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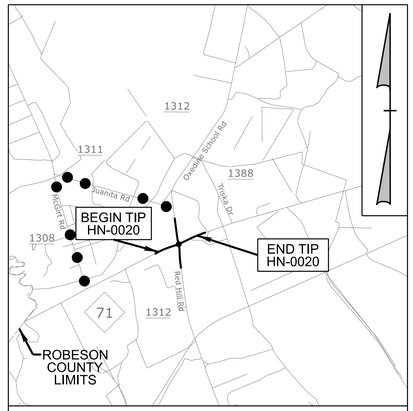
11/14/23

TIP PROJECT: HN-0020

CONTRACT: DF00541

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP (NTS)

● ● ● OFFSITE DETOUR FOR CARS
(SEE TRAFFIC MANAGEMENT PLANS FOR MORE INFORMATION)

PS&E PLANS
12 / 10 / 2025

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

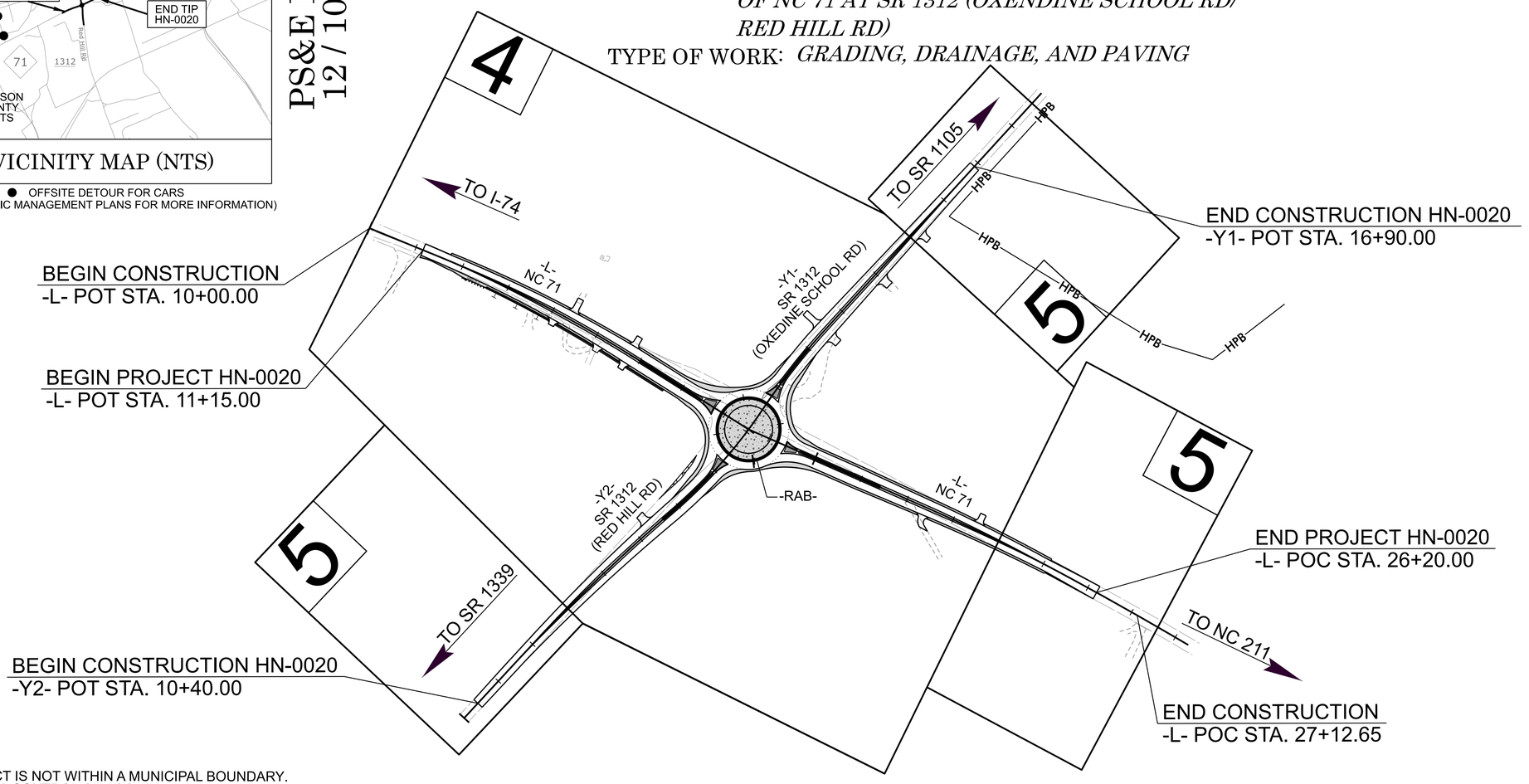
ROBESON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HN-0020	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
51170.1.1	5117001	PE
51170.2.1	5117001	ROW
51170.2.2	5117001	UTL
51170.3.1	5117001	CONST

LOCATION: *CONSTRUCT ROUNDABOUT AT THE INTERSECTION OF NC 71 AT SR 1312 (OXENDINE SCHOOL RD/ RED HILL RD)*

TYPE OF WORK: *GRADING, DRAINAGE, AND PAVING*



NOTES:
1.THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.
2. THIS IS NOT A CONTROL OF ACCESS PROJECT.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2026 = 8,000
ADT 2046 = 11,700
K = 9 %
D = 55 %
T = 16 % *
V = 60 MPH
* TTST =10% DUAL 6 %
FUNC CLASS =
MAJOR COLLECTOR
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT HN-0020 = 0.285 MILES

TOTAL LENGTH TIP PROJECT HN-0020 = 0.285 MILES

RIGHT OF WAY DATE: MAY 30, 2025

LETTING DATE: FEBRUARY 18, 2026

2024 STANDARD SPECIFICATIONS

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NICK RAMIREZ, PE
PROJECT ENGINEER

MATTHEW DOUGLAS, PE
PROJECT DESIGN ENGINEER

SEAN MATUSZEWSKI, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

12/7/2025
Signed by: Matthew L. Harvey
DOCUSIGNED SIGNATURE
NORTH CAROLINA PROFESSIONAL SEAL 053425 ENGINEER MATTHEW L. HARVEY P.E.

ROADWAY DESIGN ENGINEER

12/6/2025
Signed by: Matthew A. Douglas
DOCUSIGNED SIGNATURE
NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS P.E.

Hydraulic Designs Prepared in the Office of:

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

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

Roadway Designs Prepared in the Office of:

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENSE NO. P-2673
WWW.VIASINFRASTRUCTURE.COM

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5/26/20

INDEX OF SHEETS, LIST OF STANDARD DRAWINGS, & GENERAL NOTES

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1	CROSS-SECTION LAYOUT & 3" ROLLED CURB DETAIL
2B-2	INTERSECTION DETAILS & CONCRETE ISLAND LAYOUTS
2B-3	UTILITY CONSTRUCTION DETAIL SHEET
2C-1 THRU 2C-4	SPECIAL DETAILS
3B-1 THRU 3B-2	ROADWAY QUANTITY SUMMARIES
3D-1	DRAINAGE SUMMARY SHEET
3G-1	GEOTECHNICAL SUMMARIES
4 THRU 5	PLAN SHEETS
6 THRU 7	PROFILE SHEETS
RW-01 THRU RW-05	RIGHT-OF-WAY SHEETS
TMP-1 THRU TMP-6	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
X-1	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-40	CROSS-SECTIONS

LIST OF STANDARD DRAWINGS

EFF. 01-16-2024
REV.

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO. TITLE

DIVISION 2 - EARTHWORK
200.02 Method of Clearing - Method II
225.02 Guide for Grading Subgrade - Secondary and Local
225.04 Method of Obtaining Superelevation - Two Lane Pavement

DIVISION 3 - PIPE CULVERTS
310.10 Driveway Pipe Construction

DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I

DIVISION 6 - ASPHALT BASES AND PAVEMENTS
654.01 Pavement Repairs

DIVISION 8 - INCIDENTALS
815.02 Subsurface Drain
840.00 Concrete Base Pad for Drainage Structures
840.18 Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19 Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.25 Anchorage for Frames - Brick or Concrete or Precast
840.27 Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28 Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29 Frames and Narrow Slot Flat Grates
840.45 Precast Drainage Structure
846.01 Concrete Curb, Gutter and Curb & Gutter
846.02 Drop Inlet Installation in Expressway Gutter
846.04 Drop Inlet Installation in Shoulder Berm Gutter
848.02 Driveway Turnout - Radius Type
852.01 Concrete Islands
862.01 Guardrail Placement
862.02 Guardrail Installation
876.02 Guide for Rip Rap at Pipe Outlets

NOTE:

See special details in the plans for Method of Pipe Installation, Markers for Drainage Structures and Concrete Pads, & Guardrail Placement Sheets 6 of 15 and 11 of 15.

GENERAL NOTES

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SUBSURFACE DRAINS:

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

DRIVEWAYS:

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

GUARDRAIL:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE BRIGHTSPEED, DUKE ENERGY, ROBESON COUNTY PUBLIC UTILITIES, AND CHARTER COMMUNICATIONS

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.

HN-0020
4RD1 | 1A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/11/2025

Signed by:
Matthew A. Douglas
4BA2638274284C2...

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ROADWAY DESIGN PREPARED BY
VIAS INFRASTRUCTURE
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RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

HYDRAULIC DESIGN PREPARED BY
WETHERILL ENGINEERING
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Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

REVISIONS

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11/14/23

HN-0020
4RD1 | 1B

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

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 (123)
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary (WLB)
- Proposed Wetland Boundary (WLB)
- Existing Endangered Animal Boundary (EAB)
- Existing Endangered Plant Boundary (EPB)
- Existing Historic Property Boundary (HPB)
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign (S)
- Well (W)
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

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

RAILROADS:

- Standard Gauge (CSX TRANSPORTATION)
- RR Signal Milepost (MILEPOST 35)
- Switch (SWITCH)
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line (RW)
- Existing Control of Access Line (CA)
- Proposed Control of Access Line (CA)
- Proposed ROW and CA Line (RW CA)
- Existing Easement Line (E)
- Proposed Temporary Construction Easement (E)
- Proposed Temporary Drainage Easement (TDE)
- Proposed Permanent Drainage Easement (PDE)
- Proposed Permanent Drainage/Utility Easement (DUE)
- Proposed Permanent Utility Easement (PUE)
- Proposed Temporary Utility Easement (TUE)
- Proposed Aerial Utility Easement (AUE)

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut (C)
- Proposed Slope Stakes Fill (F)
- Proposed Curb Ramp (CR)
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert (CONC)
- Bridge Wing Wall, Head Wall and End Wall (CONC WW)

MINOR:

- Head and End Wall (CONC HW)
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB (CB)
- Paved Ditch Gutter
- Storm Sewer Manhole (S)
- Storm Sewer (S)

UTILITIES:

** 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 (P)
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole (HH)
- H-Frame Pole
- U/G Power Line Test Hole (SUE - LOS A)*
- U/G Power Line (SUE - LOS B)* (P)
- U/G Power Line (SUE - LOS C)* (P)
- U/G Power Line (SUE - LOS D)* (P)

TELEPHONE:

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

WATER:

- Water Manhole (W)
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line Test Hole (SUE - LOS A)*
- U/G Water Line (SUE - LOS B)* (W)
- U/G Water Line (SUE - LOS C)* (W)
- U/G Water Line (SUE - LOS D)* (W)
- Above Ground Water Line (A/G Water)

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

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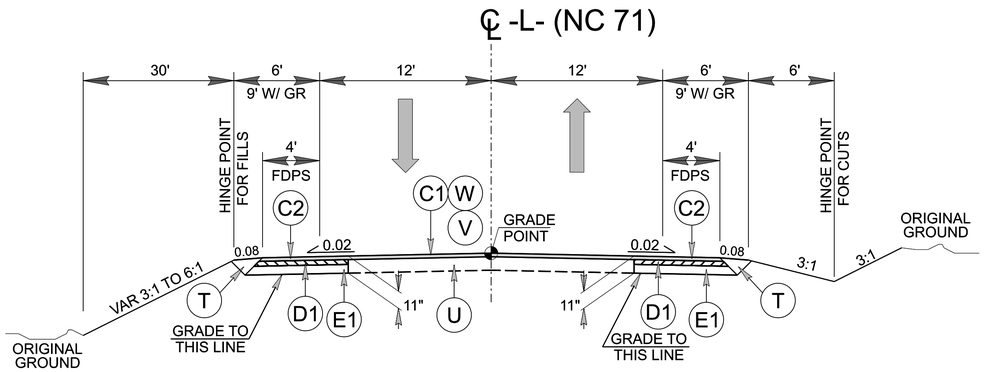
PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

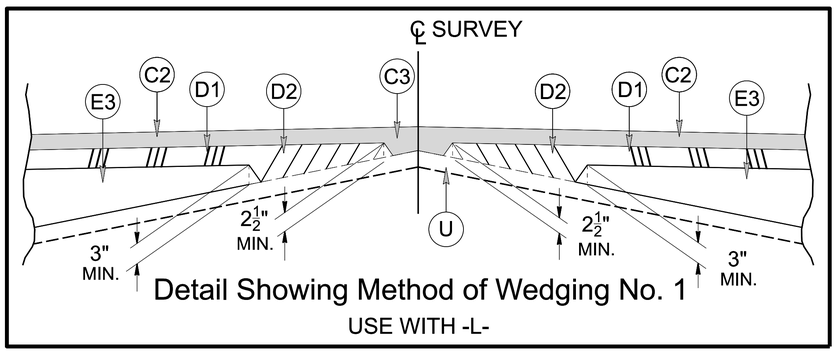
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R1	PROPOSED 5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)	T	EARTH MATERIAL
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R2	PROPOSED 8" X 12" CONCRETE CURB	U	EXISTING PAVEMENT
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	R3	PROPOSED 3" ROLLED CURB (SEE SHEET 2B-1 FOR DETAIL)	V	1½" MILLING
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R4	PROPOSED 10" CONCRETE TRUCK APRON WITH WIRE MESH REINFORCEMENT	W	VARIABLE DEPTH ASPHALT PAVEMENT
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.				
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.				
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.				
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.				

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



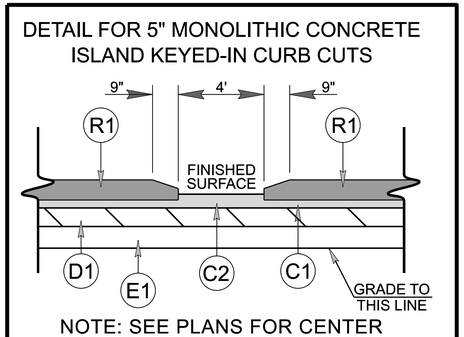
TYPICAL SECTION NO. 1

FROM -L- STA. 11+15.00 TO STA. 11+70.00
FROM -L- STA. 25+10.00 TO STA. 26+20.00

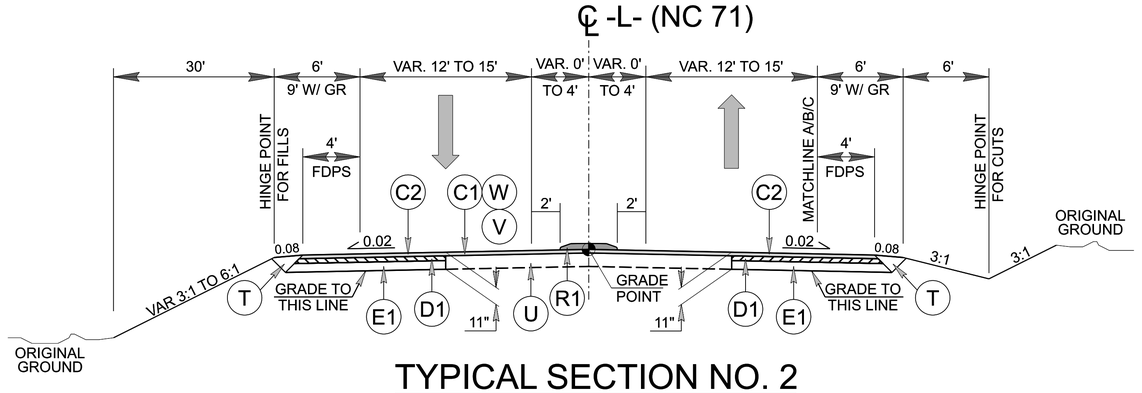


Detail Showing Method of Wedging No. 1

USE WITH -L-



USE WITH TYPICAL SECTION NO. 2



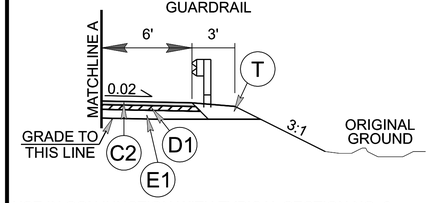
TYPICAL SECTION NO. 2

FROM -L- STA. 11+70.00 TO STA. 17+75.35
FROM -L- STA. 19+35.35 TO STA. 25+10.00
NOTE: SEE PLANS FOR LOCATIONS OF ISLANDS.

NOTE: EXISTING PAVEMENT WIDTHS VARY, SEE PLANS

INSET A

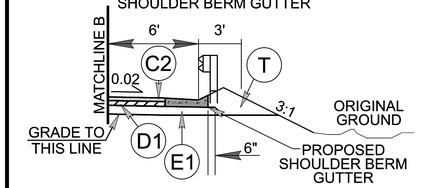
GUARDRAIL



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2:
FROM -L- STA. 12+08.75 TO STA. 13+75.00 RT

INSET B

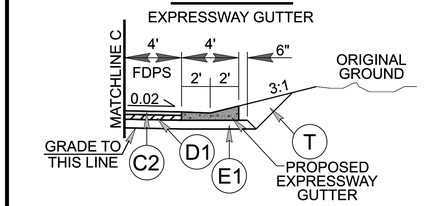
SHOULDER BERM GUTTER



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2:
FROM -L- STA. 12+60.00 TO STA. 14+02.50 RT

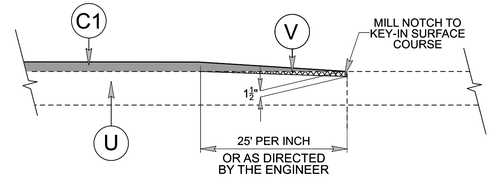
INSET C

EXPRESSWAY GUTTER



USE IN CONJUNCTION WITH TYPICAL SECTION NO. 2:
FROM -L- STA. 14+16.31 TO STA. 16+70.00 RT

MILLING DETAIL FOR INCIDENTAL MILLING AT TIE-INS



-L- STA. 11+15.00 TO STA. 11+52.50
-L- STA. 25+82.50 TO STA. 26+20.00

REVISIONS

HN-0020
4RD1 | 2A-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/9/2025
NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS
Signed by: Matthew A. Douglas
49426B2375E4402...

PAVEMENT DESIGN ENGINEER
12/9/2025
NORTH CAROLINA PROFESSIONAL SEAL 045672 ENGINEER THOMAS J. DAILY
DocuSigned by: Thomas J. Daily
F29CAB8B83E449F...

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WWW.VIASINFRASTRUCTURE.COM

PAVEMENT DESIGN PREPARED BY
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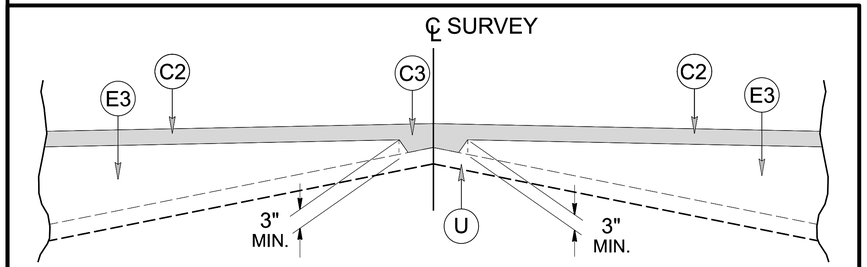
PHONE (704) 523-4716
LICENCE NO P-0176
WWW.SMEINC.COM

Docusign Envelope ID: 1837325D-32A5-45B4-B935-F44BD74DF2F7

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)			
C1	1½" S9.5C	R1	5" MONO ISLAND
C2	3" S9.5C	R2	8"x12" CURB
C3	VAR. S9.5C	R3	3" ROLLED CURB
D1	4" I19.0C	R4	CONC. APRON
D2	VAR. I19.0C	T	EARTH MATERIAL
E1	4" B25.0C	U	EXIST. PAVE.
E2	5" B25.0C	V	1½" MILL.
E3	VAR. B25.0C	W	WEDGING

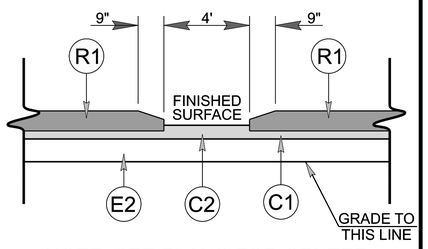
NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging No. 2

USE WITH -Y1- & -Y2-

DETAIL FOR 5" MONOLITHIC CONCRETE ISLAND KEYED-IN CURB CUTS

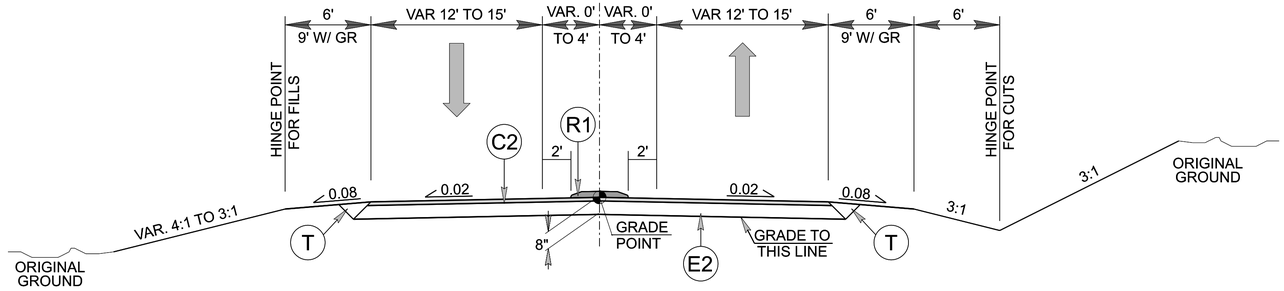


NOTE: SEE PLANS FOR CENTER OF ISLAND CUT LOCATIONS.

USE WITH TYPICAL SECTIONS NO. 4, 5, & 6

NOTE: EXISTING PAVEMENT WIDTHS VARY, SEE PLANS.

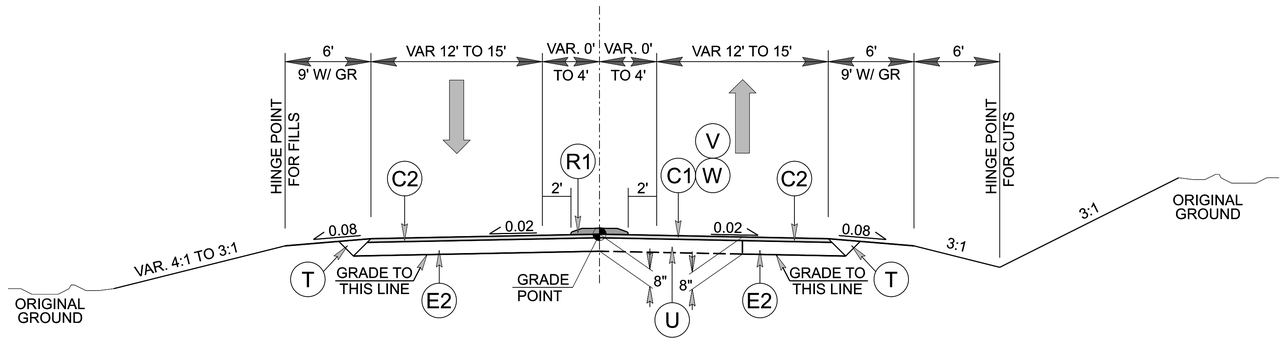
℄ -Y1- (SR 1312 - OXENDINE SCHOOL ROAD)



TYPICAL SECTION NO. 4

FROM -Y1- STA. 10+80.01 TO STA. 11+65.00
NOTE: SEE PLANS FOR LOCATIONS OF ISLANDS.

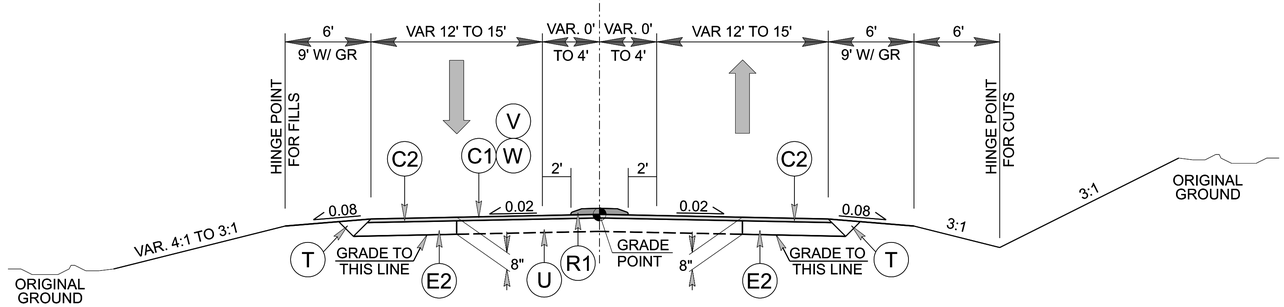
℄ -Y1- (SR 1312 - OXENDINE SCHOOL ROAD)



TYPICAL SECTION NO. 5

FROM -Y1- STA. 11+65.00 TO STA. 13+50.00
NOTE: SEE PLANS FOR LOCATIONS OF ISLANDS.

℄ -Y1- (SR 1312 - OXENDINE SCHOOL ROAD)
-Y2- (SR 1312 - RED HILL ROAD)



TYPICAL SECTION NO. 6

FROM -Y1- STA. 13+50.00 TO STA. 16+40.00
FROM -Y2- STA. 11+65.00 TO STA. 17+26.79
NOTE: SEE PLANS FOR LOCATIONS OF ISLANDS.

HN-0020
4RD1 | 2A-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/9/2025
NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS
Signed by: Matthew A. Douglas
CA

PAVEMENT DESIGN ENGINEER
12/9/2025
NORTH CAROLINA PROFESSIONAL SEAL 045672 ENGINEER THOMAS J. DAILY
DocuSigned by: Thomas J. Daily

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY
VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

PAVEMENT DESIGN PREPARED BY
8848 RED OAK BLVD., SUITE A
CHARLOTTE, NC 28217
PHONE (704) 523-4716
LICENCE NO P-0176
WWW.SMEINC.COM

REVISIONS

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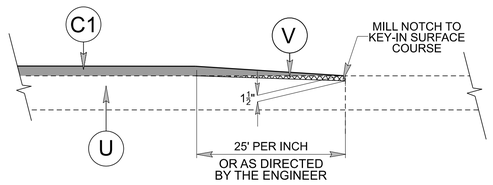
11/14/23

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)			
C1	1½" S9.5C	R1	5" MONO ISLAND
C2	3" S9.5C	R2	8"x12" CURB
C3	VAR. S9.5C	R3	3" ROLLED CURB
D1	4" I19.0C	R4	CONC. APRON
D2	VAR. I19.0C	T	EARTH MATERIAL
E1	4" B25.0C	U	EXIST. PAVE.
E2	5" B25.0C	V	1½" MILL.
E3	VAR. B25.0C	W	WEDGING

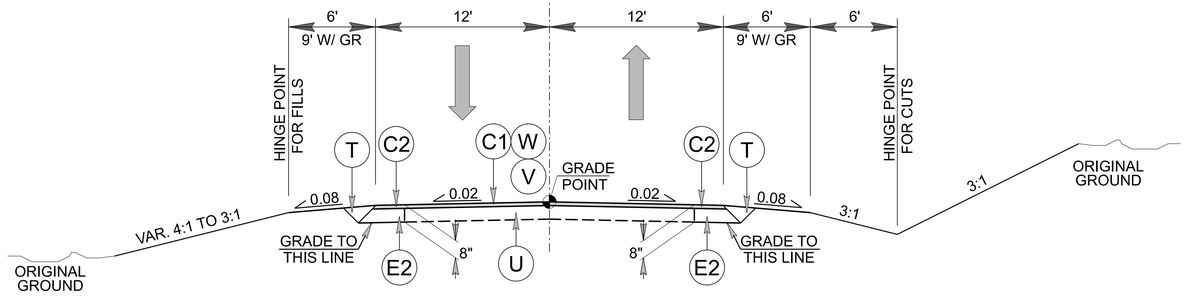
NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

MILLING DETAIL FOR INCIDENTAL MILLING AT TIE-INS



-Y1- STA. 16+52.50 TO STA. 16+90.00
-Y2- STA. 10+40.00 TO STA. 10+77.50

℄ -Y1- (SR 1312 - OXENDINE SCHOOL ROAD)
-Y2- (SR 1312 - RED HILL ROAD)

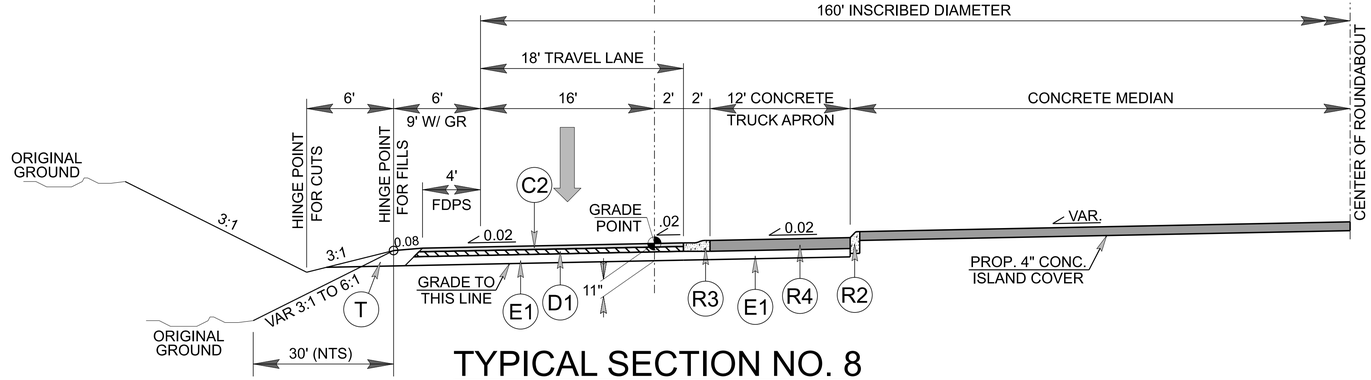


TYPICAL SECTION NO. 7

FROM -Y1- STA. 16+40.00 TO STA. 16+90.00
FROM -Y2- STA. 10+40.00 TO STA. 11+65.00

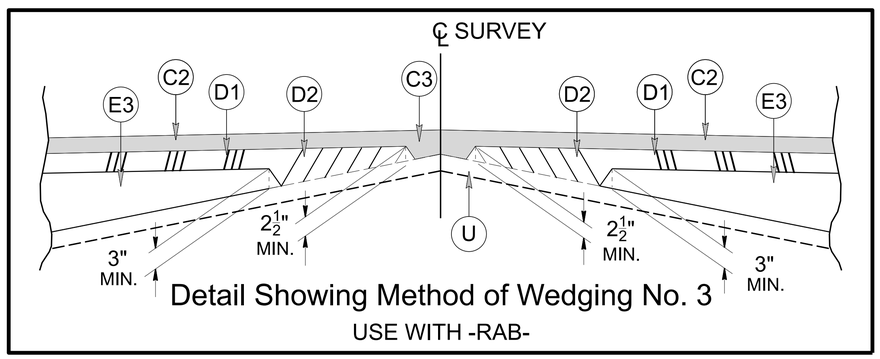
NOTE: SEE SHEET 2A-2 FOR WEDGING DETAIL NO 2.

℄ -RAB- (ROUNDABOUT)



TYPICAL SECTION NO. 8

FROM -RAB- STA. 10+00.00 TO STA. 14+02.11



Detail Showing Method of Wedging No. 3
USE WITH -RAB-

NOTE: SEE PLANS FOR VARYING PAVED SHOULDER WIDTH AROUND THE ROUNDABOUT.
NOTE: SEE SHEET 2B-1 FOR 2" ROLLED CURB DETAIL.
NOTE: EXISTING PAVEMENT WIDTHS VARY, SEE PLANS.

HN-0020
4RD1 | 2A-3

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

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8848 RED OAK BLVD., SUITE A
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PHONE (704) 523-4716
LICENCE NO P-0176
WWW.SMEINC.COM

REVISIONS

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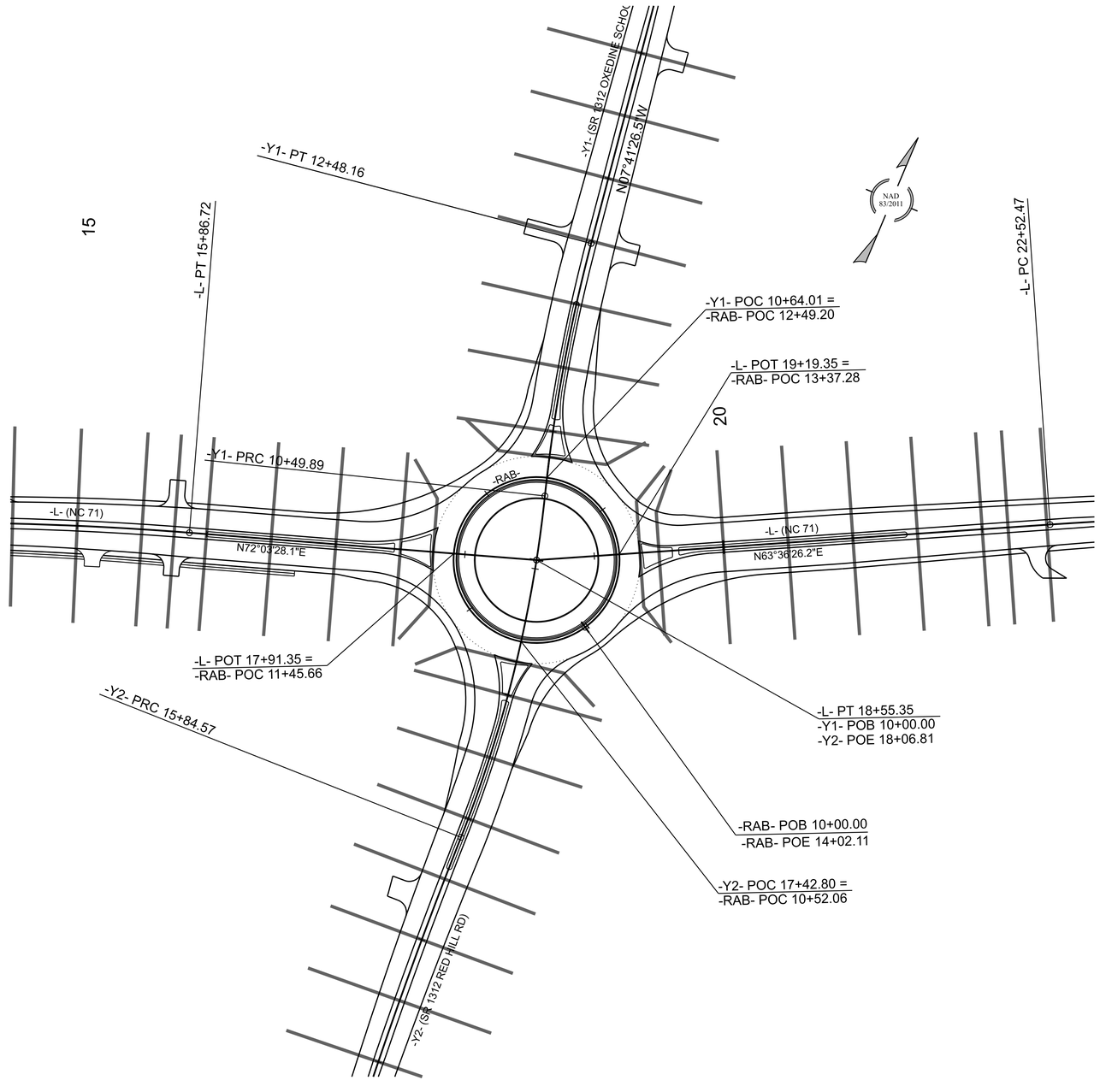
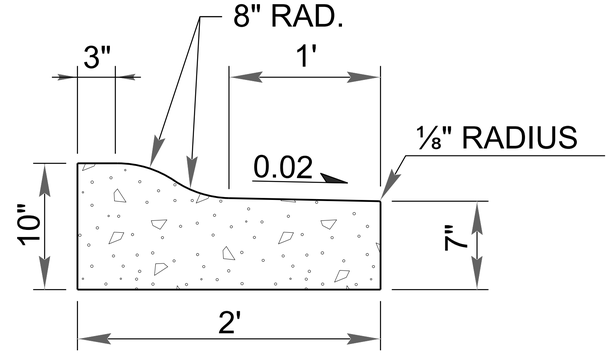
5/26/20

CROSS-SECTION LAYOUT AT ROUNDABOUT APPROACHES



3" ROLLED CURB DETAIL



ROUNDABOUT TRUCK APRON CURB & GUTTER

HN-0020

4RD1	2B-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025

NORTH CAROLINA PROFESSIONAL SEAL 038849 ENGINEER MATTHEW A. DOUGLAS

Signed by:
Matthew A. Douglas
4D4C0BB7478A4EE...

