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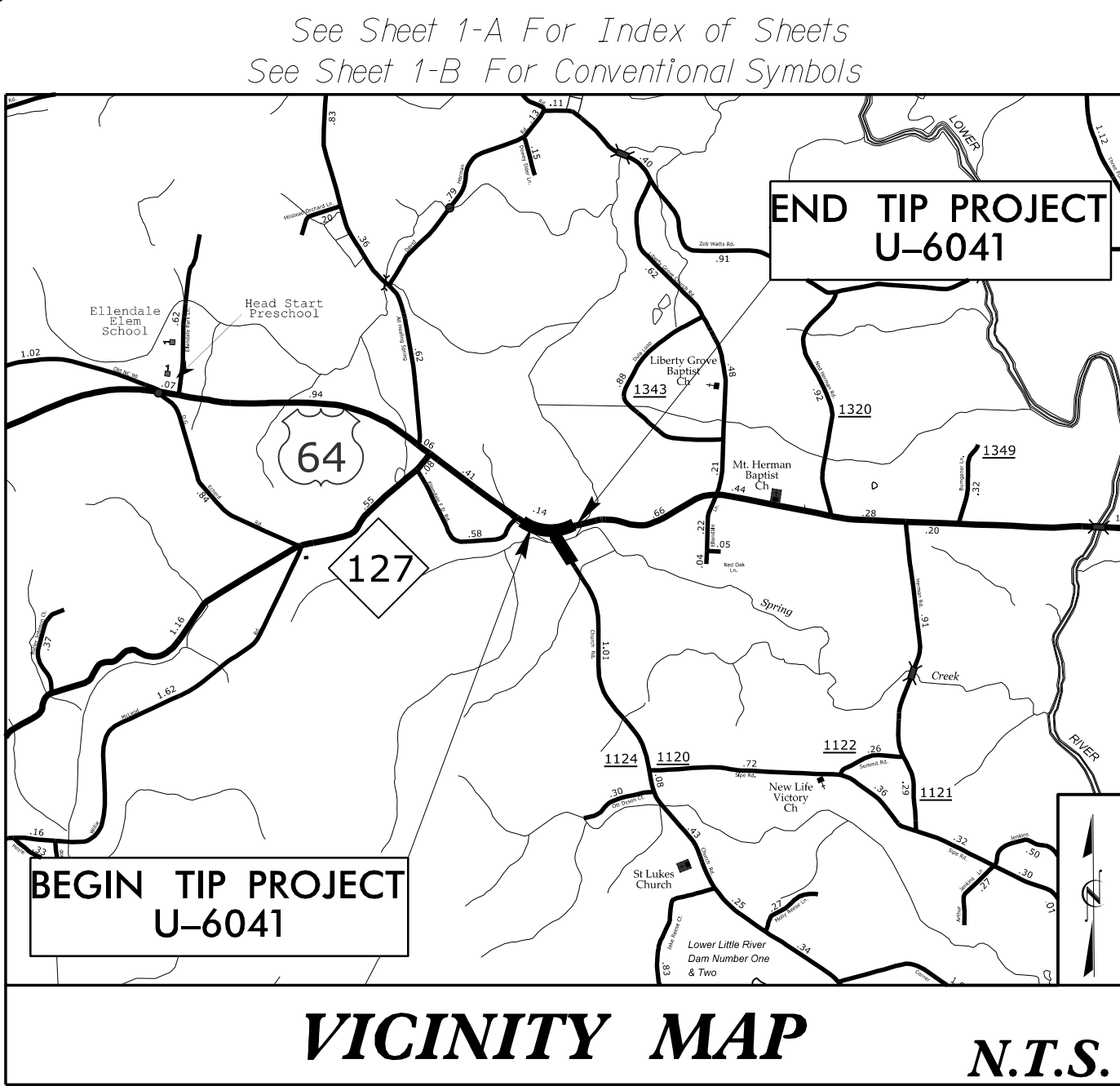
**This file or an individual page
shall not be considered a certified document.**

09/08/2025

-SYSTEM-
\\Roadway\Proj\U6041_Rdy - t sh.dgn
USER: SABOKP

TIP PROJECT: U-6041

CONTRACT: DL00352

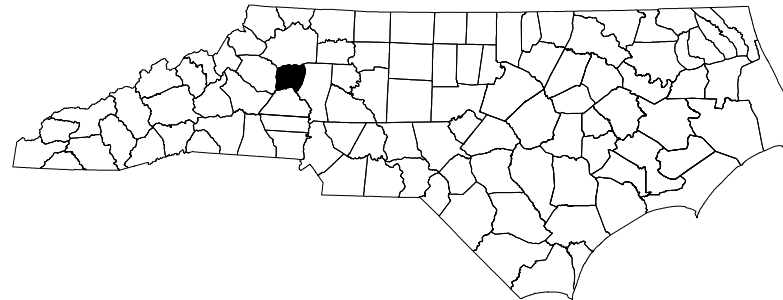


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

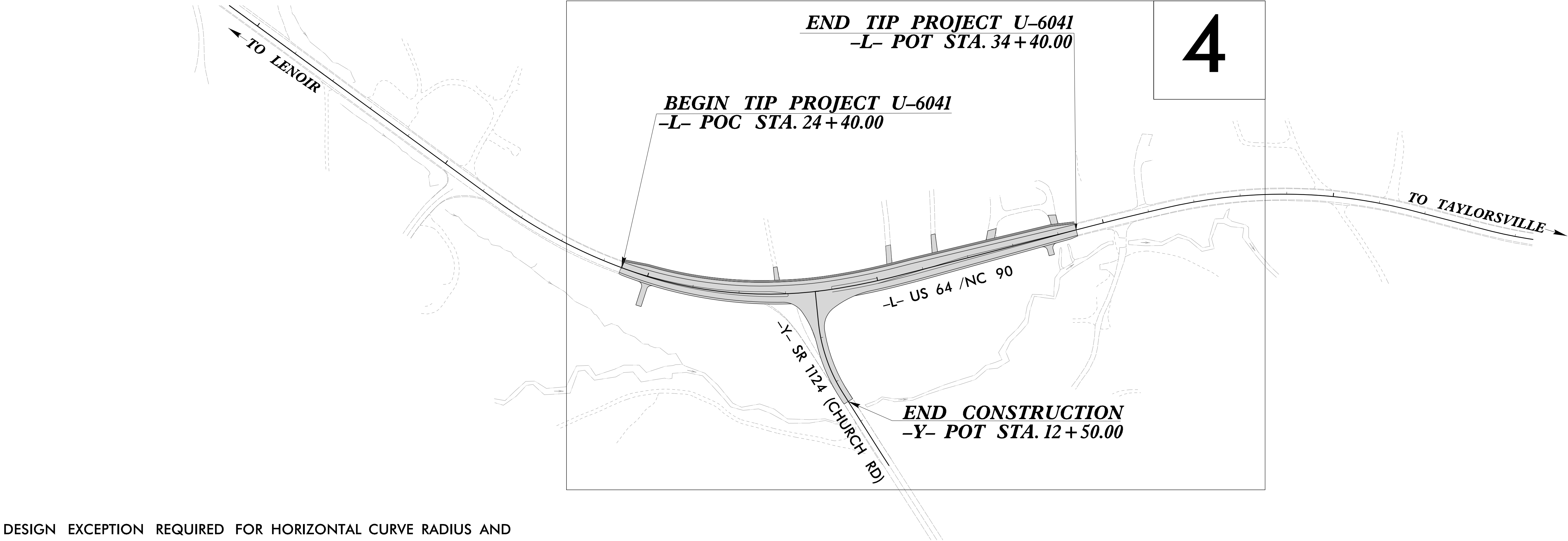
ALEXANDER COUNTY

LOCATION: US 64 /NC 90 AND SR 1124 (CHURCH RD)
ADD LEFT TURN LANE ON WESTBOUND US 64 /NC 90

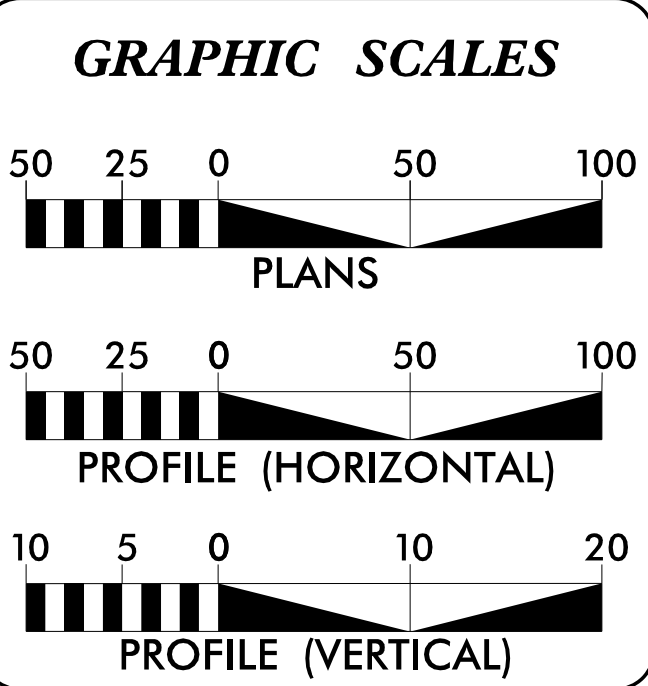
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6041	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46979.1.1	N/A	PE	
46979.2.1	4697901	ROW	
46979.2.2	4697901	UTIL.	
46979.3.1	4697901	CONST.	



DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE RADIUS AND
STOPPING SIGHT DISTANCE



DESIGN DATA	
ADT 2025 =	8,300
ADT 2045 =	9,200
K =	10 %
D =	65 %
T =	6 % *
V =	60 MPH
* TTST =	2% DUAL = 4%
FUNC CLASS =	ARTERIAL
REGIONAL TIER	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT U-6041	= 0.189 MILES
LENGTH STRUCTURE TIP PROJECT U-6041	= 0.000 MILES
TOTAL LENGTH TIP PROJECT U-6041	= 0.189 MILES

Prepared in the Office of:

CDM Smith

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 16, 2024

LETTING DATE:
JUNE 24, 2025

KIT A. PERSIANI, P.E.
PROJECT ENGINEER

KEVIN P. SABO, E.I.
PROJECT DESIGN ENGINEER

BRYAN K.D. SOWELL, P.E.
NCDOT CONTACT

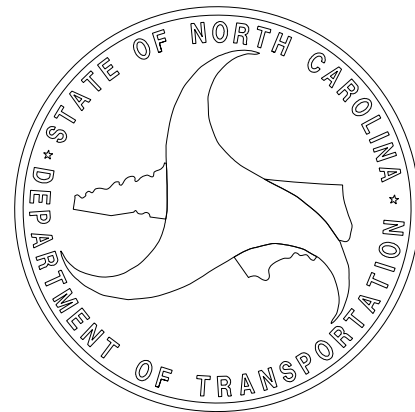
HYDRAULICS ENGINEER

DocuSigned by:
Karen Heffer
SIGNATURE: 5/7/2025

ROADWAY DESIGN ENGINEER

DocuSigned by:
Kit A. Persiani
SIGNATURE: 5/7/2025

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS	
SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1 THRU 2C-3	ROADWAY SPECIAL DETAILS
3B-1	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIES
4	PLAN SHEET
5	PROFILE SHEET
RW01 THRU RW04	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT, AND PROPERTY TIES
TMP-1 THRU TMP-4	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
UC-1 THRU UC-5A	UTILITY CONSTRUCTION PLANS
UO-01 THRU UO-02	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SHEET INDEX
X-1A	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-15	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	
200.03	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)
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
848.03	Driveway Turnout - Drop Curb Type
848.04	Street Turnout
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
850.11	Guide for Berm Drainage Outlet - 24" and 30" Pipe
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON 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.

TEMPORARY SHORING:

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

SUBSURFACE PLANS:

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

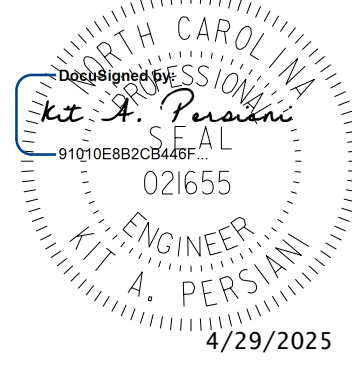

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE AT&T, SEGRA, ALEXANDER COUNTY, AND THE CITY OF HICKORY.

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.

PROJECT REFERENCE NO.	SHEET NO.
U-6041	I-A
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
<div>ROADWAY DESIGN ENGINEER</div> <div></div> <div></div>	

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:

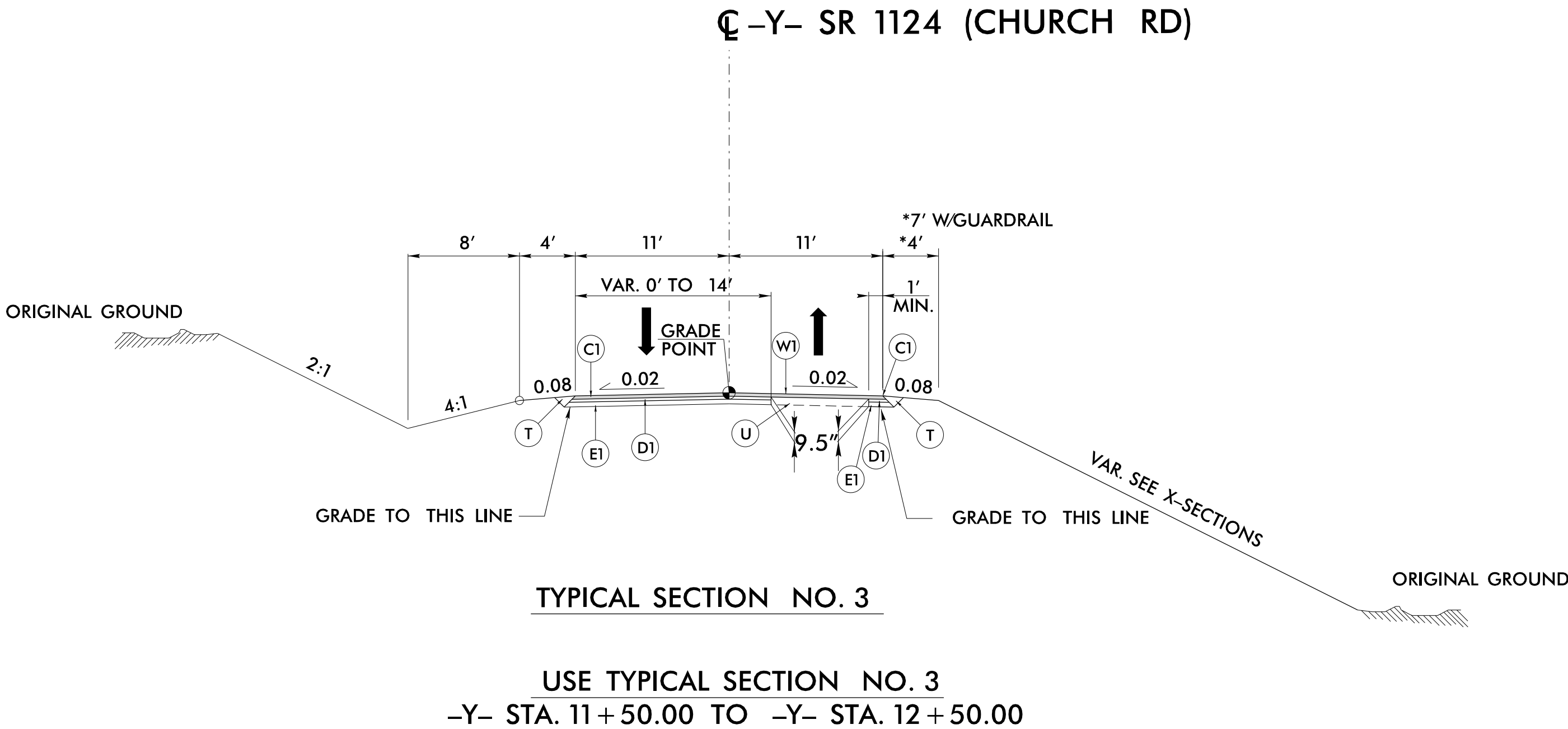
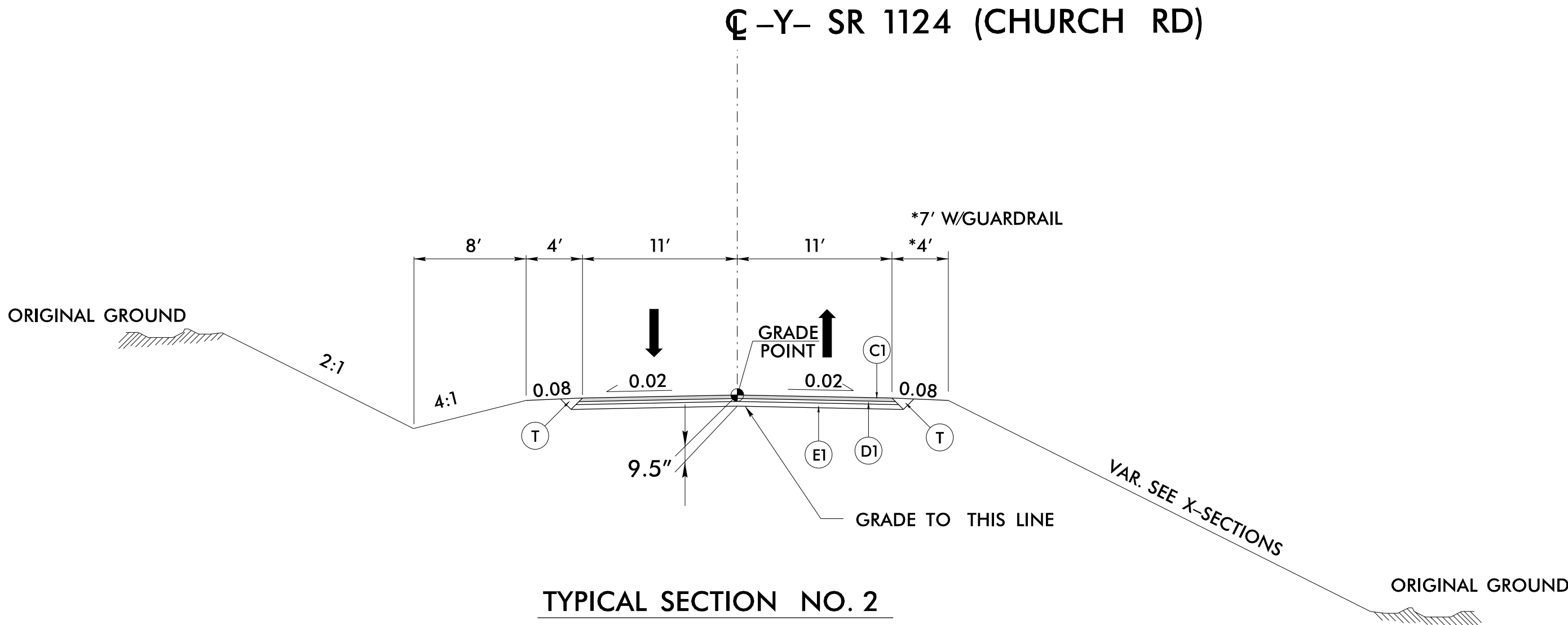
Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Force Main Line Test Hole (SUE – LOS A)*	
SS Force Main Line (SUE – LOS B)*	
SS Force Main Line (SUE – LOS C)*	
SS Force Main Line (SUE – LOS D)*	

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	
End of Information	

6/2/99

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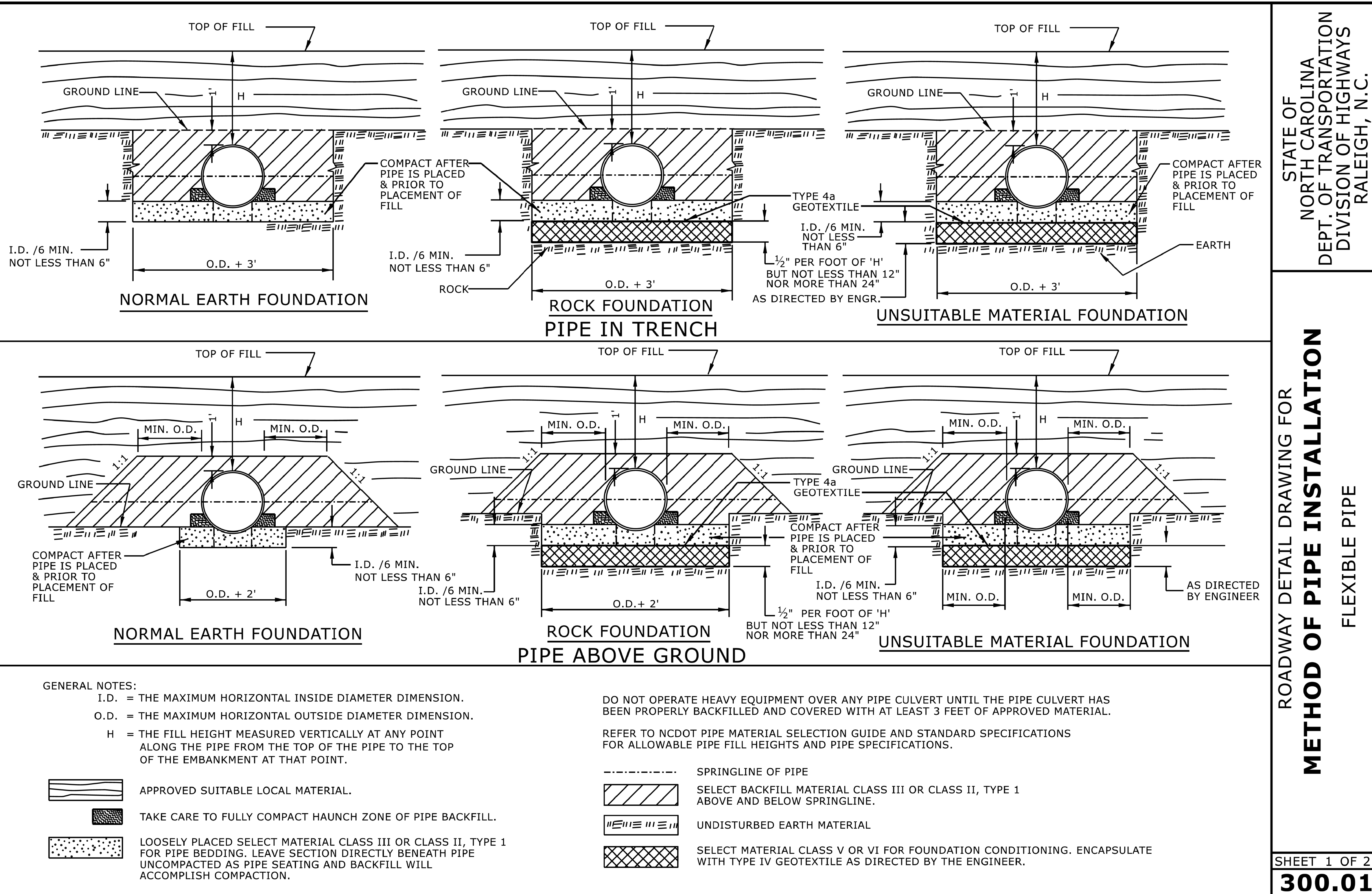
PROJECT REFERENCE NO.	SHEET NO.
U-6041	2A-2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
CDM Smith CDM Smith Inc. 4600 Park Road Suite 240 Charlotte, NC 28209-3730 NC CDR No. F-1255	NC Department of Transportation 12th Division Office 1710 E. Martin Street Shelby, NC 28141-0047
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3" S9.5C
C2	VAR. S9.5C
D1	2½" I19.0C
D2	4" I19.0C
D3	VAR. I19.0C
E1	4" B25.0C
E2	VAR. B25.0C
R	EXPRESS. GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	INC. MILLING
W1	WEDGING

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

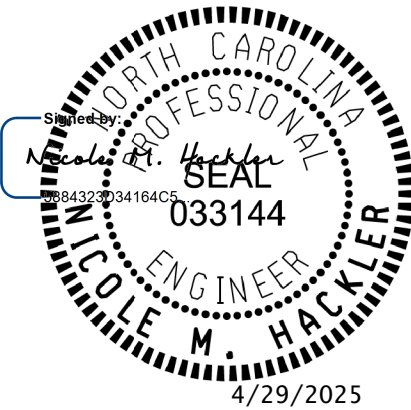
DRIVEWAY ASPHALT PAVEMENT
SHALL BE 6" ABC AND 3" S9.5C.

DRIVEWAY CONCRETE PAVEMENT
SHALL BE 6" JOINTED CONCRETE
WITH WIRE MESH.



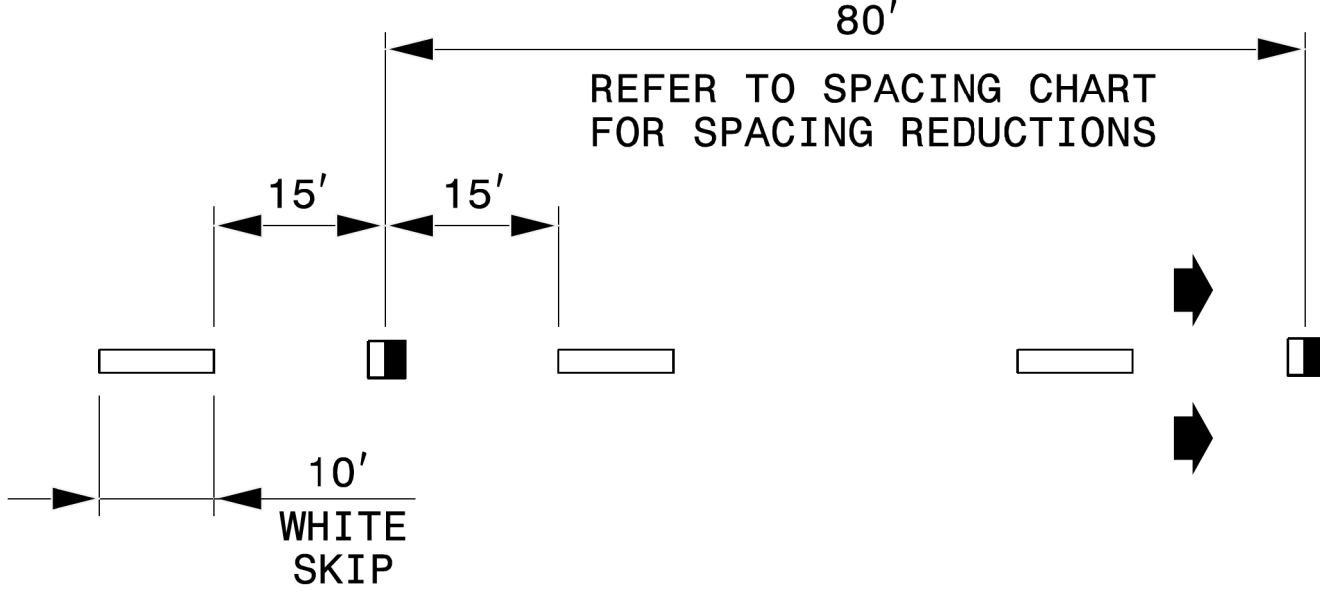
STATE OF NORTH CAROLINA
 PROFESSIONAL ENGINEER
 NICOLE M. HACKLER
 033144
 4/29/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
SEE TITLE BLOCK	
ORIGINAL BY: <u>S.CALHOUN</u>	DATE: <u>7-25-2024</u>
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

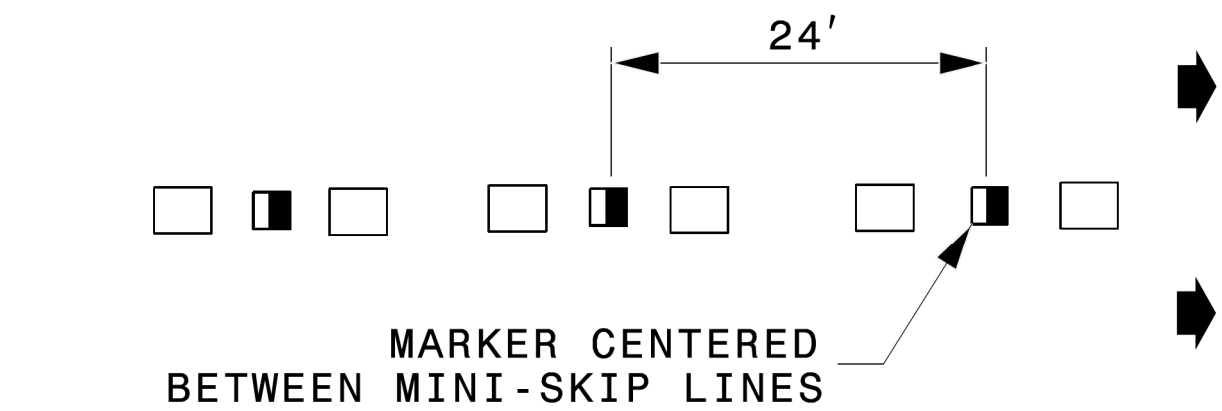


ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____


10'-30'/SP SKIP LINE





3'-9'/SP MINI-SKIP LINE



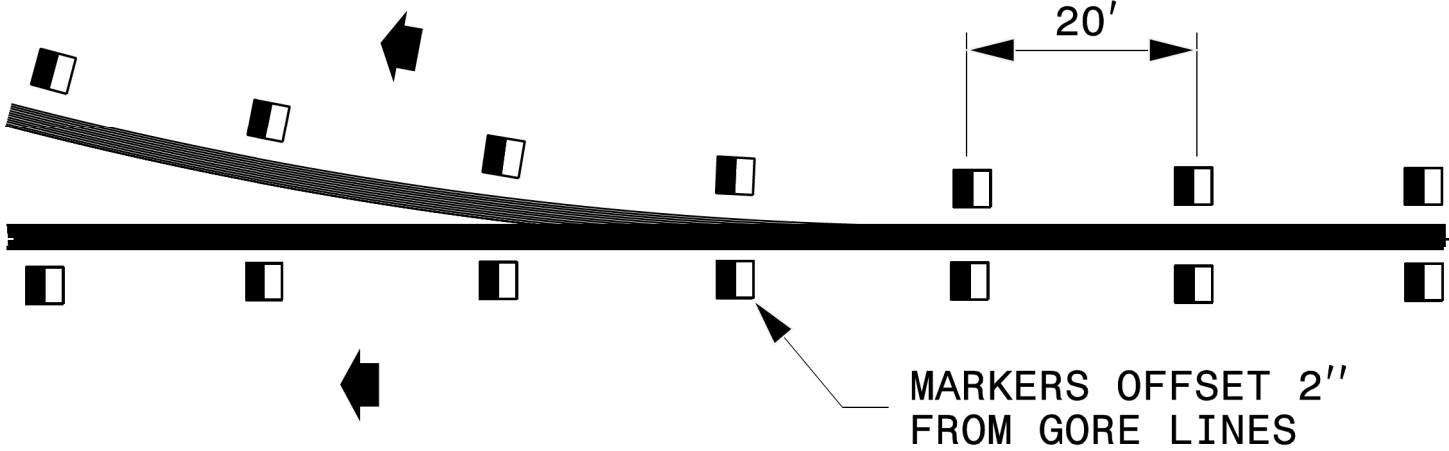
LEGEND

 CRYSTAL/RED PAVEMENT MARKER

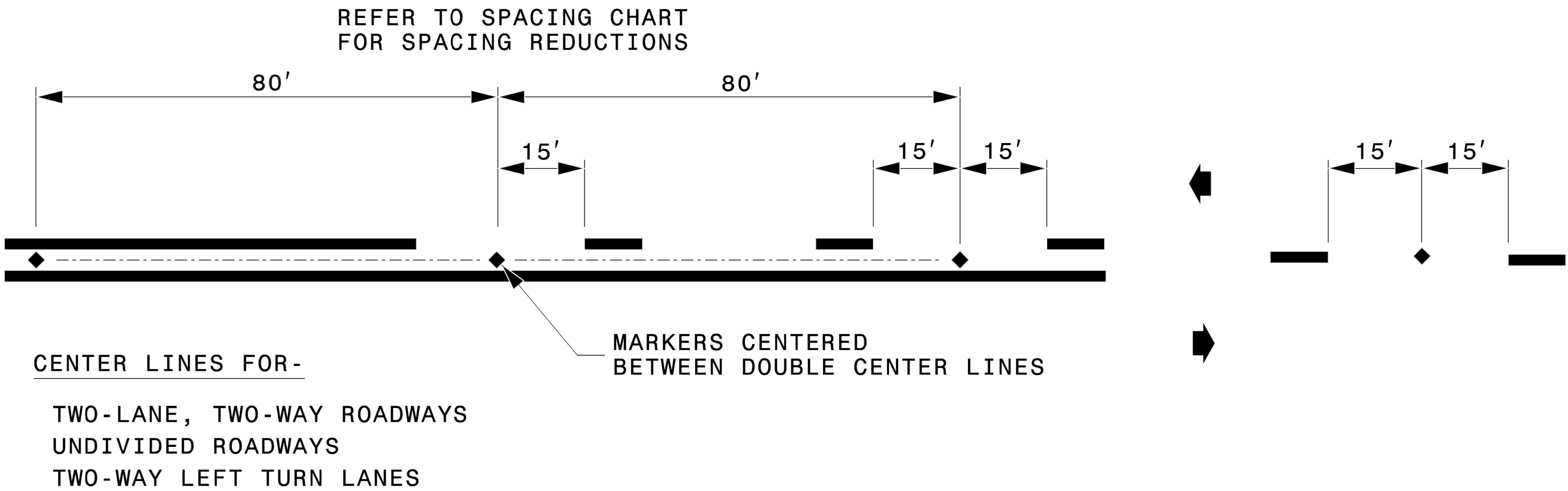
 YELLOW/YELLOW PAVEMENT MARKER

 DIRECTION OF TRAFFIC FLOW

GORE LINES

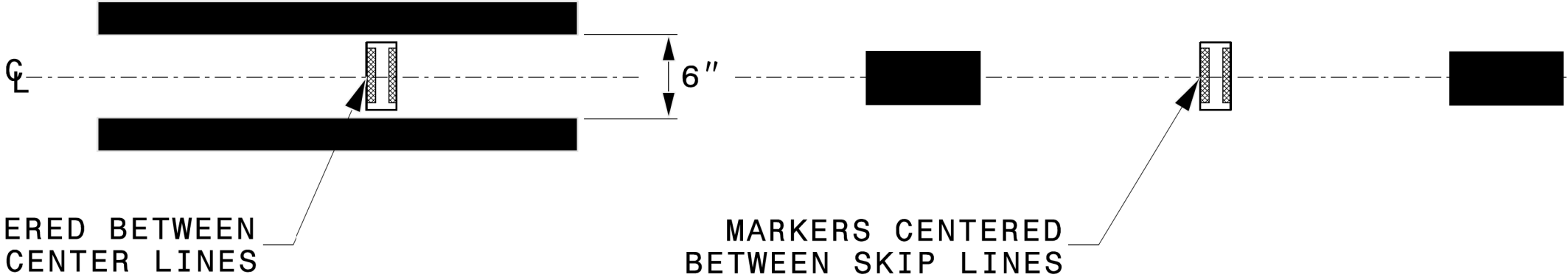


YELLOW CENTER LINES



DETAIL OF PAVEMENT MARKER PLACEMENT

RAISED REFLECTIVE PAVEMENT MARKERS



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

ROADWAY DETAIL DRAWING FOR
RAISED PAVEMENT MARKERS
INSTALLATION SPACING

SHEET 2 OF 3
1250D01

CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: M.V. SPRINGER DATE: 2-15-24
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

6/21/00

COMPUTED BY: K. SABO	DATE: 4/15/2025
CHECKED BY: K. PERSIANI	DATE: 4/16/2025

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
U-6041	3B-1

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. + %	BORROW	WASTE
-L- 24 + 40.00 RT	-L- 34 + 40.00 RT	29	2,272	2,243	
-Y- 10 + 18.00	-Y- 12 + 50.00	4	2,039	2,035	
SUBTOTAL		33	4,311	4,278	
-L- 24 + 40.00 LT	-L- 34 + 40.00 LT	948	450		497
SUBTOTAL		948	450		497
SUBTOTAL					
TOTAL		981	4,761	4,278	497
MATERIAL FOR SHOULDER CONSTRUCTION					
LOSS DUE TO CLEARING & GRUBBING					
ADDITIONAL UNDERCUT					
ROCK WASTE TO REPLACE BORROW					
ADJUST FOR ROCK WASTE					
WASTE IN LIEU OF BORROW					
PROJECT TOTAL		981	4,761	4,278	497
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				214	
GRAND TOTAL		981	4,761	4,491	497
SAY		1,000		4,500	

Earthwork quantities are calculated by the Engineer.
These earthwork quantities are based in part on subsurface data
provided by the Geotechnical Engineering Unit.

