.01.



TIP NO.	SHEET NO.
W-5712A	PMP-2

APPROVED: Docusigned by: Jimmy Terry FD39F38882E94D0... 1/30/2025

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

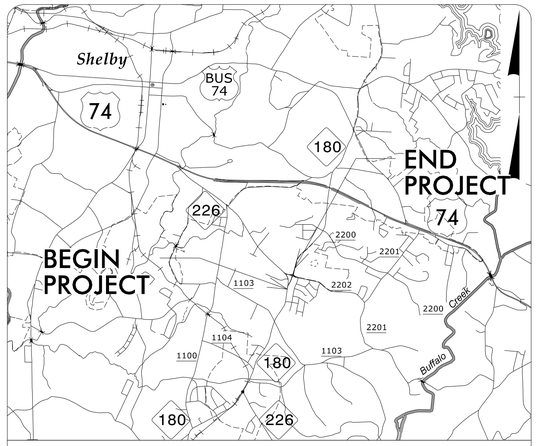
TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PAVEMENT MARKING DETAIL

1/29/2025
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User:smelvin

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

TIP PROJECT: W-5712A



VICINITY MAP

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5712A	EC-1	

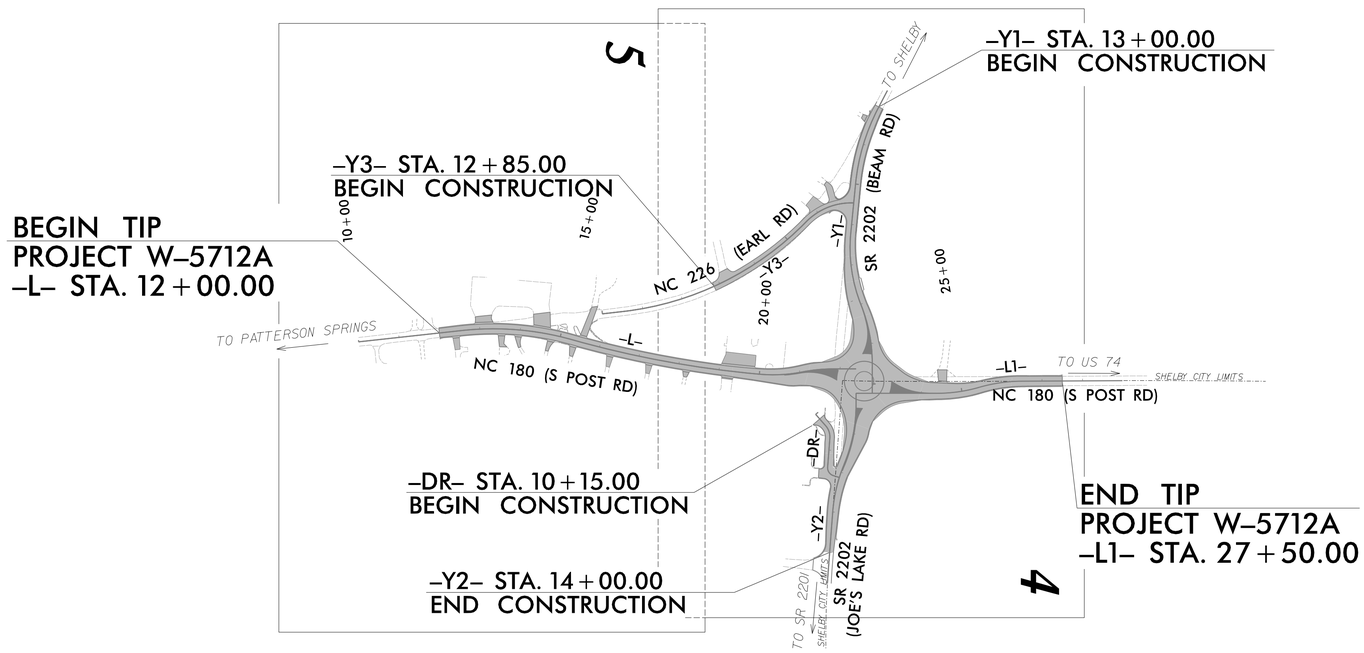
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

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

CLEVELAND COUNTY

LOCATION: NC 180 (S. POST RD), NC 226 (EARL RD) AND SR 2202 (JOE'S LAKE RD) INTERSECTION IMPROVEMENTS

TYPE OF WORK: GRADING, PAVING, AND DRAINAGE



NAD 83/2001

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

GRAPHIC SCALE

50 25 0 50 100
PLANS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG 010000 GENERAL STORMWATER CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.

TGS ENGINEERS

Prepared In the Office of:

TGS ENGINEERS

706 HILLSBOROUGH ST. - SUITE 200
RALEIGH, NC 27603

Designed by:

Ben Henegar, PE ***3564***
NAME *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

The "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2024 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND

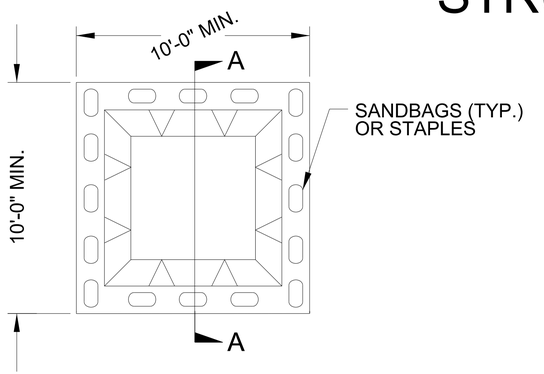
Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1630.07	Skimmer Basin	
1630.08	Tiered Skimmer Basin	
1630.09	Earthen Dam with Skimmer	
	Infiltration Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C

Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
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	A
1635.02	Rock Pipe Inlet Sediment Trap Type B	B
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	EW
	Silt Fence Coir Fiber Wattle Break	CFW
1636.03	Excelsior Wattle Barrier	EW EW EW
1636.03	Coir Fiber Wattle Barrier	CFW CFW CFW

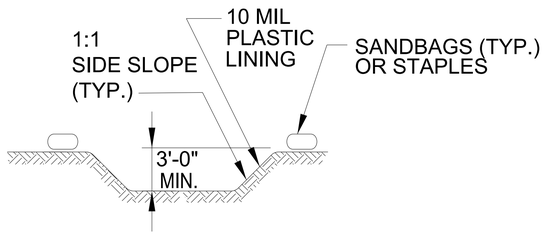
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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A



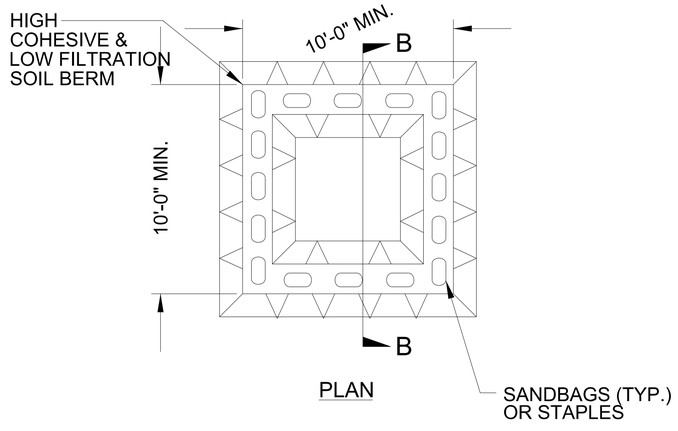
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

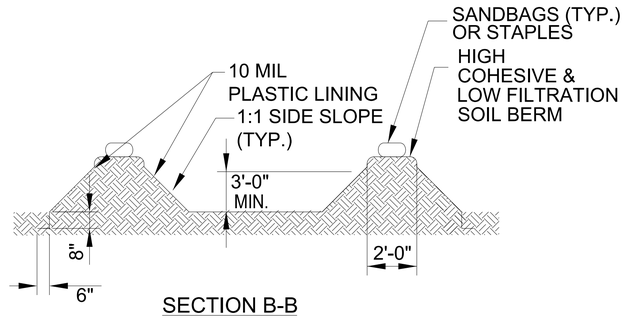
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

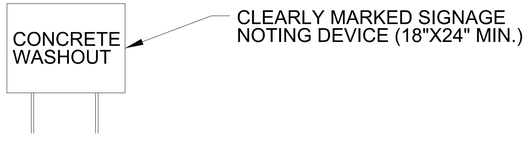
NOT TO SCALE



PLAN



SECTION B-B



NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.

3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARY MARKED WITH SIGNAGE NOTING DEVICE.

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	EC-3

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
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 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND HQW ZONES.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND HQW ZONES.

MATTING FOR EROSION CONTROL TOTALS

	ESTIMATE (SY)
DITCHLINE STRAW MATTING SUBTOTAL	N/A
DITCHLINE EXCELSIOR MATTING SUBTOTAL	N/A
SLOPE MATTING SUBTOTAL	N/A
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER	1,000
TOTAL	1,000
SAY	1,000

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

END TIP PROJECT W-5712A
-L1- STA 27+50.00

-Y1- STA 10+75.00
BEGIN CONSTRUCTION

-Y2- STA 15+00.00
END CONSTRUCTION

-Y3- STA 12+85.00
BEGIN CONSTRUCTION

-DR- STA 10+15.00
BEGIN CONSTRUCTION

MATCH LINE STA. -L- STA. 18+00.00
MATCH TO SHEET NO. 5

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

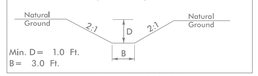
NAD 83 2001

N 14° 35' 57.3" E
S 70° 40' 57.6" E
N 32° 23' 35.3" E
S 75° 03' 44.9" E
S 62° 30' 00" E
S 47° 31' 29.2" E
S 10° 45' 55.6" E

REMOVE SILT
SPECIAL LAT. BASE DITCH SEE DETAIL 1
CLASS 'B' RIP-RAP EST. 5 TONS GEOTEXTILE EST. 14 SY
CLASS 'B' RIP-RAP EST. 8 TONS GEOTEXTILE EST. 21 SY
STANDARD BASE DITCH SEE DETAIL 3 S=2.3% L=40' EST. 15 CY DDE
SPECIAL BACK OF CURB CUT DITCH SEE DETAIL 2
PROP. 20' DRIVE
PROP. 16' DRIVE
PROP. 30' DRIVE
PROP. 82' DRIVE
PROP. 27' DRIVE
PROP. 30' CONC APRON
DO NOT DISTURB FENCE
DO NOT DISTURB SEWER PUMPS
20' CURB TRANSITION
REMOVE WELL HOUSE ABANDON AND SEAL WELL
RELOCATE FENCE (BY OWNER)

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

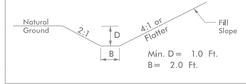
DETAIL 3
STANDARD BASE DITCH
(Not to Scale)



Min. D= 1.0 Ft.
B= 3.0 Ft.

–Y1– STA. 11+90 RT

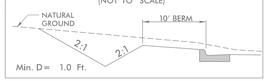
DETAIL 1
SPECIAL LATERAL BASE DITCH
(Not to Scale)



Min. D= 1.0 Ft.
B= 2.0 Ft.

FROM –Y1– STA. 12+00 TO STA. 12+75 LT
DDE = 120 CY

DETAIL 2
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



FROM –Y1– STA. 17+74 TO STA. 18+50 LT

HEELSTONE LAND HOLDINGS, LLC DB 1695 PG 874
SOUTH POST, LLC DB 1627 PG 1753
H.A. COMMERCIAL, LLC DB 1615 PG 274 PB 32 PG 119
SHELBY MISSIONARY METHODIST CHURCH DB 1707 PG 390
RUBY M. HENDRICK DB 13V PG 113 DB 121PG 1 DB 7S PG 363
AMY S. HENDRICK DB 1701PG 165
TERRY L. HENDRICK CARRIE J. HAWKINS DB 1570 PG 1448
FRED M. TROUTMAN, JR. BARBARA P. TROUTMAN DB 1488 PG 658
MELISSA G. WELLS DAVID L. WELLS, JR. ESTATE FILE 09E PG 489 DB 1124 PG 849 DB 1263 PG 1090
SOUTH POST, LLC DB 1627 PG 1753
CHARLES H. SMITH LIFE ESTATE DB 1606 PG 1548
CHERRY L. BARNETT DB 1569 PG 1556 PB 9 PG 13
MICHAEL S. BUTLER LINDA BUTLER DB 1692 PG 623 PB 8 PG 37

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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	EC-5/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

MATCH LINE STA. -L- STA. 18+00.00
MATCH TO SHEET NO. 4

NAD 83/2001

-Y3-PC 10+52.94

-Y3-POT 10+00.00

-L-PRC 15+29.36

-L-PC 12+54.51

-L-POT 9+00.00

BEGIN TIP PROJECT W-5712A
-L- STA 12+00.00

BEGIN CONSTRUCTION
-L- STA 9+60.00

TED K. STROUD
DB 1644 PG 1302

MONA C. MCKEE
ESTATE FILE 07E PG 823
DB 1640 PG 37
DB 10V PG 527

TIMOTHY J. BRADSHAW
LISA B. BRADSHAW
DB 1507 PG 2310

PREGNANY RESOURCE CENTER OF CLEVELAND COUNTY, INC.
DB 1654 PG 1425

DOROTHY HENDRICK
DB 13W PG 86

07 RONALD DENTON
DENISE HULLENDER
ESTATE FILE 10E PG 643
DB 10M PG 8
PB 9 PG 13

06 LMABTHG, LLC
DB 1690 PG 34
PB 9 PG 13

05 LYNN K. ALLEN
DB 1230 PG 1846
PB 9 PG 13

04 HELEN E. PATTERSON
DB 9Z PG 631
PB 9 PG 13

03 LAKESHA S. JEFFEIRS
DB 1697 PG 1440
PB 9 PG 13

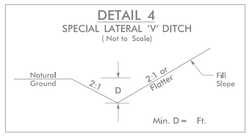
02 GARY D. PORTER
WANDA H. PORTER
DB 11C PG 254
PB 9 PG 13

01 JAMES M. JONES
DB 18R PG 58
PB 9 PG 13

NORMA S. BARRETT
DB 9D PG 432
PB 9 PG 13

PROP. 16' DRIVE
PROP. 16' ASPHALT DRIVE
PROP. 42' DRIVE
PROP. 44' DRIVE
DO NOT DISTURB WELL
REMOVE
15" RCP-III
15" RCP-IV
CLASS 'B' RIP-RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY
SPECIAL LAT. 'V' DITCH SEE DETAIL 4

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -L- STA. 9+60 TO STA. 11+30 RT
DDE=20CY

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

END TIP PROJECT W-5712A
-L1- STA 27+50.00

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	EC-6/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

NAD 83/2001

N 14° 35' 57.3" E

LINE EXIST. SHOULDER W/PSRM AT END OF CURB EST. 20 SY

LINE EXIST. SHOULDER W/PSRM AT END OF CURB EST. 20 SY

50' TAPER TO EXISTING

-Y1- STA 10+75.00
BEGIN CONSTRUCTION

S 47° 31' 29.2" E

S 69° 30' 18.7" E

S 75° 03' 44.8" E

S 70° 40' 57.6" E

N 32° 23' 35.3" E

-Y2- STA 15+00.00
END CONSTRUCTION

-DR- STA 10+15.00
BEGIN CONSTRUCTION

-Y3- STA 12+85.00
BEGIN CONSTRUCTION

MATCH LINE STA. -L- STA. 18+00.00
MATCH TO SHEET NO. 5

REMOVE SILT

SPECIAL LAT. BASE DITCH SEE DETAIL 1

CLASS 'B' RIP-RAP EST. 5 TONS GEOTEXTILE EST. 14 SY

CLASS 'B' RIP-RAP EST. 8 TONS GEOTEXTILE EST. 21 SY

STANDARD BASE DITCH SEE DETAIL 3 S=2.3% L=40' EST. 15 CY DDE

SPECIAL BACK OF CURB CUT DITCH SEE DETAIL 2

PROP. 20' DRIVE

PROP. 30' CONC APRON

PROP. 16' DRIVE

PROP. 30' DRIVE

PROP. 82' DRIVE

PROP. 27' DRIVE

DO NOT DISTURB FENCE

DO NOT DISTURB SEWER PUMPS

20' CURB TRANSITION

REMOVE WELL HOUSE ABANDON AND SEAL WELL

RELOCATE FENCE (BY OWNER)

16 SHELBY MISSIONARY METHODIST CHURCH DB 1707 PG 390

RUBY M. HENDRICK DB 13V PG 113 DB 12I PG 1 DB 7S PG 363

AMY S. HENDRICK DB 1701 PG 165

TERRY L. HENDRICK CARRIE J. HAWKINS DB 1570 PG 1448

RUBY M. HENDRICK DB 12I PG 1 DB 13V PG 113 DB 7S PG 363

FRED M. TROUTMAN, JR. BARBARA P. TROUTMAN DB 1488 PG 658

11 HEELSTONE LAND HOLDINGS, LLC DB 1695 PG 874

12 SOUTH POST, LLC DB 1627 PG 1753

10 MELISSA G. WELLS DAVID L. WELLS, JR. ESTATE FILE 09E PG 489 DB 1124 PG 849 DB 1263 PG 1090

13 SOUTH POST, LLC DB 1627 PG 1753

14 H.A. COMMERCIAL, LLC DB 1615 PG 274 PB 32 PG 119

15 MICHAEL S. BUTLER LINDA BUTLER DB 1692 PG 623 PB 8 PG 37

09 CHARLES H. SMITH LIFE ESTATE DB 1606 PG 1548

08 CHERRY L. BARNETT DB 1569 PG 1556 PB 9 PG 13

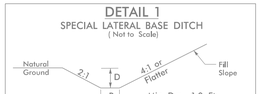
SOUTH POST, LLC DB 1627 PG 1753

DETAIL 3
STANDARD BASE DITCH
(Not to Scale)



-Y1- STA. 11+90 RT

DETAIL 1
SPECIAL LATERAL BASE DITCH
(Not to Scale)



FROM -Y1- STA. 12+00 TO STA. 12+75 LT
DDE = 120 CY

DETAIL 2
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



FROM -Y1- STA. 17+74 TO STA. 18+50 LT

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS' REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

IN LIEU OF ROCK INLET SEDIMENT TRAP TYPE C, UTILIZE FABRIC INSERT INLET PROTECTION DEVICES IN AREAS WHERE WATER MAY POND ON ROAD OPEN TO LIVE TRAFFIC.

