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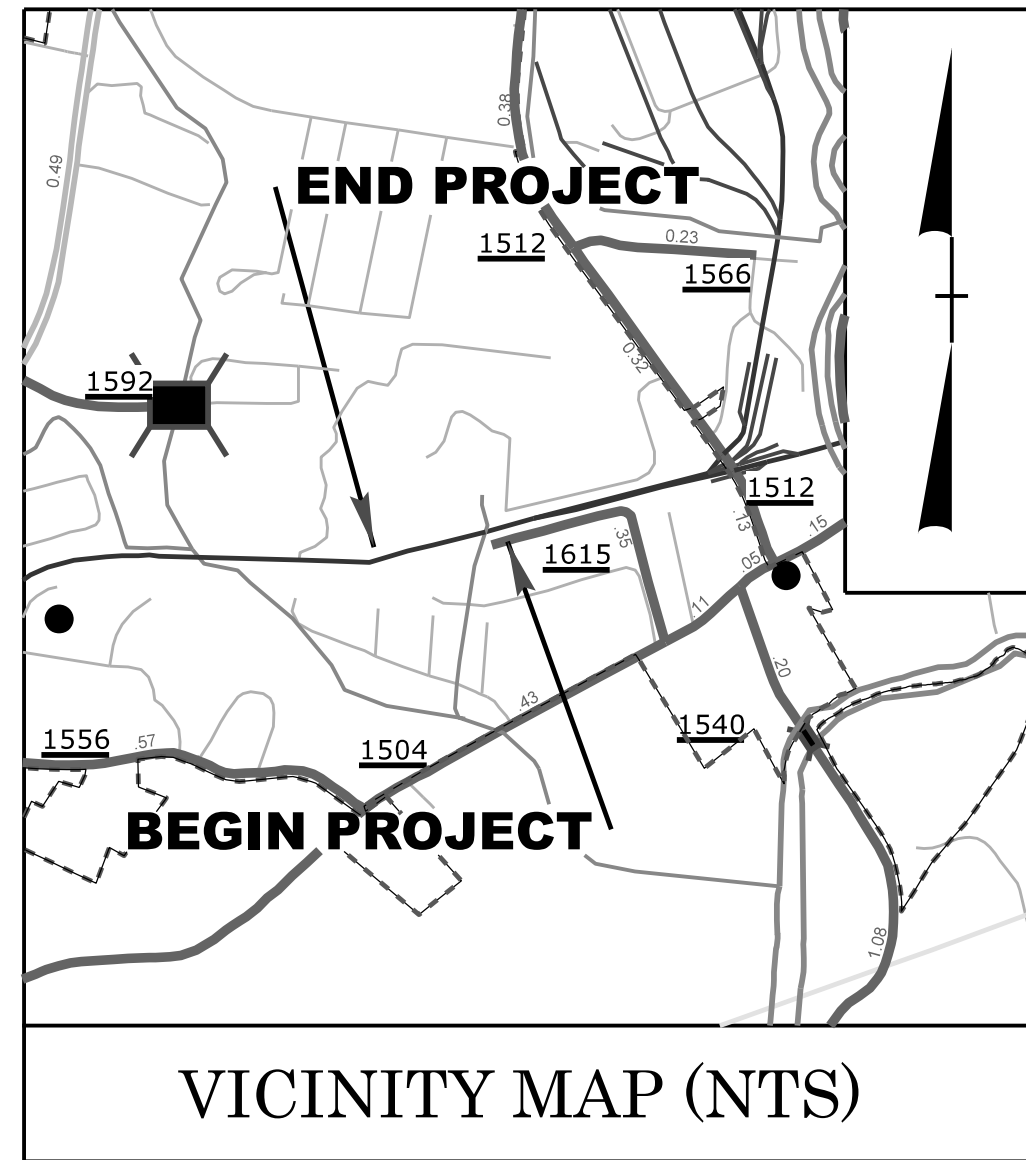
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08/12/2021

TIP PROJECT: HA-0002

CONTRACT: DN00767

See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

---

TRANSYLVANIA COUNTY

---

LOCATION: *MOUNTAIN INDUSTRIAL DRIVE (SR1615)*  
*ROAD EXTENSION IN JENNINGS*  
*INDUSTRIAL PARK*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0002	1	38
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
49759.1.1	00SS132	PE	
49759.2.1	00SS132	R/W	
49759.3.1	00SS132	CONSTRUCTION	

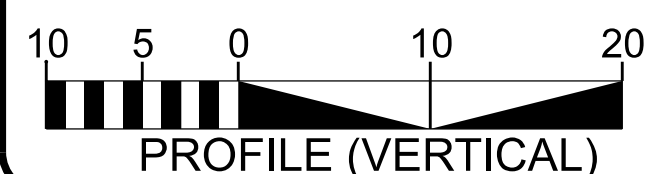
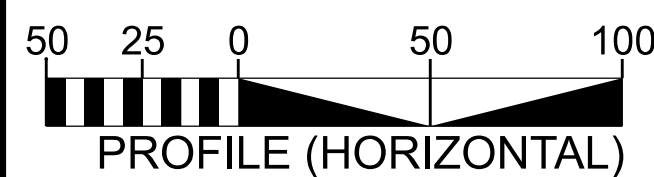


BEGIN PROJECT HA-0002  
-L- STA 10+00.00

END PROJECT HA-0002  
-L- STA 18+08.29

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



PROJECT LENGTH

*0.16 MILES*

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
253 WEBSTER RD., SYLVA NC, 28779

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
N/A

LETTING DATE:  
JANUARY 23, 2024

**GARRETT B HIGDON, P.E.**  
PROJECT ENGINEER

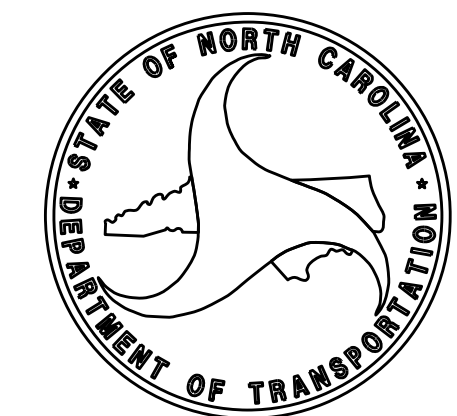
**GARRETT B HIGDON, P.E.**  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by:  
*Omalyan S. Nwae*  
P.E.  
SIGNATURE:

ROADWAY DESIGN ENGINEER

DocuSigned by:  
*Garrett B. Higdon*  
SIGNATURE:



GENERAL NOTES: 2024 SPECIFICATIONS

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 II.

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE CITY OF BREVARD PUBLIC WORKS, CITIZENS TELEPHONE COMPANY, DUKE ENERGY, AND DOMINION ENERGY

CONTRACTOR SHALL NOTIFY THE MUNICIPALITIES TWO (2) WEEKS PRIOR TO CLOSING MULTI USE PATH

CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS FOR OSKAR BLUES LOADING DOCK

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B	ROADWAY AND DRAINAGE SUMMARIES
4 THRU 5	PLAN AND PROFILE SHEET
RW-1 THRU RW-4	RIGHT OF WAY PLANS
TMP-1 THRU TMP-4	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UC-1 THRU UC-6	UTILITY CONSTRUCTION PLANS
X-1 THRU X-5	CROSS-SECTIONS

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	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

# 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	X
Existing Concrete Monument (ECM)	□
Parcel / Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	MLB
Proposed Wetland Boundary	MLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB
Existing Historic Property Boundary	HPB
Known Contamination Area: Soil	☒-s-☒-s-
Potential Contamination Area: Soil	☒-s-☒-s-
Known Contamination Area: Water	☒-w-☒-w-
Potential Contamination Area: Water	☒-w-☒-w-
Contaminated Site: Known or Potential	☠☠

### BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊕
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	□
Church	⊕
Dam	▬

### HYDROLOGY:

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

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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	-----

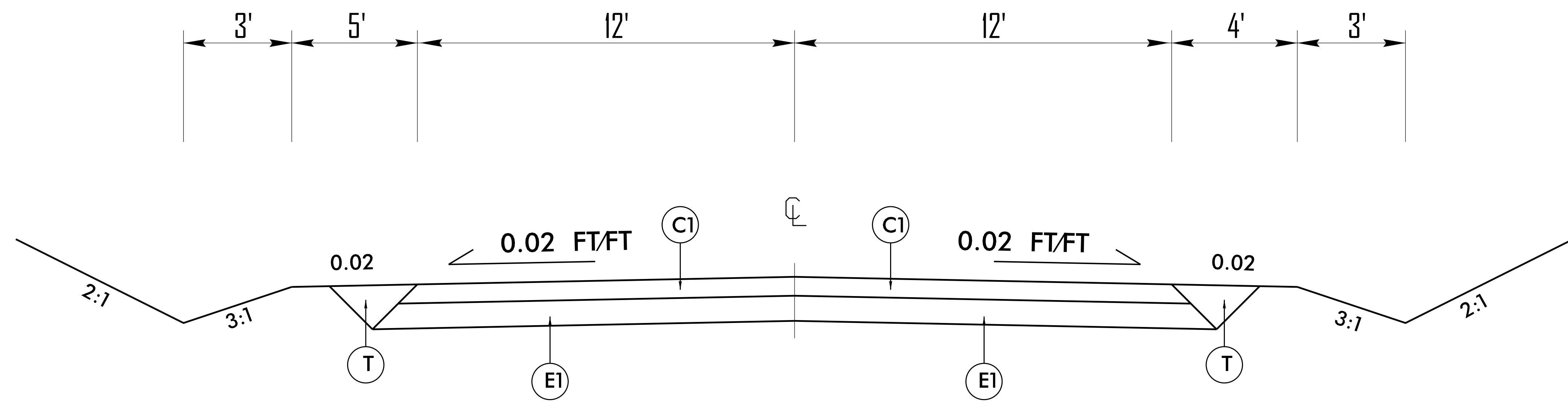
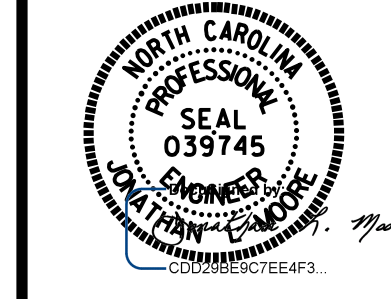
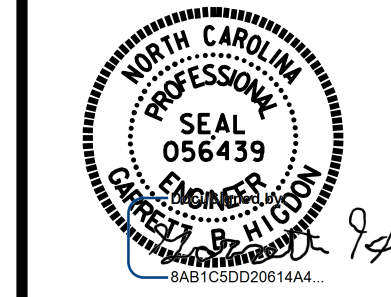
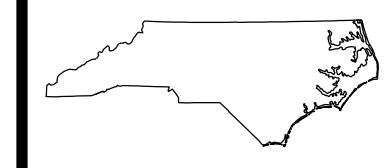
### SANITARY SEWER:

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:

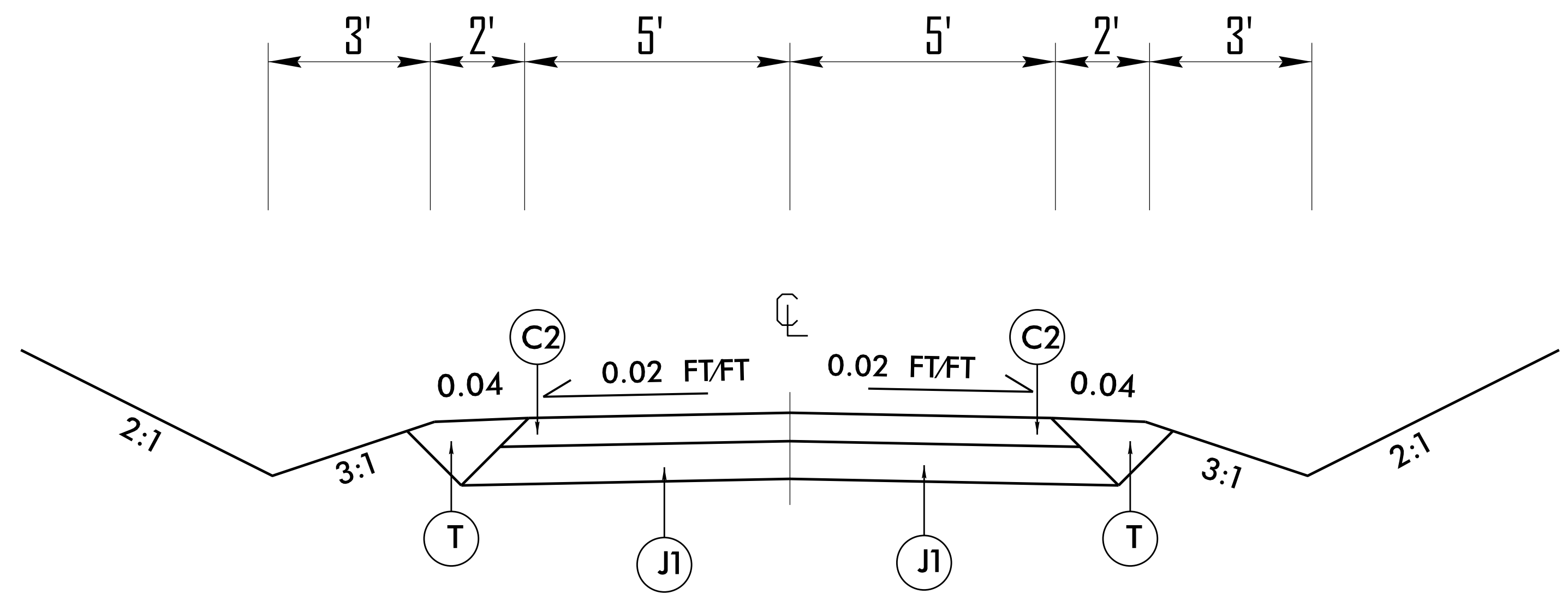
Utility Pole	-----
Utility Pole with Base	-----
Utility Located Object	-----
Utility Traffic Signal Box	-----
Utility Unknown U/G Line (SUE - LOS B)*	-----
U/G Tank; Water, Gas, Oil	-----
Underground Storage Tank, Approx. Loc.	-----
A/G Tank; Water, Gas, Oil	-----
Geoenvironmental Boring	-----
Abandoned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





**TYPICAL SECTION NO. 1**

-L- STA. 10+00.00 THRU 18+08.29



**TYPICAL SECTION NO. 2**

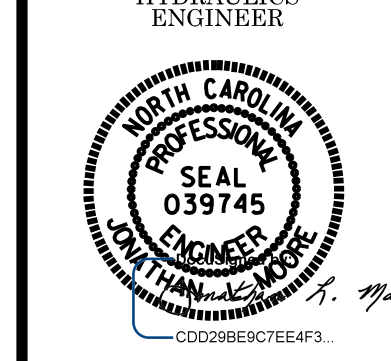
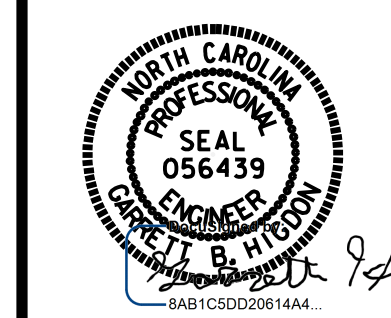
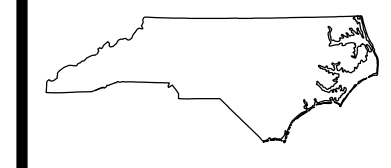
BEGINNING OF PATH TO END OF PATH

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
J1	PROP. APPROX. 6" AGGREGATE BASE COURSE
T	EARTH MATERIAL

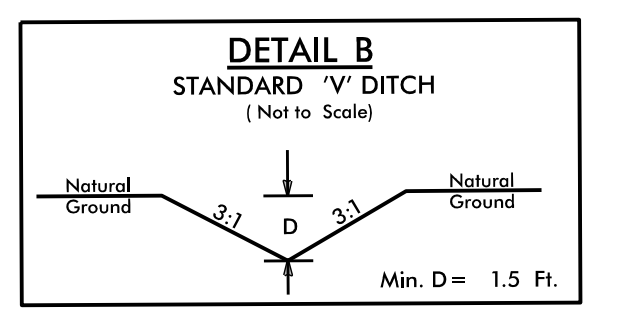
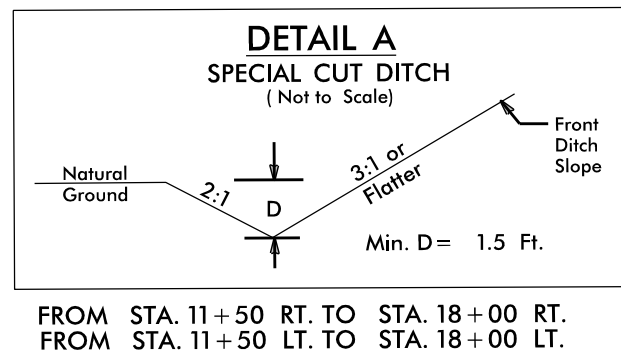
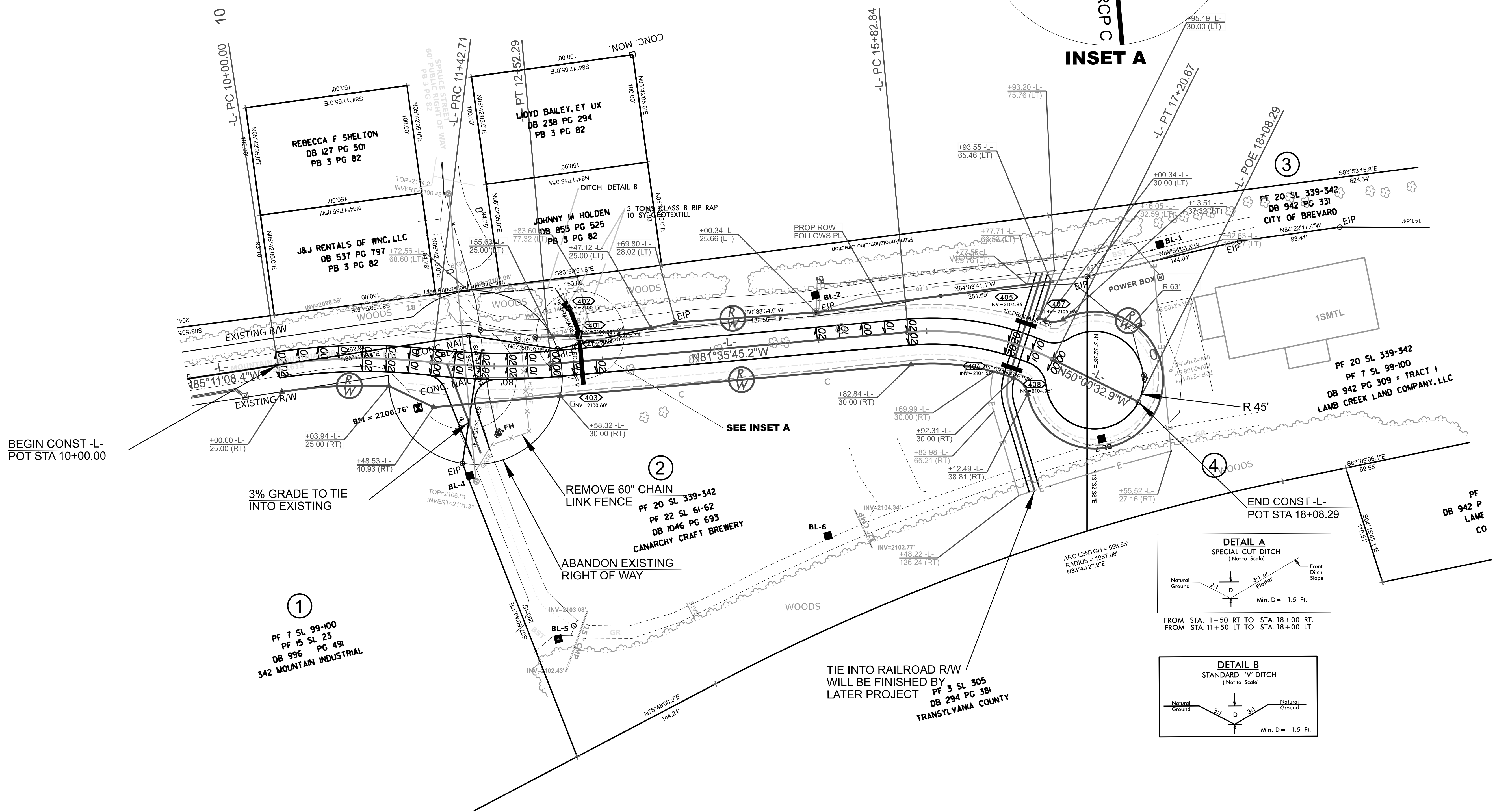
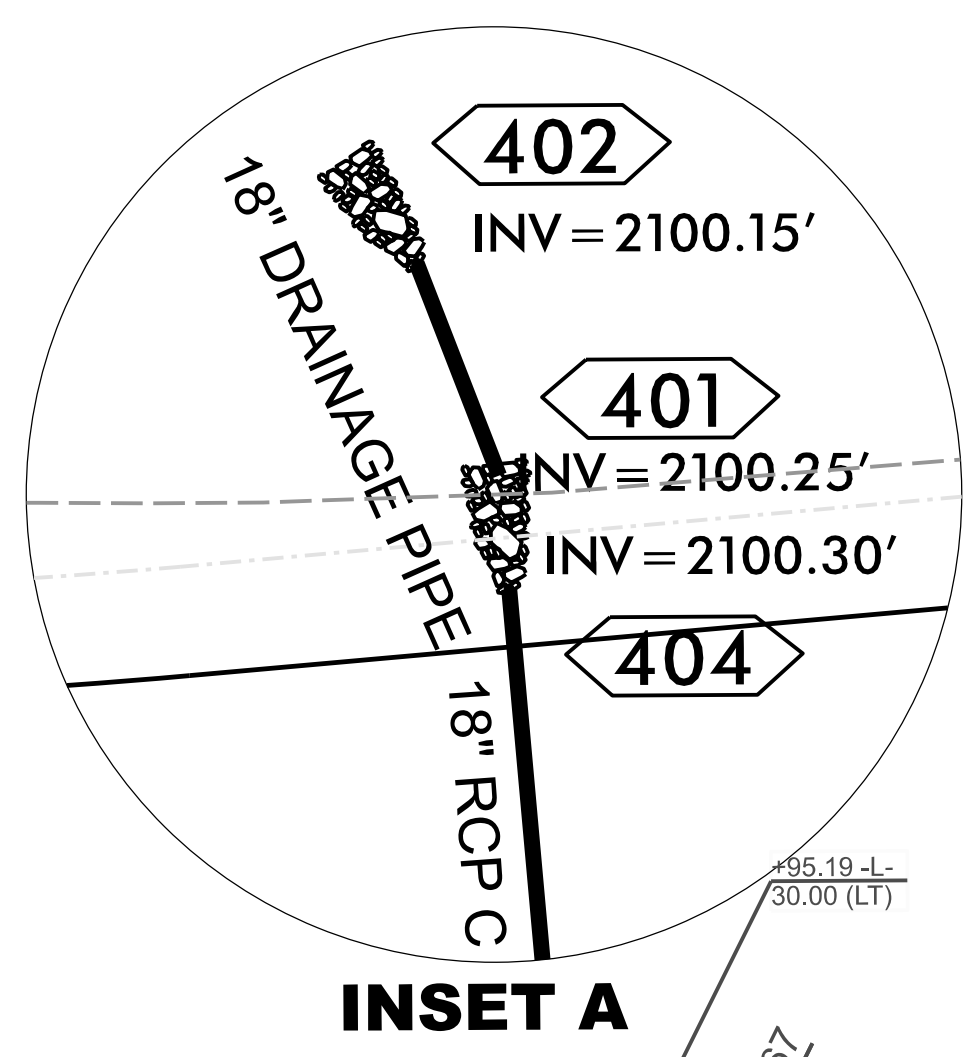
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