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ROADWAY DESIGN PREPARED BY

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
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LICENCE NO P-2673
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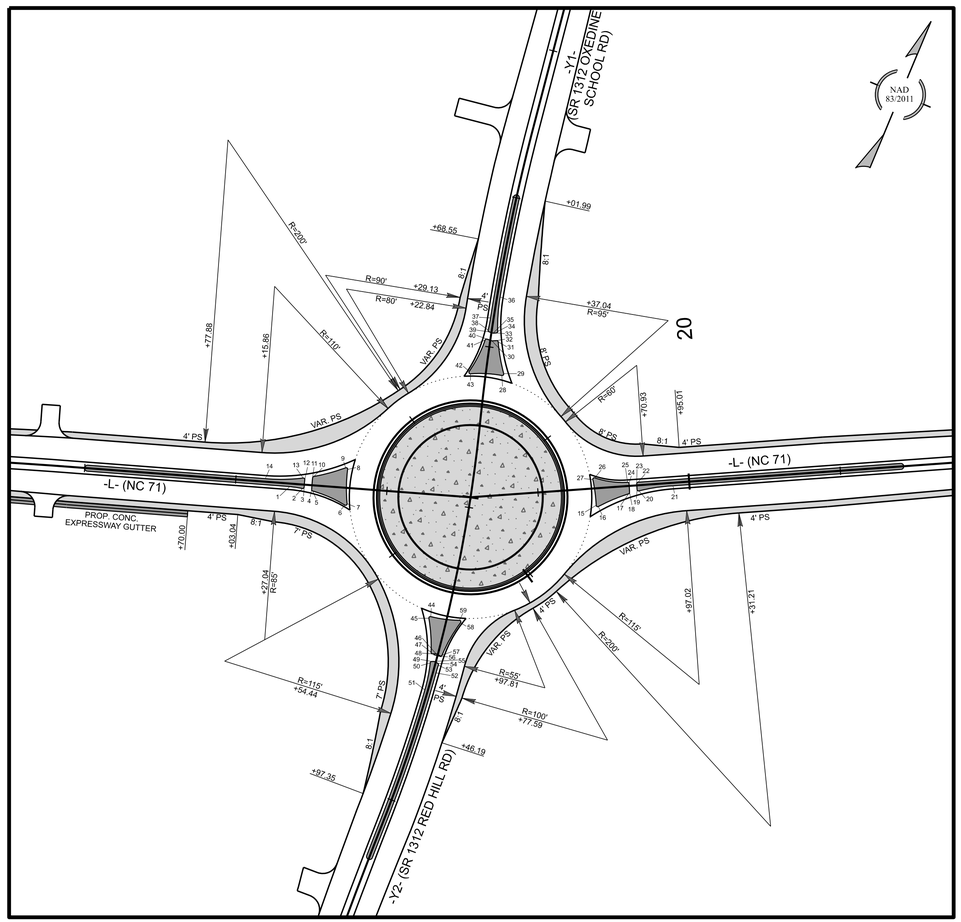
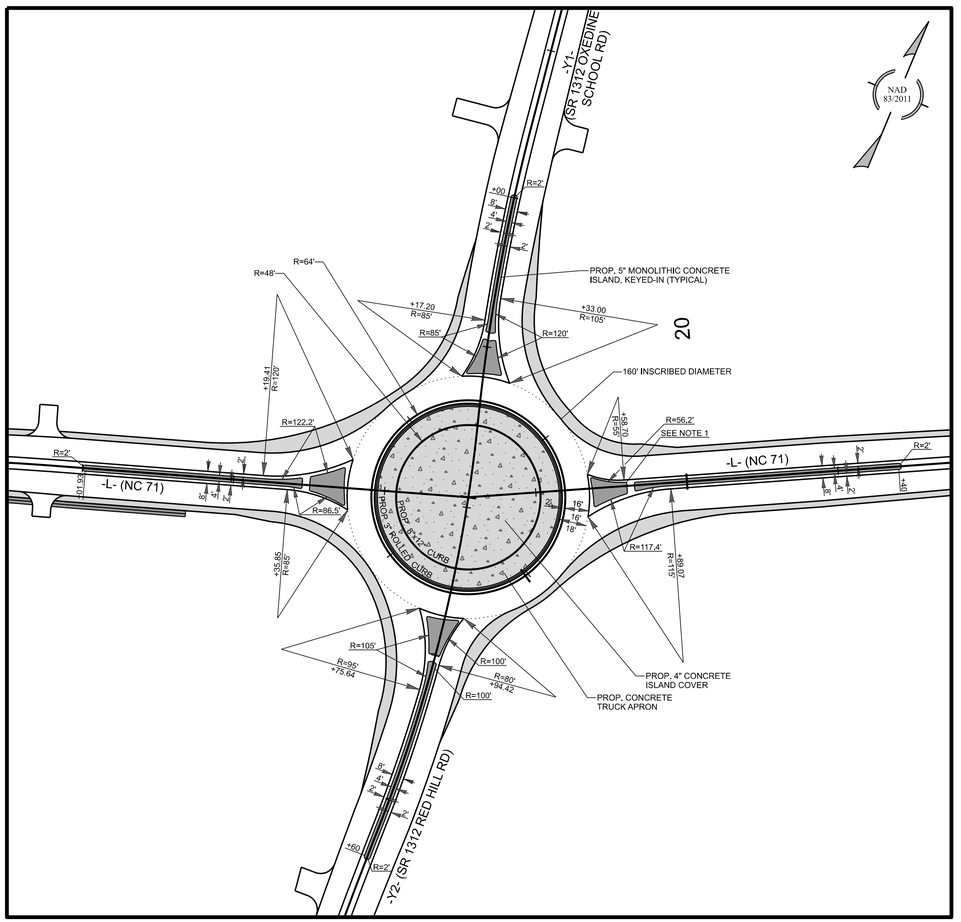
5/26/20

INTERSECTION DETAILS & CONCRETE ISLAND LAYOUT





Point Number	Aln.	Station	Offset	Loc.	Offset from EOT
1	-L-	17+35.85	2.00	RT	2.00
2	-L-	17+44.24	2.62	RT	1.78
3	-L-	17+45.36	1.62	RT	---
4	-L-	17+50.39	2.81	RT	---
5	-L-	17+51.19	3.77	RT	1.60
6	-L-	17+72.98	11.43	RT	1.00
7	-L-	17+74.42	10.36	RT	1.59
8	-L-	17+73.11	12.22	LT	3.15
9	-L-	17+71.69	13.18	LT	2.53
10	-L-	17+51.22	5.89	LT	2.32
11	-L-	17+50.47	4.97	LT	---
12	-L-	17+45.40	3.28	LT	---
13	-L-	17+44.21	4.30	LT	2.24
14	-L-	17+19.41	2.00	LT	2.00

Point Number	Aln.	Station	Offset	Loc.	Offset from EOT
15	-L-	19+37.68	11.18	RT	3.09
16	-L-	19+39.09	12.12	RT	2.99
17	-L-	19+59.50	5.20	RT	2.58
18	-L-	19+60.26	4.27	RT	---
19	-L-	19+65.32	2.74	RT	---
20	-L-	19+66.49	3.75	RT	2.44
21	-L-	19+89.07	2.00	RT	2.00
22	-L-	19+66.35	2.00	LT	2.00
23	-L-	19+65.35	0.99	LT	---
24	-L-	19+60.34	1.50	LT	---
25	-L-	19+59.37	2.48	LT	1.52
26	-L-	19+38.05	6.94	LT	1.00
27	-L-	19+36.68	5.87	LT	1.54

Point Number	Aln.	Station	Offset	Loc.	Offset from EOT
28	-Y1-	10+82.37	10.67	RT	3.00
29	-Y1-	10+83.75	11.72	RT	3.00
30	-Y1-	11+04.21	1.19	RT	---
31	-Y1-	11+04.11	5.34	RT	2.27
32	-Y1-	11+04.87	4.15	RT	---
33	-Y1-	11+09.79	3.20	RT	---
34	-Y1-	11+10.94	3.96	RT	2.13
35	-Y1-	11+09.32	1.11	RT	---
36	-Y1-	11+33.69	2.00	RT	2.00
37	-Y1-	11+19.00	2.00	LT	2.00
38	-Y1-	11+10.91	2.41	LT	1.83
39	-Y1-	11+09.83	1.60	LT	---
40	-Y1-	11+04.87	2.24	LT	---
41	-Y1-	11+04.08	3.41	LT	1.66
42	-Y1-	10+82.30	11.00	LT	1.00
43	-Y1-	10+80.85	9.99	LT	1.50

Point Number	Aln.	Station	Offset	Loc.	Offset from EOT
44	-Y2-	17+24.03	10.59	LT	3.00
45	-Y2-	17+22.62	11.60	LT	3.00
46	-Y2-	17+00.98	1.26	LT	---
47	-Y2-	17+01.06	4.71	LT	2.32
48	-Y2-	17+00.32	3.44	LT	---
49	-Y2-	16+95.29	2.73	LT	---
50	-Y2-	16+94.18	3.42	LT	2.18
51	-Y2-	16+75.94	2.00	LT	2.00
52	-Y2-	16+88.79	2.00	RT	2.00
53	-Y2-	16+94.15	2.16	RT	1.84
54	-Y2-	16+95.18	1.40	RT	---
55	-Y2-	16+95.79	1.11	LT	---
56	-Y2-	17+00.27	1.61	RT	---
57	-Y2-	17+01.10	2.84	RT	1.46
58	-Y2-	17+24.69	9.45	RT	1.00
59	-Y2-	17+26.06	8.38	RT	1.50

NOTE 1: ALL CONCRETE ISLAND RADII 1' UNLESS OTHERWISE NOTED.

HN-0020

4RD1 | 2B-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025

NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS

Signed by: Matthew A. Douglas CA

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

REVISIONS

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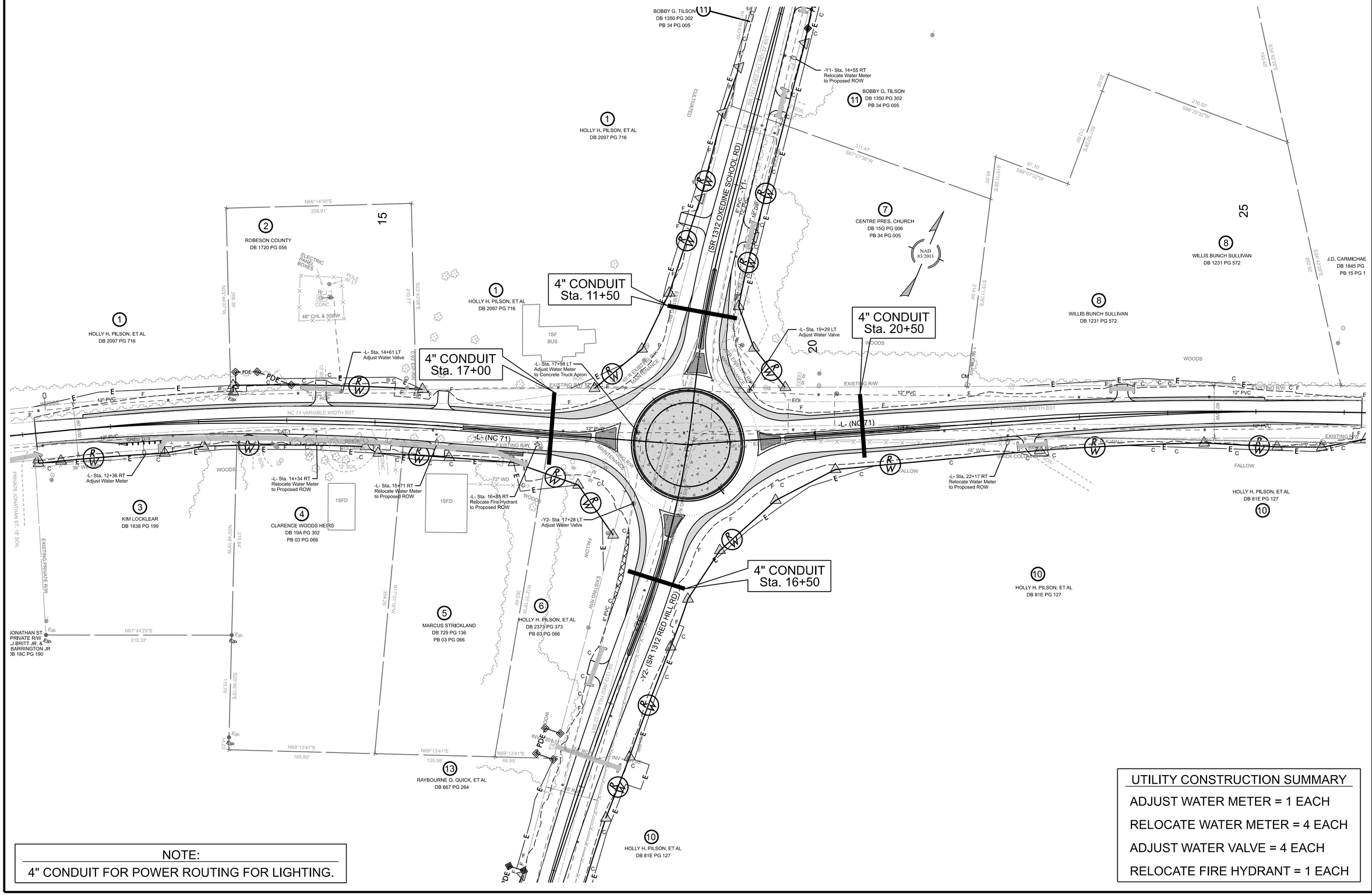
5/26/20

UTILITY CONSTRUCTION DETAIL SHEET



NOTE:

4" CONDUIT FOR POWER ROUTING FOR LIGHTING.

UTILITY CONSTRUCTION SUMMARY

ADJUST WATER METER = 1 EACH

RELOCATE WATER METER = 4 EACH

ADJUST WATER VALVE = 4 EACH

RELOCATE FIRE HYDRANT = 1 EACH

REVISIONS

HN-0020

4RD1 | 2B-3

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

12/6/2025

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038649 MATTHEW A. DOUGLAS

Signed by: Matthew A. Douglas CA

HYDRAULICS ENGINEER

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ROADWAY DESIGN PREPARED BY

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

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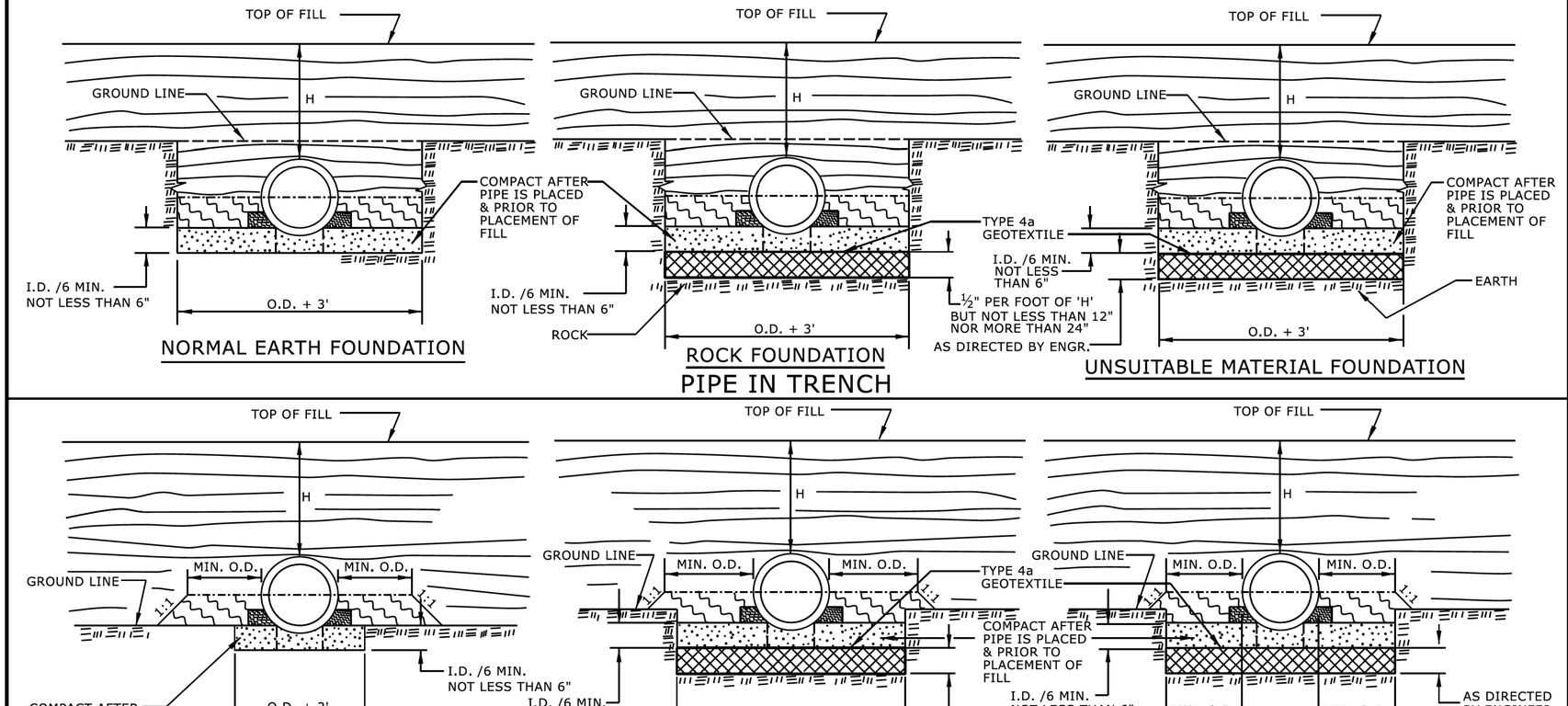

GENERAL NOTES:

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

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

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

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

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

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

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

SPRINGLINE OF PIPE

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

UNDISTURBED EARTH MATERIAL

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

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

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

RIGID PIPE

SHEET 2 OF 2

300.01

HN-0020

4RD1 | 2C-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

12/8/2025

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M. HACKLER

Signed by:
Nicole M. Hackler
5884323D34164C5...

REVISIONS

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

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

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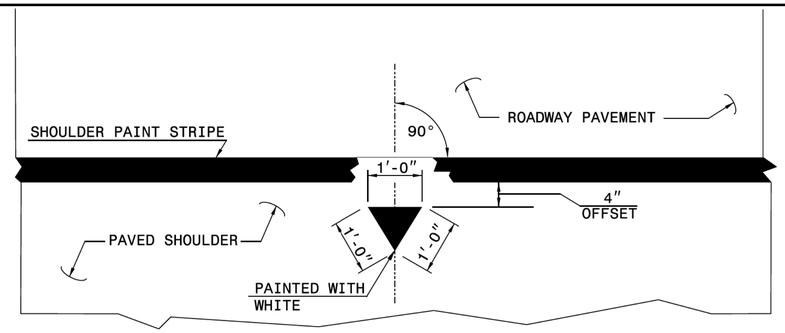
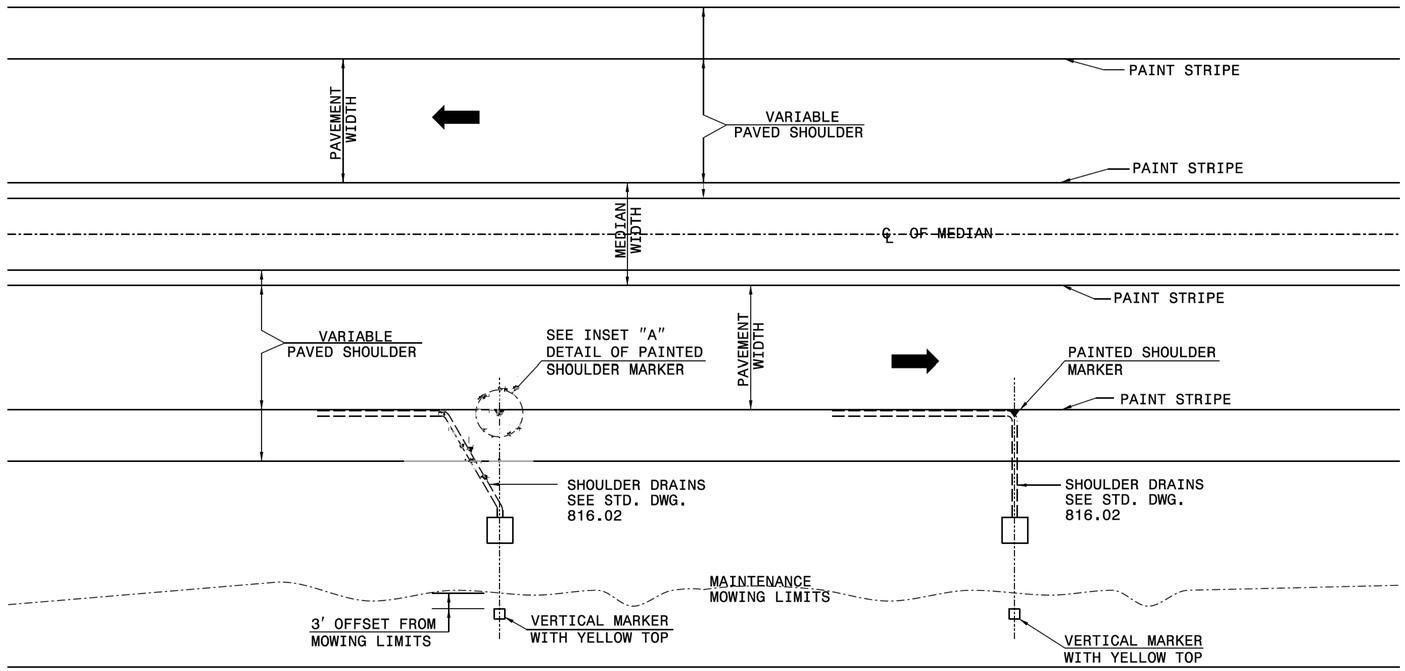


INSET "A"



PAINTED SHOULDER AND VERTICAL MARKER

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

ROADWAY DETAIL DRAWING FOR

MARKERS FOR DRAINAGE STRUCTURE AND CONCRETE PAD

SHEET 1 OF 2

816D04

HN-0020

4RD1 | 2C-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

12/8/2025

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M HACKLER

Signed by:
Nicole M. Hackler
5884323D34164C5...

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UNLESS ALL SIGNATURES COMPLETED

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

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ORIGINAL BY: K. Aldridge DATE: 06-02-2025
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

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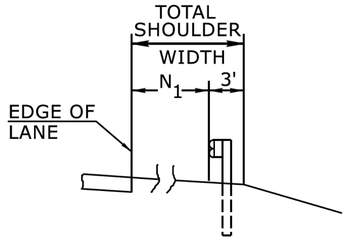
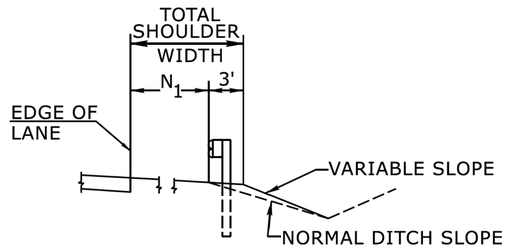
11/14/23

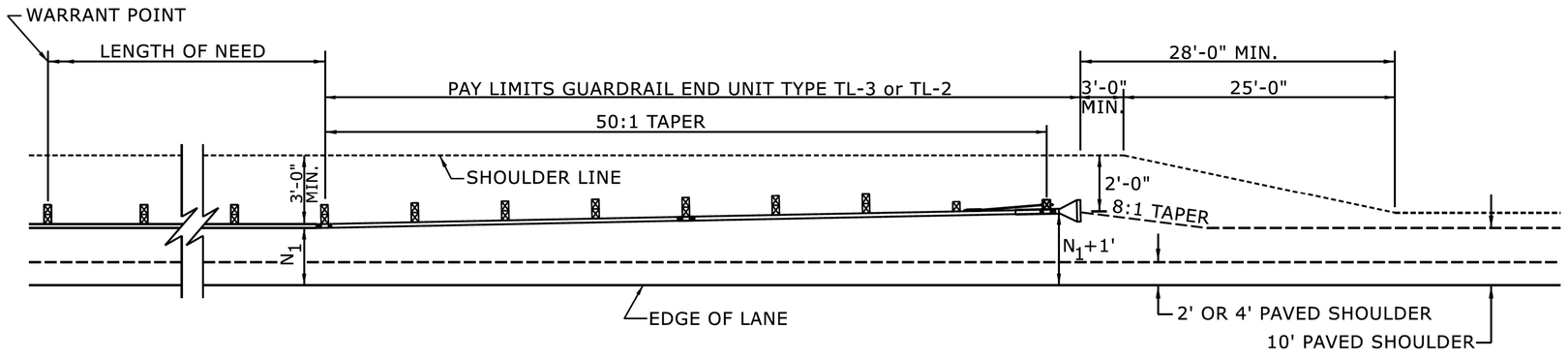


FILL SECTION



CUT SECTION

"N_1"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15
862D01

HN-0020
4RD1 | 2C-3
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY
ROADWAY DESIGN UNIT

12/8/2025
NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M. HACKLER
Signed by:
Nicole M. Hackler
5884323D3164C5...

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UNLESS ALL SIGNATURES COMPLETED

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

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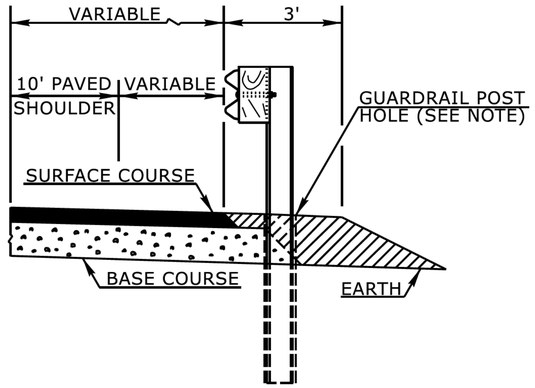
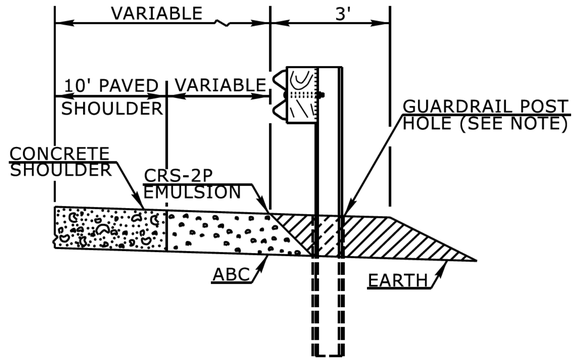
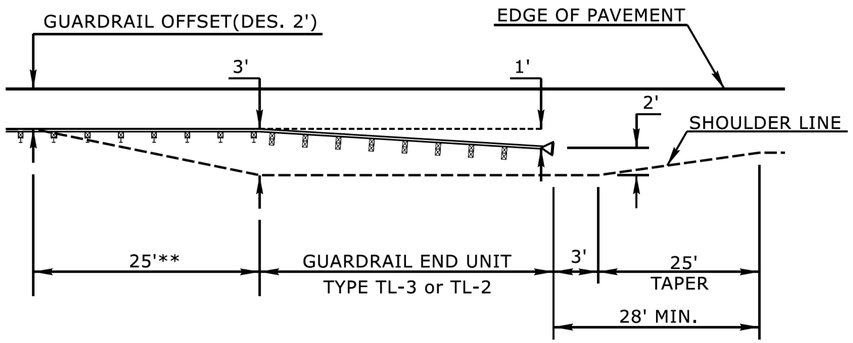
11/14/23



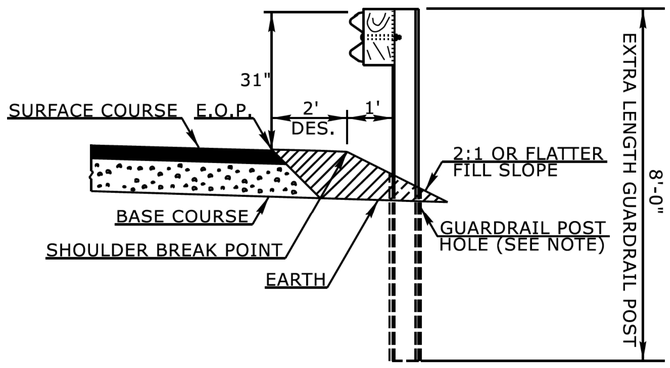
FLEXIBLE PAVED SHOULDER



CONCRETE PAVED SHOULDER



8' GUARDRAIL POST ON 2:1 SLOPE-END UNIT TRANSITION*
PLAN VIEW



8' GUARDRAIL POST ON 2:1 SLOPE*

* THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED ≤ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE

NOTE:
WHEN WOODEN GUARDRAIL POSTS ARE USED, DRILL HOLES THROUGH EARTH MATERIAL AND BASE COURSE.THE POST MAY THEN BE DRIVEN TO THE PROPER DEPTH. DRILL THE HOLE OF SUFFICIENT SIZE TO ACCOMMODATE THE PARTICULAR POST BEING USED. BACKFILL AND TAMP HOLES USING THE EXCAVATED MATERIAL.

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11OF 15
862D01

HN-0020
4RD1 | 2C-4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

12/8/2025

Signed by:
Nicole M. Hackler
58843230341645...

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UNLESS ALL SIGNATURES COMPLETED

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

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ORIGINAL BY: L.SMITH DATE: 10-14-2025
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STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

EARTHWORK SUMMARY

STATION	STATION	EXCAVATION		EMBANKMENT	BORROW	TOTAL WASTE
		TOTAL UNCLASS.	UNDERCUT			
Phase I						
-L- 11+15.00 RT	-L- 17+35.35 RT	462		10		452
-L- 11+15.00 LT	-L- 17+35.35 LT	128		257	129	
-L- 19+35.35 RT	-L- 26+20.00 RT	231		149		83
-L- 19+35.35 LT	-L- 26+20.00 LT	93		133	40	
-Y2- 10+40.00 RT	-Y2- 17+26.79 RT	259		565	306	
-Y2- 10+40.00 LT	-Y2- 17+26.79 LT	204		523	319	
-RAB-	-RAB-	10		435	425	
-L- 15+97.17 RT (TEMP)	-L- 17+96.95 RT (TEMP)	327				327
-L- 19+03.89 RT (TEMP)	-L- 21+22.79 RT (TEMP)	72		8		65
-Y2- 15+69.12 RT (TEMP)	-Y2- 17+54.09 RT (TEMP)	34		40	6	
-Y2- 16+70.93 LT (TEMP)	-Y2- 17+26.34 LT (TEMP)	62				
	Phase I Subtotal	**1,882**		**2,120**	**1,225**	**927**
Phase II						
-Y1- 10+80.01	-Y1- 11+65.00			425	425	
-Y1- 11+65.00 RT	-Y1- 13+50.00 RT	63		18		46
-Y1- 11+65.00 LT	-Y1- 13+50.00 LT					11
-Y1- 13+50.00	-Y1- 16+90.00	190		112		79
-RAB-	-RAB-	6		185	179	
	Phase II Subtotal	**259**		**740**	**604**	**136**
Phase IV						
-L- 15+97.17 RT	-L- 17+96.95 RT					273
-L- 19+03.89 RT	-L- 21+22.79 RT	1,882		2,120		6
-Y2- 15+69.12 RT	-Y2- 17+54.09 RT				125	
-Y2- 16+70.93 LT	-Y2- 17+26.34 LT					10
-L- 15+97.17 RT (TEMP)	-L- 17+96.95 RT (TEMP)			425	409	
-L- 19+03.89 RT (TEMP)	-L- 21+22.79 RT (TEMP)	63		18	84	
-Y2- 15+69.12 RT (TEMP)	-Y2- 17+54.09 RT (TEMP)				11	
-Y2- 16+70.93 LT (TEMP)	-Y2- 17+26.34 LT (TEMP)	190		112	78	
	Phase IV Subtotal	**2,135**		**2,675**	**707**	**289**
PROJECT SUBTOTAL		2,480		3,618	2,536	1,414
TOTAL		2,480		3,618	2,536	1,414
MATERIAL FOR SHOULDER CONSTRUCTION				306	306	
LOSS DUE TO CLEARING & GRUBBING		-600			600	
WASTE IN LIEU OF BORROW					-1,414	-1,414
PROJECT TOTAL		1,880		3,924	2,028	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					101	
GRAND TOTAL		1,880			2,130	
SAY		**1,900**			**2,200**	

GEOTECHNICAL CONTINGENCIES:

UNDERCUT EXCAVATION = 450 CY
SELECT GRANUAL MATERIAL = 200 CY
GEOTEXTILE FOR SOIL STABILIZATION = 400 SY
SHALLOW UNDERCUT = 100 CY
CLASS IV SUBGRADE STABILIZATION = 200 TONS
GEOTEXTILE FOR SUBGRADE STABILIZATION = 300 SY

Note: Undercut can be utilized as embankment.

Note: Approximate quantities only. Unclassified Excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the contract lump sum price for grading.

CALC. BY: J. ADORNO DATE: 10/28/2025

CHECKED BY: M. DOUGLAS DATE: 10/28/2025

HN-0020
4RD1 | 3B-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN
PREPARED BY

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

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STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH		WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W		ANCHORS		IMPACT ATTENUATOR		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				SINGLE FACED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GREU TL-3	CAT-1	G	NG				
-L-	12+08.75	14+02.50	RT	193.75		13+90		6'	9'	50'	1'			1	1						
			SUBTOTALS	193.75										1	1						
	DEDUCTIONS																				
		GREU TL-3 @ 50' Each		-50.00																	
		CAT-1 @ 6.25' Each		-6.25																	
			TOTALS	137.50										1	1						
			SAY	**150**										**1**	**1**						
ADDITIONAL GUARDRAIL POSTS = 5 EA																					

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

REMOVAL OF EXISTING ASPHALT PAVEMENT

LINE	STATION	STATION	LOC.	LENGTH OR AREA	WIDTH	SQUARE YARDS	COMMENTS
-L-	15+20	17+82	LT	2,397.97		266.44	Exisiting Pavement
-L-	19+30	22+80	LT	2,737.74		304.19	Exisiting Pavement
-Y1-	10+80	11+65	CL	3,358.69		373.19	Exisiting Pavement and Island
-Y1-	11+65	13+50	LT	2,268.43		252.05	Exisiting Pavement
-Y2-	13+06	17+33	LT	4,105.85		456.21	Exisiting Pavement
-Y2-	17+46	18+06	LT	263.86		29.32	Existing Island
-RAB-	10+75	11+39	LT	2,050.72		227.86	Temporary Pavement
-RAB-	10+00	10+53	LT	2,737.23		304.14	Temporary Pavement
-RAB-	13+43	14+02	LT	3,360.25		373.36	Temporary Pavement
					TOTAL	2,586.75	
					SAY	**2,590**	

CALC. BY: J. ADORNO DATE: 05/05/2025

CHECKED BY: M. DOUGLAS DATE: 05/06/2025

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ROADWAY DESIGN
PREPARED BY
VIAS INFRASTRUCTURE
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LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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

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

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
L 16+75	41	RT	0401	0402		208.0	207.8	
L 16+35	24	RT	0402		211.7			
			0402	0403		207.8	207.6	
L 15+90	24	RT	0403		211.0			
			0403	0404		207.6	206.9	
L 15+25	23	RT	0404		209.6			
			0404	0405		206.9	203.5	
L 13+77	20	RT	0405		206.2			
			0405	0424		203.5	201.5	
L 12+62	18	RT	0424		203.9			
			0424	0425		201.9	201.6	
Y2 13+80	36	RT	0406	0407		202.0	201.6	
Y1 12+34	33	RT	0408	0409				
Y1 13+85	27	RT	0410	0411				
Y2 15+30	33	LT	0412	0413				
L 22+43	30	RT	0414	0415				
L 23+38	31	LT	0416	0417				
L 11+15	27	RT	0418	0419		198.8	198.5	
L 14+38	35	LT	0422	0423				
Y1 15+20	24	RT	0501	0502				

LINE & STATION	FROM	TO	R. C. PIPE CLASS III 12	III 15	III 18	III 24	III 30	III 36	III 42	III 48	R. C. PIPE CLASS IV 12	IV 15	IV 18	IV 24	IV 30	IV 36	IV 42	IV 48	R. C. PIPE CLASS V 12	V 15	V 18	V 24	V 30	V 36	V 42	V 48
L 16+75	0401	0402										44														
L 16+35	0402																									
	0402	0403										48														
L 15+90	0403																									
	0403	0404										64														
L 15+25	0404																									
	0404	0405										148														
L 13+77	0405																									
	0405	0424										116														
L 12+62	0424																									
	0424	0425		12																						
Y2 13+80	0406	0407																						76			
Y1 12+34	0408	0409										28														
Y1 13+85	0410	0411										32														
Y2 15+30	0412	0413										32														
L 22+43	0414	0415										28														
L 23+38	0416	0417										24														
L 11+15	0418	0419										52														
L 14+38	0422	0423										36														
Y1 15+20	0501	0502										24														
SHEET TOTALS (48" or Less)				12								676											76			
PROJECT TOTALS (48" or Less)				12								676											76			

LINE & STATION	FROM	TO	##" x ##" C.S. PIPE ARCH CULVERTS, ##" THICK	##" x ##" C.S. STRUCTURAL PLATE PIPE ARCH, ## GAUGE	##" WELDED STEEL PIPE ##" THICK, GRADE ## IN SOIL	##" WELDED STEEL PIPE ##" THICK, GRADE ## NOT IN SOIL	##" WELDED STEEL PIPE ##" THICK, GRADE B (UNDER RR)	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G
L 16+35	0402											1						
L 15+90	0403											1						
L 15+25	0404											1						
L 13+77	0405											1						
L 12+62	0424											1						
SHEET TOTALS (48" or Less)												5						
PROJECT TOTALS (48" or Less)												5						

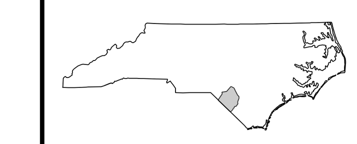
LINE & STATION	FROM	TO	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	C.B. MIN DEPTH STD. (SPECIAL DETAIL)	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 16+35	0402										1									1															
L 15+90	0403										1									1															
L 15+25	0404										1									1															
L 13+77	0405										1									1															
L 12+62	0424											1								1															
Y2 13+80	0406	0407																																38	Remove 24" RCP
L 14+38	0422	0423																																25	Remove 15" RCP
SHEET TOTALS (48" or Less)											4	1								5														63	
PROJECT TOTALS (48" or Less)											4	1								5														63	

C.A.A. CORRUGATED ALUMINIUM ALLOY
C.B. CATCH BASIN
C.S. CORRUGATED STEEL
D.I. DROP INLET
G.D.I. GRATED DROP INLET
H.D.P.E. HIGH DENSITY POLYETHYLENE
J.B. JUNCTION BOX
M.H. MANHOLE
N.S. NARROW SLOT
P.V.C. POLYVINYL CHLORIDE
R.C. REINFORCED CONCRETE
T.B.D.I. TRAFFIC BEARING DROP INLET
T.B.J.B. TRAFFIC BEARING JUNCTION BOX
W.S. WIDE SLOT

CALC. BY: M. HARVEY DATE: 08/04/2025
CHECKED BY: K. ALFORD DATE: 08/05/2025

HN-0020
4RD1 | 3D-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY



ROADWAY DESIGN UNIT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HYDRAULIC DESIGN PREPARED BY

WETHERILL ENGINEERING
1223 Jones Franklin Rd.
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Fax: 919 851 8107

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STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

GEOTECHNICAL QUANTITY SUMMARY SHEET

SUMMARY OF SUBSURFACE DRAINAGE

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

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

SUMMARY OF AGGREGATE SUBGRADE / STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU	12	100	200	300		
			TOTAL CY/TONS/SY:		100	200**	300**	0	0

***ASU(1/2) = Aggregate Subgrade (Type 1 or 2)**
***AST = Aggregate Stabilization**
****Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.**

Note: Undercut can be utilized as embankment.

CALC. BY: B. KEBA DATE: 06/26/2024

CHECKED BY: J. DAILY DATE: 07/12/2024

HN-0020
4RD1 | 3G-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GEOTECHNICAL DESIGN PREPARED BY

8848 RED OAK BLVD., SUITE A
CHARLOTTE, NC 28217
PHONE (704) 523-4716
LICENCE NO P-0176
WWW.SMEINC.COM

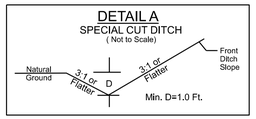
REVISIONS

Docusign Envelope ID: C80EE567-DB8B-4F1A-8A3B-4D0461BF42D5

5/26/20

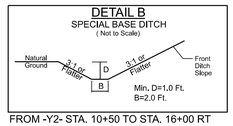
CUR DATA -L-	CUR DATA -L-	CUR DATA -Y1-	CUR DATA -Y1-	CUR DATA -Y2-	CUR DATA -Y2-	CUR DATA -RAB-
PIc 13+64.20	PIc 23+88.37	PIc 10+24.95	PIc 11+49.22	PIc 13+67.02	PIc 16+96.15	PIc 10+00.00
Δc = 09°59'09.0" (RT)	Δc = 04°23'05.7" (RT)	Δc = 02°51'31.5" (LT)	Δc = 08°44'17.2" (RT)	Δc = 06°31'58.4" (RT)	Δc = 12°44'02.0" (LT)	Δc = 359°59'30.6" (RT)
D = 02°14'17.2"	D = 01°36'50.3"	D = 05°43'46.5"	D = 04°24'26.5"	D = 01°29'59.6"	D = 05°43'46.5"	D = 89°31'28.8"
Lc = 446.17	Lc = 271.69	Lc = 49.89	Lc = 198.26	Lc = 435.56	Lc = 222.25	Lc = 402.11
Tc = 223.65	Tc = 135.91	Tc = 24.95	Tc = 99.32	Tc = 218.01	Tc = 111.58	Tc = 0.00
R = 2,560	R = 3,550	R = 1,000	R = 1,300	R = 3,820	R = 1,000	R = 64
SE = 4.0	SE = 3.0		SE = 4.0	SE = 3.0	SE = 3.0	SE = 2.0
LRb = 120'	LRb = 96'		LRb = 96'	LRa = 84'	LRb = 72'	
LRa = 112'	LRa = 90'		LRa = 112'		LRa = 67.5'	
V = 50 MPH	V = 50 MPH		V = 35 MPH	V = 50 MPH	V = 25 MPH	

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM -L- STA. 11+15 TO STA. 12+00 RT
FROM -L- STA. 13+55 TO STA. 14+20 LT
FROM -L- STA. 14+55 TO STA. 15+20 LT
FROM -L- STA. 16+75 TO STA. 17+50 RT
FROM -L- STA. 19+50 TO STA. 20+00 RT
FROM -L- STA. 23+70 TO STA. 25+45 LT
FROM -L- STA. 22+60 TO STA. 26+10 RT
FROM -Y1- STA. 13+00 TO STA. 16+80 RT
FROM -Y1- STA. 14+50 TO STA. 16+20 LT
FROM -Y2- STA. 14+90 TO STA. 15+50 LT

DETAIL B
SPECIAL BASE DITCH
(Not to Scale)



FROM -Y2- STA. 10+50 TO STA. 16+00 RT

MATCH LINE - Y1- STA 15+00.00
SEE SHEET 5 -Y1- INSET

NAD 83/2011

BOBBY G. TILSON
DB 1350 PG 302
PB 34 PG 005

SPECIAL CUT DITCH
SEE DETAIL A

DO NOT DISTURB
PEAR TREE

-Y1- ISR 1312 OXEDINE SCHOOL RD

-Y1- PT 12+48.16

HOLLY H. PILSON, ET AL
DB 2097 PG 716

CENTRE PRES. CHURCH
DB 15G PG 006
PB 34 PG 005

-L- PC 11+40.54

-L- PT 15+86.72

-L- PC 22+52.47

ROBESON COUNTY
DB 1720 PG 056

ELECTRIC PANEL BOXES

POLE W/ LT

48" CHL & 3SBW

4 ft CURB CUT
Y1 STA. 11+56

-Y1- POC 10+64.01 =
-RAB- POC 12+49.20

PROP. 5" MONOLITHIC ISLAND (KEYED-IN)

-L- POT 19+19.35 =
-RAB- POC 13+37.28

WILLIS BUNCH SULLIVAN
DB 1231 PG 572

BEGIN CONSTRUCTION
-L- POB STA 10+00.00

55' TAPER TO EXIST.