MATCH LINE STA. -L- STA. 18+00.00
MATCH TO SHEET NO. 4

NAD 83/2001

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	EC-7/CONST.5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

TED K. STROUD
DB 1644 PG 1302

MONA C. MCKEE
ESTATE FILE 07E PG 823
DB 1640 PG 37
DB 10V PG 527

TIMOTHY J. BRADSHAW
LISA B. BRADSHAW
DB 1507 PG 2310

PREGNANY RESOURCE CENTER OF CLEVELAND COUNTY, INC.
DB 1654 PG 1425

DOROTHY HENDRICK
DB 13W PG 86

RONALD DENTON
DENISE HULLENDER
ESTATE FILE 10E PG 643
DB 10M PG 8
PB 9 PG 13

LMABTHG, LLC
DB 1690 PG 34
PB 9 PG 13

LYNN K. ALLEN
DB 1230 PG 1846
PB 9 PG 13

HELEN E. PATTERSON
DB 9Z PG 631
PB 9 PG 13

LAKESHA S. JEFFEIRS
DB 1697 PG 1440
PB 9 PG 13

GARY D. PORTER
WANDA H. PORTER
DB 11C PG 254
PB 9 PG 13

JAMES M. JONES
DB 18R PG 8
PB 9 PG 13

NORMA S. BARRETT
DB 9D PG 432
PB 9 PG 13

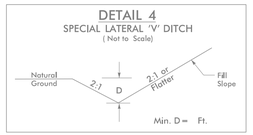
-Y3-PC 10+52.94
-Y3-POT 10+00.00
-L-PRC 15+29.36
-L-PRC 12+54.51
-L-POT 9+00.00

BEGIN TIP PROJECT W-5712A
-L- STA 12+00.00

BEGIN CONSTRUCTION
-L- STA 9+60.00

PROP. 16' DRIVE
PROP. 16' ASPHALT DRIVE
PROP. 42' DRIVE
PROP. 44' DRIVE
DO NOT DISTURB WELL
REMOVE
15" RCP-III
15" RCP-IV
CLASS 'B' RIP-RAP
EST. 2 TONS
GEOTEXTILE
EST. 7 SY
SPECIAL LAT. 'V' DITCH
SEE DETAIL 4

DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -L- STA. 9+60 TO STA. 11+30 RT
DDE=20CY

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

T.I.P.: W-5712A

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
CLEVELAND COUNTY

LOCATION: NC 180 (S. POST RD) , NC 226 (EARL RD) AND SR 2202 (JOE'S LAKE RD) INTERSECTION

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	SIGN-1

APPROVED: DocuSigned by: Jimmy Terry FD36F38882E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
903.10	GROUND MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
910.50	SIGNING FOR SPEED REDUCTION ZONE

GENERAL NOTES

. SIGNS FURNISHED BY CONTRACTOR
. ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
. IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
. WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
. ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
. WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
. THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4025000000	901	CONTRACTOR FURNISHED, TYPE D SIGN	25	SF
4025000000	901	CONTRACTOR FURNISHED, TYPE E SIGN	240	SF
4025000000	901	CONTRACTOR FURNISHED, TYPE F SIGN	115	SF
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	770	LF
4096000000	904	SIGN ERECTION, TYPE D	2	EA
4102000000	904	SIGN ERECTION, TYPE E	38	EA
4108000000	904	SIGN ERECTION, TYPE F	8	EA
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E (GROUND MOUNTED)	3	EA
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	28	EA
4237000000	907	STOCKPILE SIGN, D, E OR F	5	EA

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	TYPE E SIGNS
SIGN-3	TYPE F SIGNS
SIGN-4	SIGN DESIGNS
SIGN-5 THRU SIGN-7	SIGNING PLAN SHEETS

PLANS PREPARED FOR N.C.D.O.T. BY:

TGS ENGINEERS
201 W. MARION ST, STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

JIMMY L. TERRY, PE — PROJECT ENGINEER

SANDRA G. MELVIN — DESIGN TECHNICIAN

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

1/30/2025
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User:jmelvin

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	SIGN -2

APPROVED: DocuSigned by: Jimmy Terry F2D3812B82E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

401 QUANTITY REQ'D 4



30 X 30
W2-6

ONE "U" POST PER SIGN

402 QUANTITY REQ'D 4



18 X 18
W13-1p

MOUNT BELOW SIGN 401
IN .... INSTALLATIONS

403 QUANTITY REQ'D 4



36 X 36
R3-8

ONE "U" POST PER SIGN

404 QUANTITY REQ'D 8



36 X 36 X 36
R1-2

ONE "U" POST PER SIGN

405 QUANTITY REQ'D 4



30 X 24
R6-4

ONE "U" POST PER SIGN

406 QUANTITY REQ'D 1



30 X 30
W14-2

ONE "U" POST PER SIGN

407 QUANTITY REQ'D 3



30 X 30
R1-1

ONE "U" POST PER SIGN

408 QUANTITY REQ'D 3



24 X 30
R2-1

ONE "U" POST PER SIGN

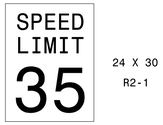
409 QUANTITY REQ'D 3



18 X 18
OM4-1

ONE "U" POST PER SIGN

410 QUANTITY REQ'D 2



24 X 30
R2-1

ONE "U" POST PER SIGN

410 QUANTITY REQ'D 2



36 X 36
W3-5

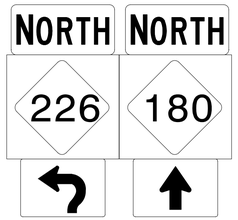
TWO "U" POSTS PER SIGN

TYPE "E" SIGNS

1/9/2025
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User:smelvin

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

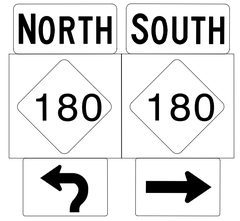
501 QUANTITY REQ'D 1



2 - 24 X 12 M3-1
2 - 24 X 24 M1-5
1 - 21 X 15 M5-3
1-21 X 15 M6-3

TWO "U" POSTS PER SIGN ASSEMBLY

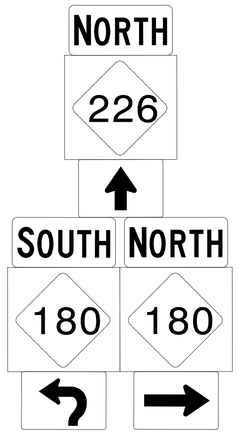
502 QUANTITY REQ'D 1



1 - 24 X 12 M3-1
1-24 X 12 M3-3
2 - 24 X 24 M1-5
1 - 21 X 15 M5-3
1-21 X 15 M6-3

TWO "U" POST PER SIGN ASSEMBLY

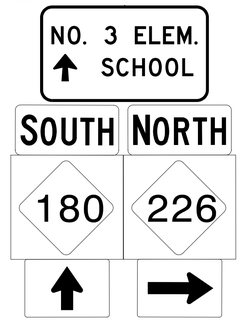
503 QUANTITY REQ'D 1



1 - 24 X 12 M3-1
1 - 24 X 24 M1-5
1 - 24 X 15 M6-3
1 - 24 X 12 M3-3
1-24 X 12 M3-1
2 - 24 X 24 M1-5
1 - 21 X 15 M5-3
1-21 X 15 M6-1

TWO "U" POSTS PER SIGN ASSEMBLY

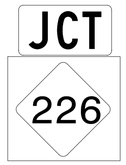
504 QUANTITY REQ'D 1



1 - 42 X 24 D1-2 (SIGN 302)
1 - 24 X 12 M3-3
1-24 X 12 M3-1
2 - 24 X 24 M1-5
1 - 21 X 15 M6-3
1-21 X 15 M6-1

TWO "U" POSTS PER SIGN ASSEMBLY

505 QUANTITY REQ'D 1



1 - 24 X 15 M2-1
1 - 24 X 24 M1-5

ONE "U" POST PER SIGN ASSEMBLY

506 QUANTITY REQ'D 1



1 - 24 X 12 M3-1
1 - 24 X 24 M1-5
1 - 24 X 15 M6-2

ONE "U" POST PER SIGN ASSEMBLY

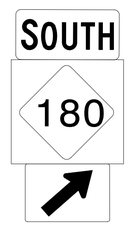
507 QUANTITY REQ'D 1



1 - 24 X 12 M3-1
1 - 24 X 24 M1-5
1 - 24 X 15 M6-2

ONE "U" POST PER SIGN ASSEMBLY

508 QUANTITY REQ'D 1



1 - 24 X 12 M3-3
1 - 24 X 24 M1-5
1 - 24 X 15 M6-2

ONE "U" POST PER SIGN ASSEMBLY

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	SIGN-3

APPROVED: DocuSigned by: Jimmy Terry FD39F38882E94D0...

DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35018 JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

TYPE "F" SIGNS

V8/2025
X:\NCDOT\W-5712A\Traffic\Signing\CADD\Signing Layout Plans\W-5712A_Sgn_SGN_03(Type F).dgn
User:mlyn

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

SIGN NUMBER: 301
TYPE: D
QUANTITY: 1

SIGN WIDTH: 5′-6″
HEIGHT: 2′-6″
TOTAL AREA: 13.8 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0″
WIDTH: 0.75″
RADII: 2.25″

NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

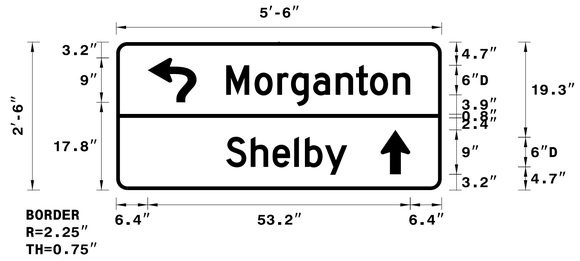
SYMBOL	X	Y	WID	HT
AR_FISHOOK	6.4	17.8	9	9.9
AR_Type D	53.6	3.2	6	9

MAT'L: 0.125″ (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: SGM
PROJECT ID: W-5712A
CHECKED BY: JLT
LOCATION: Cleveland County
Dec 01, 2017
DIV: 12



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

										Series/Size Text Length
M	o	r	g	a	n	t	o	n		D 2000
22.3	28.1	32.7	35.4	39.9	44.5	48.6	51.5	56.1		37.3
S	h	e	l	b	y					D 2000
22.3	27.3	31.7	36.1	38.3	42.3					24.5

FILENAME: W-5712A_Sign Design_301

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: 302
TYPE: D
QUANTITY: 1

SIGN WIDTH: 3′-6″
HEIGHT: 2′-0″
TOTAL AREA: 7.0 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0″
WIDTH: 0.75″
RADII: 3″

NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

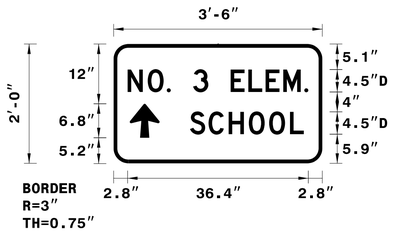
SYMBOL	X	Y	WID	HT
AR_Type B	3.3	5.1	6	6.8

MAT'L: 0.125″ (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: SGM
PROJECT ID: W-5712A
CHECKED BY: JLT
LOCATION: CLEVELAND COUNTY
Dec 04, 2017
DIV: 12



MOUNT ABOVE SIGN ASSEMBY 504

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter locations are panel edge to lower left corner

											Series/Size Text Length
N	O	.		3		E	L	E	M	.	D 2000
2.8	6.9	10.7	11.5	16	19.1	23.6	27.1	30.6	34.1	38.4	36.4
S	C	H	O	O	L						D 2000
15.4	19.1	23.2	27.2	31.3	35.5						22.9

FILENAME: W-5712A_Sign Design_302

NORTH CAROLINA D.O.T. SIGN DETAIL

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	SIGN-4

APPROVED: DocuSigned by: Jimmy Terry FD39F38882E94D0... 1/30/2025
DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35018 ENGINEER JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

1/8/2025
X:\W5001\W-5712A\Traffic\Signing\CADD\Signing Layout Plans\W-5712A_Sgn_SGN_04(Sign Design).dgn
User:mlyn

SIGN DESIGNS

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

TIP NO.	SHEET NO.
W-5712A	SIGN-5

APPROVED: DocuSigned by: Jimmy Terry FD39F38882E94D0...

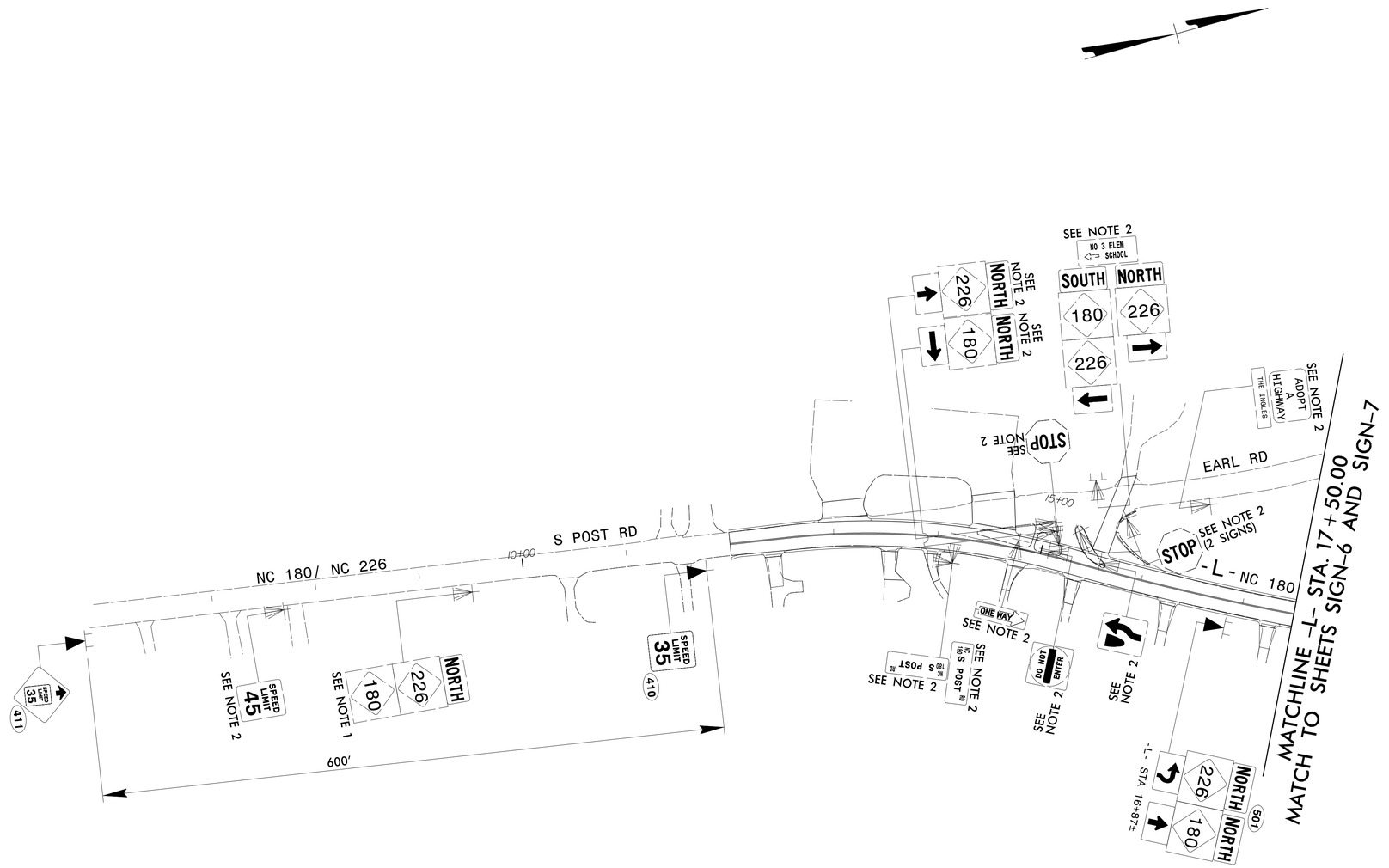
DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35018 JIMMY L TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST, STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275



PROJECT NOTES

1 EXISTING SIGN SYSTEM TO REMAIN
2 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3 STORE AND RELOCATE ON NEW SUPPORT

EXISTING AND PROPOSED SIGNING
NC 180 /NC 226 & EARL ST
(-L- STA. 7+50± TO 17+50.00)

1/9/2025
X:\NCDOT\W-5712A\Traffic\Signing\CADD\Signing Layout Plans\W-5712A_Sgn_SGN_05.dgn
User:smelvin

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

TIP NO.	SHEET NO.
W-5712A	SIGN-6

APPROVED: DocuSigned by: Jimmy Terry FD39F38882E84D0...

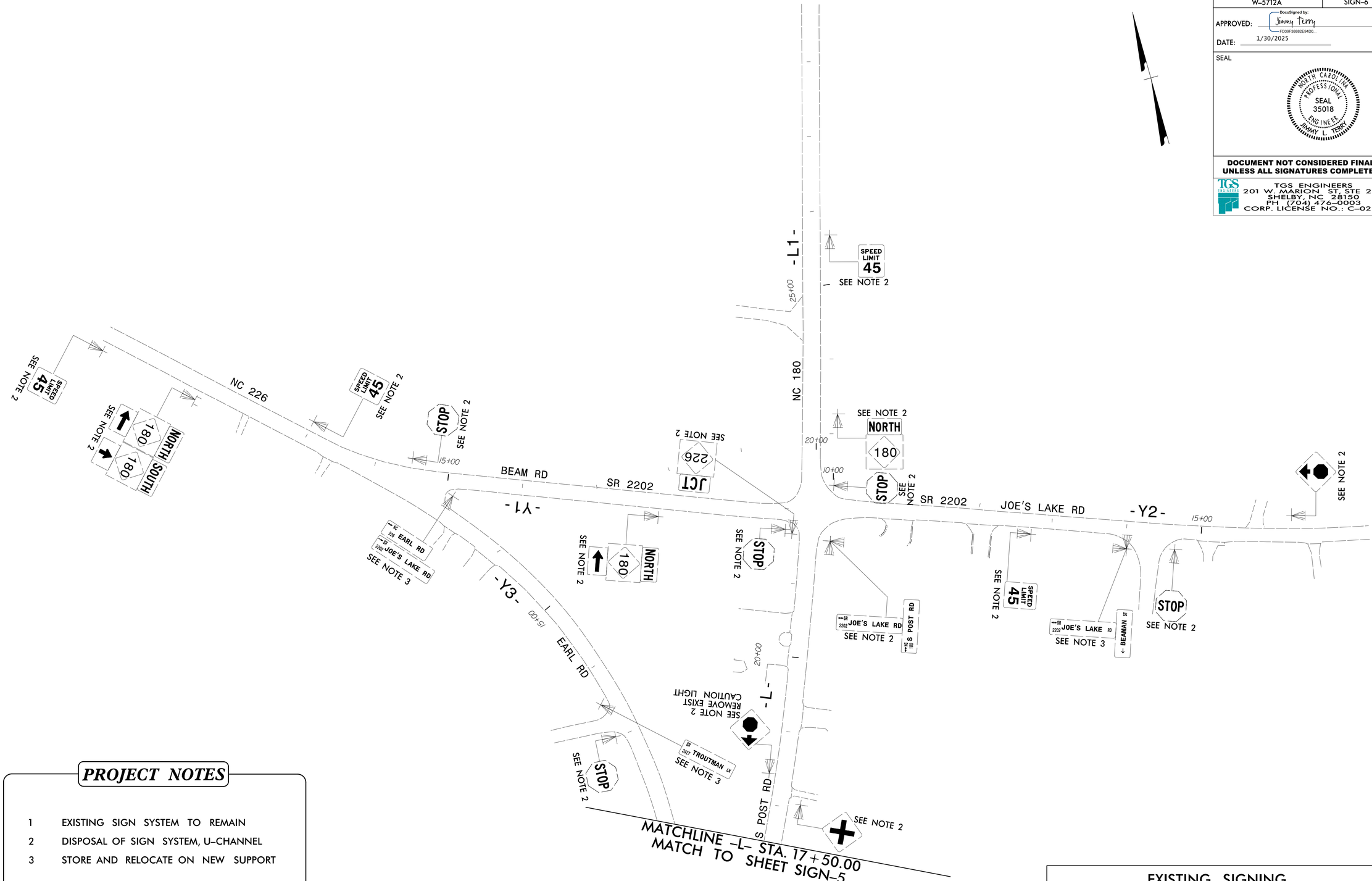
DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35018 JIMMY L TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST. STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275



PROJECT NOTES

1 EXISTING SIGN SYSTEM TO REMAIN
2 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3 STORE AND RELOCATE ON NEW SUPPORT

EXISTING SIGNING
NC 180 /NC 226
(-L- STA. 17+50.00 TO -L1- 27+50.00)
NC 226, SR 2202 & JOE'S LAKE RD
(-Y1- STA 10+00.00 TO -Y2- STA 16+20±)
EARL RD (-Y3- STA. 13+00 TO 16+75±)

1/9/2025
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User:smelvin

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

TIP NO.	SHEET NO.
W-5712A	SIGN-7

APPROVED: DocuSigned by: Jimmy Terry FD39F38882E94D0...