Note: Approximate quantities only. Unclassified Excavation, Fine Grading, and Removal
of Existing Pavement will be paid for at the contract lump sum price for "Grading."

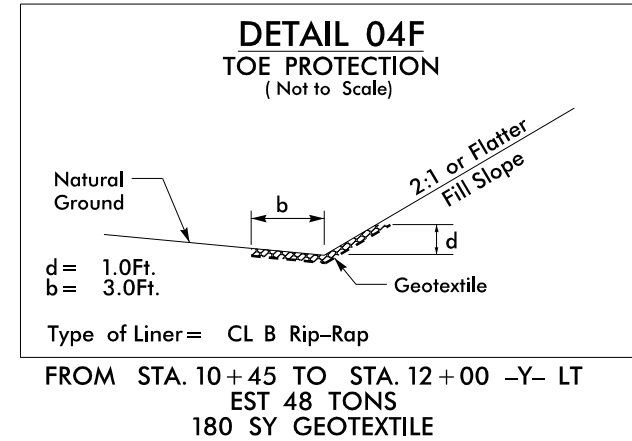
SUMMARY OF REMOVAL
EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-Y-	10 + 47.00	11 + 50.00	RT	215.10
TOTAL:				215.10
SAY:				220

[illegible]

BEGIN TIP PROJECT U-6041
-L- POC STA. 24 + 40.00

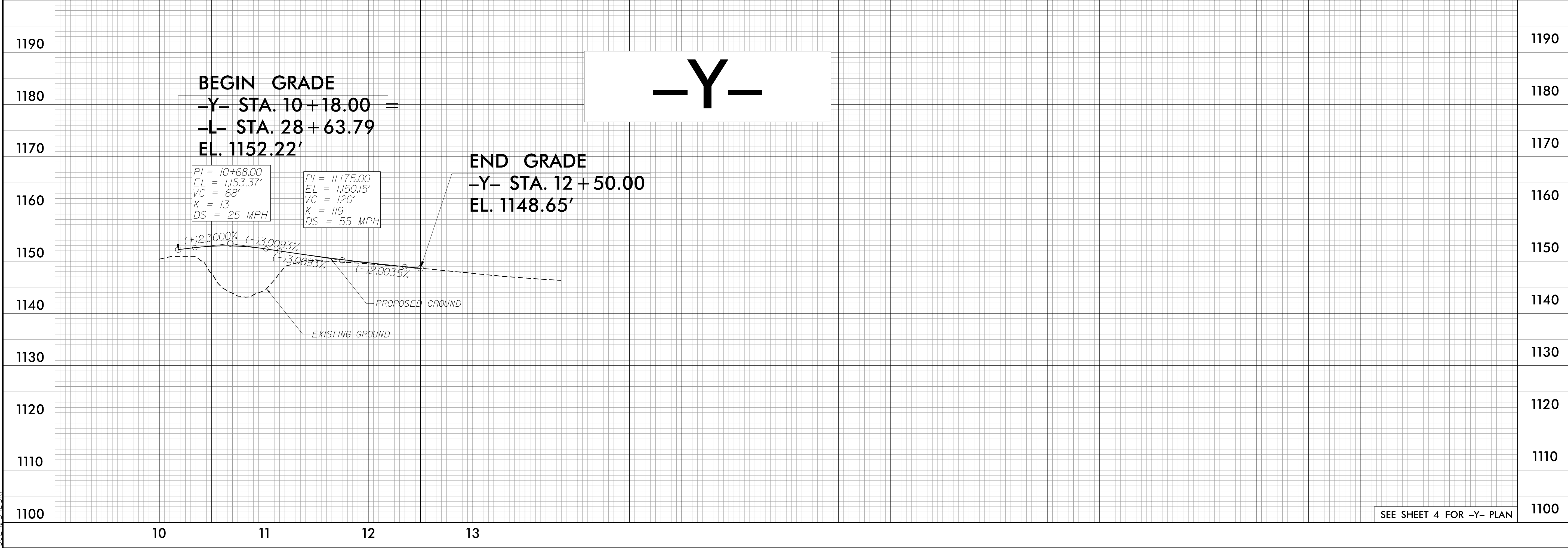
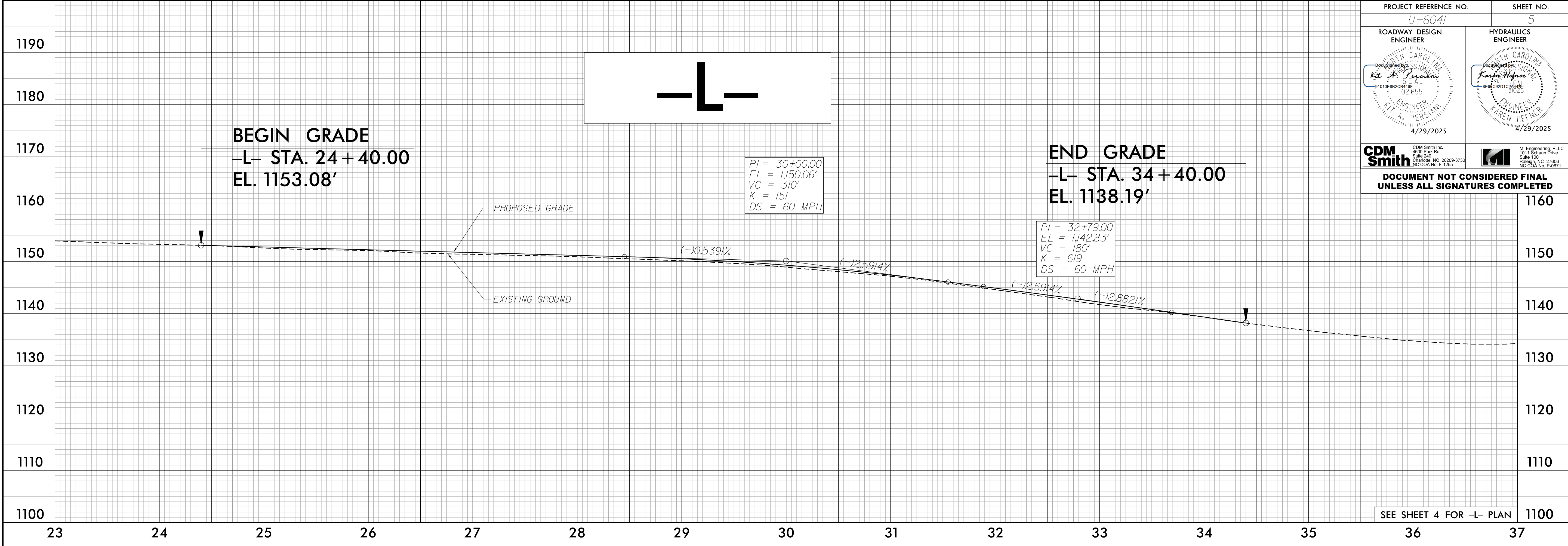
* DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE RADIUS AND STOPPING SIGHT DISTANCE

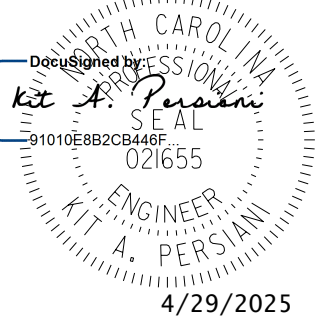
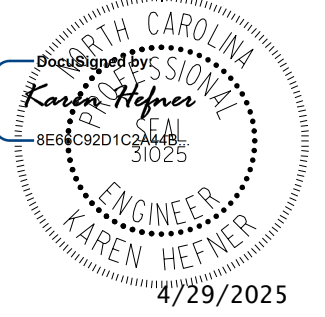




SEE SHEET 5 FOR -L- AND -Y- PROFILES

5/28/99

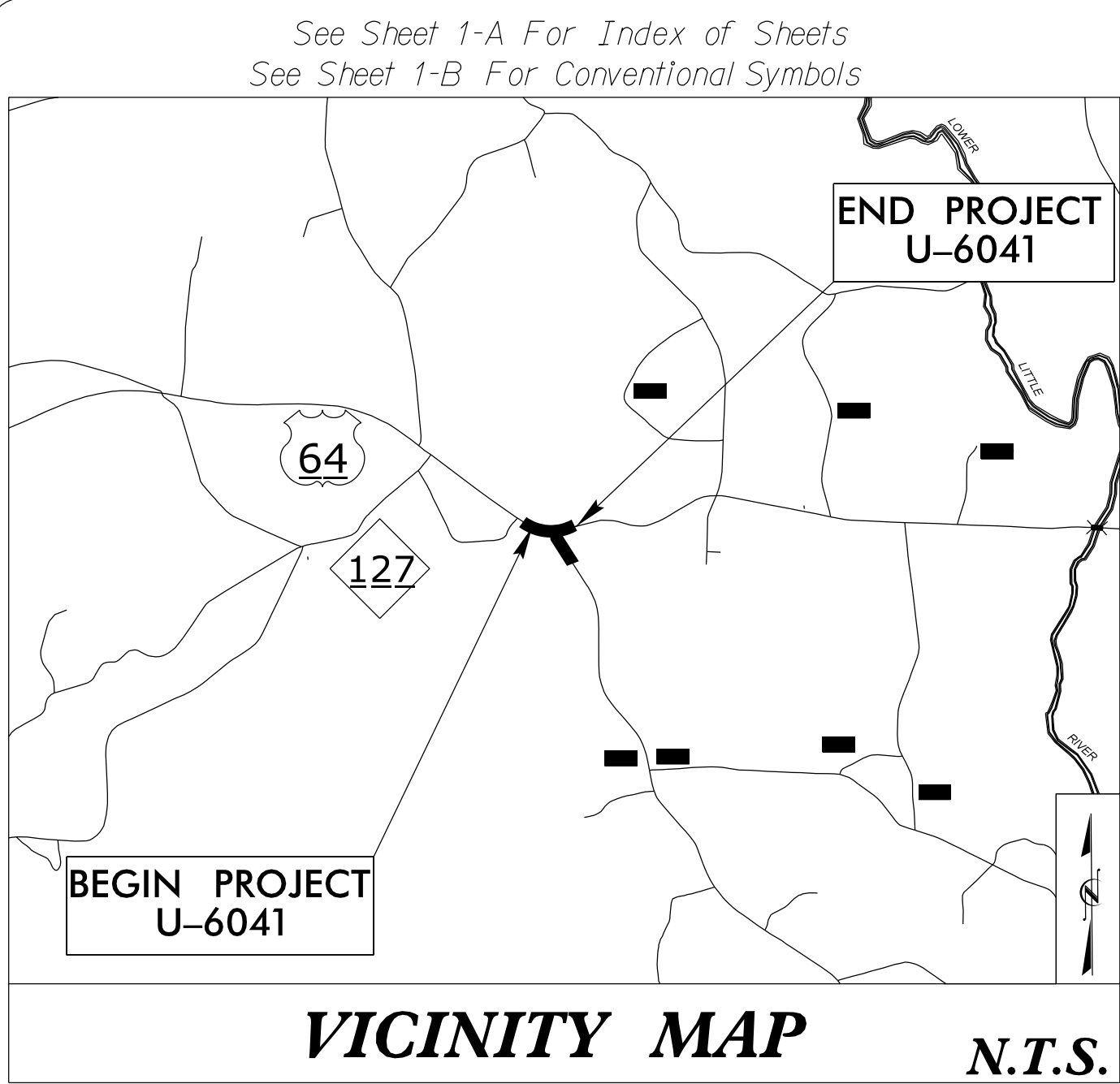
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PROJECT REFERENCE NO. U-6041		SHEET NO. 5
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 	
 CDM Smith Inc. 4800 Park Rd Suite 540 Charlotte, NC 28209-3730 NC CDA No. F-0295	 M Engineering, PLLC 1011 Squire Drive Suite 100 Raleigh, NC 27606 NC CDA No. F-0971	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

09/08/24

TIP PROJECT: U-6041

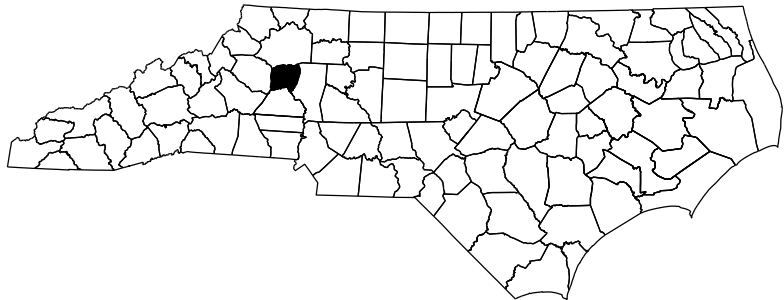


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

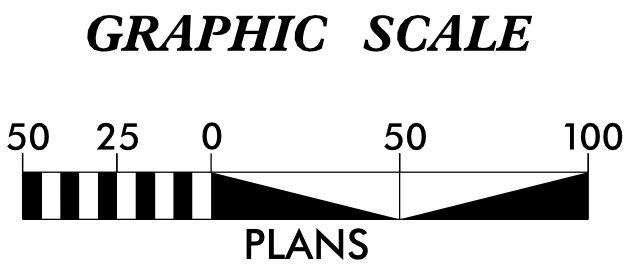
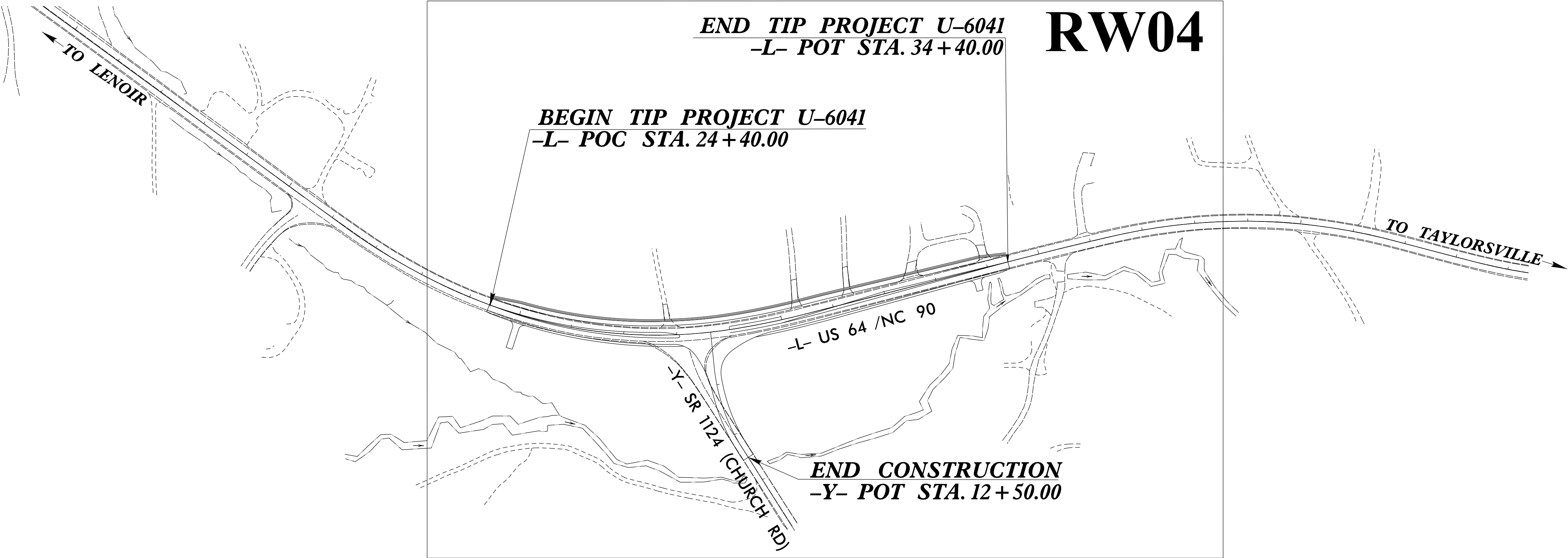
SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

ALEXANDER COUNTY

LOCATION: US 64 /NC 90 AND SR 1124 (CHURCH RD)
ADD LEFT TURN LANE ON WESTBOUND US 64 /NC 90
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



NAD 83/NA 2011



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCGS FOR MONUMENT "U6041-1"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 798,357.680(ft) EASTING: 1,330,601.381(ft)
ELEVATION: 1,226.008(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.999888
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"U6041-1" TO -L- STATION 10+00 IS
S 55° 20' 25.3" E 1,067.359(ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:



2018 STANDARD SPECIFICATIONS

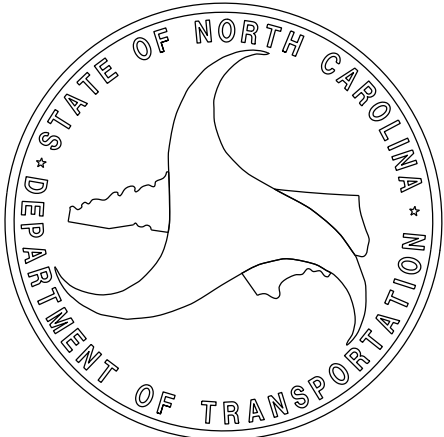
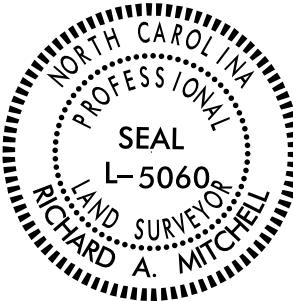
RIGHT OF WAY DATE:
09/16/2024

LETTING DATE:
06/24/2025

**PROFESSIONAL LAND
SURVEYOR**

Signed by:
Richard Mitchell
SEAL
L-5060
SIGNATURE:

11/14/2024
Date:



REVISIONS

12/14/2022: REVISED EL & EY ALIGNMENTS. JJJ

I:\4-DEC-2022 10\36
C:\Projects\U6041\LS12-22-000_Revise-EL\U6041_Ls-rw02c-1.dgn
J.Jeffreys AT LS-314619


SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.
U-6041

SHEET NO.
02C-1

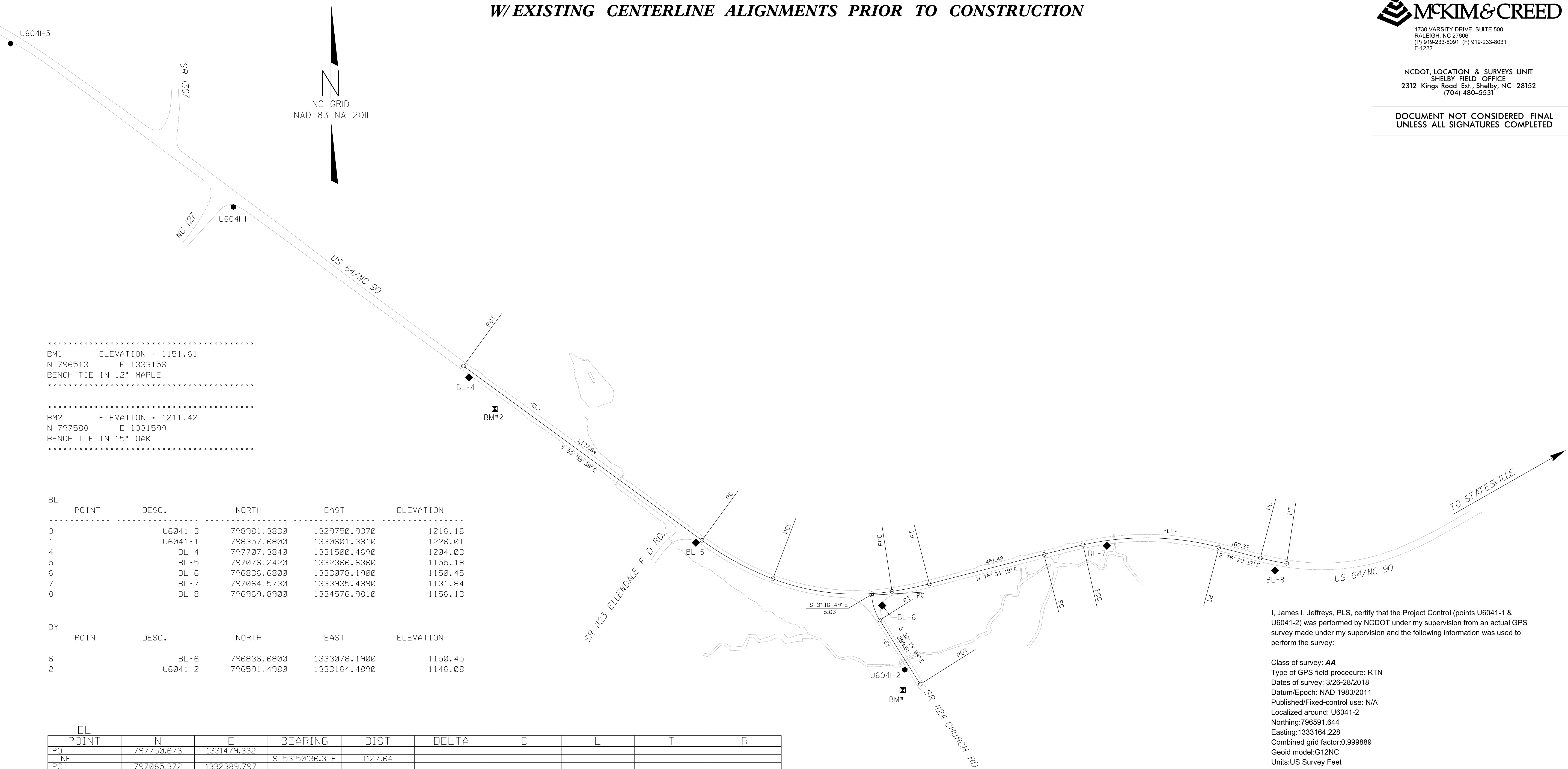
Location and Surveys

**McKIM & CREED**

1730 VARSITY DRIVE, SUITE 500
RALEIGH, NC 27608
(P) 919-233-8091 (F) 919-233-8031
F-1222

NCDOT, LOCATION & SURVEYS UNIT
SHELBY FIELD OFFICE
2312 Kings Road Est., Shelby, NC 28152
(704) 480-5531

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



BM1 ELEVATION = 1151.61
N 796513 E 1333156
BENCH TIE IN 12" MAPLE

BM2 ELEVATION = 1211.42
N 797588 E 1331599
BENCH TIE IN 15" OAK

BL	POINT	DESC.	NORTH	EAST	ELEVATION
3		U6041-3	798981.3830	1329750.9370	1216.16
1		U6041-1	798357.6800	1330601.3810	1226.01
4		BL-4	797707.3840	1331500.4690	1204.03
5		BL-5	797076.2420	1332366.6360	1155.18
6		BL-6	796836.6800	1333078.1900	1150.45
7		BL-7	797064.5730	1333935.4890	1131.84
8		BL-8	796969.8900	1334576.9810	1156.13

BY	POINT	DESC.	NORTH	EAST	ELEVATION
6		BL-6	796836.6800	1333078.1900	1150.45
2		U6041-2	796591.4980	1333164.4890	1146.08

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	797750.673	1331479.332							
LINE			S 53°50'36.3" E	1127.64					
PC	797085.372	1332389.797							
CURVE			S 61°32'14.1" E	307.92	15°23'15.7"(LT)	04°58'56.1"	308.85	155.36	1150.00
PCC	796938.619	1332660.501							
CURVE			S 83°57'26.1" E	457.56	29°27'08.3"(LT)	06°21'58.3"	462.64	236.55	900.00
PCC	796890.452	1333115.518							
CURVE			N 78°26'39.1" E	145.32	05°44'41.3"(LT)	03°57'05.2"	145.39	72.75	1450.00
PT	796919.563	1333257.896							
LINE			N 75°34'18.5" E	451.48					
PC	797032.056	1333695.133							
CURVE			N 76°27'10.2" E	153.77	01°45'43.5"(RT)	01°08'45.3"	153.77	76.89	5000.00
PCC	797068.075	1333844.620							
CURVE			S 89°01'35.0" E	518.00	27°16'46.0"(RT)	05°12'31.3"	523.73	266.93	1100.00
PT	797059.260	1334363.341							
LINE			S 75°23'12.0" E	163.32					
PC	797018.054	1334521.380							
CURVE			S 78°26'09.9" E	102.67	06°05'55.9"(LT)	05°56'14.6"	102.72	51.41	965.00
PT	796997.473	1334621.967							

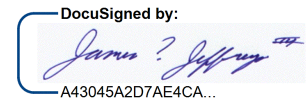
EY POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	796802.005	1333037.620							
LINE			S 03°16'48.6" E	0.65					
POT	796801.356	1333037.657							
LINE			S 03°16'48.6" E	4.98					
PC	796876.382	1333037.942							
CURVE			S 17°47'56.2" E	100.28	29°02'15.3"(LT)	28°38'52.4"	101.36	51.79	200.00
PT	796780.903	1333068.595							
LINE			S 32°19'03.9" E	289.51					
POT	796536.237	1333223.373							

I, James I. Jeffreys, PLS, certify that the Project Control (points U6041-1 & U6041-2) was performed by NCDOT under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

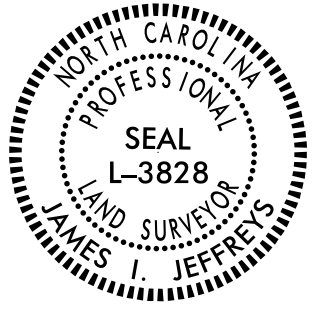
Class of survey: **AA**
Type of GPS field procedure: RTN
Dates of survey: 3/26-28/2018
Datum/Epoch: NAD 1983/2011
Published/Fixed-control use: N/A
Localized around: U6041-2
Northing:796591.644
Easting:1333164.228
Combined grid factor:0.999889
Geoid model:G12NC
Units:US Survey Feet

I also certify that the Baseline Control for this project was completed by McKim & Creed between January and April 2019, under the supervision of Jeffrey D. Aker, PLS, and provided to NCDOT. The existing alignments were revised by NCDOT, under my supervision, on December 14, 2022.

This day 12/14/2022

DocuSigned by:

A43045A207AEACA

Professional Land Surveyor L-3828



NOTES:

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

REVISIONS

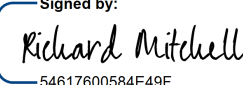
PROPOSED ALIGNMENT CONTROL SHEET

I, Richard A. Mitchell, 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 14th day of November, 2024.

Signed by:

Professional Land Surveyor

11/14/2024

L-5060
PLS #

Seal

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	797750.6729	1331479.3316
PC	21+27.64	797085.3715	1332389.7973
PT	24+36.49	796938.6192	1332660.5010
PT	28+99.13	796890.4517	1333115.5176
PT	30+44.51	796919.5635	1333257.8964
PC	34+95.99	797032.0564	1333695.1335
PT	36+49.76	797068.0752	1333844.6205
PT	41+73.49	797059.2599	1334363.3407
PC	43+36.81	797018.0544	1334521.3803
PT	44+39.53	796997.4729	1334621.9672

Y			
TYPE	STATION	NORTH	EAST
POT	10+00.00	796885.8236	1333080.6651
PC	10+66.63	796819.5397	1333087.4847
PT	12+28.17	796668.2454	1333139.8631
POT	13+84.37	796536.2370	1333223.3726

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.

REVISIONS

RIGHT OF WAY CONTROL SHEET

I, Richard A. Mitchell, 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 14th day of November, 2024.

Signed by:
Richard Mitchell
11/14/2024
Professional Land Surveyor

L-5060
PLS #



Seal

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	24+40.00	60.00	796881.1979	1332642.7269
L	24+40.00	30.00	796909.2897	1332653.2555
L	24+40.00	-30.00	796965.4733	1332674.3126
L	24+40.00	-50.00	796984.2007	1332681.3328
L	27+88.49	60.00	796820.5288	1333007.1134
L	28+99.13	-50.00	796939.8786	1333107.9688
L	29+21.00	60.00	796834.7481	1333147.0661
L	30+44.51	60.00	796861.4559	1333272.8464
L	30+44.51	-50.00	796967.9865	1333245.4381
L	32+00.00	-50.00	797006.7288	1333396.0215
L	34+40.00	60.00	796959.9981	1333655.8604
L	34+40.00	30.00	796989.0520	1333648.3854
L	34+40.00	-30.00	797047.1596	1333633.4354

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	27+45.00	-50.00	796930.3006	1332962.8980
L	27+80.00	-62.00	796942.2900	1332995.7212
L	28+36.00	-50.00	796932.9510	1333048.7650

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y	11+00.00	-58.00	796797.9625	1333149.3437
Y	12+00.00	-58.00	796719.5969	1333177.1274
Y	12+37.00	-30.00	796676.8201	1333169.9376

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.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 10/21/24 TO 10/22/24 .


PROJECT REFERENCE NO.

U-6041

SHEET NO.

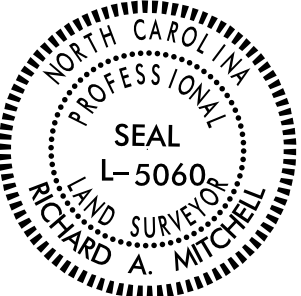
RW03E

Location and Surveys

**McKIM & CREED**

8020 TOWER POINT DR
CHARLOTTE, NC 28227
(P) 704-841-2588 (F) 704-841-2567

PROJECT SURVEYOR



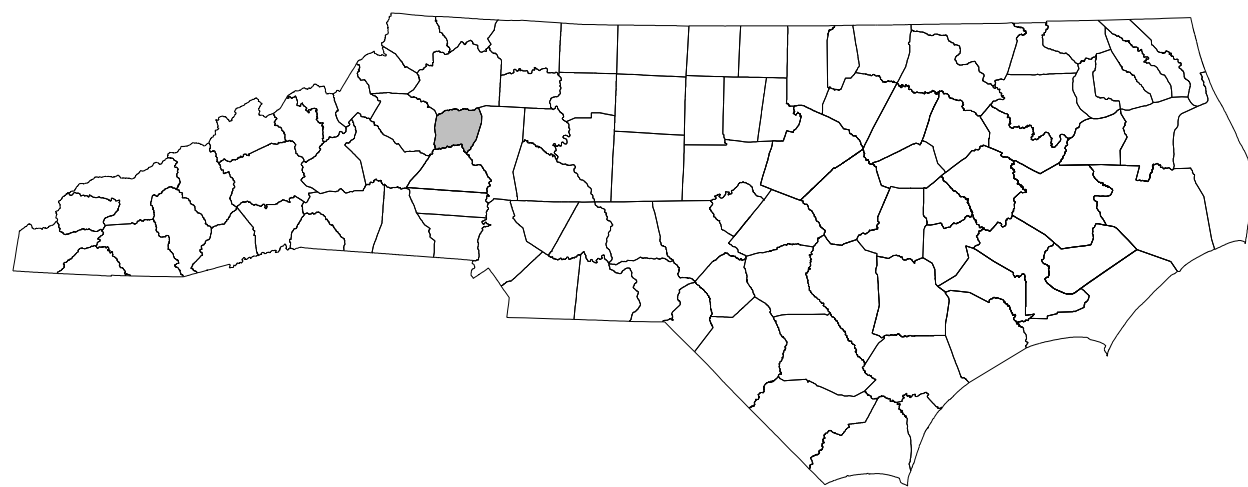
REVISIONS

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.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 10/21/24 TO 10/22/24 .