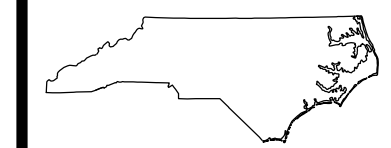




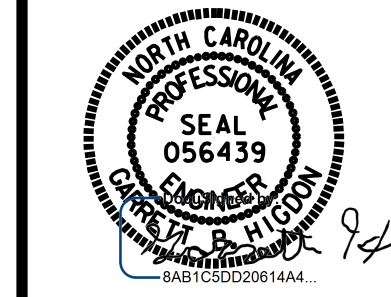


<b>CUR DATA -L-</b> Plc 10+71.79 $\Delta c = 15^{\circ}27'46.9''$ (RT) D = $10^{\circ}50'07.0''$ Lc = 142.71 Tc = 71.79 R = 528.79	<b>CUR DATA -L-</b> Plc 11+97.70 $\Delta c = 11^{\circ}52'23.8''$ (LT) D = $10^{\circ}50'07.0''$ Lc = 109.58 Tc = 54.99 R = 528.79	<b>CUR DATA -L-</b> Plc 16+53.55 $\Delta c = 31^{\circ}35'12.3''$ (RT) D = $22^{\circ}55'05.9''$ Lc = 137.82 Tc = 70.71 R = 250	<b>CUR DATA -PATH-</b> Plc 0+96.30 $\Delta c = 34^{\circ}25'05.8''$ (RT) D = $114^{\circ}35'29.6''$ Lc = 30.04 Tc = 15.49 R = 50
--	--	---	--





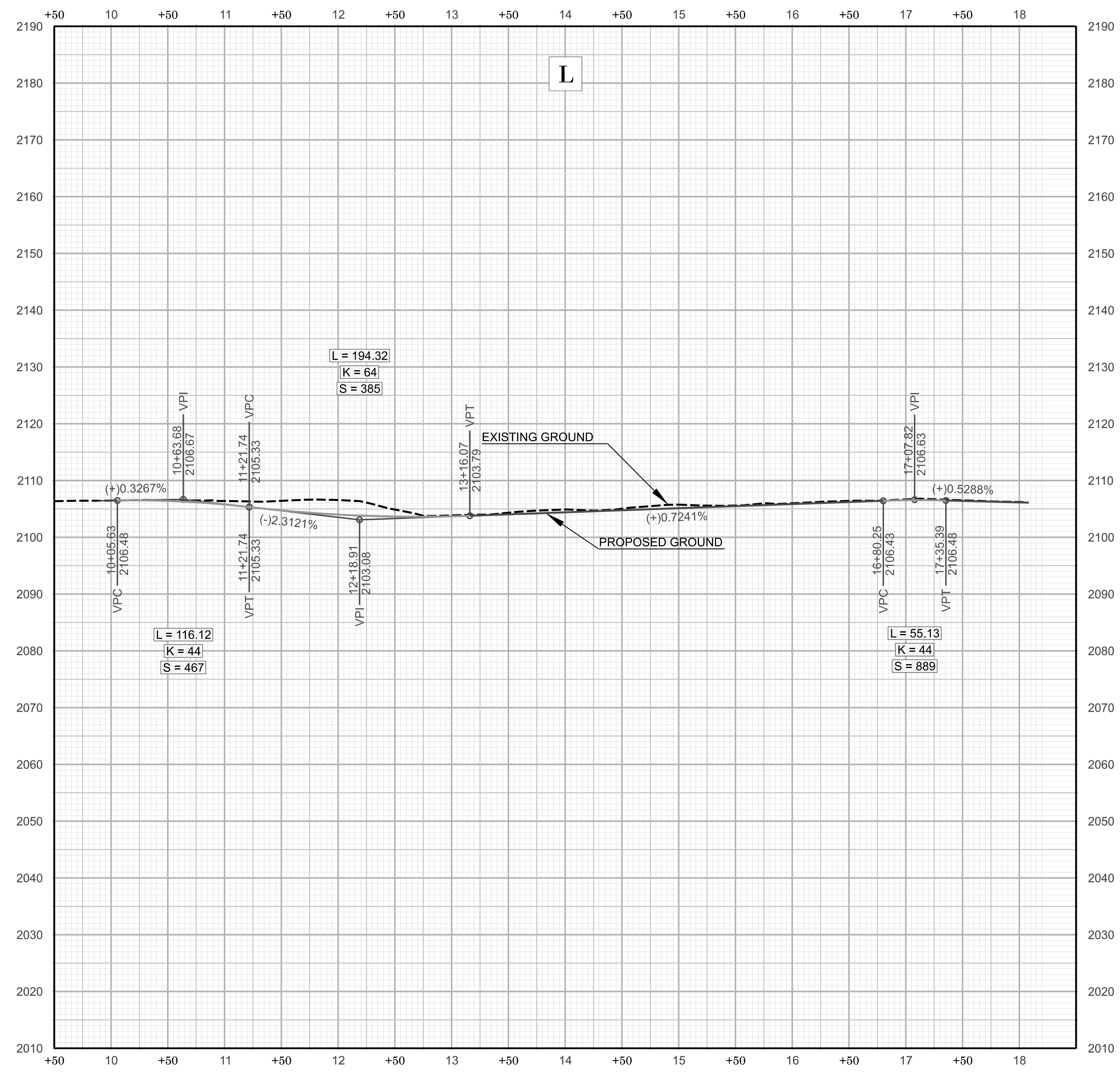
ROADWAY DESIGN UNIT  
ROADWAY DESIGN ENGINEER



HYDRAULICS ENGINEER



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0002	RW01	5

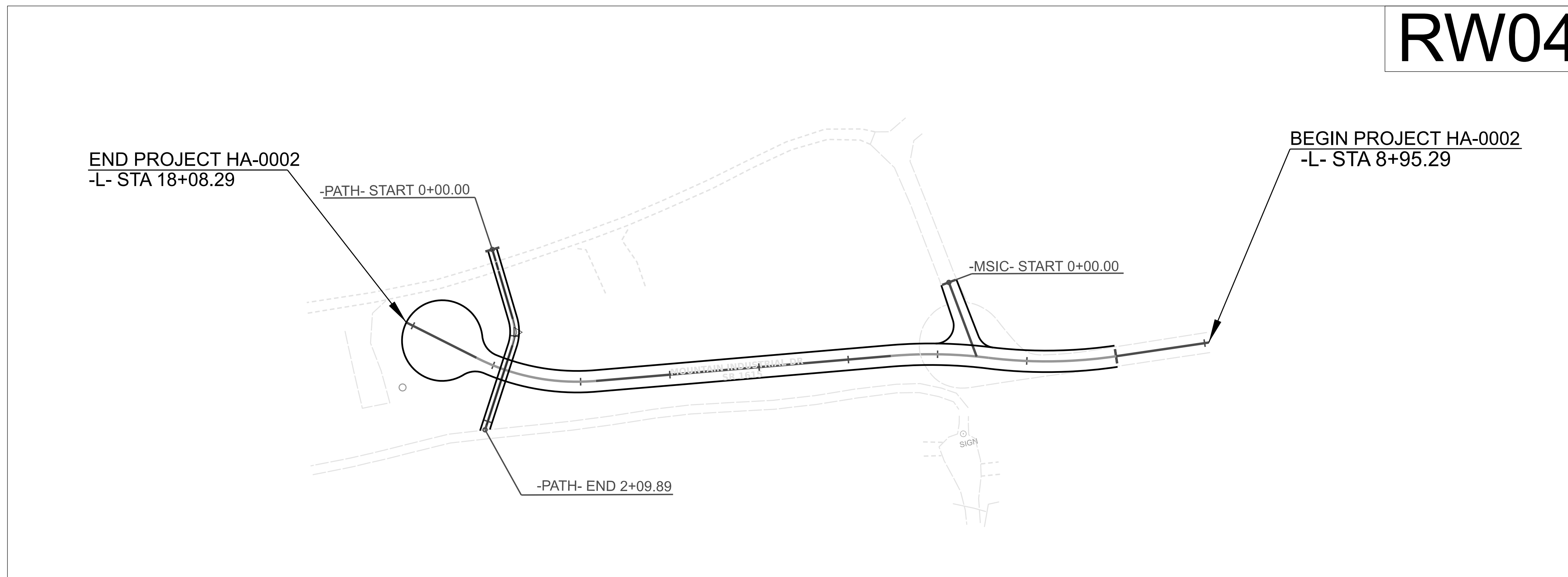
SURVEY CONTROL, EXISTING CENTERLINES,  
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

TRANSYLVANIA COUNTY



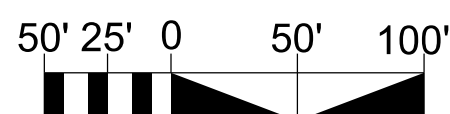
TIP PROJECT: HA-0002

RW04



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GRAPHIC SCALES



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT G101 WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 567753.5250' EASTING: 892532.7220' ELEVATION: 2107.34'

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9997767173

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

2024 STANDARD SPECIFICATIONS

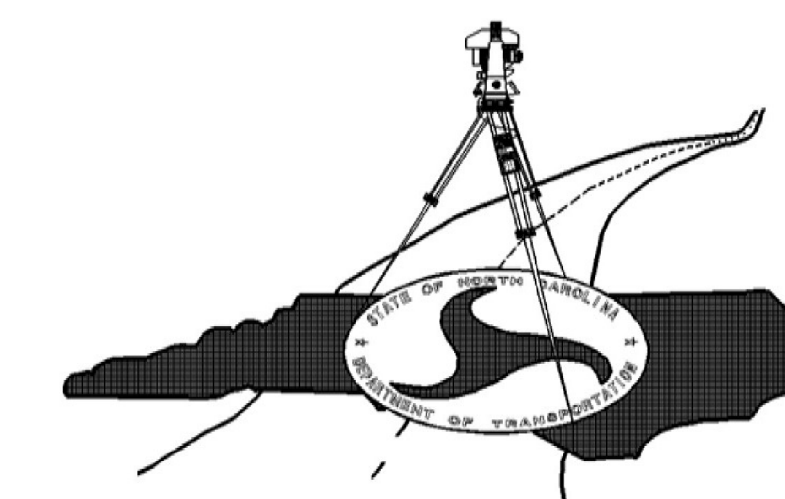
RIGHT OF WAY DATE:  
NA

LETTING DATE:  
JANUARY 23, 2024

PROFESSIONAL LAND SURVEYOR

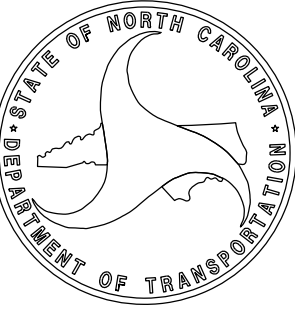


DocuSigned by:  
*Brian Barwatt* 11/30/2023  
SIGNATURE: DATE:



# SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



PROFESSIONAL LAND SURVEYOR

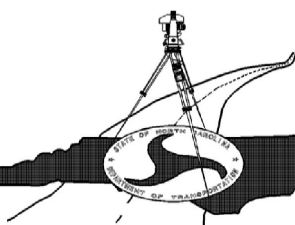


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2024 STANDARD SPECIFICATIONS

**TIP PROJECT: HA-0002**  
County: **TRANSYLVANIA**

PREPARED FOR



LOCATION AND SURVEYS UNIT

PREPARED BY

LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

I, BRIAN BARWATT, PLS, CERTIFY THAT THE PROJECT CONTROL WAS VERIFIED UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

CLASS OF SURVEY: **AA**  
TYPE OF GPS FIELD PROCEDURE: VRS  
DATES OF SURVEY: 12/01/2021  
DATUM/EPOCH: NAD 83/NA 2011  
PUBLISHED/FIXED-CONTROL USE: N/A  
LOCALIZED AROUND: G101  
NORTHING: 567753.5250'  
EASTING: 89532.7220'  
COMBINED GRID FACTOR: 0.9997767173  
GEOID MODEL: G18US  
UNITS: U.S. SURVEY FEET

I ALSO CERTIFY THAT THE BASELINE CONTROL FOR THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:20,000 (CLASS AA) AND VERTICAL ACCURACY TO CLASS A. FIELD WORK WAS PERFORMED IN DECEMBER OF 2021, AND ALL COORDINATES ARE BASED ON NAD 83/2011 AND ALL ELEVATIONS ARE BASED ON NAVD 88; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 30th DAY OF NOVEMBER, 2023.

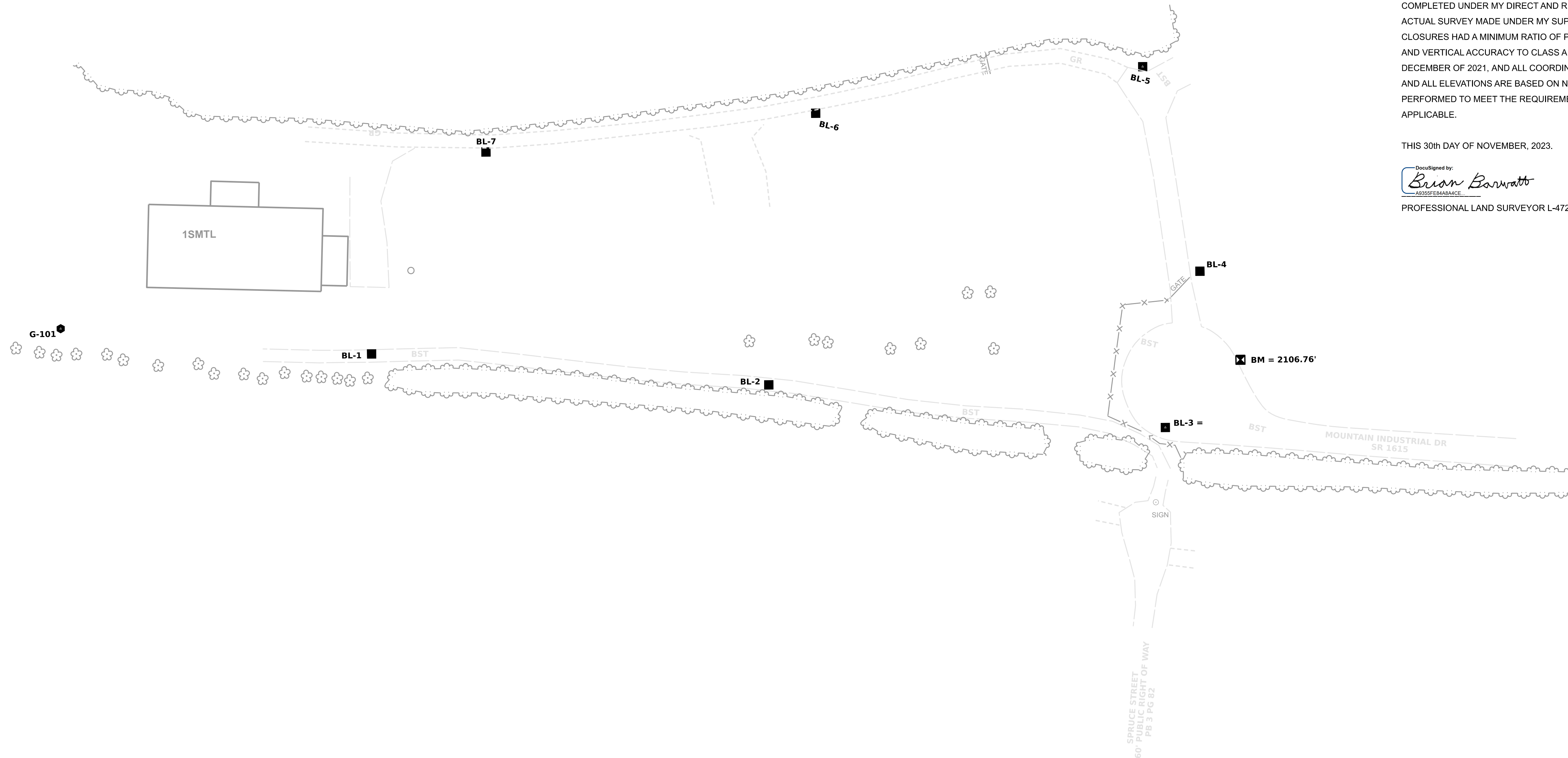
DocuSigned by:  
*Brian Barwatt*  
L-4727

PROFESSIONAL LAND SURVEYOR L-4727



BASELINE POINTS TABLE				
POINT	DESC	NORTH	EAST	ELEVATION
101	G-101	567753.5250	892532.7220	2107.34
102	G-102	567868.6620	892222.5240	2109.89
1	BL-1	567730.1860	892782.9440	2106.50
2	BL-2	567701.4050	893102.5840	2105.04
3	BL-3	567663.2170	893421.6850	2106.32
4	BL-4	567788.8330	893451.0210	2106.49
5	BL-5	567954.2310	893406.8980	2105.52
6	BL-6	567919.8580	893143.0270	2106.46
7	BL-7	567891.8460	892877.0060	2106.41

BENCHMARK POINTS TABLE				
BM1	567717.0426	893482.8361	2106.76	CHISELED SQUARE IN CONCRETE



**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 INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

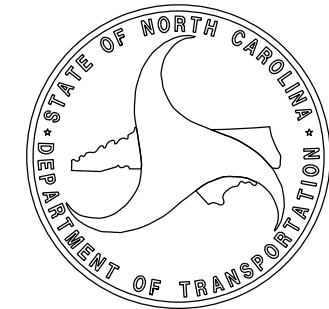


# PROPOSED ALIGNMENT CONTROL SHEET

HA-0002

R/W 020-1

NORTH CAROLINA  
DEPARTMENT  
OF TRANSPORTATION



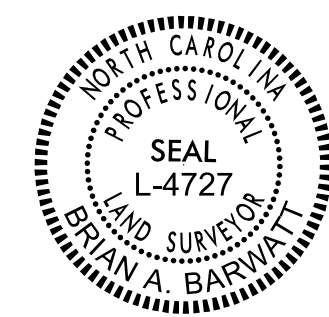
I, BRIAN BARWATT, PLS, CERTIFY THAT THE DATA  
COMPILED CAME FROM AVAILABLE SURVEYS/MAPPING  
PERFORMED BY OTHERS AND PROVIDED TO ME BY  
NCDOT AND DO NOT CERTIFY TO THE ACCURACY OR  
QUALITY OF THE INDIVIDUAL DATA SOURCES.

THIS 30th DAY OF NOVEMBER, 2023.

DocuSigned by:  
*Brian Barwatt*

PROFESSIONAL LAND SURVEYOR L-4727

PROFESSIONAL LAND  
SURVEYOR



DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL SIGNATURES  
ARE COMPLETED

2024 STANDARD  
SPECIFICATIONS

**TIP PROJECT: HA-0002**  
County: **TRANSYLVANIA**

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	8+95.29	567639.4705	893703.6284	N85°11'08.4"W	104.7136							
PC	10+00.00	567648.2588	893599.2843	N77°27'14.9"W	142.2775	15°27'46.9"	10°50'07.0"	142.7102	71.7914	528.7895		
PRC	11+42.71	567679.1644	893460.4041	N75°39'33.3"W	109.3838	11°52'23.8"	10°50'07.0"	109.5798	54.9868	528.7895		
PT	12+52.29	567706.2575	893354.4287	N81°35'45.2"W	330.5520							
PC	15+82.84	567754.5690	893027.4262	N65°48'09.0"W	136.0845	31°35'12.3"	22°55'05.9"	137.8232	70.7117	250.0000		
PT	17+20.67	567810.3478	892903.2983	N50°00'32.9"W	87.6258							
END	18+08.29	567866.6619	892836.1641									

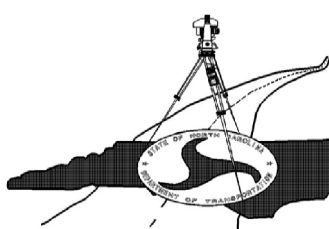
PROPOSED ALIGNMENT: PATH												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	0+00.00	567923.9371	892948.3394	S03°11'22.2"E	80.8161							
PC	0+80.82	567843.2462	892952.8359	S14°01'10.7"W	29.5860	34°25'05.8"	114°35'29.6"	30.0356	15.4863	50.0000		
PT	1+10.85	567814.5414	892945.6686	S31°13'43.6"W	99.0335							
END	2+09.89	567729.8575	892894.3240									

PROPOSED ALIGNMENT: MISC												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	0+00.00	567771.3042	893436.3844	S07°19'25.7"E	88.3352							
END	0+88.34	567683.6896	893447.6451									

**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 INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PREPARED FOR



LOCATION AND  
SURVEYS UNIT

PREPARED BY

LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

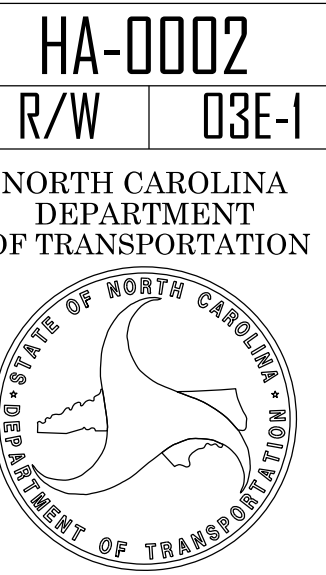
# RIGHT OF WAY CONTROL SHEET

I, BRIAN BARWATT, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED IN APRIL OF 2022, AND ALL COORDINATES ARE BASED ON NAD83/2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 30th DAY OF NOVEMBER, 2023.