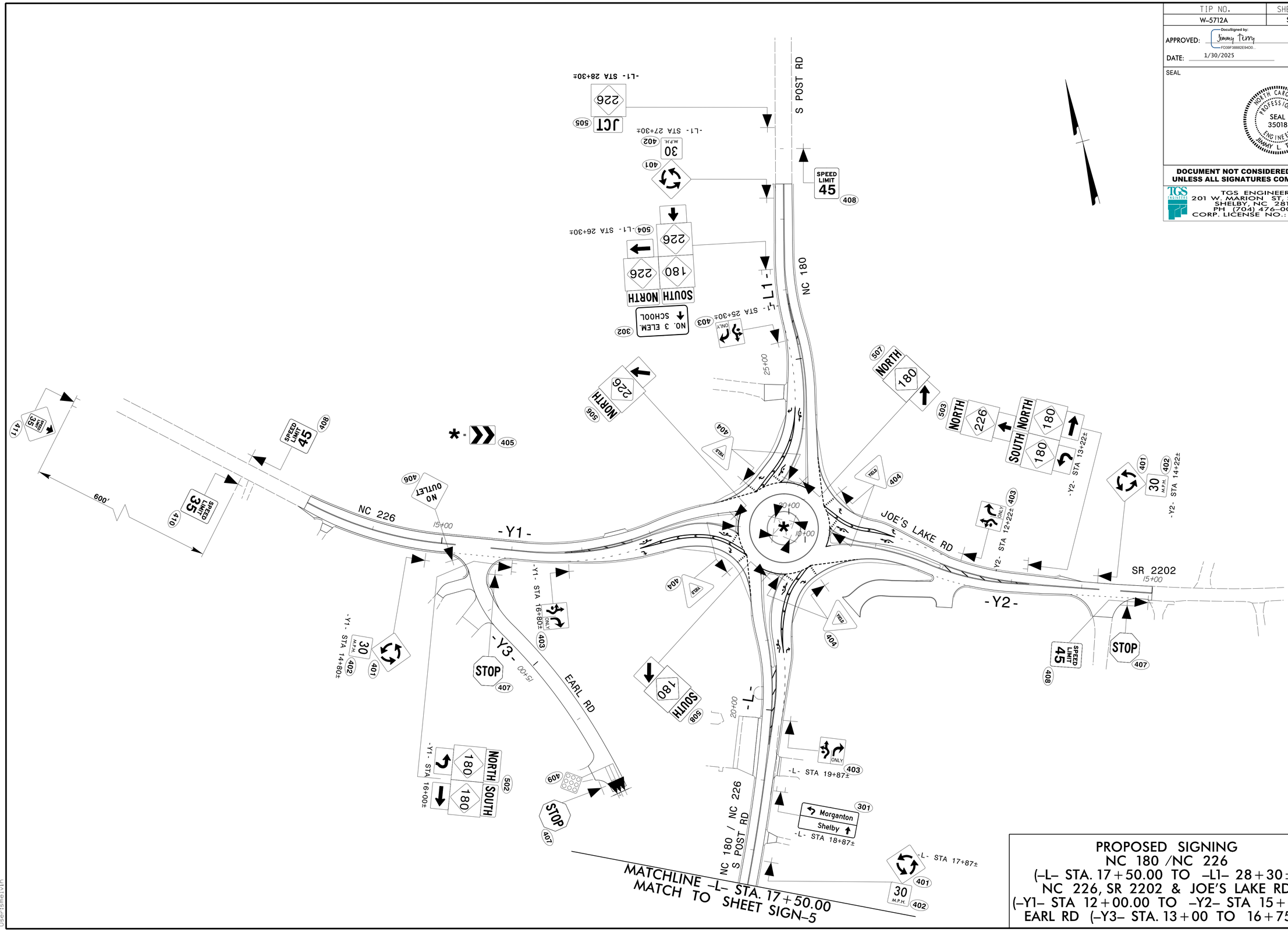
DATE: 1/30/2025

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35018 JIMMY L. TERRY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST, STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275



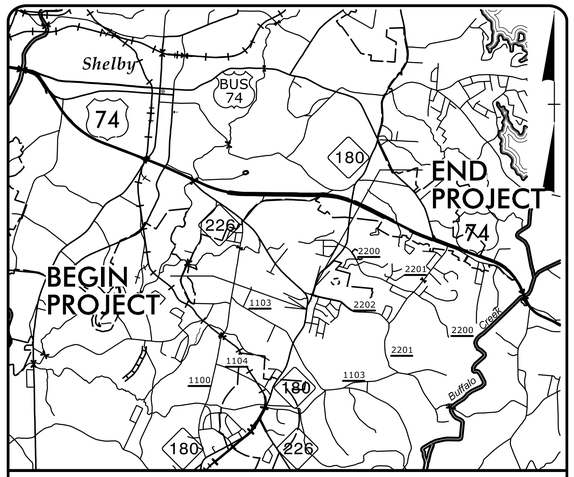
PROPOSED SIGNING
NC 180 /NC 226
(-L- STA. 17+50.00 TO -L1- 28+30±)
NC 226, SR 2202 & JOE'S LAKE RD
(-Y1- STA 12+00.00 TO -Y2- STA 15+00±)
EARL RD (-Y3- STA. 13+00 TO 16+75±)

1/19/2025
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Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

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TIP PROJECT: W–5712–A



VICINITY MAP

T.I.P. NO.	SHEET NO.
W–5712A	UC–1

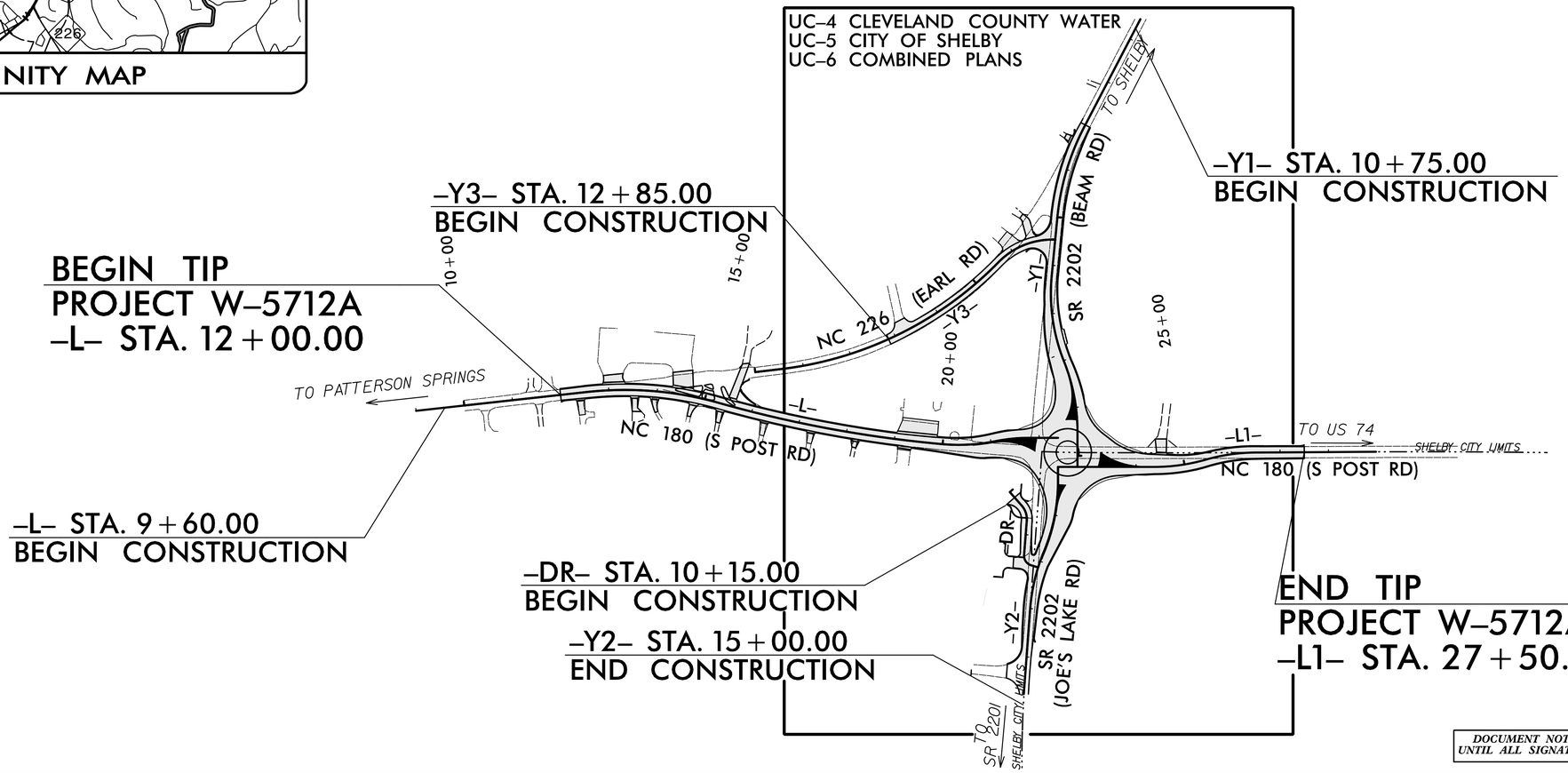
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
CLEVELAND COUNTY

NAD 83/2001

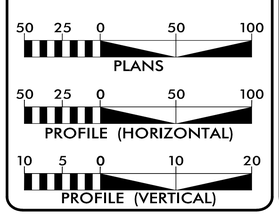
LOCATION: NC 180 (S. POST RD), NC 226 (EARL RD) AND SR 2202 (JOE'S LAKE RD) INTERSECTION IMPROVEMENTS

TYPE OF WORK: WATER AND SEWER RELOCATION



DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	*DESCRIPTION:*
UC–1	*TITLE SHEET*
UC–2	*UTILITY SYMBOLOGY*
UC–3	*NOTES*
UC–3A TO UC–3B	*DETAILS*
UC–4 TO UC–6	*UTILITY CONSTRUCTION SHEETS*
UC–7 TO UC–10	*PROFILE SHEETS*

WATER AND SEWER OWNERS ON PROJECT

(A) WATER – CITY OF SHELBY
(B) WATER – CLEVELAND COUNTY WATER
(C) SEWER – PRIVATE

PREPARED IN THE OFFICE OF

TGS ENGINEERS
804–C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476–0003
CORP. LICENSE NO.: C–0275

B. CHAD HOUSER PE — *UTILITY DESIGN ENGINEER*
JIMMY TERRY PE — *PROJECT MANAGER*

SEAL



DIVISION OF HIGHWAYS
DIVISION 12
1710 E. MARION ST.
SHELBY, NC 28151
704–480–9020

BRYAN SOWELL — *DIVISION PROJECT ENGINEER*
WARREN ANDERSON — *UTILITIES AREA COORDINATOR*

6/18/2018
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal — T
- CATV Pedestal — C
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line
- *Underground Telephone Cable
- *Underground Telephone Conduit
- *Underground Fiber Optics Telephone Cable
- *Underground TV Cable
- *Underground Fiber Optics TV Cable
- *Underground Gas Pipeline
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line
- Underground Unknown Utility Line
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown)
- Designated Utility Line (Type as Shown)

REV: 2/1/2012

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5/14/99

UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-3
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER BOBBY C HOUSER
8/27/2018

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.

2. THE EXISTING UTILITIES BELONG TO THE CITY OF SHELBY (BRIAN WILSON 704-669-6570) AND CLEVELAND COUNTY WATER (JEFF EARL 704-472-6212)

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. ALL PROPOSED WATER MAINS OWNED BY CLEVELAND COUNTY WATER (WL-1, WL-2, WL-3, WL-4) SHALL BE PRESSURE CLASS 350 DUCTILE IRON PIPE AND UTILIZE FLEXIBLE PUSH-ON RESTRAINED JOINTS.

2. ALL PROPOSED WATER MAINS OWNED BY THE CITY OF SHELBY (WL-5, WL-6) SHALL BE THICKNESS CLASS 52 DUCTILE IRON PIPE AND UTILIZE FLEXIBLE PUSH-ON RESTRAINED JOINTS.

3. WATER LINE UTILIZING RESTRAINED JOINTS SHALL BE TYTON JOINT, HP LOK, TR FLEX, USIFLEX OR EQUIVALENT.

4. ALL WATERLINE SHALL HAVE COATED TRACER WIRE NO SMALLER THAN 14 AWG SOLID COPPER.

5. HYDRANTS SHALL BE WATEROUS WB-67 WITH LOCKING CAP. ALL PROPOSED HYDRANT LEGS SHALL BE 6" DUCTILE IRON PIPE AND UTILIZE MECHANICAL RESTRAINED JOINTS.

6. ALL WATER LINE FITTINGS 6" OR LARGER SHALL BE PRESSURE CLASS 350 DUCTILE IRON MECHANICAL RESTRAINED JOINT IN ACCORDANCE WITH AWWA C110

7. EXISTING WATER SERVICE LINES WHICH ARE GALVANIZED OR IN WHICH THE EXISTING SERVICE COUPLING IS BENEATH THE PROPOSED EDGE OF PAVEMENT SHALL BE INSTALLED FROM THE WATER MAIN TO THE METER.

8. ALL VALVES 12" AND UNDER SHALL BE RESILIENT WEDGE GATE VALVES.

9. ALL VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES.

10. WATER MAINS CROSSING OTHER UTILITIES AND NON -POTABLE WATER LINES (SANITARY SEWER, STORM DRAINS, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM TWENTY -FOUR (24") INCHES BETWEEN THE WATER LINE AND OTHER UTILITIES. IF THESE SEPARATIONS CANNOT BE MAINTAINED, THEN DUCTILE IRON PIPE SHALL BE USED FOR 10' ON EACH SIDE OF THE CROSSING WITH A MINIMUM SEPARATION OF 6" MAINTAINED AS WELL AS ENCASED IN CLASS B CONCRETE FOR 5' ON EACH SIDE.

11. WHERE WATER, SEWER, AND GAS LINES ARE PARALLEL, A FOUR FEET HORIZONTAL CLEARANCE MUST BE MAINTAINED.

12. PROPOSED WATER LINES SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT FOR 10' EACH SIDE OF GAS LINE CROSSINGS AND WHERE THE WATER LINE AND GAS LINE ARE WITHIN 10 FEET OF EACH OTHER.

13. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE-INS ARE MADE AS NECESSARY.

14. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.

15. ALL PROPOSED FORCE SEWER LINE SHALL BE C-900 PRESSURE CLASS 150 PVC WITH A SDR 18 OR LESS.

16. ALL MATERIALS, EQUIPMENT, LABOR, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CLEVELAND COUNTY WATER STANDARDS AND NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR PROPOSED WATER LINES WL-1, WL-2, WL-3 AND WL-4. IN THE EVENT OF CONFLICT BETWEEN STANDARDS, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY.

17. ALL MATERIALS, EQUIPMENT, LABOR, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CITY OF SHELBY STANDARDS AND NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR PROPOSED WATER AND SEWER LINES WL-5, WL-6, SL-1. IN THE EVENT OF CONFLICT BETWEEN STANDARDS, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY.

18. ANY BENDS OF PVC WATER PIPE NOT SPECIFICALLY CALLED OUT WITH A 90, 45, 22.5, OR 11.25 DEGREE BEND FITTING, SHALL BE CONSTRUCTED BY A RADIAL BEND OF THE PIPE AS NOTED ON THE PLANS OR IN ACCORDANCE WITH PIPE MANUFACTURER'S SPECIFICATIONS (WHICHEVER IS MORE STRINGENT) - OR A COMBINATION OF BEND FITTINGS AND A RADIAL BEND OF THE PIPE. DEFLECTION OF THE PIPE JOINTS ON PVC PIPE MATERIAL IS NOT AN ACCEPTABLE METHOD OF PIPE BENDING.

$$$$SYSTIME$$$$ $$$$SYSDATE$$$$
$$$$FILENAME$$$$

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5/14/99

DETAILS FOR CLEVELAND COUNTY WATER LINES WL-1, WL-2, WL-3 AND WL4.

BASED ON TEST PRESSURE OF 200 P.S.I.

HORIZONTAL RESTRAINT
(ALL AREAS GIVEN ARE IN SQUARE FEET)

PIPE SIZE	DEGREE OF BEND	LBS. STATIC THRUST •	ALLOWABLE SOIL BEARING (PSF) 1000	2000	3000	4000	5000	6000	7000	8000
4"	11 1/4°	615	1	1	1	1	1	1	1	1
	22 1/2°	1,226	1	1	1	1	1	1	1	1
	45°	2,405	2	1	1	1	1	1	1	1
	90°	4,444	4	2	1	1	1	1	1	1
	TEE/PLUG	3,143	3	2	1	1	1	1	1	1
6"	11 1/4°	1,385	2	1	1	1	1	1	1	1
	22 1/2°	2,758	3	2	1	1	1	1	1	1
	45°	5,409	5	3	2	2	1	1	1	1
	90°	9,999	10	5	3	3	2	2	2	1
	TEE/PLUG	7,068	7	4	3	2	2	1	1	1
8"	11 1/4°	2,424	3	1	1	1	1	1	1	1
	22 1/2°	4,904	5	3	2	1	1	1	1	1
	45°	9,619	10	5	3	2	2	2	2	1
	90°	17,773	18	9	6	4	4	3	3	2
	TEE/PLUG	12,568	13	6	4	3	3	2	2	2
10"	11 1/4°	3,846	4	2	2	1	1	1	1	1
	22 1/2°	7,660	8	4	3	2	2	2	1	1
	45°	15,028	15	8	5	4	3	3	2	2
	90°	27,768	28	14	9	7	6	5	4	3
	TEE/PLUG	19,635	20	10	7	5	4	3	3	2
12"	11 1/4°	5,543	6	3	2	2	1	1	1	1
	22 1/2°	11,032	11	6	4	3	2	2	2	2
	45°	21,641	22	11	7	5	4	4	3	3
	90°	39,987	40	20	13	10	8	7	6	5
	TEE/PLUG	28,274	28	14	9	7	6	5	4	4
14"	11 1/4°	7,542	8	4	3	2	2	2	1	1
	22 1/2°	15,016	15	8	5	4	3	3	2	2
	45°	29,455	29	15	10	7	6	5	4	4
	90°	54,426	54	27	18	14	11	9	8	7
	TEE/PLUG	38,485	38	19	13	10	8	6	5	5
16"	11 1/4°	9,854	10	5	3	3	2	2	2	2
	22 1/2°	19,612	20	10	7	5	4	3	3	3
	45°	38,471	38	17	13	10	8	6	5	5
	90°	71,085	71	35	24	18	14	12	10	9
	TEE/PLUG	50,265	50	25	17	13	10	8	7	6
20"	11 1/4°	15,397	16	8	6	4	3	3	3	2
	22 1/2°	30,645	31	16	11	8	7	6	5	4
	45°	60,112	61	30	20	15	12	10	9	8
	90°	111,072	112	56	37	28	23	19	16	14
	TEE/PLUG	78,540	79	40	27	20	16	14	12	10

• INCLUDES 1.25 SAFETY FACTOR

VERTICAL RESTRAINT
(ALL VOLUMES GIVEN ARE IN CUBIC YARDS)••

PIPE SIZE	RESTRAINING RODS NO.REQ'D	DIA.	DEGREE OF BEND 11 1/4°	22 1/2°	45°
4"	2	1/2"	0.25	0.50	0.75
6"	2	1/2"	0.50	1.0	1.75
8"	2	5/8"	0.75	1.50	3.0
10"	2	3/4"	1.25	2.25	4.50
12"	2	7/8"	1.75	3.25	6.50
14"	4	5/8"	2.25	4.50	8.75
16"	4	3/4"	3.0	6.0	11.50
20"	4	7/8"	5.3	10.4	19.2

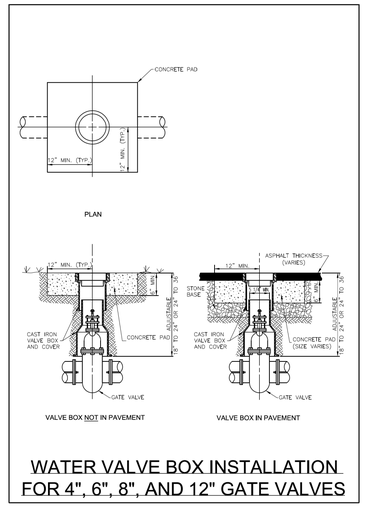
••INCLUDES 1.50 SAFETY FACTOR

GENERAL NOTES:
1. CONCRETE SHALL BE CLASS "B".
2. CONCRETE SHALL NOT CONTACT BOLTS ENDS OF MECHANICAL JOINT FITTINGS.
3. CONSULT WITH ENGINEER FOR CONCRETE REQUIREMENTS ON MAINS LARGER THAN 16 INCHES. (FOR VERTICAL & HORIZONTAL BENDS)
4. ALLOWABLE SOIL BEARING SHALL BE DETERMINED BY THE ENGINEER.