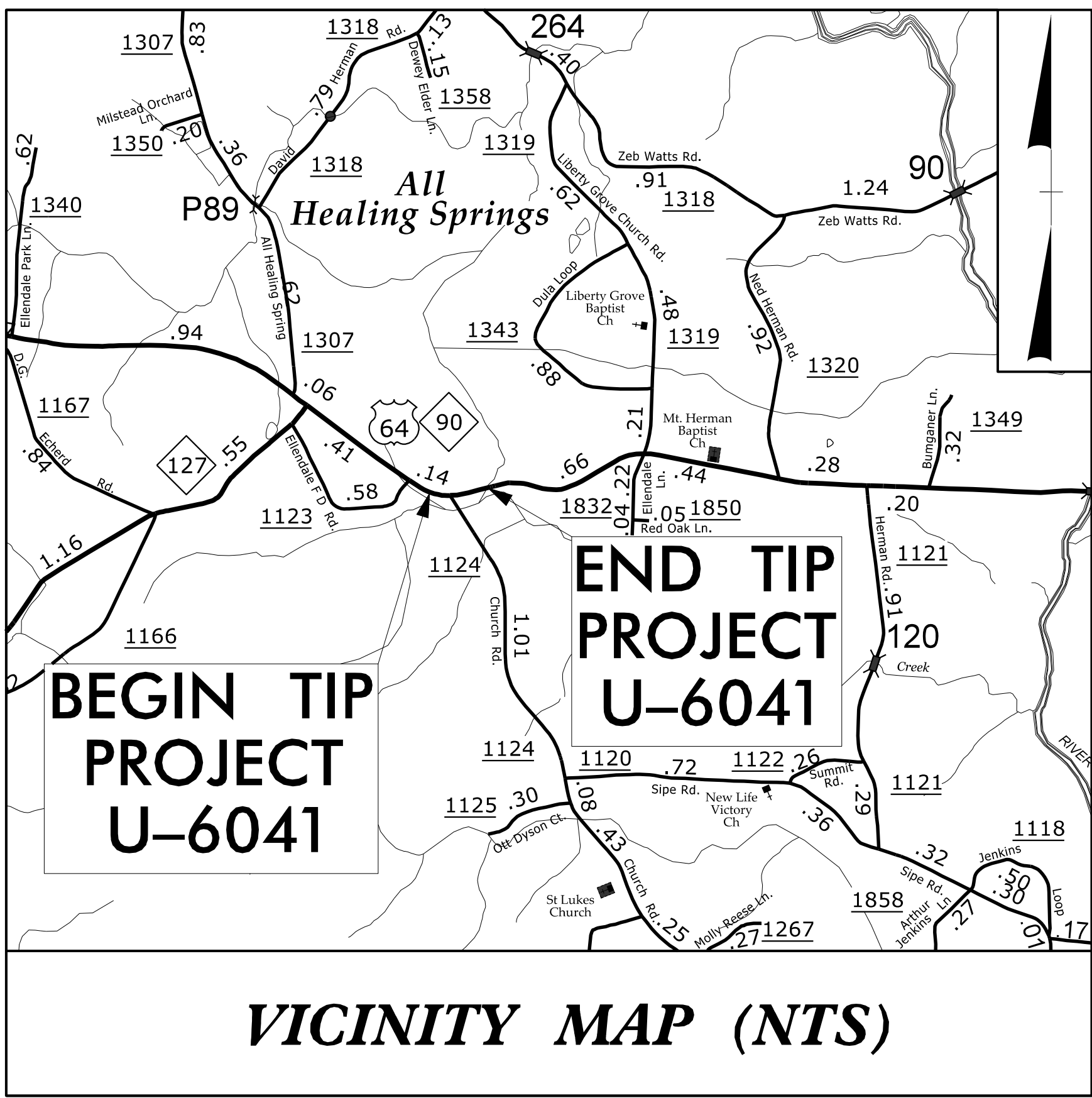
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ALEXANDER COUNTY



LOCATION: US 64 /NC 90 AND SR 1124 (CHURCH RD)
ADD LEFT TURN LANE ON WESTBOUND US 64 /NC 90



VICINITY MAP (NTS)

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 AND GENERAL NOTES)
TMP-1C	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES AND LOCAL NOTES)
TMP-2	TEMPORARY TRAFFIC CONTROL PHASING
TMP-3	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL

SHEET NO.
TMP-1

U-6041

TIP PROJECT:

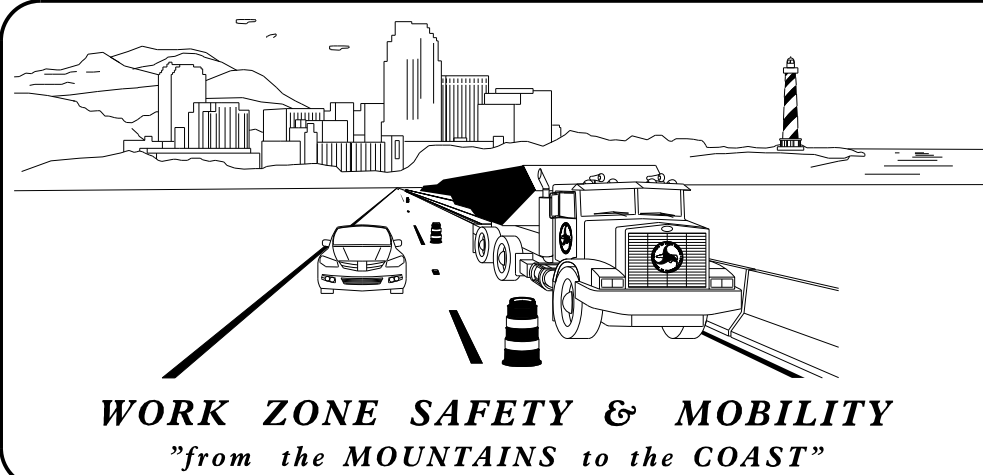
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED: *Kit A. Persiani*
DATE: 4/29/2025

CDM Smith
CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

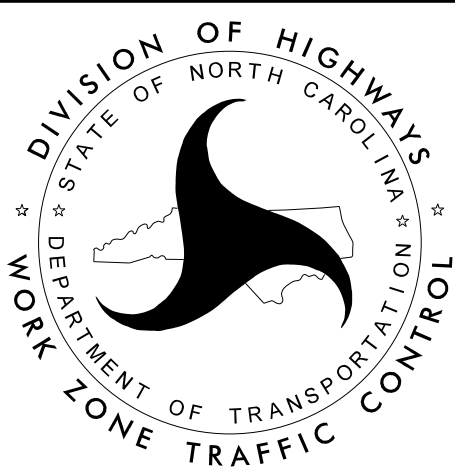


SEAL



PLANS PREPARED BY:
KIT A. PERSIANI, P.E.
PROJECT ENGINEER
KEVIN P. SABO, E.I.
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:
SCOTT M. POSTON
DIVISION TRAFFIC ENGINEER
RODNEY W. GANTT
DIVISION CONSTRUCTION ENGINEER



4/16/2025
pw:\cdmsmith-az02-pw.bentley.com\pw_pln\Documents\17240.278264\0 Transportation\04 Client Folder Structure\U6041\TrafficControl\TCP\U6041_TMP01A.dgn
User: SAKBP


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:

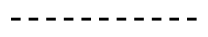
STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS FOR TWO-WAY UNDIVIDED FACILITIES
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGERS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS


LEGEND


GENERAL

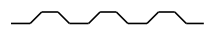
 DIRECTION OF TRAFFIC FLOW


 DIRECTION OF PEDESTRIAN TRAFFIC FLOW

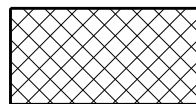
 EXIST. PVMT.

 NORTH ARROW


 PROPOSED PVMT.


 TEMP. SHORING (LOCATION PURPOSES ONLY)

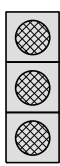
 WORK AREA


 REMOVAL

SIGNALS

 EXISTING

 PROPOSED

 TEMPORARY


 PORTABLE


PAVEMENT MARKINGS


 EXISTING LINES


 TEMPORARY LINES


TRAFFIC CONTROL DEVICES

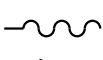
 BARRICADE (TYPE III)


 CONE


 DRUM

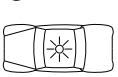
 SKINNY DRUM

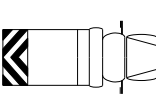
 TUBULAR MARKER

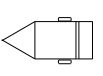
 TEMPORARY CRASH CUSHION

 FLASHING ARROW BOARD


 FLAGGER

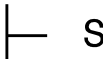
 LAW ENFORCEMENT


 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



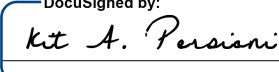


TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION
	PAINT PAVEMENT MARKING LINES (4")
P1	WHITE EDGELINE
P13	YELLOW DOUBLE CENTER
	PAINT PAVEMENT MARKING LINES (24")
P61	WHITE STOPBAR

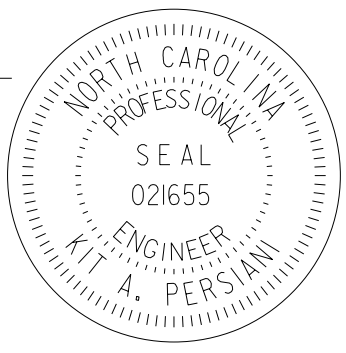


CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

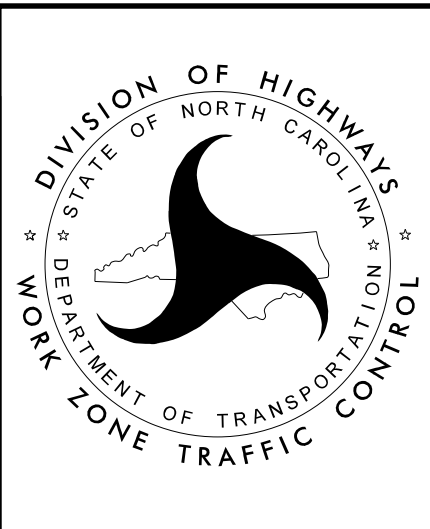
APPROVED: 

DATE: 4/29/2025

SEAL



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



ROADWAY STANDARD
DRAWINGS & LEGEND

MANAGEMENT STRATEGIES

THE FOLLOWING LISTED WORK ZONE STRATEGIES ARE RECOMMENDED FOR INCLUSION WITHIN THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:
LANE SHIFTS OR CLOSURES
SHOULDER CLOSURES
ONE-LANE, TWO WAY OPERATION (FLAGGING)
WORK HOUR RESTRICTIONS FOR PEAK TRAVEL

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 UNDESIREED 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
-L- US 64/NC 90	6:00 AM TO 9:00 AM & 4:00 PM TO 7:00 PM MONDAY THROUGH FRIDAY
-Y- SR 1124 (CHURCH RD.)	6:00 AM TO 9:00 AM & 4:00 PM TO 7:00 PM MONDAY THROUGH FRIDAY

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

ROAD NAME
-L- US 64/NC 90
-Y- SR 1124 (CHURCH RD.)

HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 4:00 P.M. DECEMBER 31st TO 9:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 A.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 4:00 P.M. THURSDAY AND 9:00 A.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY TO 9:00 A.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 4:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 4:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.

- FOR LABOR DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY AND 9:00 A.M. TUESDAY.

- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 4:00 P.M. TUESDAY TO 9:00 A.M. MONDAY.

- FOR CHRISTMAS, BETWEEN THE HOURS OF 4:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

- C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) 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.

- E) 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.

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

- G) 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.

- H) 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

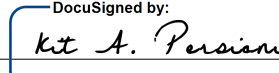
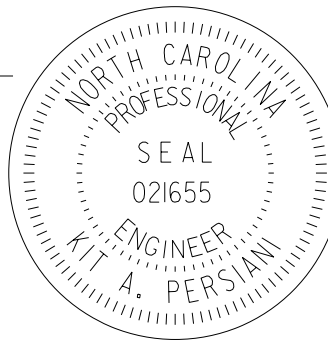
- I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

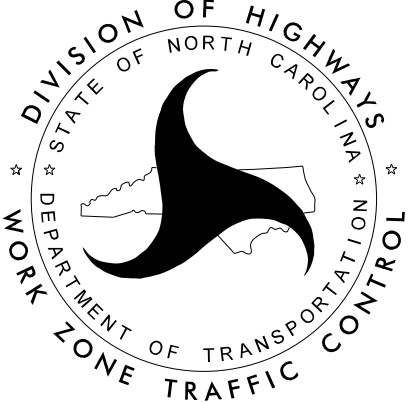
BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

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.



APPROVED:  91010E8B2CB446F...	
DATE: 4/29/2025	
SEAL	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



TRANSPORTATION
OPERATIONS
PLAN

LOCAL NOTES

- 1- NOTIFY ALEXANDER COUNTY EMERGENCY SERVICES AND PUBLIC SCHOOLS AT LEAST ONE MONTH PRIOR TO CONSTRUCTION AND ANY TRAFFIC ALTERATIONS.
- 2- WHEN WORKING NEAR SCHOOL ZONES, WORK TIMES MAY NEED TO BE ADJUSTED PER NCDOT TO AVOID DISRUPTION TO DROP-OFF AND DISMISSAL.

J) 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) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

L) 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.

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

N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 500 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

O) 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.

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
-Y- SR 1124 (CHURCH RD.)	PAINT	NONE

Q) 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.

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

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

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



APPROVED:

DocuSigned by:

Kit A. Persiani

DATE: 4/29/2025

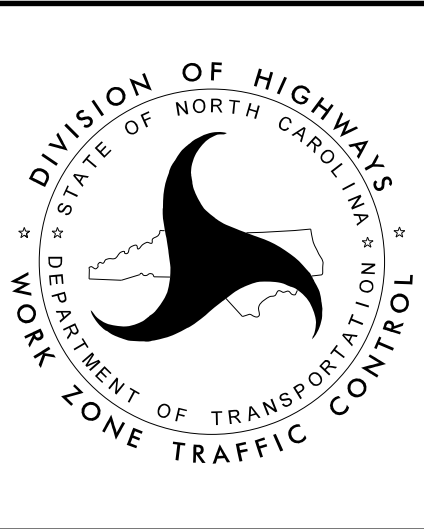
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SEAL

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NORTH CAROLINA PROFESSIONAL ENGINEER KIT A. PERSIANI 021655

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TRANSPORTATION OPERATIONS PLAN

4/16/2025
pw:\cdmsmith-az02-pw.bentley.com\pw_pln\Documents\17240\278264\0 Transportation\04 Client Folder Structure\U6041\TrafficControl\TCP\U6041_TMP02.dgn
User: SABOKP

PROJ. REFERENCE NO.	SHEET NO.
U-6041	TMP-2

PHASING

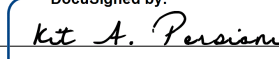
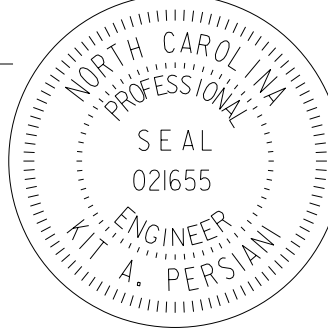
PHASE 1

- STEP 1: INSTALL ALL ADVANCED WORK ZONE WARNING SIGNS ON -L- AND -Y- IN ACCORDANCE WITH NCDOT RSD 1101.01 (SHEET 3 OF 3).
- STEP 2: USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED IN ACCORDANCE WITH NCDOT RSD 1101.02 (SHEET 1 OF 19), CONSTRUCT THE PROPOSED WIDENING, GRADING, DRAINAGE, WATERLINE, AND DRIVEWAYS AT THE FOLLOWING LOCATIONS, EXCEPT FOR THE FINAL LAYER OF SURFACE COURSE, IN ACCORDANCE WITH NCDOT RSD 1101.04 (SHEET 1 OF 2), IN ORDER ONE BY ONE, AS FOLLOWS:
- L- FROM STA. 24+40 RT TO -L- STA. 27+55 RT. THEN:
-Y- FROM STA. 12+50 LT TO -L- STA. 34+40 RT.
- STEP 3: USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED IN ACCORDANCE WITH NCDOT RSD 1101.02 (SHEET 1 OF 19), CONSTRUCT THE PROPOSED WIDENING, GRADING, DRAINAGE, SEWERLINE, DRIVEWAYS, AND EXPRESSWAY GUTTER AT THE FOLLOWING LOCATION, EXCEPT FOR THE FINAL LAYER OF SURFACE COURSE, IN ACCORDANCE WITH NCDOT RSD 1101.04 (SHEET 1 OF 2):
- L- FROM STA. 24+40 LT TO -L- STA. 34+40 LT.

PHASE 2

- STEP 1: USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED IN ACCORDANCE WITH NCDOT RSD 1101.02 (SHEET 1 OF 19), CONSTRUCT THE PROPOSED WIDENING, GRADING, AND PAVEMENT AT THE FOLLOWING LOCATION, EXCEPT FOR THE FINAL LAYER OF SURFACE COURSE, IN ACCORDANCE WITH NCDOT RSD 1101.02 (SHEET 1 OF 19):
- Y- FROM STA. 10+18 TO -Y- STA. 12+50.
- STEP 2: USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED IN ACCORDANCE WITH NCDOT RSD 1101.02 (SHEET 1 OF 19), PLACE TEMPORARY MARKINGS AS SHOWN ON TMP-4. TIE TEMPORARY MARKINGS TO EXISTING MARKINGS AND REMOVE ANY CONFLICTING MARKINGS. SHIFT -Y- TRAFFIC INTO THE FINAL TRAFFIC PATTERN.
- STEP 3: USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED WHILE MAINTAINING EXISTING TRAFFIC PATTERNS, CONSTRUCT THE FINAL LAYER OF SURFACE COURSE, IN ACCORDANCE WITH NCDOT RSD 1101.02 (SHEET 1 OF 19) AS FOLLOWS:
- L- FROM STA. 24+40+/- TO -L- STA. 34+40+/- .
-Y- FROM STA. 10+18+/- TO -Y- STA. 12+50+/- .
- STEP 4: USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NEEDED IN ACCORDANCE WITH NCDOT RSD 1101.02 (SHEET 1 OF 19), PLACE FINAL MARKINGS AND MARKERS AS SHOWN IN THE PAVEMENT MARKING PLANS, REMOVE ALL TRAFFIC CONTROL DEVICES, SHIFT -L- INTO THE FINAL TRAFFIC PATTERN, AND OPEN THE NEW INTERSECTION TO TRAFFIC.



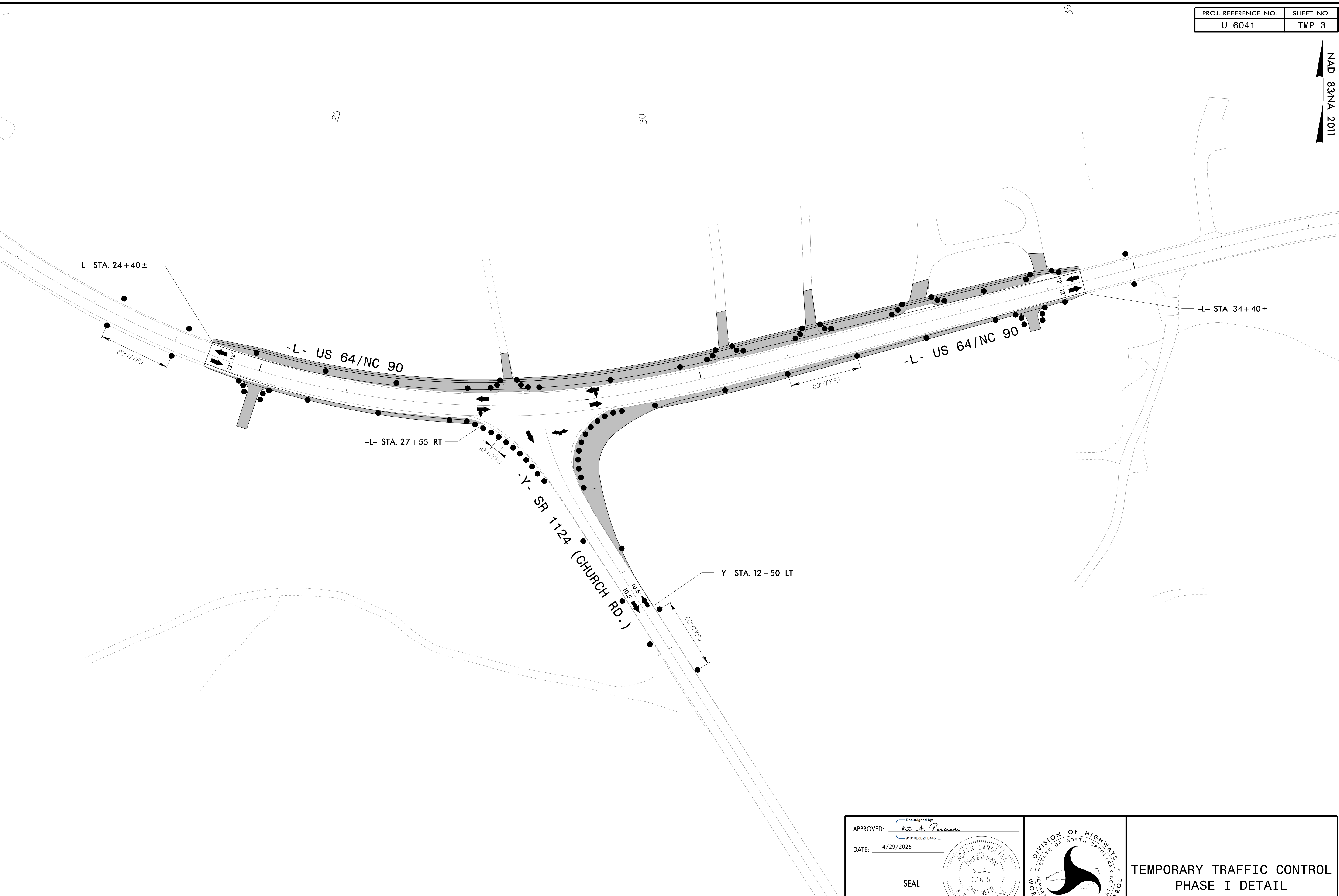
APPROVED: 
DATE: 4/29/2025
SEAL 
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



TEMPORARY TRAFFIC CONTROL
PHASING

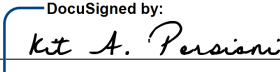
PROJ. REFERENCE NO.	SHEET NO.
U-6041	TMP-3

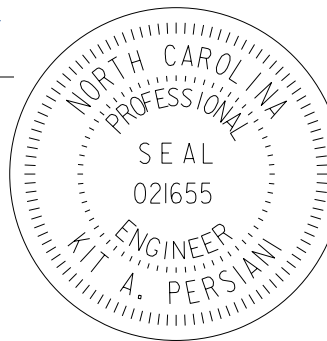
NAD 83/NA 2011



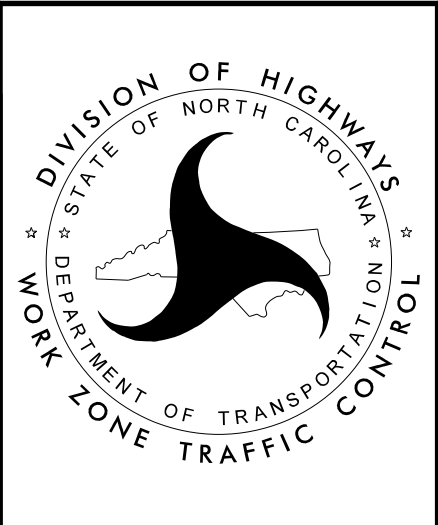
4/16/2025
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User: SABOKP

CDM Smith
CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

APPROVED: 
DATE: 4/29/2025

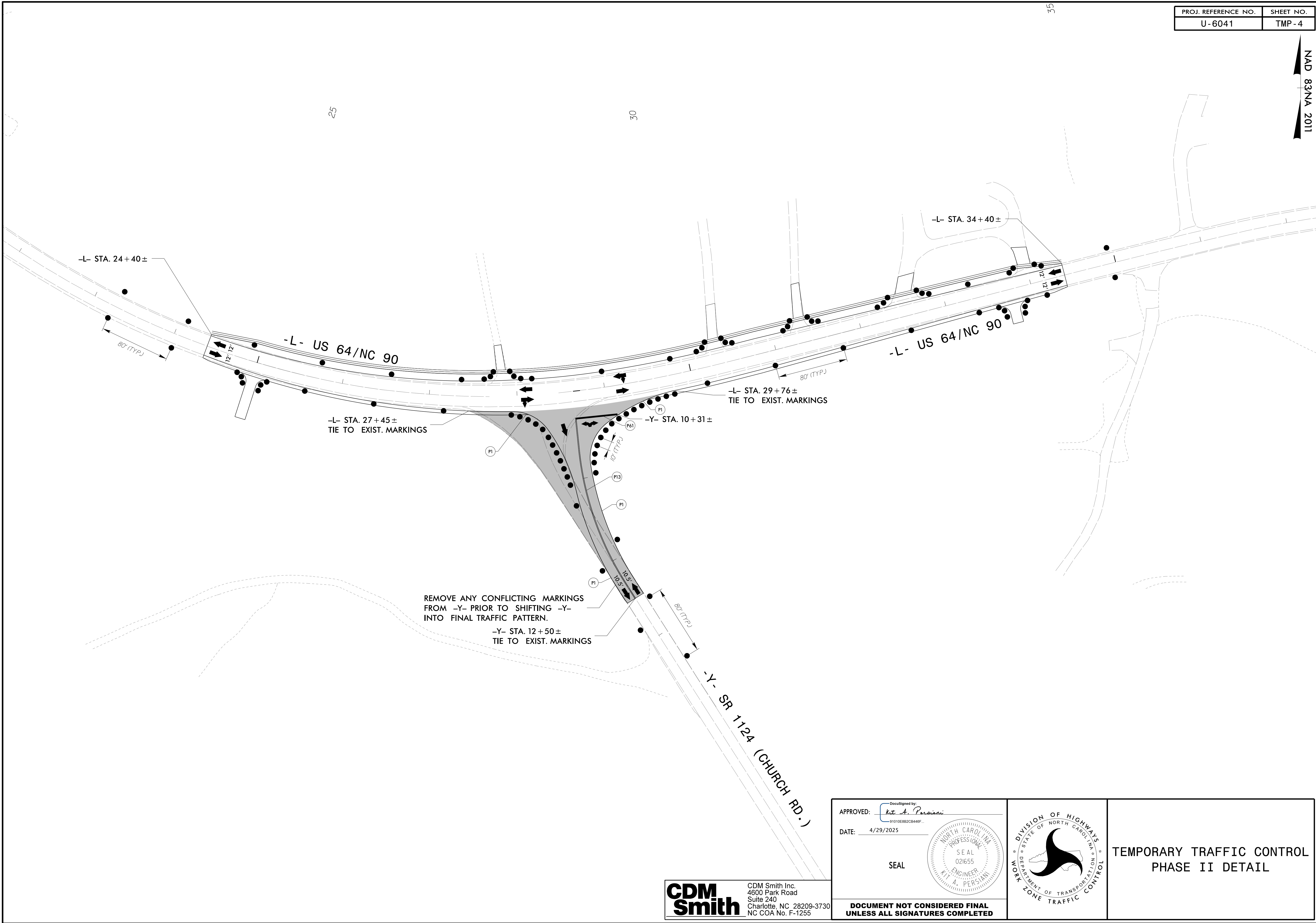
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UNLESS ALL SIGNATURES COMPLETED



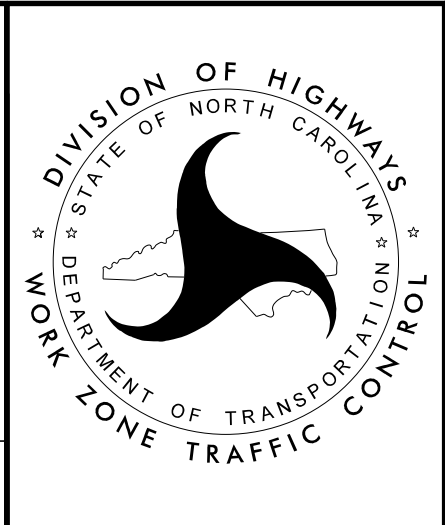
TEMPORARY TRAFFIC CONTROL
PHASE I DETAIL

4/16/2025
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User: SABOKP



CDM Smith
CDM Smith Inc.
4600 Park Road
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

APPROVED: *Kit A. Persiani*
DATE: 4/29/2025
SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
021655
ENGINEER
KIT A. PERSIANI



TEMPORARY TRAFFIC CONTROL
PHASE II DETAIL

04/30/25
pwa-us6041
pwa-us6041

CONTRACT: DL00352 TIP PROJECT: U-6041

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
ALEXANDER COUNTY

LOCATION: US 64/NC 90 AND SR 1124 (CHURCH RD)
ADD LEFT TURN LANE ON WESTBOUND US 64/NC 90

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 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
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING (USE DETAIL IN LIEU OF STANDARD FOR SHEET 2 OF 3)
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	6,440	L.F.
4700000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)	140	L.F.
4709000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)	50	L.F.
4725000000-E	1205	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)	1	EA
4895000000-N	SP	GENERIC PAVEMENT MARKING ITEM (POLYCARBONATE H-SHAPED PAVEMENT MARKER)	55	EA

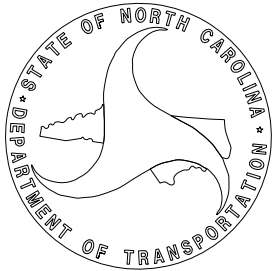
PLAN PREPARED BY: CDM SMITH, INC.

KIT A. PERSIANI, P.E. PROJECT MANAGER
KEVIN P. SABO, E.I. PROJECT DESIGN ENGINEER

**CDM
Smith**
CDM Smith Inc.
4600 Park Rd
Suite 240
Charlotte, NC 28209-3730
NC COA No. F-1255

PLAN REVIEWED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

KELVIN L. JORDAN SIGNING AND DELINEATION REGIONAL ENGINEER
J. NAVARRETE SIGNING AND DELINEATION TRAFFIC ENGINEER



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 |
| ALL | THERMOPLASTIC | SNOWPLOWABLE |
- B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
- D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS
DIRECTED BY THE ENGINEER.
- E) 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 SHEET
PMP-2	PAVEMENT MARKING SCHEDULE/PAVEMENT MARKING PLAN

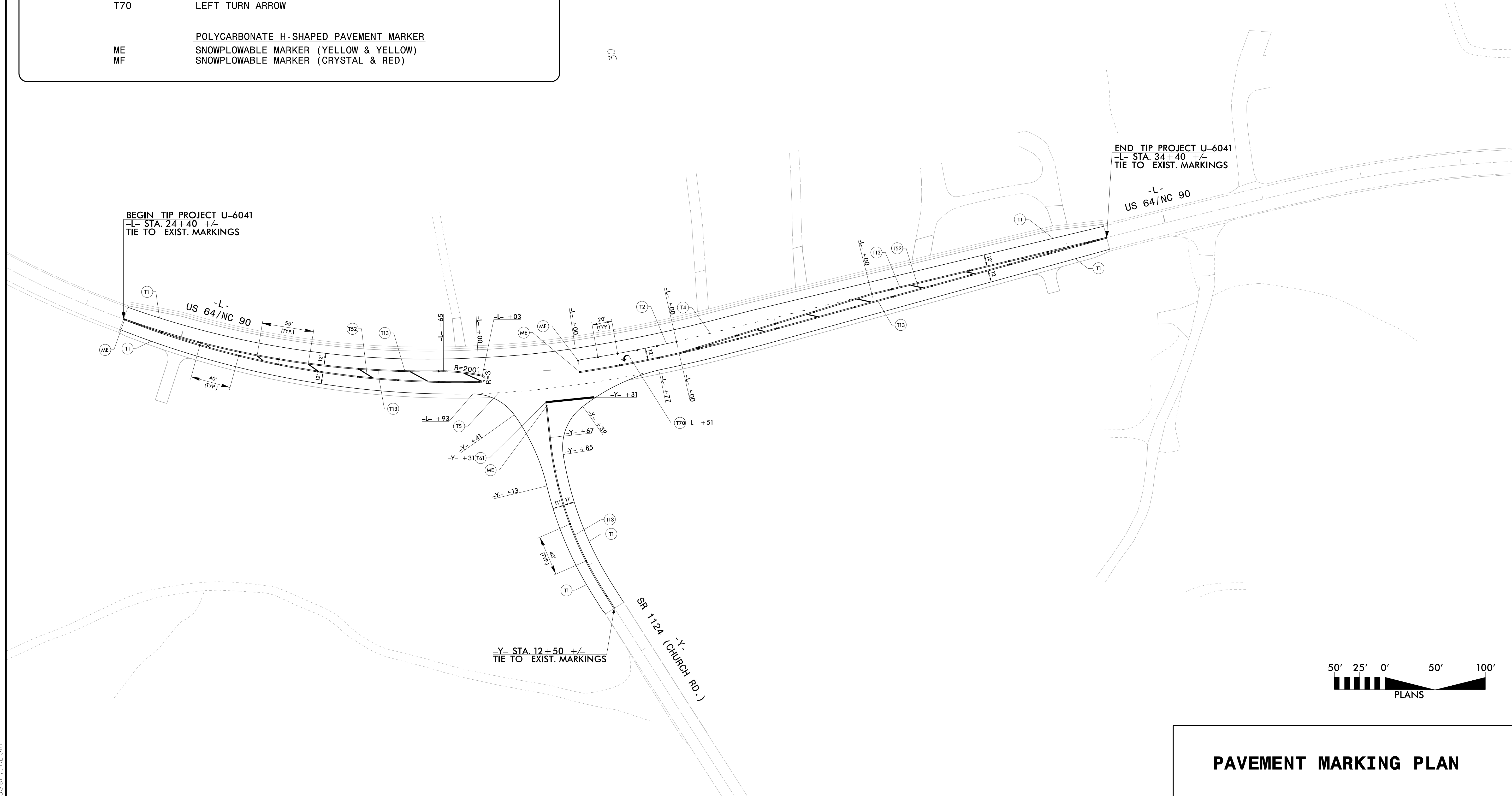
TIP NO.	SHEET NO.
U-6041	PMP-1
DocuSigned by: Kit A. Persiani 91076855C8B48F...	
APPROVED:	
DATE:	4/30/2025
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PAVEMENT MARKING SCHEDULE

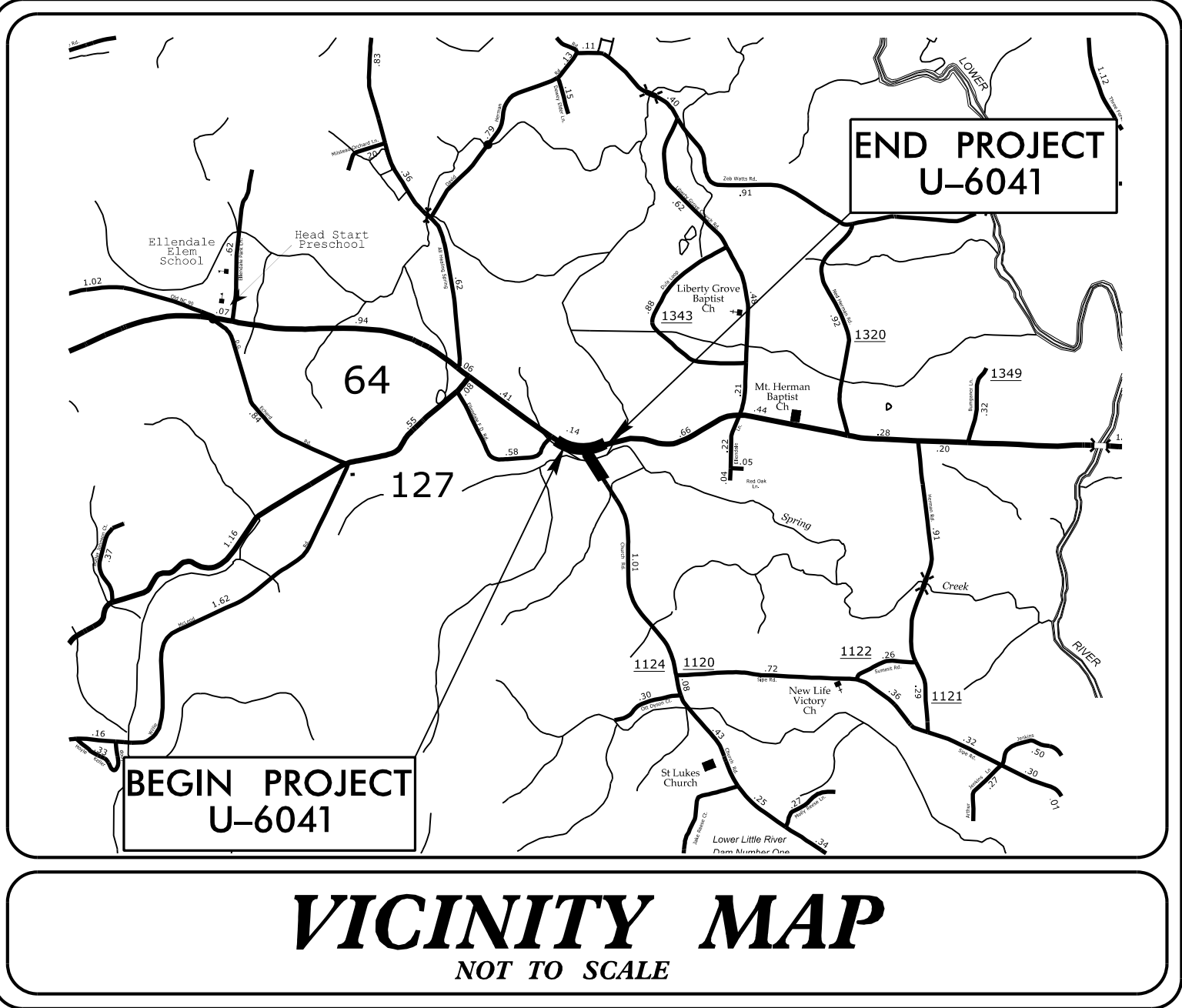
<u>SYMBOL</u>	<u>DESCRIPTION</u>
	<u>THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)</u>
T1	WHITE EDGELINE
T2	WHITE SOLID LANE LINE
T4	3 FT. - 9 FT./SP WHITE MINISKIP
T5	2 FT. - 6 FT./SP WHITE MINISKIP
T13	YELLOW DOUBLE CENTER
	<u>THERMOPLASTIC PAVEMENT MARKING LINES (12", 90 MILS)</u>
T52	YELLOW DIAGONAL
	<u>THERMOPLASTIC PAVEMENT MARKING LINES (24", 90 MILS)</u>
T61	WHITE STOPBAR
	<u>THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)</u>
T70	LEFT TURN ARROW
	<u>POLYCARBONATE H-SHAPED PAVEMENT MARKER</u>
ME	SNOWFLOWABLE MARKER (YELLOW & YELLOW)
MF	SNOWFLOWABLE MARKER (CRYSTAL & RED)