420' OUTSIDE LANE TAPER

240' INSIDE LANE TAPER

CL. "B" RIP RAP
2 TON
7 Sq. Yds.
GEOTEXTILE

SPECIAL CUT DITCH
SEE DETAIL A

-Y1- PRC 10+49.89

4 ft CURB CUT
L STA. 16+50

4 ft CURB CUT
L STA. 17+00

PROP. 5" MONOLITHIC ISLAND (KEYED-IN)

-RAB-

GRADE TO DRAIN

EXISTING R/W

-L- (NC 71)

N62°04'19.2"E

N72°03'28.1"E

N63°36'26.2"E

TO MAXTON NC

15" RCP-IV

12" PVC

20" HDPE

NC 71 VARIABLE WIDTH BST

GREU TL-3

CAT-1

DO NOT DISTRUB EXISTING FENCE

CL. "B" RIP RAP
2 TON
7 Sq. Yds.
GEOTEXTILE

SPECIAL CUT DITCH
SEE DETAIL A

KEEP GRADING LIMITS WITHIN EXISTING DITCH

BEGIN PROJECT HN-0020
-L- POT STA 11+15.00

DEMETRIUS HUNT
DB 20F PG 324
PB 54 PG 188

KIM LOCKLEAR
DB 1838 PG 199

CLARENCE WOODS HEIRS
DB 19A PG 302
PB 03 PG 066

-L- POT 17+91.35 =
-RAB- POC 11+45.66

-Y2- PRC 15+84.57

SPECIAL CUT DITCH
SEE DETAIL A

-L- PT 18+55.35
-Y1- POB 10+00.00
-Y2- POE 18+06.81

160' INSCRIBED DIAMETER

PROP. 4" CONCRETE ISLAND COVER

-RAB- POB 10+00.00
-RAB- POE 14+02.11

-Y2- POC 17+42.80 =
-RAB- POC 10+52.06

PROP. CONCRETE TRUCK APRON

4 ft CURB CUT
Y2 STA. 16+35

PROP. 5" MONOLITHIC ISLAND (KEYED-IN)

4 ft CURB CUT
Y2 STA. 15+96

JONATHAN ST
PRIVATE R/W
L/J BRITT JR. &
J.H. BARRINGTON JR
DB 18C PG 190

MARCUS STRICKLAND
DB 729 PG 136
PB 03 PG 066

HOLLY H. PILSON, ET AL
DB 2373 PG 373
PB 03 PG 066

CL. "B" RIP RAP
1 TON
5 Sq. Yds.
GEOTEXTILE

CL. "B" RIP RAP
5 TON
16 Sq. Yds.
GEOTEXTILE

SPECIAL BASE DITCH
SEE DETAIL B

REMOVE

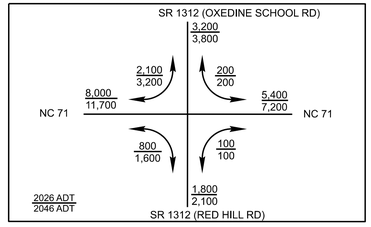
RAYBOURNE O. QUICK, ET AL
DB 667 PG 264

HOLLY H. PILSON, ET AL
DB 81E PG 127

SPECIAL BASE DITCH
SEE DETAIL B

MATCH LINE - Y2- STA 13+00.00
SEE SHEET 5 -Y2- INSET

MATCH LINE - L- STA 24+00.00 SEE SHEET 5 -L- INSET



SEE SHEET 4A FOR ROW STATIONS & OFFSETS.

NOTE: ALL DRIVEWAYS USE 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE, SEE SHEET NO. 6
FOR -RAB- PROFILE, SEE SHEET NO. 6
FOR -Y1- PROFILE, SEE SHEET NO. 7
FOR -Y2- PROFILE, SEE SHEET NO. 7

SEE SHEET 2B-1 FOR CROSS-SECTION LAYOUT.
SEE SHEET 2B-1 FOR 3" ROLLED CURB DETAIL.
SEE SHEET 2B-2 FOR INTERSECTION LAYOUT.

NOTE: PARCEL #9 NOT USED.

PROPOSED SHOULDER BERM GUTTER
FROM -L- STA. 12+60.00 TO STA. 14+02.50 RT

PROPOSED CONCRETE EXPRESSWAY GUTTER
FROM -L- STA. 14+16.31 TO STA. 16+70.00 RT

PAVEMENT REMOVAL

REVISIONS

HN-0020	
4RD1	4

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025

NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS

Signed by: Matthew A. Douglas

HYDRAULICS ENGINEER
12/7/2025

NORTH CAROLINA PROFESSIONAL SEAL 053425 ENGINEER MATTHEW L. HARVEY

Signed by: Matthew L. Harvey

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

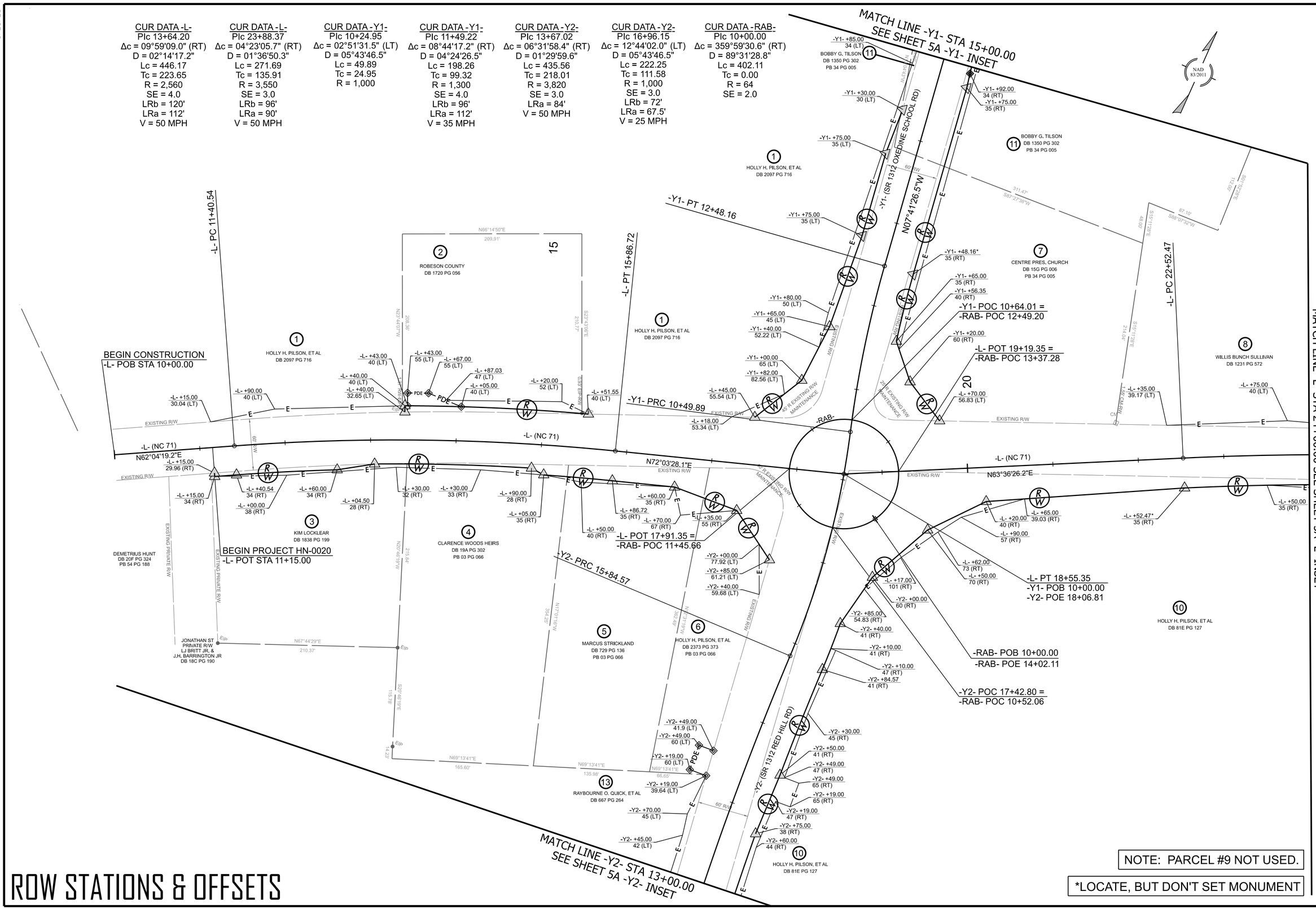
HYDRAULIC DESIGN PREPARED BY

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

Docusign Envelope ID: C80EE567-DB8B-4F1A-8A3B-4D0461BF42D5

5/26/20

CUR DATA -L-	CUR DATA -L-	CUR DATA -Y1-	CUR DATA -Y1-	CUR DATA -Y2-	CUR DATA -Y2-	CUR DATA -RAB-
PIc 13+64.20	PIc 23+88.37	PIc 10+24.95	PIc 11+49.22	PIc 13+67.02	PIc 16+96.15	PIc 10+00.00
Δc = 09°59'09.0" (RT)	Δc = 04°23'05.7" (RT)	Δc = 02°51'31.5" (LT)	Δc = 08°44'17.2" (RT)	Δc = 06°31'58.4" (RT)	Δc = 12°44'02.0" (LT)	Δc = 359°59'30.6" (RT)
D = 02°14'17.2"	D = 01°36'50.3"	D = 05°43'46.5"	D = 04°24'26.5"	D = 01°29'59.6"	D = 05°43'46.5"	D = 89°31'28.8"
Lc = 446.17	Lc = 271.69	Lc = 49.89	Lc = 198.26	Lc = 435.56	Lc = 222.25	Lc = 402.11
Tc = 223.65	Tc = 135.91	Tc = 24.95	Tc = 99.32	Tc = 218.01	Tc = 111.58	Tc = 0.00
R = 2,560	R = 3,550	R = 1,000	R = 1,300	R = 3,820	R = 1,000	R = 64
SE = 4.0	SE = 3.0		SE = 4.0	SE = 3.0	SE = 3.0	SE = 2.0
LRb = 120'	LRb = 96'		LRb = 96'	LRa = 84'	LRb = 72'	
LRa = 112'	LRa = 90'		LRa = 112'		LRa = 67.5'	
V = 50 MPH	V = 50 MPH	V = 50 MPH	V = 35 MPH	V = 50 MPH	V = 25 MPH	



ROW STATIONS & OFFSETS

NOTE: PARCEL #9 NOT USED.

*LOCATE, BUT DON'T SET MONUMENT

HN-0020

4RD1 | 4A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025

NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS

Signed by: Matthew A. Douglas

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

REVISIONS

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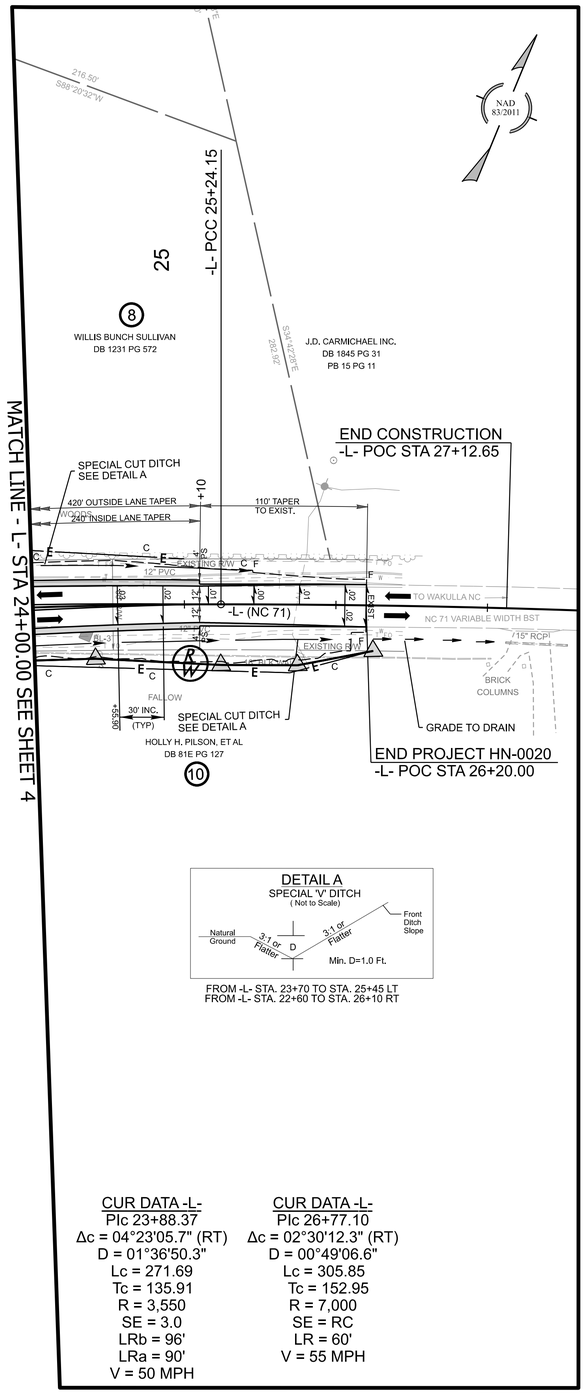
5/26/28

SEE SHEET 5A FOR ROW STATIONS & OFFSETS.

NOTE: PARCEL #9 NOT USED.

-L- INSET

FOR -L- PROFILE, SEE SHEET NO. 6



DETAIL A
SPECIAL "V" DITCH
(Not to Scale)

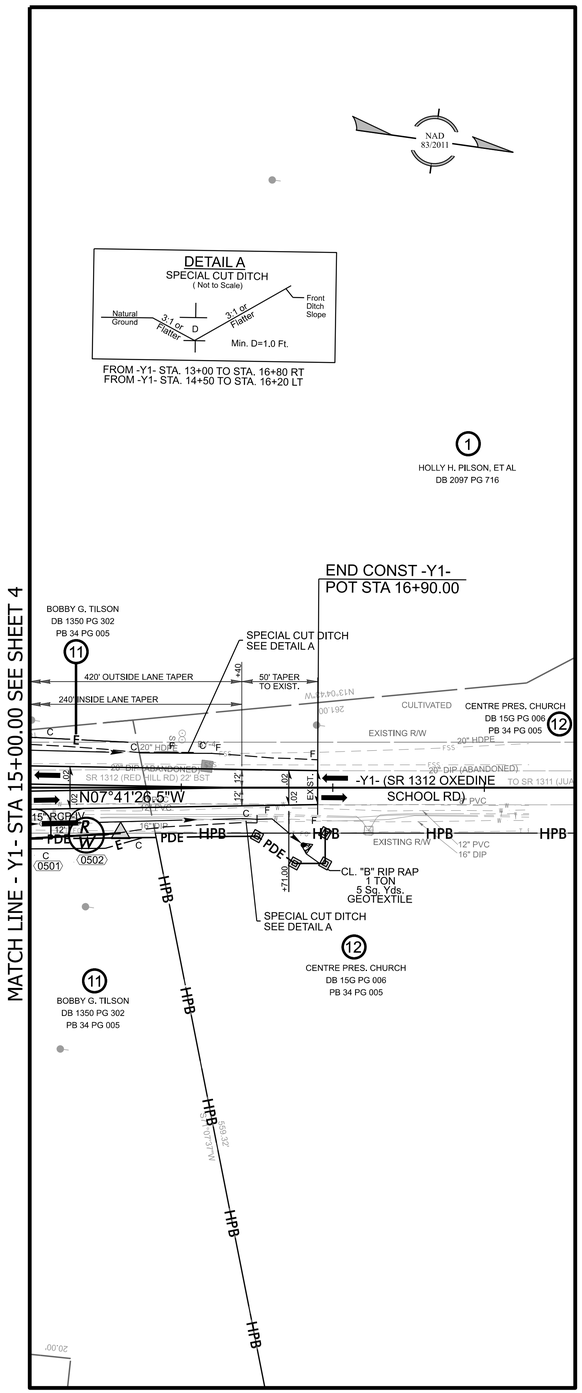
FROM -L- STA. 23+70 TO STA. 25+45 LT
FROM -L- STA. 22+60 TO STA. 26+10 RT

CUR DATA -L-
PIc 23+88.37
Δc = 04°23'05.7" (RT)
D = 01°36'50.3"
Lc = 271.69
Tc = 135.91
R = 3,550
SE = 3.0
LRb = 96'
LRa = 90'
V = 50 MPH

CUR DATA -L-
PIc 26+77.10
Δc = 02°30'12.3" (RT)
D = 00°49'06.6"
Lc = 305.85
Tc = 152.95
R = 7,000
SE = RC
LR = 60'
V = 55 MPH

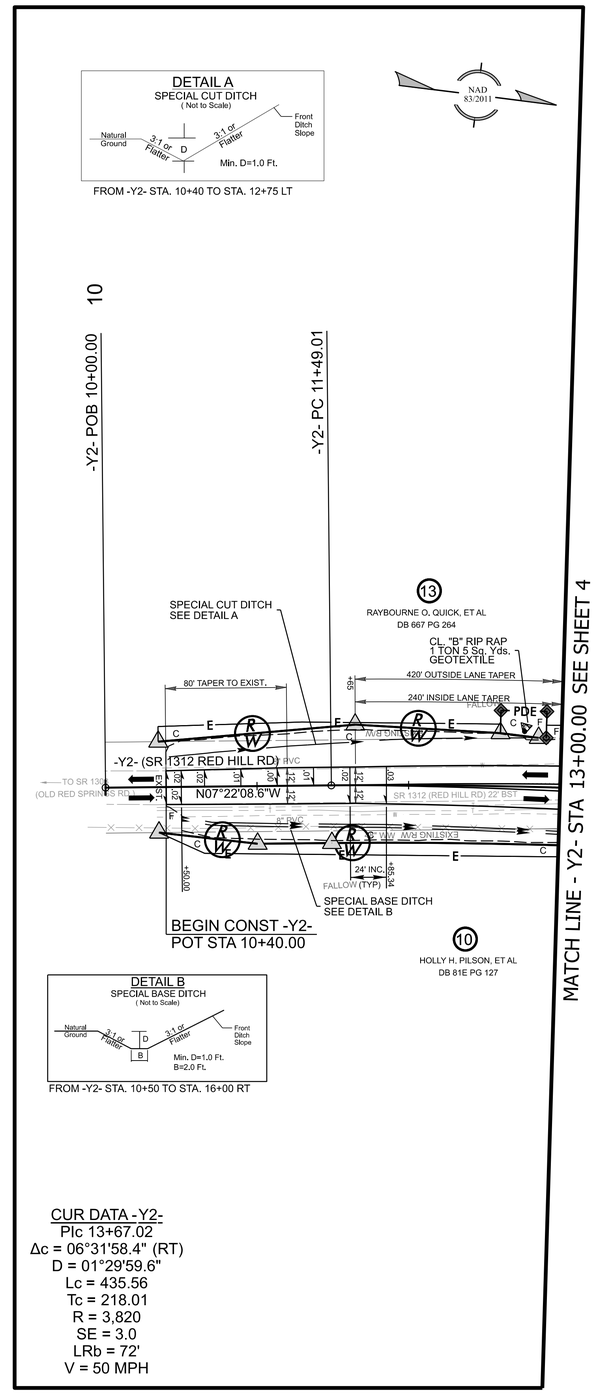
-Y1- INSET

FOR -Y1- PROFILE, SEE SHEET NO. 7



-Y2- INSET

FOR -Y2- PROFILE, SEE SHEET NO. 7



DETAIL B
SPECIAL BASE DITCH
(Not to Scale)

FROM -Y2- STA. 10+50 TO STA. 16+00 RT

CUR DATA -Y2-
PIc 13+67.02
Δc = 06°31'58.4" (RT)
D = 01°29'59.6"
Lc = 435.56
Tc = 218.01
R = 3,820
SE = 3.0
LRb = 72'
V = 50 MPH

REVISIONS

HN-0020
4RD1 | 5

NORTH CAROLINA
DEPARTMENT OF TRANSPOSTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025
NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS
Signed by: Matthew A. Douglas
484263B357A1429...

HYDRAULICS ENGINEER
12/7/2025
NORTH CAROLINA PROFESSIONAL SEAL 053425 ENGINEER MATTHEW L. HARVEY
Signed by: Matthew L. Harvey
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY
VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

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

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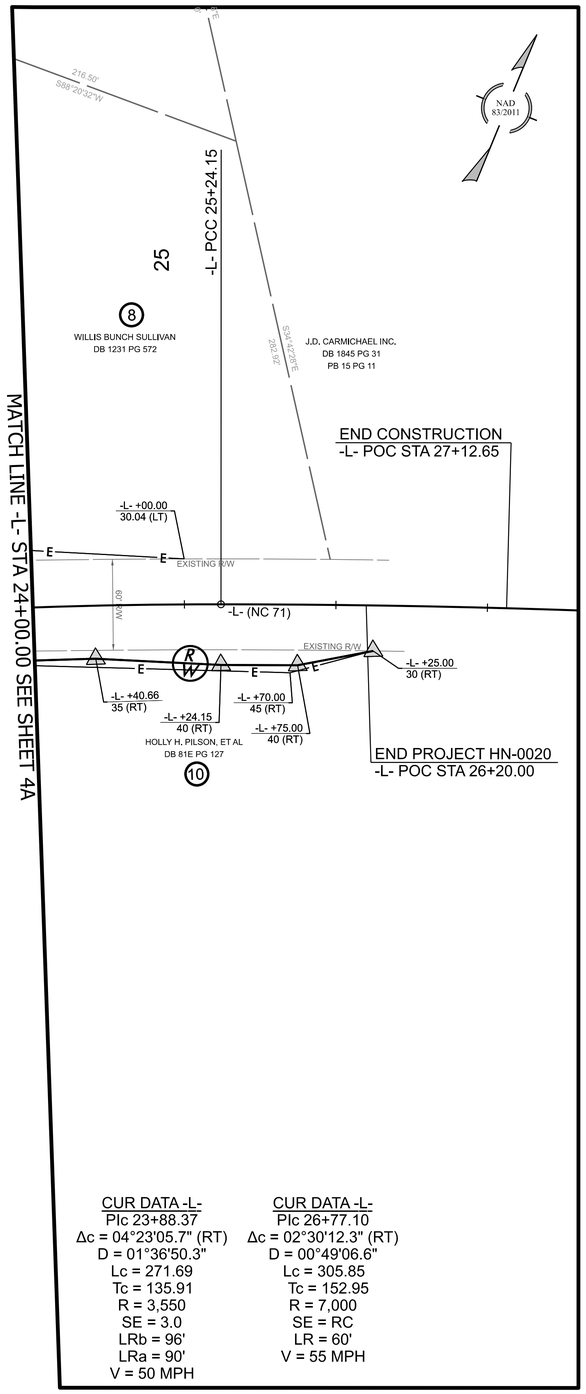
5/26/20

ROW STATIONS & OFFSETS

NOTE: PARCEL #9 NOT USED.

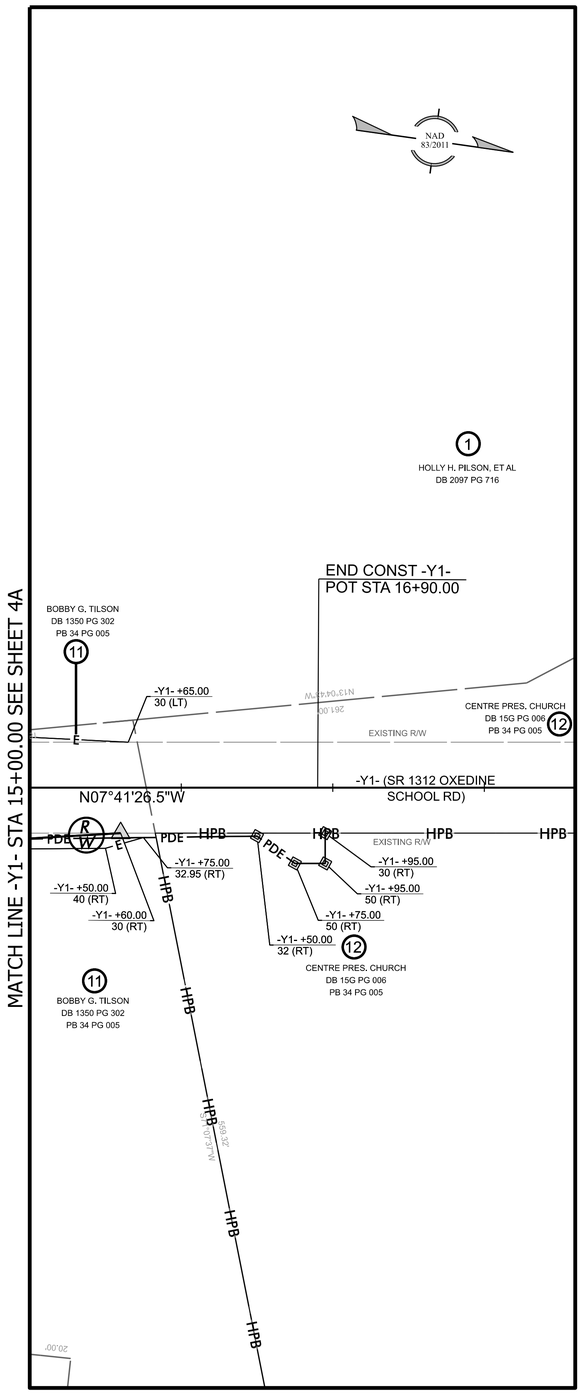
-L- INSET



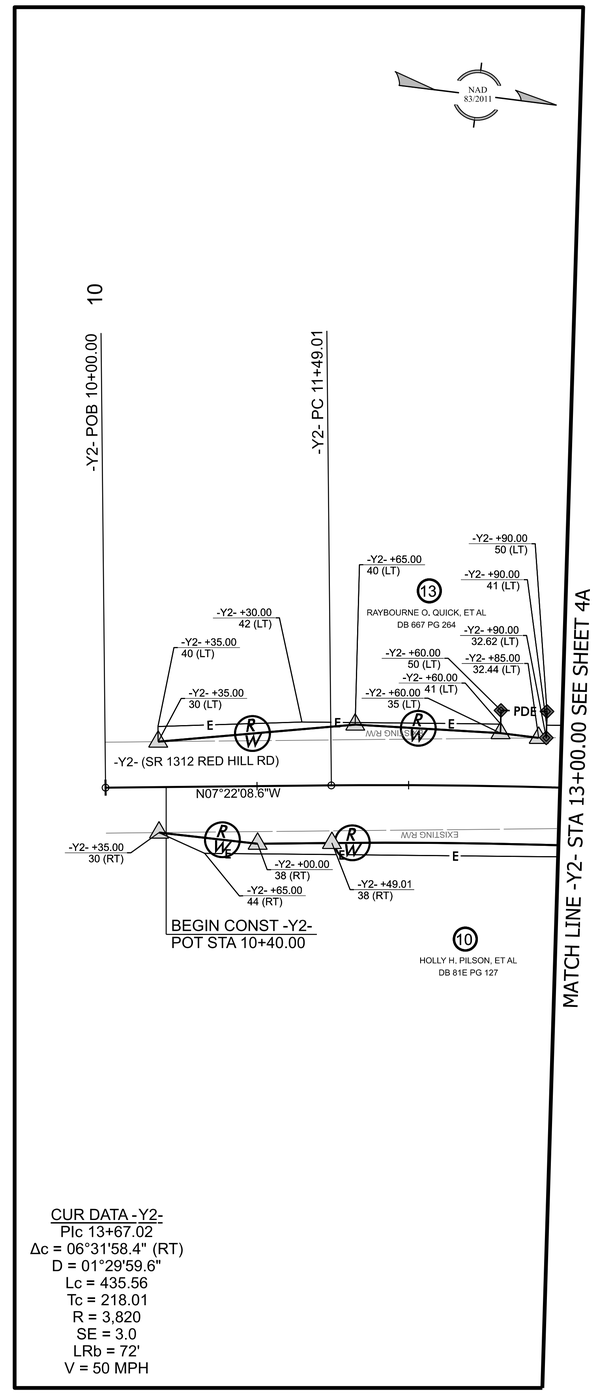
CUR DATA -L-
PIc 23+88.37
Δc = 04°23'05.7" (RT)
D = 01°36'50.3"
Lc = 271.69
Tc = 135.91
R = 3,550
SE = 3.0
LRb = 96'
LRa = 90'
V = 50 MPH

CUR DATA -L-
PIc 26+77.10
Δc = 02°30'12.3" (RT)
D = 00°49'06.6"
Lc = 305.85
Tc = 152.95
R = 7,000
SE = RC
LR = 60'
V = 55 MPH

-Y1- INSET



-Y2- INSET



CUR DATA -Y2-
PIc 13+67.02
Δc = 06°31'58.4" (RT)
D = 01°29'59.6"
Lc = 435.56
Tc = 218.01
R = 3,820
SE = 3.0
LRb = 72'
V = 50 MPH

HN-0020
4RD1 | 5A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025

NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS

Signed by:
Matthew A. Douglas
484263B357A1429...

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

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220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
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REVISIONS

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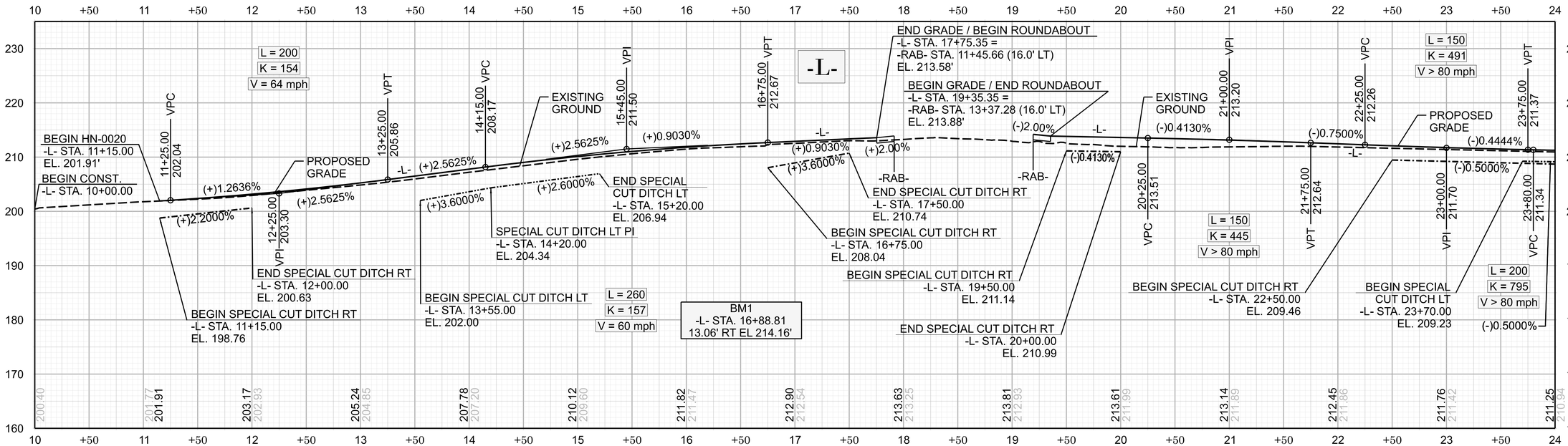
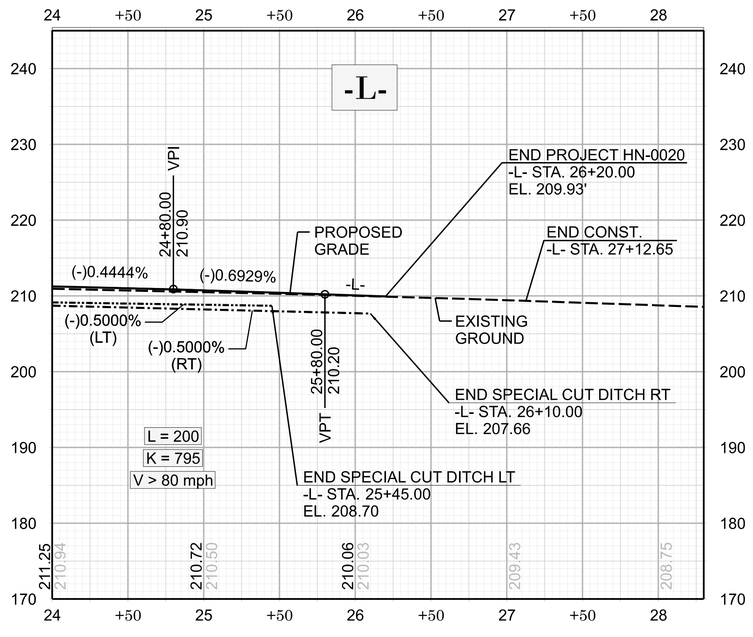
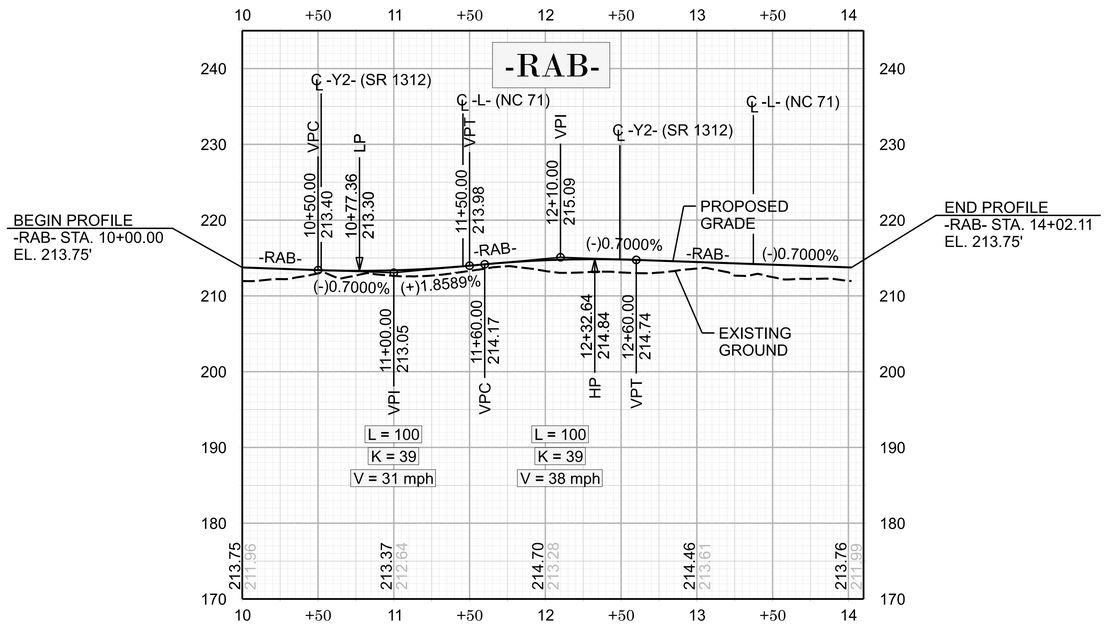
11/14/23



FOR -L- PLAN, SEE SHEET NO. 4





FOR -L- PLAN, SEE SHEET NO. 5

FOR -RAB- PLAN, SEE SHEET NO. 4

REVISIONS

HN-0020
4RD1 | 6

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025
NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS
Signed by: Matthew A. Douglas

HYDRAULICS ENGINEER
12/7/2025
NORTH CAROLINA PROFESSIONAL SEAL 053425 ENGINEER MATTHEW L. HARVEY
Signed by: Matthew L. Harvey
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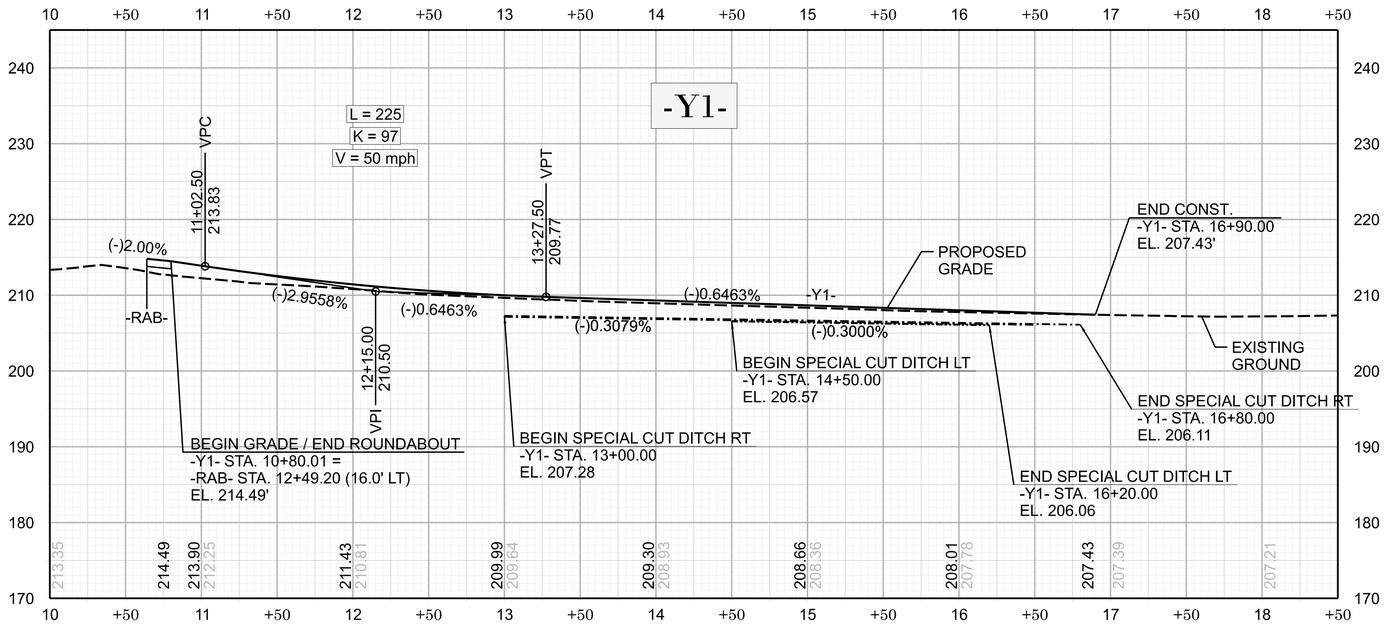
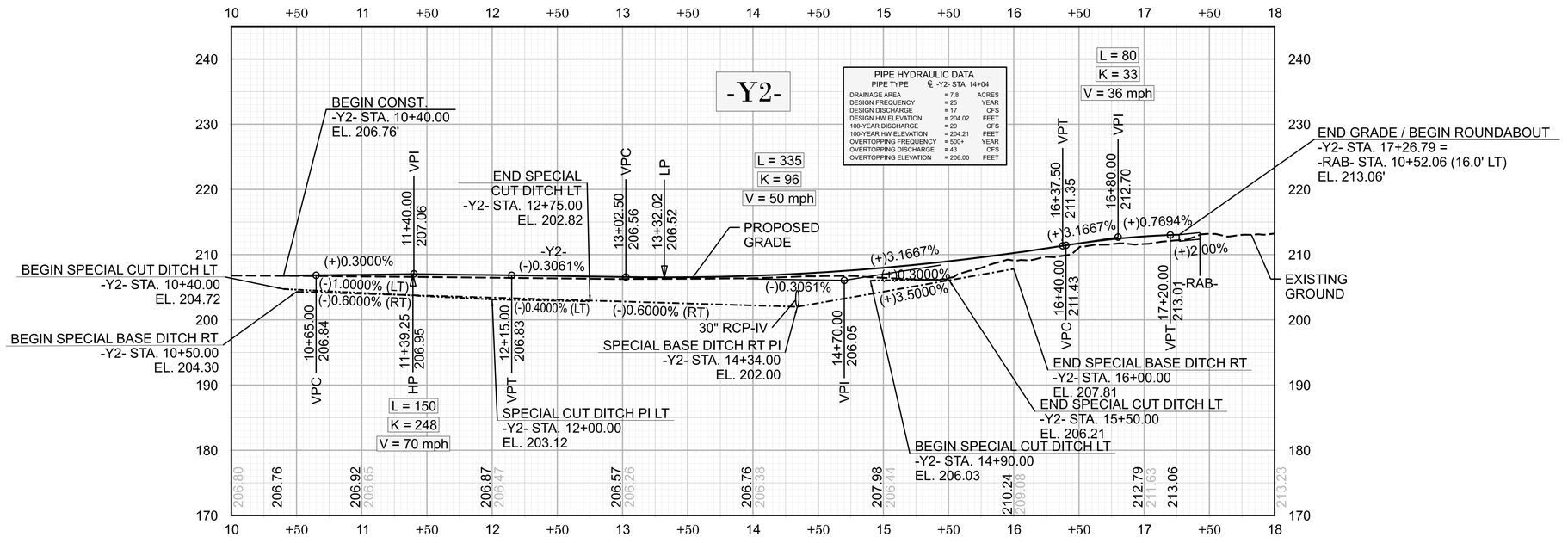
11/14/23



FOR -Y1- PLAN, SEE SHEETS NO. 4 & 5

DITCH LEFT
DITCH RIGHT



FOR -Y2- PLAN, SEE SHEETS NO. 4 & 5

HN-0020
4RD1 | 7

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
12/6/2025
NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A DOUGLAS
Signed by: Matthew A. Douglas

HYDRAULICS ENGINEER
12/7/2025
NORTH CAROLINA PROFESSIONAL SEAL Ø53425 ENGINEER MATTHEW L HARVEY
Signed by: Matthew L. Harvey
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Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