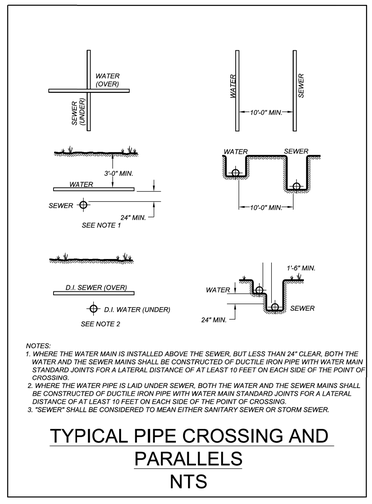
REVISIONS NO.	DATE	DESCRIPTION

THRUST RESTRAINT FOR WATER MAINS

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

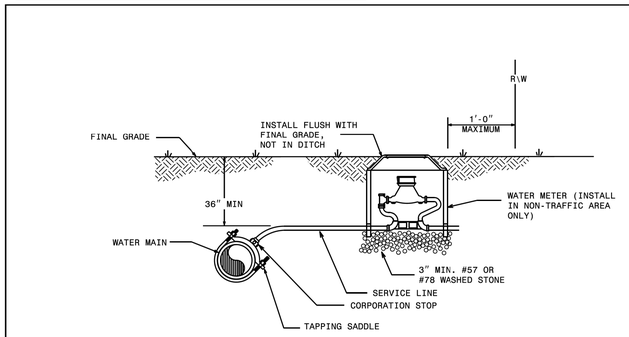


WATER VALVE BOX INSTALLATION FOR 4", 6", 8", AND 12" GATE VALVES



TYPICAL PIPE CROSSING AND PARALLELS
NTS

NOTES:
1. WHERE THE WATER MAIN IS INSTALLED ABOVE THE SEWER, BUT LESS THAN 24" CLEAR, BOTH THE WATER AND THE SEWER MAINS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH WATER MAIN STANDARD JOINTS FOR A LATERAL DISTANCE OF AT LEAST 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
2. WHERE THE WATER PIPE IS LAID UNDER SEWER, BOTH THE WATER AND THE SEWER MAINS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH WATER MAIN STANDARD JOINTS FOR A LATERAL DISTANCE OF AT LEAST 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
3. "SEWER" SHALL BE CONSIDERED TO MEAN EITHER SANITARY SEWER OR STORM SEWER.



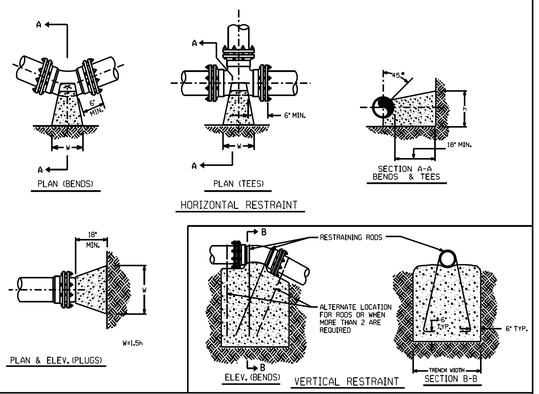
NOTES:
1. THIS DETAIL SHOWS THE TYPICAL FINAL WATER METER CONFIGURATION AFTER INSTALLATION OF A PROPOSED WATER METER, RECONNECTION OF AN EXISTING WATER METER, OR RELOCATION OF A WATER METER.

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

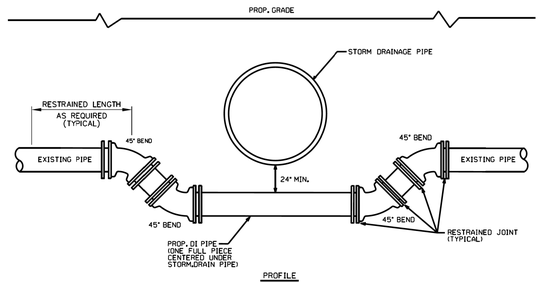
1-18

ROADWAY STANDARD DRAWING FOR **WATER METER**

SHEET 1 OF 1
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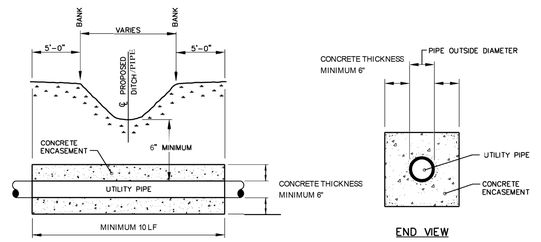


THRUST RESTRAINT FOR PIPE LINES



NOTES:
1. ALL FITTINGS AND JOINTS SHALL BE RESTRAINED JOINT DESIGN.
2. PROVIDE APPROPRIATE RESTRAINED LENGTH AS PER TABLE HEREIN.

FORCE MAIN / WATER MAIN CROSSING UNDER STORM DRAINAGE PIPE



NOTES:
1. CONCRETE SHALL BE CLASS B – 2,500 P.S.I. MIN. COMPRESSIVE STRENGTH.
2. CONCRETE ENCASEMENT IS NOT REQUIRED WHEN PIPE IS AT LEAST THREE (3) FEET UNDER CENTERLINE OF CREEK BOTTOM.

UTILITY PIPE CONCRETE ENCASEMENT FOR DITCH/CREEK/STORMWATER CROSSINGS

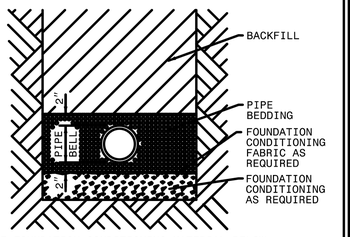
PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-3A
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DocuSigned by: Bobby Lloyd Houser — BBF226F0356444D4... — BOBBY C HOUSER — 8/27/2018

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TRENCH DETAIL



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

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DATE = 8/27/2018

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

5/14/99

DETAILS FOR CITY OF SHELBY WL-5 AND WL-6

(IF NO CITY DETAIL PROVIDED- USE DETAILS ON UC-3A)

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-3B

DESIGNED BY: BCH
DRAWN BY: BCH
CHECKED BY: JLT
APPROVED BY:
REVISED:

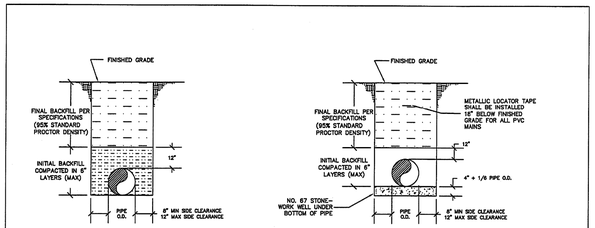
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DocuSigned by: Bobby Chad Houser — BOBBY C HOUSER — 8/27/2018

UTILITY CONSTRUCTION PLANS ONLY

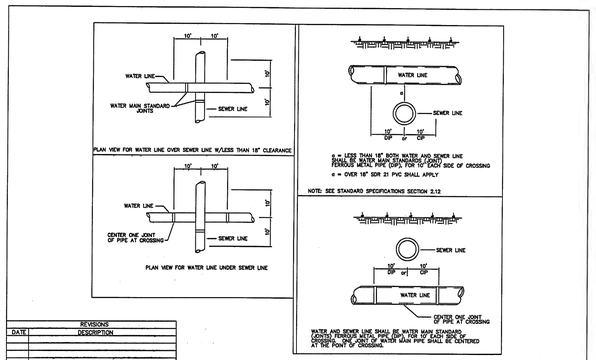
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



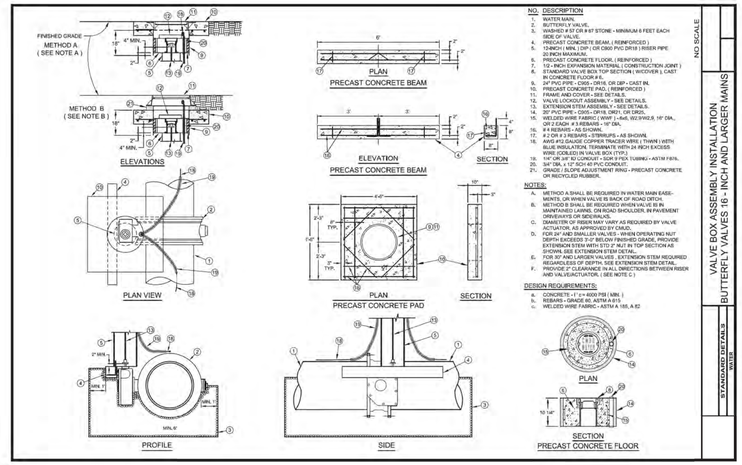
REVISIONS	
DATE	DESCRIPTION

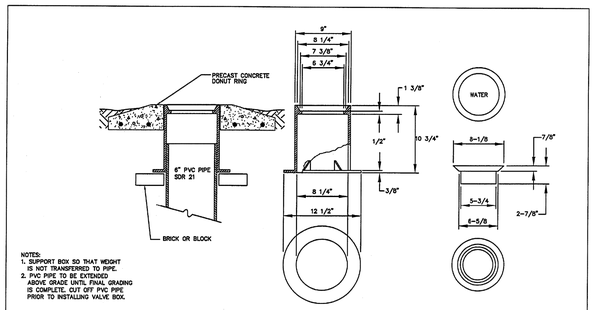
CITY OF SHELBY STANDARDS — PIPE BEDDING AND BACKFILLING/ CLASS D&C — STD. NO. 6.01A



REVISIONS	
DATE	DESCRIPTION

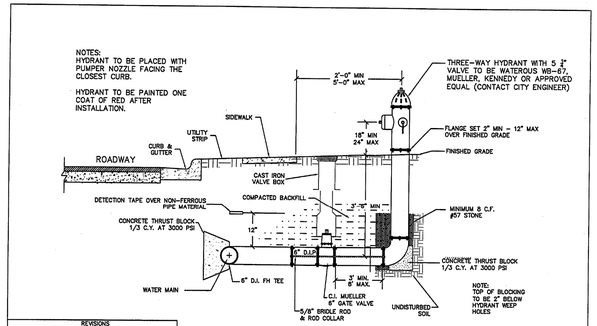
CITY OF SHELBY STANDARDS — FERROUS MATERIALS AND JOINT REQUIREMENTS FOR WATER LINE AND SEWER LINE CROSSINGS — STD. NO. 6.19





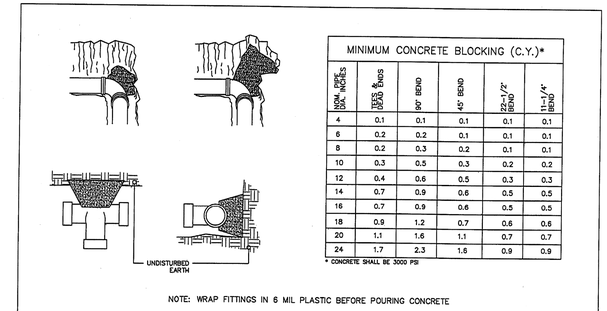
REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS — STANDARD VALVE BOX — STD. NO. 6.02



REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS — STANDARD HYDRANT INSTALLATION — STD. NO. 6.06



MINIMUM CONCRETE BLOCKING (C.Y.)*

NOM. PIPE DIA. INCHES	TEES & PLUGS	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4	0.1	0.1	0.1	0.1	0.1
6	0.2	0.2	0.1	0.1	0.1
8	0.2	0.3	0.2	0.1	0.1
10	0.3	0.5	0.3	0.2	0.2
12	0.4	0.6	0.5	0.3	0.3
14	0.7	0.9	0.6	0.5	0.5
16	0.7	0.9	0.6	0.5	0.5
18	0.9	1.2	0.7	0.6	0.6
20	1.1	1.6	1.1	0.7	0.7
24	1.7	2.3	1.6	0.9	0.9

* CONCRETE SHALL BE 3000 PSI

NOTE: WRAP FITTINGS IN 6 MIL PLASTIC BEFORE POURING CONCRETE

REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS — STANDARD REACTION BLOCKING — STD. NO. 6.13

SYSTEM ENGINEERING DESIGN

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

NOTE:
ONLY CLEVELAND COUNTY WATER DESIGN SHOWN ON THIS SHEET.
SEE SHEET UC-5 FOR CITY OF SHELBY DESIGN
SEE SHEET UC-6 FOR CLEVELAND COUNTY WATER AND CITY OF SHELBY COMBINED DESIGN.
SEE SHEETS UC-7 TO UC-10 FOR PROFILES AND STATIONING

PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-4
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	

NORTH CAROLINA PROFESSIONAL SEAL DocuSigned by: Bobby Joseph Housego ENGINEER BOBBY C HOUSEGO 8/27/2018

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NAD 83/2001

-Y1- STA 10+75.00
BEGIN CONSTRUCTION

-Y2- STA 15+00.00
END CONSTRUCTION

-Y3- STA 12+85.00
BEGIN CONSTRUCTION

-DR- STA 10+15.00
BEGIN CONSTRUCTION

-LI-PRC 25+44.75
PROP. 1 6" VALVE
TIE TO EXISTING 12" PVC WATER LINE W/ DIP SOLID SLEEVE
PROP. 1 - 12" VALVE
12"X6" TEE
PROP. 1 - 12" VALVE
PROP. 50 LF 12" ENCASEMENT PIPE
45° BEND
-LI-POT 22+79.02=
-YI-POT 20+23.00
45° BEND
-LI-PC 24+38.08
45° BENDS
-L-POT 22+39.02 (60'RT)=
-LI-POT 22+39.02=
-Y2-POT 10+00.00
-YI-PRC 18+02.82
-YI-PC 13+04.89
TIE TO EXISTING WATER LINE
PROP. 1 6" VALVE
-YI-POT 15+46.69=
-Y3-POC 16+93.19
-YI-PT 15+00.54
-YI-PRC 16+20.79
2 EA.-45° BEND
PROP. 30 LF 12" ENCASEMENT PIPE
PROP. 357 LF 6" WATER LINE CLEVELAND CO. DIP CL 350 PROFILE WL-2)
2 EA.-45° BEND
PROP. 1 - RECONNECT WATER METER
PROP. 120 LF 24" ENCASEMENT PIPE
45° BEND
PROP. 699 LF 6" WATER LINE (CLEVELAND CO. DIP CL 350 PROFILE WL-3)
22.5° BEND
22.5° BEND
PROP. 160 LF 2" WATER SERVICE LINE
TIE TO EXISTING WATER LINE
PROP. 1 6" VALVE
6"X6" TEE
PROP. 1 6" VALVE
2 EA.-45° BEND
PROPOSED 467 LF 6" WATER LINE (CLEVELAND CO. DIP CL 350 PROFILE WL-4)
PROP. 1 6" VALVE
PROP. 1 12" VALVE
12"X6" TEE
45° BEND
PROP. 30 LF 12" ENCASEMENT PIPE
PROPOSED 95 LF 6" WATER LINE (CCW.-DIP PC 350)
PROP. 1 - RECONNECT WATER METER
PROP. 1 6" VALVE
TIE TO EXISTING WATER LINE
-L-POT 22+39.02=
PROP. 1 12" VALVE
PROP. 11 - RECONNECT WATER METER
11.25° BEND
-L-PRC 21+07.32
PROP. 2 - RELOCATE WATER METER
-DR-PT 10+70.70
-DR-PC 10+37.20
-L-POT 10+00.00
PROP. 725 LF ABANDON 12" UTILITY PIPE
22.5° BEND
PROP. 1 - RELOCATE WATER METER
PROP. 722 LF 12" WATER LINE (CLEVELAND CO. DIP CL 350. PROFILE WL-1)
PROP. 1 - RELOCATE WATER METER
45° BEND
45° BEND
PROP. 1 12" VALVE
TIE TO EXISTING 12" PVC WATER LINE W/ DIP SOLID SLEEVE
PROP. 1 - RELOCATE WATER METER
-L-PCC 19+98.66
-Y3-PRC 15+63.35
-Y3-PC 10+52.94
-Y3-POT 10+00.00

HEELSTONE LAND HOLDINGS, LLC DB 1695 PG 874
SOUTH POST, LLC DB 1627 PG 1753
SPECIAL BACK OF CURB CUT DITCH SEE DETAIL 2
H.A. COMMERCIAL, LLC DB 1615 PG 274 PB 32 PG 119
SHELBY MISSIONARY METHODIST CHURCH DB 1707 PG 390
RUBY M. HENDRICK DB [illegible]
AMY S. HENDRICK DB 1701 PG 165
TERRY L. HENDRICK CARRIE J. HAWKINS DB 1570 PG 1448
RUBY M. HENDRICK DB 121 PG 1 DB 13V PG 113 DB 7S PG 363
FRED M. TROUTMAN, JR. BARBARA P. TROUTMAN DB 1488 PG 658
MELISSA G. WELLS DAVID L. WELLS, JR. ESTATE FILE 09E PG 489 DB 1124 PG 849 DB 1263 PG 1090
TED K. STROUD DB 1644 PG 1302
CHARLES H. SMITH LIFE ESTATE DB 1606 PG 1548
CHERRY L. BARNETT DB 1569 PG 1556 PB 9 PG 13
ESTATE FILE 10E PG 643 DB 10M PG 8 PB 9 PG 13
LMABTHG, LLC DB 1690 PG 34 PB 9 PG 13
MICHAEL S. BUTLER LINDA BUTLER DB 1692 PG 623 PB 8 PG 37

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS' REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 6,000 pounds. The actual quantity and type of fittings will vary based on field conditions.

The estimated quantity of "Water Service Line" on this plan sheet is 250 linear feet. The actual quantity will vary based on field conditions and will be dertermined during construction.

5/14/99

6/8/2018
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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-5
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036824 BOBBY C HOUSER — DocuSigned by: Bobby Clyde Houser — 8/27/2018

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTE:
ONLY CITY OF SHELBY DESIGN SHOWN ON THIS SHEET.
SEE SHEET UC-4 FOR CLEVELAND COUNTY WATER DESIGN
SEE SHEET UC-6 FOR CLEVELAND COUNTY WATER AND CITY OF SHELBY COMBINED DESIGN.
SEE SHEETS UC-7 TO UC-10 FOR PROFILES AND STATIONING.

-Y1- STA 10+75.00
BEGIN CONSTRUCTION

-Y2- STA 15+00.00
END CONSTRUCTION

-Y3- STA 12+85.00
BEGIN CONSTRUCTION

-DR- STA 10+15.00
BEGIN CONSTRUCTION

TIE TO EXISTING 16" WATER LINE

PROP. 1 - 16" VALVE

45° BENDS

PROP. 300 LF ABANDON 16" UTILITY PIPE

TIE TO EXISTING 4" FORCE SEWER

45° BENDS

45° BEND

PROP. 1 - 8" VALVE

TIE TO EXISTING 8" WATER LINE

45° BEND (ROTATE)

PROPOSED 1478 LF 8" WATER LINE (CITY OF SHELBY DIP CL 52 PROFILE WL-5)

PROPOSED 412 LF 16" WATER LINE (CITY OF SHELBY DIP CL 52 PROFILE WL-6)

PROP. 1 - 16" VALVE

PROP. 1 - 8" VALVE

16"X8" CROSS

PROP. 1 - 16" VALVE

PROPOSED 20 LF - 16" WATER LINE (CITY OF SHELBY DIP CL 52)

16" PLUG

22.5° BEND

11.25° BEND

22.5° BEND

PROP. 1 - RELOCATE FIRE HYDRANT
PROP. 10 LF HYDRANT LEG

PROPOSED 865 LF 4" FORCE MAIN SEWER (CITY OF SHELBY C900-SDR 18 PROFILE SL-1)

REMOVE WELL HOUSE ABANDON AND SEAL WELL

45° BENDS

TIE TO EXISTING 4" FORCE SEWER

PROP. 1 - 8" VALVE

2045° BEND

TIE TO EXISTING 8" WATER LINE

PROP. 1 - RELOCATE FIRE HYDRANT
PROP. 10 LF HYDRANT LEG

The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 5,000 pounds. The actual quantity and type of fittings will vary based on field conditions.