NAD 83/NA 2011

TIP NO.	SHEET NO.
U-6041	PMP-2
Approved by: <u>K. A. Persiani</u> 91010E8B2C8446F...	
DATE: 4/30/2025	
SEAL 	
CDM Smith Inc. 4600 Park Rd. Suite 240 Charlotte, NC 28209-3730 NC COA No. F-1255	



TIP PROJECT: U-6041



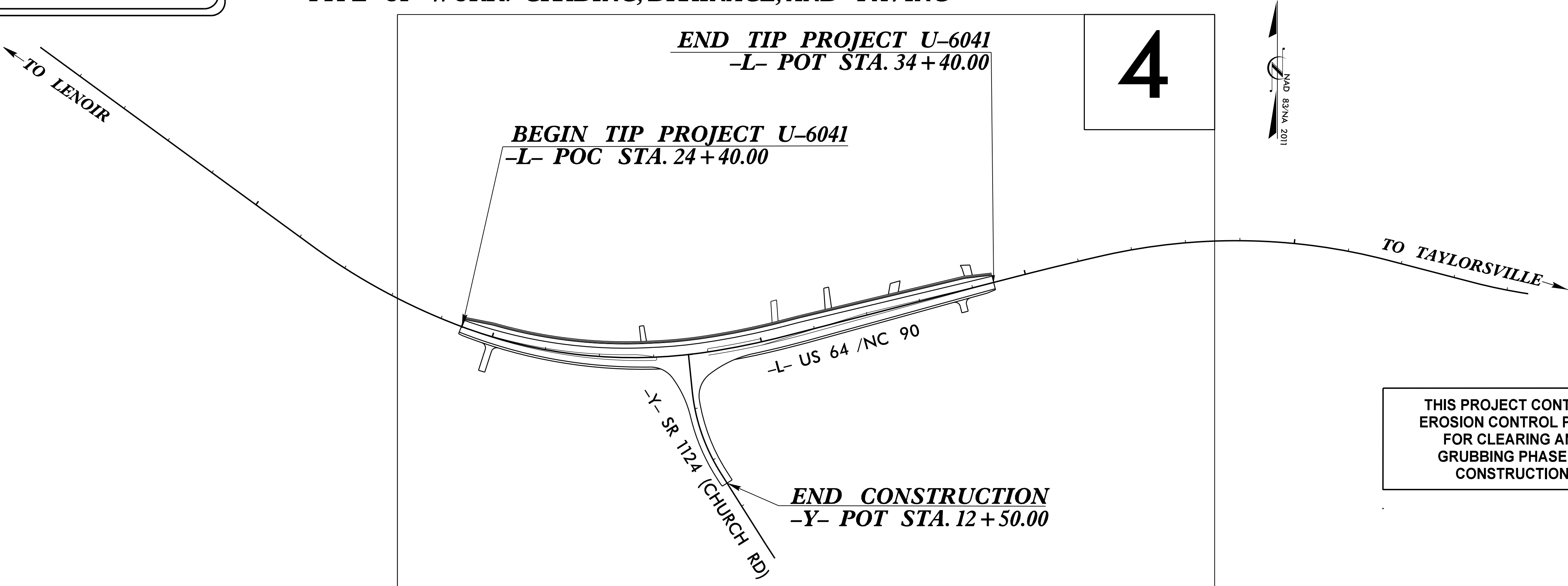
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

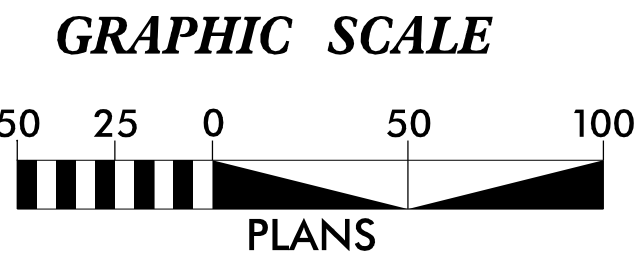
ALEXANDER COUNTY

LOCATION: US 64 /NC 90 AND SR 1124 (CHURCH RD)
ADD LEFT TURN LANE ON WESTBOUND US 64 /NC 90

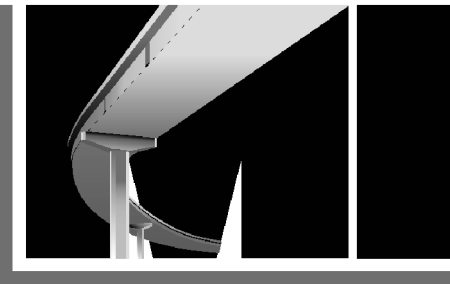
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



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



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.



Prepared in the Office of:
MI ENGINEERING, PLLC
1011 SCHAUB DR, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER: P-0671

Designed by:
KAREN HEFNER, PE 3824
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.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6041	EC-1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

PROJECT REFERENCE NO.
U-6041

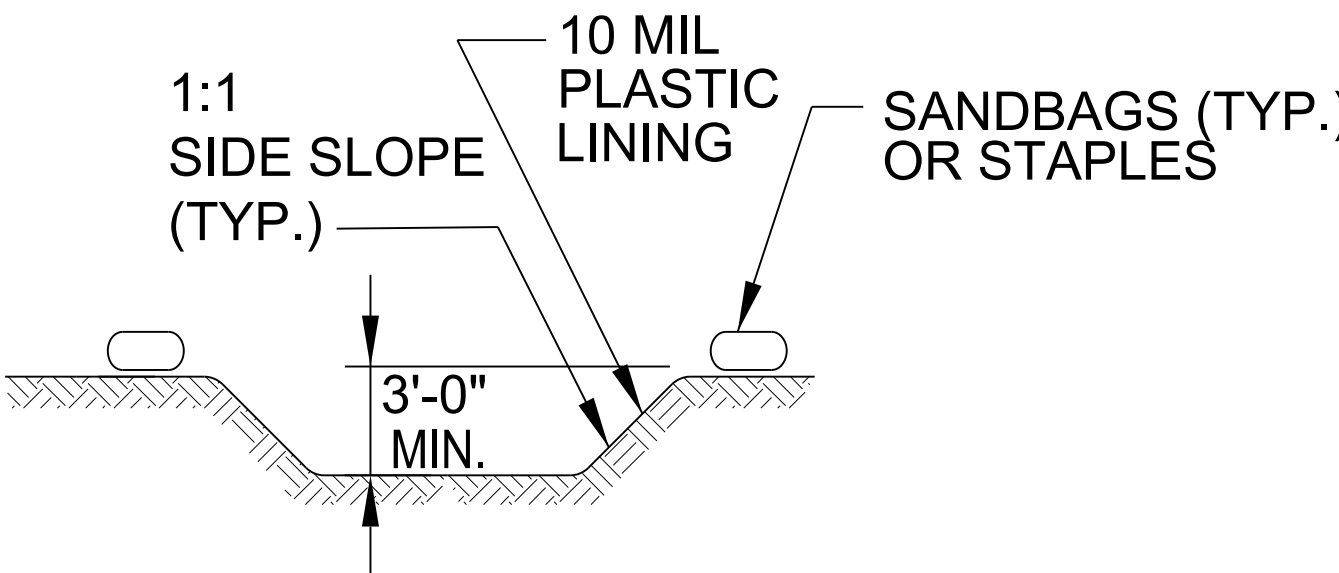
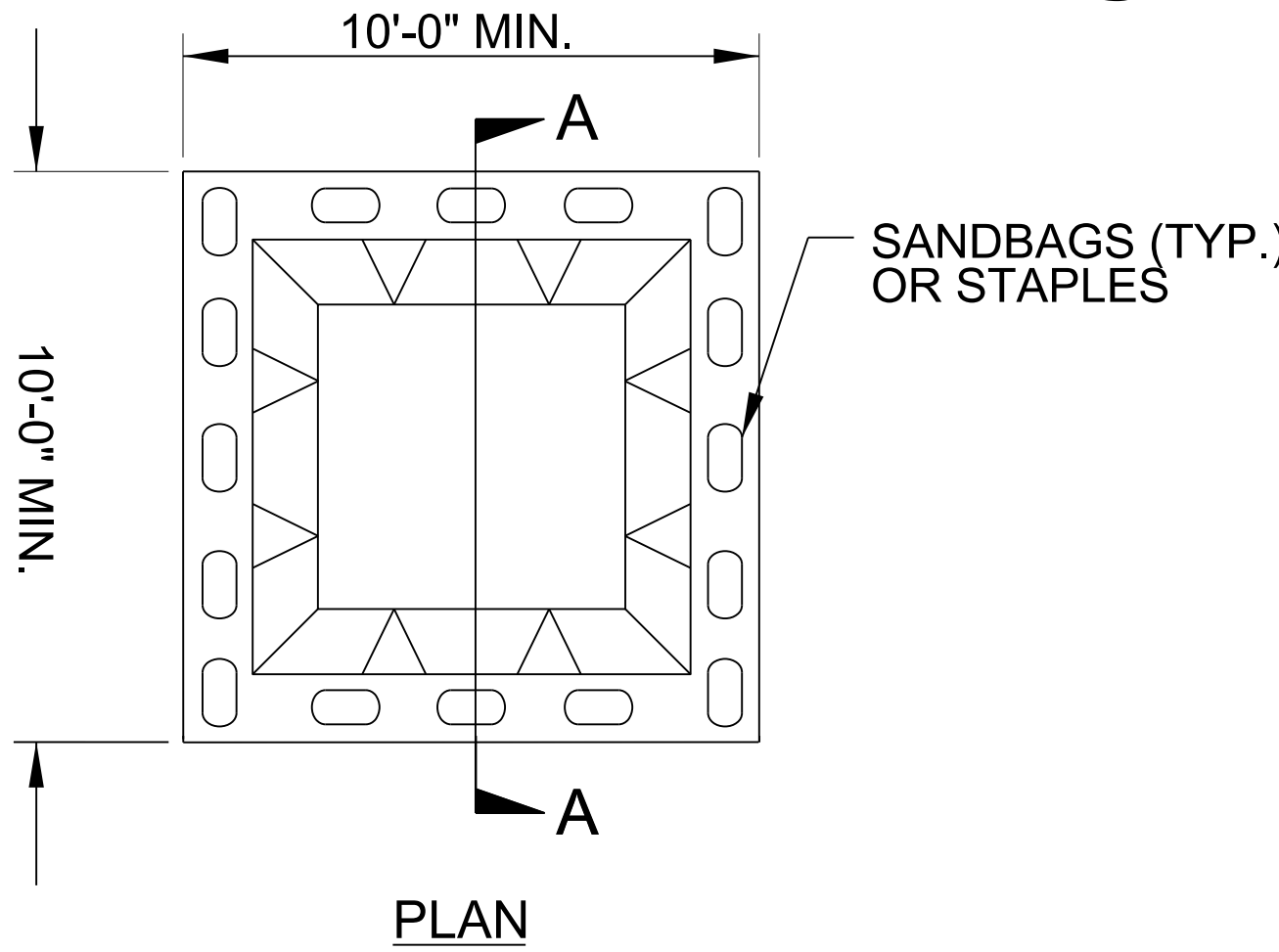
SHEET NO.
EC-02

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

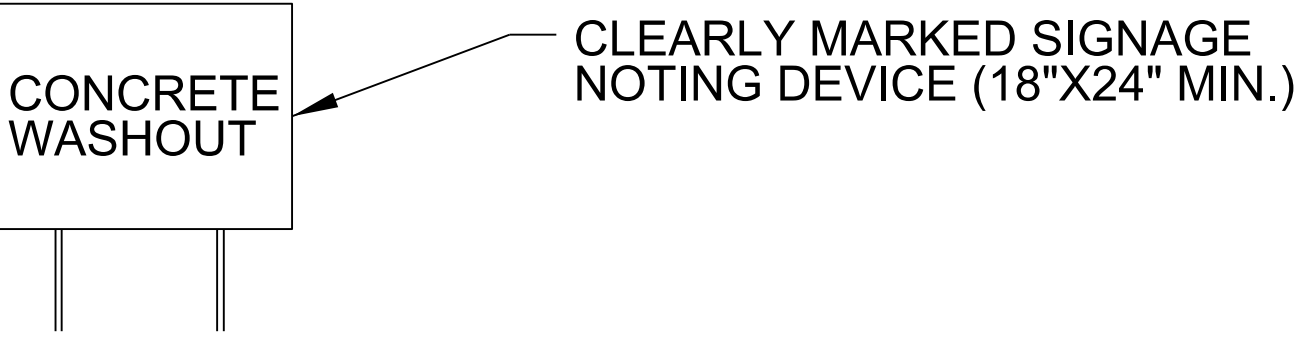
EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B		1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch		1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin		1635.01	Rock Pipe Inlet Sediment Trap Type A	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type B	
1630.06	Special Stilling Basin		1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin		1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin		1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer		1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin		1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	
1632.01	Type A		1636.03	Excelsior Wattle Barrier	
1632.02	Type B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C				

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

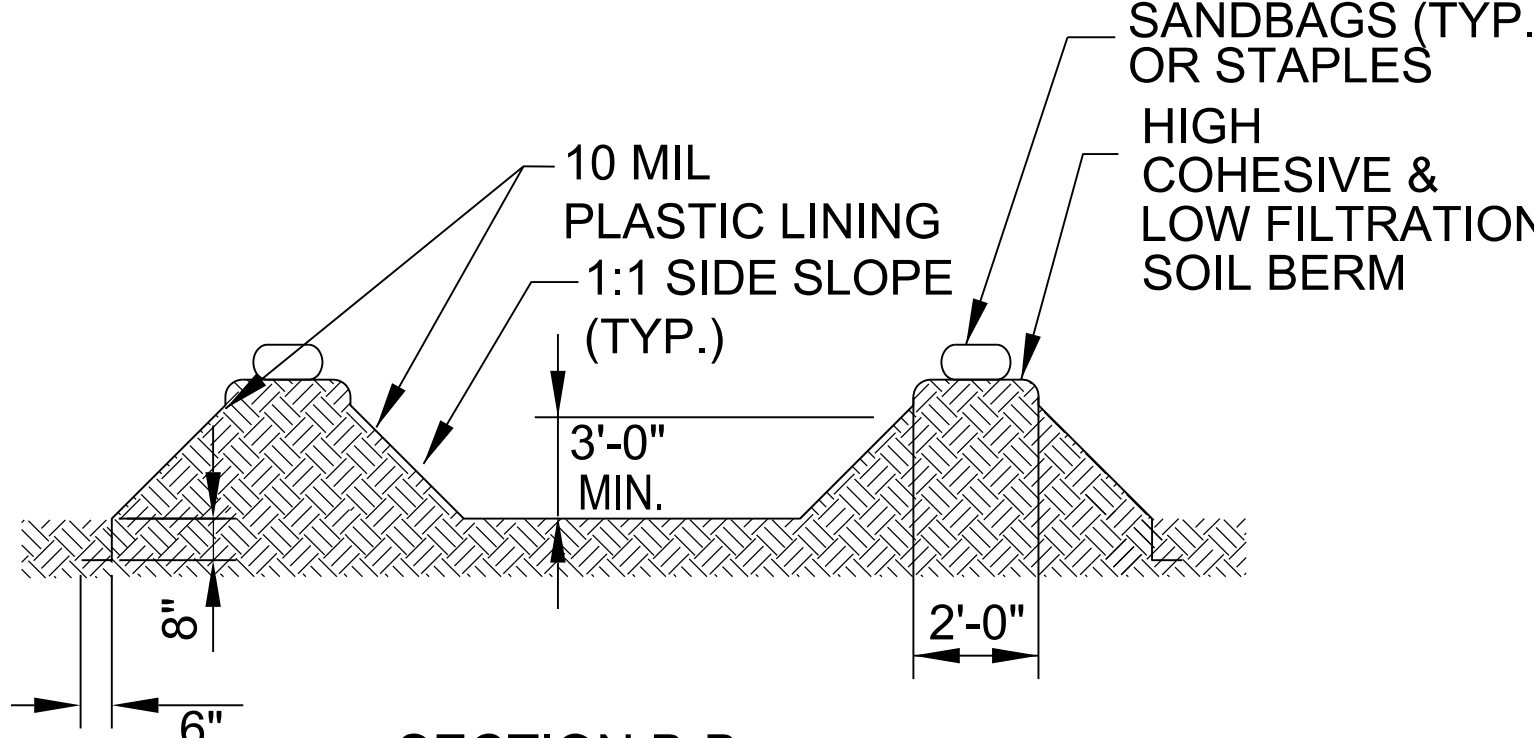
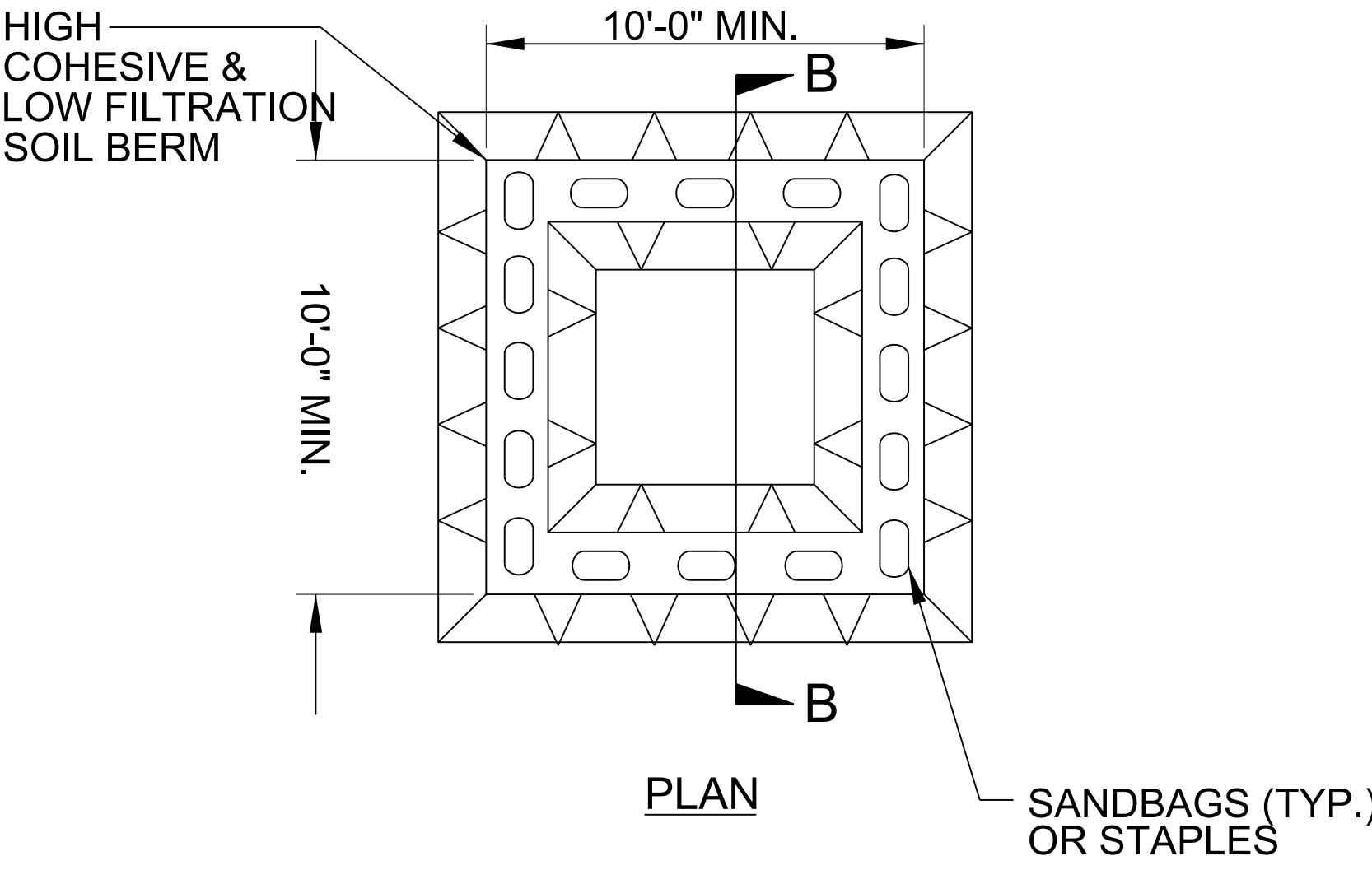


SECTION A-A

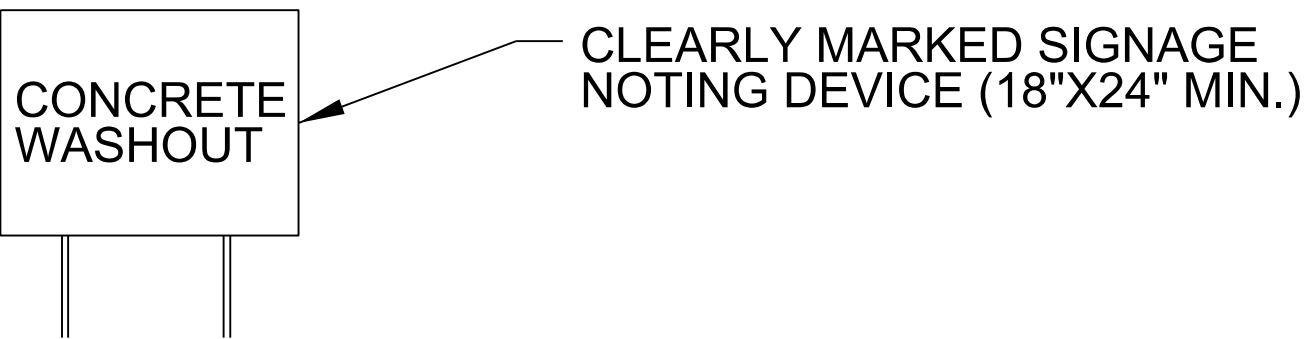


BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



SECTION B-B



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- 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 CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

SLOPE MATTING FOR EROSION CONTROL

[illegible]

MATTING FOR EROSION CONTROL

[illegible]

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

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

END THE PROJECT 0+0041
-L- POT STA. 34+40.00

BEGIN TIP PROJECT U-6041
-L- POC STA. 24+40.00

BRIAN K TEAGUE AND WIFE
JILL S TEAGUE
DB 418 PG 997

JEFFERY LEE STINE
DB 566 PG 2120
PB 13 PG 188

HAROLD ROGER TEETERS
AND WIFE, GAYNELL S TEETERS
DB 159 PG 482
PB 114 PG 39

-L- POC Sta. 28+63.97
-Y- POT Sta. 10+00.00

PT Sta. 30+44.51

PCC Sta. 28+99.13⁷⁰

15" WELBOW

1175°
1170
3
MT HERMAN PARSONAGE
DR. UNKNOWN

CONLEY LEWIS S
DB UNKNOWN

$$.34 + 95.99$$

NOTE: PLACE TEMPORARY ROADS AND TEMPORARY ROAD DRAINAGE OUTLETS.

DAVIE LYNN LITTLE AND WIFE
VIRGINIA STANLEY LITTLE
DB 571PG 523

CL 1 RIP RAP
EST 7 TONS
15 SY GEOTEXTILE

+69.18
70.00' RT

+ 94.71
59.82' RT

PC Sta. 10+66.63

5
BRENDA GOBLE F
BB 452 PG 512

PT Sta. 12+28.17

END CONSTRUCTION
-Y- POT STA. 12 + 50.00

POT Sta. 13+84.37

RONNIE J MCLELLAND
AND WIFE
MARY E MCLELLAND
DB 86 PG 173
DB 186 PG 773

JOYCE NORTON
AND KAREN JOHNSON
DB 586 PG
PB 11 PG 2

DETAIL 04F
TOE PROTECTION
(Not to Scale)

The diagram illustrates the installation of a rip-rap liner on a slope. It shows a cross-section of the slope with a horizontal distance b and a vertical distance d . The slope is labeled "2:1 or Flatter Fill Slope". The rip-rap layer is shown as a horizontal line with a dashed line underneath it labeled "Geotextile". The "Natural Ground" is indicated by a line above the rip-rap. The dimensions are given as $d = 1.0 \text{ Ft.}$ and $b = 3.0 \text{ Ft.}$. The type of liner is specified as "CL B Rip-Rap".

FROM STA. 10+45 TO STA. 12+00 -Y- LT
EST 48 TONS
180 SY GEOTEXTILE

 PAVEMENT REMOVAL

SEE SHEET 5 FOR -L- AND -Y- PROFILES

8/17/99
2/13/2025
K:\NCE\HIS\p\N18024.U-6041.Alexander\Erosion Control\CADD\U6041_EC05_psh_04.dgn
MT ENGINEERING - HUNTER

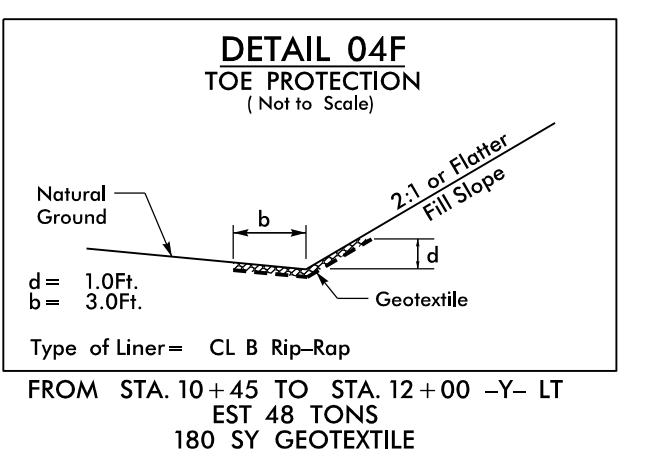
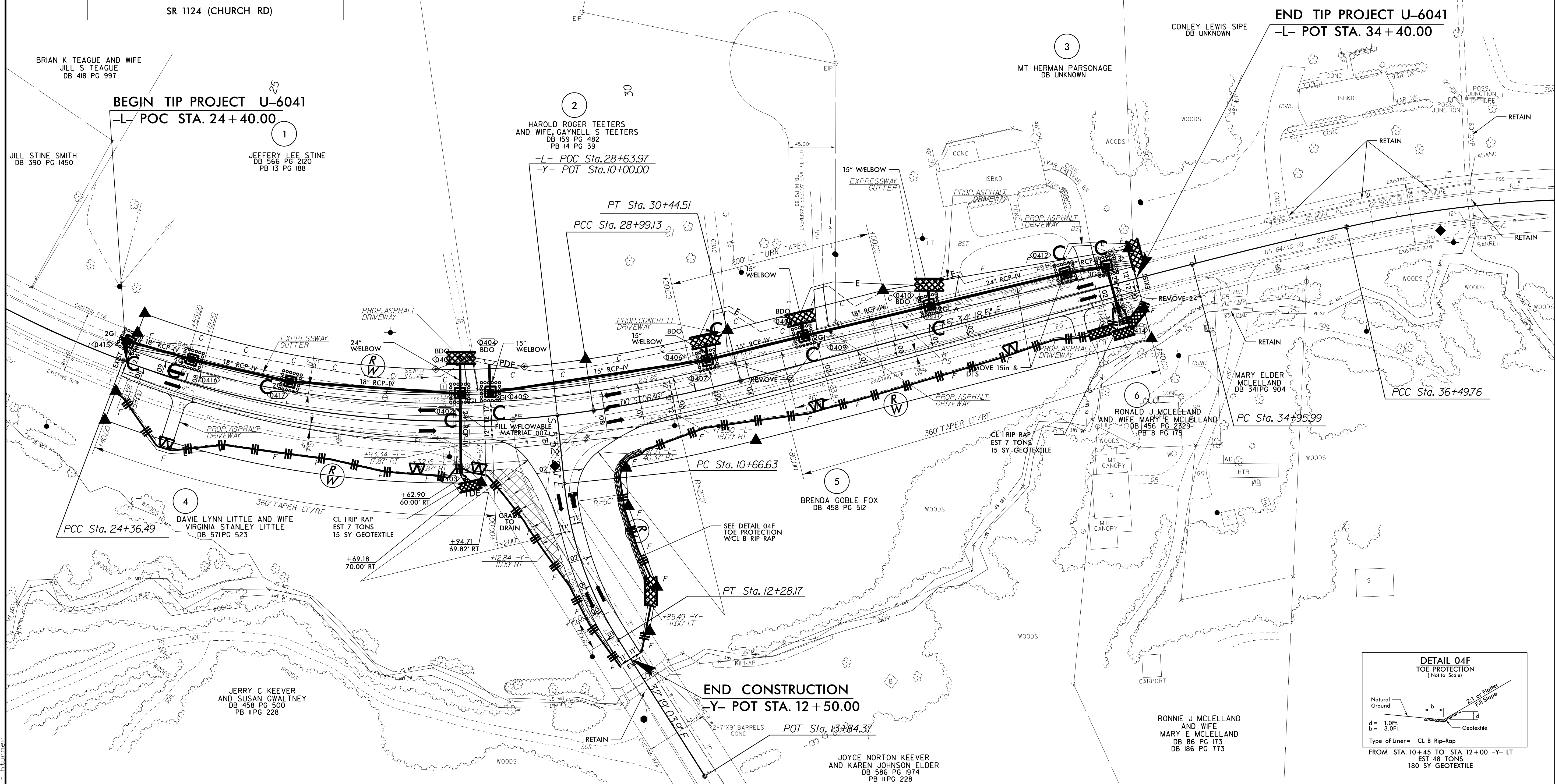
AVERAGE DAILY TRAFFIC	
## NO. OF VEHICLES PER DAY (VPD)	
2025	
2045	
8300	7800
9200	8600
<div><div><div>-L-</div><div>US 64 / NC 90</div><div>900</div><div>400</div><div>1000</div><div>400</div></div><div><div>1300</div><div>1400</div></div></div>	
SR 1124 (CHURCH RD)	

-L-					
PI Sta 22+83.00 $\Delta = 15^{\circ}23'15.7"$ (LT) $D = 4^{\circ}58'56.1"$ $L = 308.85'$ $T = 155.36'$ $R = 1,150.00'$ $e = \text{EXIST}$ $RO = \text{EXIST}$	PI Sta 26+73.04 $\Delta = 29^{\circ}27'08.3"$ (LT) $D = 6^{\circ}21'58.3"$ $L = 462.64'$ $T = 236.55'$ $R = 900.00'$ $e = .08$ $RO = 288$	PI Sta 29+71.88 $\Delta = 5^{\circ}44'41.3"$ (LT) $D = 3^{\circ}57'05.2"$ $L = 145.39'$ $T = 72.75'$ $R = 1,450.00'$ $e = \text{EXIST}$ $RO = \text{EXIST}$	PI Sta 35+72.88 $\Delta = 1^{\circ}45'43.5"$ (RT) $D = 1^{\circ}08'45.3"$ $L = 153.77'$ $T = 76.89'$ $R = 5,000.00'$ $e = \text{EXIST}$ $RO = \text{EXIST}$	PI Sta 39+16.69 $\Delta = 27^{\circ}16'46.0"$ (RT) $D = 5^{\circ}12'31.3"$ $L = 523.73'$ $T = 266.93'$ $R = 1,100.00'$ $e = \text{EXIST}$ $RO = \text{EXIST}$	PI Sta 11+48.87 $\Delta = 26^{\circ}26'36.7"$ (LT) $D = 16^{\circ}22'12.8"$ $L = 161.53'$ $T = 82.23'$ $R = 350.00'$ $e = .02$ $RO = 54'$
* DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE RADIUS AND STOPPING SIGHT DISTANCE					

-Y-
PI Sta 11+48.87
 $\Delta = 26^{\circ}26'36.7"$ (LT)
 $D = 16^{\circ}22'12.8"$
 $L = 161.53'$
 $T = 82.23'$
 $R = 350.00'$
 $e = .02$
 $RO = 54'$

NAD 83NA 2011

PROJECT REFERENCE NO.		SHEET NO.	
U-6041		EC-05/CONST.04	
RW SHEET NO.		HYDRAULICS	
ROADWAY DESIGN ENGINEER			
CDM Smith		MI Engineering, PLLC	



Place Matting for Erosion Control on Slope as Work Allows.
Sta. 10+50 to Sta. 12+50 -Y- Lt
Sta. 29+50 to Sta. 30+50 -L- Rt

SEE SHEET 5 FOR -L- AND -Y- PROFILES

04/16/25
pwa\US6041
pwa\US6041

CONTRACT: DL00352 TIP PROJECT: U-6041

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
ALEXANDER COUNTY

LOCATION: US 64/NC 90 AND SR 1124 (CHURCH RD)
ADD LEFT TURN LANE ON WESTBOUND US64/NC 90

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
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS

SUMMARY OF QUANTITIES

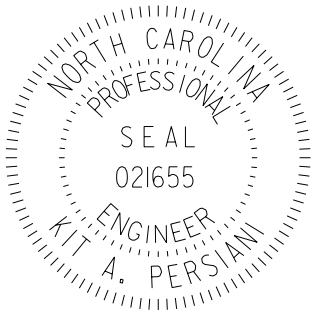
ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4025000000-E	901	CONTRACTOR FURNISHED, TYPE E SIGN	95	S.F.
4025000000-E	901	CONTRACTOR FURNISHED, TYPE F SIGN	60	S.F.
4072000000-E	903	SUPPORTS, 3-LB STEEL U-CHANNEL	260	L.F.
4102000000-N	904	SIGN ERECTION, TYPE E	23	EA.
4108000000-N	904	SIGN ERECTION, TYPE F	18	EA.
4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	16	EA.