REVISIONS

09/08/99

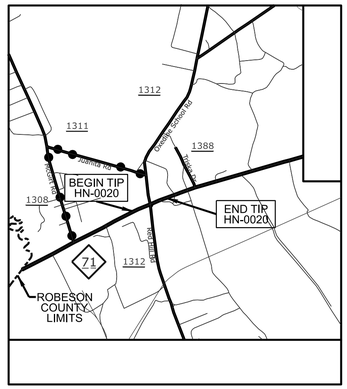
TIP PROJECT: *HN-0020*

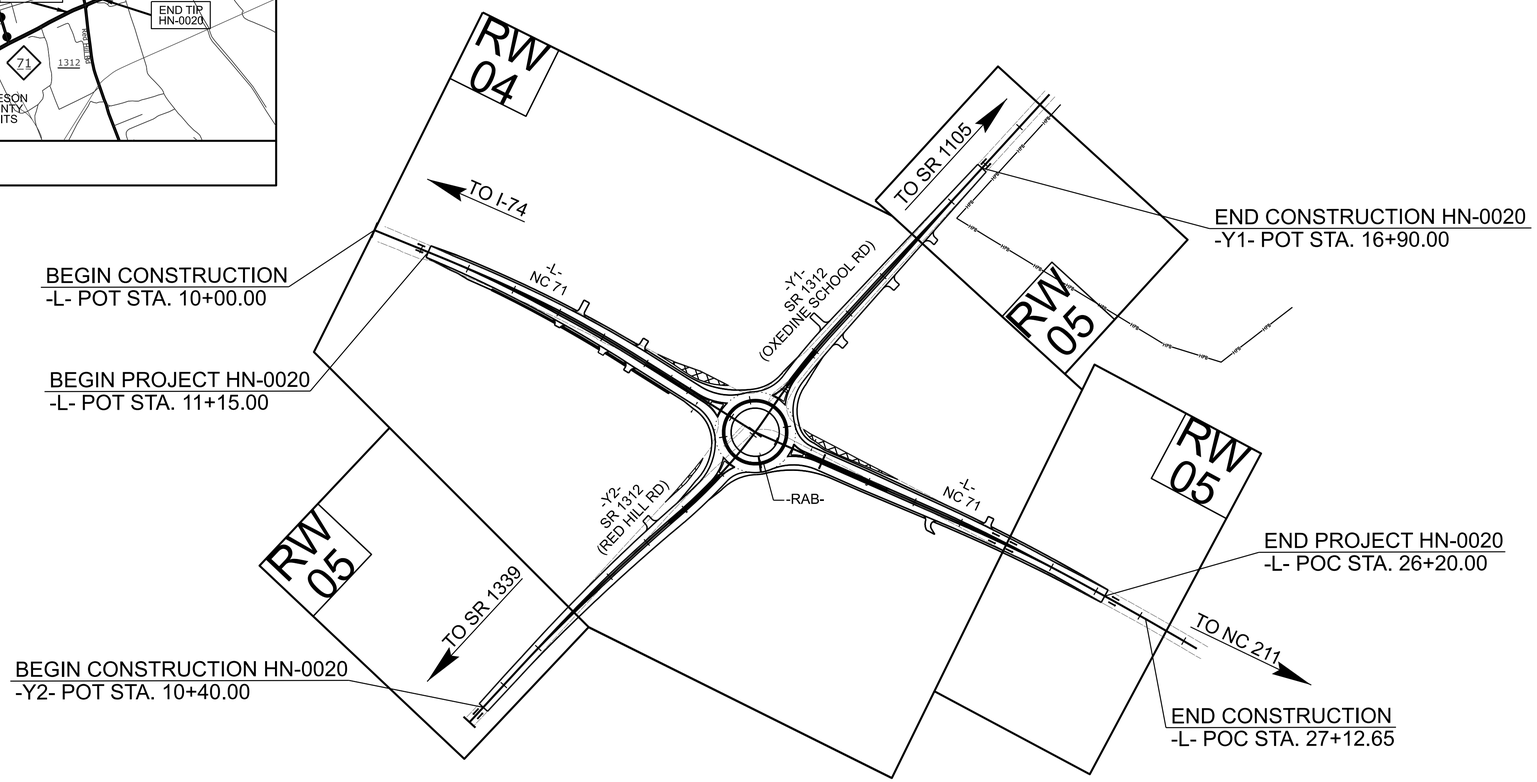
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HN-0020	RW01	6

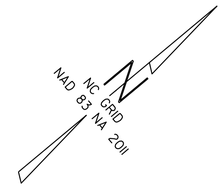
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

ROBESON COUNTY







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GRAPHIC SCALES

100' 50' 0' 100' 200'

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT NCGS "STROM"
WITH NAD83/2011 STATE PLANE GRID COORDINATES OF NORTHING: 374454.33 EASTING: 1904435.57
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999901470
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:
DEWBERRY ENGINEERS
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MAY 30, 2025

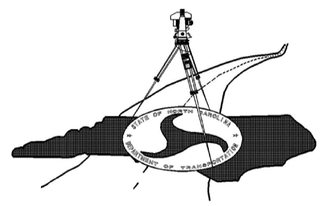
LETTING DATE: FEBRUARY 18, 2026

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DocuSigned by: Adam Hales E91D0BC1163E43D...
1/7/2026

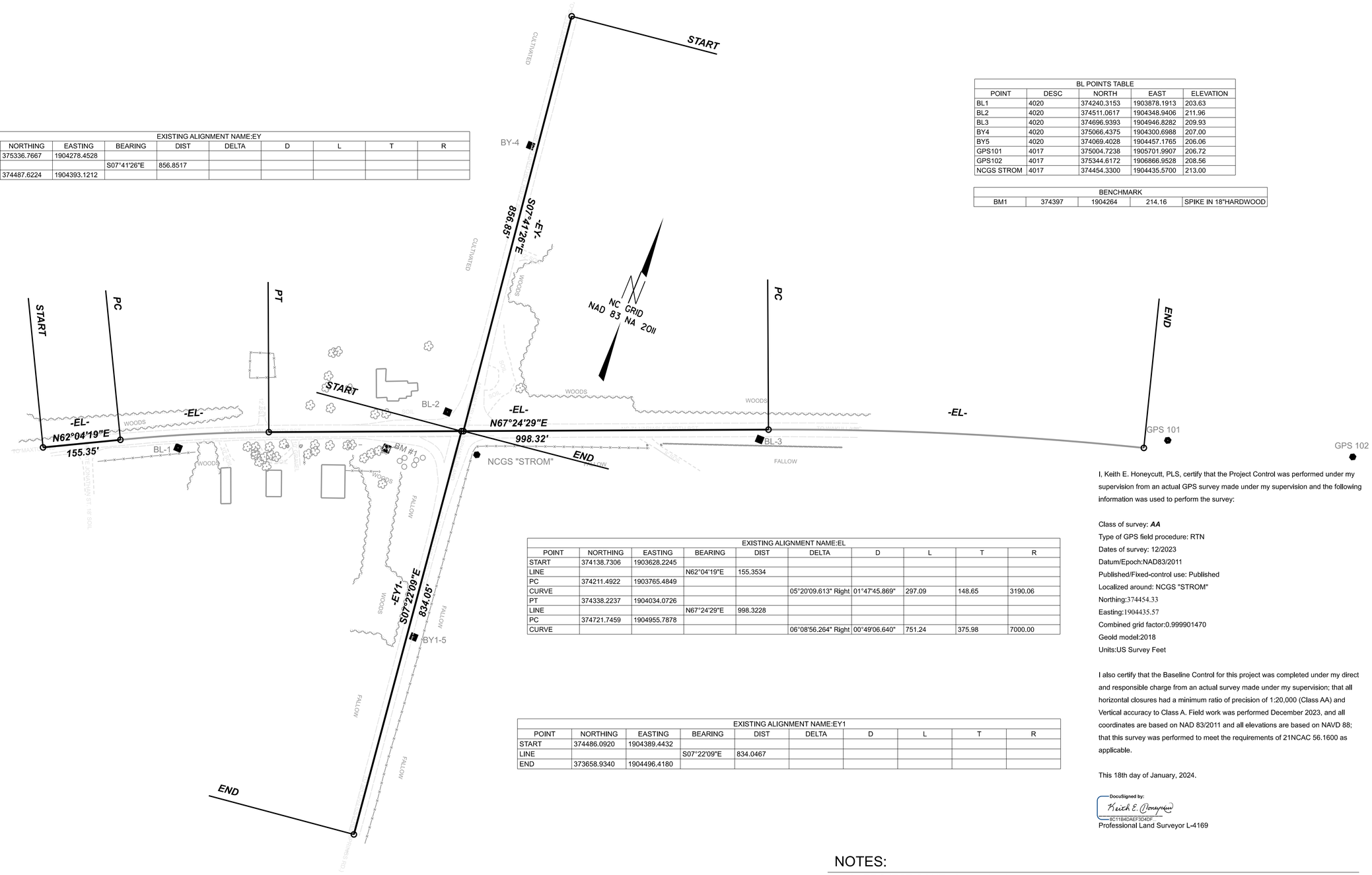
SIGNATURE: *DATE:*



5/26/20

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



EXISTING ALIGNMENT NAME:EY									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	375336.7667	1904278.4528							
LINE			S07°41'26"E	856.8517					
END	374487.6224	1904393.1212							

BL POINTS TABLE				
POINT	DESC	NORTH	EAST	ELEVATION
BL1	4020	374240.3153	1903878.1913	203.63
BL2	4020	374511.0617	1904348.9406	211.96
BL3	4020	374696.9393	1904946.8282	209.93
BY4	4020	375066.4375	1904300.6988	207.00
BY5	4020	374069.4028	1904457.1765	206.06
GPS101	4017	375004.7238	1905701.9907	206.72
GPS102	4017	375344.6172	1906866.9528	208.56
NCGS STROM	4017	374454.3300	1904435.5700	213.00

BENCHMARK				
BM1	374397	1904264	214.16	SPIKE IN 18"HARDWOOD

EXISTING ALIGNMENT NAME:EL									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	374138.7306	1903628.2245							
LINE			N62°04'19"E	155.3534					
PC	374211.4922	1903765.4849							
CURVE					05°20'09.613" Right	01°47'45.869"	297.09	148.65	3190.06
PT	374338.2237	1904034.0726							
LINE			N67°24'29"E	998.3228					
PC	374721.7459	1904955.7878							
CURVE					06°08'56.264" Right	00°49'06.640"	751.24	375.98	7000.00

EXISTING ALIGNMENT NAME:EY1									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	374486.0920	1904389.4432							
LINE			S07°22'09"E	834.0467					
END	373658.9340	1904496.4180							

I, Keith E. Honeycutt, PLS, certify that the Project Control was performed 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: 12/2023
Datum/Epoch:NAD83/2011
Published/Fixed-control use: Published
Localized around: NCGS "STROM"
Northing:374454.33
Easting:1904435.57
Combined grid factor:0.999901470
Geoid model:2018
Units:US Survey Feet

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed December 2023, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 18th day of January, 2024.

DocuSigned by:
Keith E. Honeycutt
8C11B4DAEF3D4DF...
Professional Land Surveyor L-4169

NOTES:

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

2. 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.

HN-0020
R/W | 02C-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROFESSIONAL LAND SURVEYOR

SEAL L-4469 1/18/2024 KEITH E. HONEYCUTT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

2018 STANDARD SPECIFICATIONS

TIP PROJECT: HN-0020
County: Robeson

PREPARED FOR

LOCATION AND SURVEYS UNIT

PREPARED BY

Location & Surveys
Division 6
4834 US HWY 301 S
Hope Mills, NC 28348

5/26/20

PROPOSED ALIGNMENT CONTROL SHEET

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	374138.7306	1903628.2245	N62°04'19.2"E	140.54							
PC	11+40.54	374204.5563	1903752.4009	N67°03'53.6"E	445.61	09°59'09.0"	02°14'17.2"	446.17	223.65	2560		
PT	15+86.72	374378.2039	1904162.7809	N72°03'28.1"E	268.64							
HPI	18+55.35	374460.9590	1904418.3521	N63°36'26.2"E	397.11							
PC	22+52.47	374637.4848	1904774.0745	N65°47'59.1"E	271.62	04°23'05.7"	01°36'50.3"	271.69	135.91	3550		
PCC	25+24.15	374748.8288	1905021.8231	N69°14'38.0"E	305.82	02°30'12.3"	00°49'06.6"	305.85	152.95	7000		
END	28+30.00	374857.2103	1905307.7991									

PROPOSED ALIGNMENT: RAB												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
PC	10+00.00	374427.3673	1904472.8277	N31°39'20.4"E	0.01	359°59'30.6"	89°31'28.8"	402.11	0.00	64.00		
END	14+02.11	374427.3750	1904472.8325									

PROPOSED ALIGNMENT: Y1												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
PC	10+00.00	374460.9590	1904418.3521	N14°59'58.0"W	49.89	02°51'31.5"	0543'46.5"	49.89	24.95	1000.00		
PRC	10+49.89	374509.1485	1904405.4403	N12°03'35.1"W	198.07	08°44'17.2"	04°24'26.5"	198.26	99.32	1300.00		
PT	12+48.16	374702.8464	1904364.0573	N07°41'26.5"W	639.67							
END	18+87.83	375336.7667	1904278.4528									

PROPOSED ALIGNMENT: Y2												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	373658.9340	1904496.4180	N07°22'08.6"W	149.01							
PC	11+49.01	373806.7125	1904477.3061	N04°06'09.4"W	435.32	06°31'58.4"	01°29'59.6"	435.56	218.01	3820.00		
PRC	15+84.57	374240.9183	1904446.1619	N07°12'11.2"W	221.79	12°44'02.0"	05°43'46.5"	222.25	111.58	1000.00		
END	18+06.81	374460.9590	1904418.3521									

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

THIS 7th DAY OF JANUARY, 2026.

DocuSigned by:
Adam Hales
E91DD8C1163E43D...

PROFESSIONAL LAND SURVEYOR L-4980

NOTES:

1. 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.

HN-0020
R/W | 020-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROFESSIONAL LAND SURVEYOR
NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

2024 STANDARD SPECIFICATIONS

TIP PROJECT: HN-0020
County: Robeson

PREPARED FOR

LOCATION AND SURVEYS UNIT

PREPARED BY
DEWBERRY ENGINEERS
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
(919) 881-9939

5/26/20

RIGHT OF WAY CONTROL SHEET

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
11+15.00	34.00	374162.5519	1903745.7555
11+15.00	29.96	374166.1252	1903743.8613
11+40.54	34.00	374174.5161	1903768.3252
12+60.00	34.00	374227.2720	1903873.7166
13+04.50	28.00	374251.1280	1903911.1214
13+40.00	-40.00	374327.7099	1903916.1592
13+40.00	-32.65	374320.9641	1903919.0873
14+90.00	28.00	374320.3857	1904080.9788
15+05.00	35.00	374318.8576	1904097.2932
15+51.55	-40.00	374405.0229	1904116.5557
15+86.72	35.00	374344.9061	1904173.5629
16+60.00	35.00	374367.4818	1904243.2831
17+35.00	55.00	374371.5587	1904320.7969
17+45.00	-55.54	374479.8000	1904296.2590
19+50.00	70.00	374440.3286	1904534.2519
19+70.00	-56.83	374562.8276	1904495.7895
20+20.00	40.00	374498.3182	1904583.6200
22+52.47	35.00	374606.1329	1904789.6327
24+40.66	35.00	374684.5027	1904958.6666
25+24.15	40.00	374711.7435	1905036.8124
25+75.00	40.00	374730.5190	1905083.7553
26+25.00	30.00	374757.9724	1905126.4327

* PAINT DOT (CONCRETE DRIVEWAY)

PERMANENT EASEMENT MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
13+43.00	-40.00	374328.9214	1903918.9548
13+43.00	-55.00	374342.6881	1903912.9983
13+67.00	-55.00	374352.3176	1903935.5435
14+05.00	-40.00	374353.2239	1903977.0432

I , ADAM C. HALES, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 12/11/2025 TO 12/23/2025, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 8th DAY OF JANUARY, 2026.

DocuSigned by:
Adam Hales
E91DDBC1163E430...

PROFESSIONAL LAND SURVEYOR L-4980

PERMANENT ROW MARKER IRON PIN AND CAP: Y1			
STATION	OFFSET	NORTH	EAST
11+00.00	-65.00	374541.5020	1904329.1906
11+20.00	60.00	374590.7364	1904445.8164
11+65.00	-45.00	374611.9902	1904333.6938
11+65.00	35.00	374627.7421	1904412.1277
12+48.16	35.00	374707.5303	1904398.7425
12+75.00	-35.00	374724.7653	1904325.7797
13+75.00	-35.00	374823.8658	1904312.3972
14+30.00	-30.00	374879.0402	1904309.9919
14+75.00	35.00	374932.3340	1904368.3850
15+60.00	30.00	375015.9003	1904352.0549

PERMANENT EASEMENT MARKER IRON PIN AND CAP: Y1			
STATION	OFFSET	NORTH	EAST
14+92.00	34.00	374949.0473	1904365.1190
16+50.00	32.00	375105.3584	1904341.9926
16+75.00	50.00	375132.5424	1904356.4851
16+95.00	30.00	375149.6860	1904333.9885
16+95.00	50.00	375152.3625	1904353.8086

* 60d NAIL (UTILITY CONFLICT)

PERMANENT ROW MARKER IRON PIN AND CAP: Y2			
STATION	OFFSET	NORTH	EAST
10+35.00	-30.00	373689.7972	1904462.1767
10+35.00	30.00	373697.4928	1904521.6811
11+00.00	38.00	373762.9820	1904521.2781
11+49.01	38.00	373811.5864	1904514.9922
11+65.00	-40.00	373817.6112	1904435.5975
12+60.00	-35.00	373913.4991	1904429.8447
12+85.00	-32.44	373938.8489	1904429.9673
13+75.00	38.00	374034.2003	1904492.8734
14+50.00	41.00	374108.4705	1904491.4441
15+84.57	41.00	374241.5167	1904487.1575
16+40.00	41.00	374299.1640	1904484.7169
16+85.00	-61.21	374334.0735	1904378.8536
17+00.00	60.00	374363.7660	1904497.3202

PERMANENT EASEMENT MARKER IRON PIN AND CAP: Y2			
STATION	OFFSET	NORTH	EAST
12+60.00	-50.00	373912.0082	1904414.9190
12+90.00	-50.00	373942.2619	1904412.0169
12+90.00	-32.62	373943.8531	1904429.3201
14+19.00	-60.00	374071.9995	1904392.2650
14+19.00	-39.64	374073.1786	1904412.5946
14+49.00	-41.90	374103.3322	1904408.6949
14+49.00	-60.00	374102.4262	1904390.6201

NOTES:

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

HN-0020
R/W | 03E-I

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROFESSIONAL LAND SURVEYOR
NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

2024 STANDARD SPECIFICATIONS

TIP PROJECT: HN-0020
County: Robeson

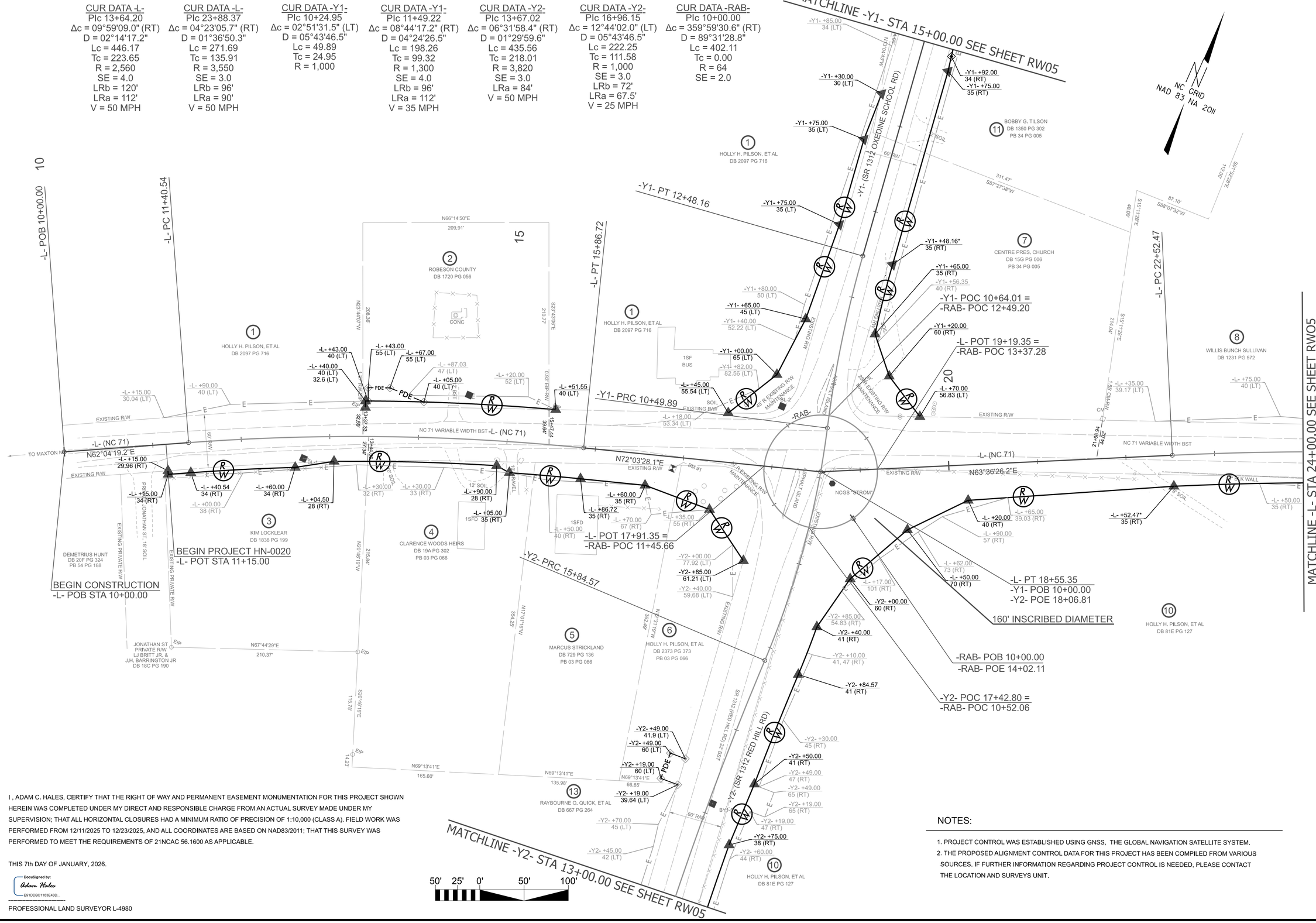
PREPARED FOR

LOCATION AND SURVEYS UNIT

PREPARED BY
DEWBERRY ENGINEERS
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
(919) 881-9939

5/26/20

CUR DATA -L-	CUR DATA -L-	CUR DATA -Y1-	CUR DATA -Y1-	CUR DATA -Y2-	CUR DATA -Y2-	CUR DATA -RAB-
PIc 13+64.20	PIc 23+88.37	PIc 10+24.95	PIc 11+49.22	PIc 13+67.02	PIc 16+96.15	PIc 10+00.00
Δc = 09°59'09.0" (RT)	Δc = 04°23'05.7" (RT)	Δc = 02°51'31.5" (LT)	Δc = 08°44'17.2" (RT)	Δc = 06°31'58.4" (RT)	Δc = 12°44'02.0" (LT)	Δc = 359°59'30.6" (RT)
D = 02°14'17.2"	D = 01°36'50.3"	D = 05°43'46.5"	D = 04°24'26.5"	D = 01°29'59.6"	D = 05°43'46.5"	D = 89°31'28.8"
Lc = 446.17	Lc = 271.69	Lc = 49.89	Lc = 198.26	Lc = 435.56	Lc = 222.25	Lc = 402.11
Tc = 223.65	Tc = 135.91	Tc = 24.95	Tc = 99.32	Tc = 218.01	Tc = 111.58	Tc = 0.00
R = 2,560	R = 3,550	R = 1,000	R = 1,300	R = 3,820	R = 1,000	R = 64
SE = 4.0	SE = 3.0		SE = 4.0	SE = 3.0	SE = 3.0	SE = 2.0
LRb = 120'	LRb = 96'		LRb = 96'	LRa = 84'	LRb = 72'	
LRa = 112'	LRa = 90'		LRa = 112'	V = 50 MPH	LRa = 67.5'	
V = 50 MPH	V = 50 MPH		V = 35 MPH		V = 25 MPH	



I , ADAM C. HALES, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 12/11/2025 TO 12/23/2025, AND ALL COORDINATES ARE BASED ON NAD83/2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 7th DAY OF JANUARY, 2026.

DocuSigned by:
Adam Hales
E91DDBC1163E43D...

PROFESSIONAL LAND SURVEYOR L-4980

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.

HN-0020
R/W | 04

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROFESSIONAL LAND SURVEYOR
NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

2018 STANDARD SPECIFICATIONS

TIP PROJECT: HN-0020
County: Robeson

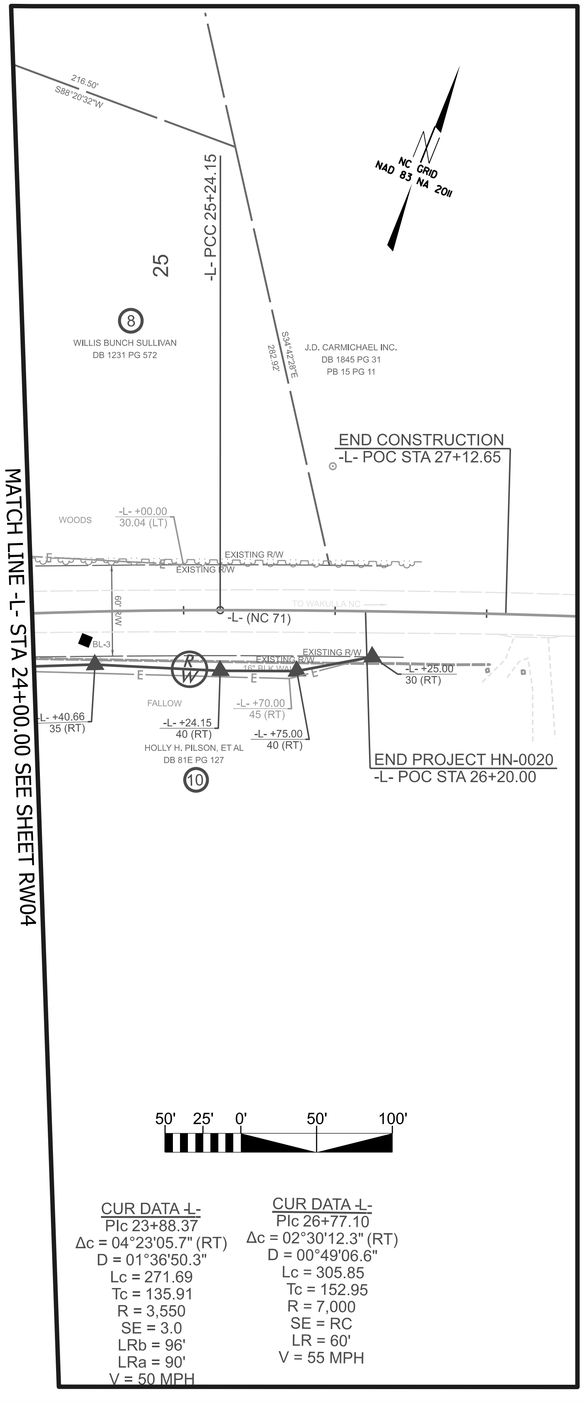
PREPARED FOR

LOCATION AND SURVEYS UNIT

PREPARED BY
DEWBERRY ENGINEERS
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
(919) 881-9939

5/26/20

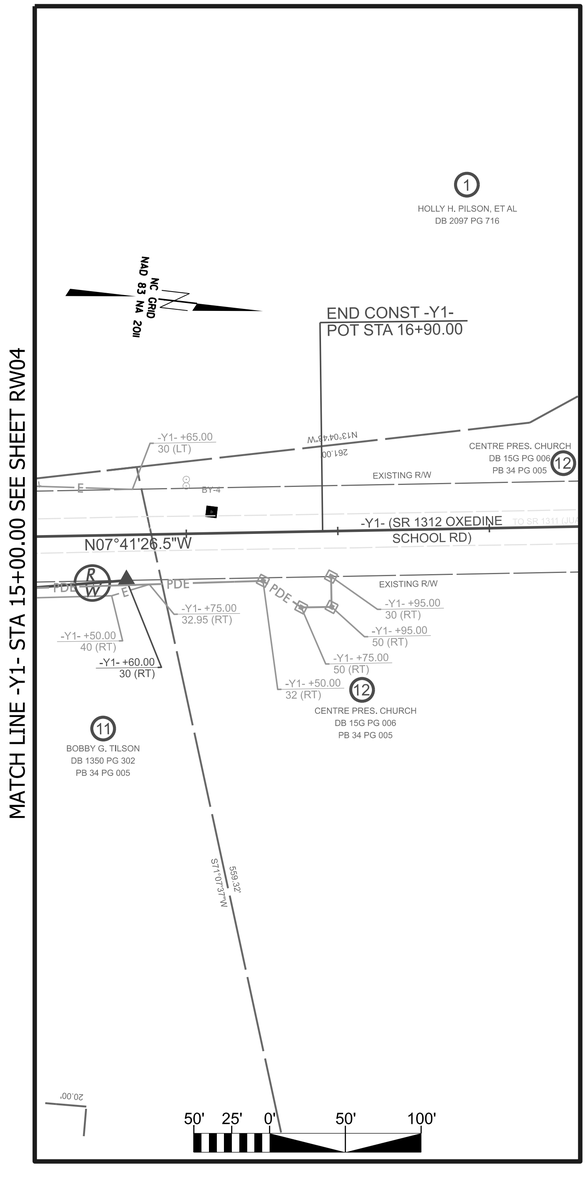
-L- INSET



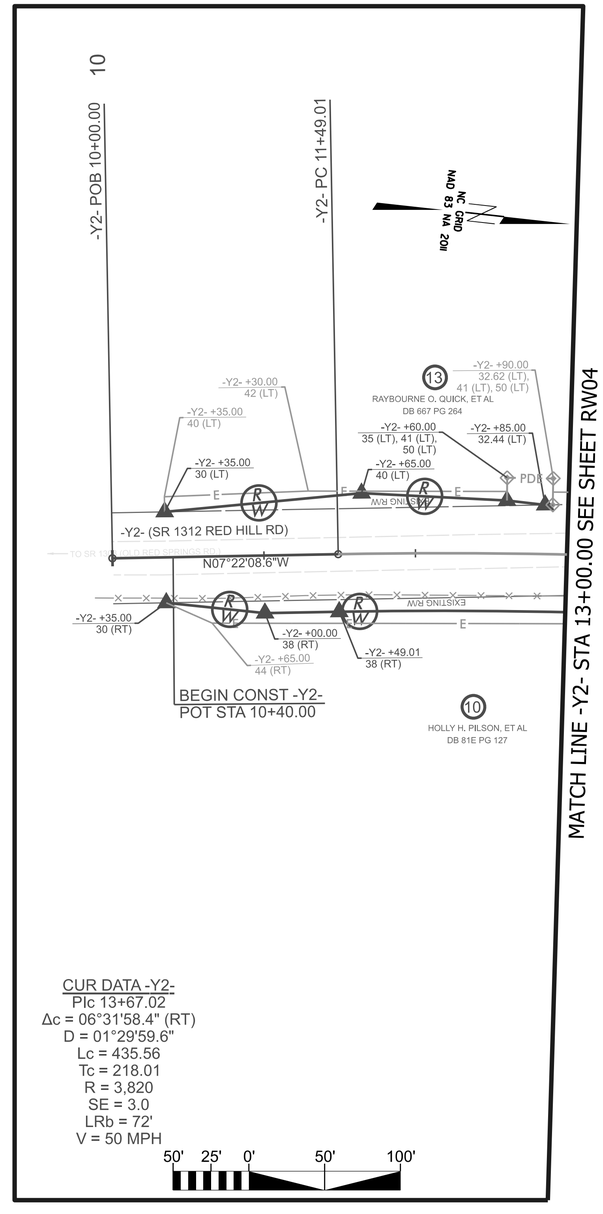
CUR DATA -L-
PIc 23+88.37
Δc = 04°23'05.7" (RT)
D = 01°36'50.3"
Lc = 271.69
Tc = 135.91
R = 3,550
SE = 3.0
LRb = 96'
LRa = 90'
V = 50 MPH

CUR DATA -L-
PIc 26+77.10
Δc = 02°30'12.3" (RT)
D = 00°49'06.6"
Lc = 305.85
Tc = 152.95
R = 7,000
SE = RC
LR = 60'
V = 55 MPH

-Y1- INSET



-Y2- INSET



CUR DATA -Y2-
PIc 13+67.02
Δc = 06°31'58.4" (RT)
D = 01°29'59.6"
Lc = 435.56
Tc = 218.01
R = 3,820
SE = 3.0
LRb = 72'
V = 50 MPH

I , ADAM C. HALES, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 12/11/2025 TO 12/23/2025, AND ALL COORDINATES ARE BASED ON NAD83/2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 7th DAY OF JANUARY, 2026.

DocuSigned by:
Adam Hales
E91DCBC1163E43D...

PROFESSIONAL LAND SURVEYOR L-4980

NOTES:

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HN-0020
R/W | 05

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROFESSIONAL LAND SURVEYOR
NORTH CAROLINA PROFESSIONAL SEAL L-4980 LAND SURVEYOR ADAM C. HALES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

2018 STANDARD SPECIFICATIONS

TIP PROJECT: HN-0020
County: Robeson

PREPARED FOR

LOCATION AND SURVEYS UNIT

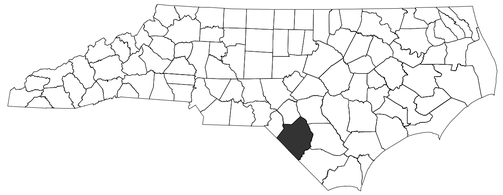
PREPARED BY
DEWBERRY ENGINEERS
2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
(919) 881-9939

Docusign Envelope ID: 615B119F-FE24-4D8A-9C42-5F8CBE0DE4EF

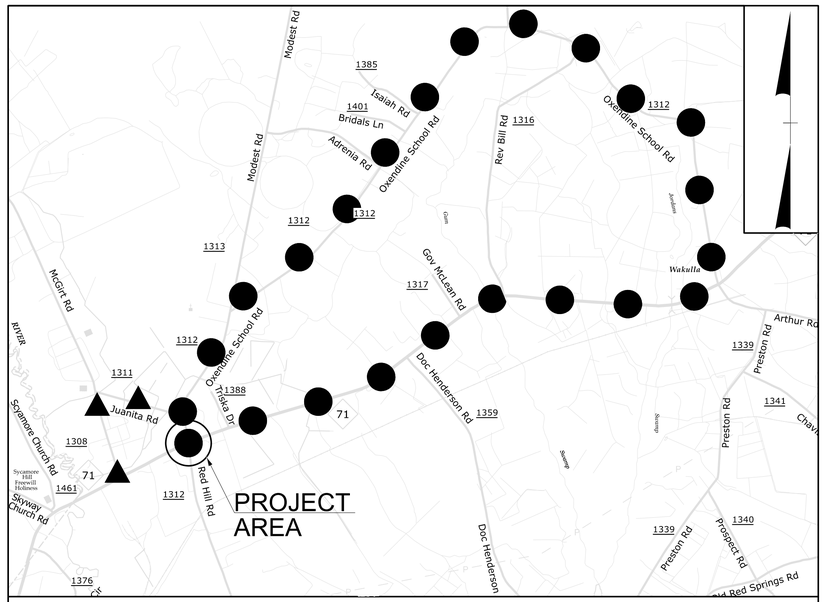
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ROBESON COUNTY



LOCATION: CONSTRUCT ROUNDABOUT AT THE INTERSECTION OF NC 71 AT SR 1312 (OXENDINE SCHOOL RD/ RED HILL RD)



VICINITY MAP

CAR DETOUR ROUTE ▲ ▲ ▲

TRUCK DETOUR ROUTE ● ● ●

N. T. S.

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 THRU 1C	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND PHASING)
TMP-2	OFF-SITE DETOURS
TMP-2A	SPECIAL SIGN DESIGN
TMP-3	TEMPORARY TRAFFIC CONTROL PHASE I DETAIL
TMP-4	TEMPORARY TRAFFIC CONTROL PHASE II DETAIL
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL - STEP 1
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE III DETAIL - STEP 2

SHEET NO.

TMP-1

TIP PROJECT: HN-0020

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

PLANS PREPARED BY:

MATTHEW DOUGLAS,P.E.
PROJECT ENGINEER

JOCELYN ADORNO,P.E.
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DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

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DATE: 12/5/2025

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038649 MATTHEW A. DOUGLAS

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PROJ. REFERENCE NO.	SHEET NO.
HN-0020	TMP-1A

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1180.01	SKINNY DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS

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
- WEDGE AND/OR WIDEN (USING FLAGGERS)
- TEMPORARY PAVEMENT

SIGNALS

EXIST EXISTING PROP PROPOSED TEMP TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

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

PAVEMENT MARKING - PAINT (4")

P1	WHITE EDGE LINE
P10	YELLOW EDGELINE
P13	YELLOW DOUBLE CENTER

PAVEMENT MARKING - PAINT (8")

P41	WHITE DIAGONAL
P42	YELLOW DIAGONAL

PAVEMENT MARKING - PAINT (24")

P61	WHITE STOPBAR

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NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS

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ROADWAY STANDARD DRAWINGS & LEGEND

12/5/2025
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MANAGEMENT STRATEGIES

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

- LANE SHIFTS OR CLOSURES
- WEEKEND WORK
- OFF SITE DETOURS/USE OF ALTERNATIVE ROUTES
- ON-SITE DETOURS
- LOCAL DETOUR ROUTES

GENERAL NOTES

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

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

TIME RESTRICTIONS

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

ROAD NAME

-L- NC 71
-Y1- SR 1312 (OXENDINE SCHOOL ROAD)
-Y2- SR 1312 (RED HILL ROAD)

HOLIDAY

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

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 9:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 4:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 9:00 A.M. FRIDAY AND 4:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 9:00 A.M. TUESDAY TO 4:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 9:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 4:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

B) 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

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

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

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 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.

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.

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

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

PAVEMENT EDGE DROP OFF REQUIREMENTS

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

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

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

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

I) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

L) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
PROVIDE SIGNING AND DEVICES REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

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' IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

O) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN THE ROAD CLOSURE IS NOT IN OPERATION.
COVER OR REMOVAL ALL SIGNS AND DEVICES REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

TRAFFIC CONTROL DEVICES

P) 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.

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

PAVEMENT MARKINGS AND MARKERS

R) INSTALL TEMPORARY PAVEMENT MARKINGS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
NC 71 -L-	PAINT	N/A
SR 1312 (OXENDINE SCHOOL ROAD) -Y1-	PAINT	N/A
SR 1312 (RED HILL ROAD) -Y2-	PAINT	N/A

S) 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.

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

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

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

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

X) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 500' AND 500' RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

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NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS

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

TRANSPORTATION OPERATIONS PLAN

12/5/2025
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PHASING

NOTES: COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE. THIS MAY REQUIRE A COMBINATION OF INSTALLATION OF PROPOSED PIPES, TEMPORARY PIPES, STEEL PLATES, AND TEMPORARY DITCHES.

ALL REFERENCES TO CONSTRUCTION INCLUDE PAVING UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE UNLESS SPECIFICALLY CALLED FOR.

PHASE I:

STEP 1: INSTALL WORK ZONE SIGNING ALONG ALL APPROACH ROADWAYS (STANDARD DRAWING 1101.01 SHEET 3 OF 3). ESTABLISH PRELIMINARY EROSION CONTROL MEASURES AND THEN CLEAR AND GRUB PROJECT LIMITS.

STEP 2: USING TEMPORARY LANE CLOSURES AND FLAGGING OPERATIONS (STANDARD DRAWING 1101.02 SHEET 1 OF 19), WIDEN EXISTING ROADWAY IN THE FOLLOWING LOCATIONS:

-L- STA 11+15±(RT) TO -L- STA 11+85±(RT) AND -L- STA 11+15±(LT) TO -L- STA 15+20±(LT)

-L- STA 25+00±(RT) TO -L- STA 26+20±(RT) AND -L- STA 22+80±(LT) TO -L- STA 26+20±(LT).

SOUTHWEST CORNER OF ROUNDABOUT PAVEMENT THAT IS AWAY FROM EXISTING TRAVEL WAYS. (PAVE INTERIOR OF ROUNDABOUT WITH TEMPORARY PAVEMENT)

INSTALL PROPOSED PAVEMENT UP TO FIRST LAYER OF SURFACE COURSE. WEDGE OVER EXISTING TRAVEL LANES TO ENSURE SMOOTH TRANSITIONS WITH PROPOSED WIDENING AND REPLACE ANY PAVEMENT MARKINGS IN KIND THAT ARE COVERED BY WEDGING. MAINTAIN EXISTING TRAVEL PATTERNS AND ALL-WAY STOP CONTROL (EXISTING STOP SIGNS SHOWN ON TMP-3).

STEP 3: AWAY FROM TRAFFIC AND/OR USING TEMPORARY LANE CLOSURES/FLAGGING OPERATIONS (STANDARD DRAWING 1101.02 SHEET 1 OF 19) CONSTRUCT THE PROPOSED WIDENING IN THE FOLLOWING LOCATIONS:

-L- STA 11+85± TO -L- STA 17+75±

-L- STA 19+35± TO -L- STA 25+00±

-Y2- STA 10+40± TO THE INTERSECTION OF NC 71

INSTALL TEMPORARY PAVEMENT BEYOND PROPOSED PAVEMENT THAT WILL BE NEEDED IN FUTURE PHASES

INSTALL PROPOSED PAVEMENT UP TO FIRST LAYER OF SURFACE COURSE. WEDGE OVER EXISTING TRAVEL LANES TO ENSURE SMOOTH TRANSITIONS WITH PROPOSED WIDENING AND REPLACE ANY PAVEMENT MARKINGS IN KIND THAT ARE COVERED BY WEDGING. MAINTAIN EXISTING TRAVEL PATTERNS AND ALL-WAY STOP CONTROL.