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

-L-POT 22+79.02=
-Y1-POT 20+23.00

-L-POT 22+39.02 (60'RT)=
-L-POT 22+39.02=
-Y2-POT 10+00.00

-Y2-POC 12+13.41 =
-DR-POT 11+84.80

-Y2-PT 13+00.68

-Y2-PC 14+58.65

-Y1-PC 13+04.89

-Y1-POT 15+46.69=
-Y3-POC 16+93.19

-Y1-PT 15+00.54

-Y1-PRC 18+02.82

-Y1-PC 16+20.79

-L-PRC 21+07.32

-L-PRC 22+39.02

-L-PRC 25+44.75

-Y3-PRC 15+63.35

-Y3-PC 10+52.94

-Y3-POT 10+00.00

-DR-POT 10+00.00

HEELSTONE LAND HOLDINGS, LLC DB 1695 PG 874 — 11
SOUTH POST, LLC DB 1627 PG 1753 — 12
H.A. COMMERCIAL, LLC DB 1615 PG 274 PB 32 PG 119 — 14
SOUTH POST, LLC DB 1627 PG 1753 — 13
MICHAEL S. BUTLER LINDA BUTLER DB 1692 PG 623 PB 8 PG 37 — 15
CHARLES H. SMITH LIFE ESTATE DB 1606 PG 1548 — 09
CHERRY L. BARNETT DB 1569 PG 1556 PB 9 PG 13 — 08
RONALD DENTON DENISE HULLENDER ESTATE FILE 10E PG 643 DB 10M PG 8 PB 9 PG 13 — 07
LMABTHG, LLC DB 1690 PG 34 PB 9 PG 13 — 06
SHELBY MISSIONARY METHODIST CHURCH DB 1707 PG 390 — 10
AMY S. HENDRICK DB 1701PG 165
TERRY L. HENDRICK CARRIE J. HAWKINS DB 1570 PG 1448
RUBY M. HENDRICK DB 121PG I DB 13V PG 113 DB 7S PG 363
FRED M. TROUTMAN, JR. BARBARA P. TROUTMAN DB 1488 PG 658
TED K. STROUD DB 1644 PG 1302

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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-6
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 049620 ENGINEER BIBBY C HOUSER
DocuSigned by: Bibby Houser
8/27/2018

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NOTE:
THIS SHEET INTENDED TO SHOW COMBINED PAY ITEMS FOR THIS PROJECT. SEE SHEETS UC-4 (CLEVELAND COUNTY) TO UC-5 (CITY OF SHELBY) FOR MORE DETAILED DESIGN.

-Y1- STA 10+75.00
BEGIN CONSTRUCTION

TIE TO EXISTING 16" WATER LINE
PROP. 1 - 16" VALVE
PROP. 50 LF 12" ENCASEMENT PIPE
PROP. 1 6" VALVE
TIE TO EXISTING 12" PVC WATER LINE W/ DIP SOLID SLEEVE
PROP. 1 - 12" VALVE
PROP. 1 - 12" VALVE
TIE TO EXISTING 4" FORCE SEWER
PROP. 300 LF ABANDON 16" UTILITY PIPE
PROP. 699 LF 6" WATER LINE (CLEVELAND CO. DIP CL 350 PROFILE WL-3)
PROP. 120 LF 24" ENCASEMENT PIPE
PROP. 30 LF 12" ENCASEMENT PIPE
PROP. 357 LF 6" WATER LINE CLEVELAND CO. DIP CL 350 PROFILE WL-2))
PROP. 1 8" VALVE
TIE TO EXISTING 8" WATER LINE
PROP. 1 - RECONNECT WATER METER
PROP. 1 6" VALVE
PROPOSED 467 LF 6" WATER LINE (CLEVELAND CO. DIP CL 350 PROFILE WL-4)
PROP. 1 6" VALVE
PROP. 1 - RECONNECT WATER METER
PROP. 1 6" VALVE
PROPOSED 1478 LF 8" WATER LINE (CITY OF SHELBY DIP CL 52 PROFILE WL-5)
PROP. 1 12" VALVE
PROP. 1 - 8" VALVE
PROP. 1 - 16" VALVE
PROPOSED 412 LF 16" WATER LINE (CITY OF SHELBY DIP CL 52 PROFILE WL-6)
PROP. 1 - 8" VALVE
PROP. 1 - 16" VALVE
PROP. 11 - RECONNECT WATER METER
PROPOSED 20 LF - 16" WATER LINE (CITY OF SHELBY DIP CL 52)
PROP. 1 - RELOCATE FIRE HYDRANT
PROP. 10 LF HYDRANT LEG
PROP. 2 - RELOCATE WATER METER
PROPOSED 865 LF 4" FORCE MAIN SEWER (CITY OF SHELBY C900-SDR 18 PROFILE SL-1)
PROP. 725 LF ABANDON 12" UTILITY PIPE
PROP. 1 - RELOCATE WATER METER
PROP. 722 LF 12" WATER LINE (CLEVELAND CO. DIP CL 350. PROFILE WL-1)
PROP. 1 - RELOCATE WATER METER
PROP. 1 12" VALVE
TIE TO EXISTING 12" PVC WATER LINE W/ DIP SOLID SLEEVE
PROP. 1 - RELOCATE WATER METER
TIE TO EXISTING 4" FORCE SEWER
PROP. 160 LF 2" WATER SERVICE LINE
TIE TO EXISTING WATER LINE
PROP. 1 6" VALVE
PROP. 1 6" VALVE
PROP. 30 LF 12" ENCASEMENT PIPE
PROPOSED 95 LF 6" WATER LINE (CCW.-DIP PC 350)
PROP. 1 - 8" VALVE
TIE TO EXISTING 8" WATER LINE
PROP. 1 - RELOCATE FIRE HYDRANT
PROP. 10 LF HYDRANT LEG

-L-POT 22+79.02=
-Y1-POT 20+23.00
-L-POT 22+39.02 (60'RT)=
-L-POT 22+39.02=
-Y2-POT 10+00.00
-Y2- STA 15+00.00
END CONSTRUCTION
-Y2-POC 12+13.41 =
-DR-POT 11+84.80
-DR- STA 10+15.00
BEGIN CONSTRUCTION

-Y3- STA 12+85.00
BEGIN CONSTRUCTION

-Y1-PC 13+04.89
-Y1-POT 15+46.69=
-Y3-POC 16+93.19
-Y1-PT 15+00.54
-Y1-PRC 18+02.82
-Y1-PC 16+20.79
-LI-PRC 25+44.75
-LI-PC 24
-Y3-PRC 15+63.35
-Y3-PC 10+52.94
-Y3-POT 10+00.00
-L-PRC 21+07.32

NAD 83/2001

The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 11,000 pounds. The actual quantity and type of fittings will vary based on field conditions.

The estimated quantity of "Water Service Line" on this plan sheet is 250 linear feet. The actual quantity will vary based on field conditions and will be dertermined during construction.

NOTE TO CONTRACTOR:
SEPTIC DRAIN FIELDS ARE IN CLOSE PROXIMITY TO PROPOSED CONSTRUCTION ALONG PARCELS 01, 03, 05, 06, 09, AND 13. THE SITE EVALUATIONS' REPORTS CAN BE PROVIDED UPON REQUEST. EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGING THESE AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE NO DAMAGE TO THESE AREAS OCCUR.

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

5/28/99

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

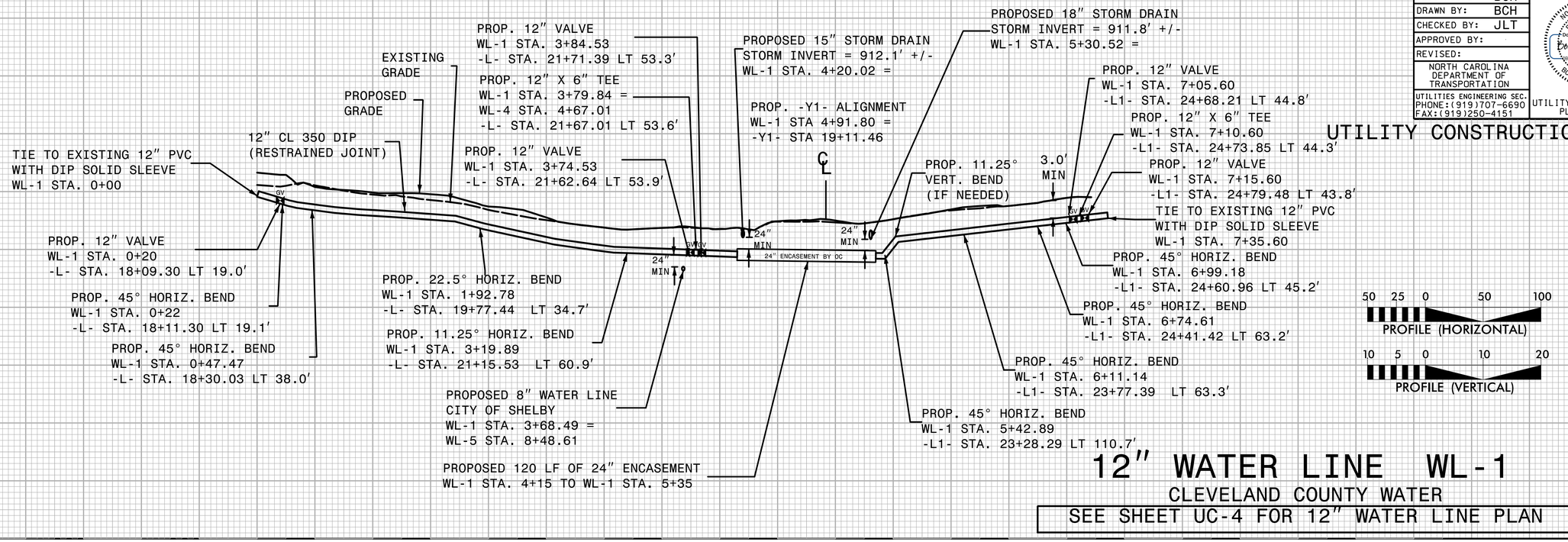
PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-7
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — DocuSigned by: Bobby Chad Houser, BOBBY C HOUSER

8/27/2018
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



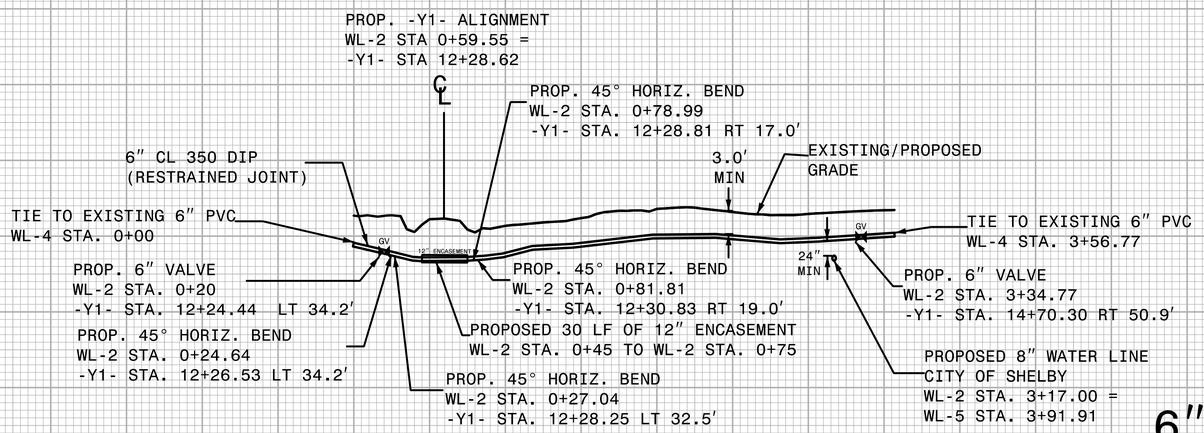
12" WATER LINE WL-1

CLEVELAND COUNTY WATER

SEE SHEET UC-4 FOR 12" WATER LINE PLAN

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)



6" WATER LINE WL-2

CLEVELAND COUNTY WATER

SEE SHEET UC-4 FOR 6" WATER LINE PLAN

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

$$SYSTIME$$
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5/28/99

UTILITY CONSTRUCTION

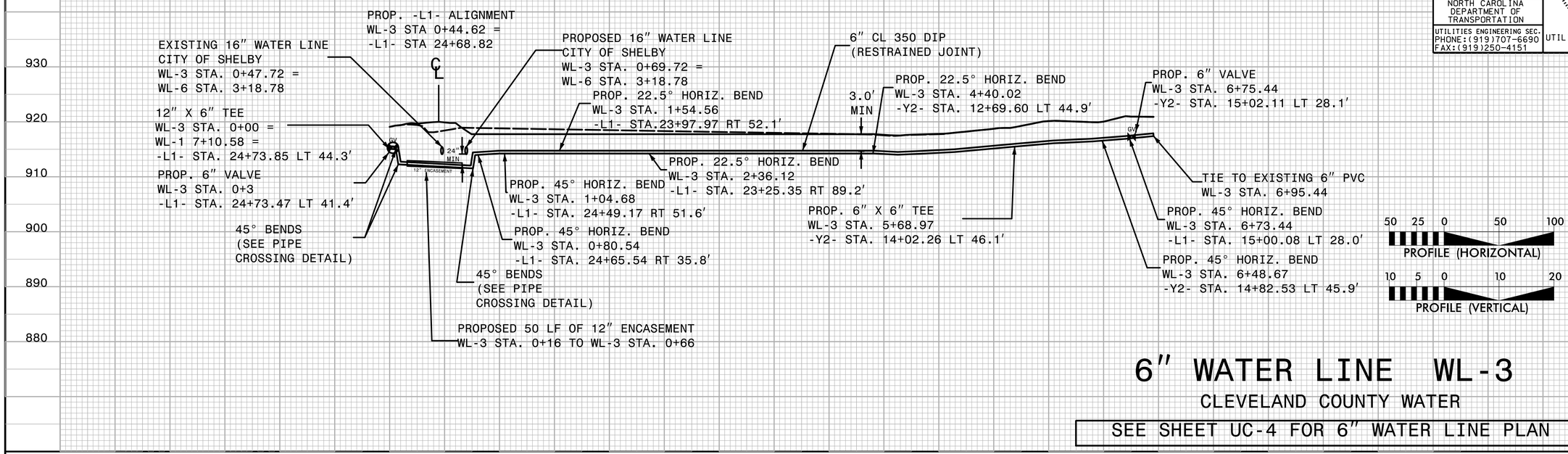
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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UC-8
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 30499 ENGINEER BOBBY C HOUSER
DocuSigned by: Bobby Lloyd Houser
5/27/2018

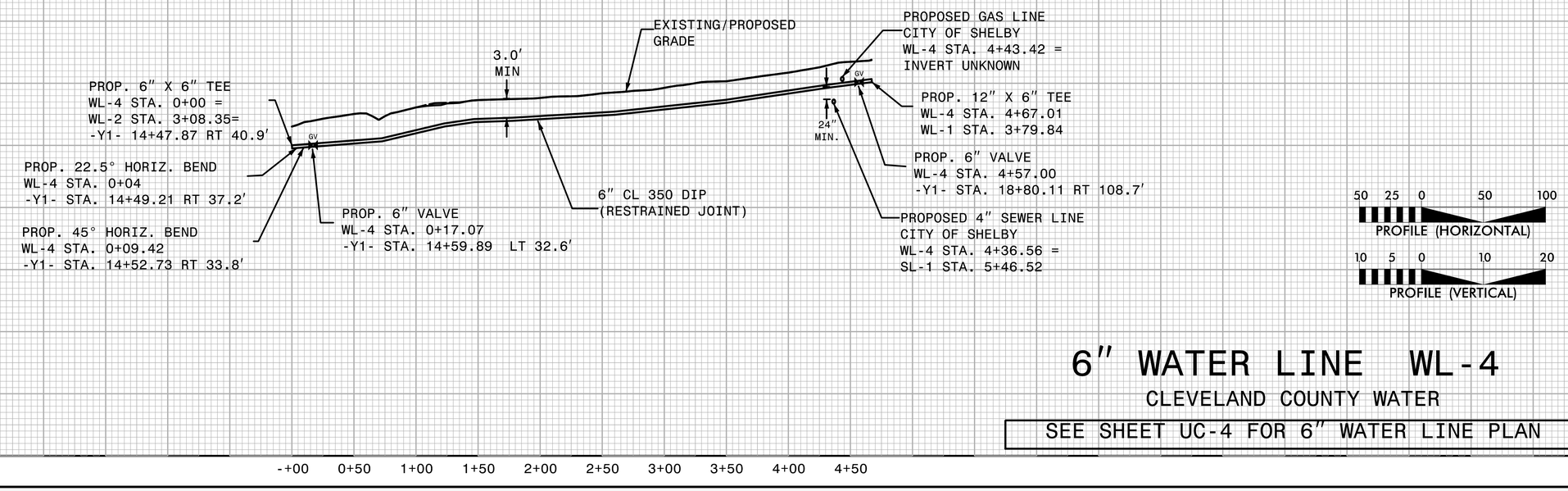
UTILITY CONSTRUCTION PLANS ONLY



6" WATER LINE WL-3

CLEVELAND COUNTY WATER

SEE SHEET UC-4 FOR 6" WATER LINE PLAN



6" WATER LINE WL-4

CLEVELAND COUNTY WATER

SEE SHEET UC-4 FOR 6" WATER LINE PLAN

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5/28/99

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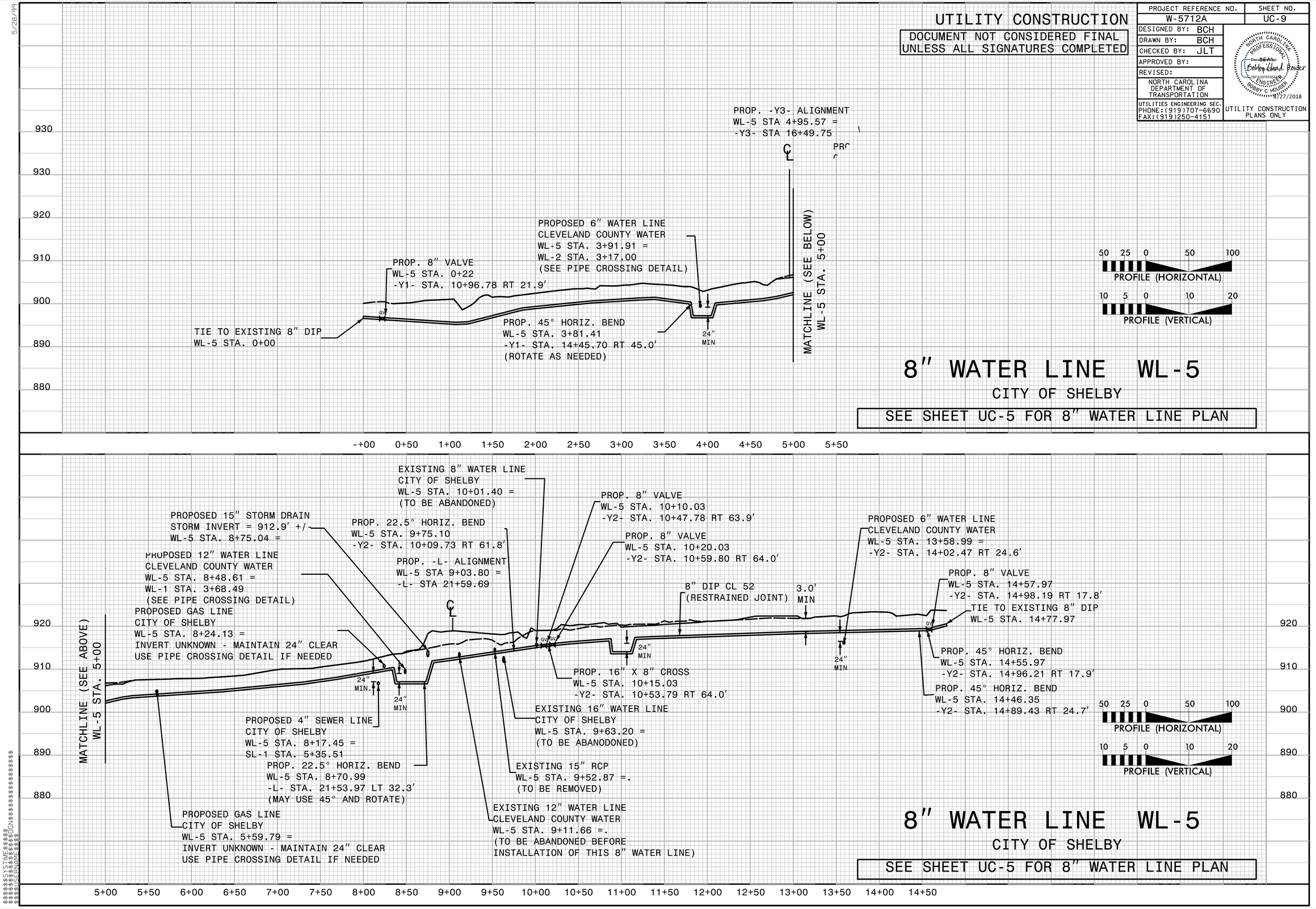
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UNLESS ALL SIGNATURES COMPLETED

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DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042997 DocuSigned by: Bobby Chad Houser
8/27/2018