DocuSigned by:  
*Brian Barwatt*

PROFESSIONAL LAND SURVEYOR L-4727



PROFESSIONAL LAND SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

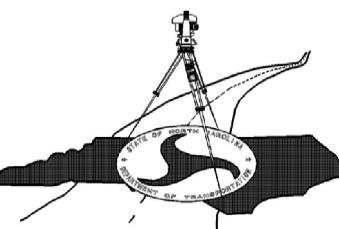
2024 STANDARD SPECIFICATIONS

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
10+00.00	25.00	567673.1706	893601.3825
11+03.94	25.00	567691.0949	893504.1548
11+48.53	40.93	567719.7019	893468.6913
12+55.63	-25.00	567682.0143	893347.4698
12+58.32	30.00	567736.8167	893352.8477
13+47.12	-25.00	567695.3855	893256.9647
13+69.80	-28.02	567695.7159	893234.0823
15+00.34	-25.66	567717.1301	893105.2957
15+82.84	30.00	567784.2469	893031.8108
16+92.31	30.00	567818.4142	892942.5618
16+93.55	-65.46	567739.6729	892888.5807
16+95.19	-30.00	567770.0390	892906.9919
17+00.34	-30.00	567773.4602	892902.0316
17+12.49	38.81	567835.7316	892933.6086
17+13.51	-37.32	567776.5653	892885.6880

EIP  
EIP

**TIP PROJECT: HA-0002**  
County: **TRANSYLVANIA**

PREPARED FOR



LOCATION AND SURVEYS UNIT

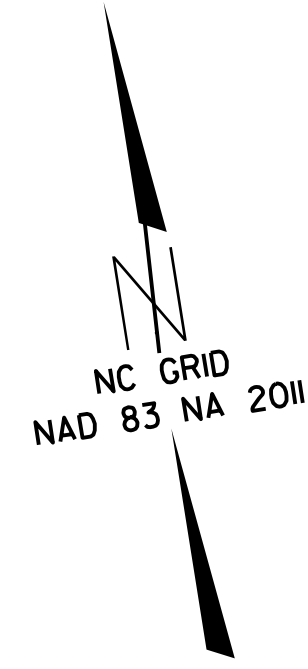
PREPARED BY

LOCATION AND SURVEYS  
DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

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.





I, BRIAN BARWATT, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED IN APRIL OF 2022, AND ALL COORDINATES ARE BASED ON NAD83/2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 30th DAY OF NOVEMBER, 2023.

DocuSigned by: *Brian Barwatt*  
PROFESSIONAL LAND SURVEYOR L-4727

"NOW OR FORMERLY"  
BLUE RIDGE SOUTHERN RAILROAD, LLC  
DB 105 PG 357  
PF 20 SL 261 & PF 20 SL 344-347  
37°34'40.00"E  
625.31'  
CENTERLINE RR R/W = 100' WIDE

PF 7 SL 99-100  
PF 15 SL 23  
DB 996 PG 491  
342 MOUNTAIN INDUSTRIAL

PF 3 SL 305  
DB 294 PG 381  
TRANSYLVANIA COUNTY

PF 8 SL 536  
DB 942 PG 309 = TRACT 2  
LAMB CREEK LAND  
COMPANY, LLC

LAMB CREEK LAND COMPANY, LLC  
DB 942 PG 309 = TRACT 1  
PF 7 SL 99-100  
PF 20 SL 339-342

CITY OF BREVARD  
DB 942 PG 331  
PF 20 SL 339-342

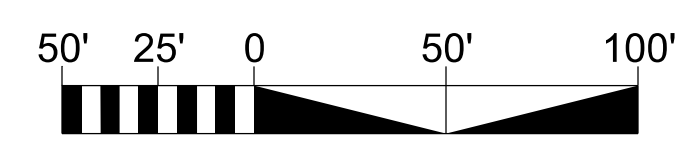
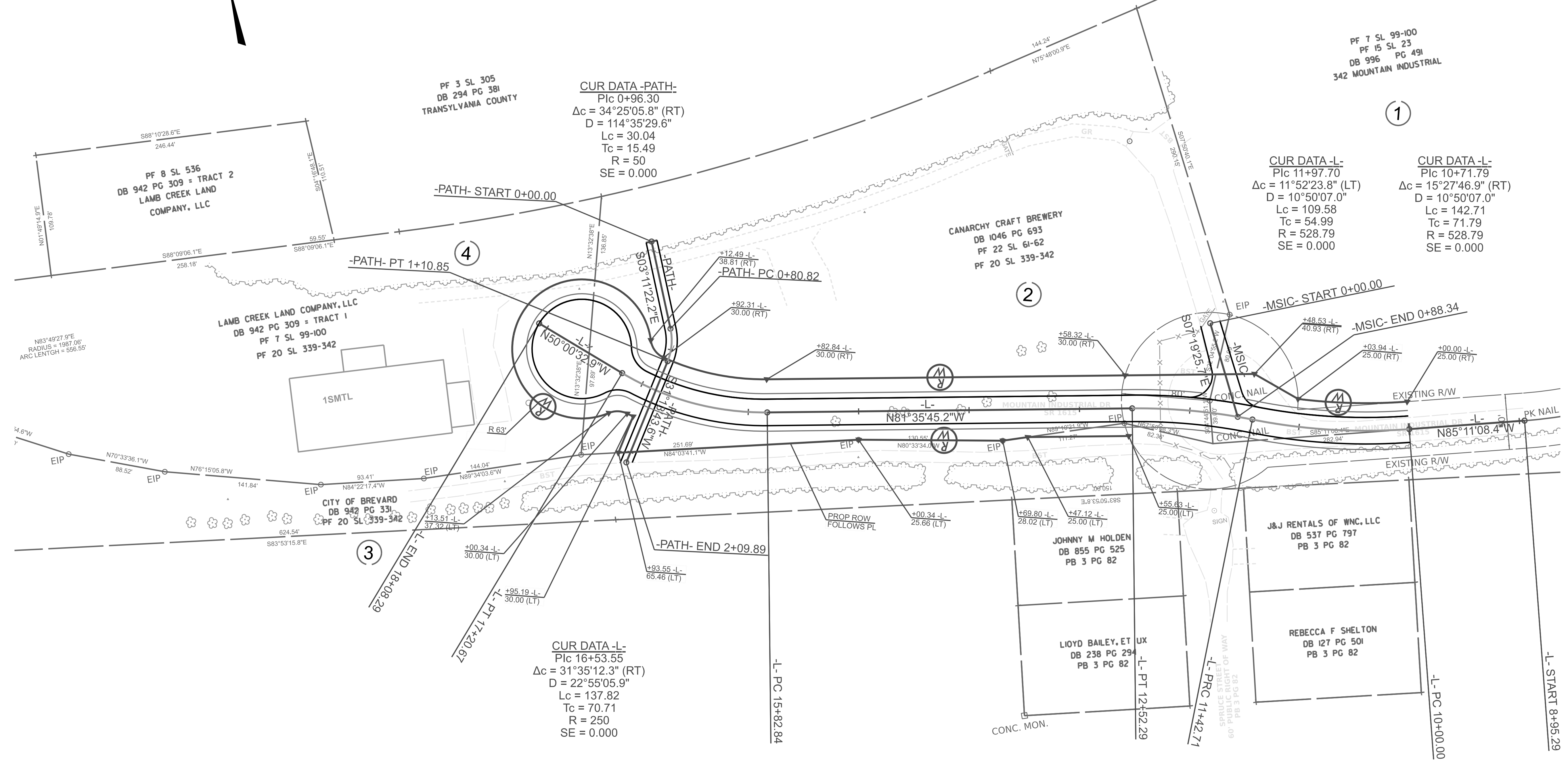
CANARCHY CRAFT BREWERY  
DB 1046 PG 693  
PF 22 SL 61-62  
PF 20 SL 339-342

CUR DATA -L-  
Plc 11+97.70  
Δc = 11°52'23.8" (LT)  
D = 10°50'07.0"  
Lc = 109.58  
Tc = 54.99  
R = 528.79  
SE = 0.000

CUR DATA -L-  
Plc 10+71.79  
Δc = 15°27'46.9" (RT)  
D = 10°50'07.0"  
Lc = 142.71  
Tc = 71.79  
R = 528.79  
SE = 0.000

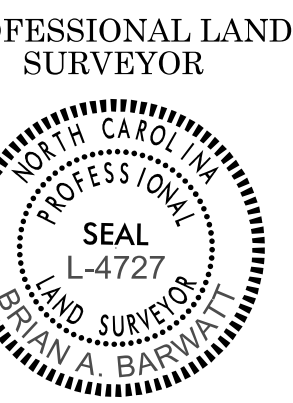
CUR DATA -PATH-  
Plc 0+96.30  
Δc = 34°25'05.8" (RT)  
D = 114°35'29.6"  
Lc = 30.04  
Tc = 15.49  
R = 50  
SE = 0.000

CUR DATA -L-  
Plc 16+53.55  
Δc = 31°35'12.3" (RT)  
D = 22°55'05.9"  
Lc = 137.82  
Tc = 70.71  
R = 250  
SE = 0.000



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



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED  
2024 STANDARD SPECIFICATIONS

TIP PROJECT: HA-0002  
County: TRANSYLVANIA

PREPARED FOR  
LOCATION AND SURVEYS UNIT  
PREPARED BY

LOCATION AND SURVEYS DIVISION 14  
122 BONNIE LANE  
SYLVA, NC 28779

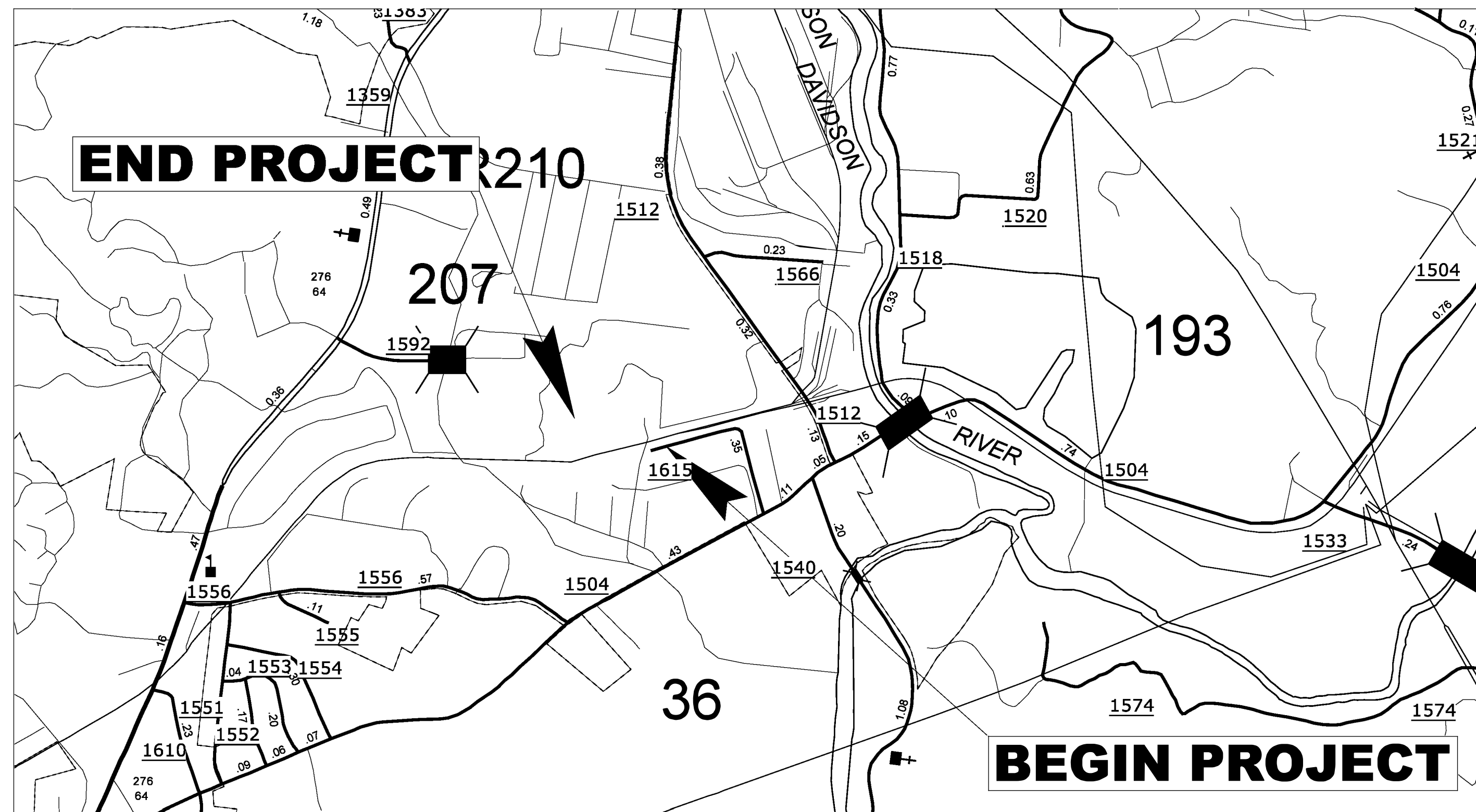
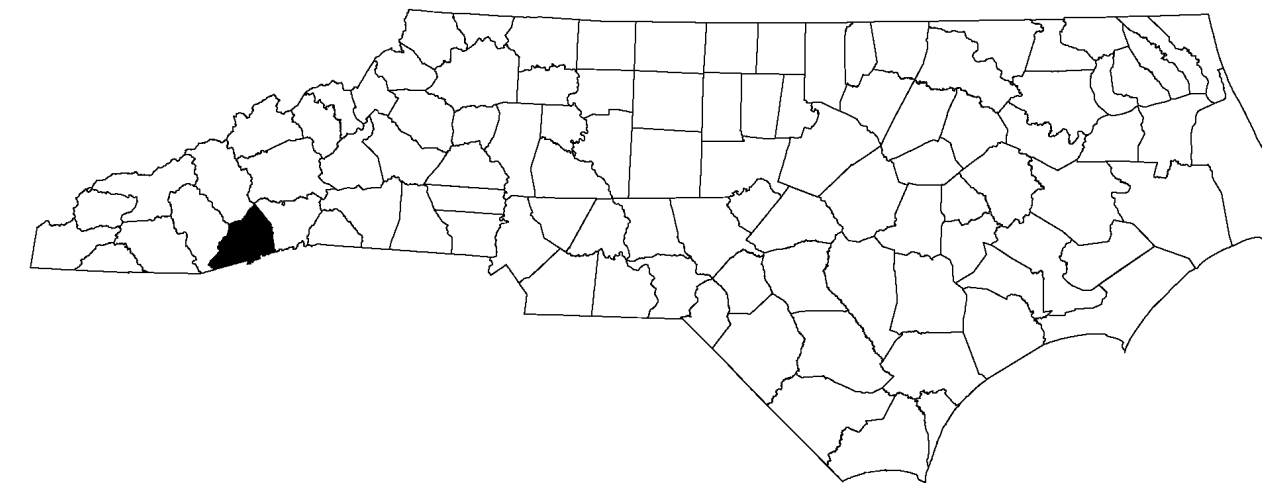


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**TRANSYLVANIA COUNTY**

LOCATION: MOUNTAIN INDUSTRIAL DRIVE (SR1615)  
ROAD EXTENSION IN JENNINGS  
INDUSTRIAL PARK



**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-2	TEMPORARY TRAFFIC CONTROL PHASING
TMP-3	PHASE 1
TMP-4	PHASE 2

SHEET NO.  
TMP-1

**HA-0002**

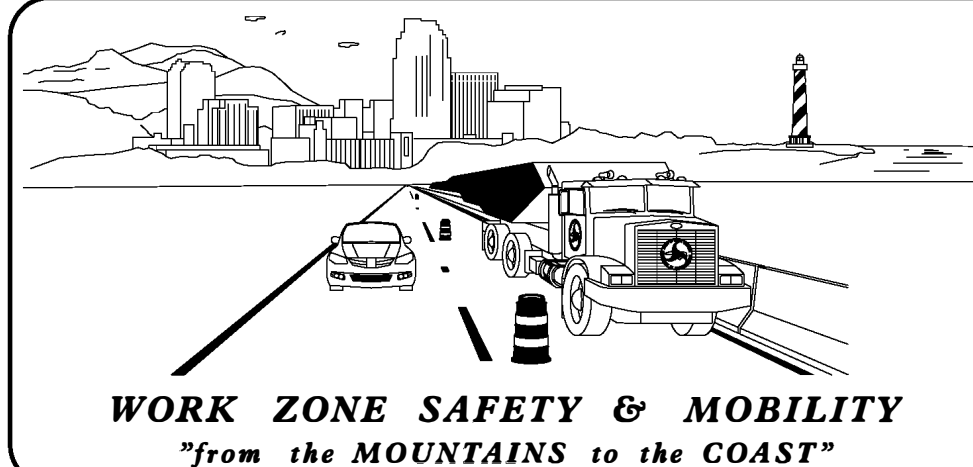
**TIP PROJECT:**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

APPROVED: *Garrett Higdon*

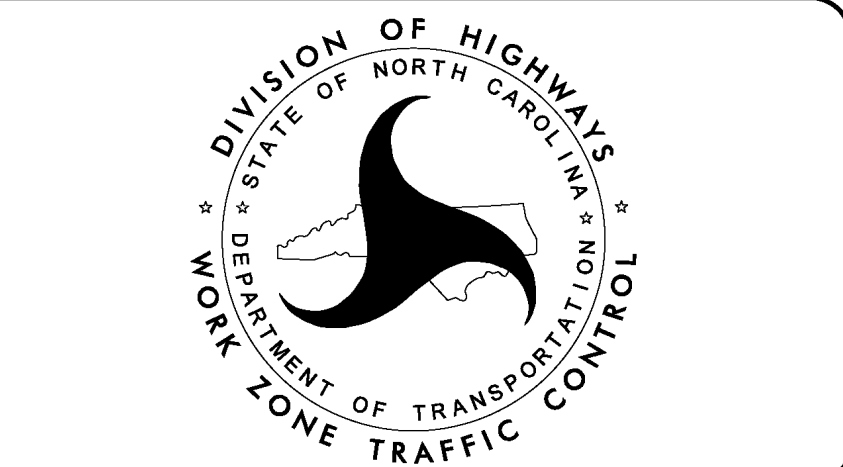
DATE: 11/28/2023

SEAL



PLANS PREPARED BY:  
DREW RIVENBARK, E.I.

NC DOT CONTACTS:  
GARRETT HIGDON, P.E.  
PROJECT ENGINEER  
GARRETT HIGDON, P.E.  
PROJECT DESIGN ENGINEER



# 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
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

# 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

## SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

## 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

12/20/2023 L:\ext-dcr\venbar\Mountain IndustrialDrive\Work Zone Traffic Control\HA0002\_TMP.dgn User:ext-dcr\venbar\kl

APPROVED: <small>8481C002061444</small> DATE: 12/20/2023 SEAL			<b>ROADWAY STANDARD DRAWINGS &amp; LEGEND</b>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

## PHASING

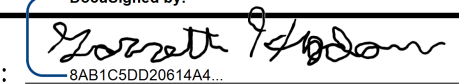
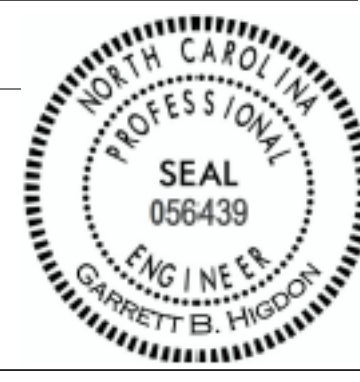

STEP 1 (TMP-3)

REPLACE DRAINAGE PIPE UNDER WALKING PATH AS SHOWN ON PLANS.