PHASE II:

STEP 1: USING TEMPORARY LANE CLOSURES AND FLAGGING OPERATIONS (STANDARD DRAWING 1101.02 SHEET 1 OF 19) AND TMP-4, PLACE TEMPORARY PAVEMENT MARKINGS. SHIFT -L- TRAFFIC INTO TEMPORARY TRAFFIC PATTERN, SHIFTED TO THE SOUTH ON NEWLY CONSTRUCTED PROPOSED AND TEMPORARY PAVEMENT. MAINTAIN ALL-WAY STOP CONTROL WITH -Y2-. SIMULTANEOUSLY, CLOSE -Y1- TO TRAFFIC BY UTILIZING SR 1311 (JUANITA RD) & SR 1308 (MCGIRT RD) AS AN OFF-SITE DETOUR FOR PASSENGER CARS AND UTILIZE NC 71 AND SR 1312 FOR TRUCKS (SEE TMP-2).

STEP 2: CONSTRUCT ALL OF -Y1- PROPOSED WIDENING UP TO FINAL LAYER OF SURFACE COURSE AND INSTALL SPLITTER ISLANDS. CONSTRUCT NORTHERN HALF OF ROUNDABOUT INCLUDING MEDIAN CURBING (3” ROLLED CURB AND 8”X12” CURB) & TRUCK APRON. CENTRAL CONCRETE ISLAND COVER TO CONSTRUCTED IN LATER PHASING.

PHASE III:

STEP 1: USING TEMPORARY LANE CLOSURES AND FLAGGING OPERATIONS (STANDARD DRAWING 1101.02 SHEET 1 OF 19) AND TMP-5, PLACE TEMPORARY PAVEMENT MARKINGS. PLACE TRAFFIC IN TEMPORARY ROUNDABOUT TRAFFIC PATTERN UTILIZING THE TEMPORARY PAVEMENT CONSTRUCTED IN PHASE I STEP 2. CONSTRUCT REMAINING PORTION OF THE ROUNDABOUT CENTRAL CURBING (3” ROLLED CURB AND 8”X12” CURB) AND TRUCK APRON. CONSTRUCT CENTRAL ISLAND CONCRETE COVER. INSTALL SPLITTER ISLANDS ON -L- & -Y2-

STEP 2: REOPEN -Y1- TO TRAFFIC. INSTALL SPLITTER ISLANDS ON -L- & -Y2-. SHIFT TRAFFIC INTO ULTIMATE LOCATION, OFF OF TEMPORARY PAVEMENT. REMOVE TEMPORARY AND EXISTING PAVEMENT NOT NEEDED FOR FINAL CONDITIONS AND FINALIZE GRADING AROUND ROUNDABOUT. INSTALL FINAL LIFT OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS.

STEP 3: REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES.

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TRANSPORTATION OPERATIONS PLAN

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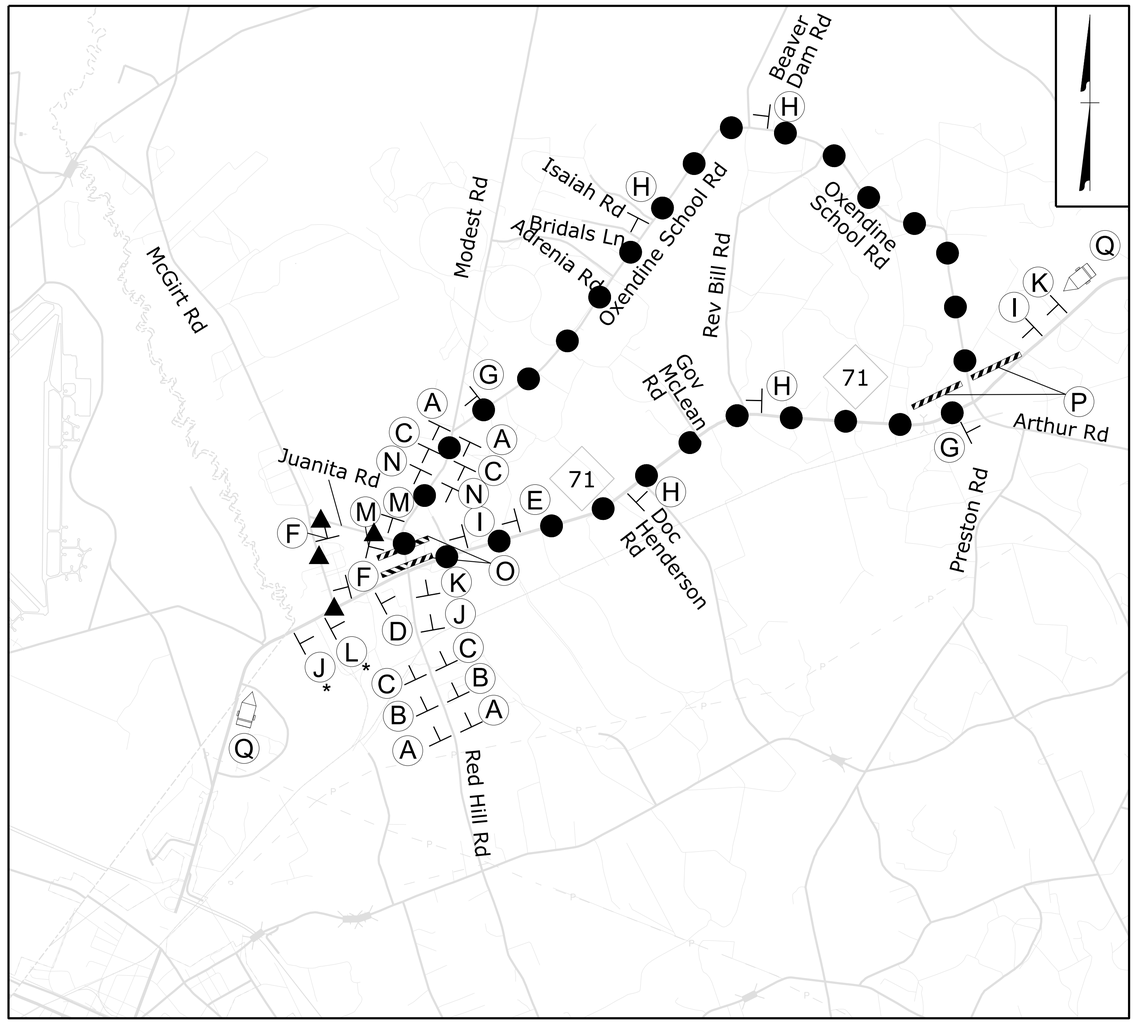

ROAD CLOSED AHEAD
W20-3
48" x 48"

(A)

DETOUR AHEAD
W20-2
48" X 48"

(B)

ROAD CLOSED 1000 FT
W20-3
48" x 48"

(C)

ROAD CLOSED
W20-3
48" x 48"
NEXT LEFT
SP- 4L
42" X 12"

(D)

ROAD CLOSED
W20-3
48" X 48"
NEXT RIGHT
SP- 4R
42" X 12"

(E)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
DETOUR
M4-8
24" x 12"
M6-1
21" x 15"

(F)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
DETOUR
M4-8
24" x 12"
TRUCKS ONLY
SEE SHEET TMP-2A
M6-1 L
21" x 15"

(G)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
DETOUR
M4-8
24" x 12"
M6-3
21" x 15"

(H)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
DETOUR
M4-8
24" x 12"
CARS ONLY
SEE SHEET TMP-2A
M6-3
21" x 15"

(I)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
DETOUR
M4-8
24" x 12"
CARS ONLY
SEE SHEET TMP-2A
M6-1 L
21" x 15"

(J)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
DETOUR
M4-8
24" x 12"
TRUCKS ONLY
SEE SHEET TMP-2A
M6-1
21" x 15"

(K)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
DETOUR
M4-8
24" x 12"
TRUCKS ONLY
SEE SHEET TMP-2A
M6-3
21" x 15"

(L)

OXENDINE SCHOOL RD
SEE SHEET TMP-2A
END DETOUR
M4-8 A
24" X 18"

(M)

ROAD CLOSED 500 FT
W20-3
48" x 48"

(N)

R11-2
48" x 30"
ROAD CLOSED

TYPE III BARRICADE(S)

(O)

R11-3
60" x 30"
ROAD CLOSED
6 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR
M4-10L
48" x 18"

TYPE III BARRICADE(S)

(P)

MESSAGE PRIOR TO CLOSURE:

MESSAGE NO. 1	MESSAGE NO. 2
OXENDINE SCH RD CLOSED	STARTING (DAY) (TIME)

CHANGEABLE MESSAGE SIGN

MESSAGE DURING CLOSURE:

MESSAGE NO. 1	MESSAGE NO. 2
OXENDINE SCH RD CLOSED	FOLLOW POSTED DETOUR

CHANGEABLE MESSAGE SIGN

(Q)

NOTE:
REFER TO RSD 1101.03, SHEETS 1 AND 2 OF 9, FOR GENERAL NOTES

* SIGN TO BE PLACED BEFORE MCGRIT RD

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220 HORIZON DRIVE, SUITE 117
RALEIGH NC 27615
PHONE (727) 214-7698
LICENSE NO. P-2673
WWW.VIASINFRASTRUCTURE.COM

APPROVED: Signed by: Matthew A. Douglas 4B42E0B2172A4C2...
DATE: 12/5/2025
SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038649 MATTHEW A. DOUGLAS

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

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OFF-SITE DETOURS

12/5/2025
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User:MatthewDouglas

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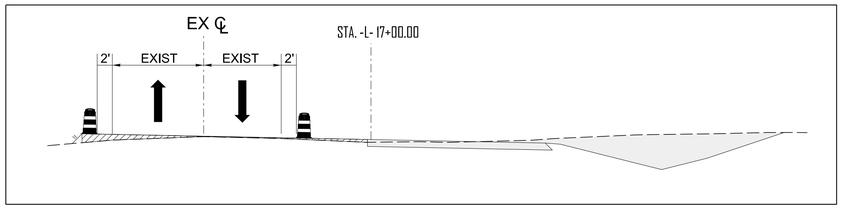
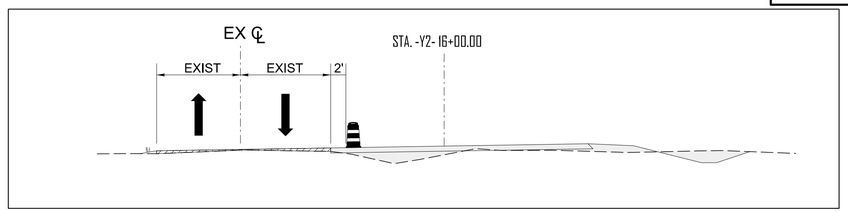
PROJ. REFERENCE NO.	SHEET NO.
HN-0020	TMP-3

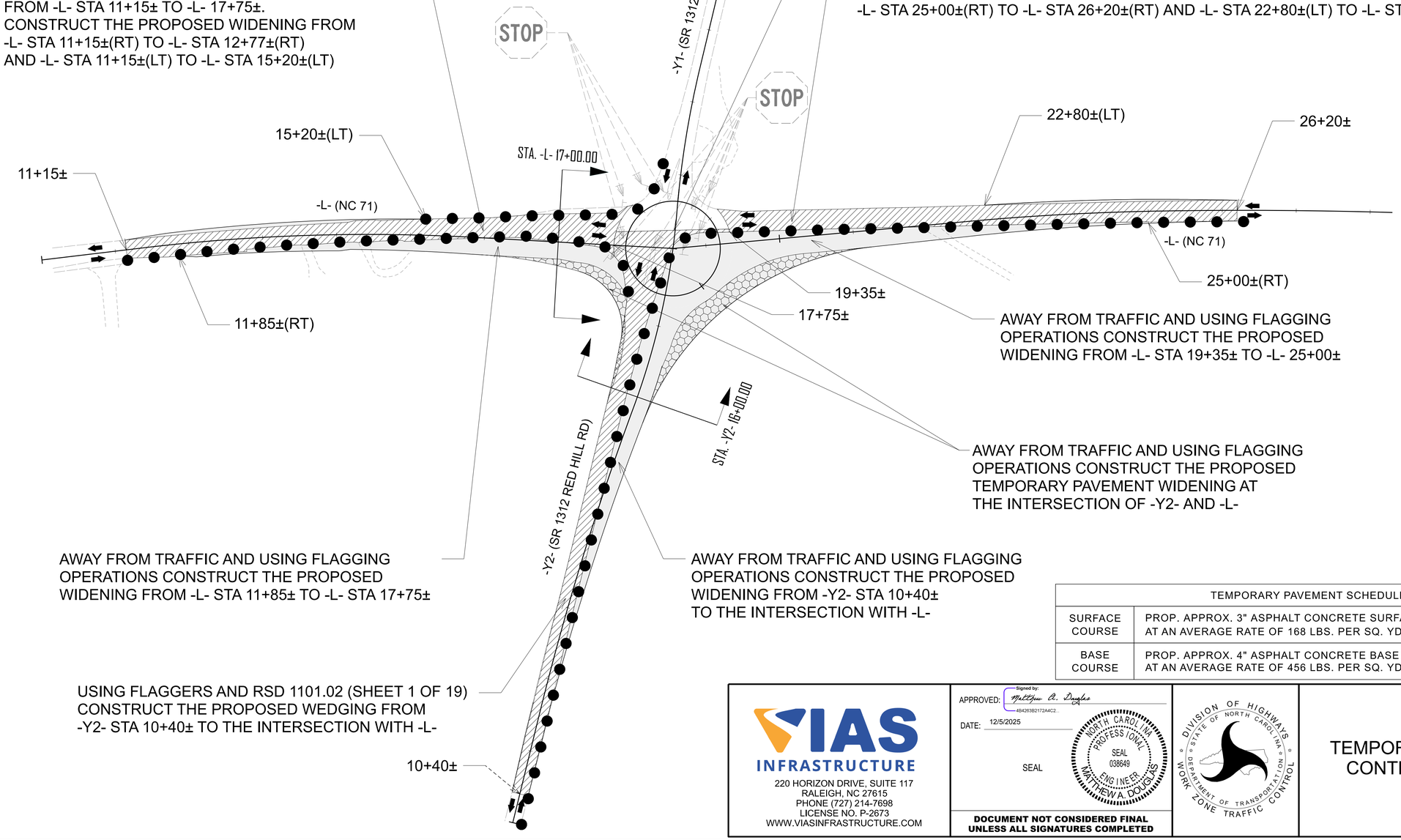




MAINTAIN EXISTING STOP CONTROL AT INTERSECTION.
REMOVE AND RESET SIGNS AS NEEDED.

USING FLAGGERS AND RSD 1101.02 (SHEET 1 OF 19) CONSTRUCT THE PROPOSED WEDGING FROM -L- STA 19+35± TO -L- STA 26+20±. CONSTRUCT THE PROPOSED WIDENING FROM -L- STA 25+00±(RT) TO -L- STA 26+20±(RT) AND -L- STA 22+80±(LT) TO -L- STA 26+20±(LT)

USING FLAGGERS AND RSD 1101.02 (SHEET 1 OF 19)
CONSTRUCT THE PROPOSED WEDGING
FROM -L- STA 11+15± TO -L- 17+75±.
CONSTRUCT THE PROPOSED WIDENING FROM
-L- STA 11+15±(RT) TO -L- STA 12+77±(RT)
AND -L- STA 11+15±(LT) TO -L- STA 15+20±(LT)



AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS CONSTRUCT THE PROPOSED WIDENING FROM -L- STA 19+35± TO -L- 25+00±

AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS CONSTRUCT THE PROPOSED TEMPORARY PAVEMENT WIDENING AT THE INTERSECTION OF -Y2- AND -L-

AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS CONSTRUCT THE PROPOSED WIDENING FROM -L- STA 11+85± TO -L- STA 17+75±

AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS CONSTRUCT THE PROPOSED WIDENING FROM -Y2- STA 10+40± TO THE INTERSECTION WITH -L-

USING FLAGGERS AND RSD 1101.02 (SHEET 1 OF 19)
CONSTRUCT THE PROPOSED WEDGING FROM
-Y2- STA 10+40± TO THE INTERSECTION WITH -L-

TEMPORARY PAVEMENT SCHEDULE	
SURFACE COURSE	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
BASE COURSE	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.

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APPROVED: Signed by: Matthew A. Douglas 4842638B2172A4C2...
DATE: 12/5/2025
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038649 MATTHEW A. DOUGLAS

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

TEMPORARY TRAFFIC CONTROL PHASE I

12/5/2025
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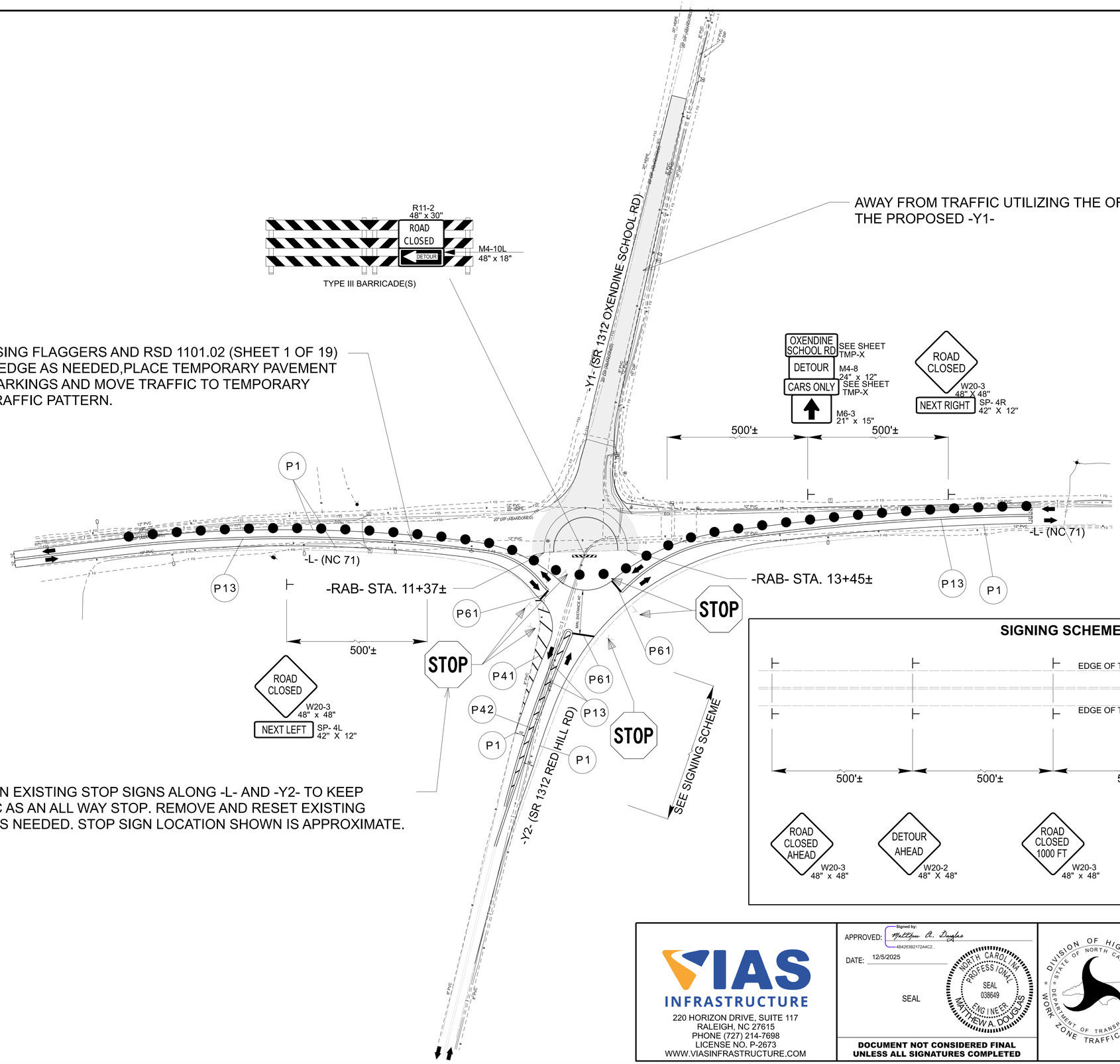
PROJ. REFERENCE NO.	SHEET NO.
HN-0020	TMP-4

TYPE III BARRICADE(S)

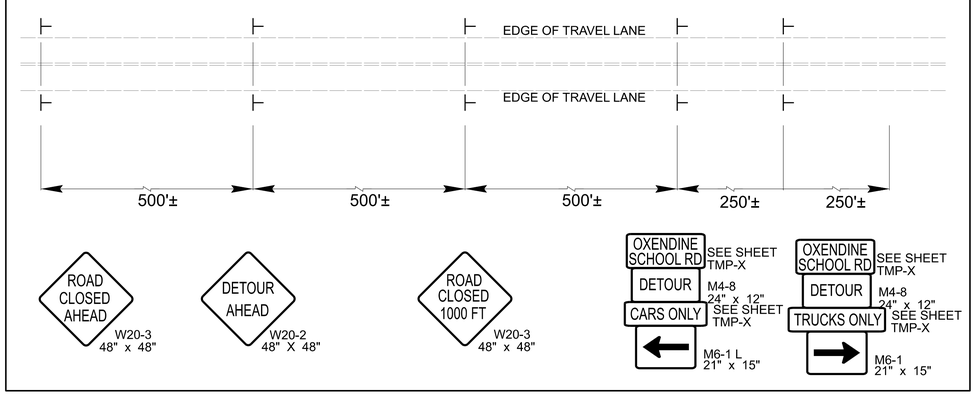
AWAY FROM TRAFFIC UTILIZING THE OFFSITE DETOUR CONSTRUCT THE PROPOSED -Y1-

USING FLAGGERS AND RSD 1101.02 (SHEET 1 OF 19) WEDGE AS NEEDED,PLACE TEMPORARY PAVEMENT MARKINGS AND MOVE TRAFFIC TO TEMPORARY TRAFFIC PATTERN.



MAINTAIN EXISTING STOP SIGNS ALONG -L- AND -Y2- TO KEEP TRAFFIC AS AN ALL WAY STOP. REMOVE AND RESET EXISTING SIGNS AS NEEDED. STOP SIGN LOCATION SHOWN IS APPROXIMATE.

SIGNING SCHEME



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RALEIGH, NC 27615
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LICENSE NO. P-2673
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DATE: 12/5/2025

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038649 MATTHEW A. DOUGLAS

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

TEMPORARY TRAFFIC CONTROL PHASE II

12/5/2025
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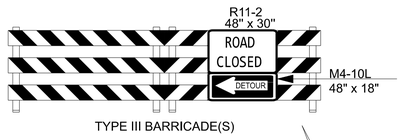
PROJ. REFERENCE NO.	SHEET NO.
HN-0020	TMP-5



TYPE III BARRICADE(S)

-Y1- TO REMAIN CLOSED.

AWAY FROM TRAFFIC AND USING FLAGGING OPERATIONS AS NEEDED
CONSTRUCT THE PROPOSED CENTER ISLAND

-Y1- (SR 1312 OXENDINE SCHOOL RD)

-L- STA. 16+02±

-L- STA. 11+70±

P13

P10

-L- (NC 71)

-L- STA. 11+15±

-L- STA. 25+10±

P13

-L- STA. 26+20±
TIE INTO EXIST. MARKINGS

-L- (NC 71)

P10

-L- STA. 21+40±

P10

P10

-Y2- STA. 15+60±

P13

-Y2- (SR 1312 RED HILL RD)

-Y2- STA. 11+65±

-Y2- STA. 10+40±

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

TEMPORARY TRAFFIC CONTROL PHASE III - STEP 1

12/5/2025
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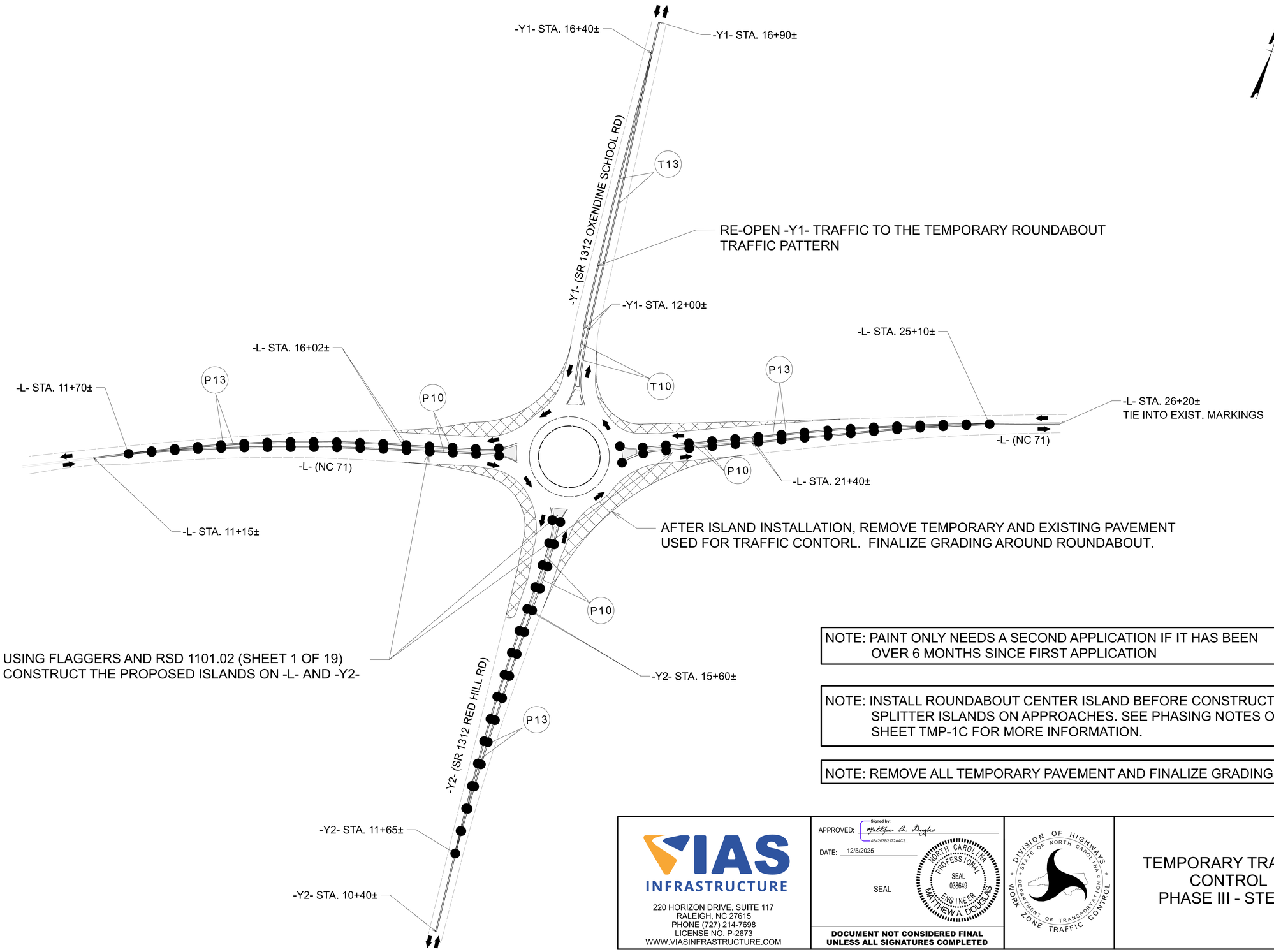
PROJ. REFERENCE NO.	SHEET NO.
HN-0020	TMP-6



NOTE: PAINT ONLY NEEDS A SECOND APPLICATION IF IT HAS BEEN OVER 6 MONTHS SINCE FIRST APPLICATION

NOTE: INSTALL ROUNDABOUT CENTER ISLAND BEFORE CONSTRUCTING SPLITTER ISLANDS ON APPROACHES. SEE PHASING NOTES ON SHEET TMP-1C FOR MORE INFORMATION.

NOTE: REMOVE ALL TEMPORARY PAVEMENT AND FINALIZE GRADING

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APPROVED: Signed by: Matthew A. Douglas 4B42653B2172A4C2...
DATE: 12/5/2025
SEAL

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

TEMPORARY TRAFFIC CONTROL PHASE III - STEP 2

12/5/2025
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CONTRACT: DF00541

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User:JocelynAdorno

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
ROBESON COUNTY

TIP NO.	SHEET NO.
HN-0020	PMP-1

APPROVED: _____

DATE: _____

SEAL

12/18/2025

NORTH CAROLINA PROFESSIONAL SEAL 038649 ENGINEER MATTHEW A. DOUGLAS

Signed by: Matthew A. Douglas
4B4263B2172A4C2...

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INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE SHEET
PMP-1B	RAISED PAVEMENT MARKERS INSTALLATION SPACING
PMP-2	PAVEMENT MARKING DETAIL

ROADWAY STANDARD DRAWING

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

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.14	PAVEMENT MARKINGS - ROUNDABOUTS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
NC 71 -L-	THERMOPLASTIC	PERMANENT RAISED
SR 1312 (OXENDINE SCHOOL RD) -Y1-	THERMOPLASTIC	N/A
SR 1312 (RED HILL RD) -Y2-	THERMOPLASTIC	N/A

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

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

F) 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.

PLAN SUBMITTED TO: N.C.D.O.T. SIGNING AND DELINEATION UNIT

MITCH EATON, PE — SIGNING & DELINEATION REGIONAL ENGINEER

JAMES FLOWERS — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

PLAN PREPARED BY: VIAS INFRASTRUCTURE

MATTHEW DOUGLAS, PE — PROJECT MANAGER

JOCELYN ADORNO, PE — PROJECT DESIGN ENGINEER

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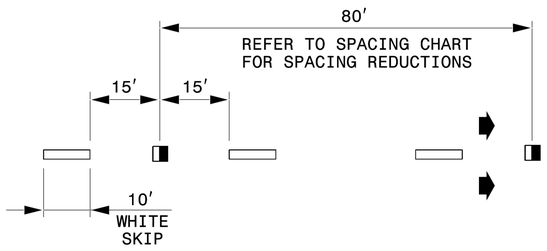
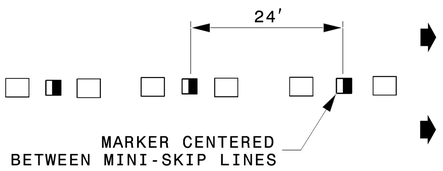
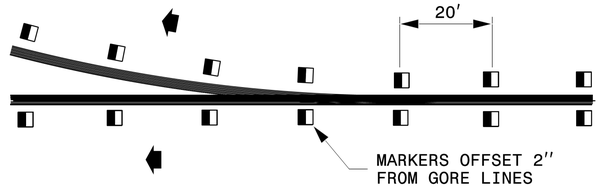
10′-30′/SP SKIP LINE



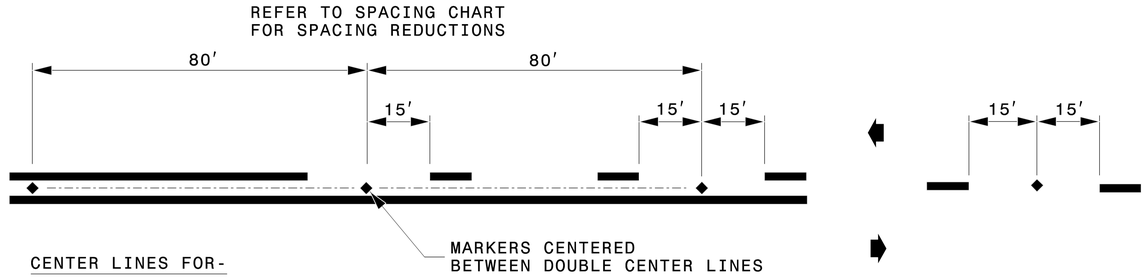
3′-9′/SP MINI-SKIP LINE



GORE LINES



YELLOW CENTER LINES

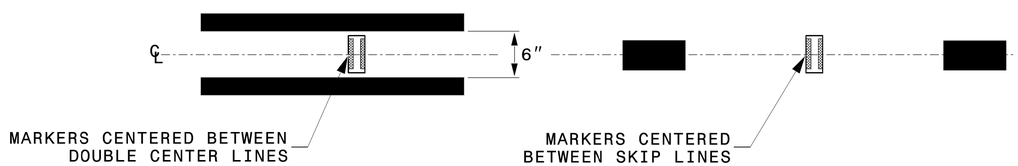


CENTER LINES FOR-

TWO-LANE, TWO-WAY ROADWAYS
UNDIVIDED ROADWAYS
TWO-WAY LEFT TURN LANES

DETAIL OF PAVEMENT MARKER PLACEMENT

RAISED REFLECTIVE PAVEMENT MARKERS



LEGEND

- CRYSTAL/RED PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- DIRECTION OF TRAFFIC FLOW

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

TIP NO.	SHEET NO.
HN-0020	PMP-1B

APPROVED: _____

DATE: _____

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12/5/2025

NORTH CAROLINA PROFESSIONAL SEAL 042546 ENGINEER MATTHEW V. SPRINGER

Signed by:
Matthew V. Springer, PE
BC60F6EBB584403...

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.: _____

12/5/2025
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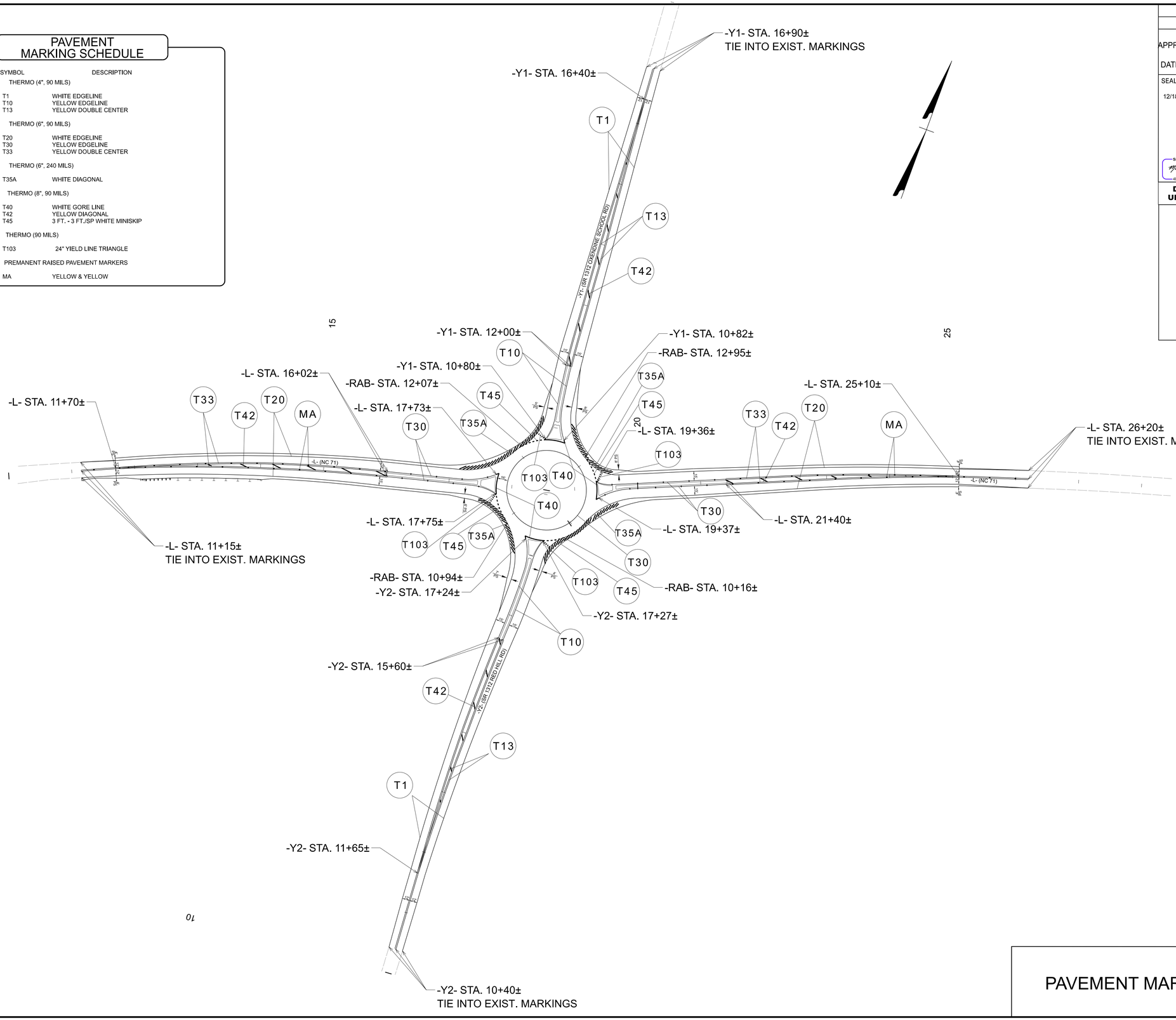
PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	THERMO (4", 90 MILS)
T1	WHITE EDGELINE
T10	YELLOW EDGELINE
T13	YELLOW DOUBLE CENTER
	THERMO (6", 90 MILS)
T20	WHITE EDGELINE
T30	YELLOW EDGELINE
T33	YELLOW DOUBLE CENTER
	THERMO (6", 240 MILS)
T35A	WHITE DIAGONAL
	THERMO (8", 90 MILS)
T40	WHITE GORE LINE
T42	YELLOW DIAGONAL
T45	3 FT. - 3 FT./SP WHITE MINISKIP
	THERMO (90 MILS)
T103	24" YIELD LINE TRIANGLE
	PREMANENT RAISED PAVEMENT MARKERS
MA	YELLOW & YELLOW



TIP NO.	SHEET NO.
HN-0020	PMP-2

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DATE: _____

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12/18/2025

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4B4263B2172A4C2...

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PAVEMENT MARKING DETAIL

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User:JoseElynAdorno

PROJECT: HN-0020

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED

HIGHWAY EROSION CONTROL

ROBESON COUNTY

LOCATION: *CONSTRUCT ROUNDABOUT AT THE INTERSECTION OF NC 71 AT SR 1312 (OXENDINE SCHOOL RD/ RED HILL RD)*

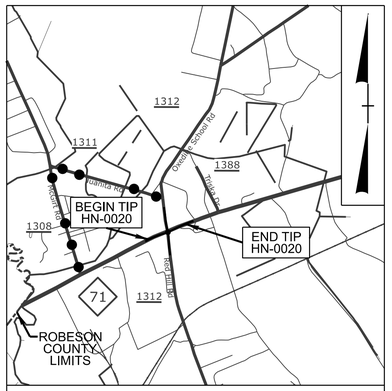
TYPE OF WORK: *GRADING, DRAINAGE, AND PAVING*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HN-0020	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
51170.1.1	5117001	PE
51170.2.1	5117001	ROW
51170.2.2	5117001	UTL
51170.3.1	5117001	CONST

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

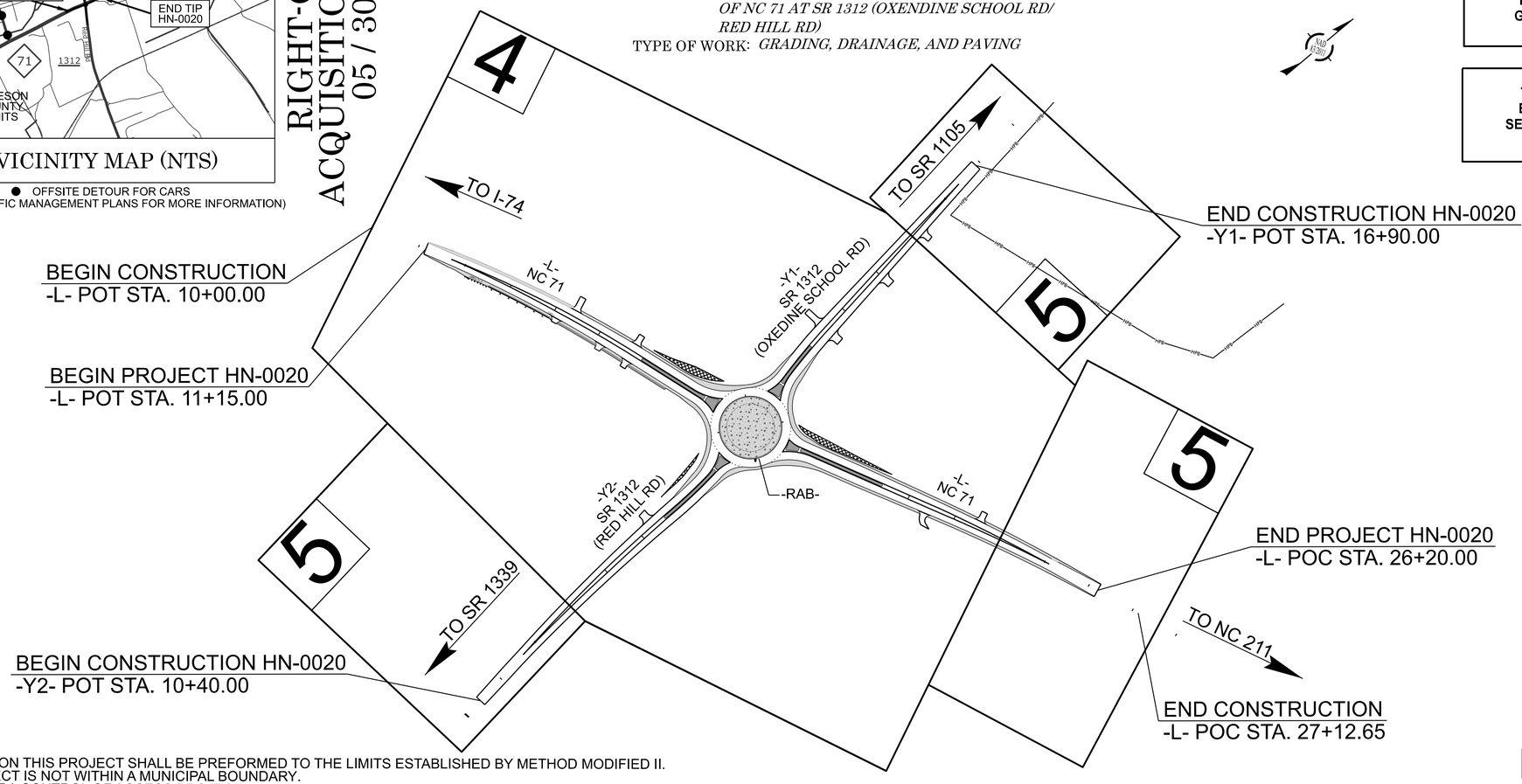
THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.