UTILITY CONSTRUCTION PLANS ONLY



8" WATER LINE WL-5

CITY OF SHELBY

SEE SHEET UC-5 FOR 8" WATER LINE PLAN

8" WATER LINE WL-5

CITY OF SHELBY

SEE SHEET UC-5 FOR 8" WATER LINE PLAN

$$$$SYSTIME$$$$
$$$$USERNAME$$$$
$$$$SCENAME$$$$

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5/28/99

UTILITY CONSTRUCTION

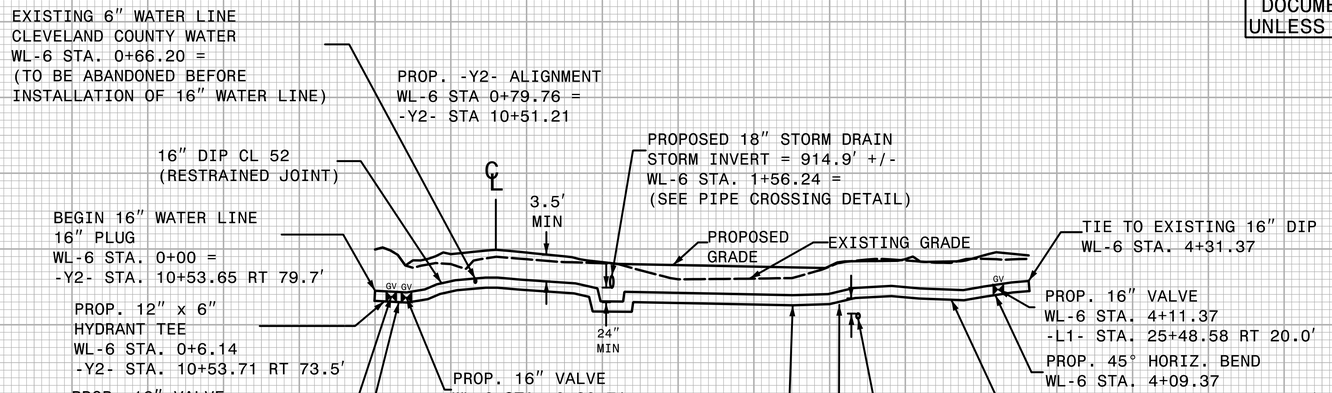
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UNLESS ALL SIGNATURES COMPLETED

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DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 030164 ENGINEER BOBBY C HOUSER
5/27/2018

UTILITY CONSTRUCTION PLANS ONLY



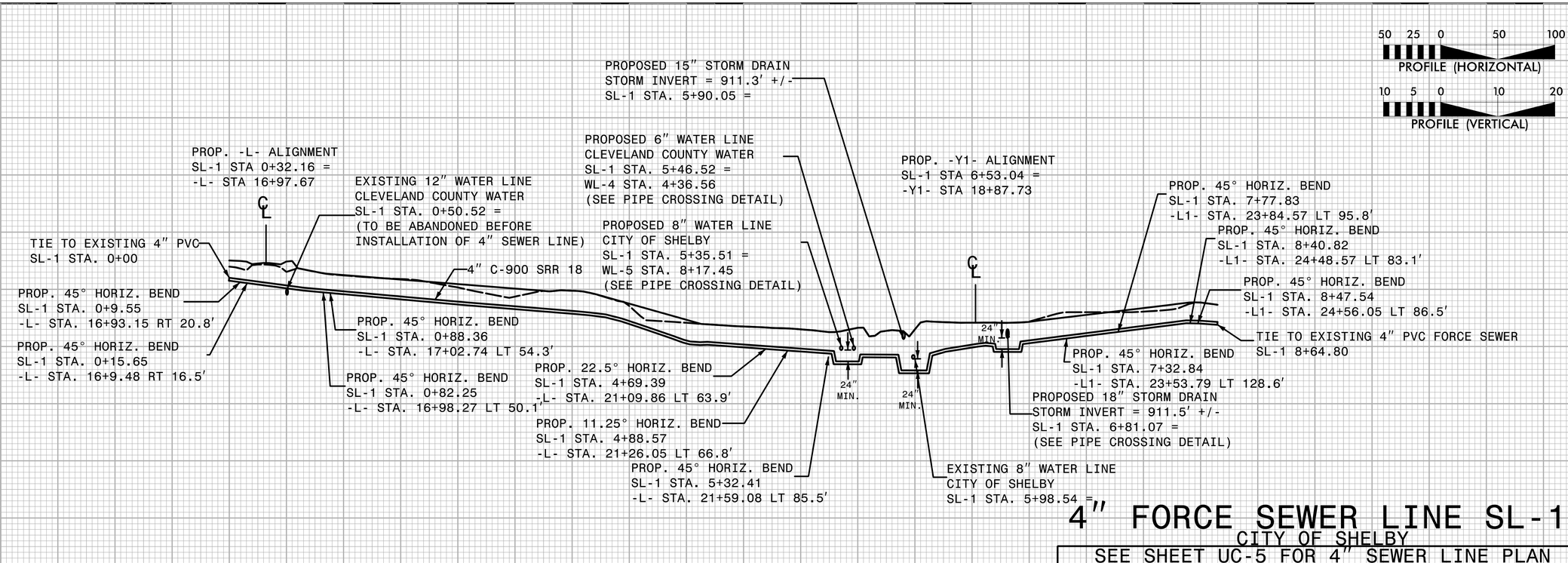
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PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

16" WATER LINE WL-6

CITY OF SHELBY

SEE SHEET UC-5 FOR 16" WATER LINE PLAN



50 25 0 50 100
PROFILE (HORIZONTAL)

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PROFILE (VERTICAL)

4" FORCE SEWER LINE SL-1

CITY OF SHELBY

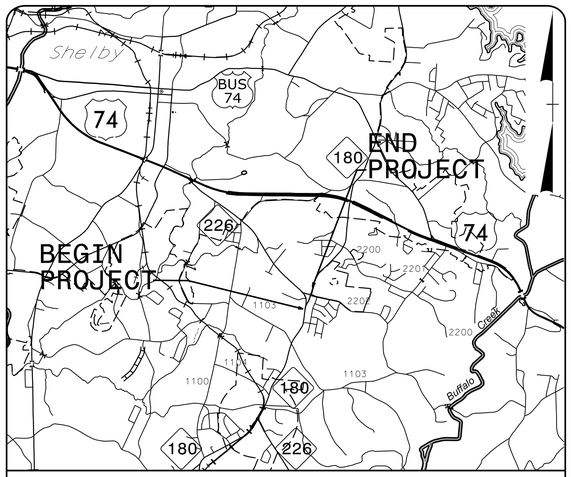
SEE SHEET UC-5 FOR 4" SEWER LINE PLAN

SYSTEM=$$$

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09/08/49

TIP PROJECT: W–5712A



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

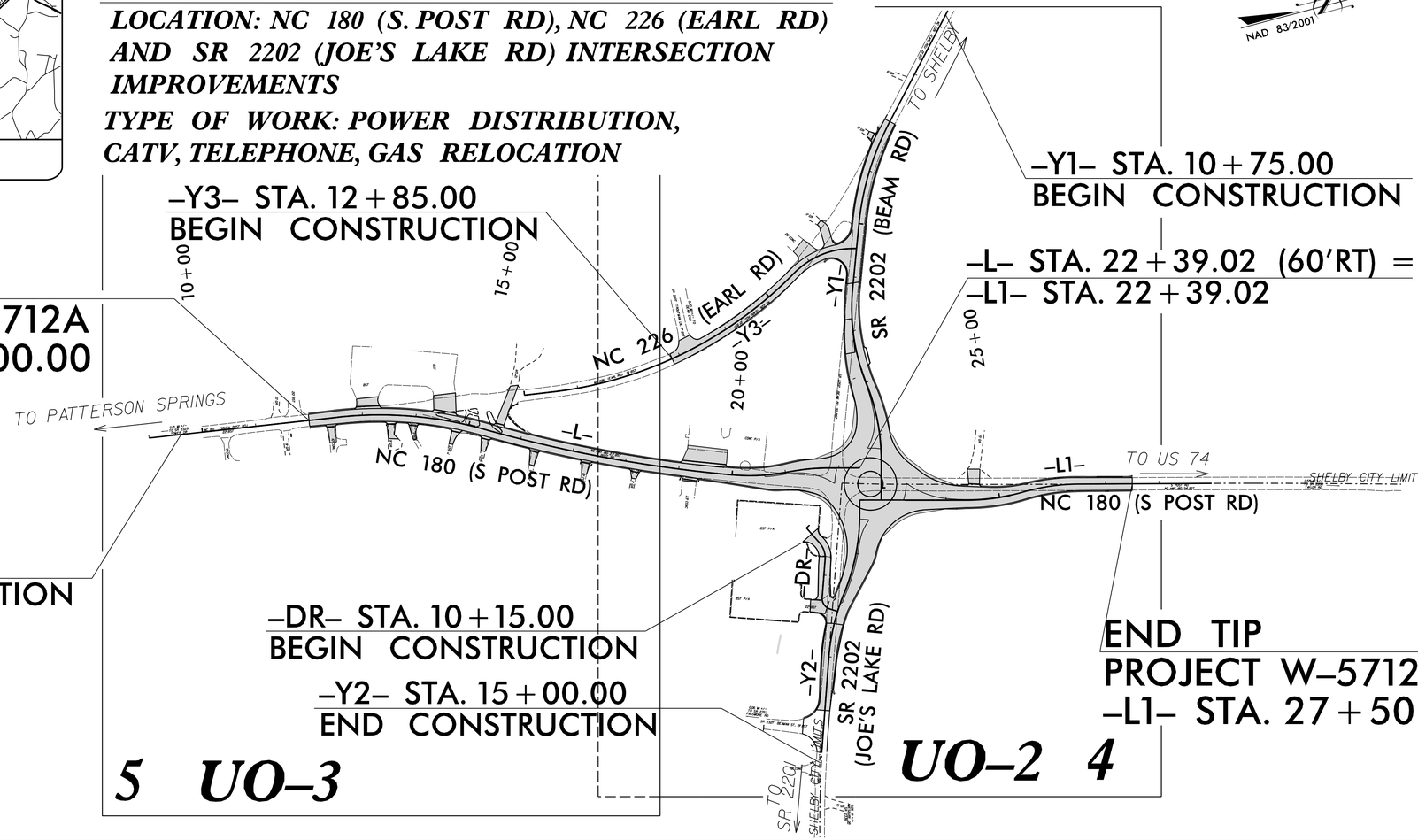
UTILITIES BY OTHERS PLANS
CLEVELAND COUNTY

T.I.P. NO.	SHEET NO.
W–5712A	UO–1

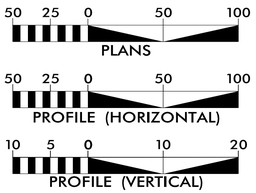
NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

LOCATION: NC 180 (S. POST RD), NC 226 (EARL RD) AND SR 2202 (JOE'S LAKE RD) INTERSECTION IMPROVEMENTS

TYPE OF WORK: POWER DISTRIBUTION, CATV, TELEPHONE, GAS RELOCATION



GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	*DESCRIPTION:*
UO–1	*TITLE SHEET*
UO–2 THRU UO–3	*UBO PLAN SHEETS*

UTILITY OWNERS WITH CONFLICTS

(A) POWER DISTRIBUTION – DUKE ENERGY
(B) POWER DISTRIBUTION – CITY OF SHELBY
(C) CATV – TIME WARNER
(D) COMMUNICATION – BROADPLEX
(E) COMMUNICATION – AT&T
(F) GAS – CITY OF SHELBY

PREPARED IN THE OFFICE OF:

TELICS
849 SOUTH LAUREL ST
LINCOLNTON, NC 28092
PHONE (704) 732-3241

CORY WOOD — *UTILITY PROJECT MANAGER*
CORY WOOD — *PROJECT UTILITY COORDINATOR*

DIVISION OF HIGHWAYS
UTILITIES UNIT
1555 MAIL SERVICES CENTER
RALEIGH NC 27699–1555
PHONE (919) 707–6690
FAX (919) 250–4151

WARREN ANDERSON DIVISION UTILITY COORDINATOR

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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	UO-2
THIS SHEET CORRESPONDS TO RDY- 4	

UTILITIES BY OTHERS

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

END TIP PROJECT W-5712A
-L1- STA 27+50.00

-Y1- STA 10+75.00
BEGIN CONSTRUCTION

-Y2- STA 15+00.00
END CONSTRUCTION

-Y3- STA 12+85.00
BEGIN CONSTRUCTION

-DR- STA 10+15.00
BEGIN CONSTRUCTION

MATCH LINE STA. -L- STA. 18+00.00
MATCH TO SHEET NO. 3

NAD 83/2001

5/14/99

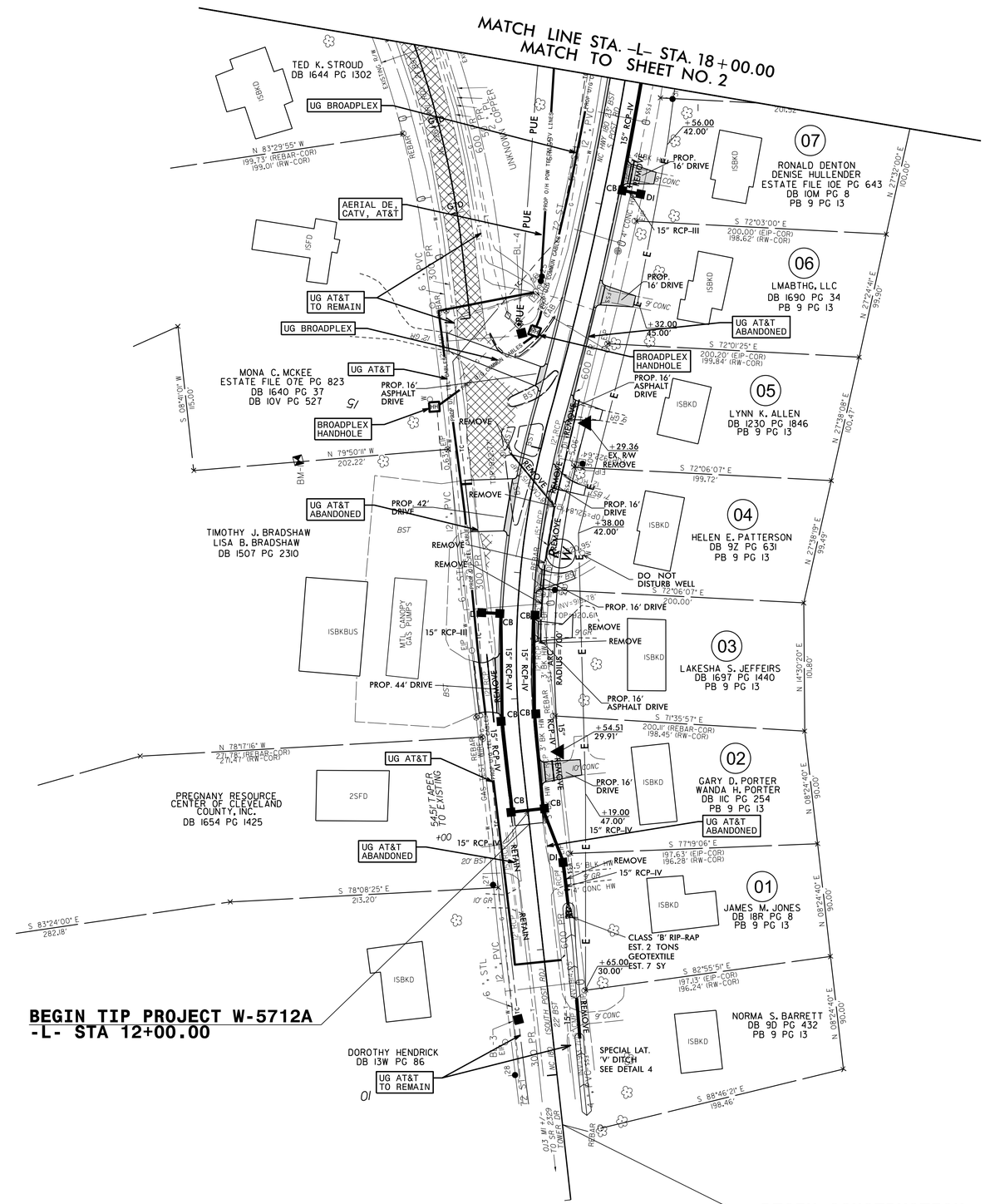
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PROJECT REFERENCE NO.	SHEET NO.
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THIS SHEET CORRESPONDS TO RDY- 5	

UTILITIES BY OTHERS

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



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PROJECT REFERENCE NO.	SHEET NO.
W-5712A	X-1
R/W SHEET NO.	

8/17/99

REVISIONS

W-5712A
CROSS-SECTION INDEX

XS-INDEX X-1
EARTHWORK VOLUME SUMMARY..... X-1A
-L- ..... X-2 THRU X-7
-L1- ..... X-8 THRU X-9
-Y1- ..... X-10 THRU X-12
-Y2- ..... X-13 THRU X-14
-Y3- ..... X-15 THRU X-16

1/9/2025
XSW5001
User:jsmelvin
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PROJ. REFERENCE NO.	SHEET NO.
W-5712A	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDES BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
12+00.00	0	0
12+40.00	6	19
12+50.00	3	12
13+00.00	15	60
13+50.00	21	36
14+00.00	25	21
14+50.00	41	27
14+75.00	29	11
15+00.00	23	14
15+29.36	16	25
15+39.00	6	5
15+50.00	8	6
15+58.00	6	9
16+00.00	25	48
16+30.00	7	26
16+50.00	5	16
17+28.00	19	61
17+50.00	4	21
18+00.00	6	61
18+20.00	4	19
18+50.00	5	28
19+00.00	4	57
19+22.00	3	21
19+50.00	4	29
20+00.00	5	54
20+50.00	10	48
21+00.00	8	93
21+50.00	1	191
21+81.69	0	202
21+94.02	0	95
22+01.35	1	55

Station L1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
23+16.68	0	0
23+24.02	0	58
23+50.00	0	149
24+00.00	7	130
24+38.08	10	60
24+50.00	6	18
25+00.00	22	73
25+50.00	8	74
26+00.00	10	62
26+50.00	12	50
27+00.00	14	47
27+50.00	8	22

Station Y1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
13+00.00	0	0
13+39.00	9	12
13+50.00	4	8
14+00.00	14	55
14+50.00	14	60
15+00.00	10	48
15+50.00	7	30
16+00.00	8	17
16+20.79	4	10
16+50.00	8	14
17+00.00	28	30
17+50.00	40	42
18+00.00	25	79
18+50.00	8	198
19+00.00	2	436
19+26.91	0	392
19+31.02	0	72
20+23.00	7	1110

Station Y2	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+00.00	0	0
10+31.84	6	156
10+34.69	1	9
10+50.00	5	36
11+00.00	44	66
11+50.00	39	79
11+78.97	9	60
12+00.00	5	42
12+50.00	6	109
13+00.00	7	110
13+50.00	9	88
14+00.00	6	38

Station Y3	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
12+85.00	0	0
13+00.00	0	0
13+25.00	1	1
14+00.00	1	5
14+50.00	1	10
15+00.00	0	11
15+50.00	1	8
15+63.35	0	2
16+00.00	10	13
16+45.00	48	15
16+50.00	8	1
16+81.13	53	5

Station DR	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+15.00	0	0
10+46.80	13	6
10+92.44	39	14
11+18.94	24	4
11+43.14	26	2
11+71.06	42	0

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, breaking of existing pavement and removal of existing pavement will be paid for at the lump sum price for "Grading".