STEP 2 (TMP-4)

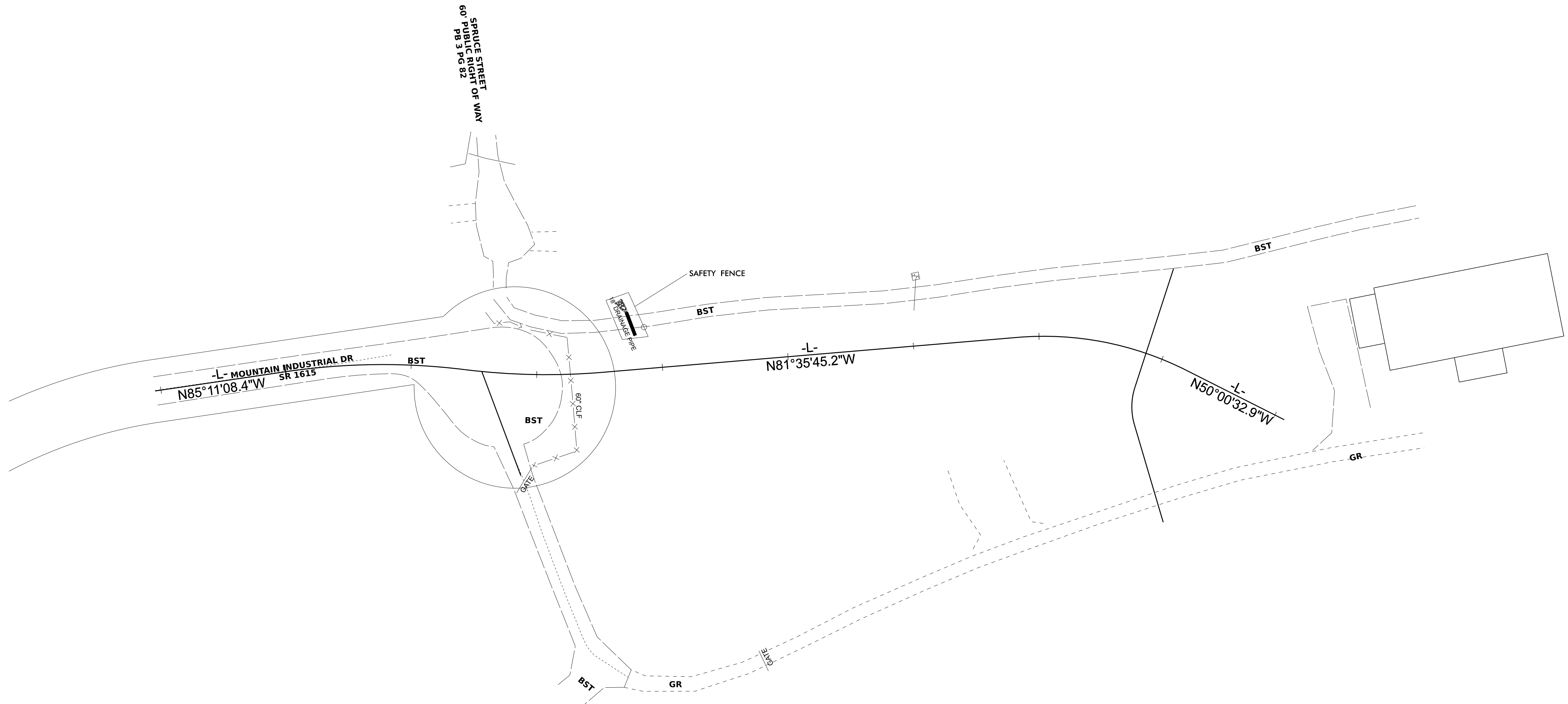
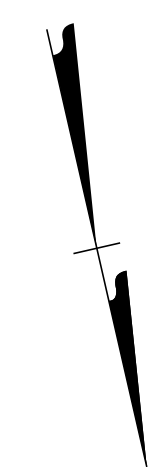
CONSTRUCT SR 1615 BEGINNING WITH END OF PROJECT.

5/17/2023  
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APPROVED:  <small>DocuSigned by: Garrett B. Higdon B4B1C5D220614A4</small>		
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<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>		



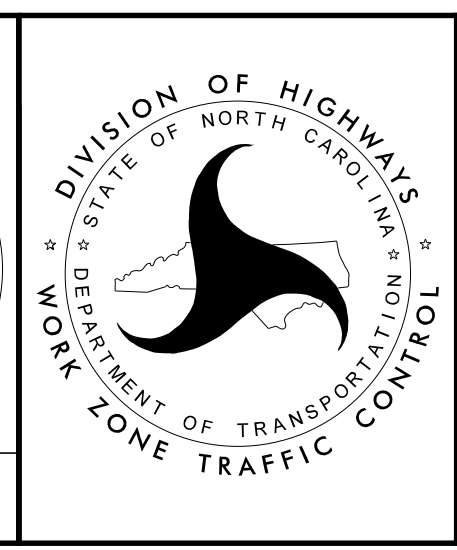
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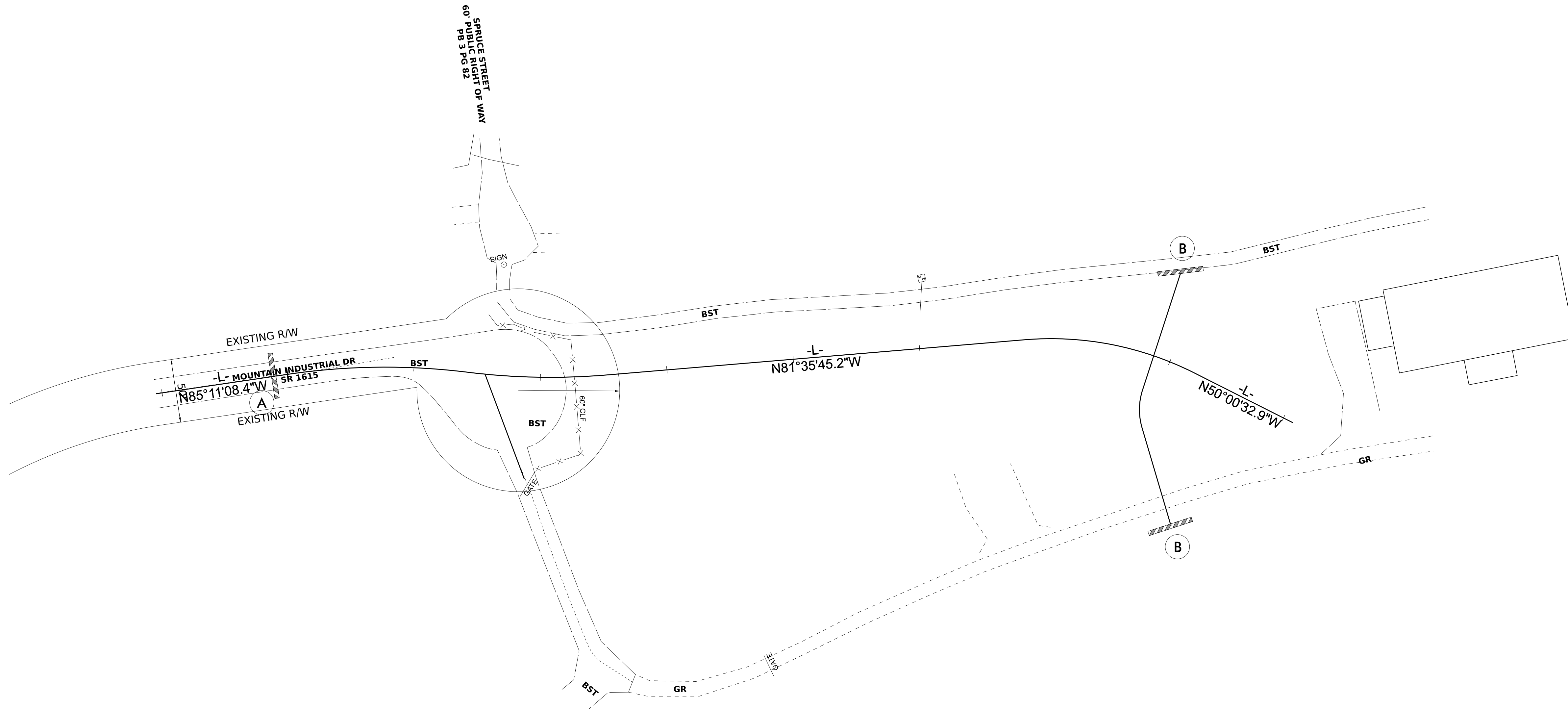
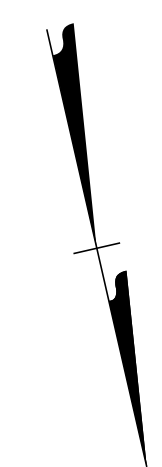
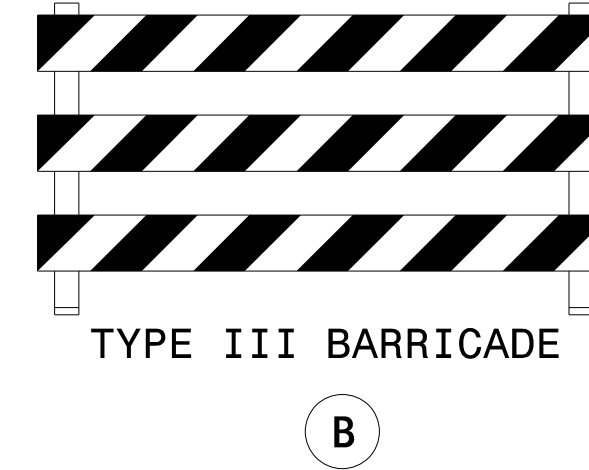
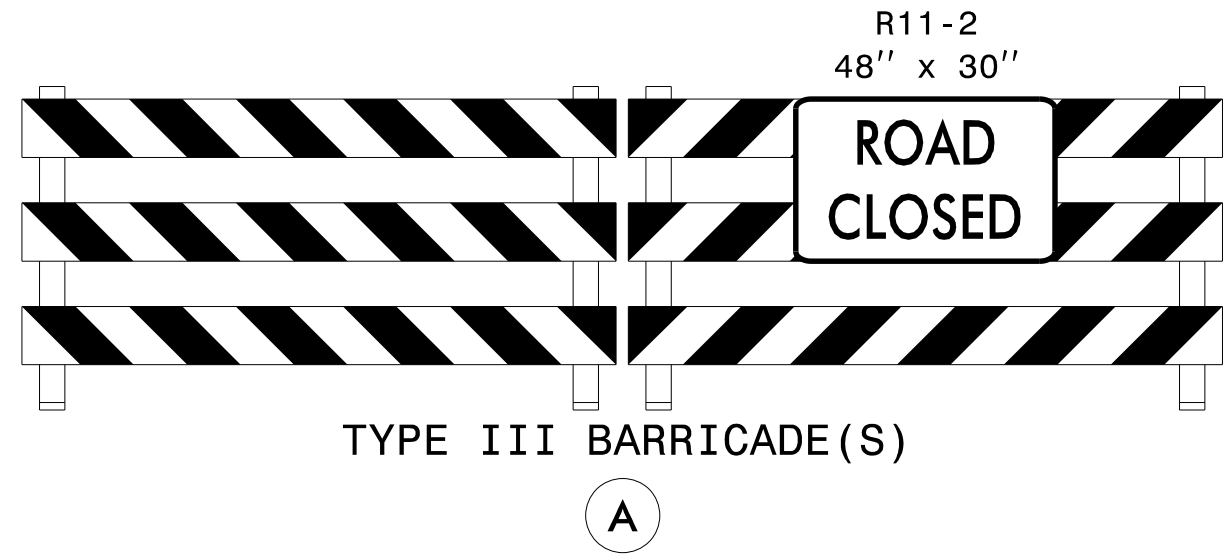
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 Garrett B. Higdon  
 APPROVED: 8A81C5D020E1A4  
 DATE: 11/28/2023

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



PHASE 1

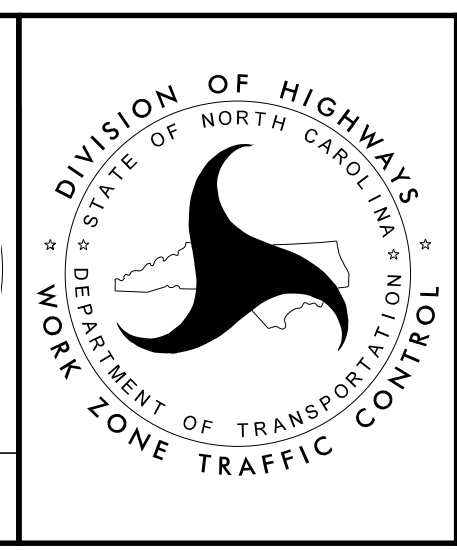
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5/17/2023  
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*Garrett B. Hiedon*  
APPROVED: 11/28/2023  
DATE: 11/28/2023

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



PHASE 2

PROJECT: HA-0002

CONTRACT: DN00767

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
PAVEMENT MARKING PLAN

TRANSYLVANIA COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0002	PMP-1	2
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
49759.1.1	0SS132	PE	
49759.2.1	0SS132	RW	
49759.3.1	0SS132	CONSTRUCTION	

INDEX OF SHEETS

SHEET NUMBER	SHEET
PMP-1	TITLE SHEET
PMP-2	PROPOSED PAVEMENT MARKINGS

GENERAL NOTES: 2024 SPECIFICATIONS

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.

PAVEMENT MARKINGS AND MARKERS

- A) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- B) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.
- C) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

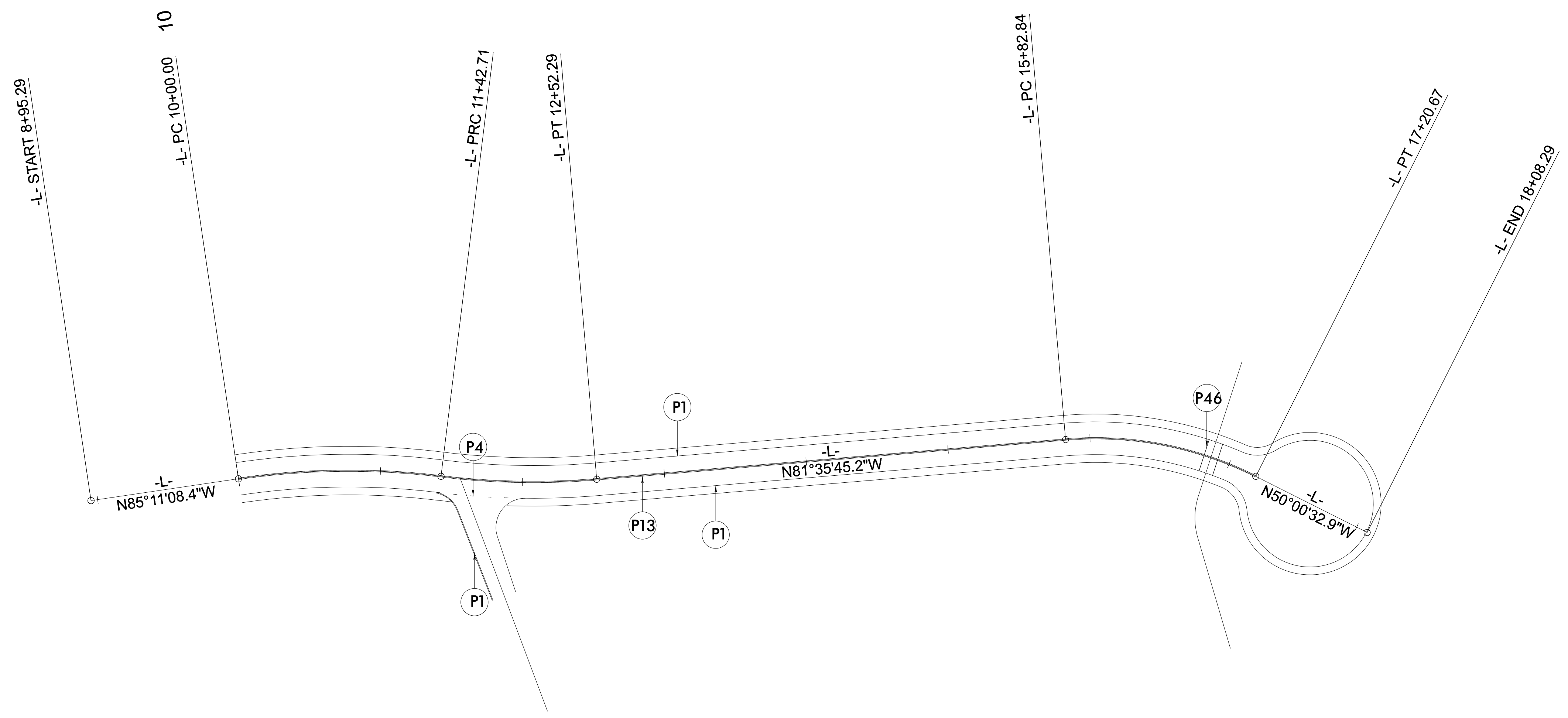
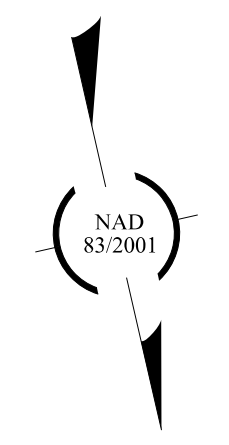
ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS

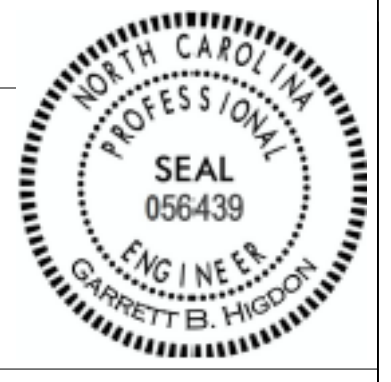
PAVEMENT MARKINGS

SYMBOL	DESCRIPTION
P1	WHITE EDGELINE (4")
P4	3 FT. - 9 FT./SP WHITE MINISKIP (4")
P13	YELLOW DOUBLE CENTER (4")
P46	WHITE CROSSWALK LINE (8")



\$\$\$\$\$SYTIME\$\$\$\$\$  
 \$\$\$\$\$\$DGN\$\$\$\$\$  
 \$\$\$\$\$\$USERNAME\$\$\$\$\$

DocuSigned by:  
*Garrett B. Higdon*  
 APPROVED: 11/28/2023  
 DATE: 11/28/2023  
 SEAL



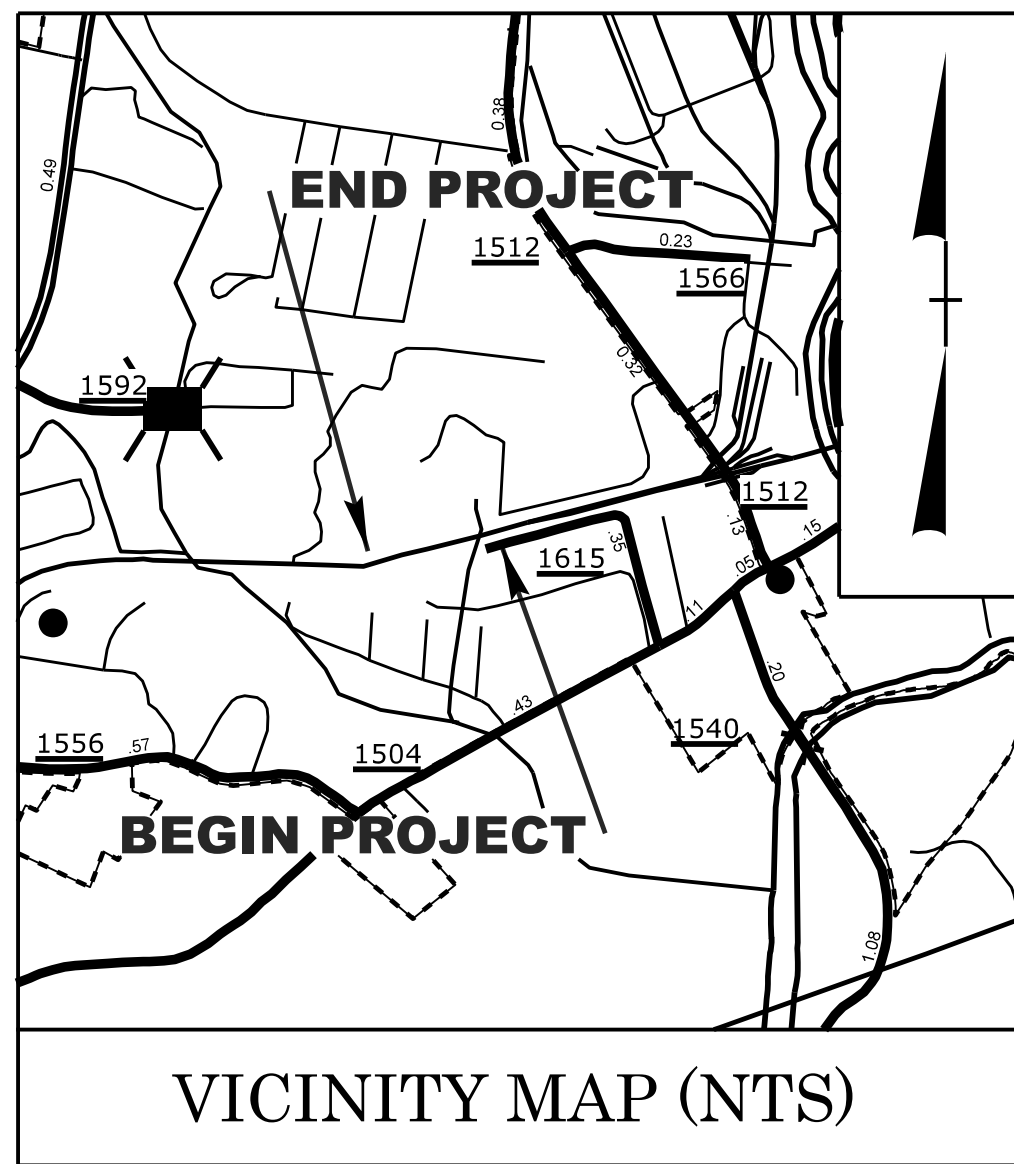
**PAVEMENT MARKINGS**

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



09/08/09

See Sheet 1A For Index of Sheets



# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

LOCATION: *MOUNTAIN INDUSTRIAL DRIVE (SR1615)  
ROAD EXTENSION IN JENNINGS  
INDUSTRIAL PARK*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE*