VICINITY MAP (NTS)

RIGHT-OF-WAY ACQUISITION PLANS
05 / 30 / 2025

● ● ● OFFSITE DETOUR FOR CARS
(SEE TRAFFIC MANAGEMENT PLANS FOR MORE INFORMATION)



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PREFORMED TO THE LIMITS ESTABLISHED BY METHOD MODIFIED II.
2.THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.
3. THIS IS NOT A CONTROL OF ACCESS PROJECT.

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GRAPHIC SCALE

50 25 0 50 100
PLANS

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

WETHERILL ENGINEERING
1223 JONES FRANKLIN ROAD
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

Prepared in the Office of:

WETHERILL ENGINEERING, INC.

1223 JONES FRANKLIN ROAD
RALEIGH, NC 27606

Designed by:

KATIE ESTEP — *4485*
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.

12/9/2025
HN-0020_EC-1.dgn
USERNAME=katie

PROJECT REFERENCE NO.	SHEET NO.
HN-0020	EC-02

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

EROSION & SEDIMENT CONTROL LEGEND

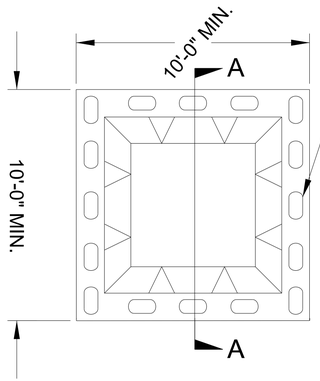
Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1630.03	Temporary Silt Ditch	TSD
1630.04	Stilling Basin	
1630.05	Temporary Diversion	TD
1630.06	Special Stilling Basin	
1630.07	Skimmer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

Std. #	Description	Symbol
1633.01	Temporary Rock Silt Check Type A	
1633.02	Temporary Rock Silt Check Type B	
1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1634.01	Temporary Rock Sediment Dam Type A	
1634.02	Temporary Rock Sediment Dam Type B	
1635.01	Rock Pipe Inlet Sediment Trap Type A	A
1635.02	Rock Pipe Inlet Sediment Trap Type B	B
1636.01	Excelsior Wattle Check	
1636.01	Excelsior Wattle Check with Flocculant	
1636.01	Coir Fiber Wattle Check	
1636.01	Coir Fiber Wattle Check with Flocculant	
1636.02	Silt Fence Excelsior Wattle Break	EW
	Silt Fence Coir Fiber Wattle Break	CFW
1636.03	Excelsior Wattle Barrier	—EW—EW—EW—
1636.03	Coir Fiber Wattle Barrier	—CFW—CFW—CFW—

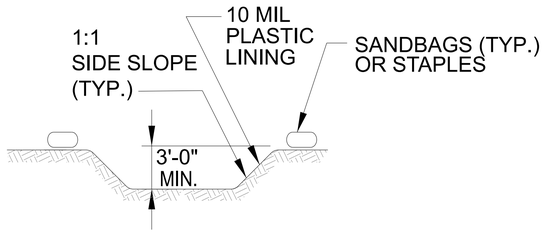
PROJECT REFERENCE NO.	SHEET NO.
HN-0020	EC-2A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



PLAN



SECTION A-A

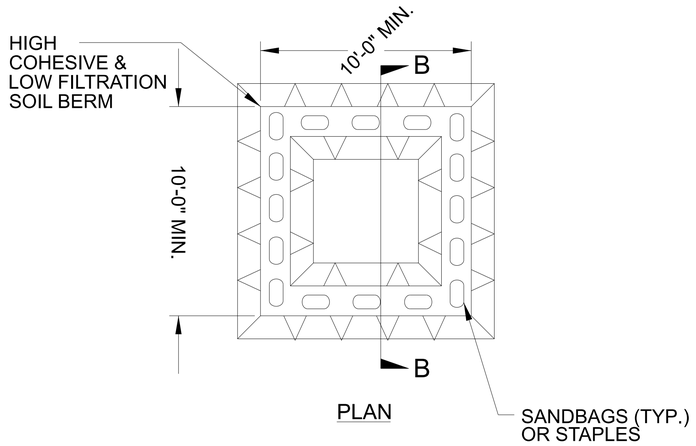
NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

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

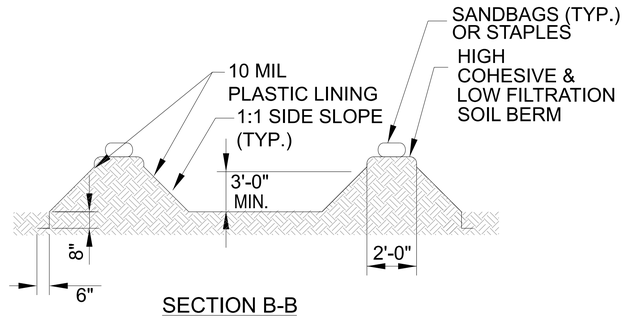
3.CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE



PLAN



SECTION B-B

NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD

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

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

ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
HN-0020	EC-3

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

STRAW MATTING FOR EROSION CONTROL (DITCHES)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	11+15	13+50	RT	315
4	-L-	13+50	14+50	RT	445
4	-L-	14+50	15+00	RT	90
4	-L-	16+75	17+50	RT	100
4	-L-	14+55	15+50	LT	85
4	-L-	20+00	23+00	LT	265
4	-Y2-	14+90	17+27	LT	210
4	-Y2-	10+00	12+75	LT	485
4	-Y2-	13+80	16+00	RT	385
5	-Y2-	10+00	13+80	RT	855
	SUBTOTAL FOR STRAW MATTING (DITCHES)				3,235

EXCELSIOR MATTING FOR EROSION CONTROL (DITCHES)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	13+50	14+20	LT	35
	SUBTOTAL FOR EXCELSIOR MATTING (DITCHES)				35
	SUBTOTAL FOR STRAW MATTING (DITCHES)				3,235
	MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER				2,000
				TOTAL	5,270
				SAY	5,280

PROJECT REFERENCE NO.	SHEET NO.
HN-0020	EC-3A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

5/26/20

CUR DATA -L-
PIc 13+64.20
Δc = 09°59'09.0" (RT)
D = 02°14'17.2"
Lc = 446.17
Tc = 223.65
R = 2,560
SE = 4.0
LRb = 120'
LRa = 112'
V = 50 MPH

CUR DATA -L-
PIc 23+88.37
Δc = 04°23'05.7" (RT)
D = 01°36'50.3"
Lc = 271.69
Tc = 135.91
R = 3,550
SE = 3.0
LRb = 96'
LRa = 90'
V = 50 MPH

CUR DATA -Y1-
PIc 10+24.95
Δc = 02°51'31.5" (LT)
D = 05°43'46.5"
Lc = 49.89
Tc = 24.95
R = 1,000

CUR DATA -Y1-
PIc 11+49.22
Δc = 08°44'17.2" (RT)
D = 04°24'26.5"
Lc = 198.26
Tc = 99.32
R = 1,300
SE = 4.0
LRb = 96'
LRa = 112'
V = 35 MPH

CUR DATA -Y2-
PIc 13+67.02
Δc = 06°31'58.4" (RT)
D = 01°29'59.6"
Lc = 435.56
Tc = 218.01
R = 3,820
SE = 3.0
LRa = 84'
V = 50 MPH

CUR DATA -Y2-
PIc 16+96.15
Δc = 12°44'02.0" (LT)
D = 05°43'46.5"
Lc = 222.25
Tc = 111.58
R = 1,000
SE = 3.0
LRb = 72'
LRa = 67.5'
V = 25 MPH

CUR DATA -RAB-
PIc 10+00.00
Δc = 359°59'30.6" (RT)
D = 89°31'28.8"
Lc = 402.11
Tc = 0.00
R = 64
SE = 2.0

MATCH LINE -Y1- STA 15+00.00
SEE SHEET 05 -Y1- INSET

NAD 83/2011

-L- PC 11+40.54

-Y1- PT 12+48.16

-L- PT 15+86.72

-L- PC 22+52.47

-Y1- POC 10+64.01 =
-RAB- POC 12+49.20

-L- POT 19+19.35 =
-RAB- POC 13+37.28

BEGIN CONSTRUCTION
-L- POB STA 10+00.00

-Y1- PRC 10+49.89

-RAB-

-L- (NC 71)

N62°04'19.2"E

BEGIN PROJECT HN-0020
-L- POT STA 11+15.00

-L- POT 17+91.35 =
-RAB- POC 11+45.66

-Y2- PRC 15+84.57

-L- PT 18+55.35
-Y1- POB 10+00.00
-Y2- POE 18+06.81

160' INSCRIBED DIAMETER

-RAB- POB 10+00.00
-RAB- POE 14+02.11

-Y2- POC 17+42.80 =
-RAB- POC 10+52.06

MATCH LINE -L- STA 24+00.00 SEE SHEET 05 -L- INSET

MATCH LINE -Y2- STA 13+00.00
SEE SHEET 05 -Y2- INSET

SEE SHEET 4A FOR ROW STATIONS & OFFSETS.

FOR -L- PROFILE, SEE SHEET NO. 6
FOR -RAB- PROFILE, SEE SHEET NO. 6
FOR -Y1- PROFILE, SEE SHEET NO. 7
FOR -Y2- PROFILE, SEE SHEET NO. 7

SEE SHEET 2B-1 FOR CROSS-SECTION LAYOUT.
SEE SHEET 2B-1 FOR 2" ROLLED CURB DETAIL.
SEE SHEET 2B-2 FOR INTERSECTION LAYOUT.

PROPOSED CONCRETE EXPRESSWAY GUTTER FROM -L- STA. 15+19 TO STA. 16+70 RT

NOTE: ALL DRIVEWAYS USE 10' RADII UNLESS OTHERWISE NOTED.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

PAVEMENT REMOVAL

SR 1312 (OXEDINE SCHOOL RD)
3,200 / 3,800
2,100 / 3,200
200 / 200
8,000 / 11,700
NC 71
5,400 / 7,200
NC 71
800 / 1,600
100 / 100
1,800 / 2,100
2026 ADT
2046 ADT
SR 1312 (RED HILL RD)

HN-0020
EC 4 CONSTR. 004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

5553 OLD STILL ROAD
WAKE FOREST, NC 27587
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

HYDRAULIC DESIGN PREPARED BY

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

REVISIONS

5/26/20

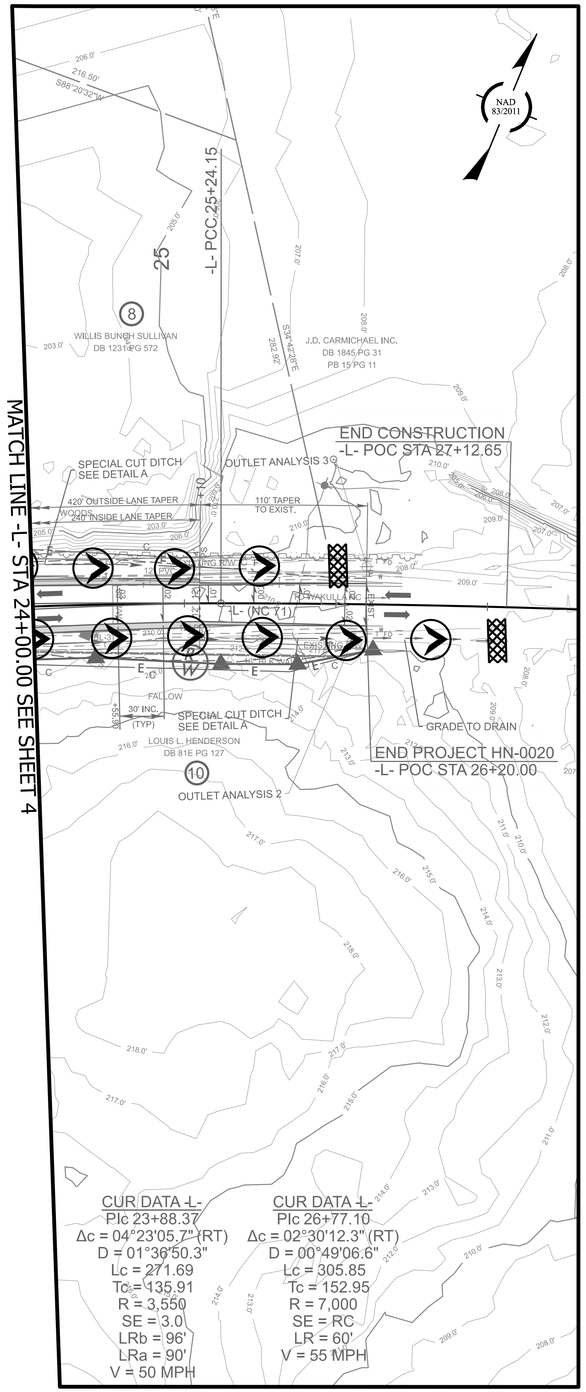
SEE SHEET 5A FOR ROW STATIONS & OFFSETS.

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

CLEARING AND GRUBBING
EROSION CONTROL FOR CONSTRUCTION SHEET 5

-L- INSET

FOR -L- PROFILE, SEE SHEET NO. 6

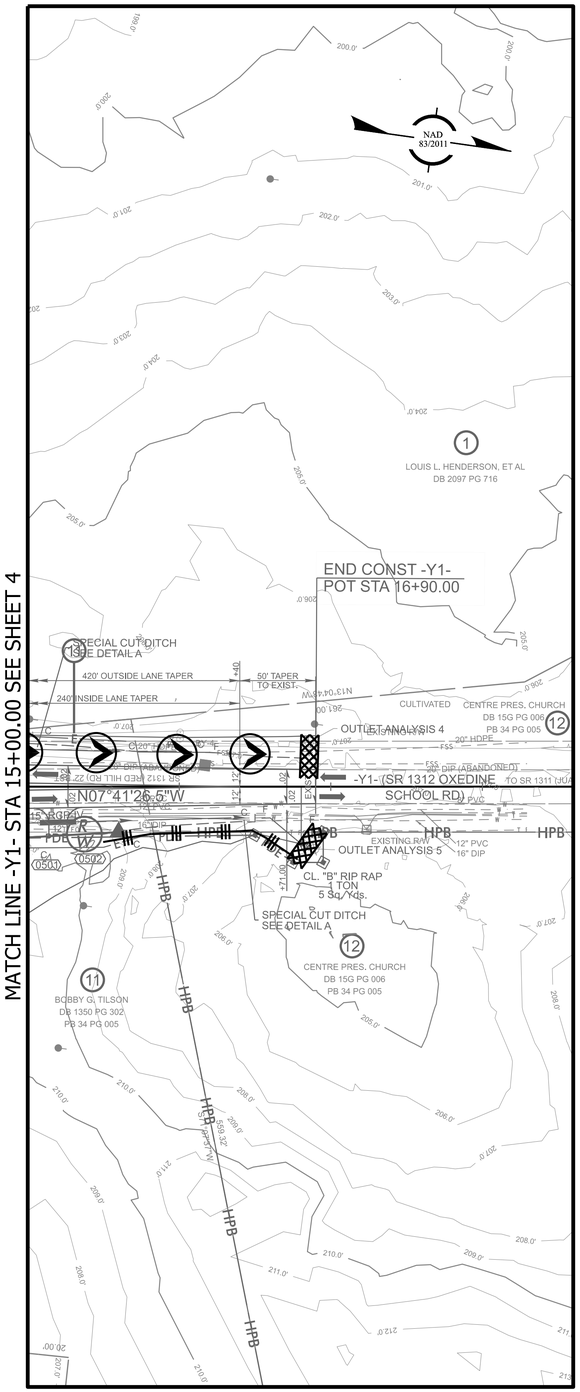


CUR DATA -L-
PIc 23+88.37
Δc = 04°23'05.7" (RT)
D = 01°36'50.3"
Lc = 271.69
Tc = 135.91
R = 3,550
SE = 3.0
LRb = 96'
LRa = 90'
V = 50 MPH

CUR DATA -L-
PIc 26+77.10
Δc = 02°30'12.3" (RT)
D = 00°49'06.6"
Lc = 305.85
Tc = 152.95
R = 7,000
SE = RC
LR = 60'
V = 55 MPH

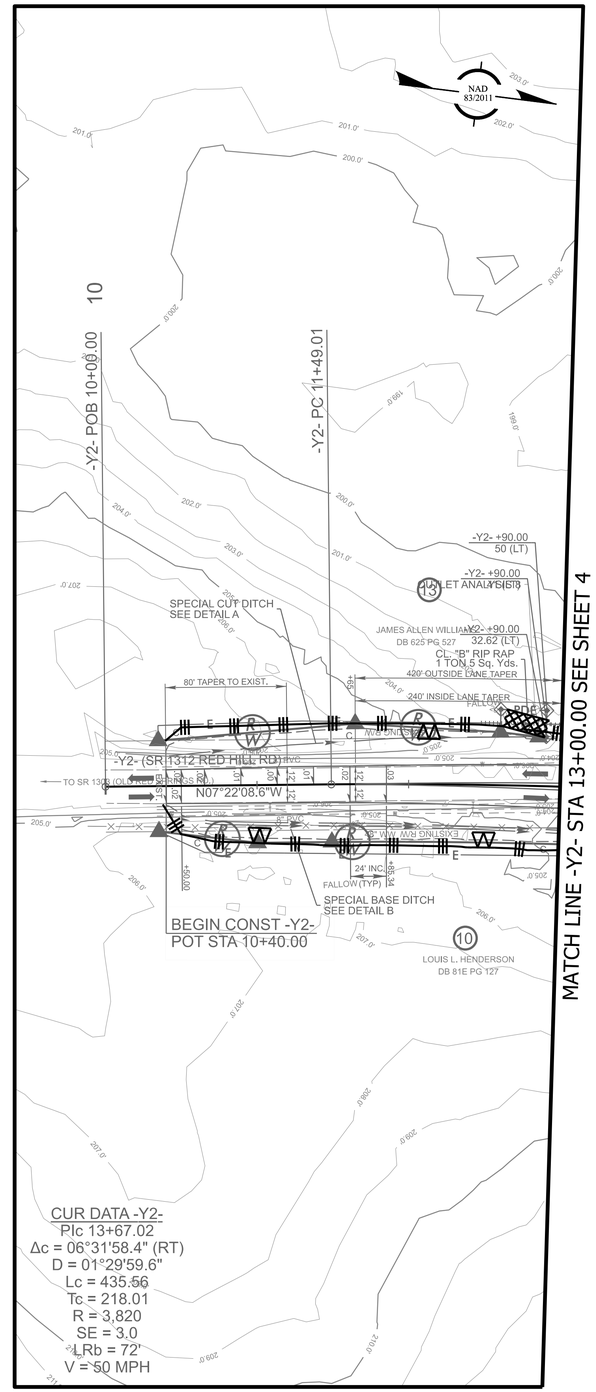
-Y1- INSET

FOR -Y1- PROFILE, SEE SHEET NO. 7



-Y2- INSET

FOR -Y2- PROFILE, SEE SHEET NO. 7



CUR DATA -Y2-
PIc 13+67.02
Δc = 06°31'58.4" (RT)
D = 01°29'59.6"
Lc = 435.56
Tc = 218.01
R = 3,820
SE = 3.0
LRb = 72'
V = 50 MPH

HN-0020
EC 5 | CONSTR. 005

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

5553 OLD STILL ROAD
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License No. F-0377
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REVISIONS

5/26/20

CUR DATA -L-	CUR DATA -L-	CUR DATA -Y1-	CUR DATA -Y1-	CUR DATA -Y2-	CUR DATA -Y2-	CUR DATA -RAB-
PIc 13+64.20	PIc 23+88.37	PIc 10+24.95	PIc 11+49.22	PIc 13+67.02	PIc 16+96.15	PIc 10+00.00
Δc = 09°59'09.0" (RT)	Δc = 04°23'05.7" (RT)	Δc = 02°51'31.5" (LT)	Δc = 08°44'17.2" (RT)	Δc = 06°31'58.4" (RT)	Δc = 12°44'02.0" (LT)	Δc = 359°59'30.6" (RT)
D = 02°14'17.2"	D = 01°36'50.3"	D = 05°43'46.5"	D = 04°24'26.5"	D = 01°29'59.6"	D = 05°43'46.5"	D = 89°31'28.8"
Lc = 446.17	Lc = 271.69	Lc = 49.89	Lc = 198.26	Lc = 435.56	Lc = 222.25	Lc = 402.11
Tc = 223.65	Tc = 135.91	Tc = 24.95	Tc = 99.32	Tc = 218.01	Tc = 111.58	Tc = 0.00
R = 2,560	R = 3,550	R = 1,000	R = 1,300	R = 3,820	R = 1,000	R = 64
SE = 4.0	SE = 3.0		SE = 4.0	SE = 3.0	SE = 3.0	SE = 2.0
LRb = 120'	LRb = 96'		LRb = 96'	LRa = 84'	LRb = 72'	
LRa = 112'	LRa = 90'		LRa = 112'	V = 50 MPH	LRa = 67.5'	
V = 50 MPH	V = 50 MPH		V = 35 MPH		V = 25 MPH	

MATCH LINE -Y1- STA 15+00.00
SEE SHEET 05 -Y1- INSET

NAD 83/2011

-L- PC 11+40.54

BEGIN CONSTRUCTION
-L- POB STA 10+00.00

BEGIN PROJECT HN-0020
-L- POT STA 11+15.00

-Y1- PT 12+48.16

-L- PT 15+86.72

-Y1- PRC 10+49.89

-Y2- PRC 15+84.57

-L- POT 17+91.35 =
-RAB- POC 11+45.66

-Y1- POC 10+64.01 =
-RAB- POC 12+49.20

-L- POT 19+19.35 =
-RAB- POC 13+37.28

-L- PC 22+52.47

-L- PT 18+55.35
-Y1- POB 10+00.00
-Y2- POE 18+06.81

160' INSCRIBED DIAMETER

-RAB- POB 10+00.00
-RAB- POE 14+02.11

-Y2- POC 17+42.80 =
-RAB- POC 10+52.06

-L- (NC 71)

-Y1- (SR 1312 OXEDINE SCHOOL RD)

NC 71 VARIABLE WIDTH BST

LOUIS L. HENDERSON, ET AL
DB 2097 PG 716

ROBESON COUNTY
DB 1720 PG 056

BOBBY G. TILSON
DB 1350 PG 302
PB 34 PG 005

CENTRE PRES. CHURCH
DB 15G PG 006
PB 34 PG 005

WILLIS BUNCH SULLIVAN
DB 1231 PG 572

CLARENCE WOODS
DB 19A PG 302
PB 03 PG 066

MARL W. DEESE &
MARCUS STRICKLAND
DB 729 PG 136
PB 03 PG 066

HOLLY H. NELSON
DB 2373 PG 373
PB 03 PG 066

JAMES ALLEN WILLIAMS
DB 625 PG 527

LOUIS L. HENDERSON
DB 81E PG 127

DEMETRIUS HUNT
DB 20F PG 324
PB 54 PG 188

JONATHAN ST
PRIVATE R/W
LJ BRITT JR. &
J.H. BARRINGTON JR
DB 18C PG 190

KIM LOCKLEAR
DB 1838 PG 199

OUTLET ANALYSIS 1
GRADE TO DRAIN, KEEP GRADING LIMITS WITHIN EXISTING DITCH

OUTLET ANALYSIS 6

OUTLET ANALYSIS 7
CL. "B" RIP RAP
5 TON
16 Sq. Yds.

OUTLET ANALYSIS 9
240' INSIDE LANE TAPER
420' OUTSIDE LANE TAPER
CL. "B" RIP RAP
2 TON
7 Sq. Yds.

SPECIAL CUT DITCH
SEE DETAIL A

SPECIAL BASE DITCH
SEE DETAIL B

4 ft CURB CUT
Y1 STA. 11+56

4 ft CURB CUT
L STA. 16+50

4 ft CURB CUT
L STA. 17+00

4 ft CURB CUT
Y2 STA. 16+35

4 ft CURB CUT
Y2 STA. 15+96

PROP. 5" MONOLITHIC
ISLAND (KEYED-IN)

PROP. 4" CONCRETE
ISLAND COVER

PROP. CONCRETE
TRUCK APRON

DO NOT DISTURB
PEAR TREE

DO NOT DISTRUB
EXISTING FENCE

REMOVE

GRADE TO DRAIN

WOODS

PAVEMENT REMOVAL

SR 1312 (OXEDINE SCHOOL RD)
3,200 / 3,800
2,100 / 3,200
200 / 200
8,000 / 11,700
5,400 / 7,200
NC 71 — NC 71
800 / 1,600
100 / 100
1,800 / 2,100
2026 ADT / 2046 ADT
SR 1312 (RED HILL RD)

SEE SHEET 4A FOR ROW STATIONS & OFFSETS.

FOR -L- PROFILE, SEE SHEET NO. 6
FOR -RAB- PROFILE, SEE SHEET NO. 6
FOR -Y1- PROFILE, SEE SHEET NO. 7
FOR -Y2- PROFILE, SEE SHEET NO. 7

SEE SHEET 2B-1 FOR CROSS-SECTION LAYOUT.
SEE SHEET 2B-1 FOR 2" ROLLED CURB DETAIL.
SEE SHEET 2B-2 FOR INTERSECTION LAYOUT.

PROPOSED CONCRETE EXPRESSWAY GUTTER FROM -L- STA. 15+19 TO STA. 16+70 RT

NOTE: ALL DRIVEWAYS USE 10' RADII UNLESS OTHERWISE NOTED.

MATCH LINE -Y2- STA 13+00.00
SEE SHEET 05 -Y2- INSET

MATCH LINE -L- STA 24+00.00 SEE SHEET 05 -L- INSET

REVISIONS

HN-0020
EC 6 | CONSTR. 004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

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WAKE FOREST, NC 27587
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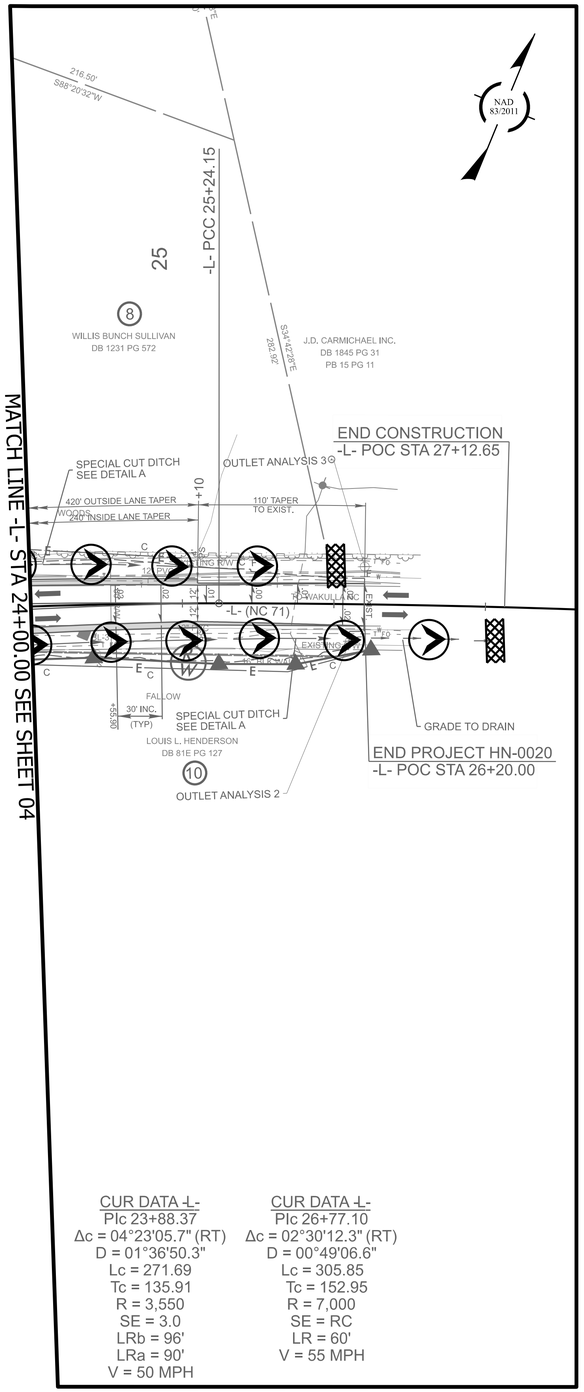
WETHERILL ENGINEERING

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

SEE SHEET 5A FOR ROW STATIONS & OFFSETS.

-L- INSET

FOR -L- PROFILE, SEE SHEET NO. 6

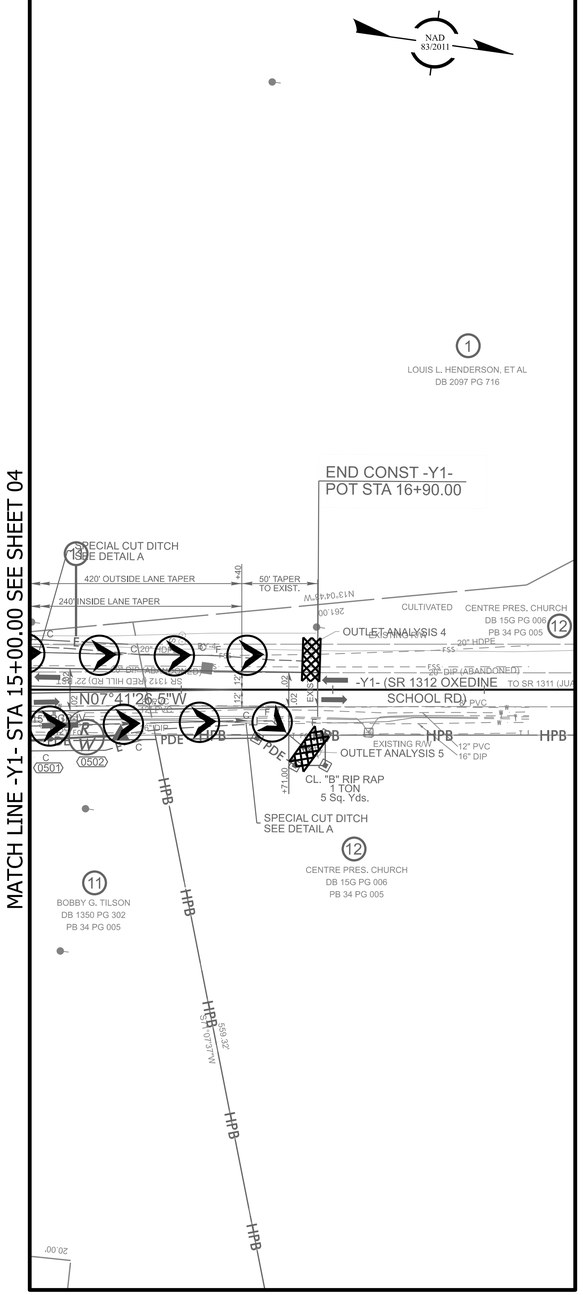


CUR DATA -L-
PIc 23+88.37
Δc = 04°23'05.7" (RT)
D = 01°36'50.3"
Lc = 271.69
Tc = 135.91
R = 3,550
SE = 3.0
LRb = 96'
LRa = 90'
V = 50 MPH

CUR DATA -L-
PIc 26+77.10
Δc = 02°30'12.3" (RT)
D = 00°49'06.6"
Lc = 305.85
Tc = 152.95
R = 7,000
SE = RC
LR = 60'
V = 55 MPH

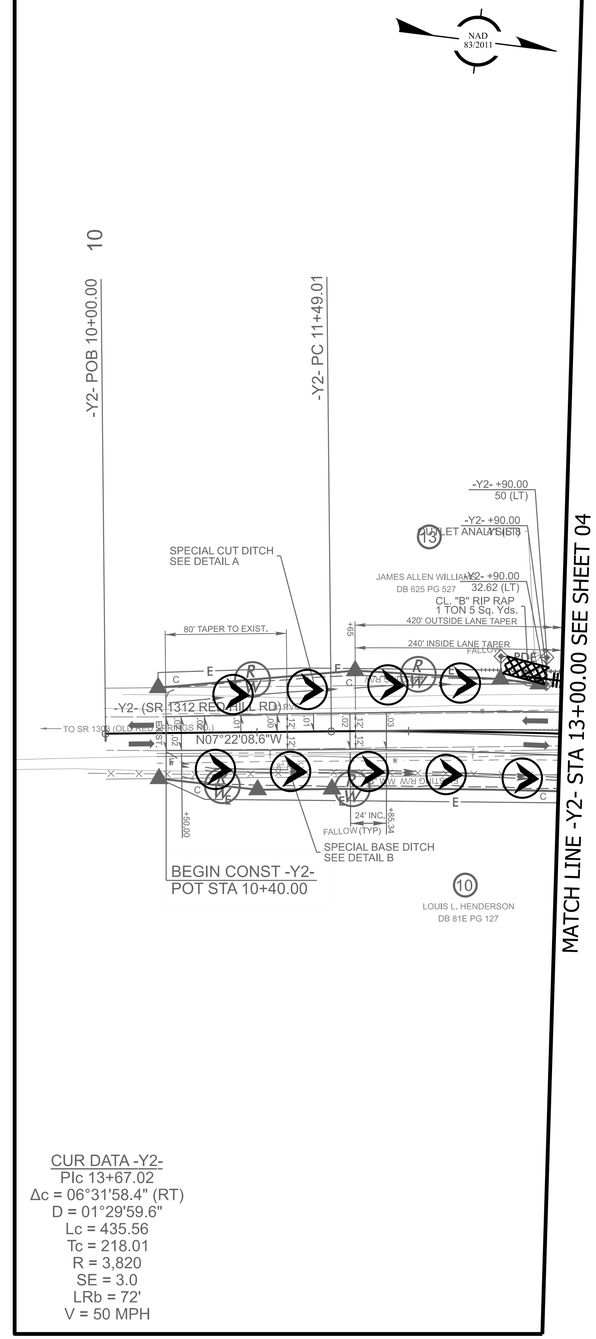
-Y1- INSET

FOR -Y1- PROFILE, SEE SHEET NO. 7



-Y2- INSET

FOR -Y2- PROFILE, SEE SHEET NO. 7



CUR DATA -Y2-
PIc 13+67.02
Δc = 06°31'58.4" (RT)
D = 01°29'59.6"
Lc = 435.56
Tc = 218.01
R = 3,820
SE = 3.0
LRb = 72'
V = 50 MPH

HN-0020
EC 7 | CONSTR. 005

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

5553 OLD STILL ROAD
WAKE FOREST, NC 27587
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

HYDRAULIC DESIGN PREPARED BY

ETHERILL ENGINEERING

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

REVISIONS

5/26/20

Docusign Envelope ID: FF52586E-85B5-4CCC-8DD1-04A2B66E23F0

CONTRACT: DF00541 T.I.P.: HN-0020

12/5/2025
C:\Vias\VIAS Infrastructure\Engineering - Documents\03 Projects\PRJ23008K - NCDOT HN0020\04 Design\HN-0020\Signing and Delineation\Signing\HN-0020_SGN_01.dgn
User:MatthewDouglas

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
HN-0020	SIGN-1

APPROVED: Signed by: Jocelyn Adorno 7D881F775A5148B...

DATE: 12/8/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 054541 ENGINEER JOCELYN ADORNO

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIGNING PLAN
ROBESON COUNTY

LOCATION: *CONSTRUCT ROUNDABOUT AT THE INTERSECTION OF NC 71 AT SR 1312 (OXENDINE SCHOOL RD/ RED HILL RD)*

ROADWAY STANDARD DRAWING

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

STD. NO.	TITLE
901.50	ARROWS AND SHIELDS
902.10	FOUNDATION FOR GROUND MOUNTED SIGNS
903.10	GROUND MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.20	SECONDARY SIGN MOUNTING
904.30	SUPPLEMENTAL SIGN MOUNTING
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS
910D40	SINGLE LANE RURAL ROUNDABOUT SIGNING

GENERAL NOTES

. CONFIRM IN WRITING AT LEAST 4 MONTHS IN ADVANCE, THE ACTUAL DATE THE DEPARTMENT FURNISHED SIGNS WILL BE REQUIRED.

. IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.

. WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER

. ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.

. WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.

. THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4025000000-E	901	CONTRACTOR FURNISHED, TYPE D SIGN	90	SF
4025000000-E	901	CONTRACTOR FURNISHED, TYPE E SIGN	242	SF
4025000000-E	901	CONTRACTOR FURNISHED, TYPE F SIGN	12	SF
4072000000-E	903	SUPPORTS, 3 LB STEEL U-CHANNEL	320.5	LF
4096000000-N	904	SIGN ERECTION, TYPE D	5	EA
4102000000-N	904	SIGN ERECTION, TYPE E	25	EA
4108000000-N	904	SIGN ERECTION, TYPE F	2	EA
4116100000-N	904	SIGN ERECTION, RELOCATE SIGN TYPE E	1	EA
4155000000-N	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	17	EA

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	E AND F SIGNS
SIGN-2A THRU 2B	SPECIAL SIGN DESIGN
SIGN-3	SIGNING DETAIL SHEET

PLAN SUBMITTED TO: N.C.D.O.T. SIGNING AND DELINEATION UNIT

MITCH EATON, PE — SIGNING & DELINEATION REGIONAL ENGINEER

JAMES FLOWERS — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

PLAN PREPARED BY: VIAS INFRASTRUCTURE

MATTHEW DOUGLAS, PE — PROJECT MANAGER

JOCELYN ADORNO, PE — PROJECT DESIGN ENGINEER

VIAS INFRASTRUCTURE
220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENSE NO. P-2673
WWW.VIASINFRASTRUCTURE.COM

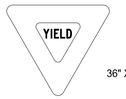
Docusign Envelope ID: FF52586E-85B5-4CCC-8DD1-04A2B66E23F0

401 QUANTITY REQ'D 4

36" X 36"
W3-2

ONE "U" POST PER SIGN

402 QUANTITY REQ'D 8



36" X 36" X 36"
R1-2

ONE "U" POST PER SIGN

403 QUANTITY REQ'D 4

24" X 30"
R4-7

ONE "U" POST PER SIGN

404 QUANTITY REQ'D 4

36" X 36"
W2-6

ONE "U" POST PER SIGN

405 QUANTITY REQ'D 4

36" X 12"
R6-1

ONE "U" POST PER SIGN

406 QUANTITY REQ'D 8

30" X 30"
R6-5P

MOUNT BELOW SIGN 402

407 QUANTITY REQ'D 4

18" X 18"
0M1-3

MOUNT BELOW SIGN 403

501 QUANTITY REQ'D 2

24" X 24"
M1-5

ONE "U" POST PER SIGN

502 QUANTITY REQ'D 1

24" X 12"
M3-1

MOUNT ABOVE SIGN 403

503 QUANTITY REQ'D 1

24" X 12"
M3-3

MOUNT ABOVE SIGN 403

TIP NO.	SHEET NO.
HN-0020	SIGN-2

APPROVED: Signed by: Jocelyn Adorno 7D8817718A5148B...

DATE: 12/8/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 054541 ENGINEER JOCELYN ADORNO

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TYPE "E" & "F" SIGNS

12/5/2025
C:\Vias\VIAS Infrastructure\Engineering - Documents\03 Projects\PRJ23008K - NCDOT HN0020\04 Design\HN-0020\Signing and Delineation\Signing\HN-0020_SGN_02.dgn
User:MatthewDouglas

Docusign Envelope ID: FF52586E-85B5-4CCC-8DD1-04A2B66E23F0

TIP NO.	SHEET NO.
HN-0020	SIGN-2A

APPROVED: Signed by: Jocelyn Adorno 7D8817718A5148B...