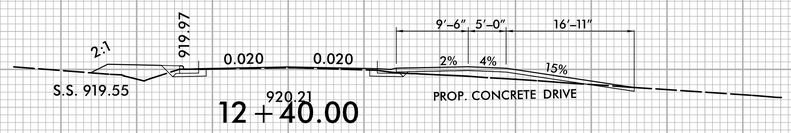
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6/23/16

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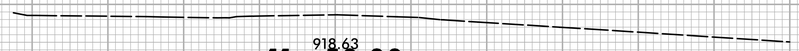
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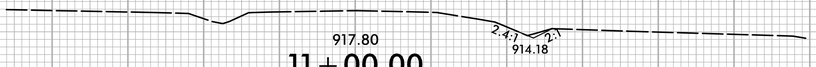
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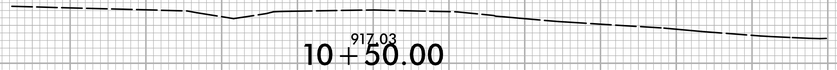
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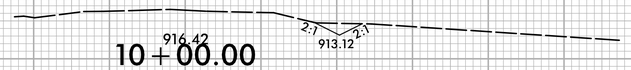
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920 915 910



10+50.00

920 915 910



10+00.00

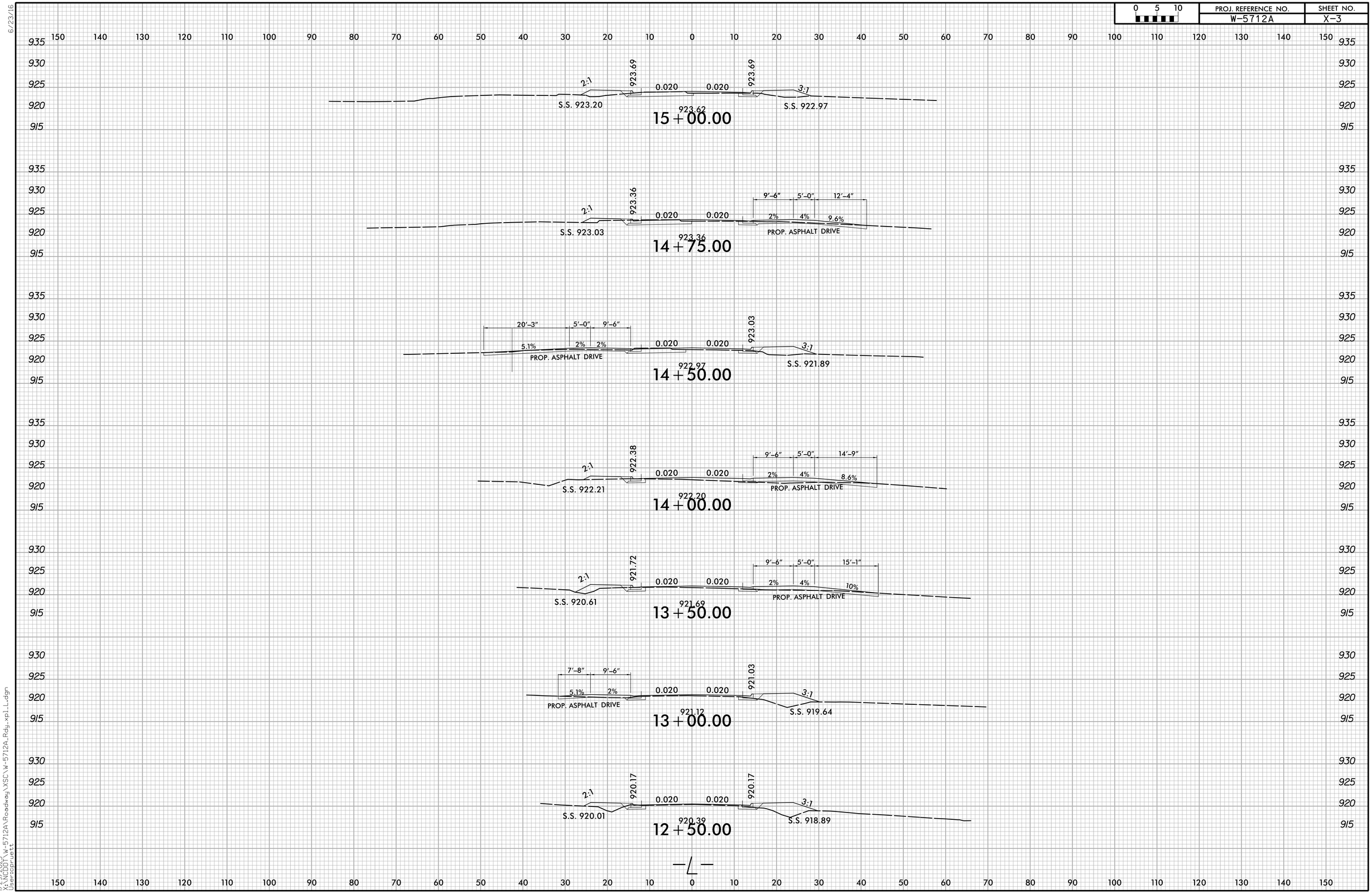
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6/23/16

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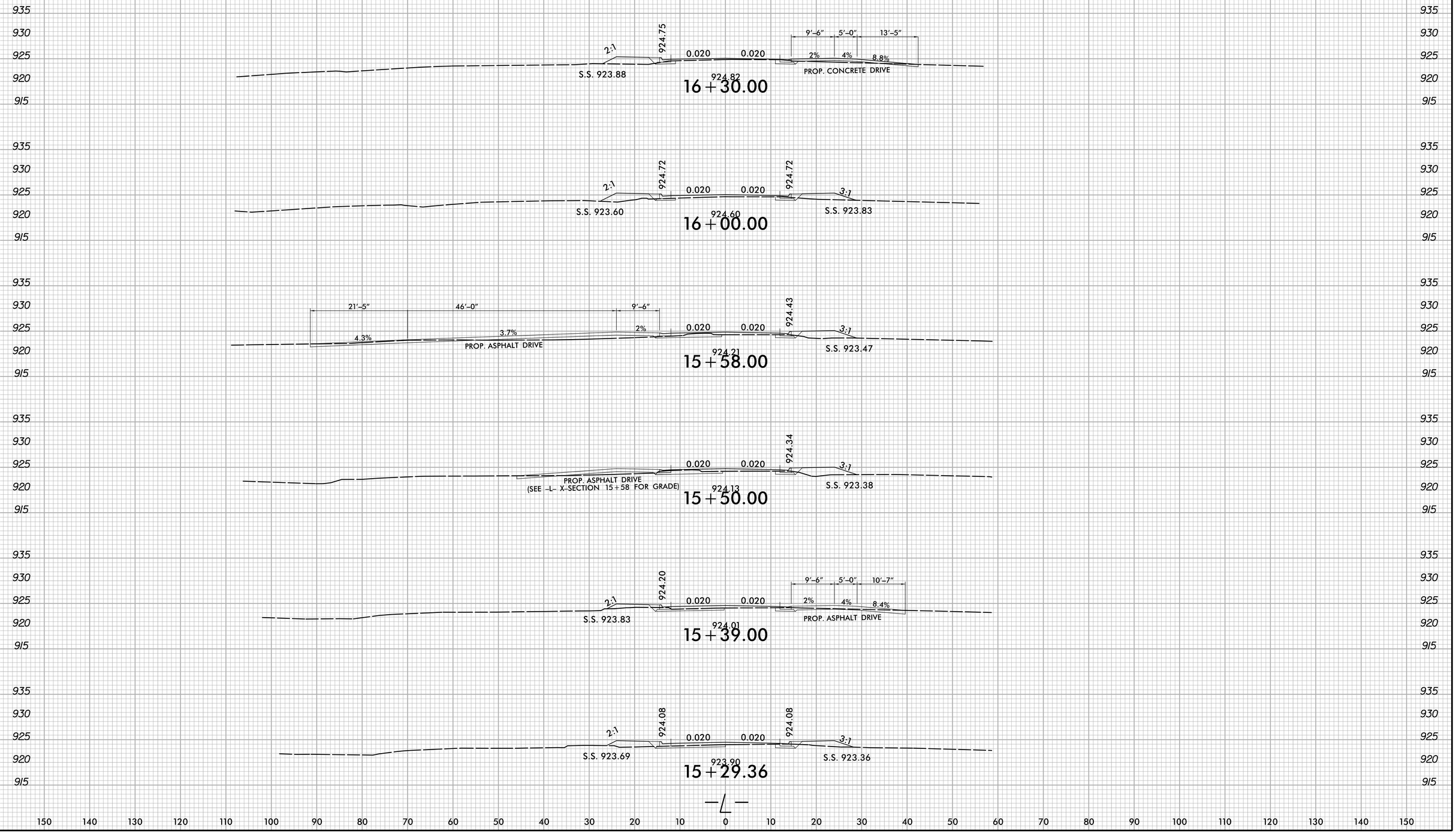
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6/23/16

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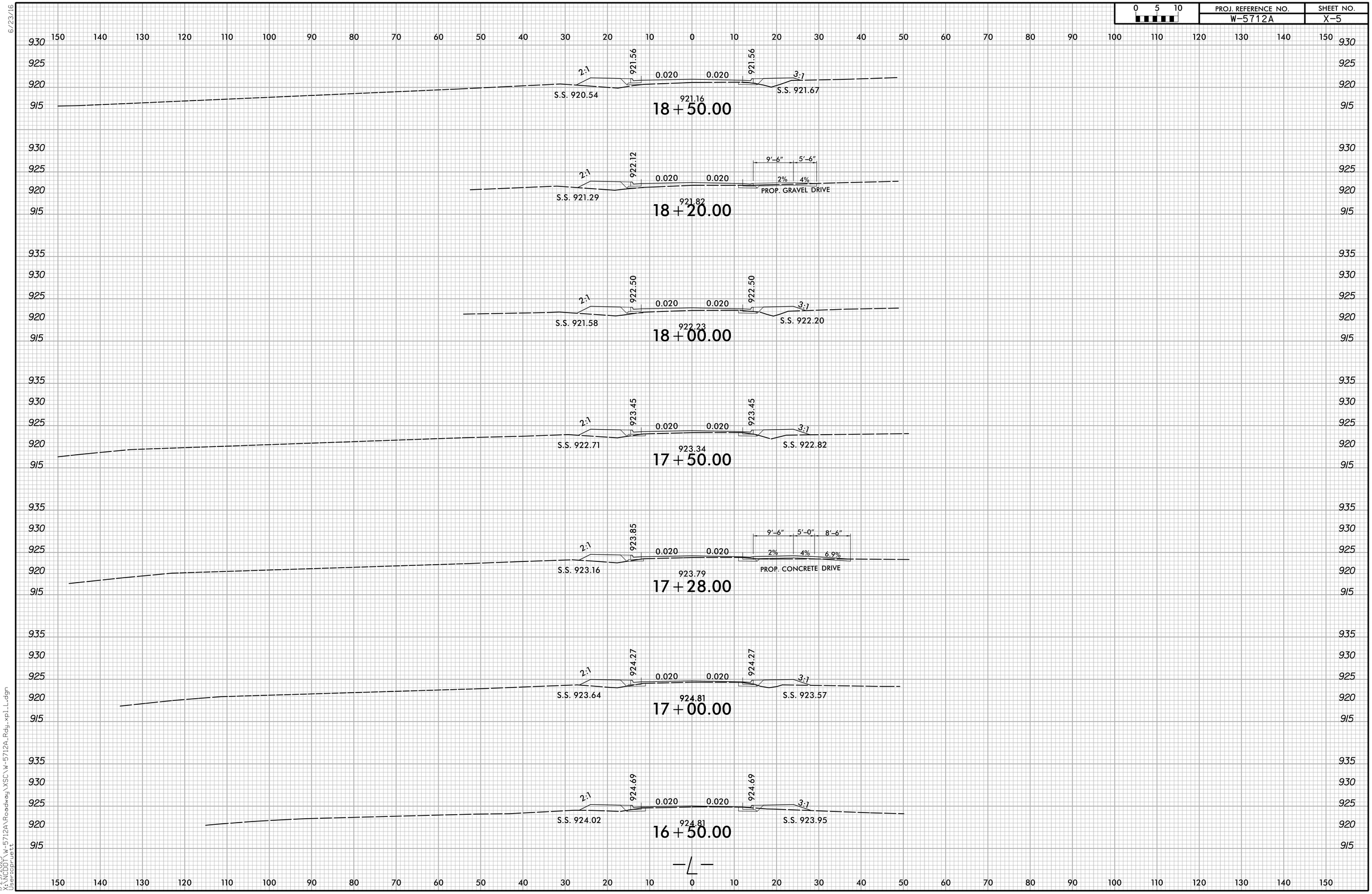


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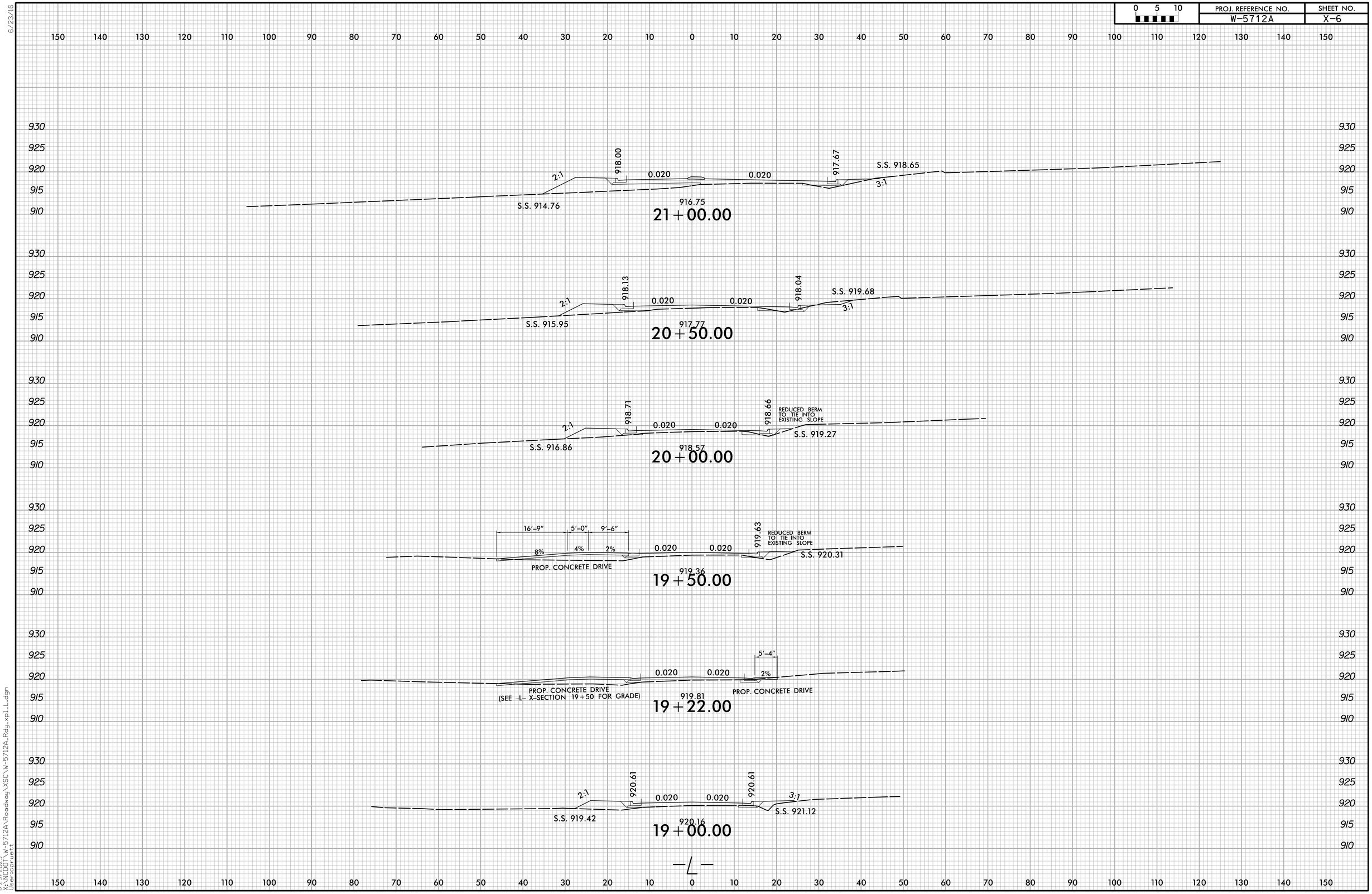
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	W-5712A	X-6



6/23/16
1/29/2025
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6/23/16

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	W-5712A	X-7

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935
930
925
920
915
910
905

PROP. 1'-6" C&G
PROP. 6' CONC. TRUCK APRON
2:1
S.S. 913.77
0.020
0.020
915.78
21+94.02
PROP. 1'-6" C&G
PROP. 4' CONC. TRUCK APRON
-Y2- STA 10+34.69 (44.96'RT) ELEV. 919.99'

PROP. 1'-6" C&G
PROP. 6' CONC. TRUCK APRON
2:1
S.S. 912.92
0.020
0.020
915.50
21+81.69
PROP. 1'-6" C&G
PROP. 4' CONC. TRUCK APRON
2:1
S.S. 916.75

PROP. CURB TRANSITION
2:1
S.S. 914.44
0.020
0.020
915.71
21+50.00
PROP. 1'-6" C&G
PROP. 4' CONC. TRUCK APRON
3:1
S.S. 918.29

—℄—

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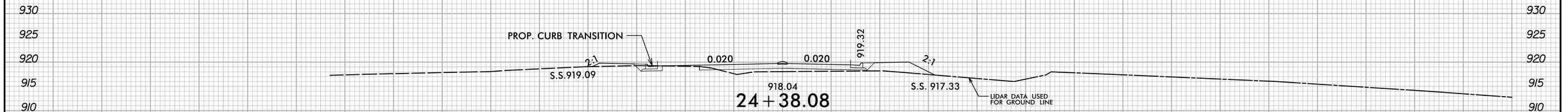
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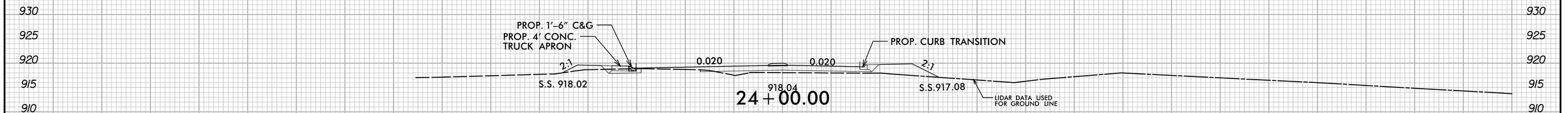
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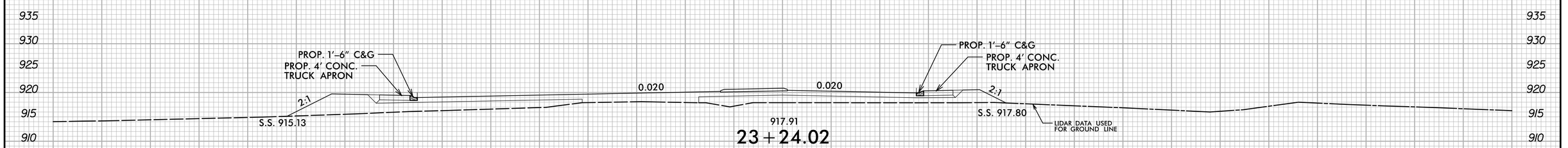
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	W-5712A	X-8

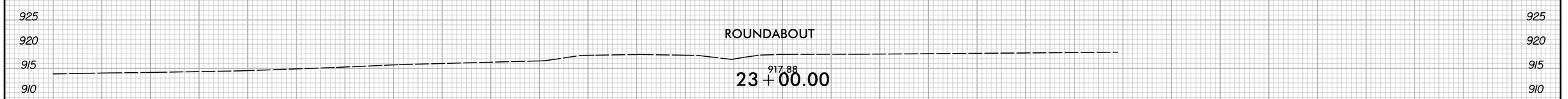
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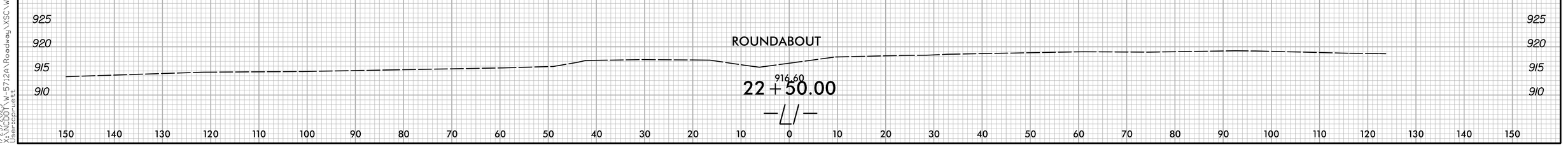












150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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User:cpruett