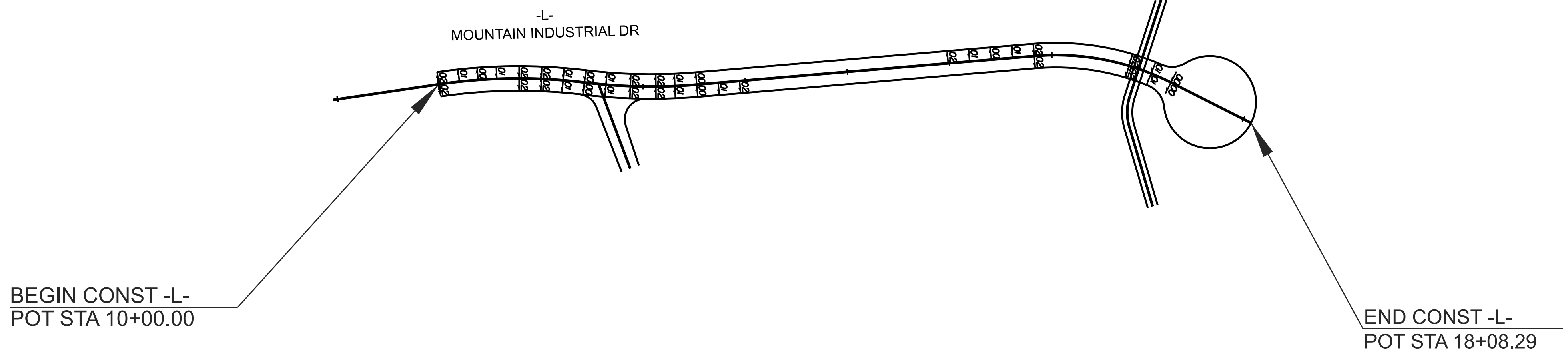
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0002	1	6
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
49759.1.1	00SS132	PE	
49759.2.1	00SS132	R/W	
49759.3.1	00SS132	CONSTRUCTION	

### EROSION AND SEDIMENT CONTROL MEASURES

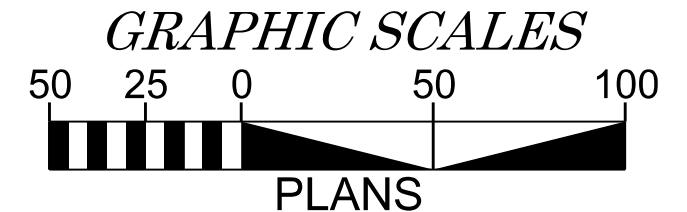
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	
1632.02	Type B	
1632.03	Type C	
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

TIP PROJECT:



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

Reviewed in the Office of:  
**ROADSIDE ENVIRONMENTAL UNIT**  
1 South Wilmington St.  
Raleigh, NC 27611

**2024 STANDARD SPECIFICATIONS**

Reviewed by:  
**REID WHITEHEAD, PE**

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
253 WEBSTER RD.  
SYLVA, NC, 28779

**2018 STANDARD SPECIFICATIONS**

Designed by:  
**DREW RIVENBARK, EI** 4342  
NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

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

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

# COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

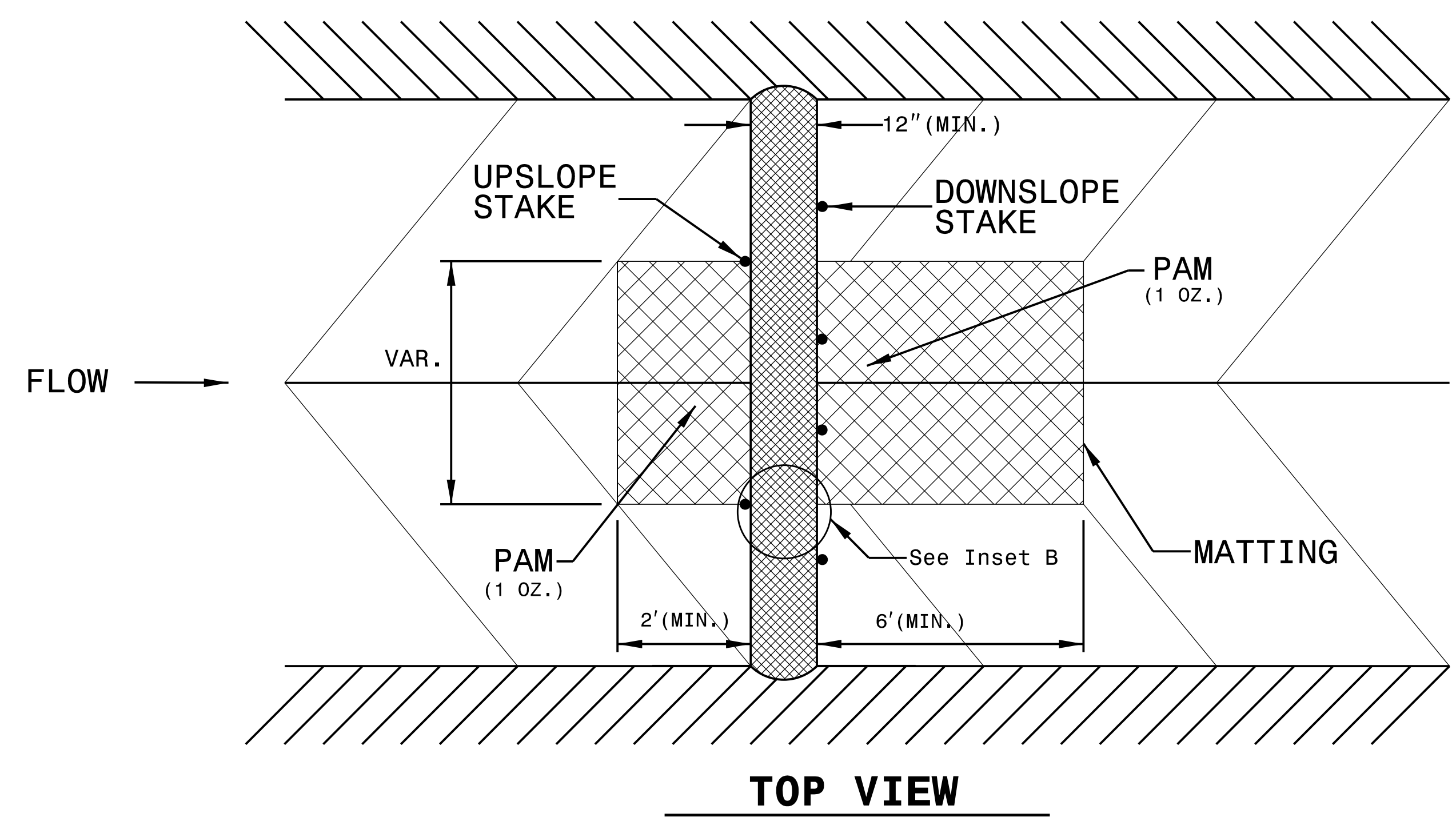
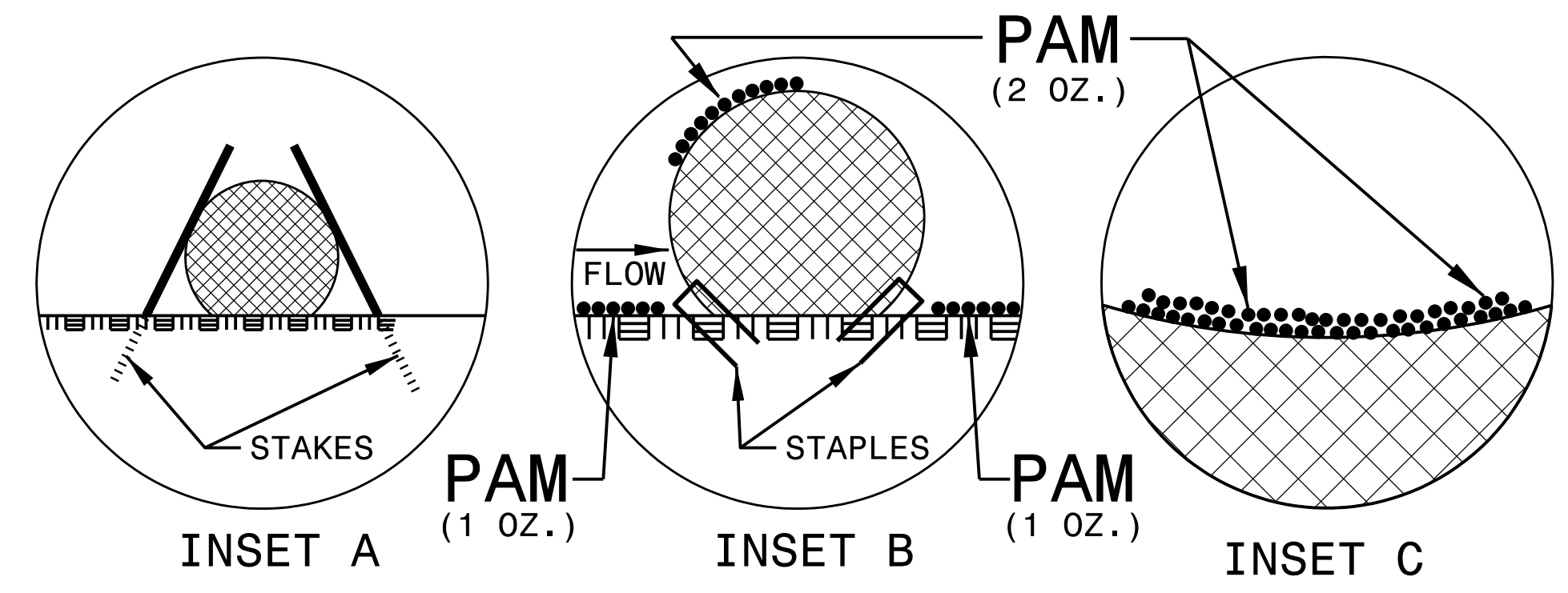
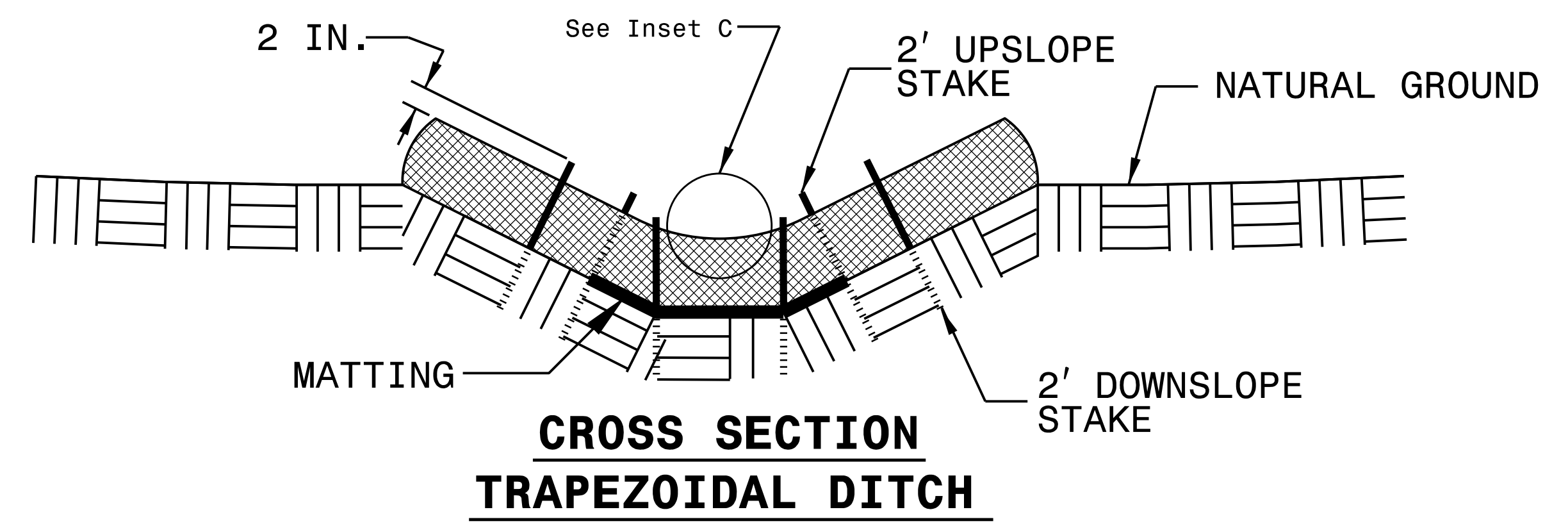
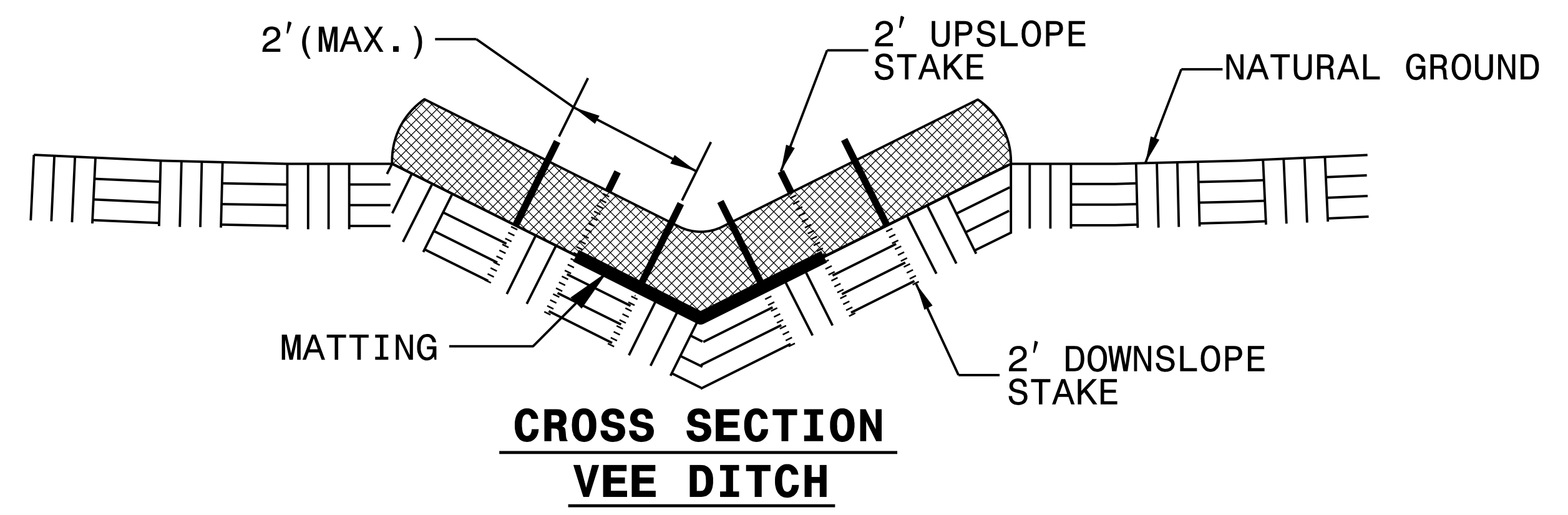
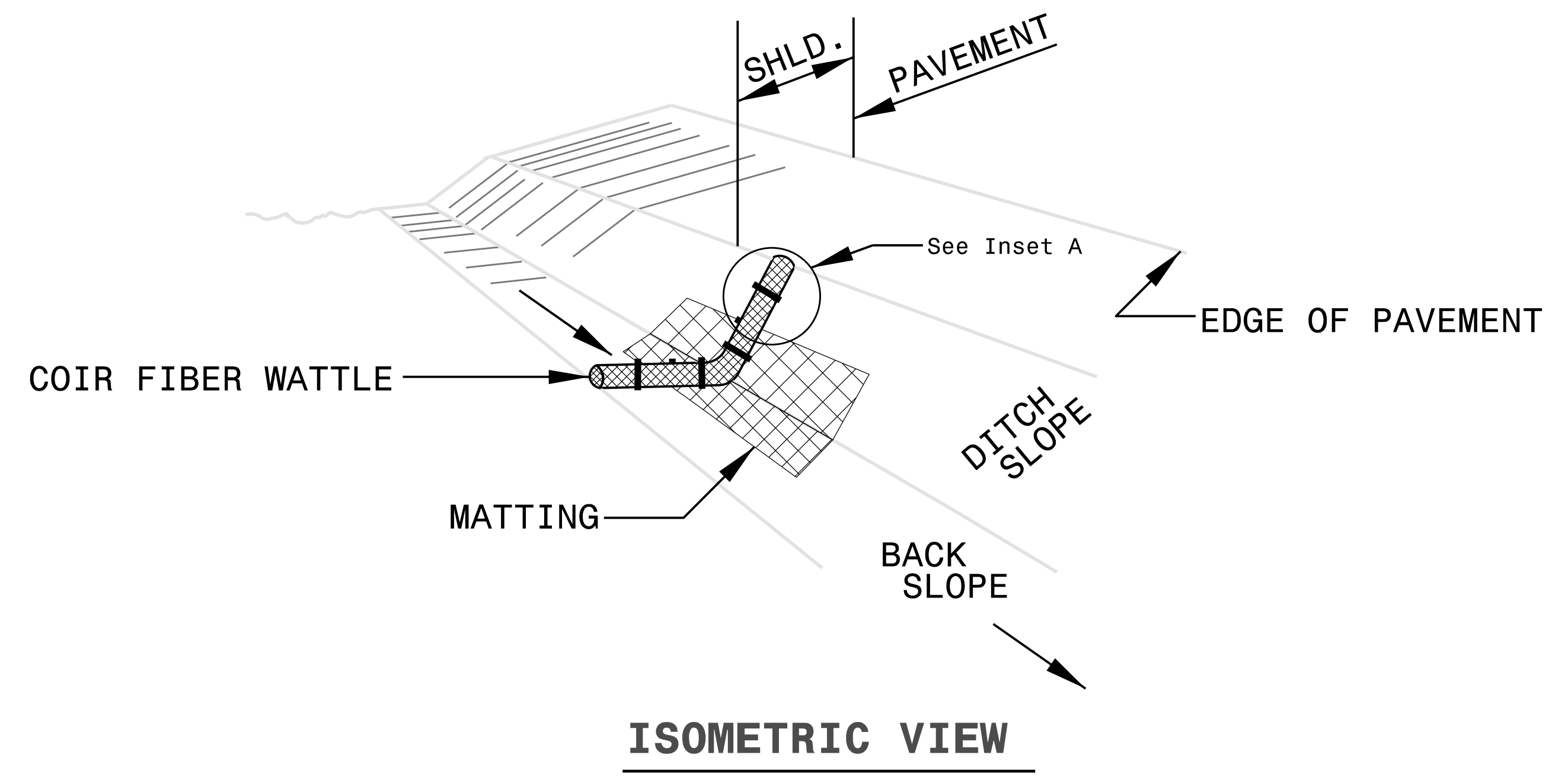
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.





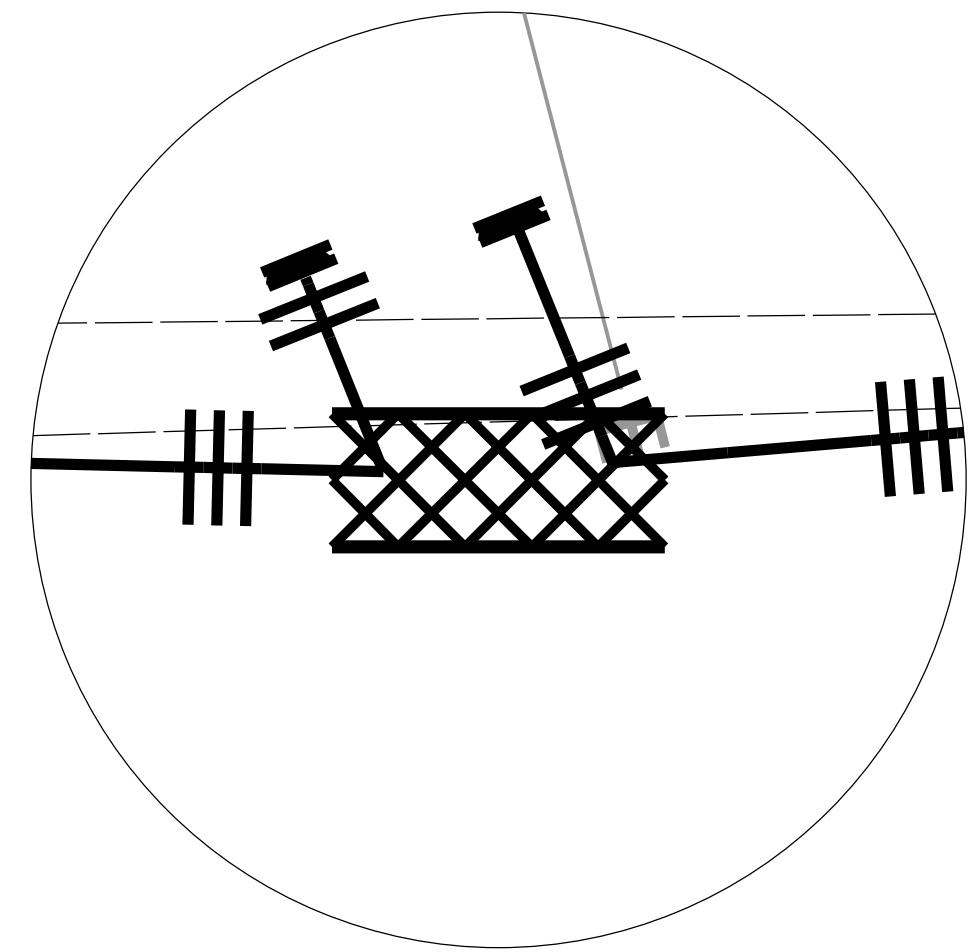


DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

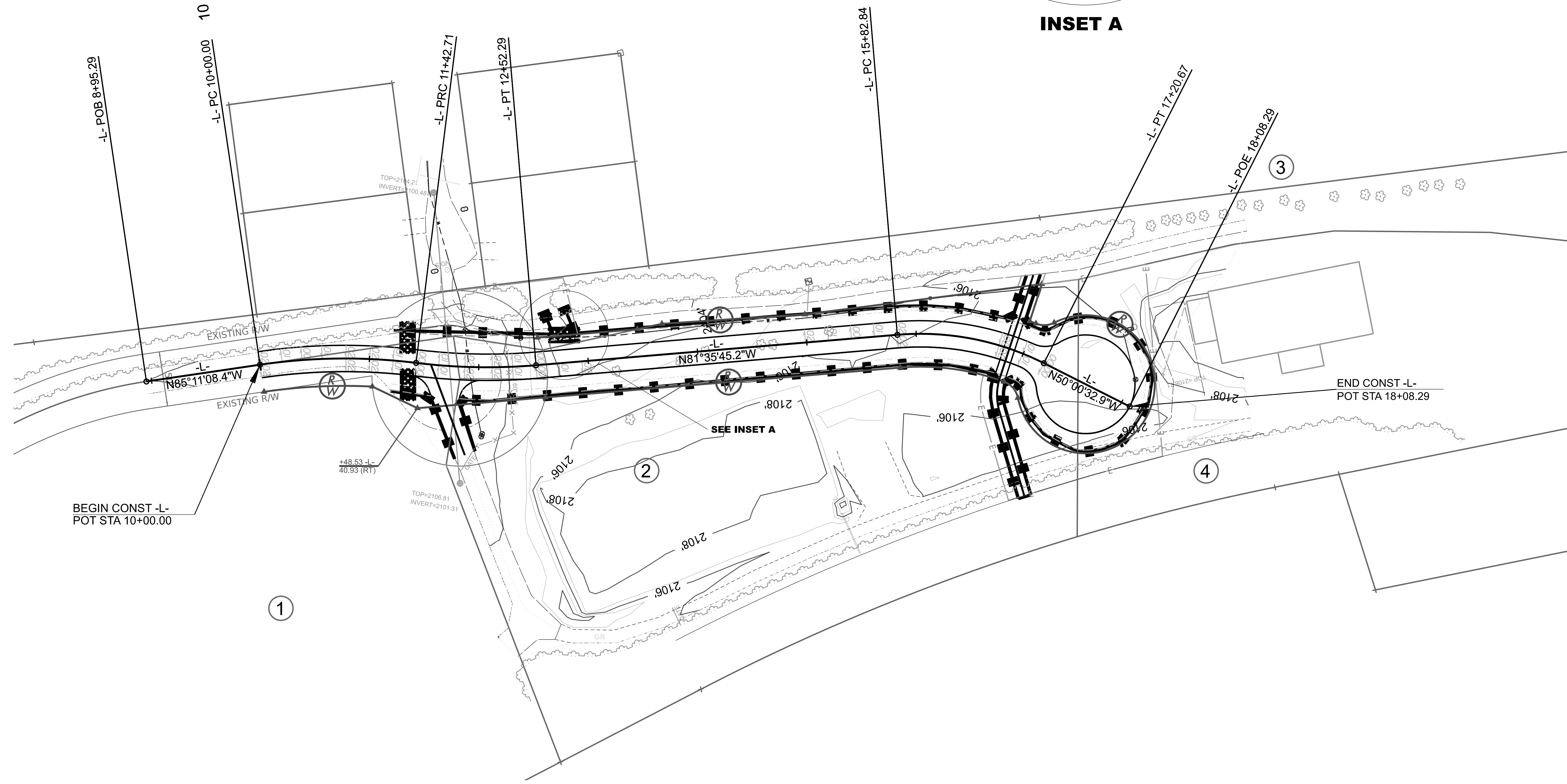
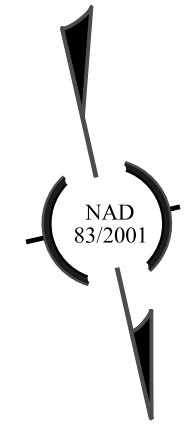
## *SOIL STABILIZATION TIMEFRAMES*