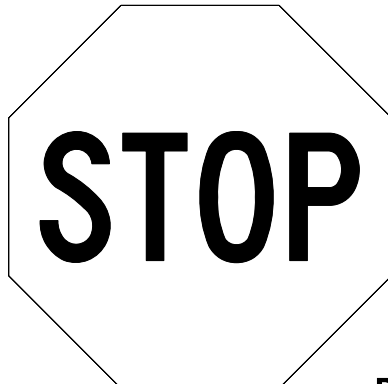

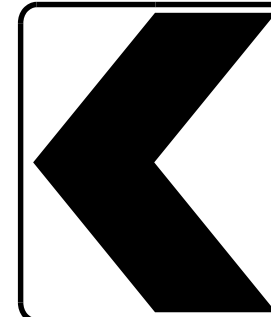
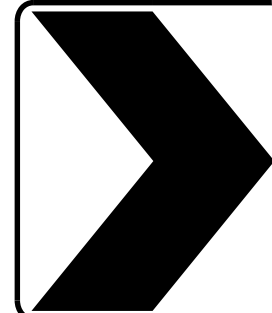

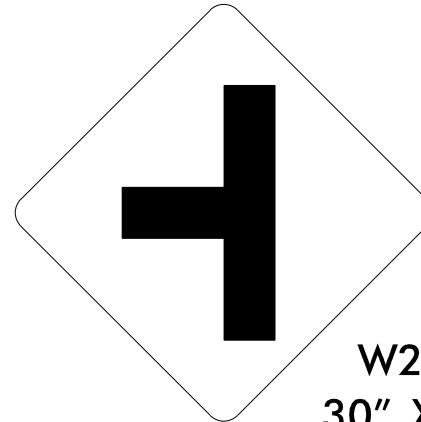
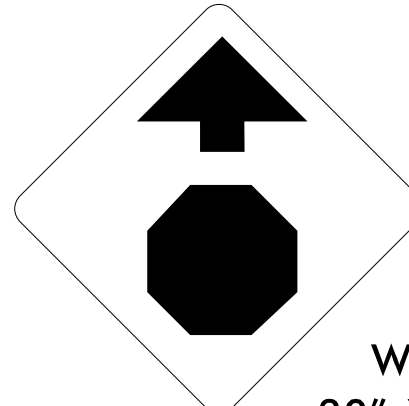
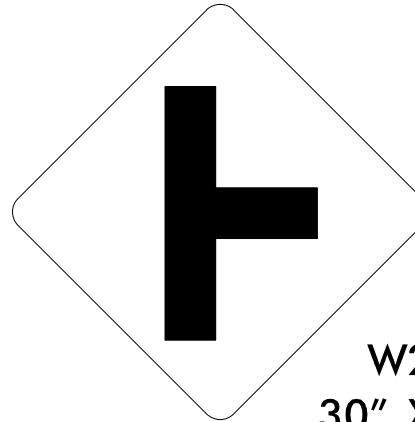
GENERAL NOTES

- 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.

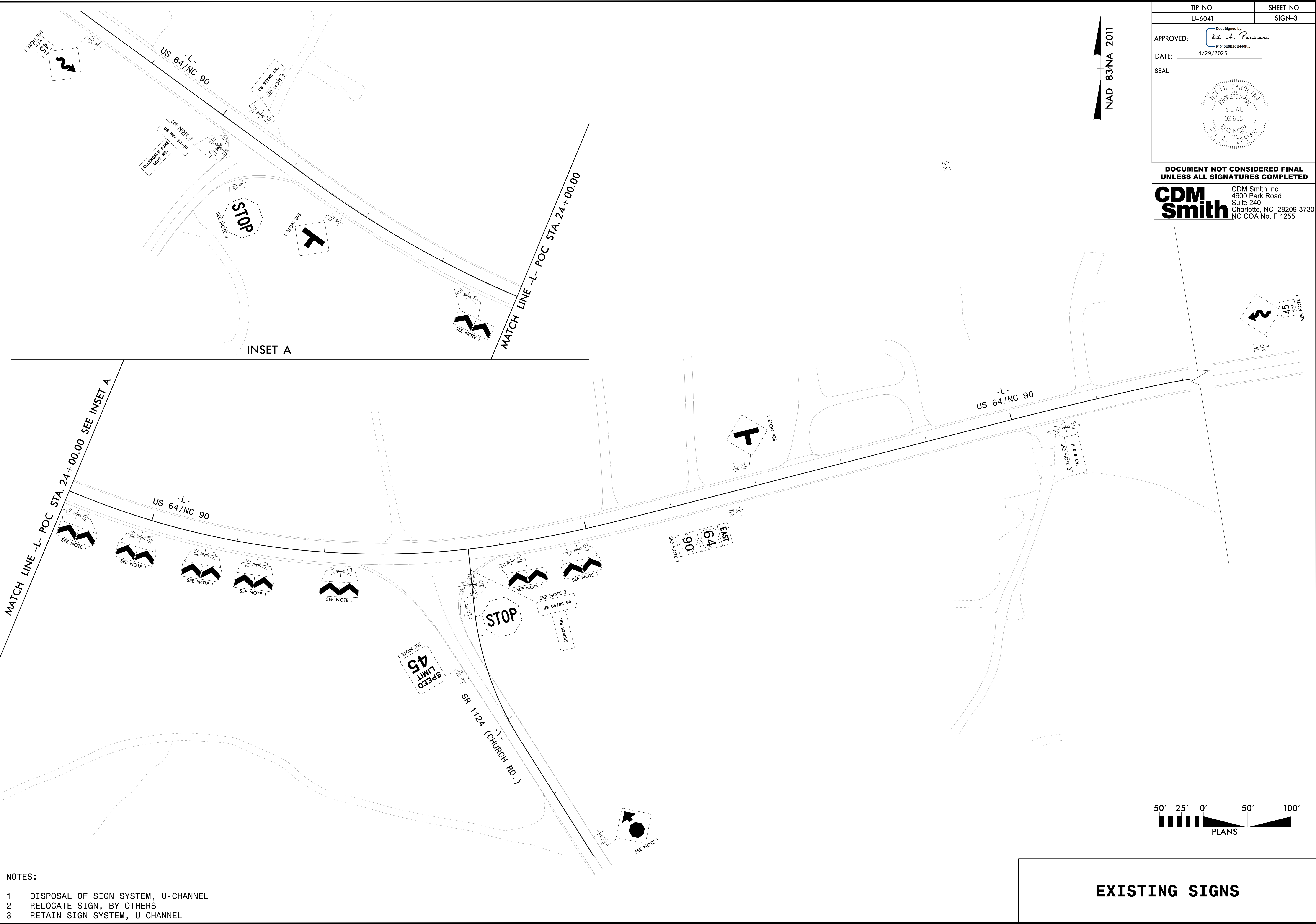
INDEX

SHEET NO.	DESCRIPTION
SIGN-1	SIGNING PLAN TITLE SHEET
SIGN-2	SIGN DESIGNS TYPE E AND F
SIGN-3	EXISTING SIGN SHEET
SIGN-4	PROPOSED SIGN SHEET

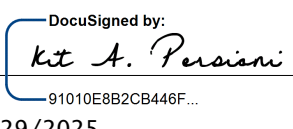
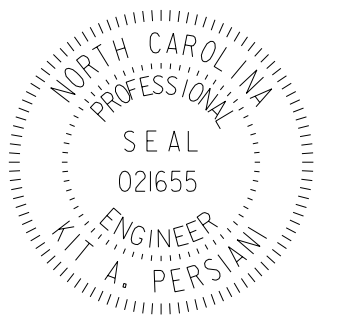
TIP NO.	SHEET NO.
U-6041	SIGN-1
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DATE:	4/29/2025
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

<div>401</div> <div>QUANTITY REQUIRED 1</div> <div><div>R1-1 30" X 30"</div><div>ONE "U" POST PER SIGN</div></div>		<div>402</div> <div>QUANTITY REQUIRED 2</div> <div><div><div>SPEED LIMIT 55</div><div>R2-1 24" X 30"</div></div><div>ONE "U" POST PER SIGN</div></div>		<div>403</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>SPEED LIMIT 45</div><div>R2-1 24" X 30"</div></div><div>ONE "U" POST PER SIGN</div></div>		<div>404</div> <div>QUANTITY REQUIRED 2</div> <div><div><div>W1-5L 30" X 30"</div></div><div>ONE "U" POST PER SIGN</div></div>		<div>405</div> <div>QUANTITY REQUIRED 6</div> <div><div><div>W1-8L 18" X 24"</div></div><div>ONE "U" POST PER SIGN</div></div>		<div>406</div> <div>QUANTITY REQUIRED 6</div> <div><div><div>W1-8R 18" X 24"</div></div><div>MOUNT SIGN 406 BACK-TO-BACK WITH SIGN 405 IN 6 INSTALLATIONS</div></div>		<div><div>TIP NO. U-6041</div><div>SHEET NO. SIGN-2</div></div> <div><div>DocuSigned by: <i>Kyle A. Persiani</i> 4/29/2025</div><div>APPROVED: _____ DATE: _____</div><div>SEAL </div><div><div>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</div><div><div>CDM Smith</div><div>CDM Smith Inc. 4600 Park Road Suite 240 Charlotte, NC 28209-3730 NC COA No. F-1255</div></div></div></div>	
<div>407</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>W2-2L 30" X 30"</div></div><div>ONE "U" POST PER SIGN</div></div>		<div>408</div> <div>QUANTITY REQUIRED 2</div> <div><div><div>45 M.P.H.</div><div>W13-1P 18" X 18"</div></div><div>MOUNT SIGN 408 BELOW SIGN 404 IN 2 INSTALLATIONS</div></div>		<div>409</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>W3-1 30" X 30"</div></div><div>ONE "U" POST PER SIGN</div></div>		<div>410</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>W2-2 30" X 30"</div></div><div>ONE "U" POST PER SIGN</div></div>							
<div>501</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>M2-1 21" X 15"</div><div>JCT</div><div>M2-1 21" X 15"</div></div><div><div>M1-4 24" X 24"</div><div>64</div><div>M1-5 24" X 24"</div></div><div><div>M1-4 24" X 24"</div><div>90</div><div>M1-5 24" X 24"</div></div><div>TWO "U" POSTS PER SIGN</div></div>		<div>502</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>M3-4 24" X 12"</div><div>WEST</div><div>M3-2 24" X 12"</div></div><div><div>M1-4 24" X 24"</div><div>64</div><div>M1-5 24" X 24"</div></div><div><div>M1-4 24" X 24"</div><div>64</div><div>M1-5 24" X 24"</div></div><div><div>M1-5 24" X 24"</div><div>90</div><div>M1-5 24" X 24"</div></div><div><div>M6-1L 21" X 15"</div><div>←</div><div>M6-1 21" X 15"</div></div><div><div>M6-1 21" X 15"</div><div>→</div><div>M6-1 21" X 15"</div></div><div>TWO "U" POSTS PER SIGN</div></div>		<div>503</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>M3-4 24" X 12"</div><div>WEST</div><div>M3-2 24" X 12"</div></div><div><div>M1-4 24" X 24"</div><div>64</div><div>M1-5 24" X 24"</div></div><div><div>M1-4 24" X 24"</div><div>64</div><div>M1-5 24" X 24"</div></div><div><div>M1-5 24" X 24"</div><div>90</div><div>M1-5 24" X 24"</div></div><div>ONE "U" POST PER SIGN</div></div>		<div>504</div> <div>QUANTITY REQUIRED 1</div> <div><div><div>M3-2 24" X 12"</div><div>EAST</div><div>M3-2 24" X 12"</div></div><div><div>M1-4 24" X 24"</div><div>64</div><div>M1-5 24" X 24"</div></div><div><div>M1-4 24" X 24"</div><div>64</div><div>M1-5 24" X 24"</div></div><div><div>M1-5 24" X 24"</div><div>90</div><div>M1-5 24" X 24"</div></div><div>ONE "U" POST PER SIGN</div></div>							
										TYPE "E" AND "F" SIGNS			

04/16/25
pw\scdm\smith-ez02-pw\bentley\compw_p11\Documents\117240\278264\10 Transportation\04 Client Folder Structure\U6041\Traffic\Signing\CADD\U6041.TMP_SGN_03.dgn
User: SABORP



- NOTES:
- 1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
 - 2 RELOCATE SIGN, BY OTHERS
 - 3 RETAIN SIGN SYSTEM, U-CHANNEL

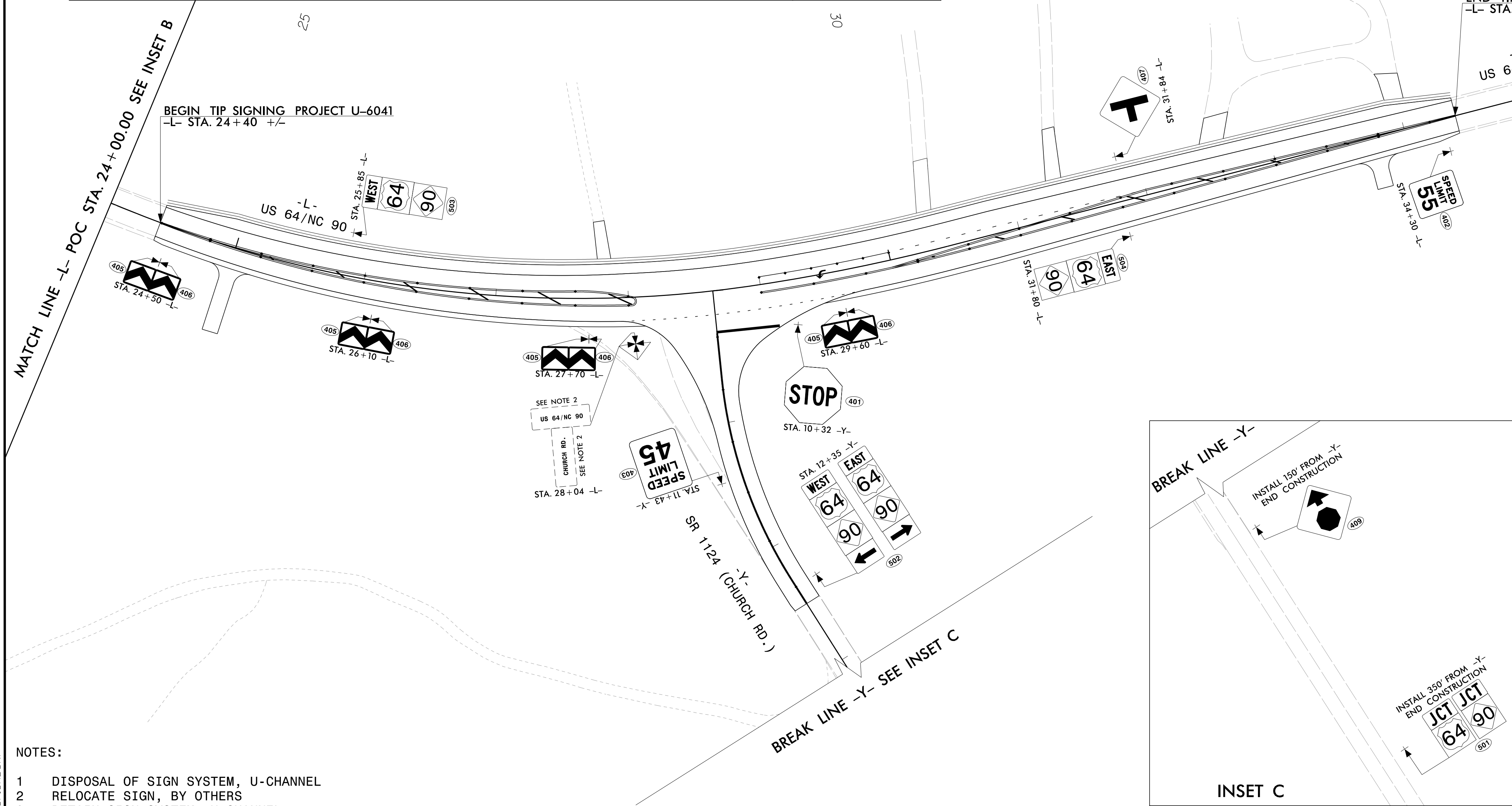
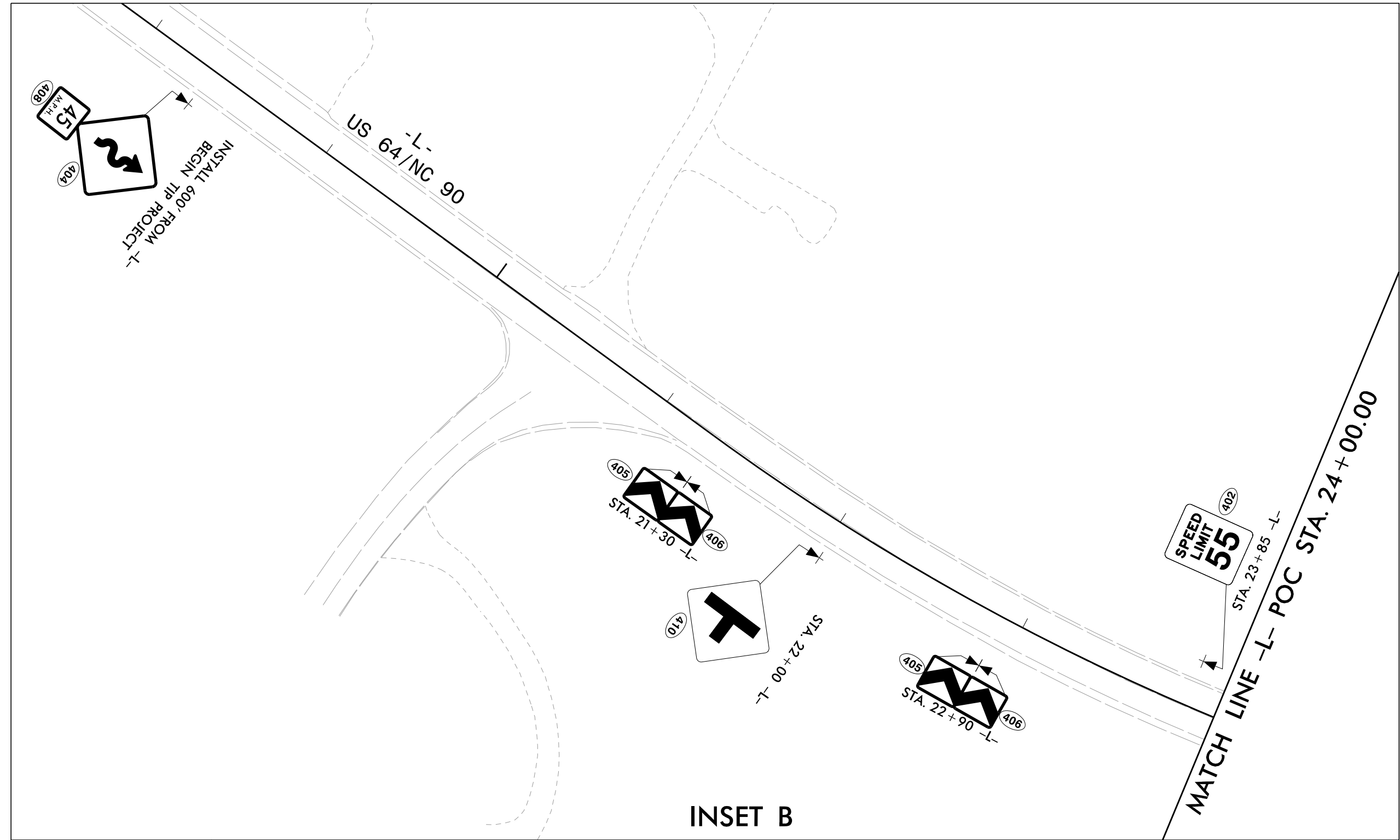
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DATE: 4/29/2025	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
CDM Smith CDM Smith Inc. 4600 Park Road Suite 240 Charlotte, NC 28209-3730 NC COA No. F-1255	

EXISTING SIGNS

04/16/25
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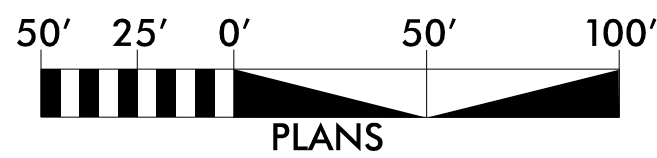
NOTES:

- 1 DISPOSAL OF SIGN SYSTEM, U-CHANNEL
- 2 RELOCATE SIGN, BY OTHERS
- 3 RETAIN SIGN SYSTEM, U-CHANNEL



NAD 83NA 2011

TIP NO. U-6041	SHEET NO. SIGN-4
APPROVED: <i>kt A. Persiani</i> 91010EB2CB446F...	
DATE: 4/29/2025	
SEAL 	
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CDM Smith CDM Smith Inc. 4600 Park Road Suite 240 Charlotte, NC 28209-3730 NC COA No. F-1255	



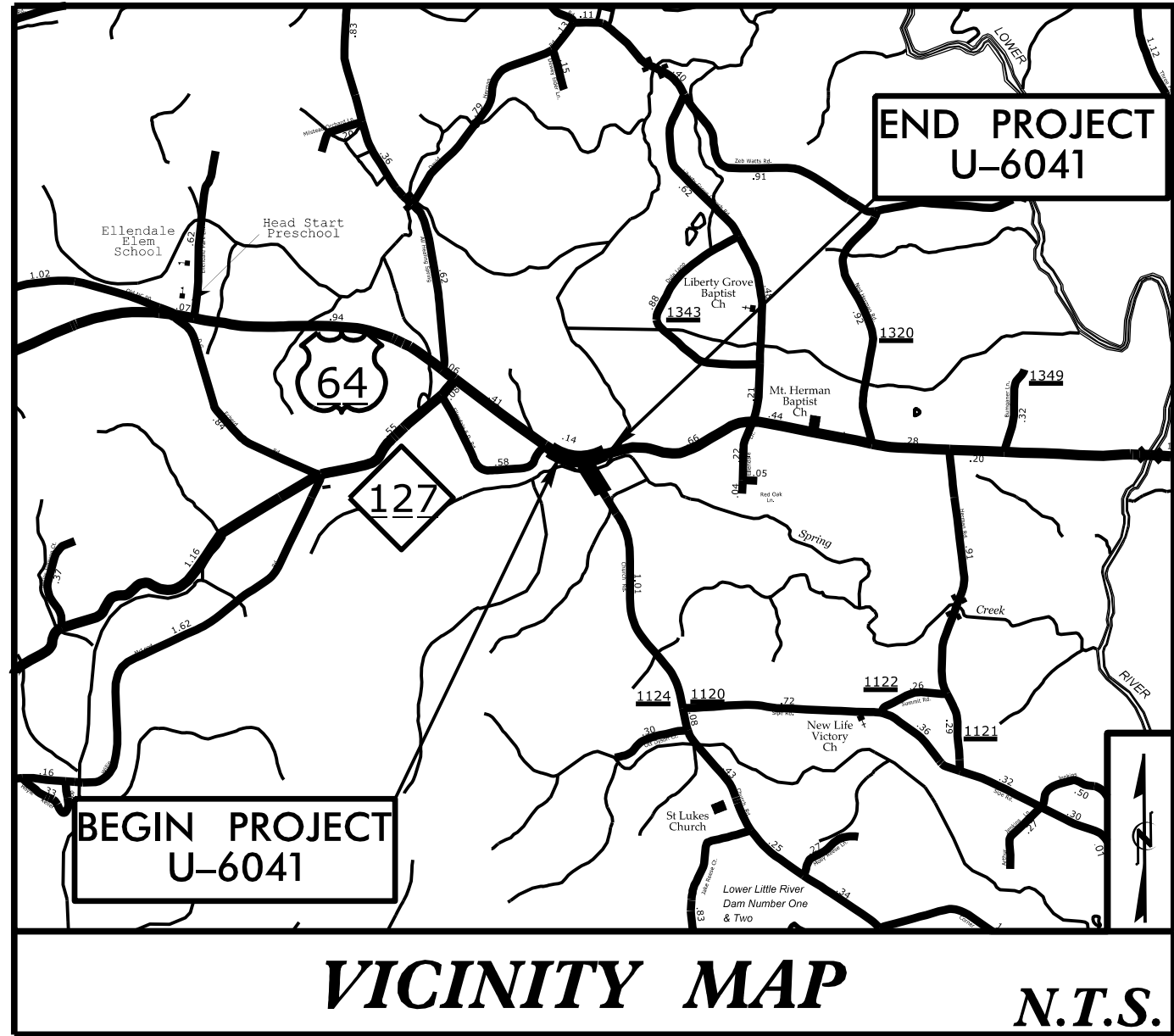
PROPOSED SIGNS

09.08/25

3/17/2025
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CONTRACT:

TIP PROJECT: U-6041

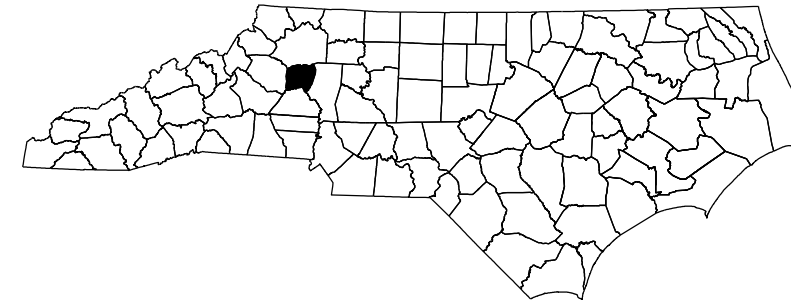


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

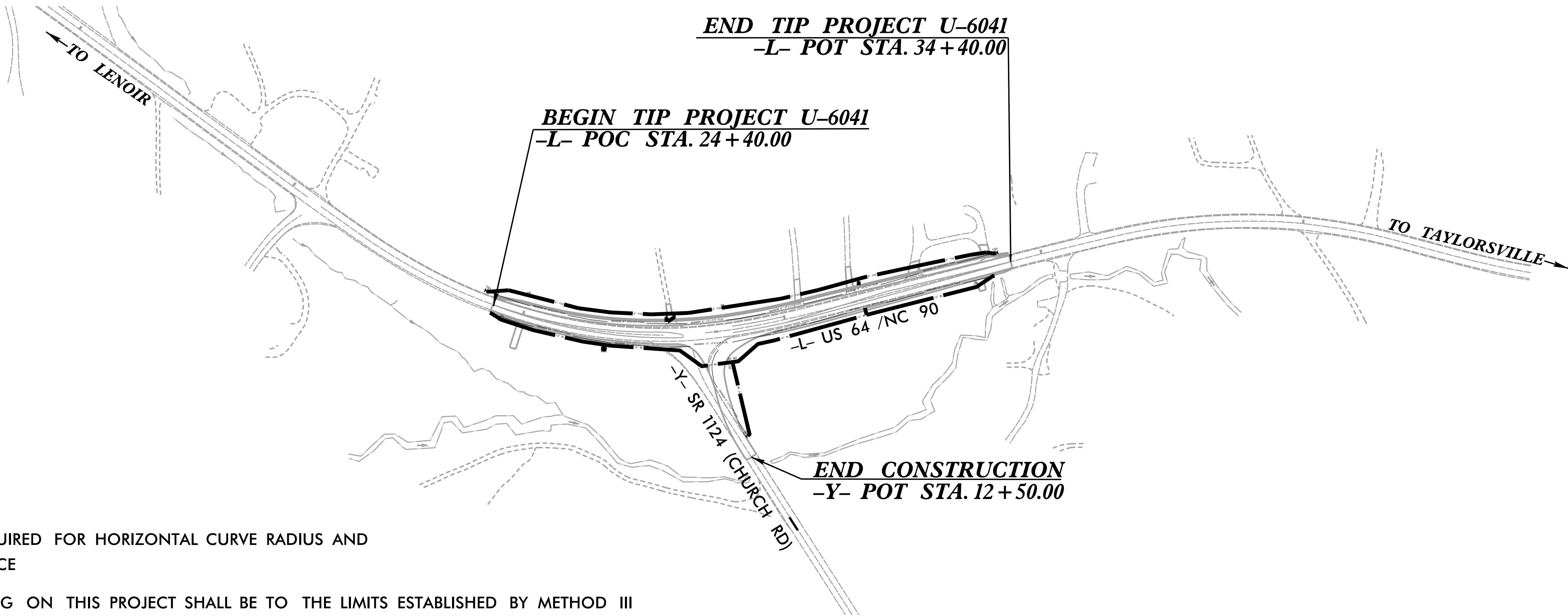
ALEXANDER COUNTY

LOCATION: US 64 /NC 90 AND SR 1124 (CHURCH RD)
ADD LEFT TURN LANE ON WESTBOUND US 64 /NC 90

TYPE OF WORK: SANITARY FORCE MAIN AND WATER MAIN



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6041	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
46979.1.1	N/A	PE	
46979.2.1	N/A	ROW	
46979.2.2	N/A	UTIL.	
46979.3.1	N/A	CONST.	

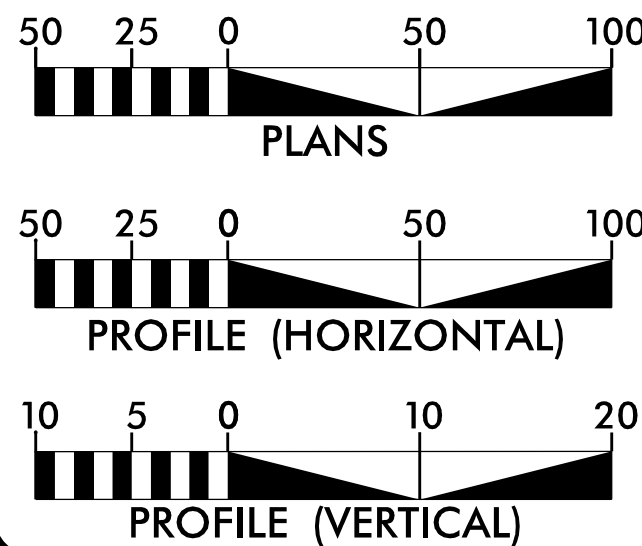


DESIGN EXCEPTION REQUIRED FOR HORIZONTAL CURVE RADIUS AND
STOPPING SIGHT DISTANCE

CLEARING AND GRUBBING ON THIS PROJECT SHALL BE TO THE LIMITS ESTABLISHED BY METHOD III
THIS PROJECT IS OUTSIDE OF ANY MUNICIPAL BOUNDARIES.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



WATER AND SEWER
OWNERS ON PROJECT

WATER - CITY OF HICKORY
SEWER - ALEXANDER COUNTY

INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY PLAN SHEET SYMBOLS
UC-3	UTILITY NOTE SHEET
UC-3A-3B	UTILITY DETAILS SHEET
UC-4	UTILITY CONSTRUCTION SHEET
UC-5-5A	UTILITY PROFILE SHEETS

Prepared In the Office of:
SAM
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2024 STANDARD SPECIFICATIONS

2641 Summer Boulevard
Suite 116
Raleigh, NC 27616
(919) 878-7466

RIGHT OF WAY DATE:
SEPTEMBER 10, 2024

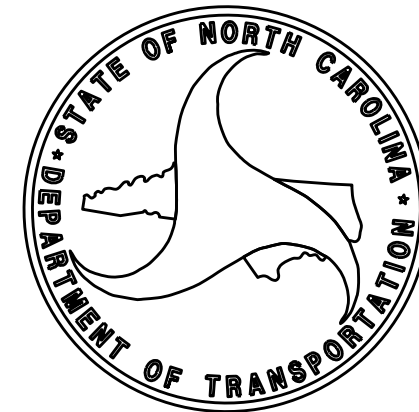
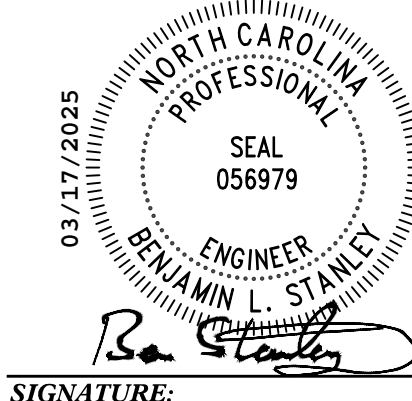
LETTING DATE:
JUNE 24, 2025

BENJAMIN STANLEY P.E.
PROJECT ENGINEER

BENJAMIN STANLEY P.E.
PROJECT DESIGN ENGINEER

BRYAN SOWELL, P.E.
NCDOT CONTACT

UTILITY ENGINEER



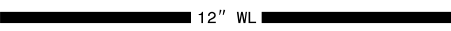

























STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

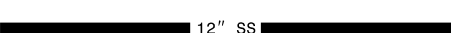
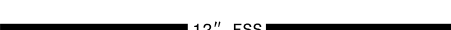


PROJECT REFERENCE NO. <i>U6041</i>		SHEET NO. <i>UC-2</i>	
DESIGNED BY: <i>BS</i>	<div>03/17/2025 NORTH CAROLINA PROFESSIONAL SEAL 056979 ENGINEER BENJAMIN L. STANLEY <i>B. Stanley</i></div>	DRAWN BY: <i>BS</i>	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

UTILITY CONSTRUCTION









PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS





















Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	




















PROPOSED MISCELLANOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

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	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	
End of Information	

*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	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*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) _____ P _____
Designated Utility Line (Type as Shown) _____ P _____

UTILITY CONSTRUCTION

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 OR ALEXANDER COUNTY SPECIFICATIONS WHICHEVER IS MORE STRINGENT.
2. THE EXISTING WATER AND SANITARY SEWER UTILITIES BELONG TO ALEXANDER COUNTY. THE CONTACT FOR ALEXANDER COUNTY IS JOSH MITCHELL AT (828)632-1101.
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.
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.
- 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.
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.
10. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SITE SAFETY ASSOCIATED WITH THE WORK UNDER THIS PROJECT AND FOR COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL HEALTH AND SAFETY LAWS, CODES, REGULATIONS, AND ORDINANCES INCLUDING BUT NOT LIMITED TO THOSE CURRENTLY MANDATED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
11. ALL EROSION CONTROL DEVICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MOST CURRENT STANDARDS OF THE LAND QUALITY SECTION OF THE NCDEQ.
12. ALL WORK MUST CARRY A ONE-YEAR WARRANTY TO COVER ALL DEFECTS IN MATERIALS AND WORKMANSHIP.
13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THERAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT.
20. CONTACTOR TO VERIFY SIZE OF SERVICE LINES.
21. BACTERIOLOGICAL TEST PORTS TO BE INSTALLED AT A MINIMUM OF EVERY 1000 FT OF WATER MAIN. FIRE HYDRANT MAY BE USED; HOWEVER, NOT PREFERRED.
22. WHEN TIE-IN IS GREATER THAN OR EQUAL TO 35 FT BACTERIOLOGICAL AND PRESSURE TEST IS REQUIRED. ANY TIE-IN LESS THAN 35 FT MUST BE VISUALLY INSPECTED AND SWABBED.
23. CONTRACTOR TO CONTACT CITY FIRE MARSHAL FOR BLASTING PERMIT.

PROJECT SPECIFIC NOTES:

- 1.ALL PROPOSED 8" WATER LINE AND PROPOSED 12" WATER LINE INSTALLED UNDER PAVEMENT SHALL BE D.I.R.J. (DUCTILE IRON RESTRAINED JOINT) PIPE. D.I.R.J. PIPE SHALL CONFORMS TO AWWA C151 AND MEET MINIMUM WORKING PRESSURE RATING OF 350 PSI WITH A SAFETY FACTOR OF 2. THE MATERIAL SHALL BE TESTED AND APPROVED FOR POTABLE WATER IN ACCORDANCE WITH NSF/ANSI 61. THE STANDARD SIZE FITTING SHALL CONFORM TO AWWA C110. ALL 12" WATER LINE NOT INSTALLED UNDER PAVEMENT SHALL BE DR 14 PVC PRESSURE CLASS 305 CONFORMING TO AWWA C900-16 SPECIFICATIONS. THE PIPE SIZES SHALL BE AS SHOWN IN THE PLAN SHEET UC-4.
- 2.PROPOSED SANITARY SEWER FORCE MAIN SHALL BE SDR 21 PVC PIPE WITH A PRESSURE RATING OF 200. THE PIPE SHALL MEET THE REQUIREMENTS, AS DEFINED IN ASTM D2241.SDR 21. THE PIPE SIZES SHALL BE AS SHOWN IN THE PLAN SHEET UC-4.