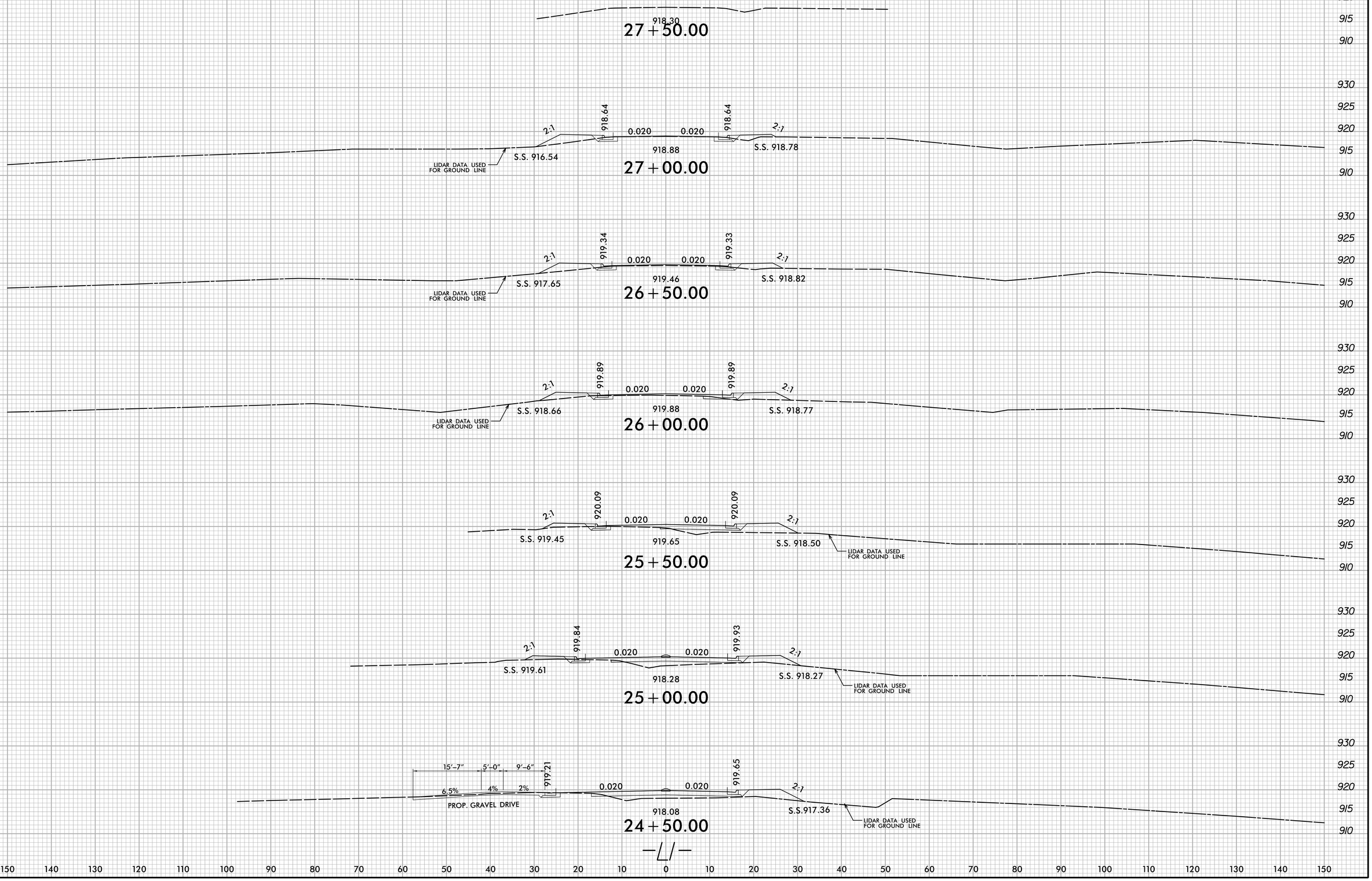
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6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5712A	X-9

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

920 915 910 930 925



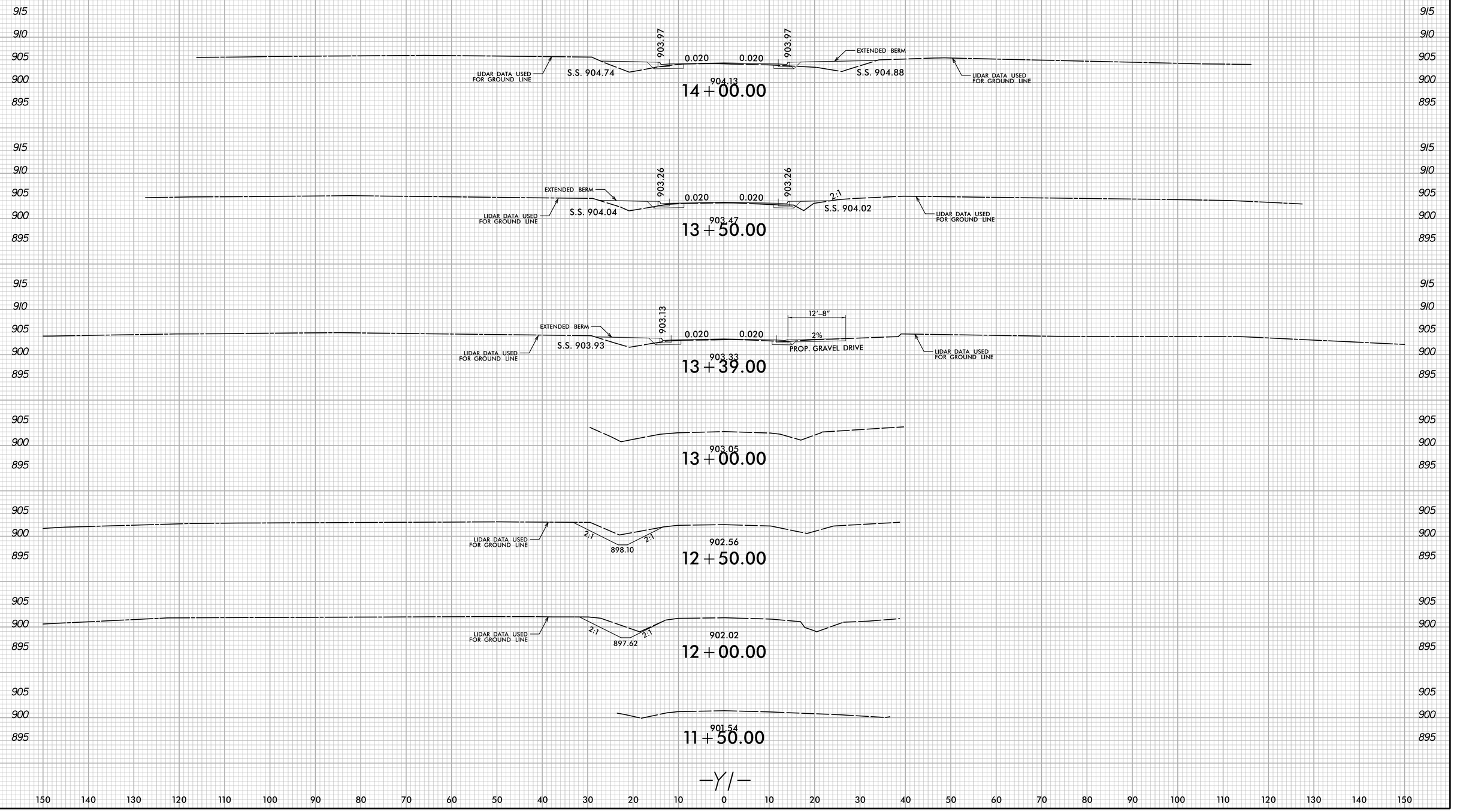
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6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5712A	X-10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



—Y1—

1/29/2025
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User:cpruett

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6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5712A	X-11

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

920 915 910 905 900

S.S. 910.82 2:1 909.20 0.020 0.020 909.16 2:1 S.S. 908.83
LIDAR DATA USED FOR GROUND LINE
908.72
17+00.00

920 915 910 905 900

S.S.909.88 2:1 907.94 0.020 0.020 907.94 2:1 S.S. 907.75
LIDAR DATA USED FOR GROUND LINE
907.87
16+50.00

920 915 910 905 900

S.S. 909.23 2:1 907.42 0.020 0.020 907.42 2:1 S.S. 907.38
LIDAR DATA USED FOR GROUND LINE
907.37
16+20.79

915 910 905 900

S.S. 908.87 2:1 907.10 0.020 0.020 907.10 2:1 S.S. 907.25
LIDAR DATA USED FOR GROUND LINE
907.03
16+00.00

915 910 905 900

S.S. 907.70 2:1 906.32 0.020 0.020 –Y3– INTERSECTION
LIDAR DATA USED FOR GROUND LINE
906.36
15+50.00

915 910 905 900

EXTENDED BERM
S.S. 906.25 905.53 0.020 0.020 905.53 2:1 S.S. 904.97
LIDAR DATA USED FOR GROUND LINE
905.54
15+00.00

915 910 905 900 895

EXTENDED BERM
S.S. 905.50 904.75 0.020 0.020 904.75 2:1 S.S. 904.07
LIDAR DATA USED FOR GROUND LINE
904.80
14+50.00

–Y/–

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1/29/2025
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User:cpruett

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6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5712A	X-12

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

925 920 915 910

ROUNDABOUT

915.72

19+50.00

935 930 925 920 915 910 905

PROP. 1'-6" C&G
PROP. 4' CONC. TRUCK APRON
0.020
0.020
PROP. 1'-6" C&G
PROP. 6' CONC. TRUCK APRON
2:1
-L- STA 21+94.02 (31.39'LT) ELEV. 919.83'
S.S. 915.35

915.22

19+26.91

930 925 920 915 910 905

PROP. 1'-6" C&G
PROP. CONC. TRUCK APRON
0.020
0.020
PROP. 1'-6" C&G
PROP. 6' CONC. TRUCK APRON
2:1
2:1
S.S. 914.27
S.S. 913.69

914.52

19+00.00

930 925 920 915 910 905

915.66
PROP. 1'-6" C&G
PROP. 6' CONC. TRUCK APRON
2:1
0.020
0.020
2:1
S.S. 913.26
912.20
S.S. 912.09

913.21

18+50.00

925 920 915 910 905

913.25
912.96
S.S. 912.63
2:1
0.020
0.020
2:1
911.41
S.S. 911.30

912.37

18+00.00

920 915 910 905

910.81
CONC. APRON
0.020
0.020
2:1
S.S. 911.39
LIDAR DATA USED FOR GROUND LINE
910.52
S.S. 909.09

17+50.00

-Y/-

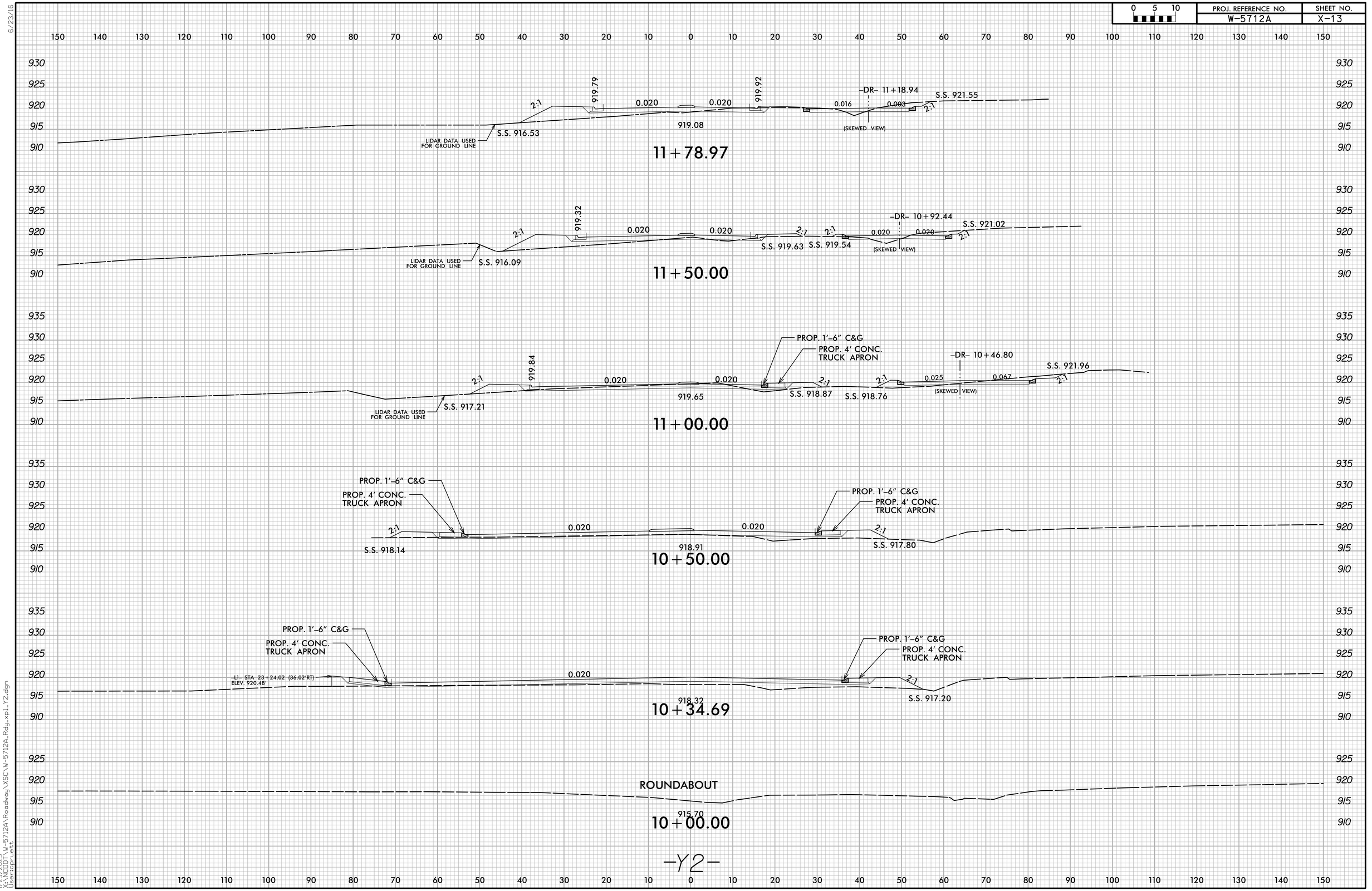
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6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5712A	X-13



1/29/2025
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6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5712A	X-14

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

925 920 915

923.31

14+50.00

925 920 915

922.89

14+00.00

930 925 920 915 910

2:1 | 922.17 | 0.020 | 0.020 | 922.17 | 2:1

922.37

S.S. 919.18

S.S. 921.85

LIDAR DATA USED FOR GROUND LINE

13+50.00

930 925 920 915 910

2:1 | 921.75 | 0.020 | 0.020 | 921.77 | 2:1

921.82

S.S. 918.01

S.S. 921.75

LIDAR DATA USED FOR GROUND LINE

13+00.00

930 925 920 915 910

2:1 | 921.27 | 0.020 | 0.020 | 921.10 | 2:1

921.18

S.S. 918.02

S.S. 921.06

LIDAR DATA USED FOR GROUND LINE

12+50.00

930 925 920 915 910

2:1 | 920.23 | 0.020 | 0.020 | 0.001 | 0.015 | 2:1

–DR– 11+43.14

(SKEWED VIEW)

919.97

S.S. 916.92

S.S. 921.56

LIDAR DATA USED FOR GROUND LINE

12+00.00

–Y2–

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1/29/2025
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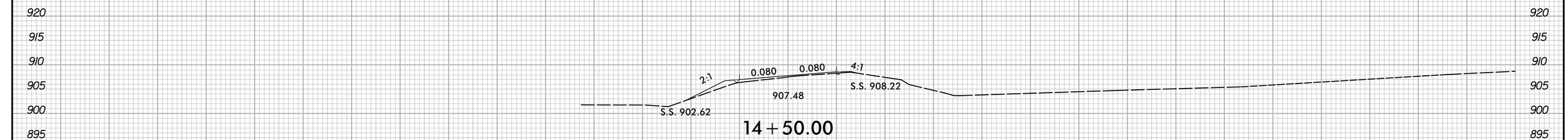
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6/23/16

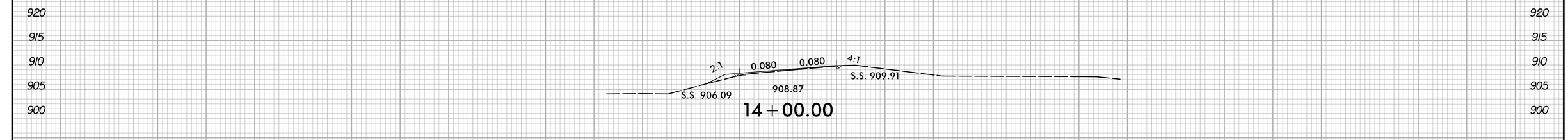
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W-5712A	X-15

0 5 10

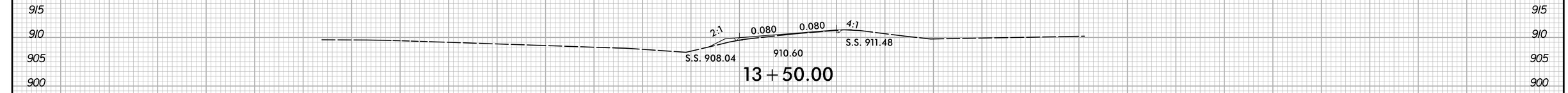
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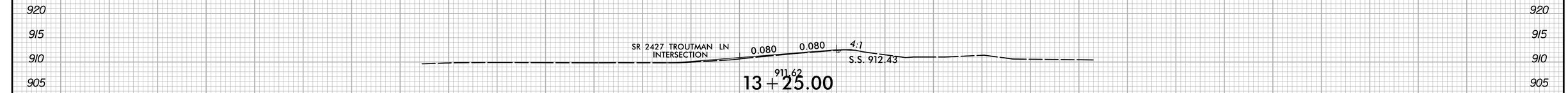
14+50.00



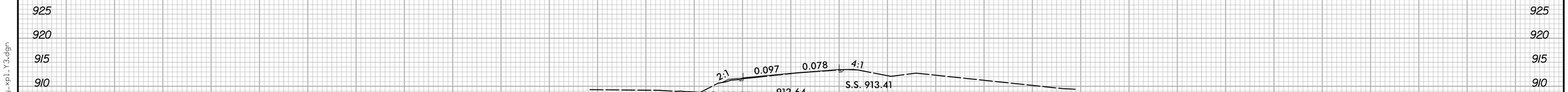
14+00.00



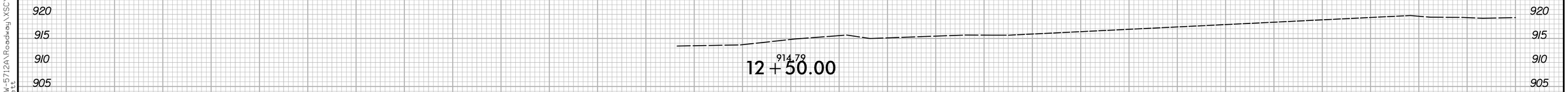
13+50.00



13+25.00



13+00.00



12+50.00

-Y3-

1/29/2025
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User:cpruett

Docusign Envelope ID: 5C218D44-7C19-4A9C-A834-BF2AA5597CFA

6/23/16

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	W-5712A	X-16

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

915 910 905 900 895

PROP. GRAVEL DRIVE
(SEE –Y3– X-SECTION 16+45 FOR GRADE)
0.020 0.020 2:1
906.29
905.58
S.S. 907.05
16+50.00

915 910 905 900

5'–10" 16'–11" 24'–11"
1% 5.6% 4.2%
PROP. GRAVEL DRIVE
0.020 0.020 2:1
906.21
906.55
S.S. 907.02
16+45.00

915 910 905 900

7'–8" 18'–0"
1.0% 5.3%
PROP. CONCRETE DRIVE
0.030 0.030 4:1 2:1
S.S. 906.61
905.62
904.23
16+00.00

910 905 900 895

4:1 0.048 0.048 3:1
S.S. 904.30
905.63
S.S. 905.08
15+63.35

910 905 900 895

4:1 0.055 0.055 4:1
S.S. 904.39
905.78
S.S. 905.70
15+50.00

920 915 910 905 900 895

2:1 0.080 0.080 4:1
S.S. 903.54
906.59
S.S. 907.18
15+00.00

–Y3–

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1/29/2025
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