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

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4



INSET A

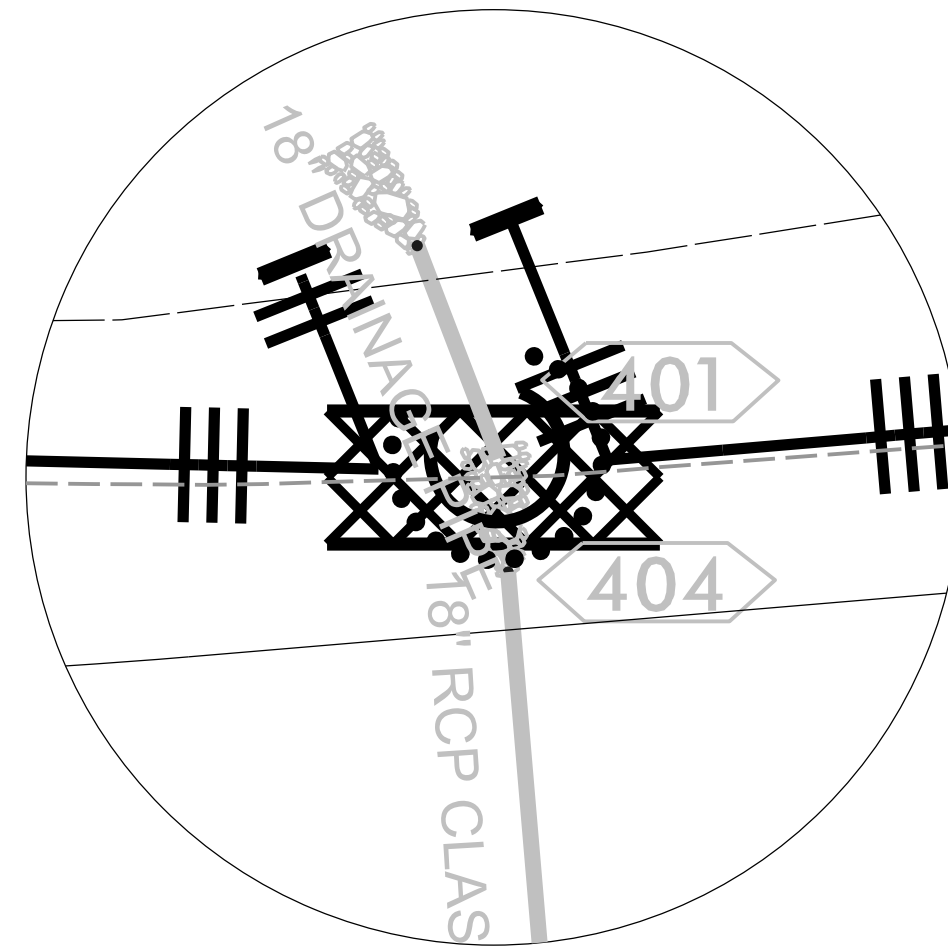


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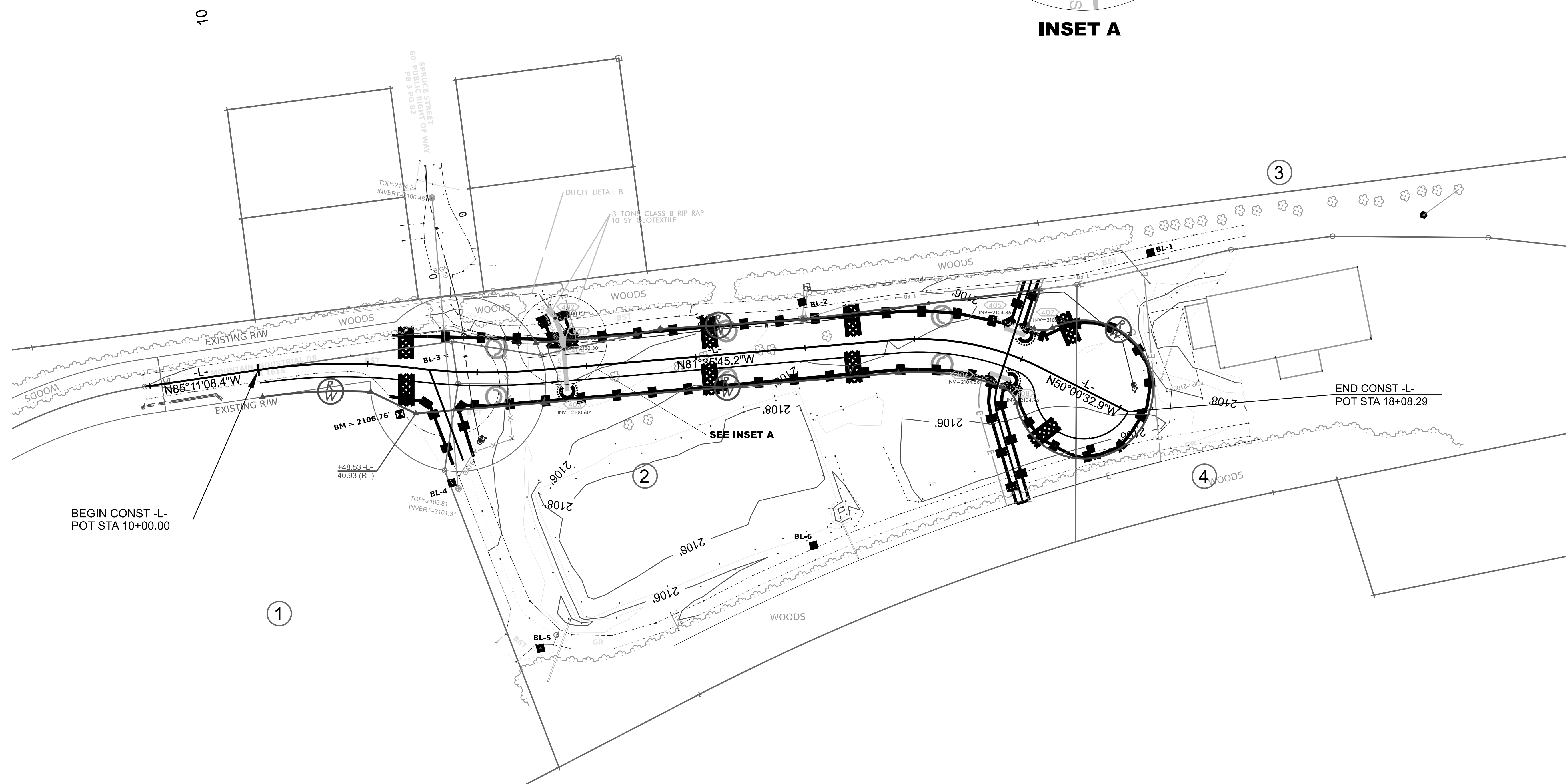
2

3

4



**INSET A**



10

3

2

4

1

BEGIN CONST -L-  
POT STA 10+00.00

END CONST -L-  
POT STA 18+08.29

SEE INSET A



TIP PROJECT: HA-0002

CONTRACT: DN00767

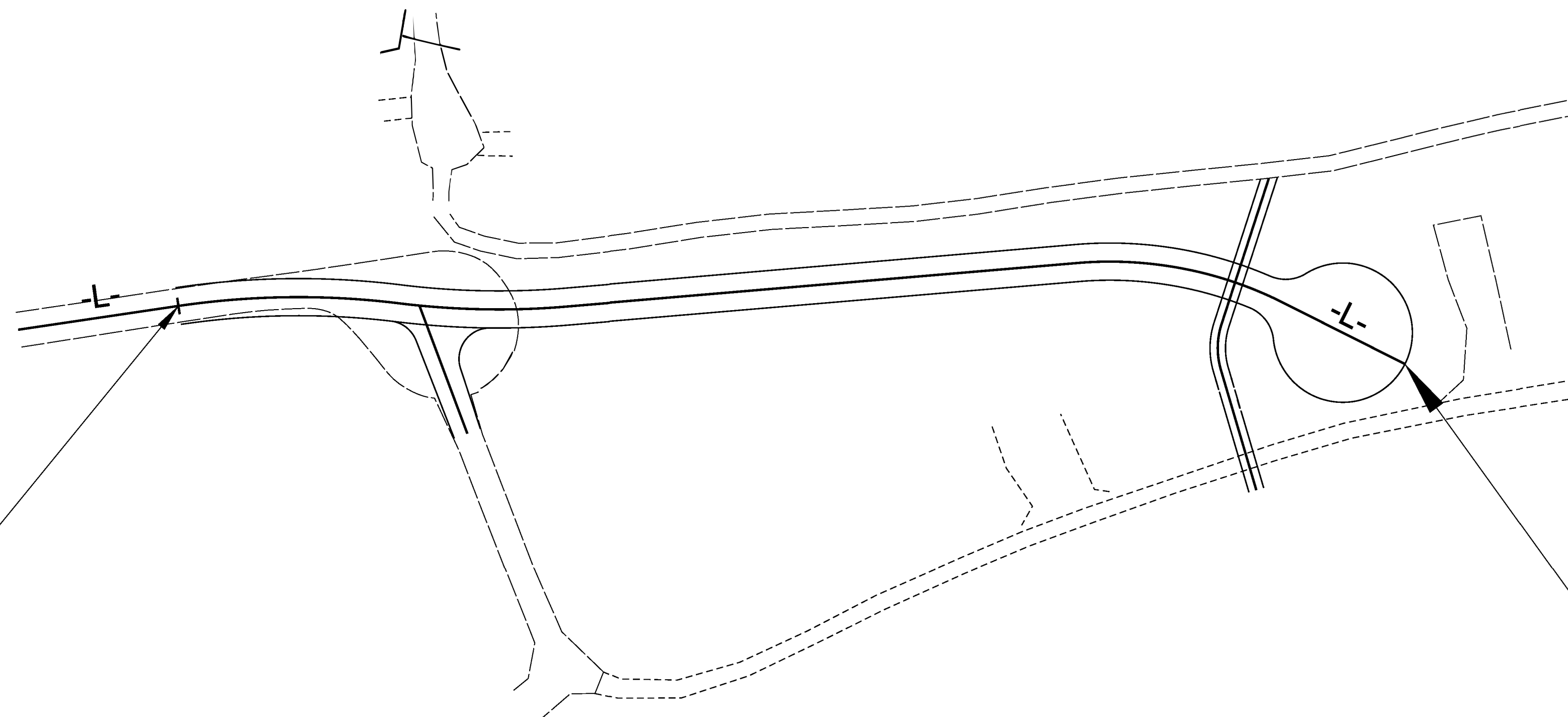
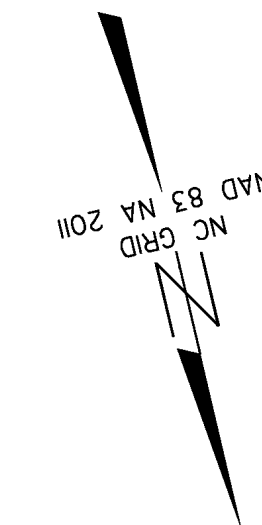
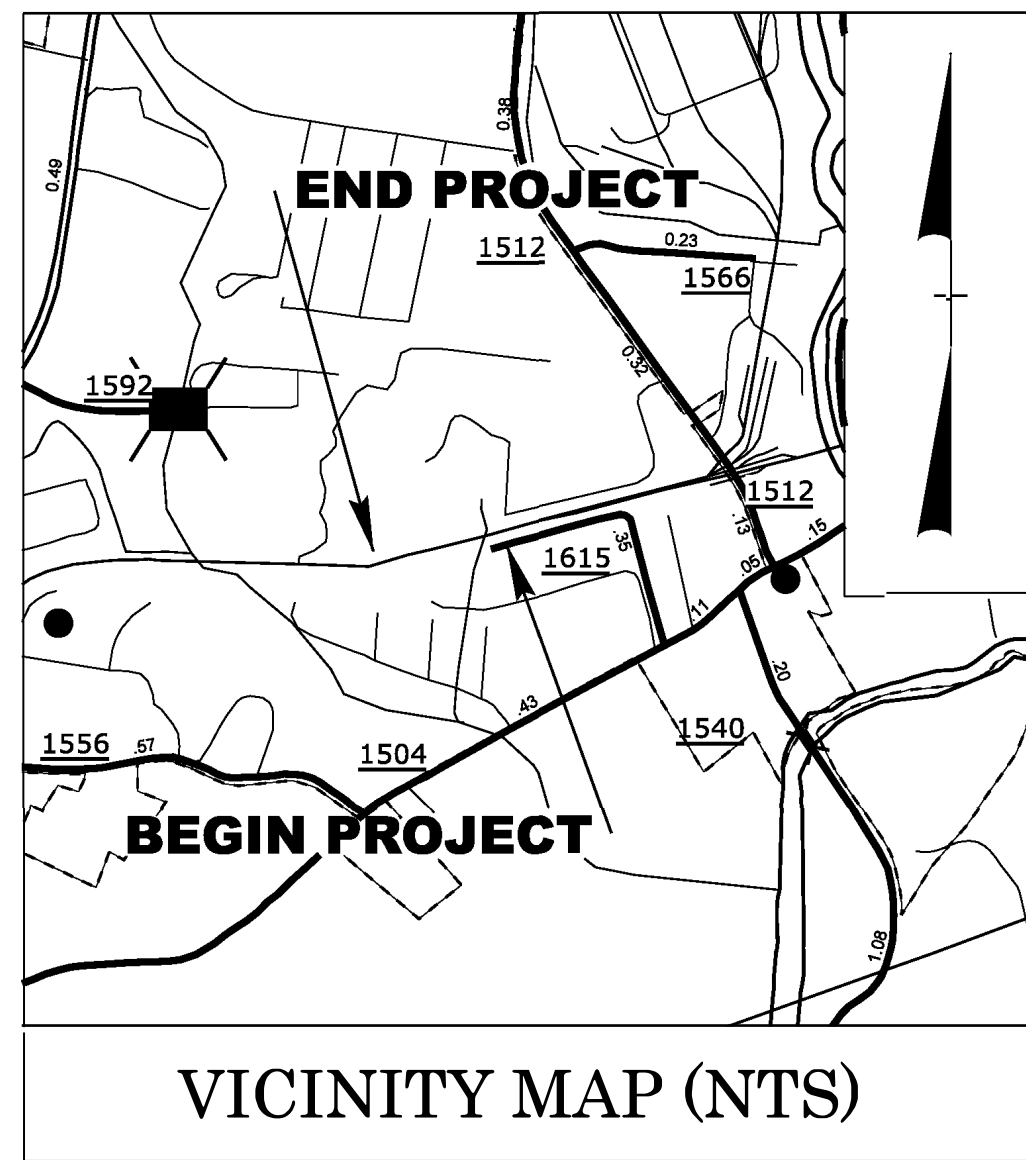
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS  
TRANSYLVANIA COUNTY

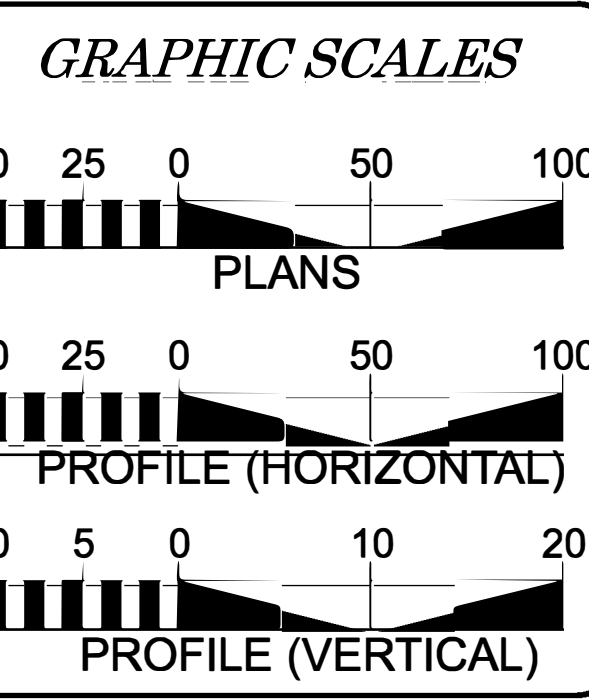
LOCATION: MOUNTAIN INDUSTRIAL DRIVE  
ROAD EXTENSION IN JENNINGS  
INDUSTRIAL PARK

TYPE OF WORK: WATER AND SEWER CONSTRUCTION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0002	UC-1	7
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
49759.1.1	00SS132	PE	
49759.2.1	00SS132	R/W	
49759.3.1	00SS132	CONSTRUCTION	



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

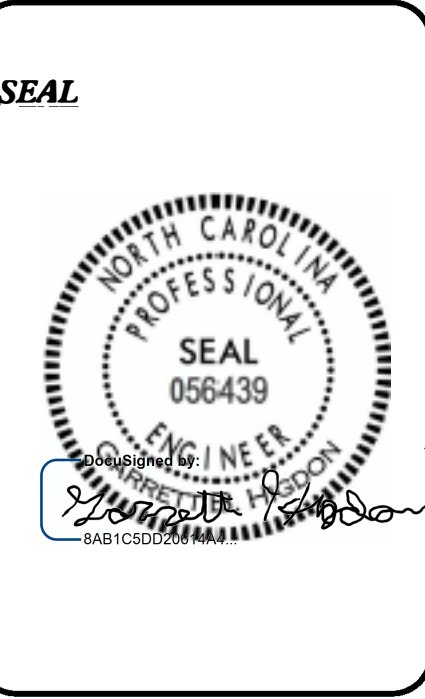
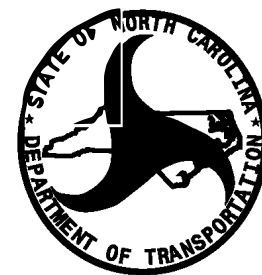


INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4	UTILITY CONSTRUCTION SHEET
UC-4 THRU UC-6	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER - CITY OF BREVARD  
(B) SANITARY SEWER - CITY OF BREVARD

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

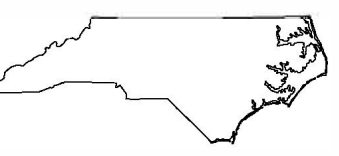
ROBERT GOLDING DIVISION UTILITY ENGINEER



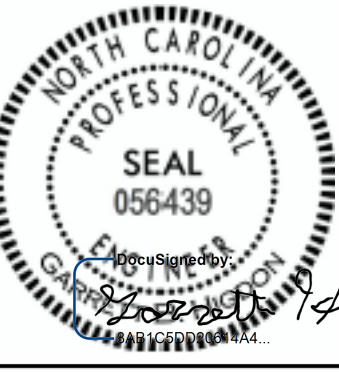
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UTILITIES PLAN SHEET SYMBOLS**

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
TRANSYLVANIA COUNTY



UTILITY DESIGN UNIT  
UTILITY CONSTRUCTION  
PLANS ONLY



DESIGNED BY: DCR  
DRAWN BY: DCR  
CHECKED BY: LAK  
APPROVED BY: GBH  
REVISED:  
UTILITIES ENGINEERING SEC.  
PHONE: (919) 707-6690  
FAX: (919) 250-4151