3. REMOVAL OF EXCAVATED MATERIALS AND DAILY CLEANUP OPERATIONS SHALL BE PERFORMED IN COMPLIANCE WITH THE SPECIFICATIONS AND TO THE SATISFACTION OF THE OWNER/ENGINEER, AND/OR NCDOT.
4. ALL DEBRIS SHALL BE REMOVED FROM THE SITE.
5. ALL TREE PROTECTION AND EROSION AND SEDIMENTATION CONTROLS SHALL BE IMPLEMENTED BEFORE CONSTRUCTION COMMENCES AND SHALL NOT BE REMOVED UNTIL RE-VEGETATION HAS BEEN ESTABLISHED.
6. ANY AGREEMENT BETWEEN THE CONTRACTOR AND PROPERTY OWNERS SHALL BE MADE IN WRITING AND COPIED TO THE OWNER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE ENGINEER WITH A SET OF SURVEY RECORD (AS-BUILT) DRAWINGS PREPARED BY A NORTH CAROLINA REGISTERED LAND SURVEYOR CERTIFYING THE ACCURACY OF THE SURVEY HORIZONTAL AND VERTICAL LOCATIONS TO ONE TENTH (0.10) OF A FOOT. SURVEY SHALL BE TIED TO THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83 FEET) HORIZONTALLY, AND ELEVATIONS SHALL BE NORTH AMERICAN VERTICAL DATUM (NAVd88). SURVEY POINT INFORMATION SHALL BE PROVIDED IN AN ELECTRONIC FORMAT FILE OR AN ASCII POINT TEXT FILE [X-Y-Z COORDINATES]. THESE DRAWINGS SHALL AT A MINIMUM SHOW THE FINAL ELEVATIONS AND HORIZONTAL LOCATIONS FOR THE FOLLOWING: ALL RELOCATIONS, INCLUDING VAULTS, BELOW GRADE FITTINGS, VALVES, WATER METERS AND BACKFLOW PREVENTION DEVICES ALONG THE WATER LINE ALIGNMENT. ALL SANITARY SEWER MANHOLE LOCATIONS, CLEANOUT LOCATIONS, AND ALL INVERT INFORMATION ALONG THE SANITARY SEWER ALIGNMENT. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A LETTER CERTIFYING TO THEIR COMPLIANCE WITH THE CONTRACT DRAWINGS.
8. CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING.
9. BORE PITS, TRENCHES AND ALL OTHER EXCAVATIONS WHERE SLOPE IS 1:1 OR STEEPER FROM EDGE OF ROADWAY MUST INCLUDE POSITIVE SHORING MEETING NCDOT AND OSHA REQUIREMENTS. ALL SHORING SYSTEMS MUST BE DESIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN NORTH CAROLINA.
10. BASE TOPOGRAPHIC SURVEY AND SUE SERVICES PROVIDED BY NCDOT.
11. RELOCATE ALL MAIL BOXES WITHIN LIMITS OF DISTURBANCE AS REQUIRED BY SECTION 107-11 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. COORDINATE THIS WORK WITH THE U.S. POSTAL SERVICE.
12. REMOVE AND RESET FENCES AS NOTED ON THE PLANS AND/OR AS DIRECTED BY THE INSPECTOR/NCDOT.
13. NOT ALL TREES OR VEGETATION ARE SHOWN ON DRAWINGS. DO NOT REMOVE VEGETATION OUTSIDE LIMITS OF DISTURBANCE. ANY TREES SCARRED DURING CONSTRUCTION SHALL HAVE THE SCARS TRIMMED AND PAINTED WITH ASPHALT-BASE TREE PAINT.

14. PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE OTHER EXISTING TREES AND SHRUBS AS DIRECTED. WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER. ALL TREE PROTECTION AND EROSION AND SEDIMENTATION CONTROLS SHALL BE IMPLEMENTED BEFORE CONSTRUCTION COMMENCES AND SHALL NOT BE REMOVED UNTIL RE-VEGETATION HAS BEEN ESTABLISHED.
15. SAWCUT EXISTING ASPHALT AND/OR CONCRETE SURFACES PRIOR TO REMOVAL UNLESS OTHERWISE DIRECTED BY THE INSPECTOR/NCDOT. SAW CUT WIDTH SHALL BE 1 FOOT MINIMUM FROM THE EXISTING EDGE OF PAVEMENT. SAW CUT PAVEMENT SHALL BE REPLACED AS WELL AS ADDITIONAL PAVEMENT REQUIRED TO TIE-IN TO FACE OF CURB AND GUTTER.
16. REPLACE ANY DISTURBED PAVEMENT FROM FINISHED GRADE TO THE SUB-GRADE. THE CONTRACTOR WILL CONSTRUCT THE BASE AND BINDER COURSES IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTION.THE CONTRACTOR SHALL PROVIDE TRANSITIONS (RAMPED ASPHALT) TO THE FINISH GRADE, TO PREVENT ABRUPT CHANGES IN THE RIDING SURFACE, IN CASE THE PLANTS ARE CLOSED AND ASPHALT IS UNAVAILABLE FOR THE FINAL SURFACE COURSE UNTIL LATE WINTER/EARLY SPRING. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL SURFACE COURSE.
17. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PLANS AND NOTES HEREIN NCDOT STANDARDS, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
18. CONTRACTOR SHALL INCLUDE REPLACEMENT OF DRIVEWAYS (CONCRETE, ASPHALT, GRAVEL, AND/OR DIRT AND ASSOCIATED CROSS DRAINS) IN THE LIMITS OF DISTURBANCE BACK TO EDGE OF RIGHT-OF-WAY.
19. CONTRACTOR SHALL USE ADEQUATE SHORING METHODS TO ENSURE: A. COMPLIANCE WITH OSHA REGULATIONS. B. PROTECTION OF EXISTING PAVEMENT AND ROAD SHOULDERS. C. CONSTRUCTION ACTIVITIES ARE CONFINED TO RIGHTS-OF-WAY OR EASEMENTS AS INDICATED.
20. CONTRACTOR TO REPAIR/REPLACE ALL MAINTAINED PAVEMENT DAMAGED BY CONSTRUCTION ACTIVITIES TO SATISFACTION OF NCDOT AND ALEXANDER COUNTY.
21. THE CONTRACTOR SHALL RECONSTRUCT ALL ROAD SHOULDERS, DRAINAGE DITCHES AND SWALES DISTURBED BY CONSTRUCTION ACTIVITIES TO THEIR ORIGINAL GRADE AND LOCATION.
22. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH NCDOT SPECIFICATIONS AND REQUIREMENTS.
23. ALL HOLES, TRENCHES, AND OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY BARRICADES, LIGHTS OR OTHER PROTECTIVE DEVICES.
24. TAKE PROPER PRECAUTIONS NOT TO DISTURB EXISTING PROPERTY CORNERS. ANY NECESSARY REMOVAL AND RESETTING OF PROPERTY IRONS SHALL BE DONE BY A REGISTERED LAND SURVEYOR LICENSED IN NORTH CAROLINA.

UTILITIES:

1. PRIOR TO CONSTRUCTION, NOTIFY ALL UTILITY OWNERS WHOSE FACILITIES MAY BE AFFECTED TO DETERMINE UTILITY LOCATIONS. THE CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE CAUSED BY HIS OPERATIONS OR THOSE OF HIS AGENTS. THE CONTRACTOR SHALL HOLD ALEXANDER COUNTY HARMLESS FOR ANY THIRD-PARTY INCONVENIENCE CREATED BY WORK OF HIS OWN FORCES OR THAT OF HIS AGENTS.
2. IN THE EVENT OF DAMAGE TO EXISTING UTILITIES, CONTRACTOR SHALL STOP WORK IMMEDIATELY. TAKE NECESSARY PRECAUTIONS TO PREVENT INJURY OR FURTHER DAMAGE, AND NOTIFY PROPER AUTHORITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING/REPAIRING ALL EXISTING STRUCTURES, CONDUITS, OR OTHER UTILITIES DAMAGED BY CONTRACTOR'S OPERATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.
- FOR UTILITY LOCATE MEMBERS, CALL NORTH CAROLINA ONE-CALL (NC811) @ 1-800-632-4949. FOR LOCATES OF UTILITIES NOT MEMBERS OF NORTH CAROLINA ONE-CALL (NC811) CONTACT THE SPECIFIC UTILITY COMPANY DIRECTLY.
3. CONTRACTOR SHALL ANTICIPATE HAND DIGGING AROUND EXISTING WATER SERVICES, SANITARY SEWER LATERALS, AND OTHER UTILITIES.
4. FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS. SUBMITTED SEPARATELY.
5. FOR TRAFFIC CONTROL PLANS, SEE TRANSPORTATION MANAGEMENT PLANS. SUBMITTED SEPARATELY.
6. CONTRACTOR SHALL COORDINATE CONNECTIONS AND ANY WATER SERVICE SHUT DOWNS AND PROVIDE 24 HOURS OF NOTICE TO ALEXANDER COUNTY PUBLIC WORKS.
7. MAINTAIN SANITARY SEWER SERVICE AT ALL TIMES. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO ALEXANDER COUNTY PUBLIC WORKS.
8. PLUG ALL PIPE OPENINGS AND FILL ANY EXPOSED TRENCHES AT THE END OF THE DAY.
- WATER & SEWER:
1. ALL MATERIAL AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF HICKORY STANDARD SPECIFICATIONS, OR NCDOT DESIGN STANDARDS, DETAILS AND SPECIFICATIONS
2. UTILITY SEPARATION REQUIREMENTS:

a) A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER AND ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVIOR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED AND INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.

b) WHEN INSTALLING WATER AND/OR SEWER MAINS, THE LATERAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS EQUATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH AND MUST BE APPROVED BY CITY OF HICKORY AND/OR NCDOT. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.

- c) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED AND INSTALLED TO WATERLINE SPECIFICATIONS.
- d) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATER MAIN AND RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER AND RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS AND A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE.
- e) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER AND SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF AN AMENDED PLAN AND/OR PROFILE BY ALEXANDER COUNTY PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL MAINTAIN CONTINOUS WATER AND SEWER SERVICE TO EXISTING RESIDENCES, BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 5 DAYS ADVANCE NOTICE TO ALEXANDER COUNTY PUBLIC WORKS.
5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS AND SEWER FORCE MAINS.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER AND SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY ALEXANDER COUNTY PUBLIC WORKS. THIS INCLUDES ABANDONING TAP AT MAIN AND REMOVAL OF SERVICE FROM ROW OR ENCASEMENT.
7. INSTALL WATER SERVICE LINES WITH METERS LOCATED AT ROW.
8. CONTRACTOR TO KEEP WATER METER, VALVE BOXES, AND SEWER CLEANOUTS ACCESSIBLE TO ALEXANDER COUNTY PUBLIC WORKS AT ALL TIMES.
9. TAPPING SLEEVES AND VALVES TO BE FULL BODY CAST AND OF ALL SAME MATERIAL, INCLUDING FLANGE.
10. REPLACE ALL SEWER SERVICES BACK TO MAIN.
11. SEWER CLEANOUTS INSIDE THE WORK AREA ARE TO BE RELOCATED.
- 12.NOT ALL SEWER SERVICES MAY HAVE BEEN LOCATED OR SHOWN ON DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING/RE-CONNECTING EXISTING SEWER SERVICES TO NEW SEWER INFRASTRUCTURE THAT IS DISTURBED AND/OR REQUIRED TO BE RELOCATED DUE TO CONSTRUCTION ACTIVITY, COMPLETE.
13. CONDITION OF GRAVITY SEWER MANHOLES ARE UNKNOWN. CONTRACTOR TO DETERMINE IF CONDITION IS SUITABLE TO TIE INTO.
14. CONTRACTOR SHALL ABANDON EXISTING WATER MAIN IN PLACE EXCEPT WHERE REMOVAL IS REQUIRED FOR PROPOSED WORK OR WHERE NOTED. WITHIN THE RIGHT-OF-WAY OF NCDOT MAINTAINED ROADS, CONTRACTOR SHALL FILL ABANDONED WATER MAINS WITH GROUT OR FLOWABLE FILL. ABANDON EXISTING WATER MAINS PER NCDOT 2018 STANDARD SPECIFICATION SECTION 1530-3A.
15. ALL EXISTING WATER METERS, VALVE BOXES, AND SEWER CLEANOUTS THAT ARE WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISHED GRADE

UTILITY CONSTRUCTION

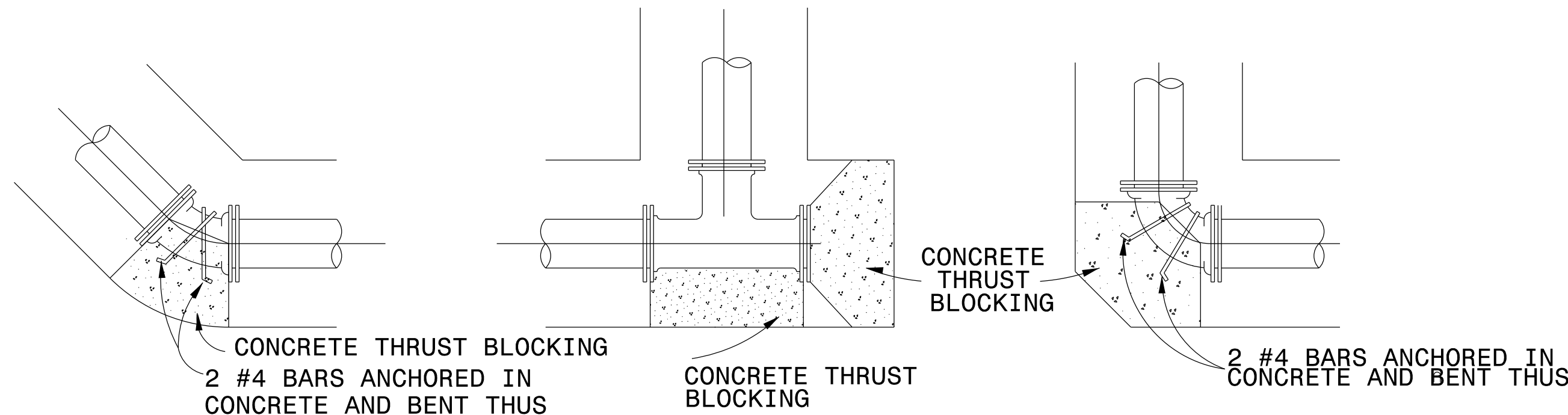
16. EXISTING WATER MAIN SHALL REMAIN IN SERVICE UNTIL PROPOSED WATER MAIN HAS BEEN TESTED, DISINFECTED AND APPROVED.
17. FOR ALL WATER SERVICES TO BE CONNECTED TO THE PROPOSED WATER MAIN, CONTRACTOR SHALL REPLACE ALL WATER SERVICE PIPING WHICH IS NOT TYPE K COPPER OR IS IN POOR CONDITION, AS DIRECTED BY THE ENGINEER. TO DETERMINE WATER SERVICE PIPING MATERIAL AND CONDITION, CONTRACTOR SHALL EXPOSE, IN THE PRESENCE OF THE ENGINEER, EACH WATER SERVICE AT THE TIE TO THE EXISTING MAIN, APPROXIMATELY TWO FEET FROM THE METER ON THE WATER MAIN SIDE, AND APPROXIMATELY TWO FEET FROM THE METER BOXES ON THE SERVICE SIDE.
18. WATER VALVES ABANDONED IN PLACE SHALL BE ABANDONED IN THE CLOSED POSITION. ABANDON VALVES BY REMOVING VALVE BOX AND BACKFILLING WITH APPROVED MATERIAL.
19. PROVIDE CONCRETE THRUST BLOCKS AT ALL WATER MAIN BENDS, TEES, AND CAPS UNLESS OTHERWISE NOTED.
20. FOR ALL WATER SERVICES DISTURBED BY CONSTRUCTION, IF THE WATER SERVICE IS ACTIVE, THEN RECONNECT; IF THE WATER SERVICE IS INACTIVE, THEN REMOVE. REMOVAL SHALL INCLUDE TURNING OFF CORPORATION COCK AT THE MAIN AND PHYSICALLY CUTTING THE PIPE AT THE MAIN.
21. RELOCATED WATER METERS SHALL BE REMOVED AND RETURNED TO OWNER IF REQUESTED.
22. RELOCATED HYDRANTS SHALL BE REMOVED AND RETURNED TO OWNER IF REQUESTED.
23. ALL GALVANIZED WATER SERVICES SHOULD BE REPLACED BACK TO MAIN WITH TYPE K COPPER TUBING AND APPURTENANCES.
24. ALL WATER SERVICE CONNECTION EXTENSIONS SHOULD BE OF LIKE KIND MATERIAL, EXCEPT GALVANIZED SERVICES (TO BE REPLACED).
25. CONTRATOR IS RESPONSIBLE FOR PRESSSURE TESTING AND BACTERIA TESTING.

LIST OF STANDARD DRAWINGS

1515.01 WATER METER

1515.02 FIRE HYDRANT

PROJECT REFERENCE NO.		SHEET NO.	
U6041		UC-3	
DESIGNED BY:	BS	<div><div>03/17/2025</div><div><div>NORTH CAROLINA PROFESSIONAL SEAL 056979</div><div>ENGINEER BENJAMIN L. STANLEY</div></div></div>	<div>UTILITY CONSTRUCTION PLANS ONLY</div>
DRAWN BY:	BS		
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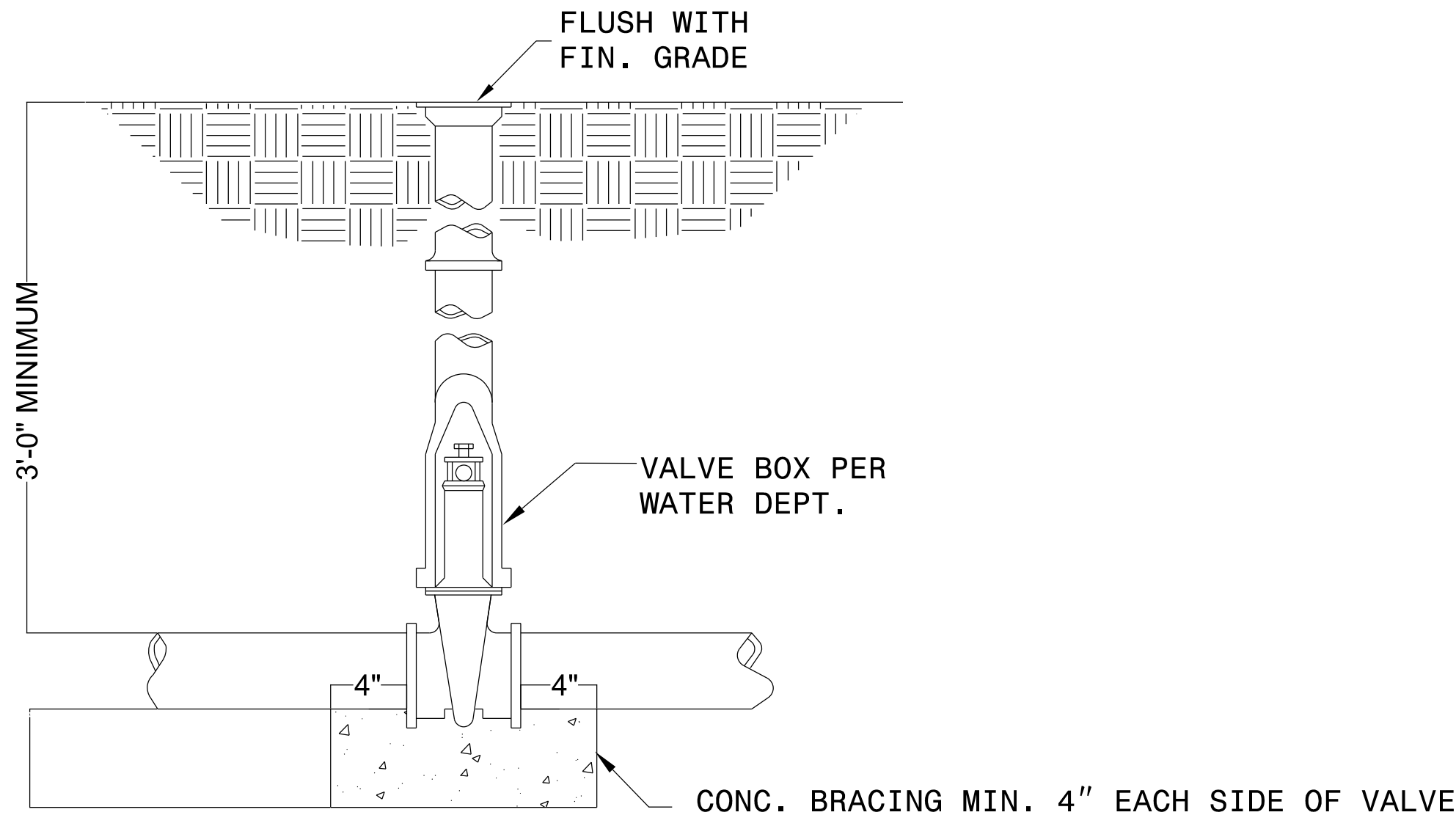
CONCRETE TO BE PLACED BETWEEN FIRM EARTH OF TRENCH AND PIPE AT ALL TEES AND BENDS.

TYPICAL THRUST BLOCKING INSTALLATIONS
NO SCALE

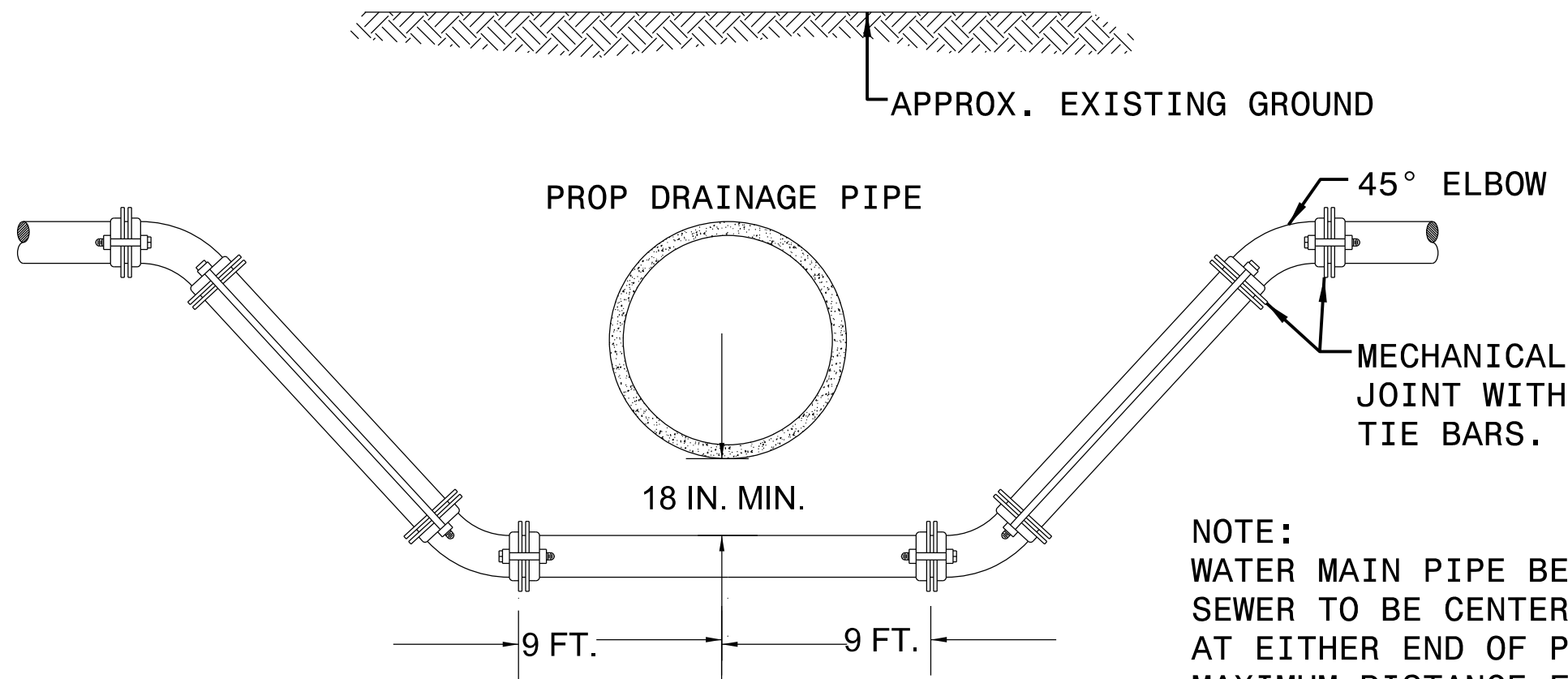
NOTE: INSTALLATION OF THRUST BLOCKING INCIDENTAL TO CONSTRUCTION OF WATER MAIN.

PIPE SIZE	BLOCKING FOR PLUGS & ENDS				
	PLUG	90°	45°	22 1/2°	11 1/4°
4"	2	3	2	1	1
6"	2	3	2	1	1
8"	3	5	3	2	2
10"	6	8	5	3	2
12"	9	13	7	4	3
16"	15	21	11	6	3
24"	34	48	25	14	7

BLOCKING FOR TEES & WYES	
SIZE OF BRANCH	OUTSIDE FACE AREA (SQ. FT)
6" OR LESS	2
8"	3
10"	6
12"	9
16"	15
24"	34

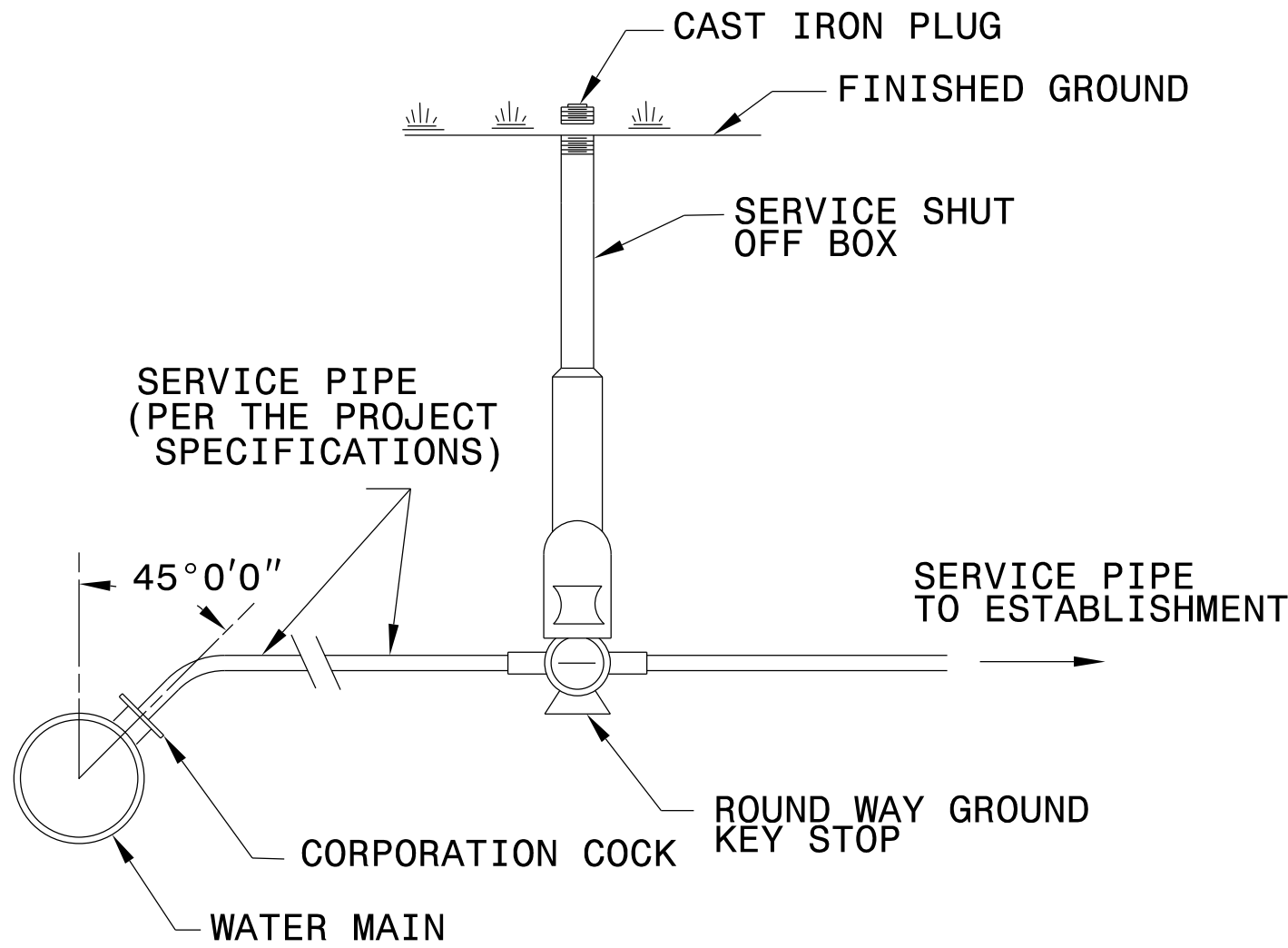


WATER VALVE DETAIL
NOT TO SCALE



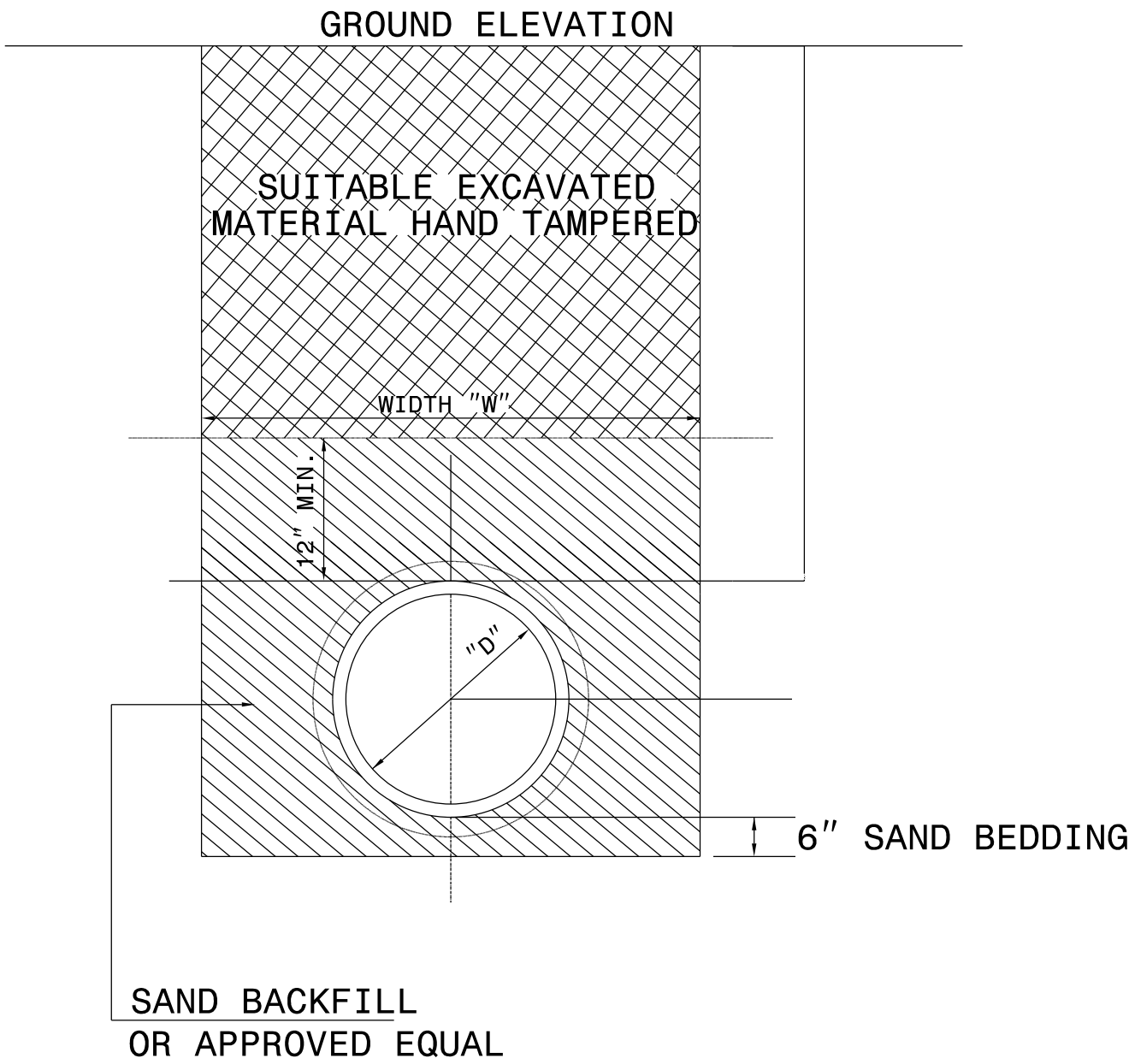
NOTE:
WATER MAIN PIPE BENEATH PROPOSED SEWER TO BE CENTERED SO THAT JOINTS AT EITHER END OF PIPE ARE AT MAXIMUM DISTANCE FROM SEWER.

WATER PIPE CROSSING STORM DRAIN
NOT TO SCALE



WATER SERVICE CONNECTION
NO SCALE

- 1) WHEN CONNECTING EXISTING SERVICE TO NEW MAIN, EXISTING SERVICE BOX & ACCESSORIES ARE TO BE USED & ADAPTER FITTINGS INSTALLED.
- 2) SERVICE SHUT OFF BOX: TYLER 95E OR APPROVED EQUAL (UP TO 2") APPROVED EQUAL (GREATER THAN 2") TYLER 666S ADJUSTABLE 2 PIECE BOX OR ADJUST BOX 45"-66"; BOX SHALL BE TYLER OR APPROVED EQUAL.
- 3) ROUND WAY GROUND KEY STOP: 1" MUELLER ORISEAL 3H-1504-2 OR APPROVED EQUAL.
- 4) CORPORATION COCK: 1" MUELLER ORICORP H-15008 OR APPROVED EQUAL. MUELLER CC THREADS x 1" COPPER COMPRESSION OR APPROVED EQUAL.
- 5) CONTRACTOR SHALL SUPPLY CURB BOX KEY (TYLER T537), CURB BOX CLAM (POLLARD P527), AND WRENCH (POLLARD P54102) FOR EACH TEN BOXES OR LESS (OR APPROVED EQUALS).