DATE: 12/8/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 054541 ENGINEER JOCELYN ADORNO

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WWW.VIASINFRASTRUCTURE.COM

SP-1

SIGN NUMBER: SP-1 **TYPE:** D **QUANTITY:** 1
SIGN WIDTH: 8'-6" **HEIGHT:** 2'-6" **TOTAL AREA:** 21.25 SQ.FT.
BORDER TYPE: FLUSH **RECESS:** 0" **WIDTH:** 0.75" **RADII:** 2.25"
NO. Z BARS: **LENGTH:**

BACKG COLOR: GREEN **COPY COLOR:** WHITE

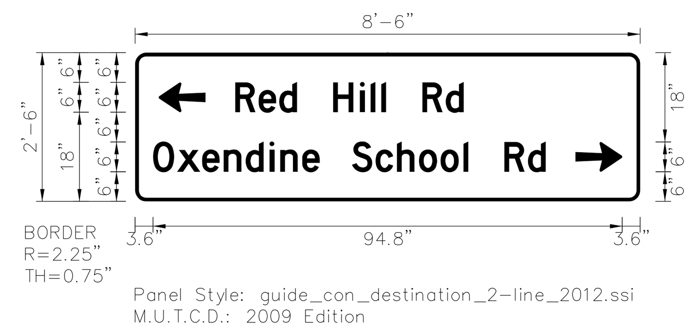
SYMBOL	X	Y	WID	HT
AR_Type A	4.75	18	6	9.45
AR_Type A	88.94	6	6	9.45

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES:

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

DESIGN BY: JA **PROJECT ID:** HN-0020 **CHECKED BY:** MAD **LOCATION:** ROBESON JAN 08, 2025 **DIV:** 6



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

																		Series/Size Text Length
R	e	d		H	i	l	l		R	d								D 2000
20.2	24.94	29.08	33.28	40	45.4	47.56	49.72	51.28	58	62.74								46.14
O	x	e	n	d	i	n	e		S	c	h	o	o	l		R	d	D 2000
3.61	8.47	13.51	17.89	22.33	27.13	29.29	33.73	37.51	43.81	48.55	52.87	57.31	61.69	66.31	67.87	74.59	79.33	79.32

FILENAME: HN-0020_SGN_SPECIALDESIGN NORTH CAROLINA D.O.T. SIGN DETAIL

SP-2

SIGN NUMBER: SP-2 **TYPE:** D **QUANTITY:** 1
SIGN WIDTH: 8'-6" **HEIGHT:** 2'-6" **TOTAL AREA:** 21.25 SQ.FT.
BORDER TYPE: FLUSH **RECESS:** 0" **WIDTH:** 0.75" **RADII:** 2.25"
NO. Z BARS: **LENGTH:**

BACKG COLOR: GREEN **COPY COLOR:** WHITE

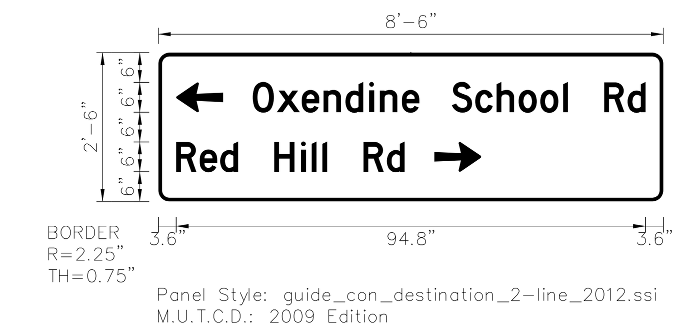
SYMBOL	X	Y	WID	HT
AR_Type A	3.62	18	6	9.45
AR_Type A	55.76	6	6	9.45

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES:

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

DESIGN BY: JA **PROJECT ID:** HN-0020 **CHECKED BY:** MAD **LOCATION:** ROBESON JAN 09, 2025 **DIV:** 6



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

																		Series/Size Text Length
O	x	e	n	d	i	n	e		S	c	h	o	o	l		R	d	D 2000
19.07	23.93	28.97	33.35	37.79	42.59	44.75	49.19	52.97	59.27	64.01	68.33	72.77	77.15	81.77	83.33	90.05	94.79	79.32
R	e	d		H	i	l	l		R	d								D 2000
3.62	8.36	12.5	16.7	23.42	28.82	30.98	33.14	34.7	41.42	46.16								46.14

FILENAME: NORTH CAROLINA D.O.T. SIGN DETAIL

SP-3

SIGN NUMBER: SP-3 **TYPE:** D **QUANTITY:** 1
SIGN WIDTH: 8'-6" **HEIGHT:** 2'-6" **TOTAL AREA:** 21.25 SQ.FT.
BORDER TYPE: FLUSH **RECESS:** 0" **WIDTH:** 0.75" **RADII:** 2.25"
NO. Z BARS: **LENGTH:**

BACKG COLOR: GREEN **COPY COLOR:** WHITE

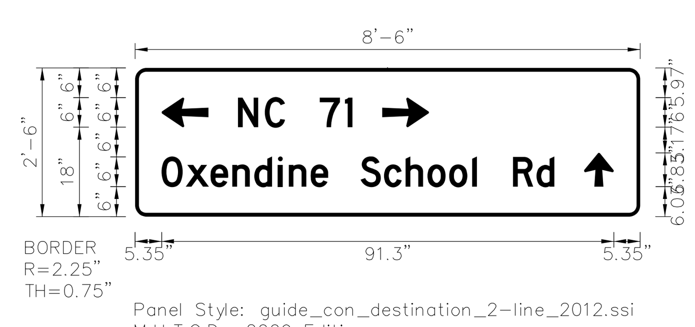
SYMBOL	X	Y	WID	HT
AR_Type A	5.34	18.03	6	9.45
AR_Type A	49.89	18.03	6	9.45
AR_Type B	90.66	6.03	6	6.83

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES:

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

DESIGN BY: JA **PROJECT ID:** HN-0020 **CHECKED BY:** MAD **LOCATION:** ROBESON JAN 09, 2025 **DIV:** 6



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

																		Series/Size Text Length
N	C		7	1														D 2000
20.79	26.19	30.87	37.29	42.39														23.1
O	x	e	n	d	i	n	e		S	c	h	o	o	l		R	d	D 2000
5.34	10.2	15.24	19.62	24.06	28.86	31.02	35.46	39.24	45.54	50.28	54.6	59.04	63.42	68.04	69.6	76.32	81.06	79.32

FILENAME: NORTH CAROLINA D.O.T. SIGN DETAIL

SP-4

SIGN NUMBER: SP-4 **TYPE:** D **QUANTITY:** 1
SIGN WIDTH: 5'-6" **HEIGHT:** 2'-6" **TOTAL AREA:** 13.75 SQ.FT.
BORDER TYPE: FLUSH **RECESS:** 0" **WIDTH:** 0.75" **RADII:** 2.25"
NO. Z BARS: **LENGTH:**

BACKG COLOR: GREEN **COPY COLOR:** WHITE

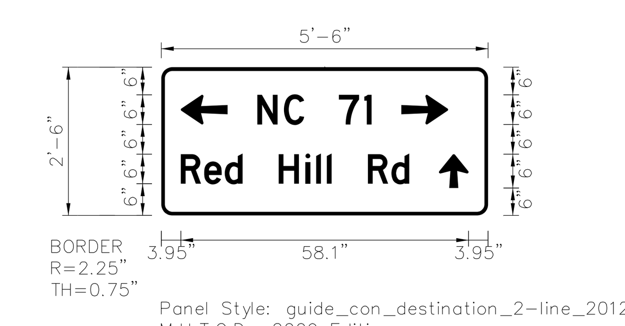
SYMBOL	X	Y	WID	HT
AR_Type A	3.93	18.41	6	9.45
AR_Type A	48.48	18.41	6	9.45
AR_Type B	56.07	5.59	6	6.83

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

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

DESIGN BY: JA **PROJECT ID:** HN-0020 **CHECKED BY:** MAD **LOCATION:** ROBESON OCT 27, 2025 **DIV:** 6



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

											Series/Size Text Length
N	C		7	1							D 2000
19.38	24.78	29.46	35.88	40.98							23.1
R	e	d		H	i	l	l		R	d	D 2000
3.93	8.67	12.81	17.01	23.73	29.13	31.29	33.45	35.01	41.73	46.47	46.14

FILENAME: NORTH CAROLINA D.O.T. SIGN DETAIL

SPECIAL SIGN DESIGN

12/5/2025
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User:MatthewDouglas

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TIP NO.	SHEET NO.
HN-0020	SIGN-2B

APPROVED: Signed by: Jocelyn Adorno 7D8617718A5148B...

DATE: 12/8/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 054541 ENGINEER JOCELYN ADORNO

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220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
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SIGN NUMBER: SP-5
TYPE: E
QUANTITY: 1
SIGN WIDTH: 3'-6"
HEIGHT: 3'-6"
TOTAL AREA: 12.25 SQ.FT.
BORDER TYPE: FLUSH
RECESS: 0.38"
WIDTH: 0.75"
RADII: 1.9"
NO. Z BARS: 2
LENGTH: 58.0

BACKG COLOR: YELLOW
COPY COLOR: BLACK

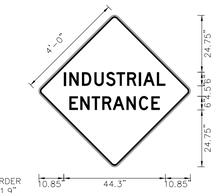
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES:

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade A, B, or C reflective sheeting.
3. Shields: A, B, and C type arrows shall be on 0.032" (0.8mm) aluminum with Grade C reflective sheeting and demountable.
4. Bottom panel shall be yellow Grade C sheeting. Legend shall be direct applied black non-reflective sheeting. Arrow shall be on 0.032" aluminum, black non-reflective sheeting an demountable. Yellow panel is:

DESIGN BY: JA
PROJECT ID: HN-0020
CHECKED BY: MAD
LOCATION: ROBESON
JAN 09, 2025
DIV: 6



Panel Style: warning.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

												Series/Size Text Length
I	N	D	U	S	T	R	I	A	L			D 2000
10.86	13.26	18.78	24.18	29.28	33.84	38.46	43.56	45.42	51.42			44.26
E	N	T	R	A	N	C	E					D 2000
13.29	18.03	23.01	27.63	32.19	38.19	43.59	48.99					39.42

FILENAME:

NORTH CAROLINA D.O.T. SIGN DETAIL

SIGN NUMBER: SP-6
TYPE: D
QUANTITY: 1
SIGN WIDTH: 5'-0"
HEIGHT: 2'-6"
TOTAL AREA: 12.5 SQ.FT.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 0.75"
RADII: 2.25"
NO. Z BARS:
LENGTH:

BACKG COLOR: GREEN
COPY COLOR: WHITE

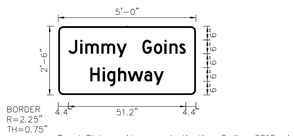
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

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

DESIGN BY: JA
PROJECT ID: HN-0020
CHECKED BY: MAD
LOCATION: ROBESON
JAN 09, 2025
DIV: 6



Panel Style: guide_con_destination_2-line_2012.ssi
M.U.T.C.D.: 2009 Edition

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

												Series/Size Text Length
J	i	m	m	y		G	o	i	n	s		D 2000
4.41	9.57	11.73	18.81	25.41	30.03	36.63	41.67	46.29	48.45	52.77		51.18
M	i	g	h	w	a	y						D 2000
13.95	19.35	21.27	26.07	30.27	37.47	41.55						32.1

FILENAME:

NORTH CAROLINA D.O.T. SIGN DETAIL

SPECIAL SIGN DESIGN

12/5/2025
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User:MatthewDouglas

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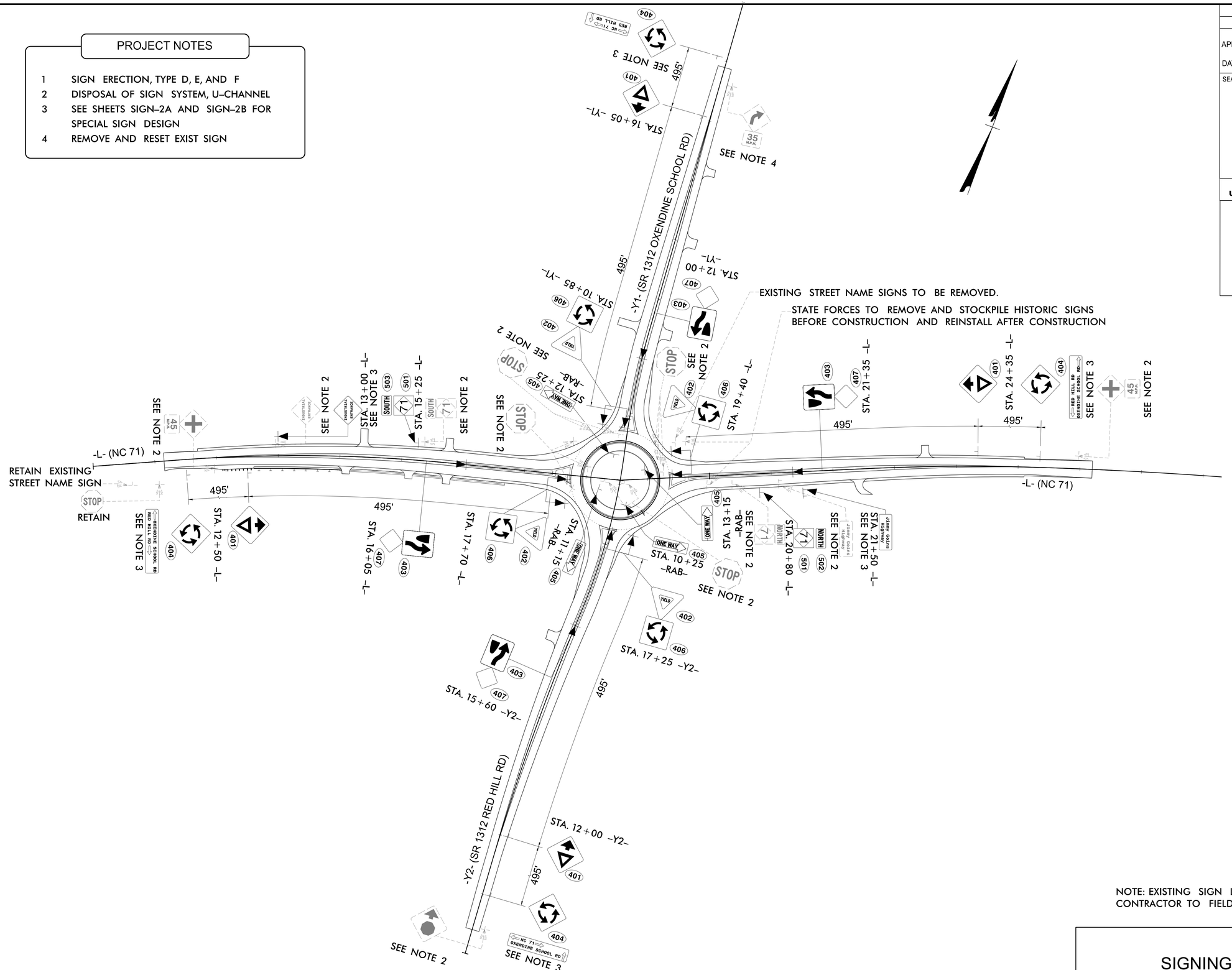
PROJECT NOTES

1 SIGN ERECTION, TYPE D, E, AND F
2 DISPOSAL OF SIGN SYSTEM, U–CHANNEL
3 SEE SHEETS SIGN–2A AND SIGN–2B FOR SPECIAL SIGN DESIGN
4 REMOVE AND RESET EXIST SIGN



NOTE: EXISTING SIGN LOCATION APPROXIMATE.
CONTRACTOR TO FIELD VERIFY LOCATION

SIGNING DETAIL

TIP NO.	SHEET NO.
HN-0020	SIGN-3

APPROVED: Signed by: Jocelyn Adorno 7D881771BA5148B...
DATE: 12/8/2025

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 054541 ENGINEER JOCELYN ADORNO

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User:MatthewDouglas

5/26/20

HN-0020 - ROUNDABOUT AT NC 71 & SR 1312 IN ROBESON COUNTY

CROSS SECTION INDEX

ALIGNMENT	SHEETS		
-L-	X-2	THRU	X-19
-Y1-	X-20	THRU	X-27
-Y2-	X-28	THRU	X-35
-RAB-	X-36	THRU	X-40

Note: Approximate quantities only. Unclassified Excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the contract lump sum price for grading.

HN-0020

4RD1 | X-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROBESON COUNTY

ROADWAY DESIGN UNIT

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY DESIGN PREPARED BY

VIAS INFRASTRUCTURE

220 HORIZON DRIVE, SUITE 117
RALEIGH, NC 27615
PHONE (727) 214-7698
LICENCE NO P-2673
WWW.VIASINFRASTRUCTURE.COM

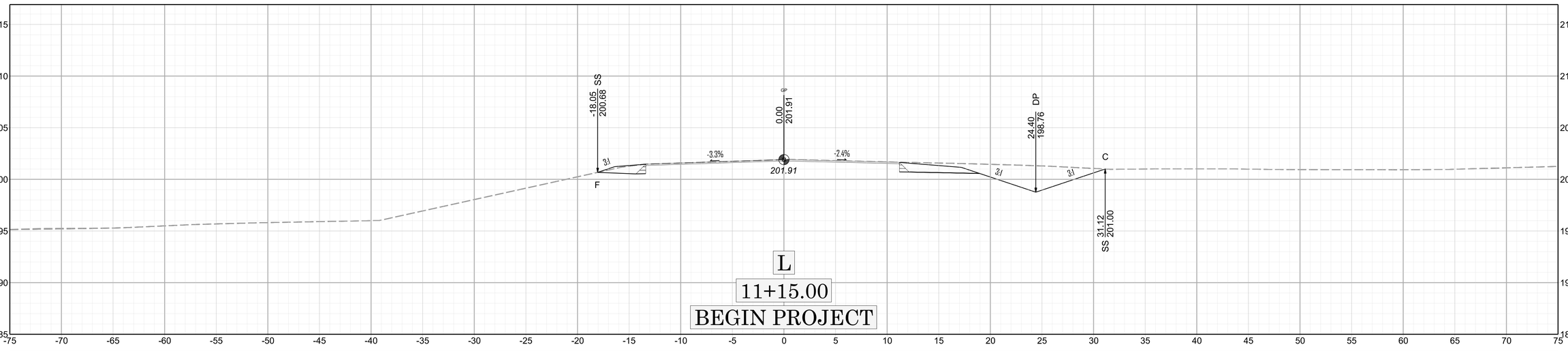
HYDRAULIC DESIGN PREPARED BY

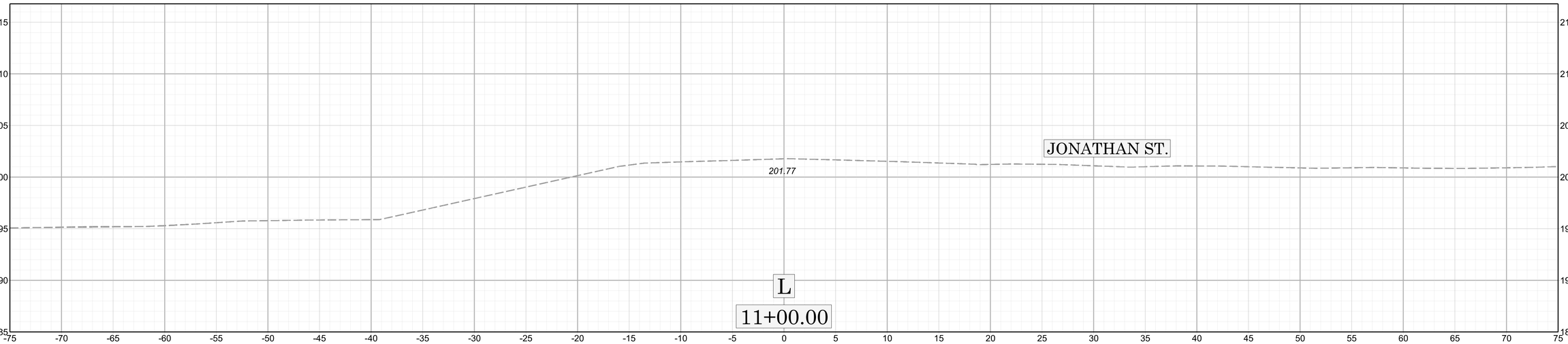
WETHERILL ENGINEERING

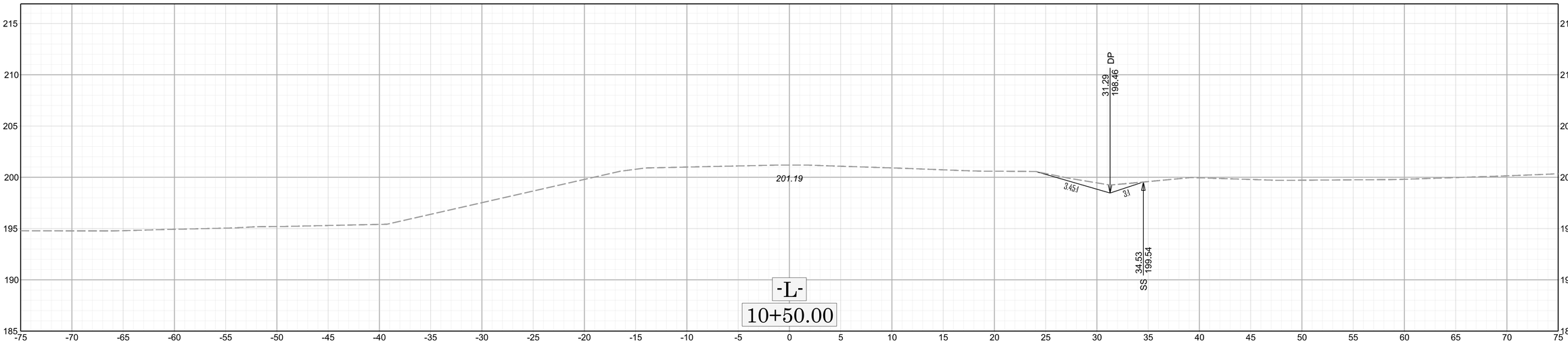
1223 Jones Franklin Rd.
Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

REVISIONS

11/14/23





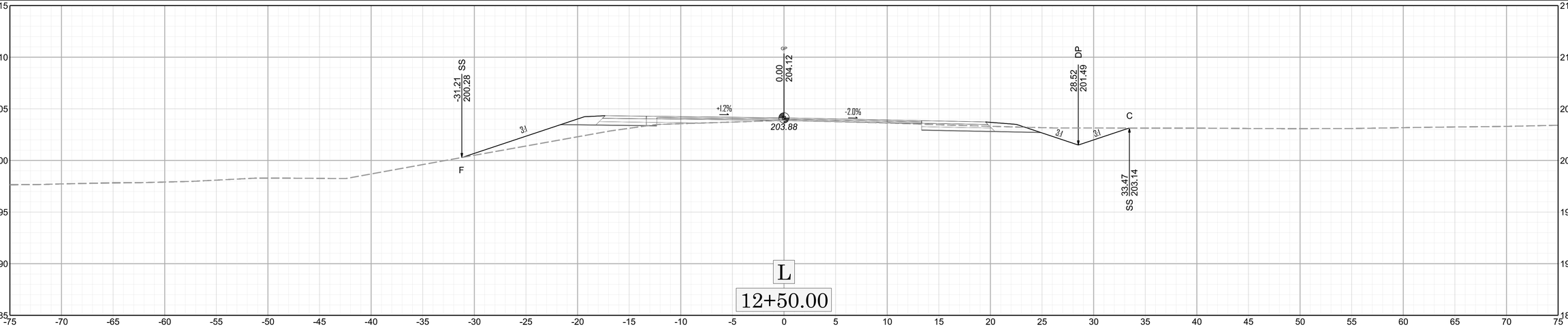


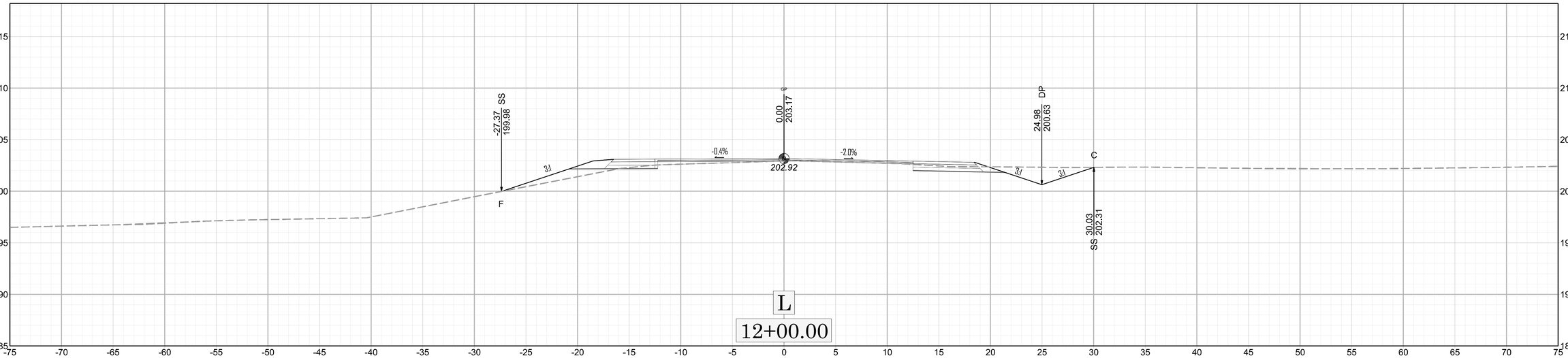
X 2

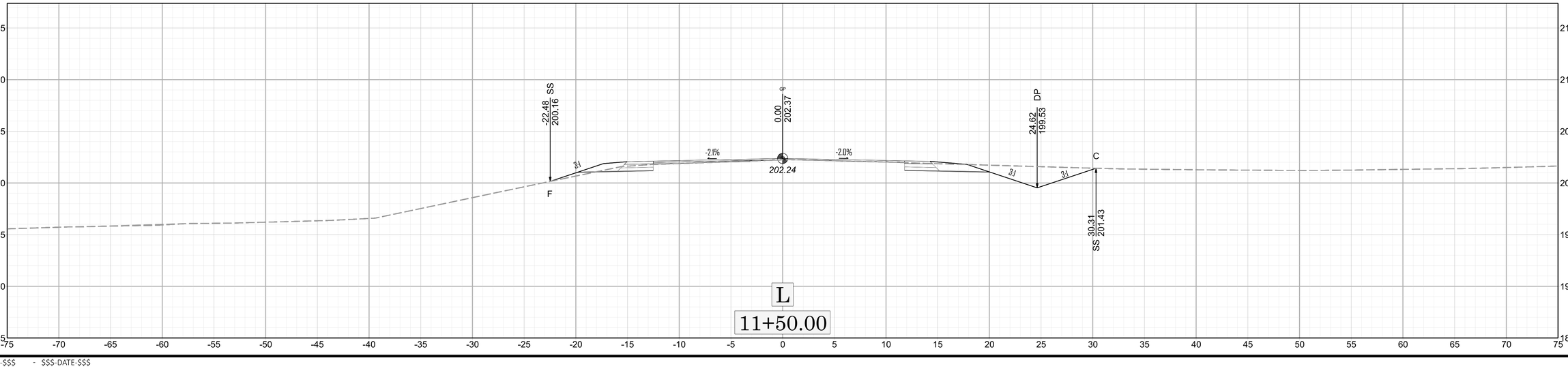
HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23



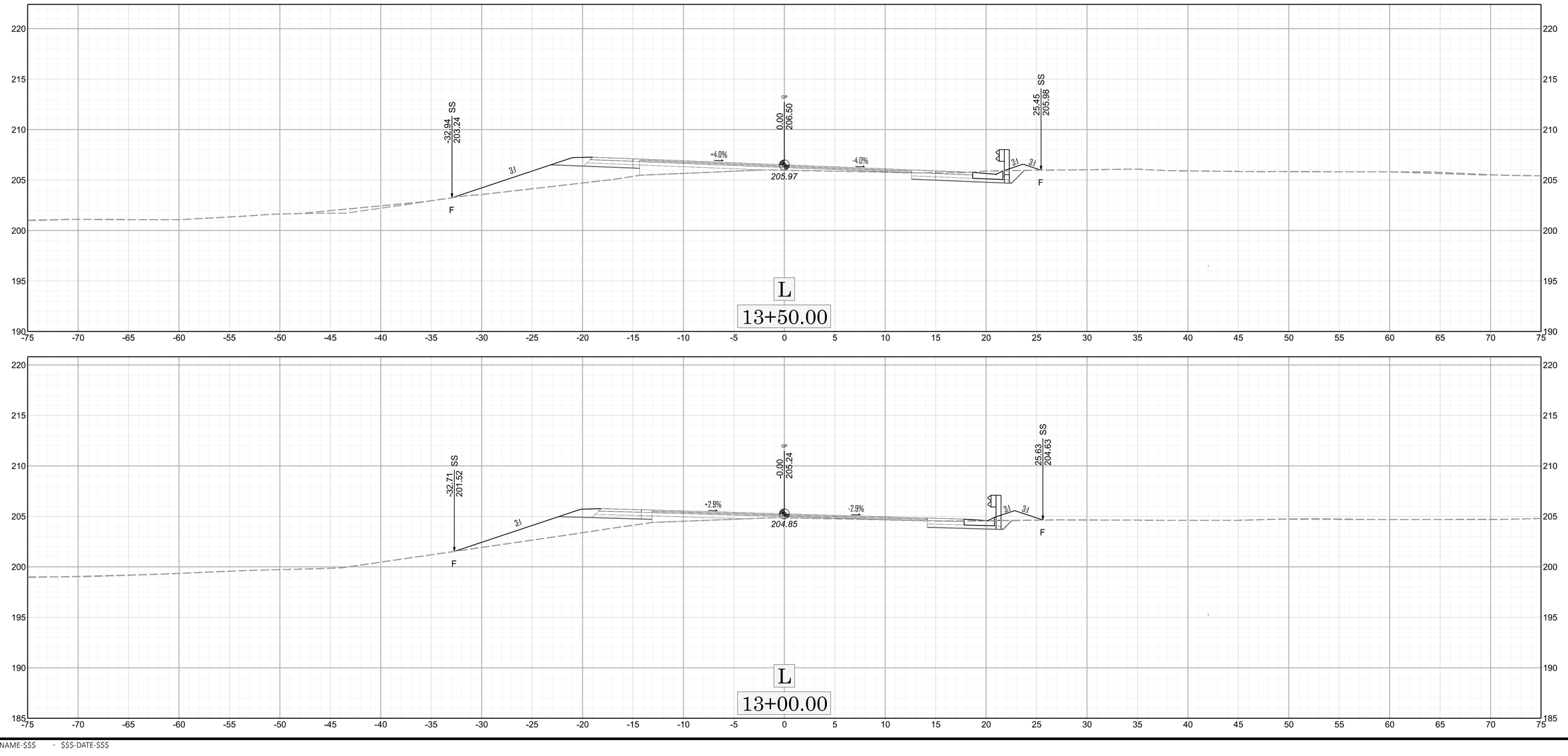


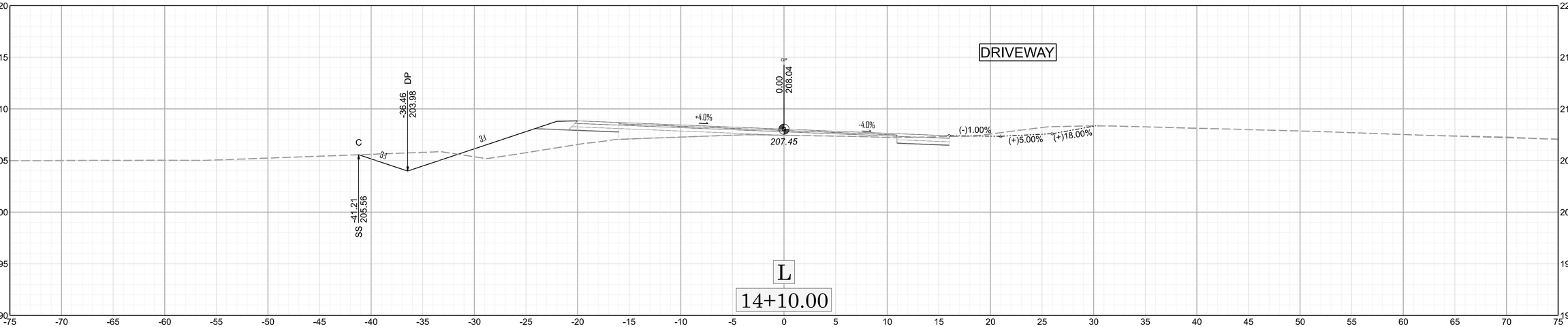


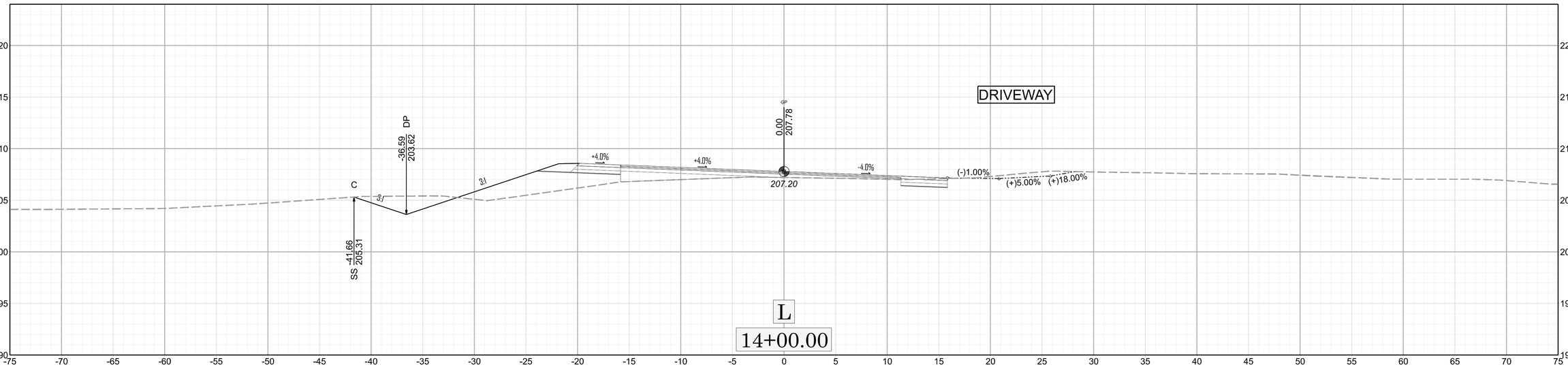
0 5 10

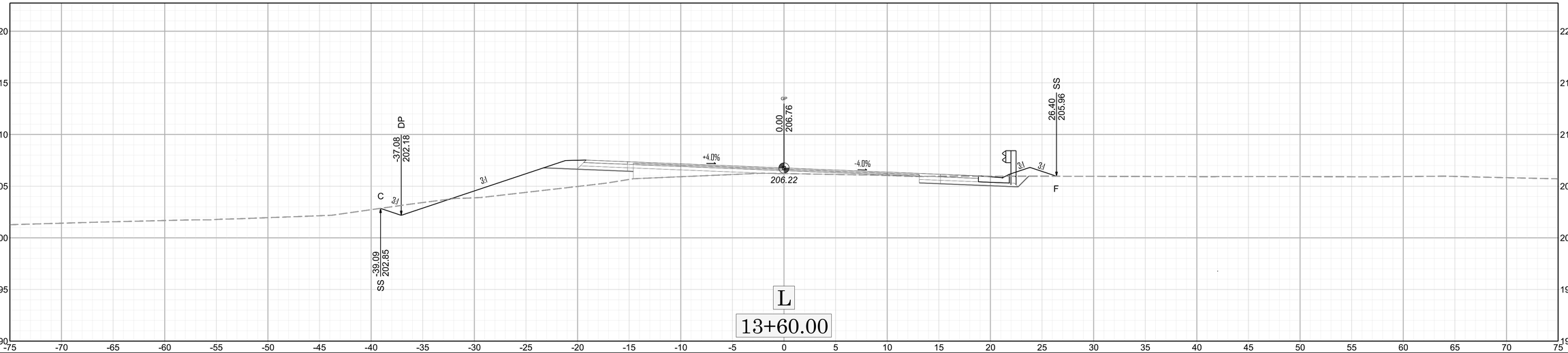
X 3

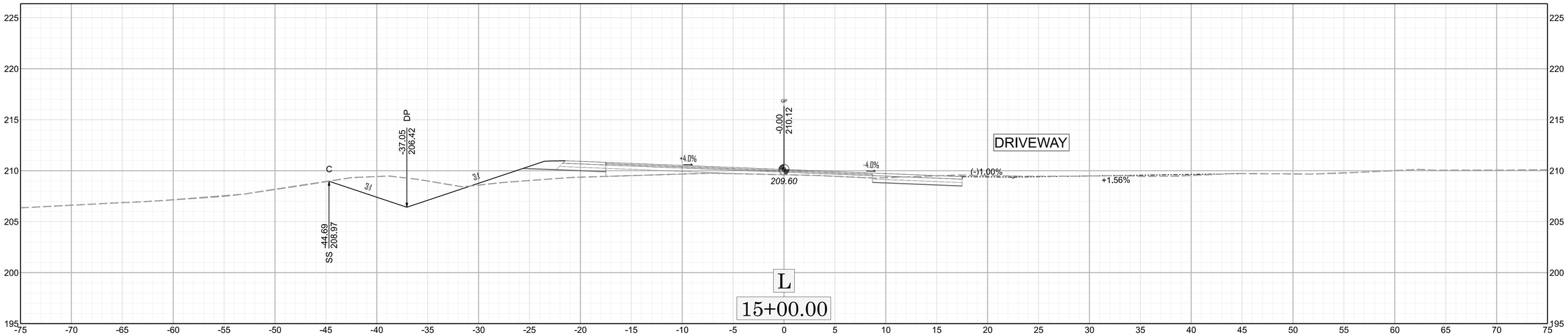
HN-0020

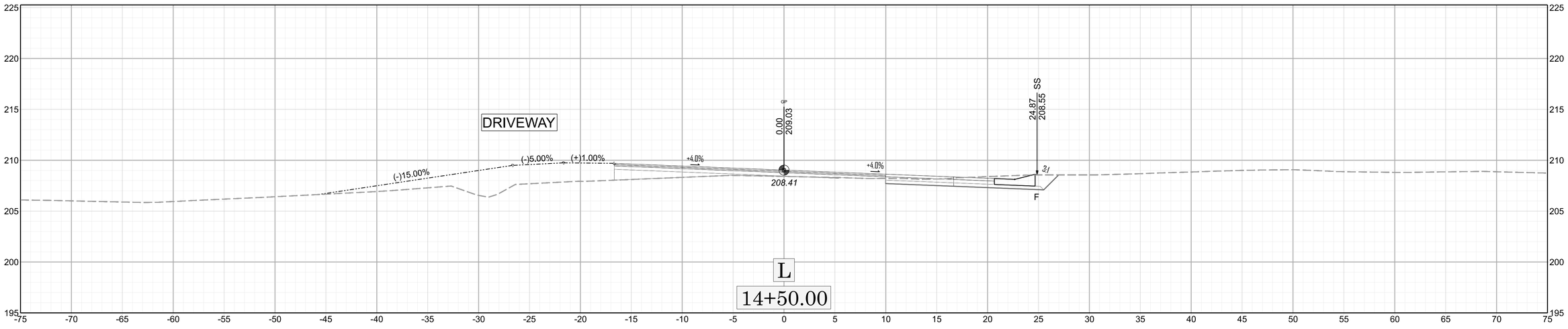

-32.94
203.24
SS
F
3:1
+4.0%
GP
0.00
206.50
205.97
-4.0%
3:1
3:1
25.45
205.98
SS
F
L
13+50.00
-32.71
201.52
SS
F
3:1
+2.9%
GP
-0.00
205.24
204.85
-2.9%
3:1
3:1
25.63
204.63
SS
F
L
13+00.00

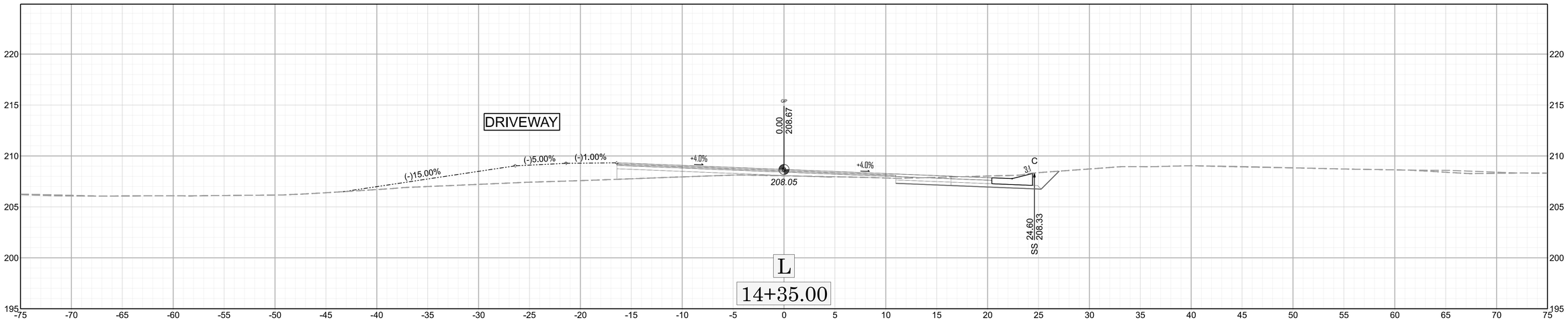

DRIVEWAY
C
DP
-36.46
203.98
SS
-41.21
205.56
3:1
3:1
+4.0%
0.00
208.04
207.45
-4.0%
(-)1.00%
(+)5.00%
(+)18.00%
L
14+10.00


DRIVEWAY
C
DP
-36.59
203.62
SS
-41.66
205.31
3:1
3:1
+4.0%
+4.0%
0.00
207.78
207.20
-4.0%
(-)1.00%
(+)5.00%
(+)18.00%
L
14+00.00