**PROPOSED WATER SYMBOLS**

Water Line (Sized as Shown)	-----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	-----TV-----
Line Stop	-----LS-----
Line Stop with Bypass	-----LS/BP-----
Blow Off	-----BO-----
Fire Hydrant	-----FH-----
Relocate Fire Hydrant	-----REH-----
Remove Fire Hydrant	-----REM FH-----
Water Meter	-----WM-----
Relocate Water Meter	-----RWM-----
Remove Water Meter	-----REM WM-----
Water Pump Station	-----WPS-----
RPZ Backflow Preventer	-----RPZ-----
DCV Backflow Preventer	-----DCV-----
Relocate RPZ Backflow Preventer	-----RRPZ-----
Relocate DCV Backflow Preventer	-----RDCV-----

**PROPOSED SEWER SYMBOLS**

Gravity Sewer Line (Sized as Shown)	-----SS-----
Force Main Sewer Line (Sized as Shown)	-----FMS-----
Manhole (Sized per Note)	-----•-----
Sewer Pump Station	-----SPS-----

**PROPOSED MISCELLANEOUS UTILITIES SYMBOLS**

Power Pole	-----•-----
Telephone Pole	-----•-----
Joint Use Pole	-----•-----
Telephone Pedestal	-----TEL PED-----
Utility Line by Others (Type as Shown)	-----OH POW-----
Trenchless Installation	-----TRENCHLESS-----
Encasement Method	-----OPEN CUT-----
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	-----•-----	*Underground Power Line	-----P-----
Telephone Pole	-----•-----	*Underground Telephone Cable	-----T-----
Joint Use Pole	-----•-----	*Underground Telephone Conduit	-----TC-----
Utility Pole	-----•-----	*Underground Fiber Optics Telephone Cable	-----T FO-----
Utility Pole with Base	-----□-----	*Underground TV Cable	-----TV-----
H-Frame Pole	-----•-----	*Underground Fiber Optics TV Cable	-----TV FO-----
Power Transmission Line Tower	-----☒-----	*Underground Gas Pipeline	-----G-----
Water Manhole	-----•-----	Aboveground Gas Pipeline	-----A/G Gas G-----
Power Manhole	-----•-----	*Underground Water Line	-----W-----
Telephone Manhole	-----•-----	Aboveground Water Line	-----A/G Water W-----
Sanitary Sewer Manhole	-----•-----	*Underground Gravity Sanitary Sewer Line	-----SS-----
Hand Hole for Cable	-----☒-----	Aboveground Gravity Sanitary Sewer Line	-----A/G Sanitary Sewer SS-----
Power Transformer	-----☒-----	*Underground SS Forced Main Line	-----FSS-----
Telephone Pedestal	-----☒-----	Underground Unknown Utility Line	-----?UTL-----
CATV Pedestal	-----☒-----	SUE Test Hole	-----•-----
Gas Valve	-----◇-----	Water Meter	-----•-----
Gas Meter	-----◇-----	Water Valve	-----•-----
Located Miscellaneous Utility Object	-----•-----	Fire Hydrant	-----◇-----
Abandoned According to Utility Records	-----AATUR-----	Sanitary Sewer Cleanout	-----•-----
End of Information	-----E.O.I.-----		

\*For Existing Utilities  
 Utility Line Drawn from Record (Type as Shown) -----  
 Designated Utility Line (Type as Shown) -----

REVISIONS

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 CITY OF BREVARD  
WESLEY SHOOK, WESLEY.SHOOK@CITYOFBREVARD.COM, 828-884-4123
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISON OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINEWS TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISON OF WATER RESOURCES, PUBLIC WATER SUPPLY 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 SERVICE INTERRUPTION. KEEP UTILITY OWNERS INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION AND 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 FACILITES 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 OWNERS 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.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 15 - UTILITIES	
1515.02	FIRE HYDRANT

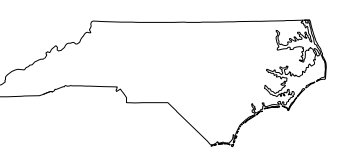
PROJECT SPECIFIC NOTES:

1. DURING CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN THE OPERATION OF EXISTING UTILITIES WITH THE LEAST AMOUNT OF INTERRUPTION POSSIBLE IN COORDINATION WITH THE CITY OF BREVARD. CONTINOUS SERVICE, PUBLIC HEALTH AND SAFETY CONSIDERATIONS SHALL EXCEED ALL OTHERS. CONTRACTOR'S SCHEDULE, PLANS AND WORK SHALL AT ALL TIMES BE SUBJECT TO ALTERATION AND REVISION IF NECESSARY FOR THESE CONSIDERATIONS.

HA-0002

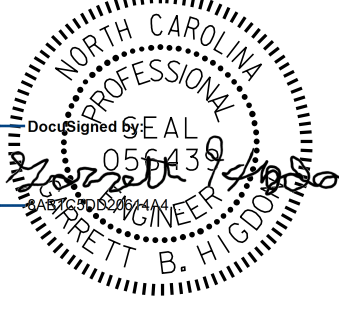
UC-3

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
TRANSYLVANIA COUNTY



UTILITY DESIGN UNIT

UTILITY CONSTRUCTION  
PLANS ONLY



12/20/2023

DESIGNED BY: DCR

DRAWN BY: DCR

CHECKED BY: LAK

APPROVED BY: WAJ

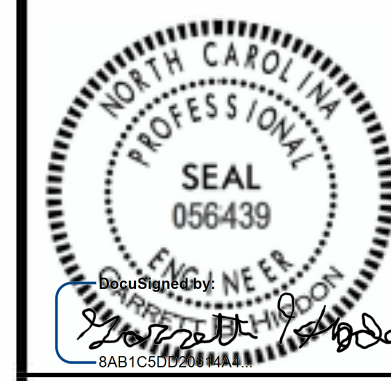
REVISED:

UTILITIES ENGINEERING SEC.  
PHONE:(919)707-6690  
FAX:(919)250-4151

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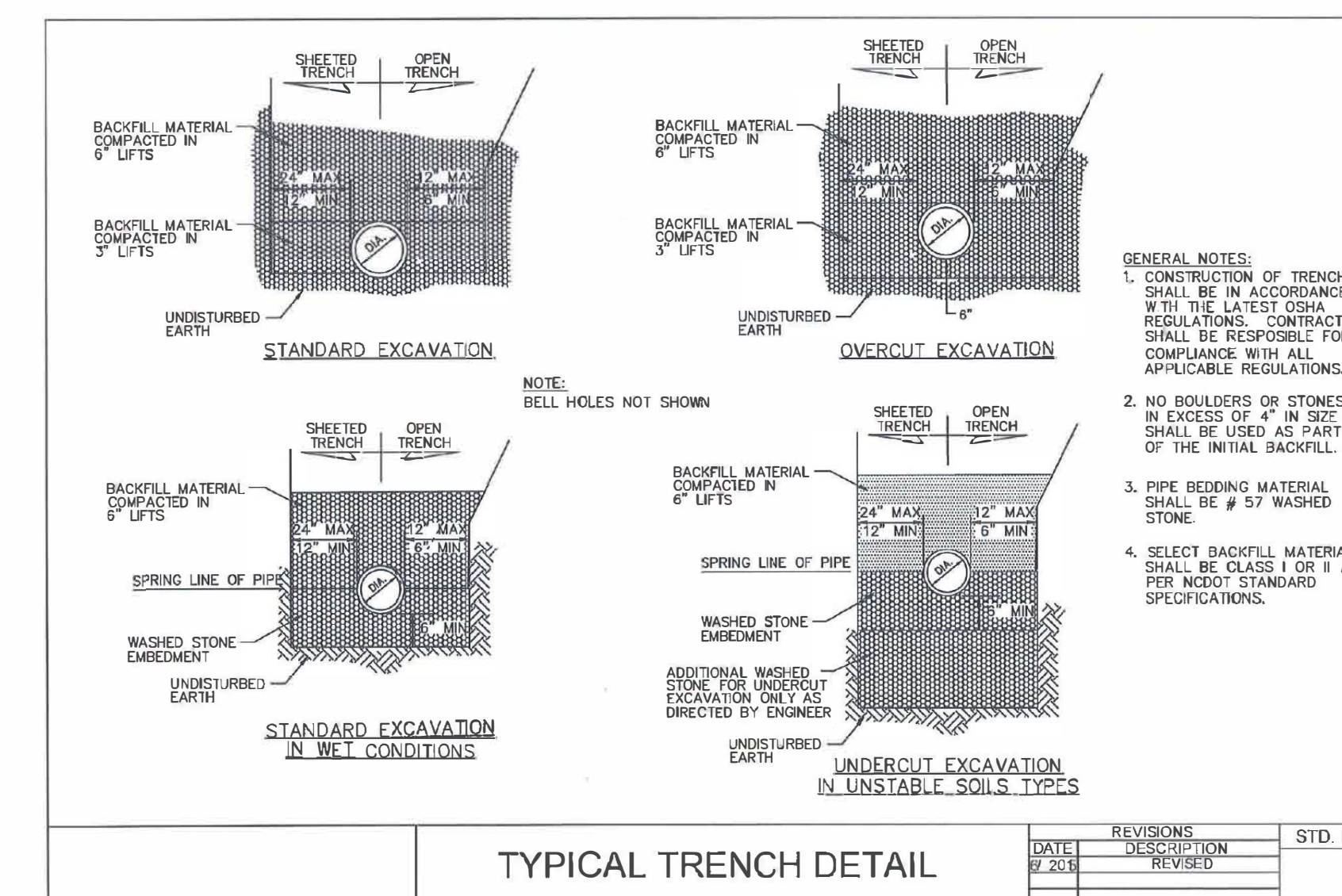
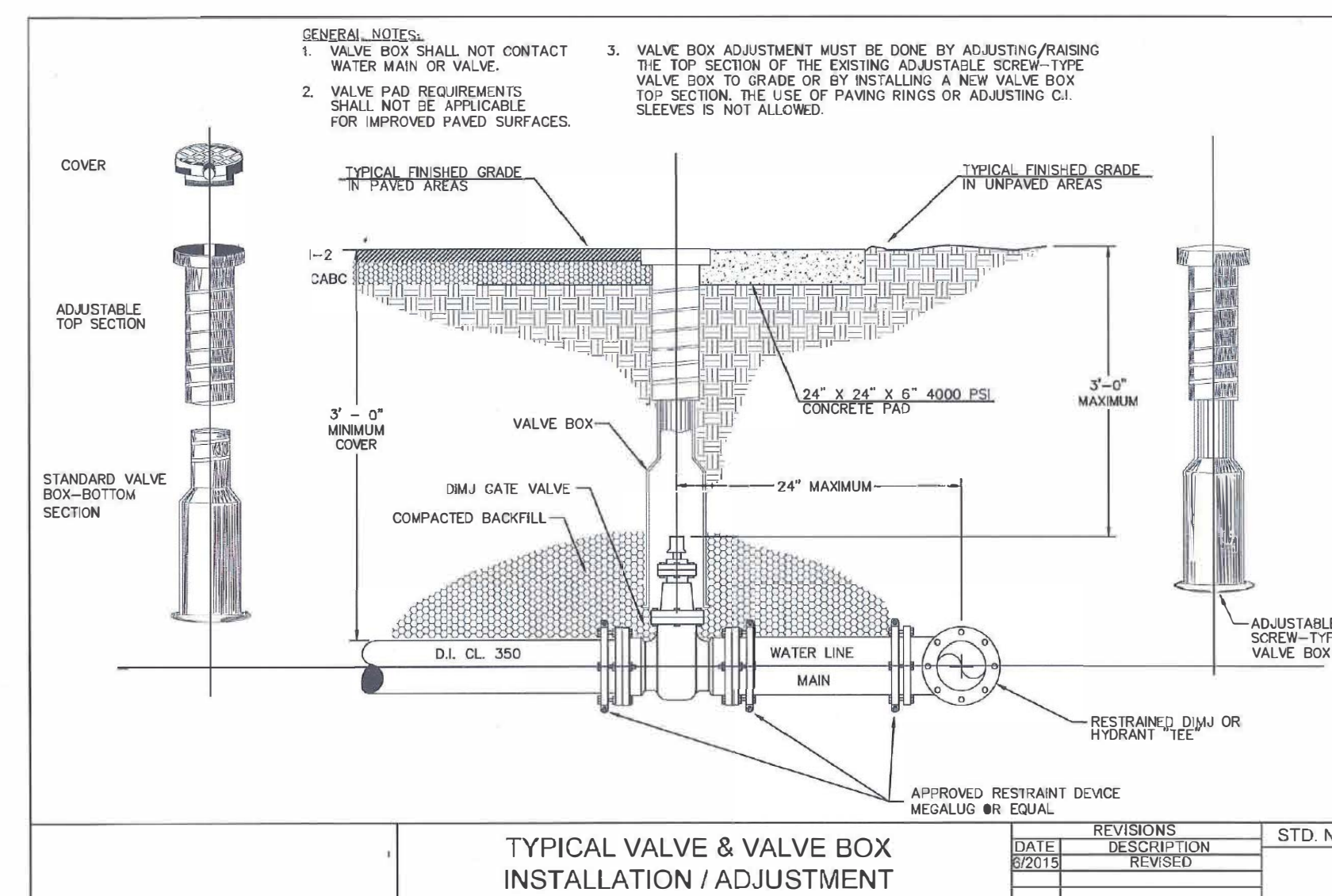
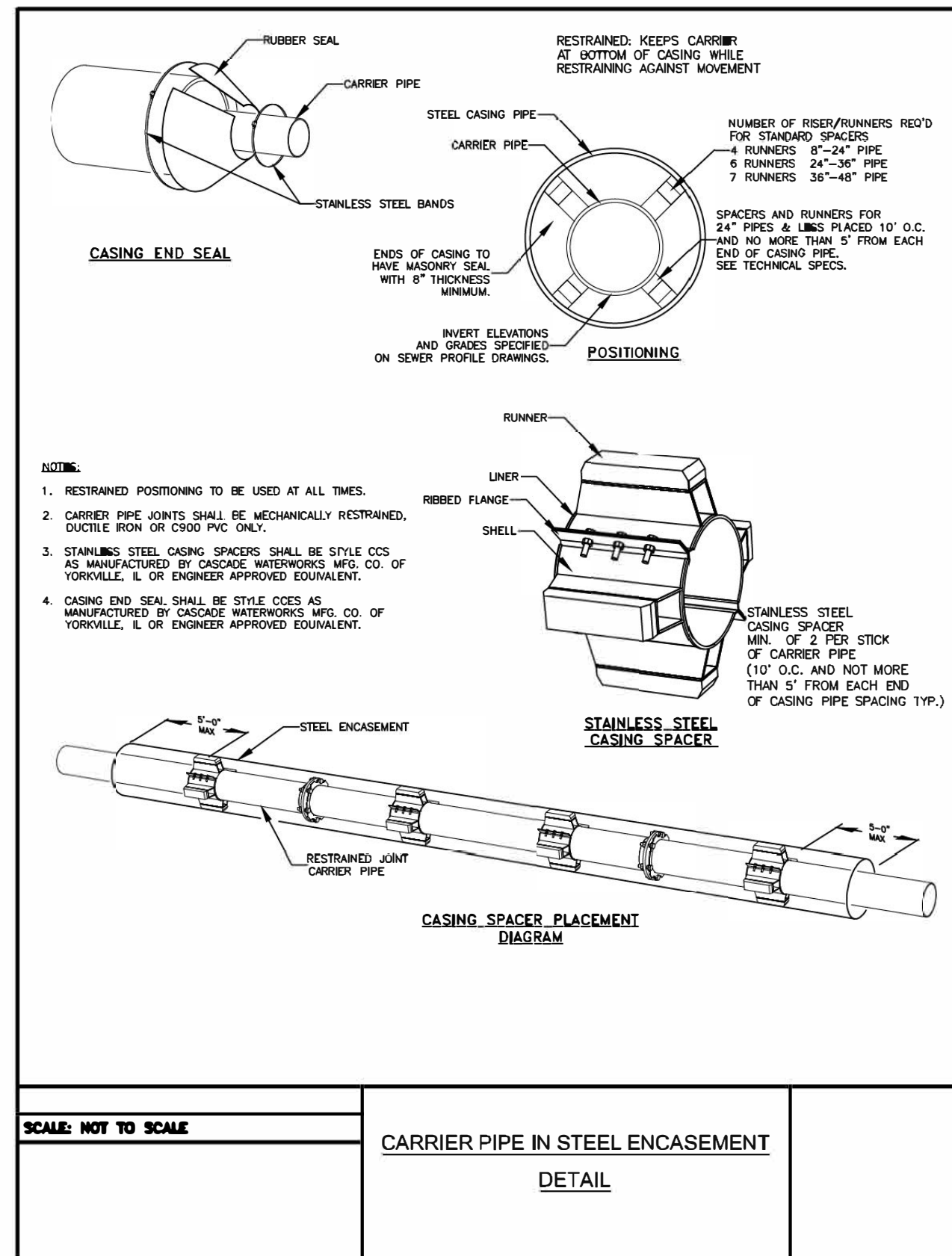
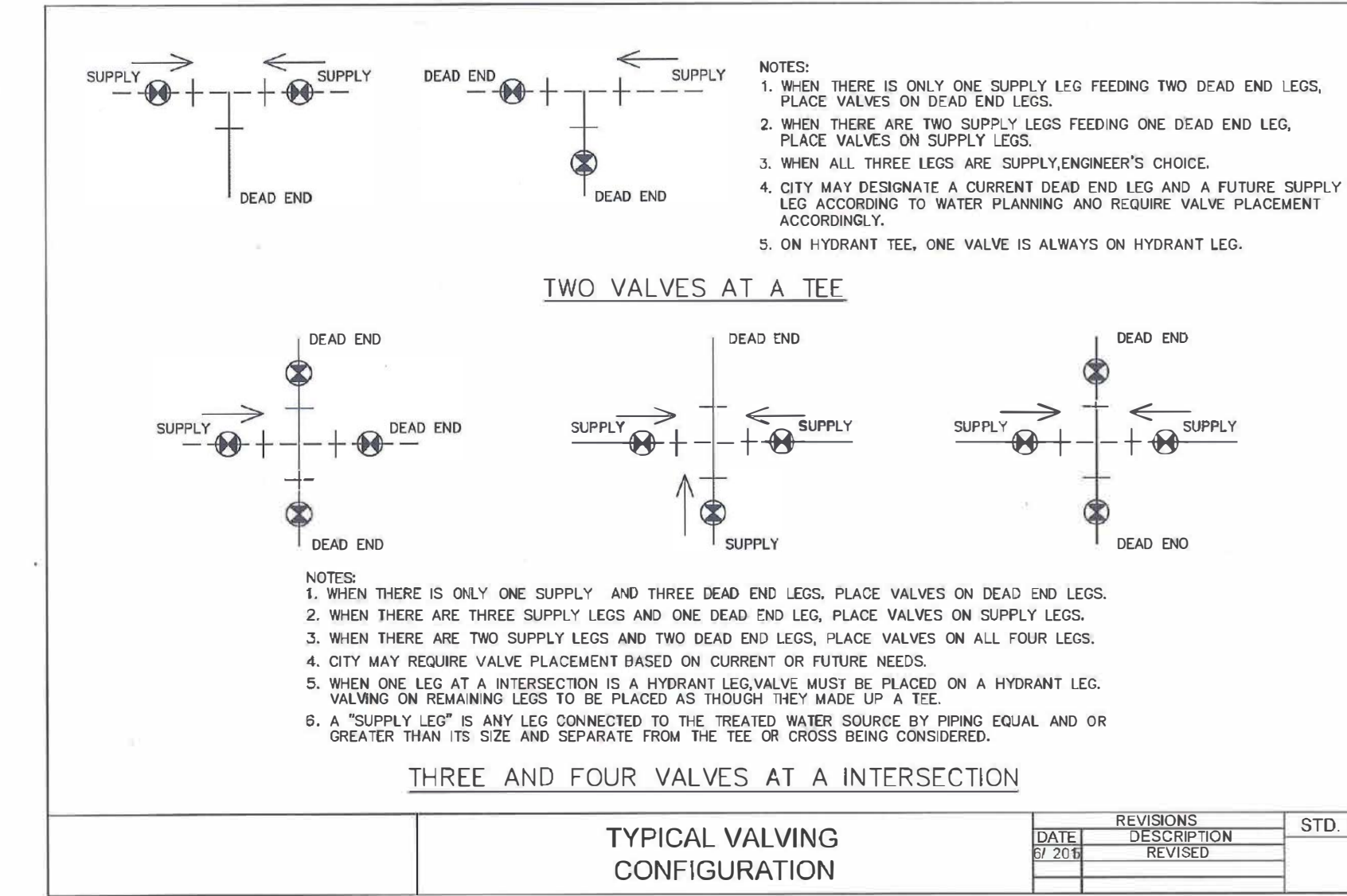
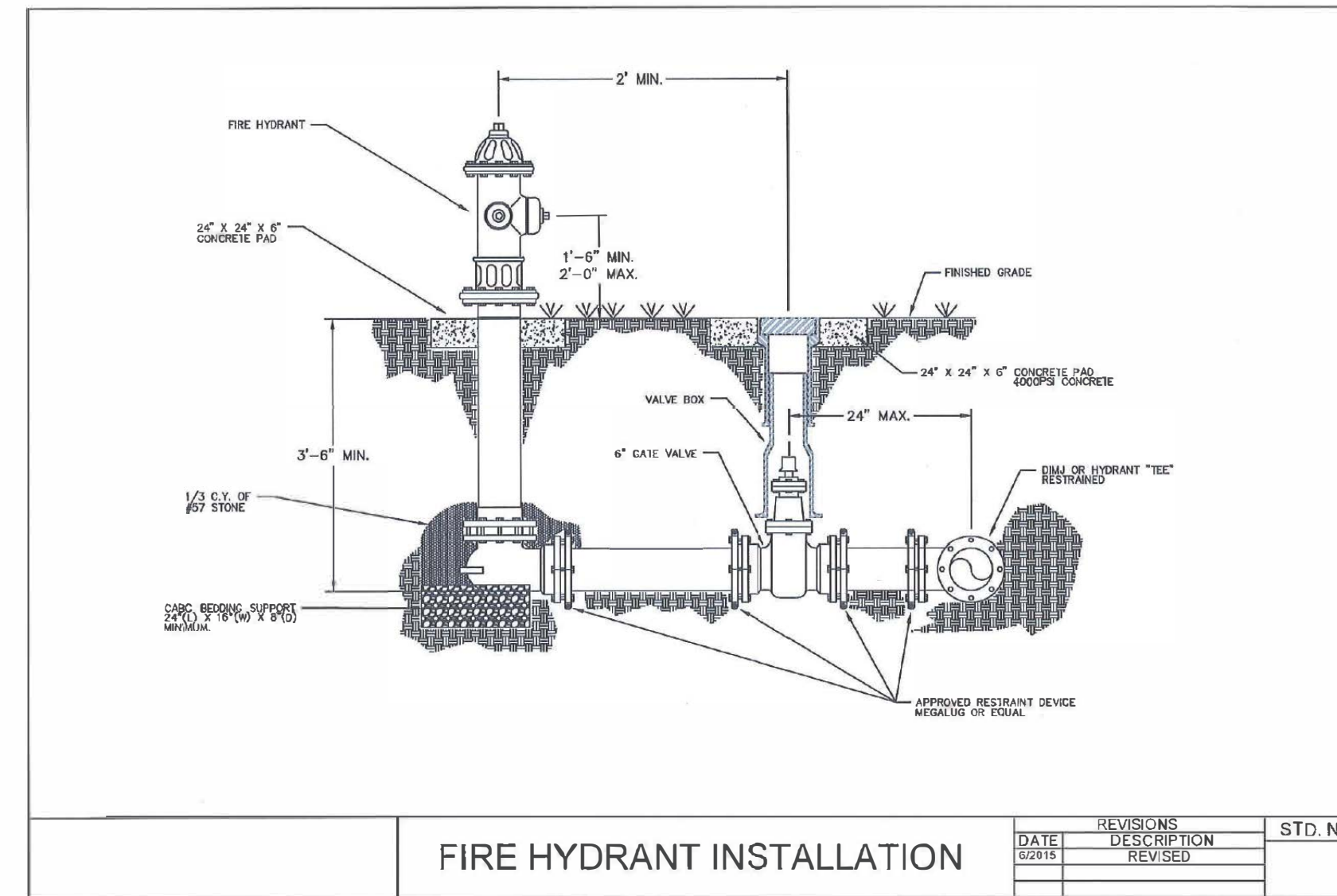
REVISIONS