WATER/FORCE MAIN PIPE TRENCH
NOT TO SCALE

MAXIMUM TRENCH WIDTH AT TOP OF PIPE			
NOMINAL PIPE SIZE (IN)	TRENCH WIDTH (IN)	NOMINAL PIPE SIZE (IN)	TRENCH WIDTH (IN)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		

PROJECT REFERENCE NO.
U604I

SHEET NO.
UC-3A

DESIGNED BY: *BS*

DRAWN BY: *BS*

CHECKED BY: *DH*

APPROVED BY: *BS*

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

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

03/17/2025

SEAL
056979

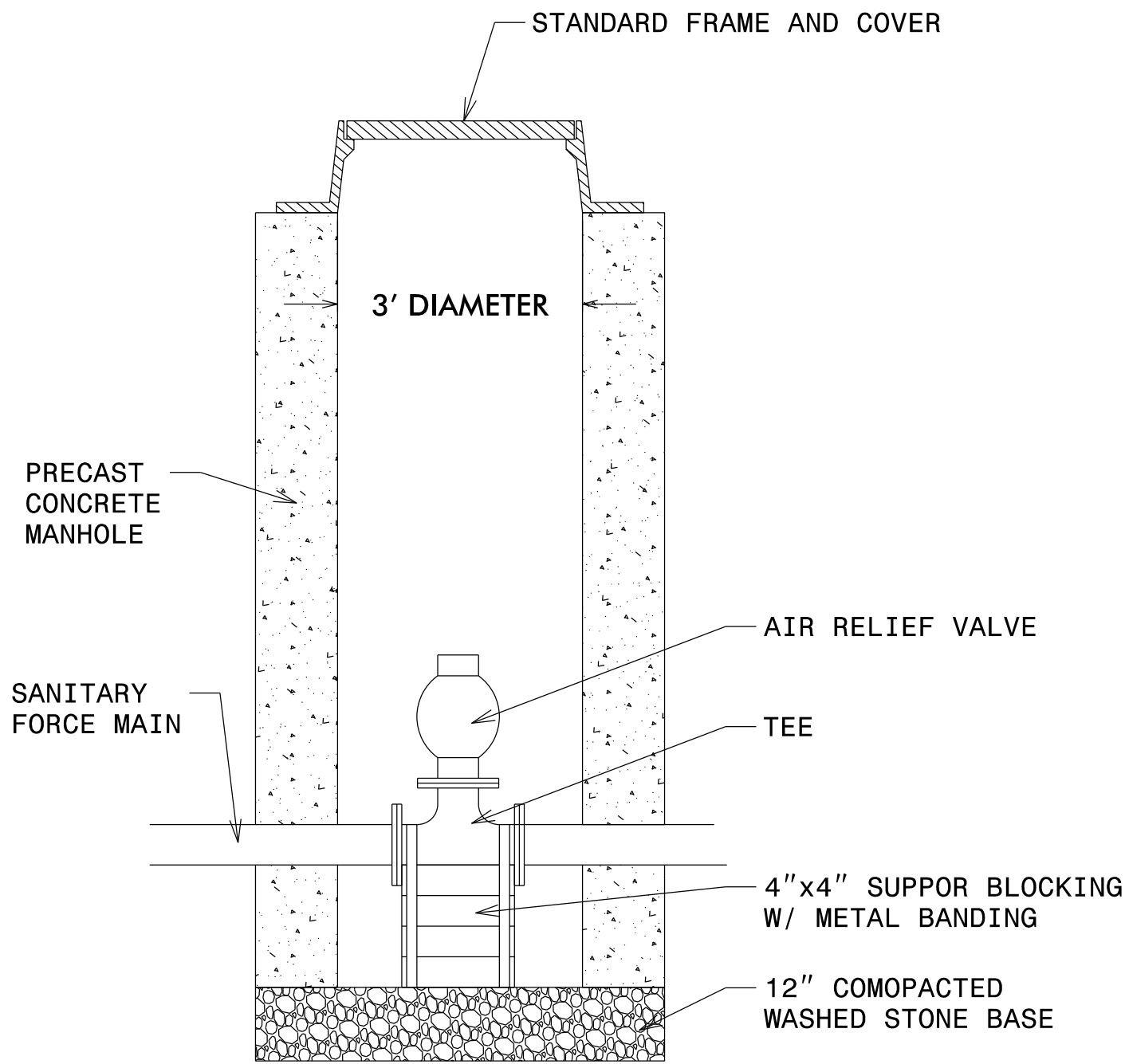
ENGINEER
Benjamin L. Stanley
BRANDON L. STANLEY
UTILITY CONSTRUCTION
PLANS ONLY

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

UTILITY CONSTRUCTION

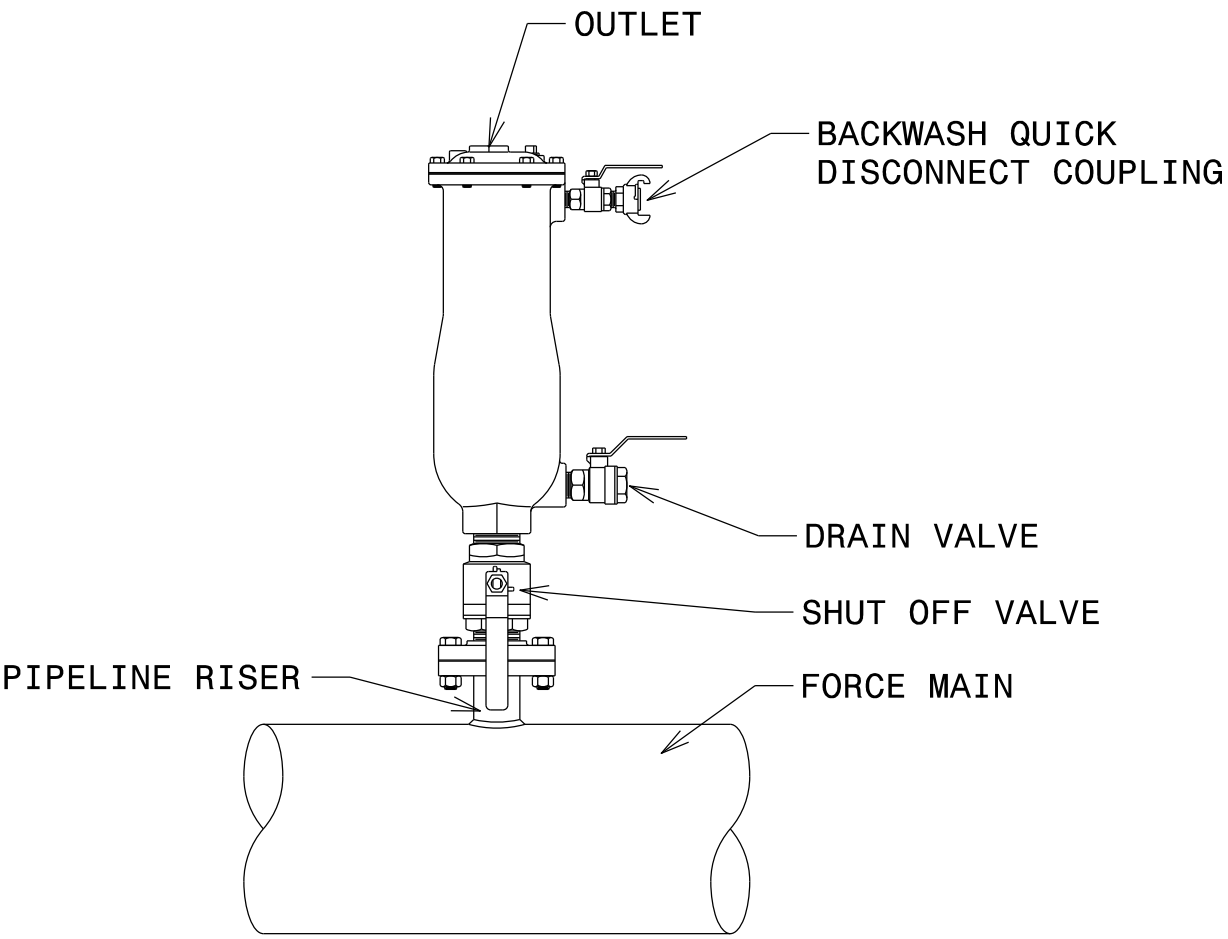
PROJECT REFERENCE NO.		SHEET NO.
U604I		UC-3B
DESIGNED BY:	BS	<div>03/17/2025</div> <div><div><div>NORTH CAROLINA</div><div>PROFESSIONAL</div><div>SEAL</div><div>056979</div><div>ENGINEER</div><div>BENJAMIN L. STANLEY</div></div><div><div>Ben Stanley</div><div>UTILITY CONSTRUCTION</div><div>PLANS ONLY</div></div></div>
DRAWN BY:	BS	
CHECKED BY:	DH	
APPROVED BY:	BS	
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

UTILITY CONSTRUCTION



AIR RELIEF MANHOLE DETAIL

NOT TO SCALE



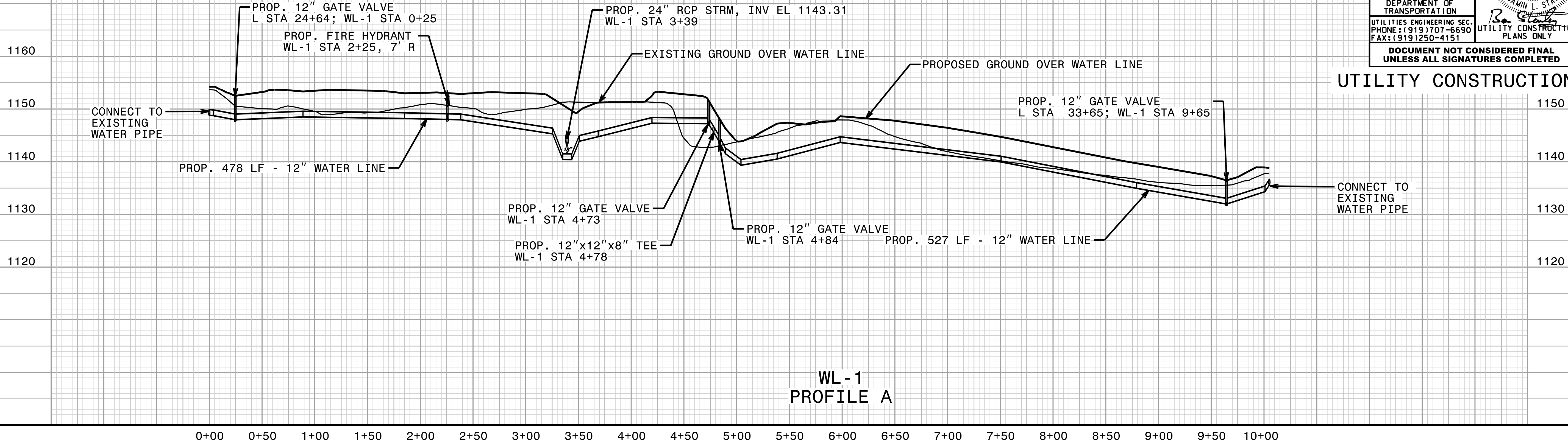
FORCE MAIN AIR RELIEF VALVE DETAIL

NOT TO SCALE

5/28/99

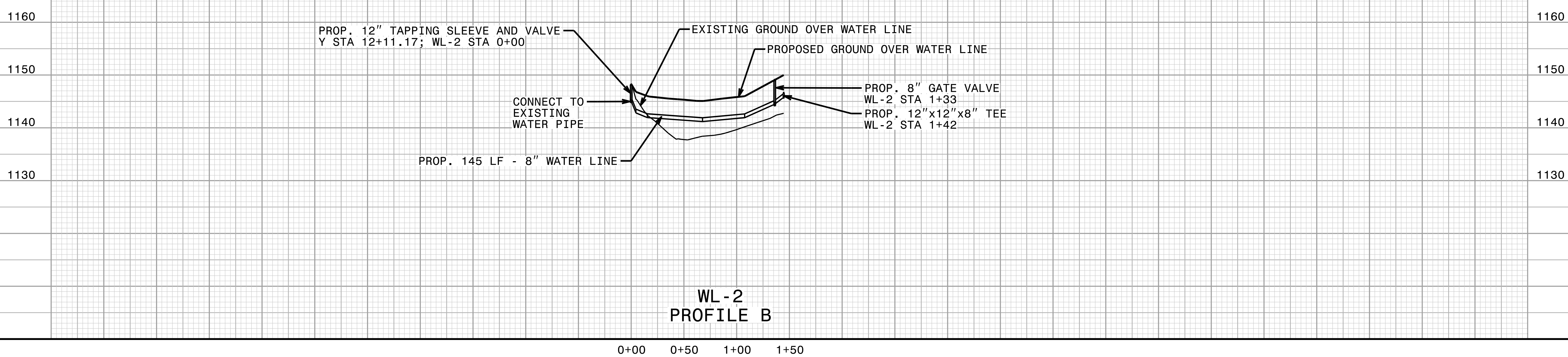
SCALE:
1"=50' HORIZONTAL
1"=10' VERTICAL

A MINIMUM COVER OF 36 INCHES
SHALL BE MAINTAINED OVER ALL WATER PIPES



SCALE:
1"=50' HORIZONTAL
1"=10' VERTICAL

A MINIMUM COVER OF 36 INCHES
SHALL BE MAINTAINED OVER ALL WATER PIPES



PROJECT REFERENCE NO.		SHEET NO.	
U6041		UC-5	
DESIGNED BY: BS		<div>03/17/2025</div> <div>SEAL 056979</div> <div>ENGINEER BENJAMIN L. STANLEY</div>	
DRAWN BY: BS			
CHECKED BY: DH			
APPROVED BY: BS			
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

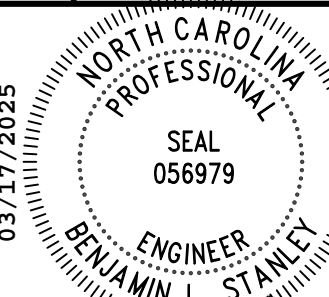
UTILITY CONSTRUCTION

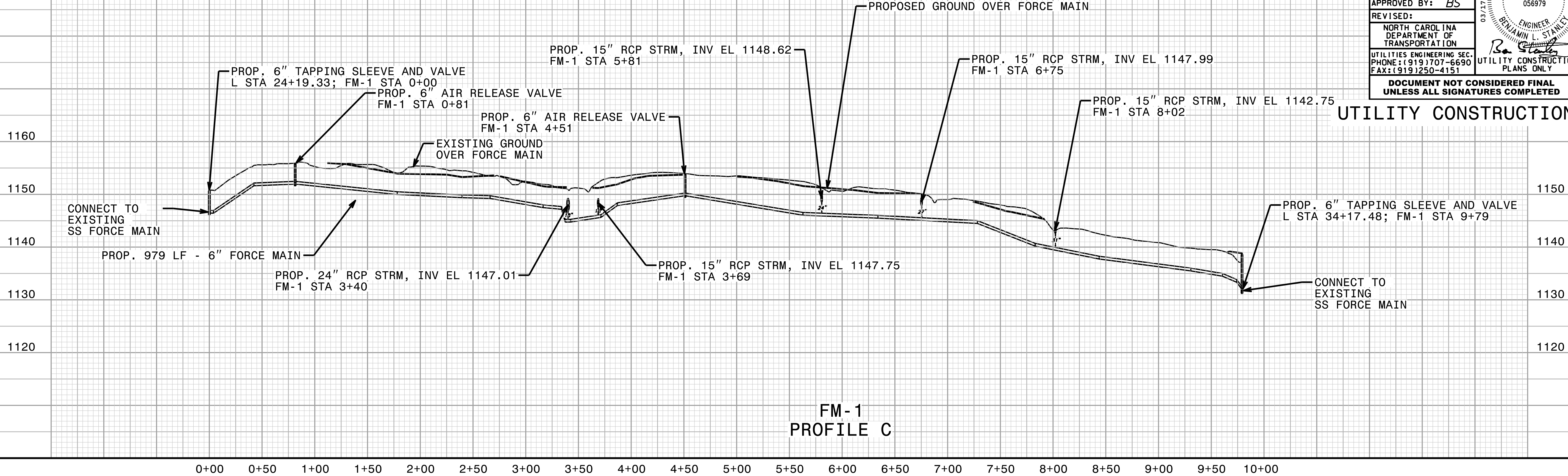
3/17/2025
U6041 UC-5
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5/28/99

SCALE:
1"=50' HORIZONTAL
1"=10' VERTICAL

A MINIMUM COVER OF 36 INCHES
SHALL BE MAINTAINED OVER SANITARY FORCE MAIN

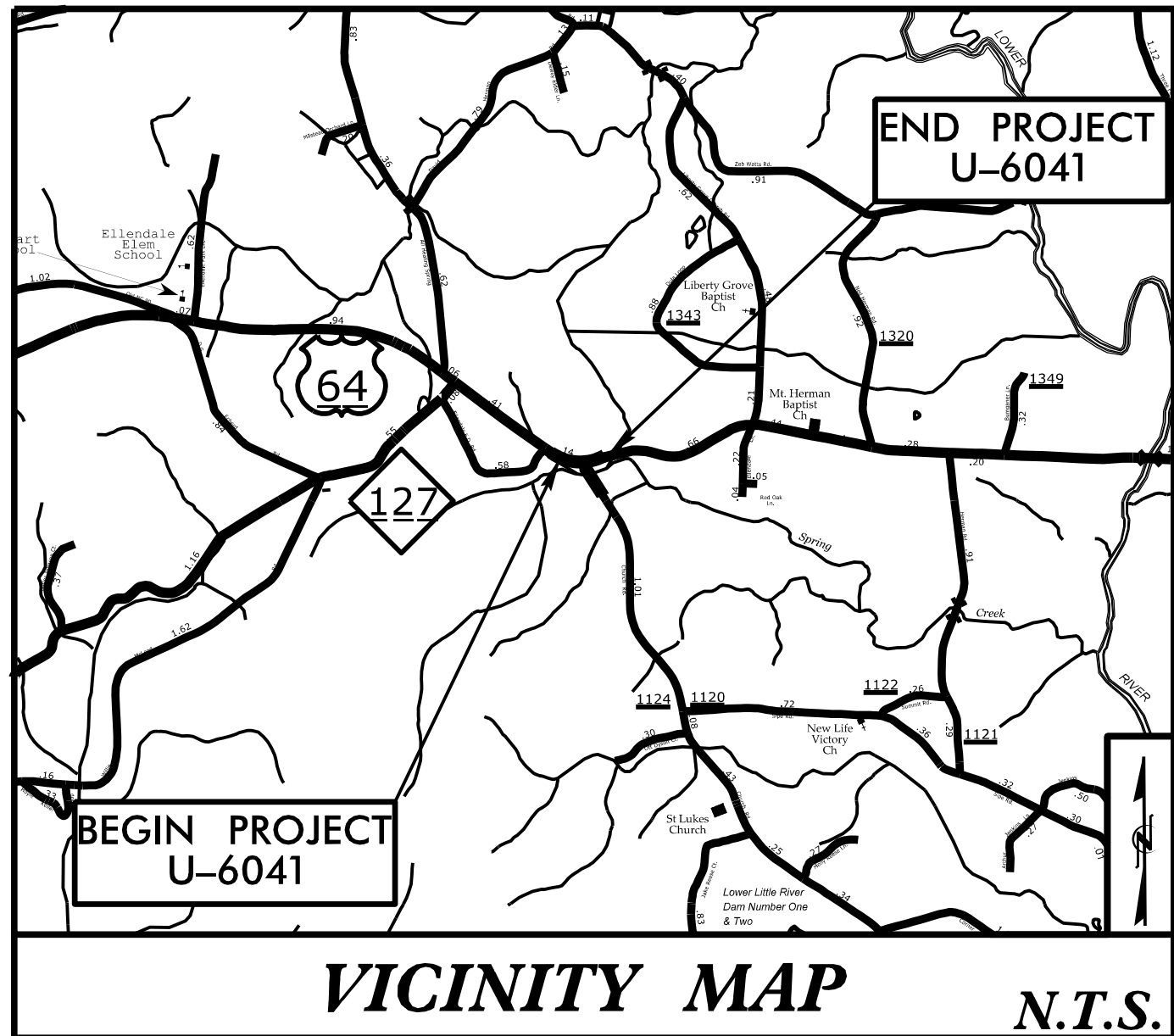
PROJECT REFERENCE NO.		SHEET NO.	
U604I		UC-5A	
DESIGNED BY:	BS		03/17/2025
DRAWN BY:	BS		
CHECKED BY:	DH		
APPROVED BY:	BS		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



FM-1
PROFILE C

3/17/2025
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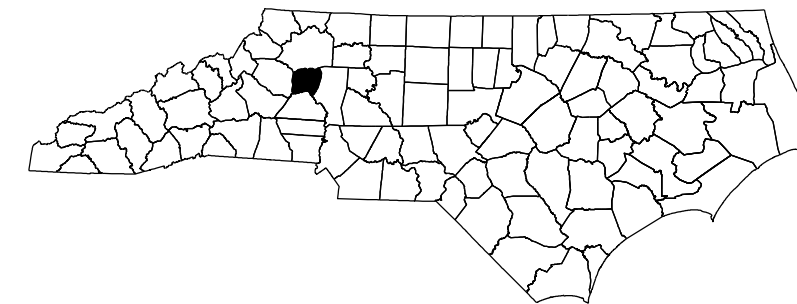
TIP PROJECT: U-6041



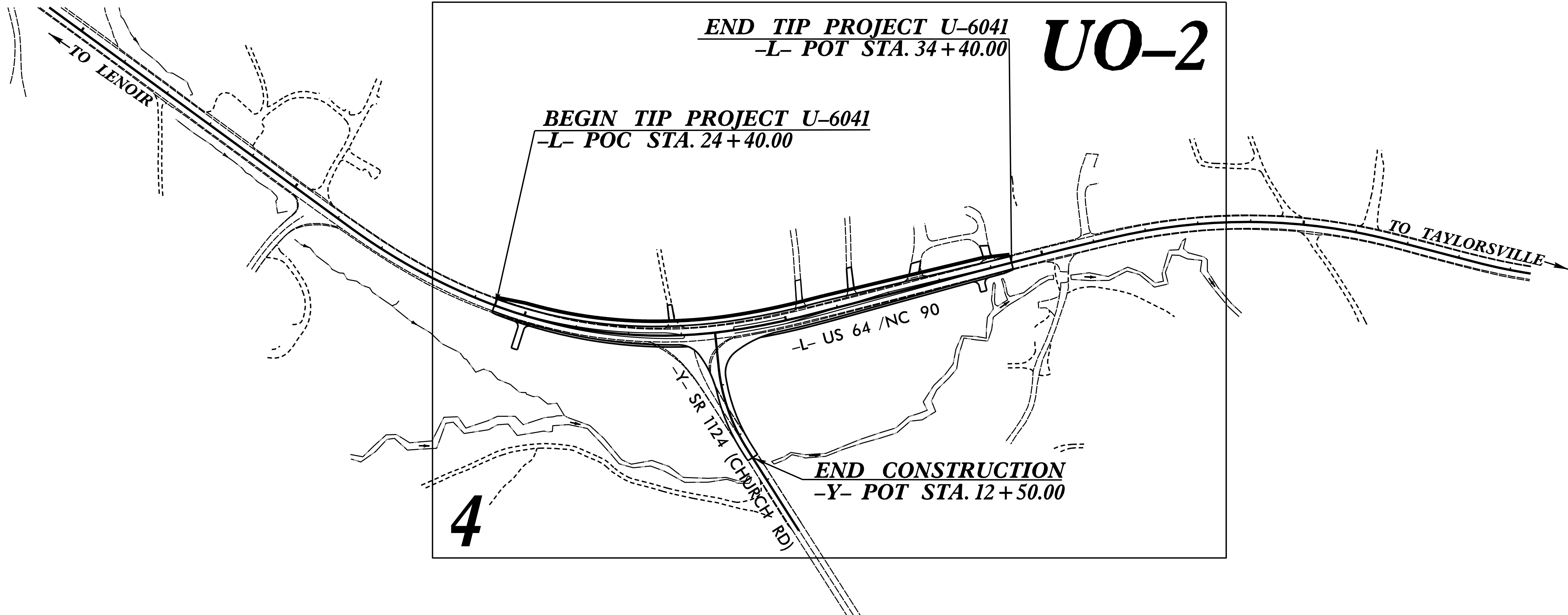
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ALEXANDER COUNTY UTILITIES BY OTHERS PLANS

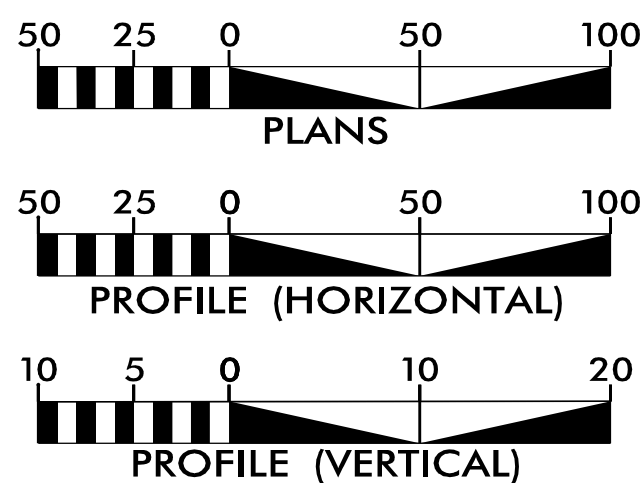
LOCATION: US 64 /NC 90 AND SR 1124 (CHURCH RD)
TYPE OF WORK: COMMUNICATIONS



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.



GRAPHIC SCALES



INDEX OF SHEETS

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

UTILITY OWNERS WITH CONFLICTS

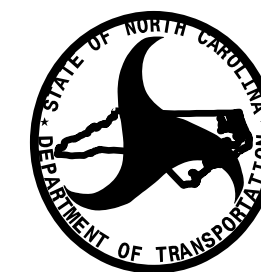
- (A) COMMUNICATIONS - AT&T
- (B) COMMUNICATIONS - SEGRA

PREPARED IN THE OFFICE OF:



2641 SUMNER BOULEVARD
SUITE 116
RALEIGH, NC 27616
(919) 878-7466

MARK ATTAWAY UTILITY PROJECT MANAGER
WILLIAM PACE PROJECT UTILITY COORDINATOR



DIVISION OF HIGHWAYS
DIVISION 12

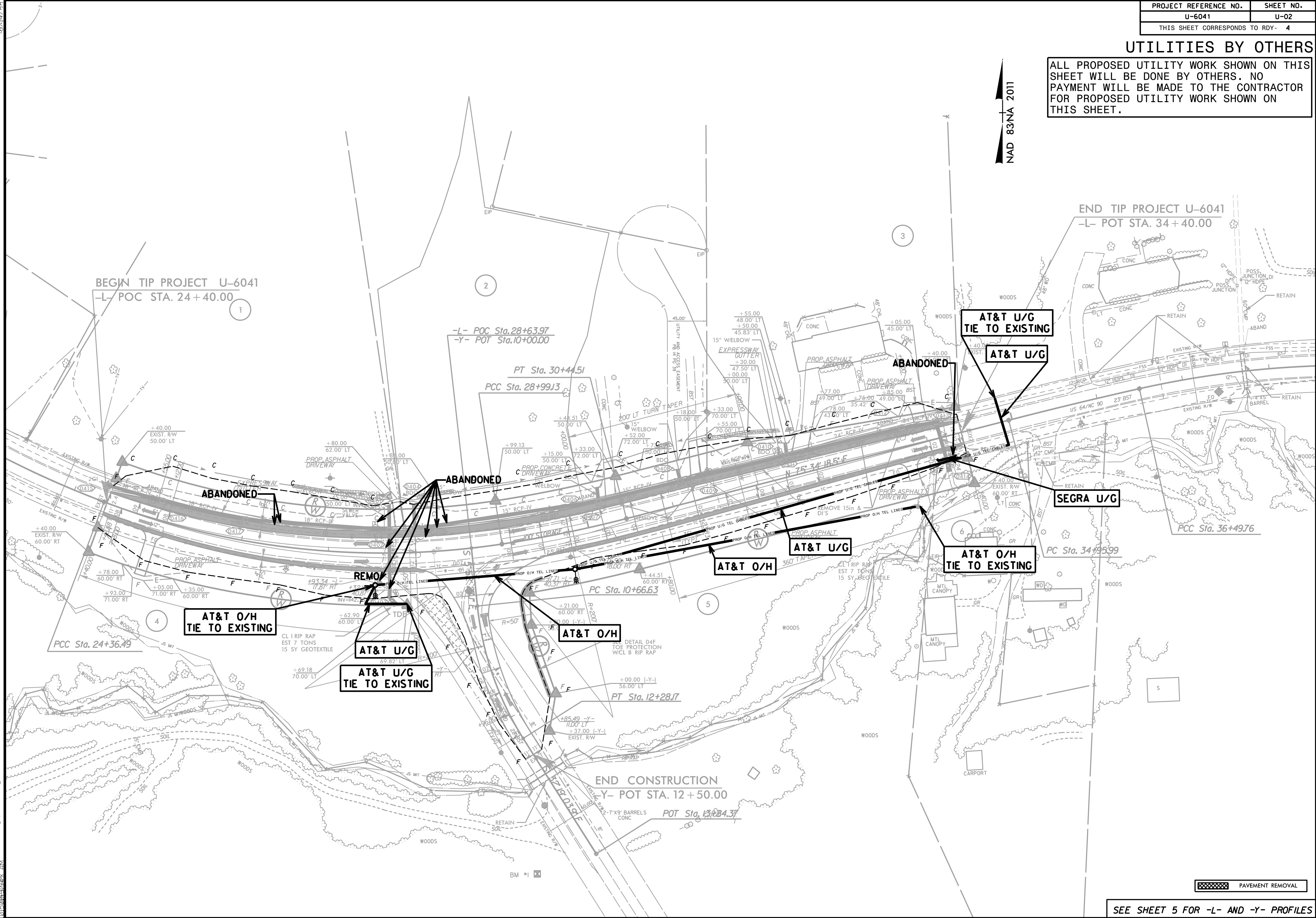
PO BOX
SHELBY, 28151-0047
1710 E MARION ST

MICHEAL BRIGHT DIVISION UTILITY ENGINEER
WARREN ANDERSON DIVISION UTILITY COORD

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.

NAD 83/NA 2011



PAVEMENT REMOVAL

SEE SHEET 5 FOR -L- AND -Y- PROFILES

CROSS SECTION INDEX

X-1	CROSS SECTION SHEET INDEX
X-1A	CROSS SECTION SUMMARY SHEET
X-2	THRU X-13 -L-
X-14	THRU X-15 -Y-

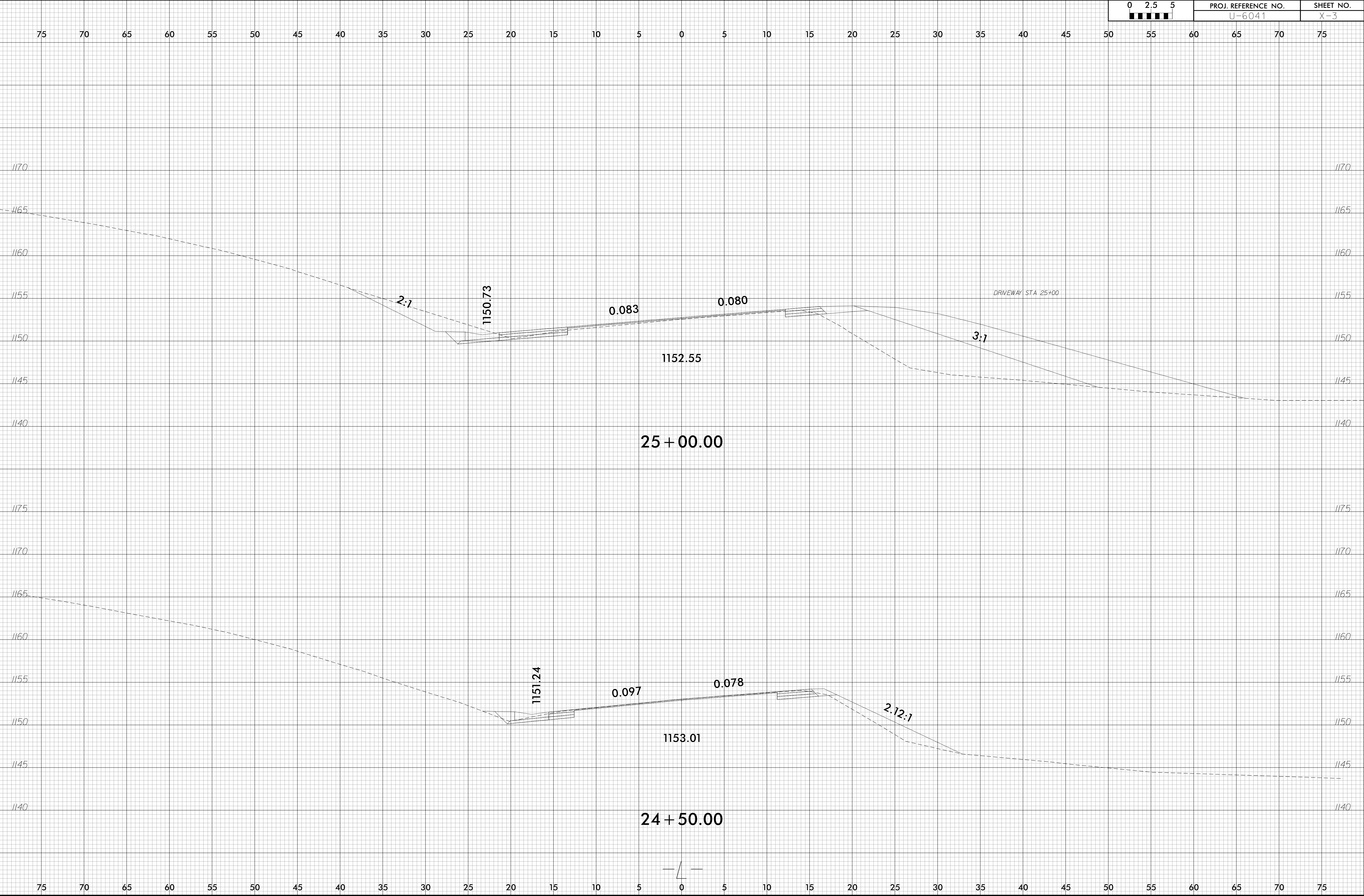
<div>STATE OF NORTH CAROLINA</div> <div>DIVISION OF HIGHWAYS</div> <div>CROSS-SECTION SUMMARY</div>		<div>PROJ. REFERENCE NO.</div> <div>U-6041</div>	<div>SHEET NO.</div> <div>X-1A</div>
		<div>Approximate quantities only. Unclassified Excavation, Fine Grading, and Removal of Existing Pavement will be paid for at the lump sum price for "Grading".</div>	
<div>NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT</div>			

Station	Uncl. Exc.	Embt	Station	Uncl. Exc.	Embt
-L- RT	(cu. yd.)	(cu. yd.)	-L- LT	(cu. yd.)	(cu. yd.)
24+40.00	0	0	33+00.00	6	41
24+50.00	2	5	33+50.00	2	33
25+00.00	5	108	34+00.00	11	7
25+50.00	3	186	34+40.00	12	10
26+00.00	1	162			
26+50.00	1	114			
27+00.00	0	141			
27+50.00	0	160			
28+00.00	0	75			
28+50.00	0	24			
29+00.00	0	25			
29+50.00	0	23			
30+00.00	0	30			
30+50.00	0	59			
31+00.00	0	125			
31+50.00	1	169			
32+00.00	1	162			
32+50.00	1	143			
33+00.00	1	120			
33+50.00	3	87			
34+00.00	5	45			
34+40.00	5	13			
Station	Uncl. Exc.	Embt			
-Y-	(cu. yd.)	(cu. yd.)			
10+50.00	0	0			
11+00.00	0	712			
11+50.00	0	607			
12+00.00	1	343			
12+50.00	3	111			
Station	Uncl. Exc.	Embt			
-L- LT	(cu. yd.)	(cu. yd.)			
24+40.00	0	0			
24+50.00	2	2			
25+00.00	29	12			
25+50.00	51	15			
26+00.00	59	12			
26+50.00	70	17			
27+00.00	60	22			
27+50.00	36	18			
28+00.00	54	12			
28+50.00	90	13			
29+00.00	91	17			
29+50.00	83	19			
30+00.00	76	20			
30+50.00	63	25			
31+00.00	45	28			
31+50.00	33	25			
32+00.00	42	21			
32+50.00	33	23			

Station	Uncl. Exc.	Embt	Station	Uncl. Exc.	Embt
-L- RT	(cu. yd.)	(cu. yd.)	-L- LT	(cu. yd.)	(cu. yd.)
24+40.00	0	0	33+00.00	6	41
24+50.00	2	5	33+50.00	2	33
25+00.00	5	108	34+00.00	11	7
25+50.00	3	186	34+40.00	12	10
26+00.00	1	162			
26+50.00	1	114			
27+00.00	0	141			
27+50.00	0	160			
28+00.00	0	75			
28+50.00	0	24			
29+00.00	0	25			
29+50.00	0	23			
30+00.00	0	30			
30+50.00	0	59			
31+00.00	0	125			
31+50.00	1	169			
32+00.00	1	162			
32+50.00	1	143			
33+00.00	1	120			
33+50.00	3	87			
34+00.00	5	45			
34+40.00	5	13			
Station	Uncl. Exc.	Embt			
-Y-	(cu. yd.)	(cu. yd.)			
10+50.00	0	0			
11+00.00	0	712			
11+50.00	0	607			
12+00.00	1	343			
12+50.00	3	111			
Station	Uncl. Exc.	Embt			
-L- LT	(cu. yd.)	(cu. yd.)			
24+40.00	0	0			
24+50.00	2	2			
25+00.00	29	12			
25+50.00	51	15			
26+00.00	59	12			
26+50.00	70	17			
27+00.00	60	22			
27+50.00	36	18			
28+00.00	54	12			
28+50.00	90	13			
29+00.00	91	17			
29+50.00	83	19			
30+00.00	76	20			
30+50.00	63	25			
31+00.00	45	28			
31+50.00	33	25			
32+00.00	42	21			
32+50.00	33	23			

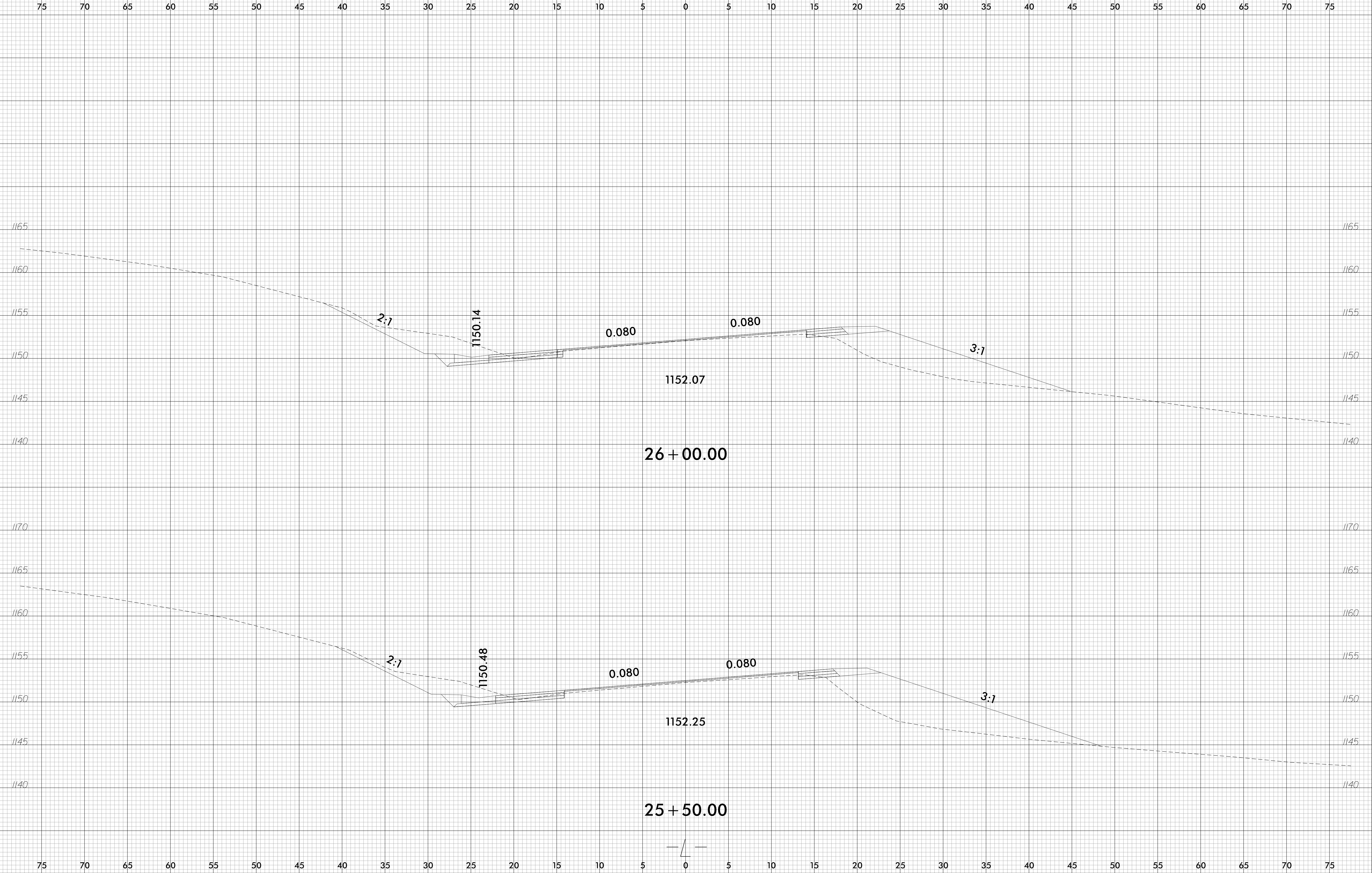
6/23/16

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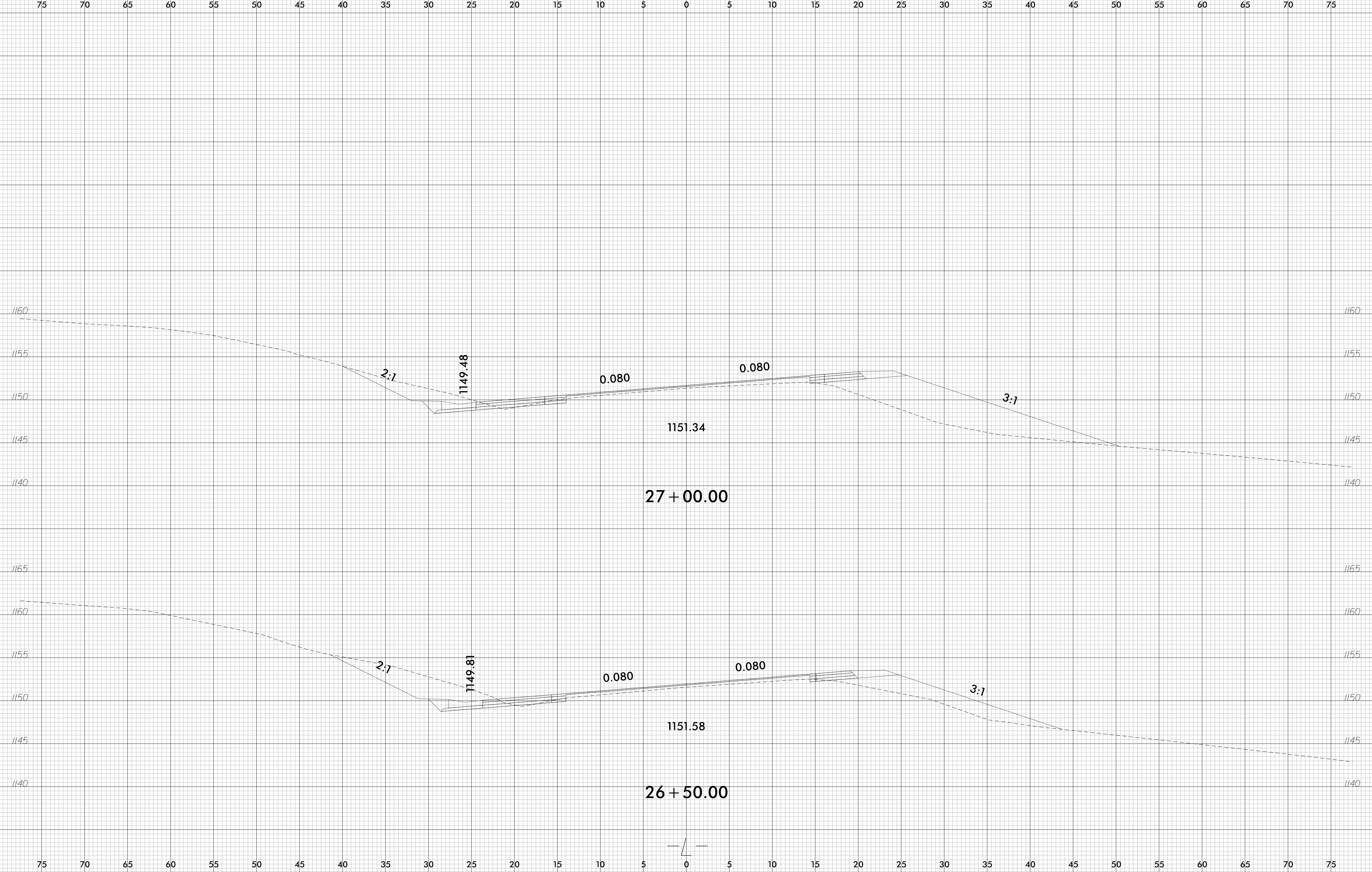
6/23/16

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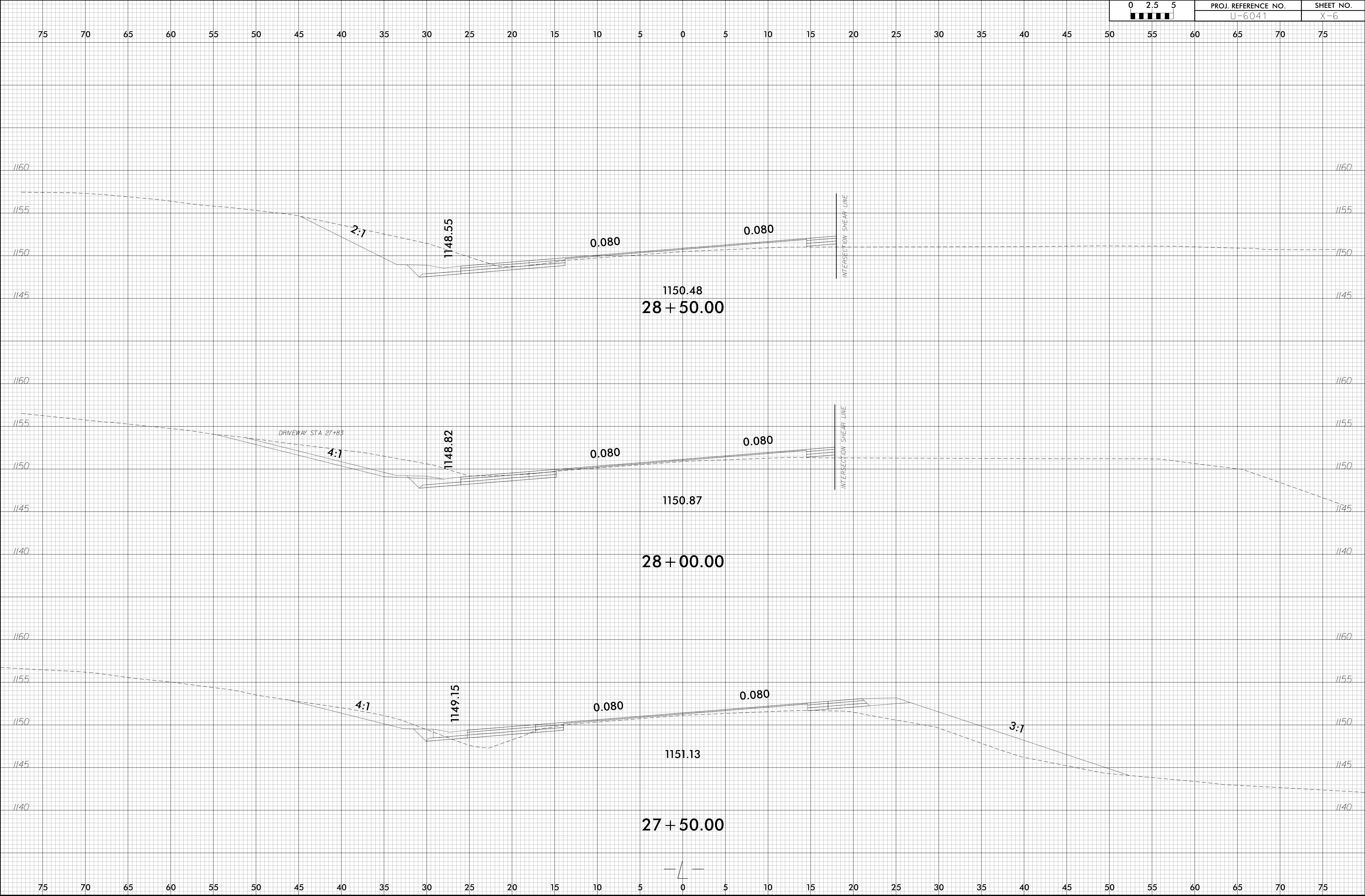
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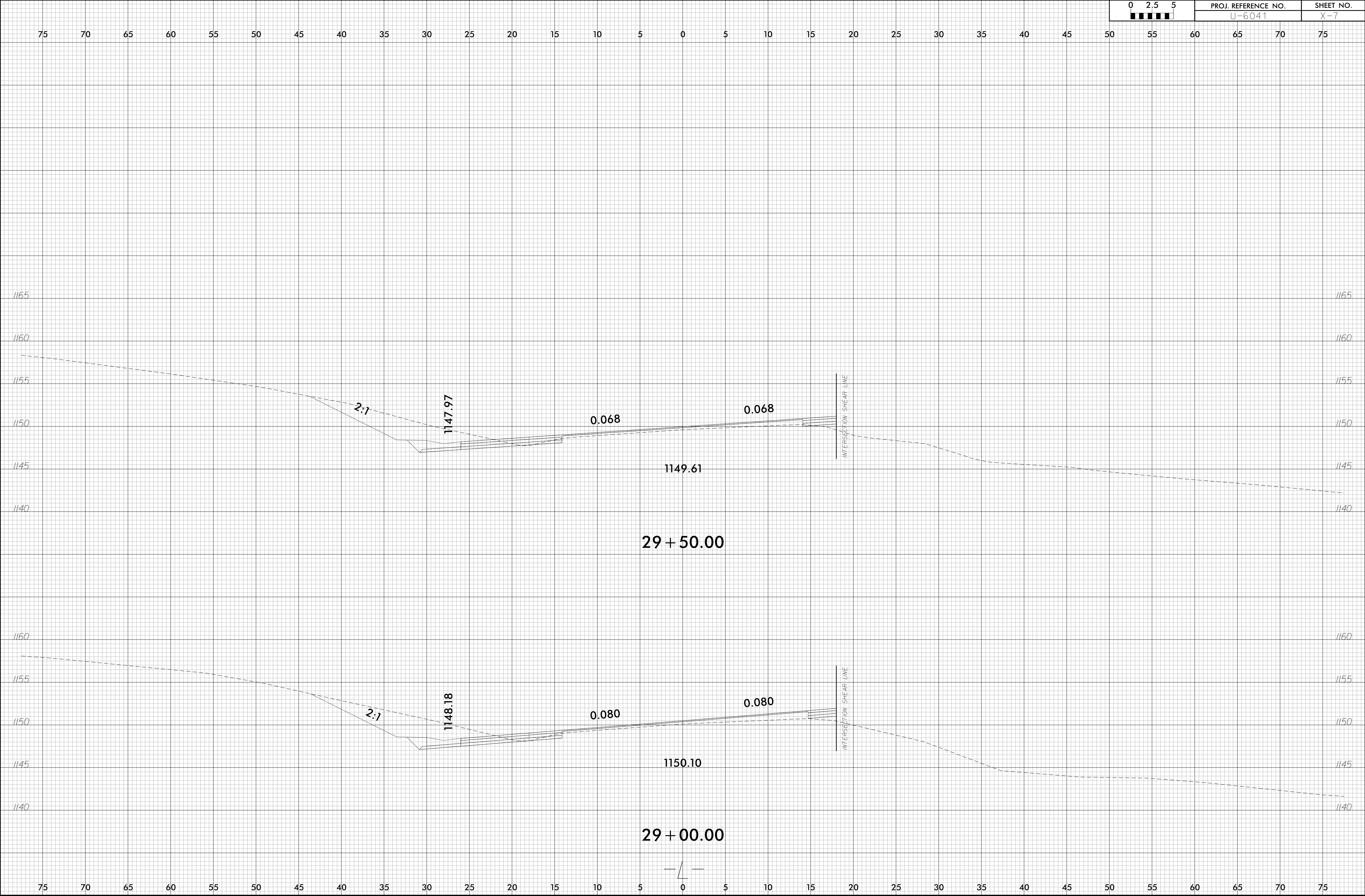


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USER SHORKE

6/23/16

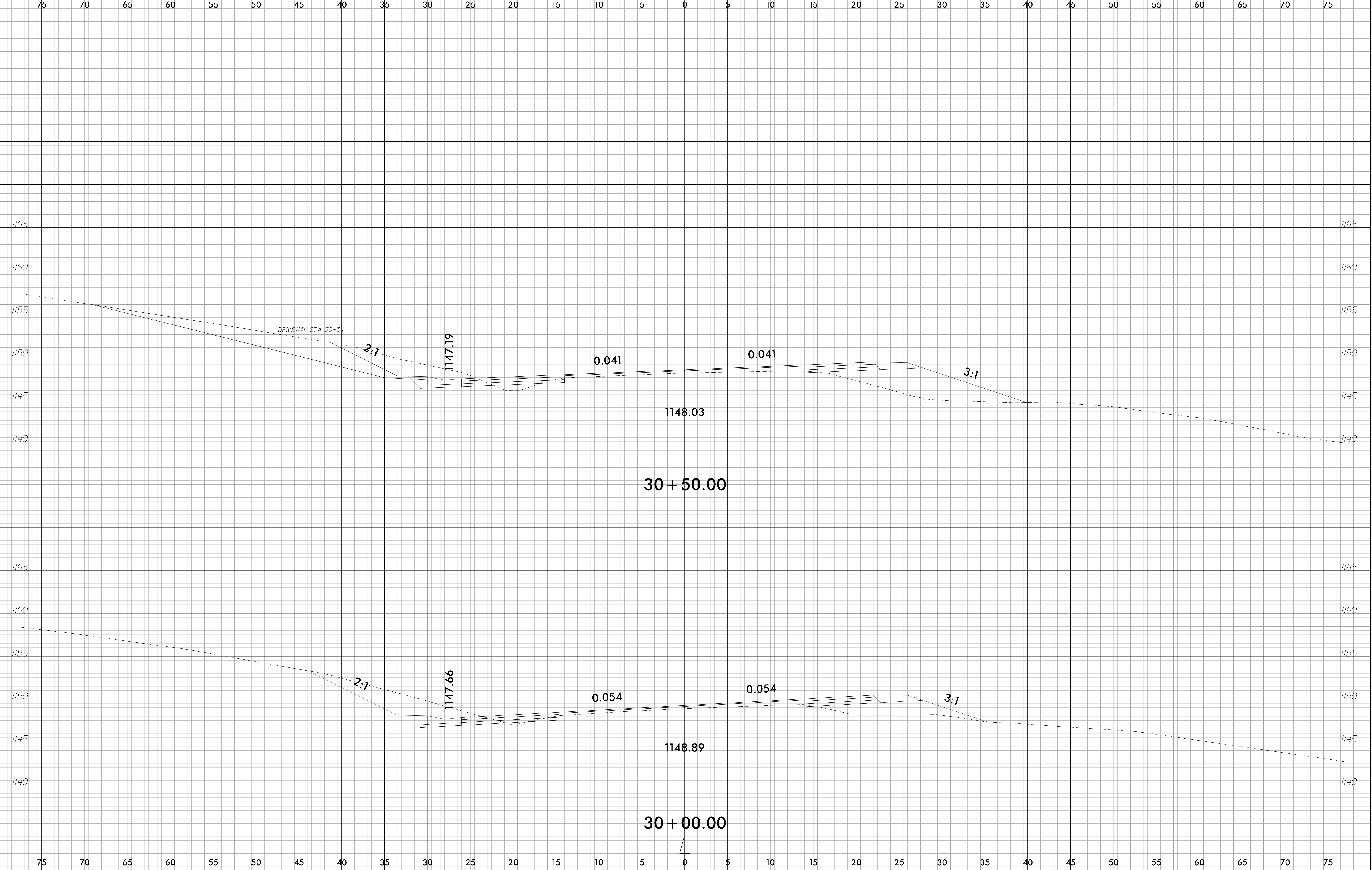


6/23/16



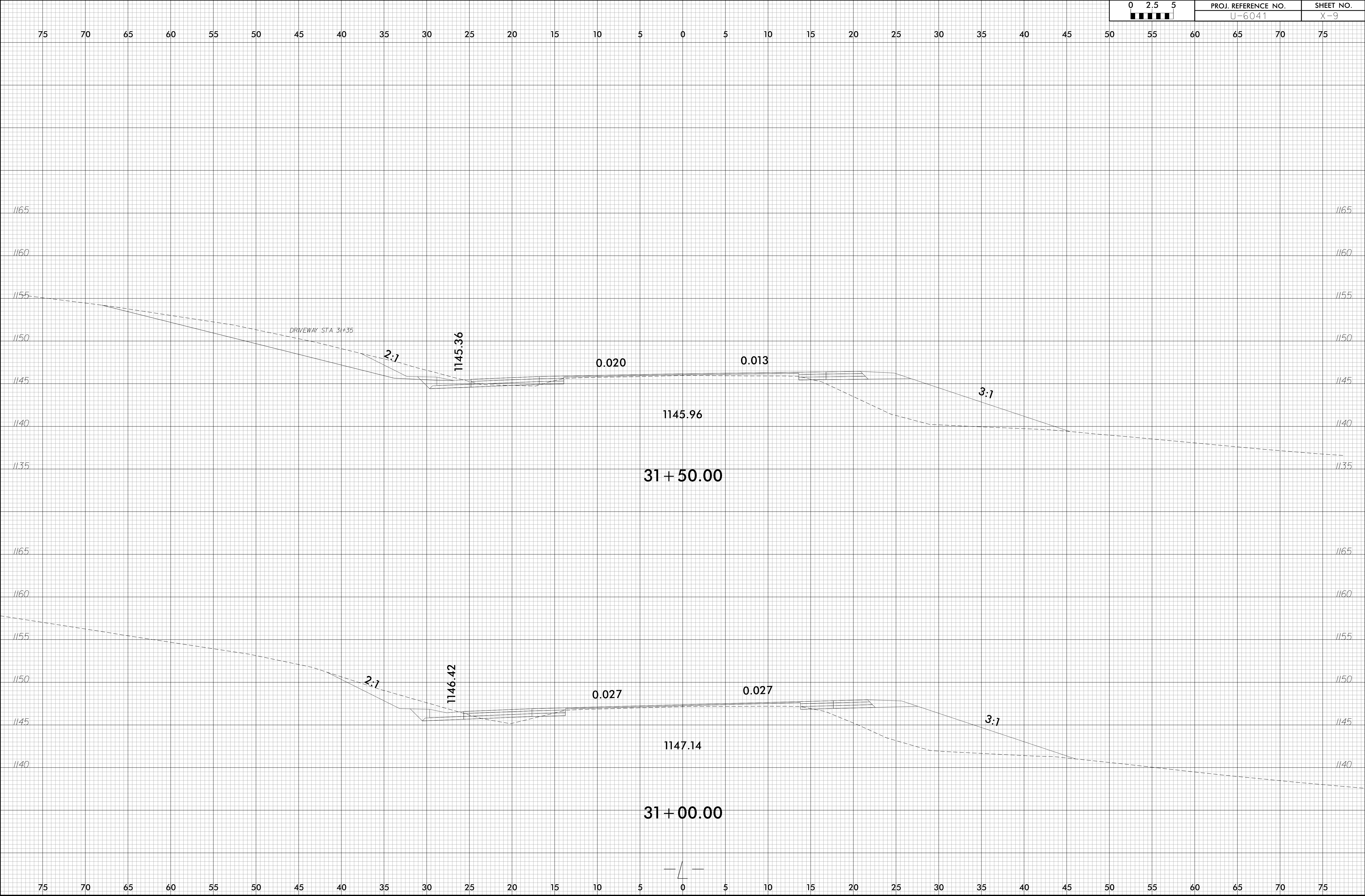
6/23/16

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6/23/16

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6/23/16

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DRIVEWAY STA. 32+60

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1144.08

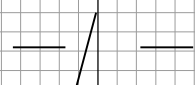
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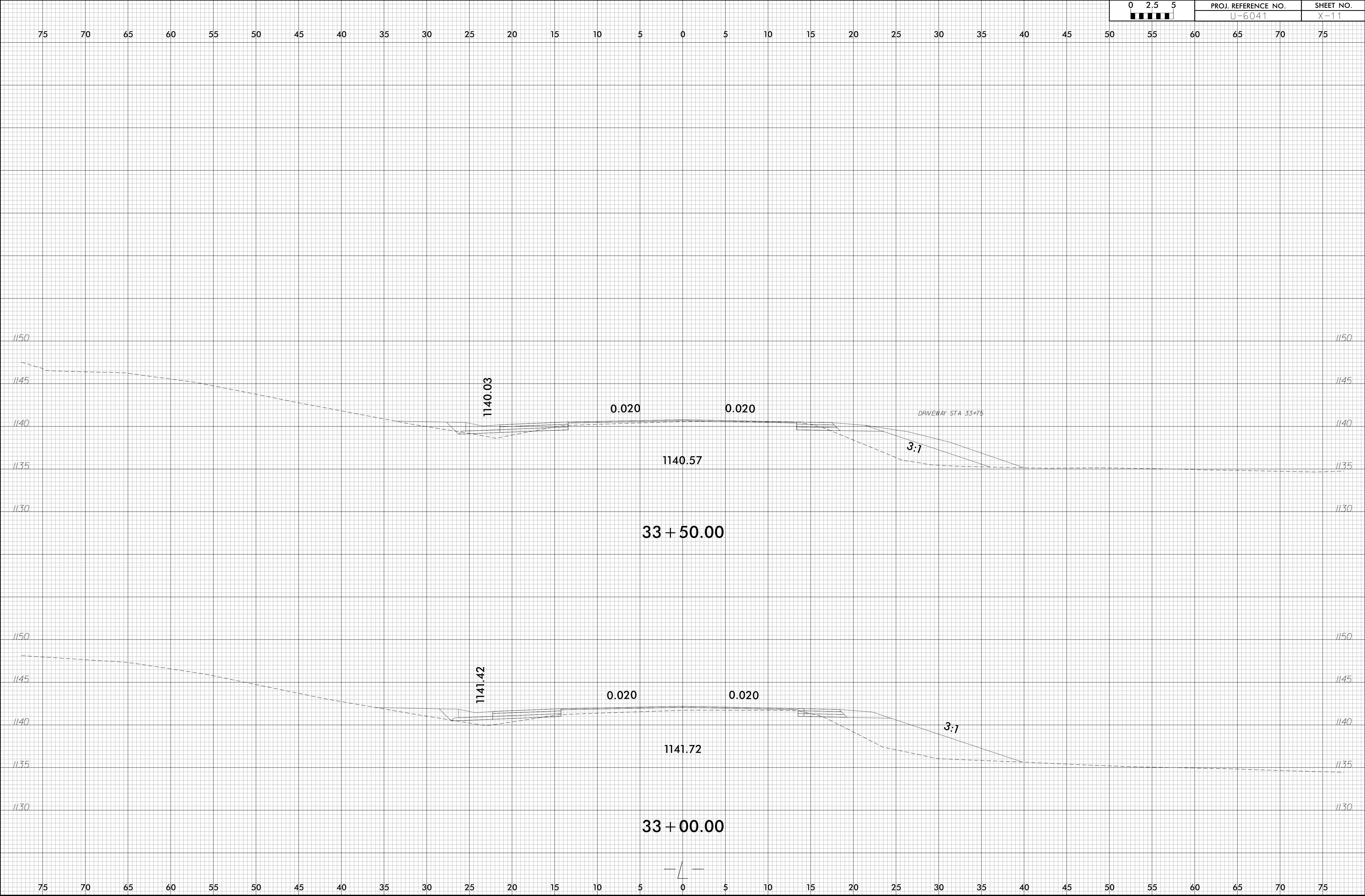
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6/23/16

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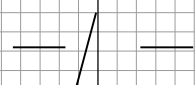
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DRIVEWAY STA 34+00

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6/23/16

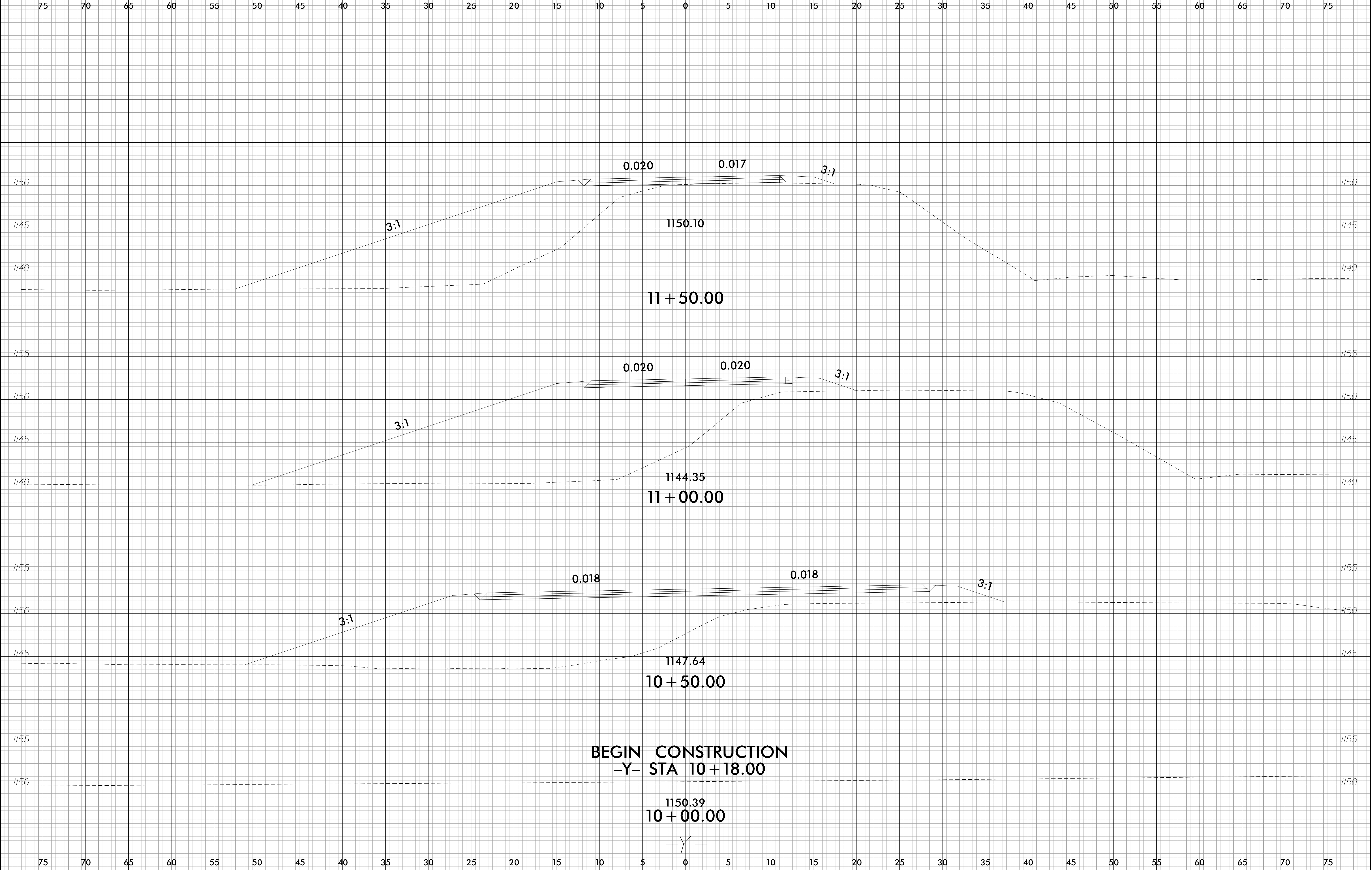
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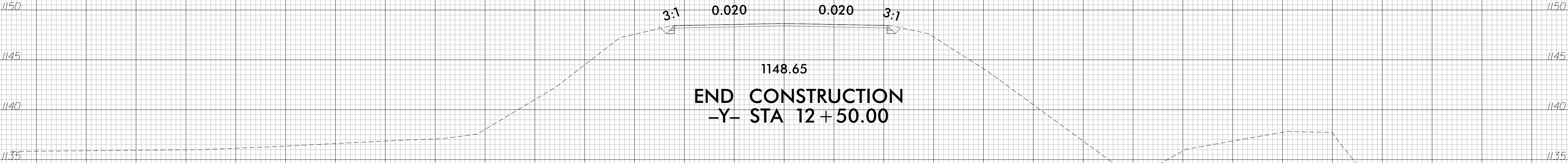
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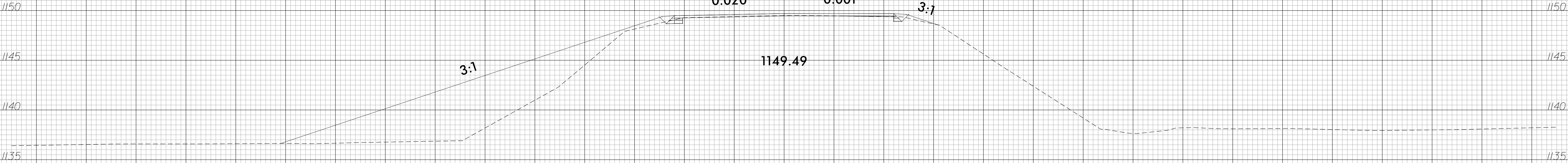
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12 + 50.00



12 + 00.00

—Y—