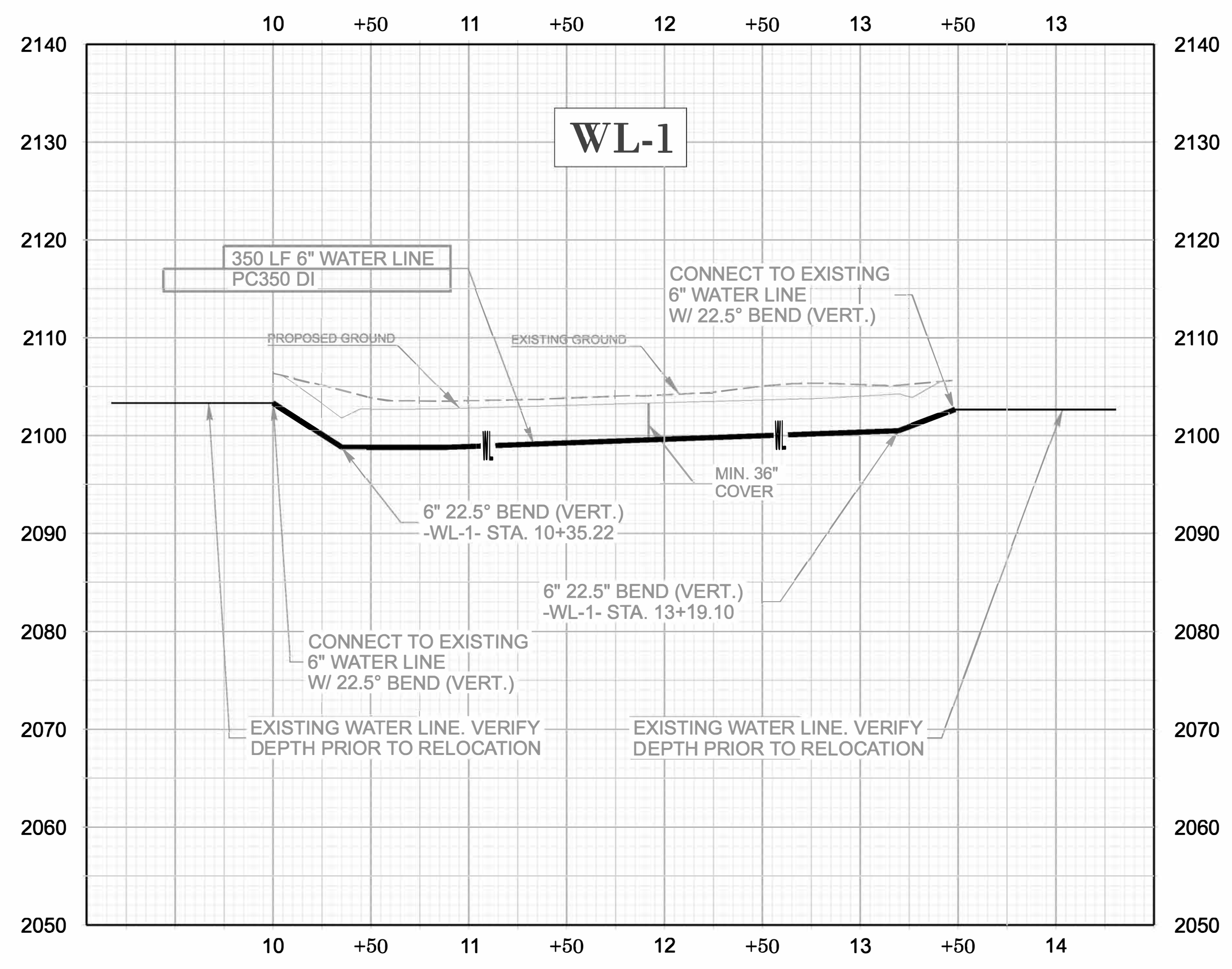
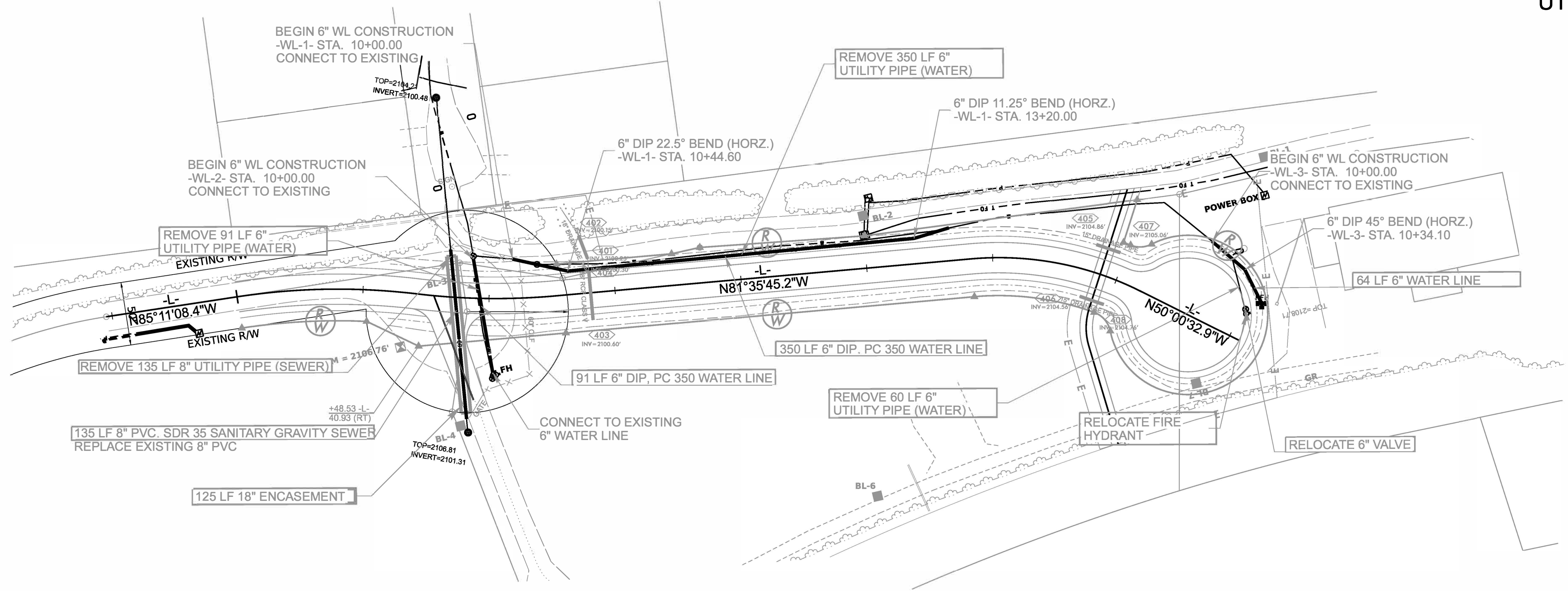
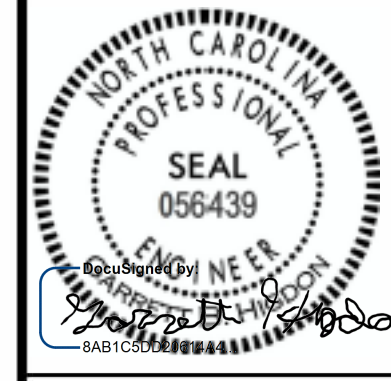
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DRAWN BY: DCR  
CHECKED BY: LAK  
APPROVED BY: GBH  
REVISED:  
UTILITIES ENGINEERING SEC.  
PHONE: (817) 707-0690  
FAX: (817) 250-4151

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REVISIONS

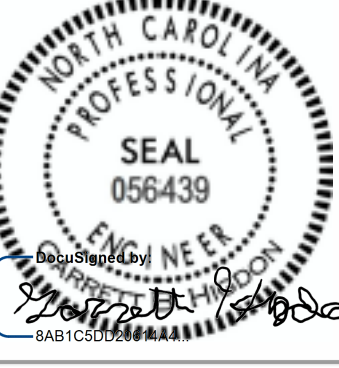




THE ESTIMATED QUANTITY OF DUCTILE IRON  
WATER PIPE FITTINGS ON THIS PLAN SHEET  
IS 525 POUNDS. THE ACTUAL QUANTITY  
AND TYPE OF FITTINGS WILL VARY BASED  
ON FIELD CONDITIONS.

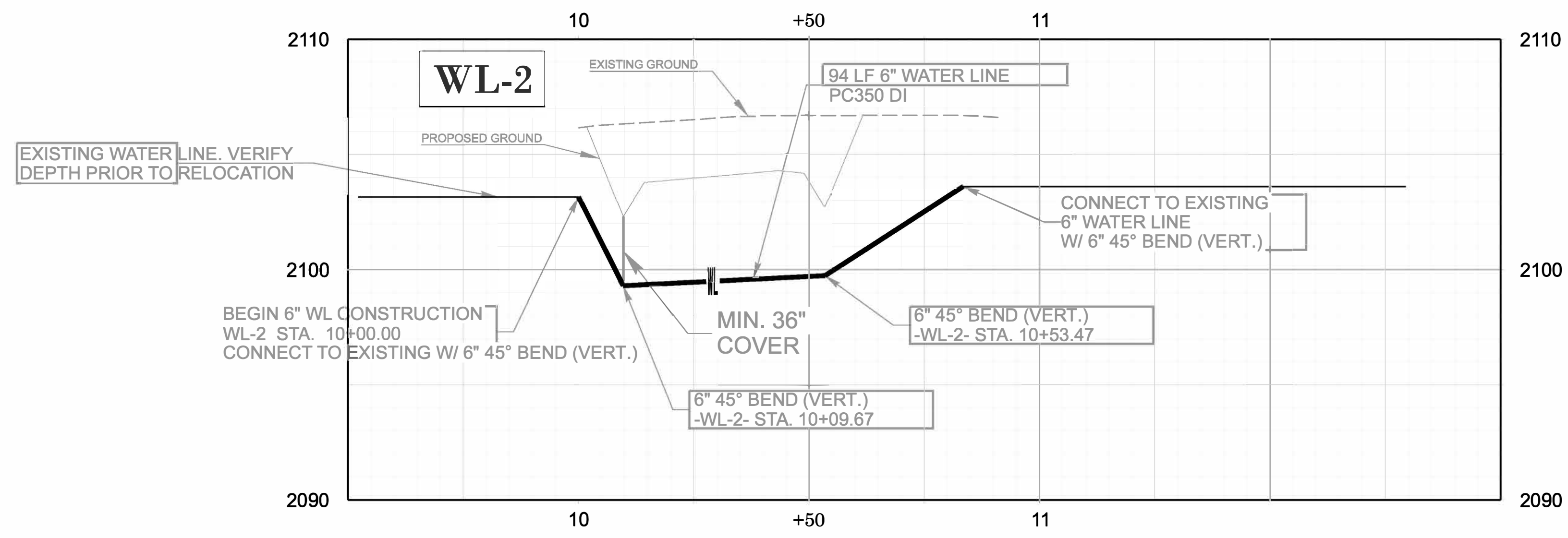
REVISIONS



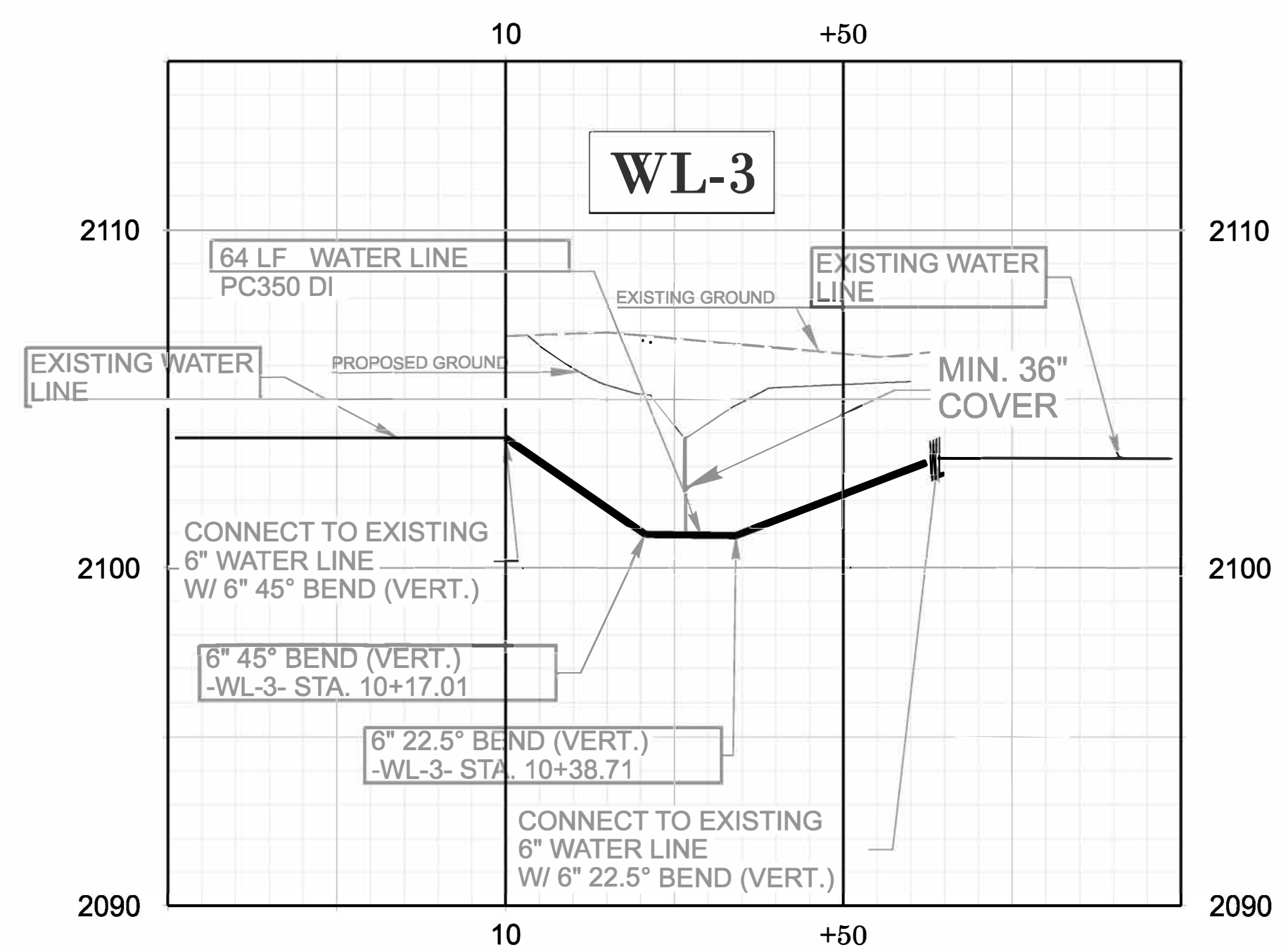


DESIGNED BY:	DCR
DRAWN BY:	DCR
CHECKED BY:	LAK
APPROVED BY:	GBH
REVISED:	
UTILITIES ENGINEERING SEC. PHONE: (819) 707-6690 FAX: (819) 250-4151	

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UNLESS ALL SIGNATURES COMPLETED



WL-2 PROFILE IS 20 SCALE

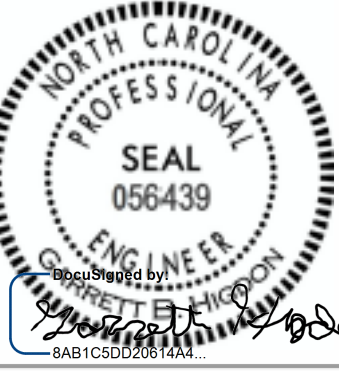


WL-3 PROFILE IS 20 SCALE

THE ESTIMATED QUANTITY OF DUCTILE IRON  
WATER PIPE FITTINGS ON THIS PLAN SHEET  
IS 600 POUNDS. THE ACTUAL QUANTITY  
AND TYPE OF FITTINGS WILL VARY BASED  
ON FIELD CONDITIONS.

REVISIONS





DESIGNED BY: **DCR**

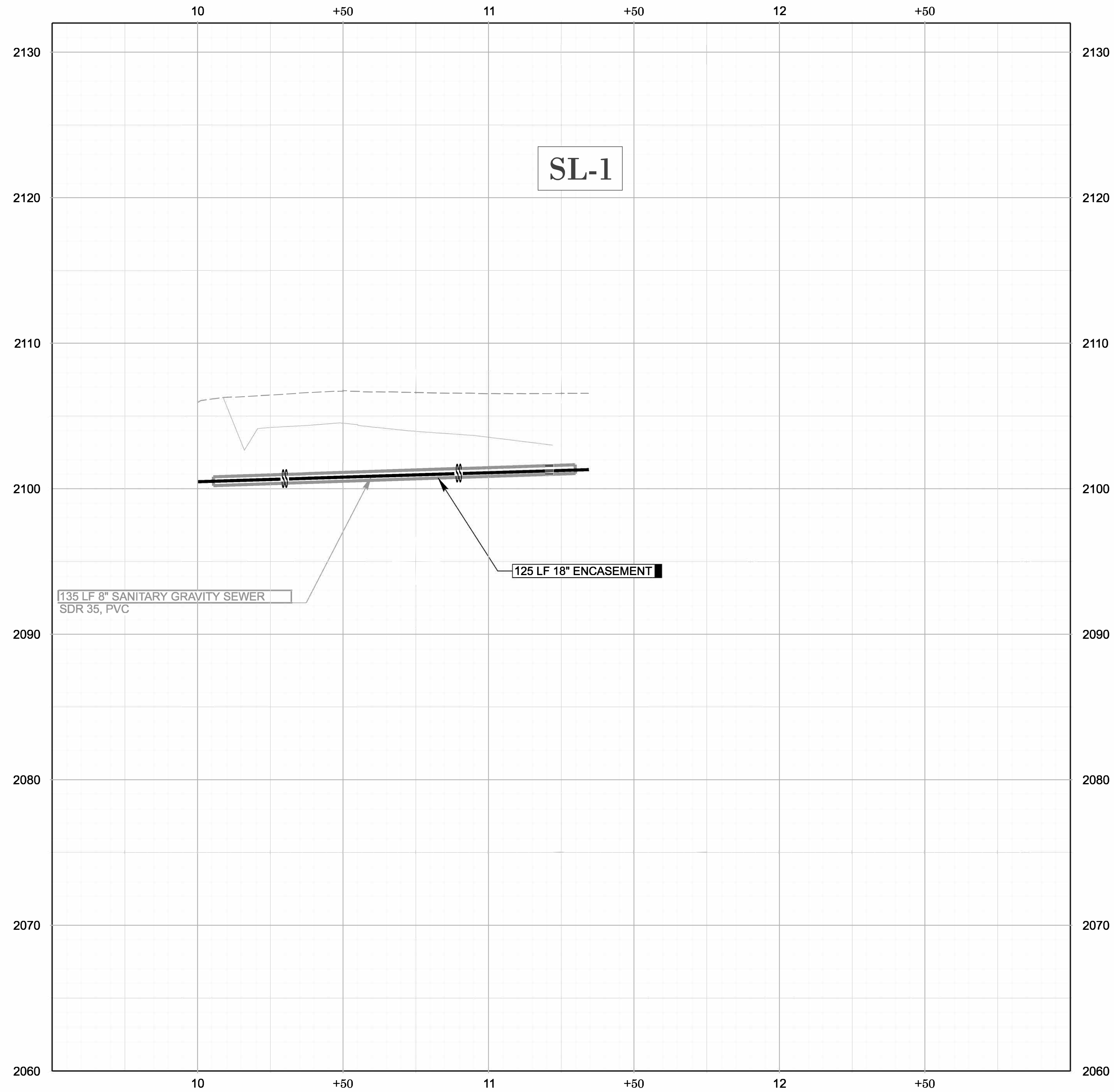
DRAWN BY: **DCR**

CHECKED BY: **LAK**

APPROVED BY: **GBH**

REVISED:  
UTILITIES ENGINEERING SEC.  
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SL-1 PROFILE IS 20 SCALE

REVISIONS