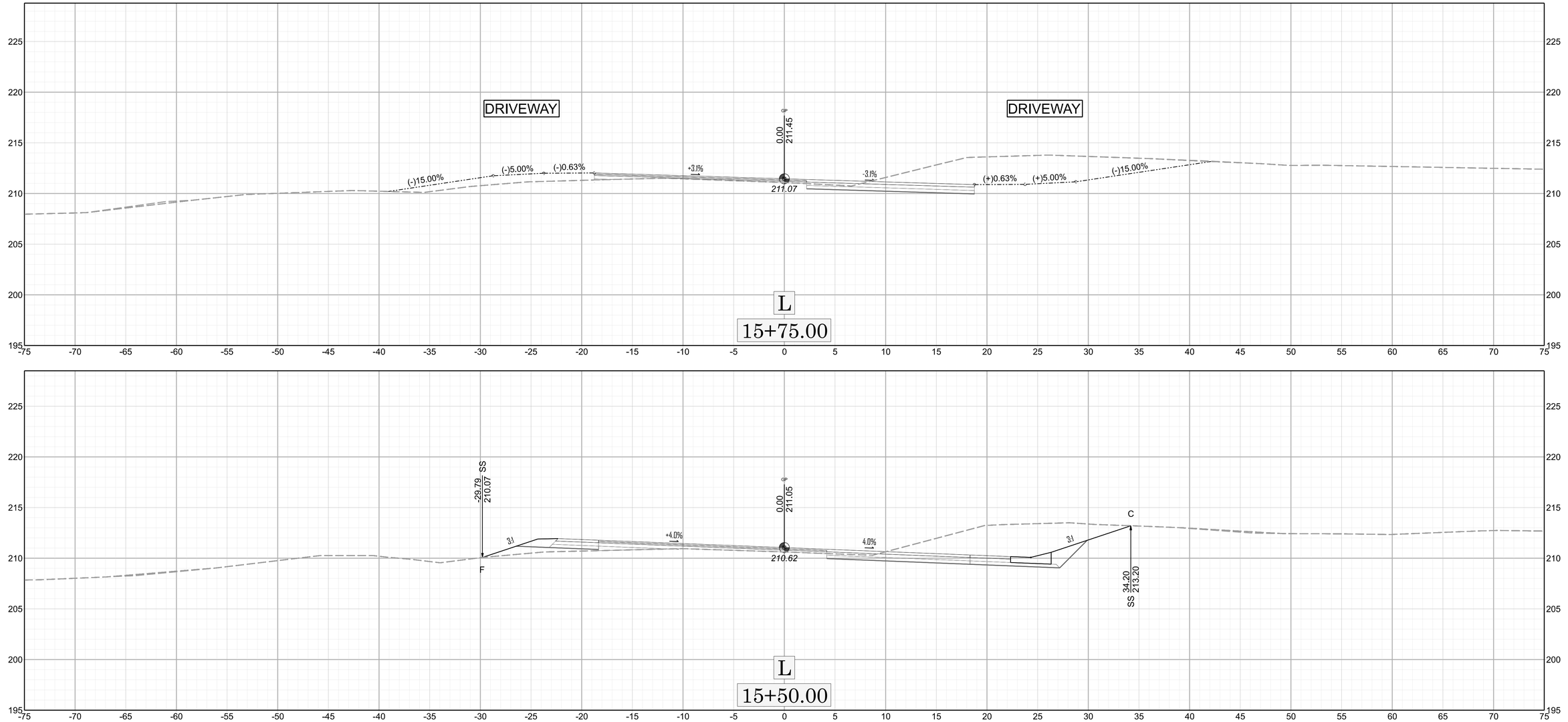

C
DP
-37.08
202.18
SS
-39.09
202.85
3:1
3:1
+4.0%
0.00
206.76
206.22
-4.0%
SS
26.40
205.96
3:1
3:1
F
L
13+60.00


DRIVEWAY
C
DP
-37.05
206.42
SS
44.69
208.97
3:1
3:1
+4.0%
GP
-0.00
210.12
209.60
-4.0%
(-)1.00%
+1.56%
L
15+00.00


DRIVEWAY
(-)15.00%
(-)5.00%
(+)1.00%
+4.0%
+4.0%
GP
0.00
209.03
208.41
24.87
208.55
SS
3:1
F
L
14+50.00


DRIVEWAY
(-)15.00%
(-)5.00%
(-)1.00%
+4.0%
+4.0%
GP
0.00
208.67
208.05
C
3:1
24.60
208.33
SS
L
14+35.00

11/14/23



0 5 10

X 7

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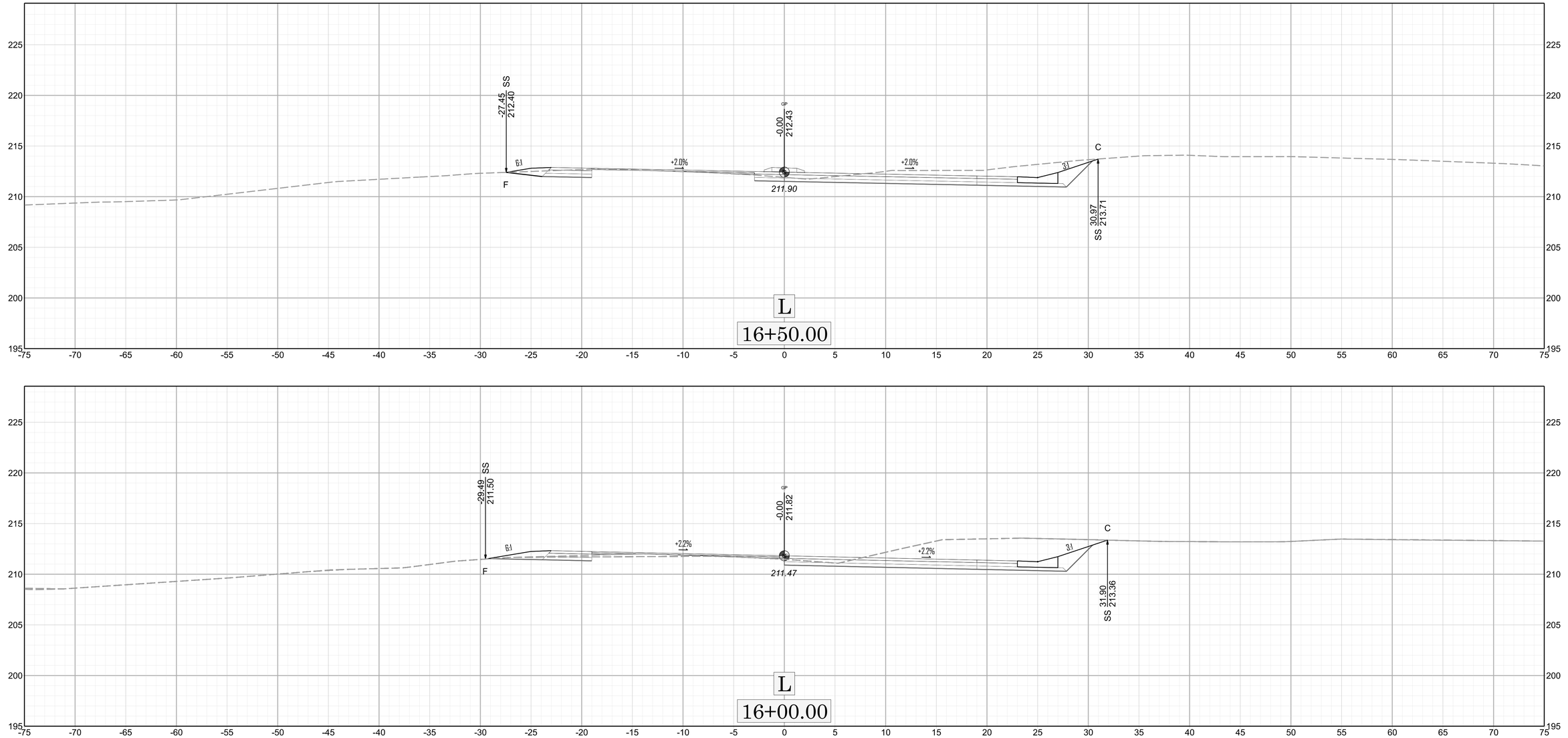
$$$-USER NAME-$$$ - $$$-DATE-$$$



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$$$-USER NAME-$$$ - $$$-DATE-$$$

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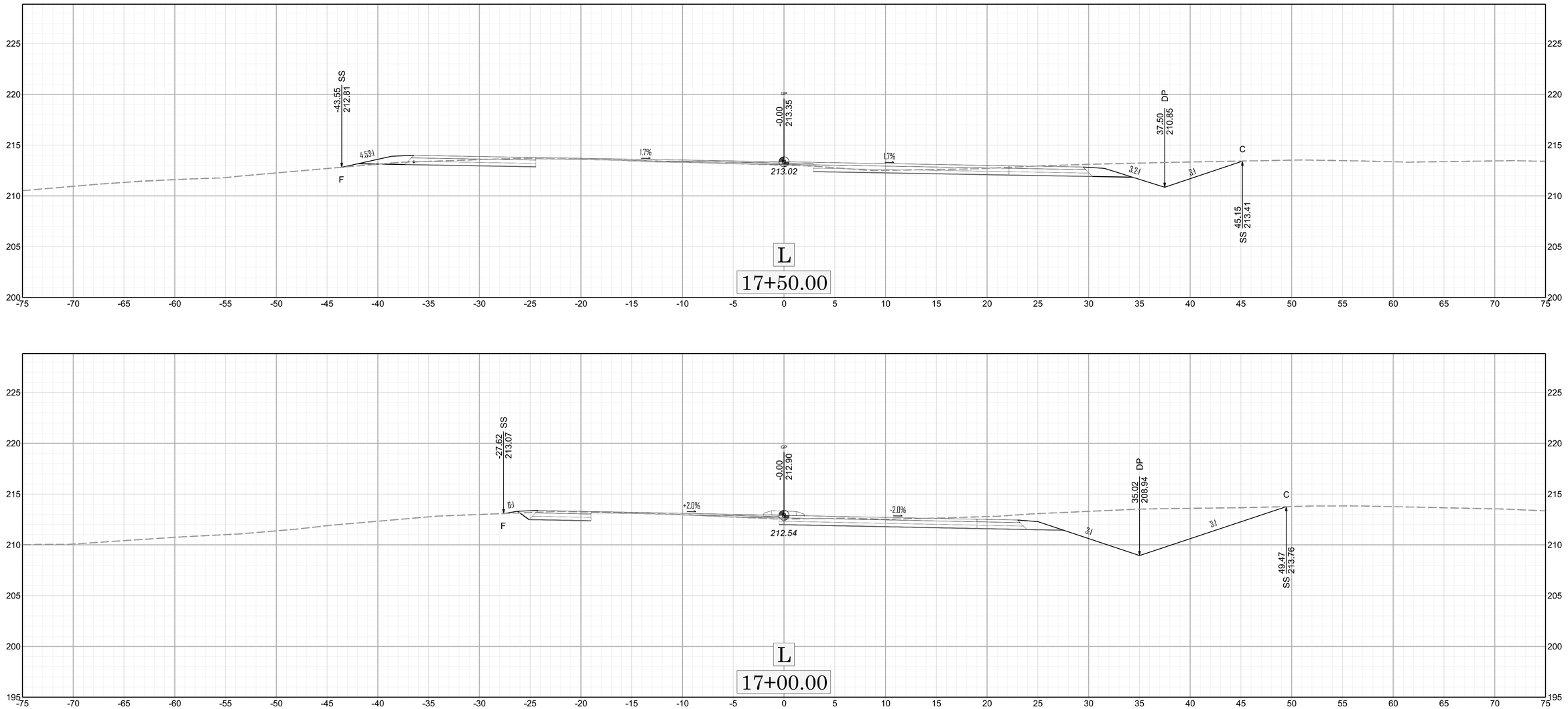

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$$$-USER NAME-$$$ - $$$-DATE-$$$

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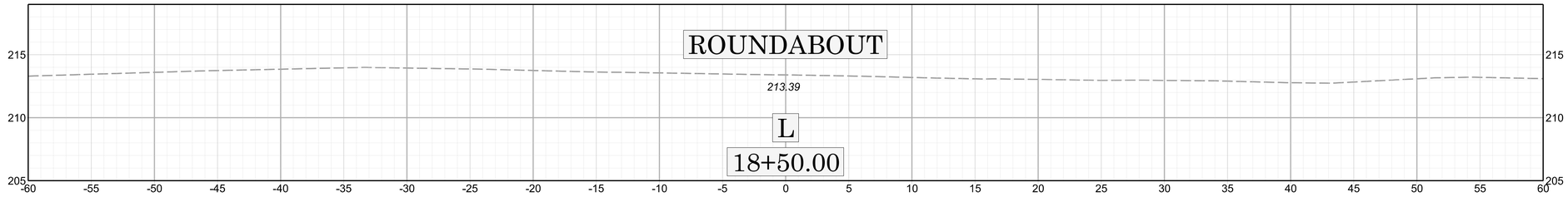
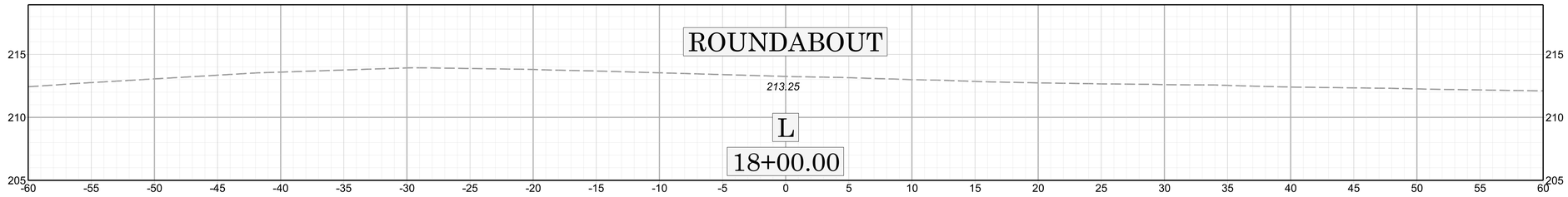
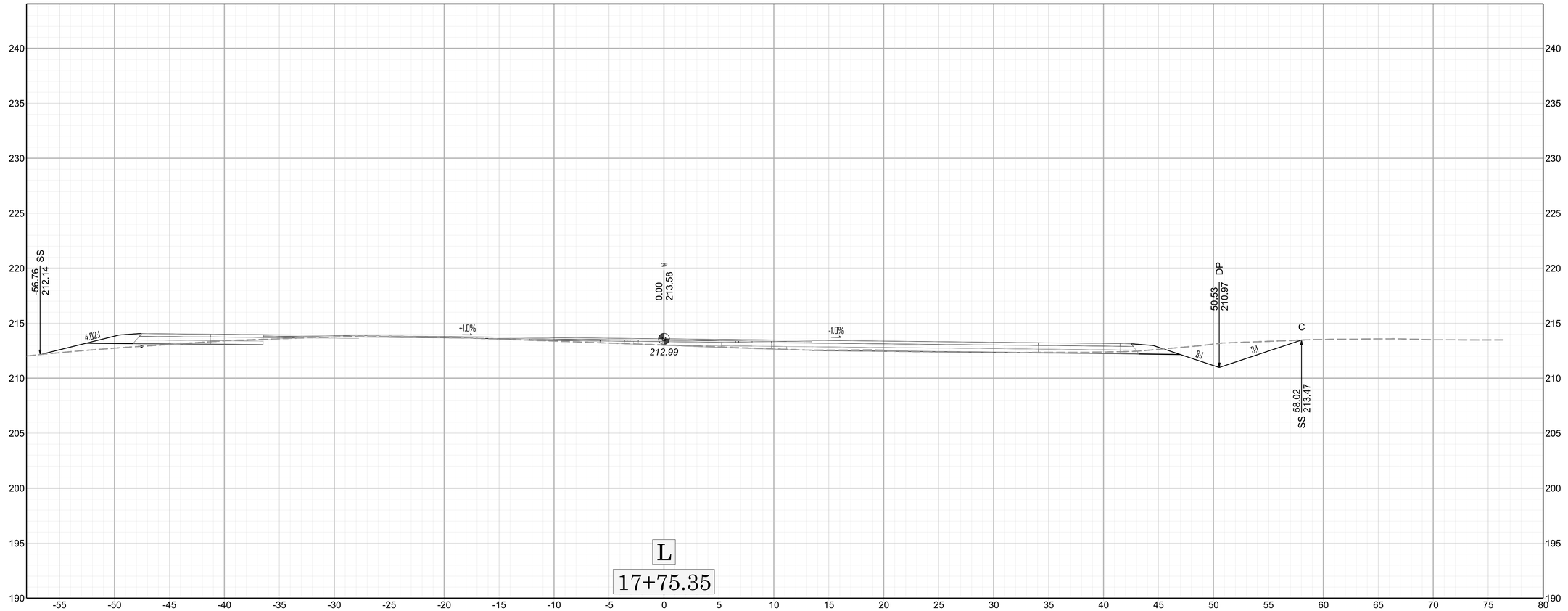
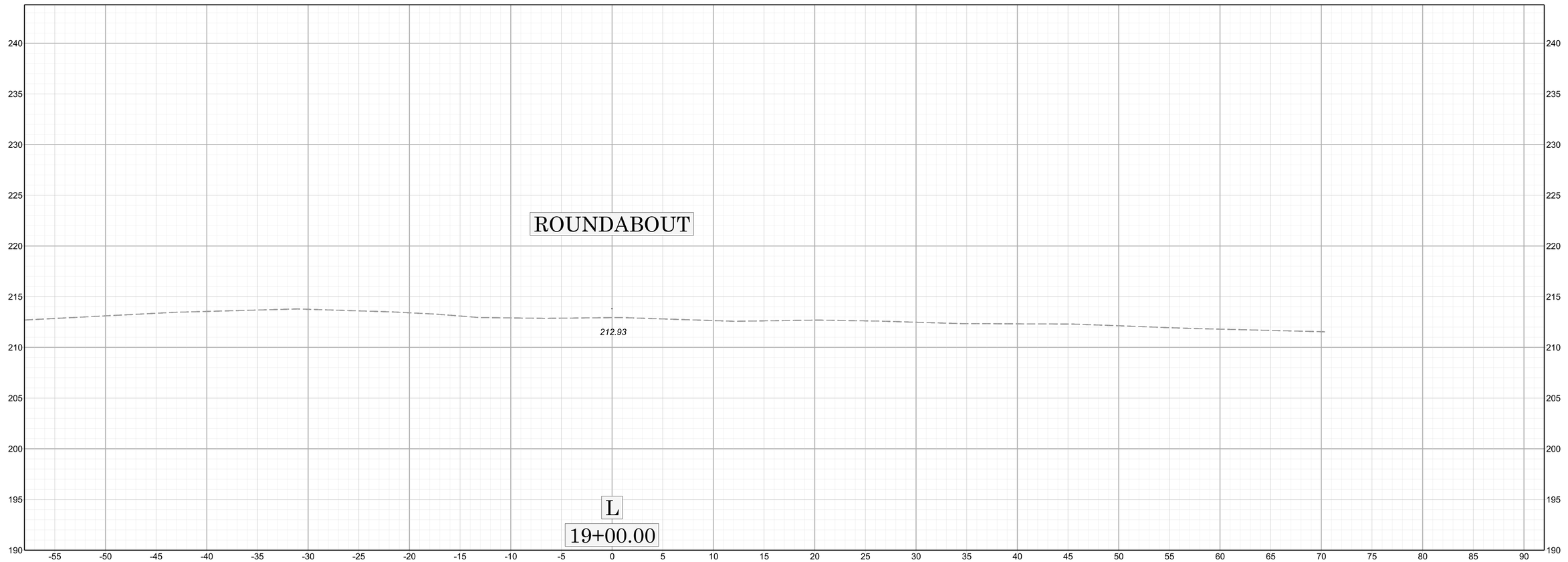

ROUNDABOUT
213.39
L
18+50.00
215
210
205
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60

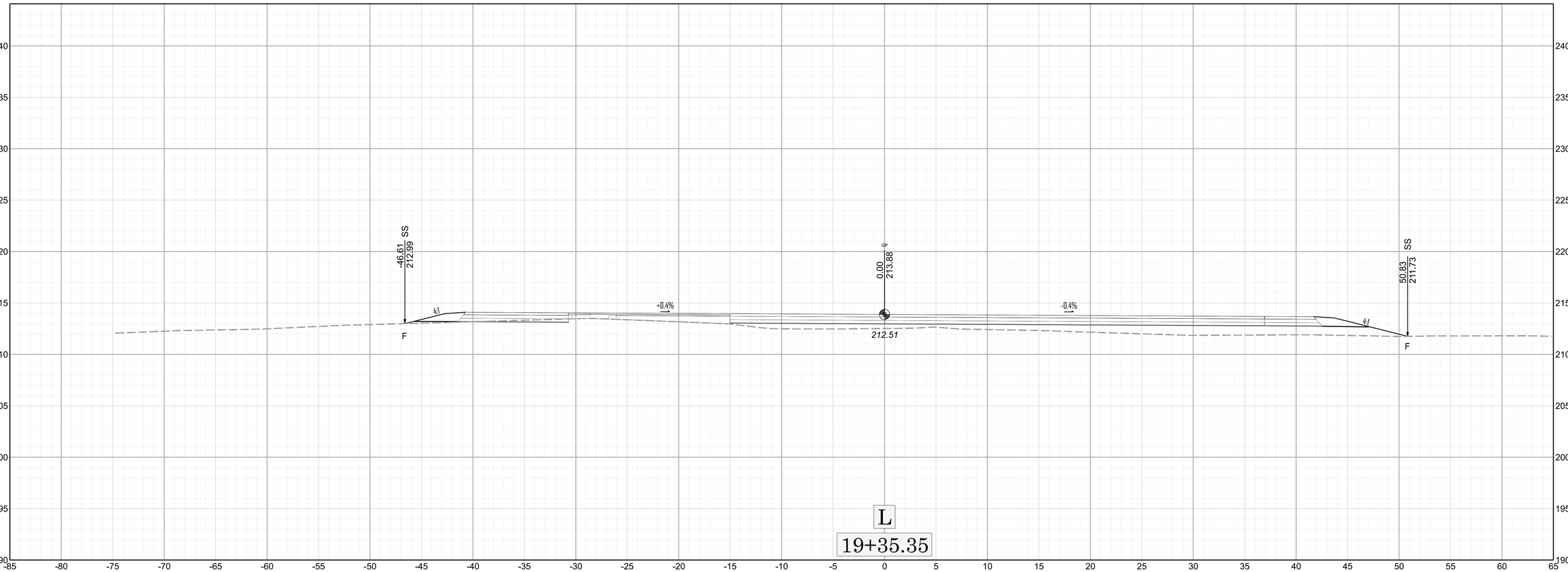

ROUNDABOUT
213.25
L
18+00.00
215
210
205
-60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60


-56.76
212.14
SS
4.02:1
+1.0%
CP
0.00
213.58
212.99
-1.0%
50.53
210.97
DP
3:1
3:1
C
58.02
213.47
SS
L
17+75.35
240
235
230
225
220
215
210
205
200
195
190
-55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

11/14/23


240
235
230
225
220
215
210
205
200
195
190
-55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90
ROUNDABOUT
212.93
L
19+00.00

11/14/23



0 5 10

X 12

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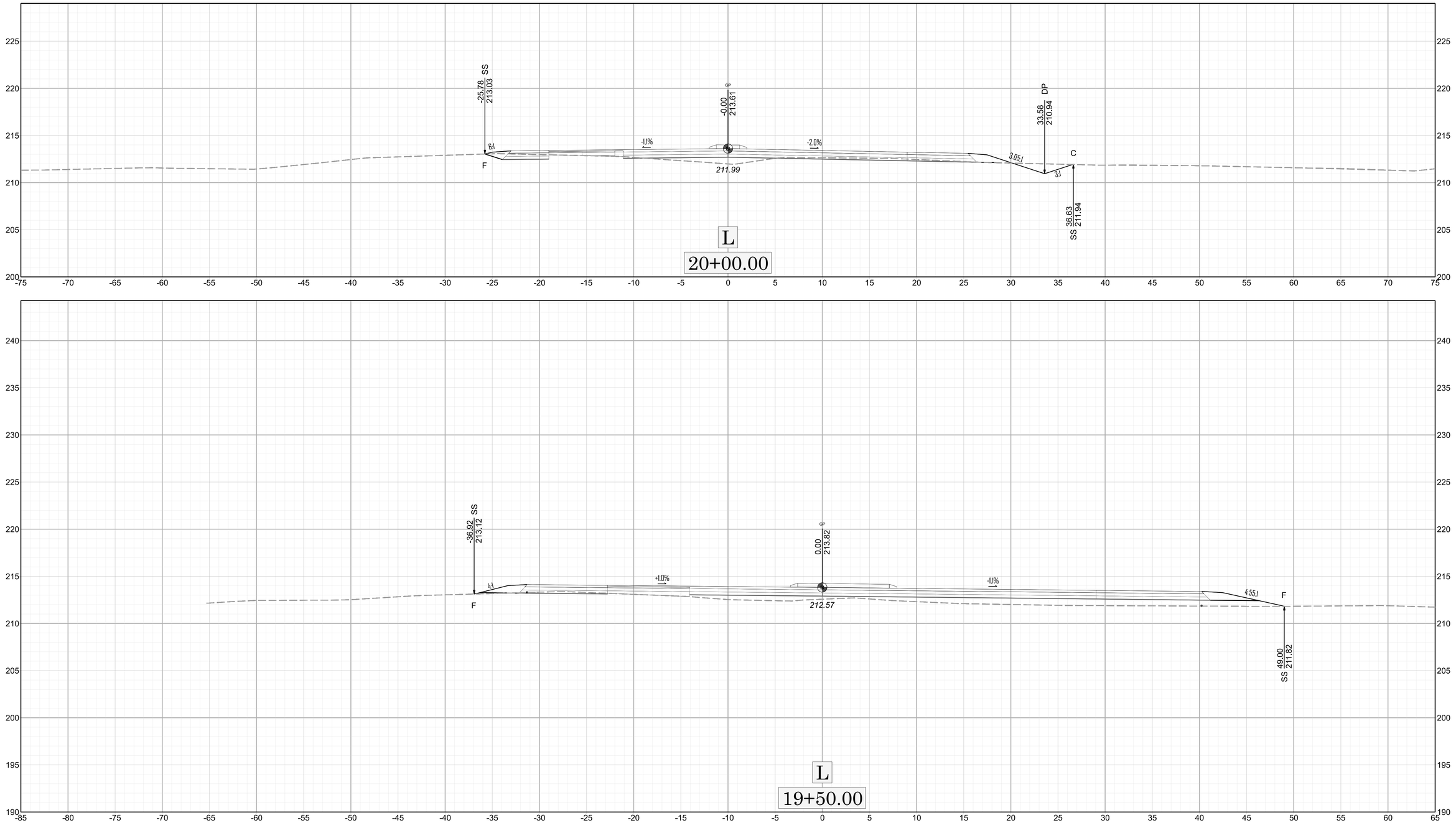
11/14/23



$$$-USER NAME-$$$ - $$$-DATE-$$$

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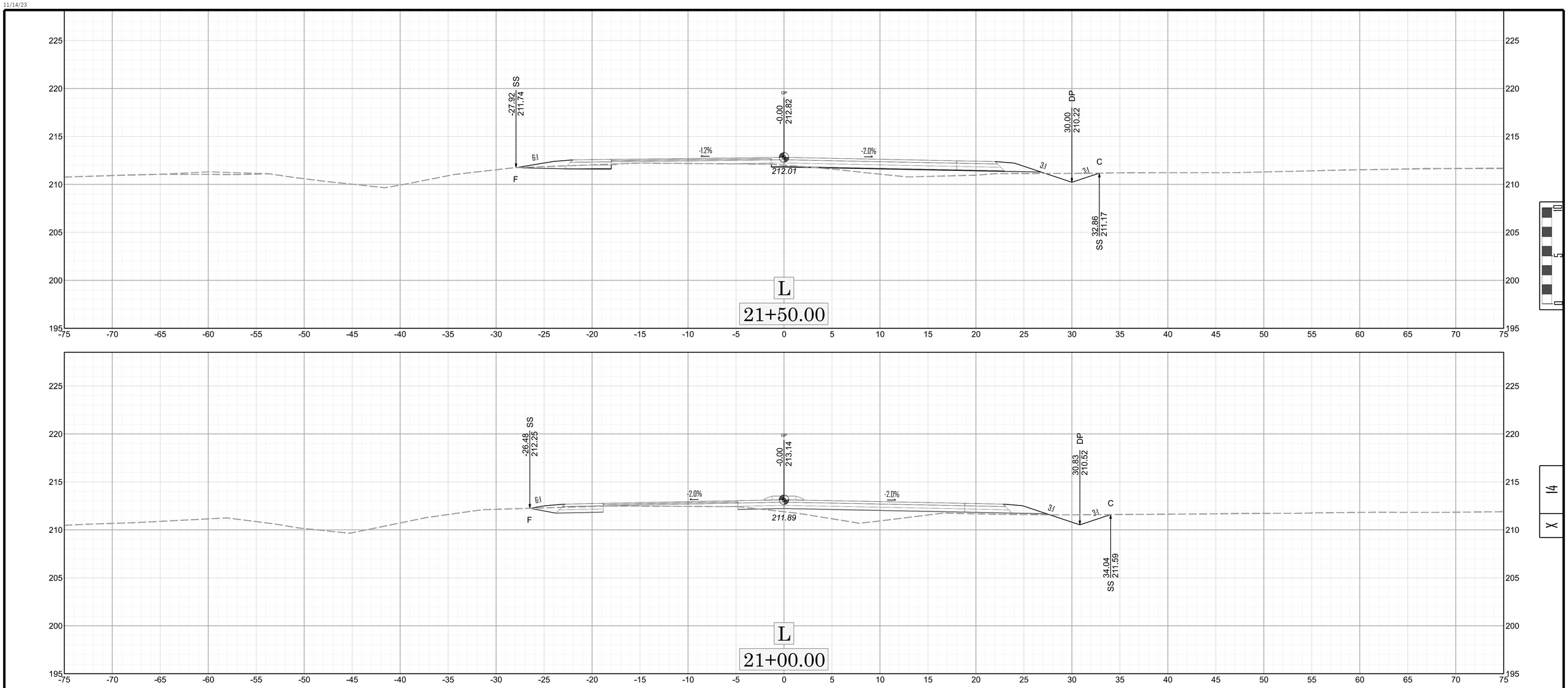
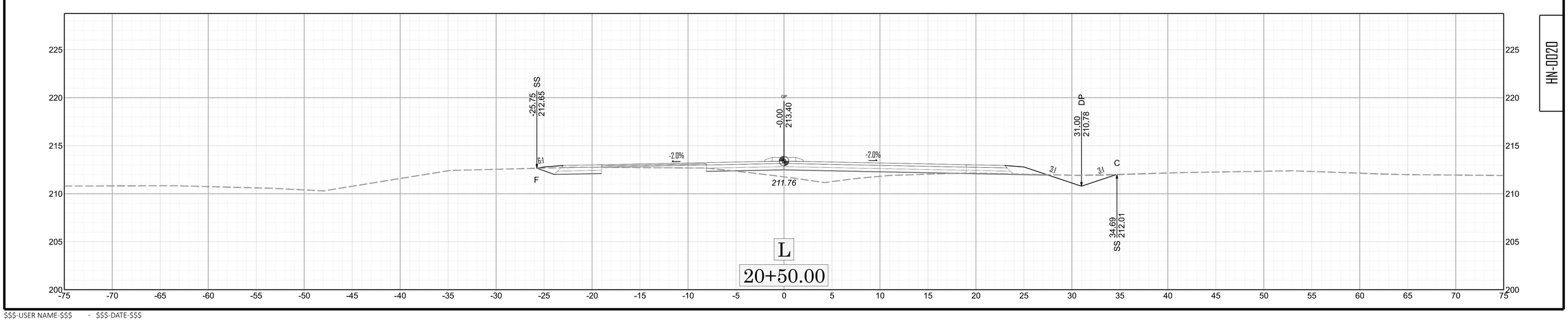
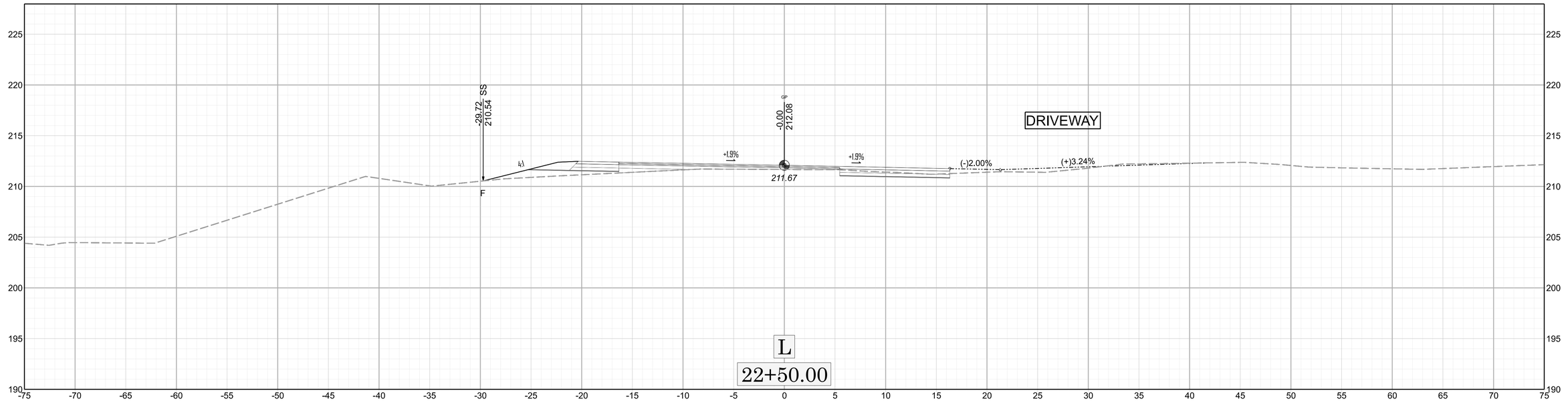
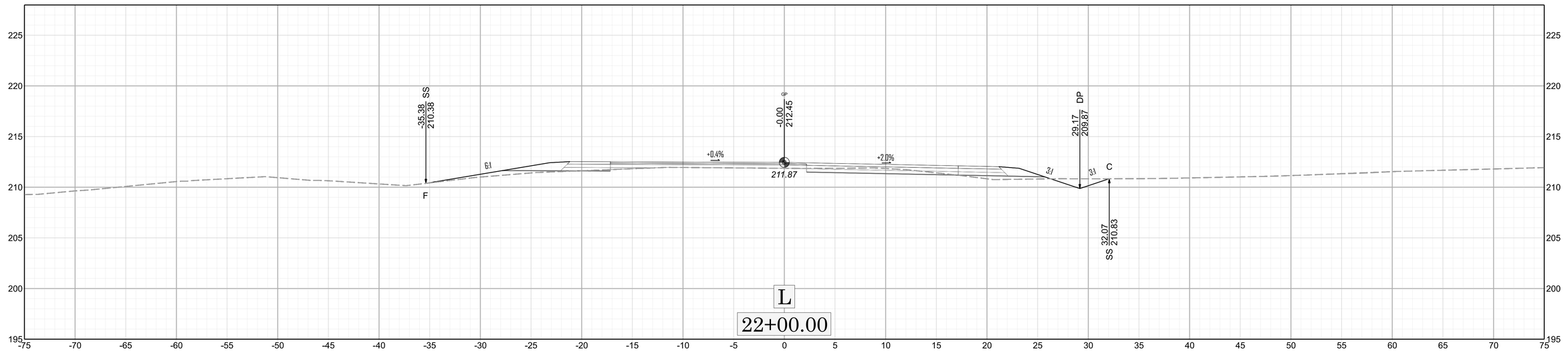

SS
-27.92
211.74
GP
-0.00
212.82
DP
30.00
210.22
6:1
-1.2%
-2.0%
3:1
3:1
C
F
212.01
SS
32.86
211.17
L
21+50.00


SS
-26.48
212.25
GP
-0.00
213.14
DP
30.83
210.52
6:1
-2.0%
-2.0%
3:1
3:1
C
F
211.89
SS
34.04
211.59
L
21+00.00

SS
-25.75
212.65
GP
-0.00
213.40
DP
31.00
210.78
6:1
-2.0%
-2.0%
3:1
3:1
C
F
211.76
SS
34.69
212.01
L
20+50.00

11/14/23





X 15

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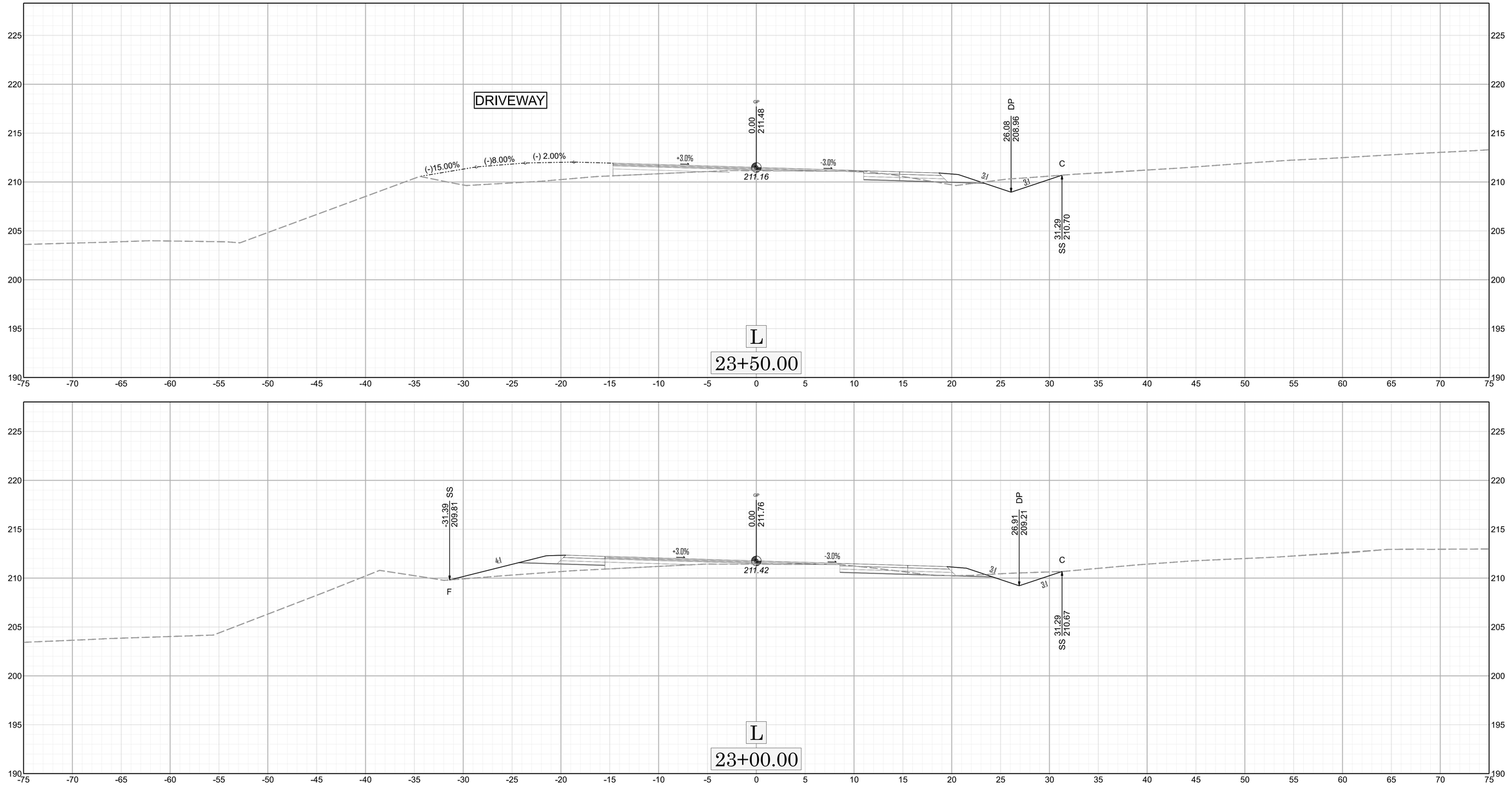
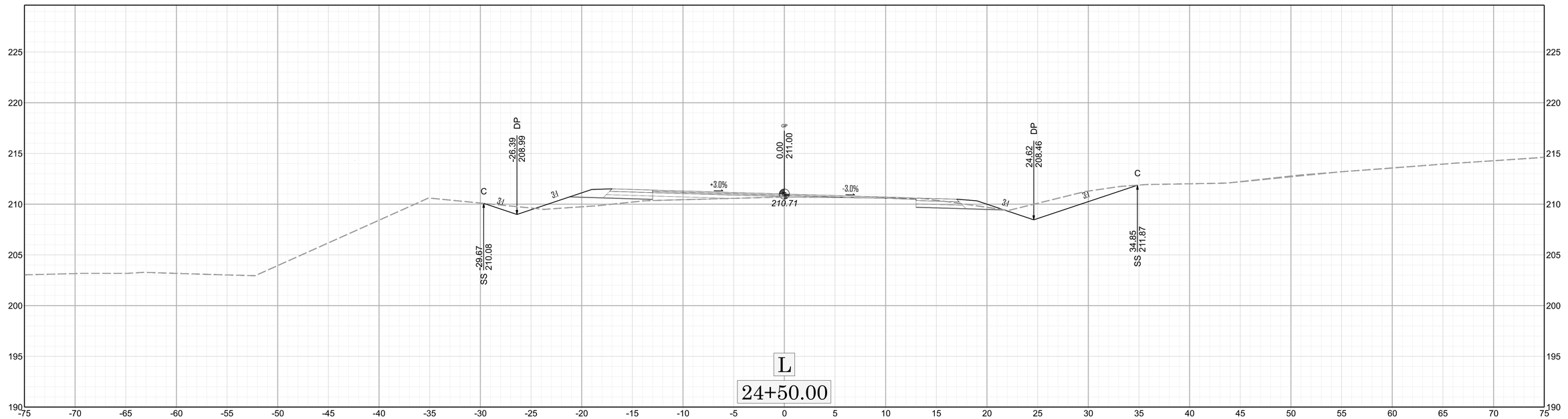
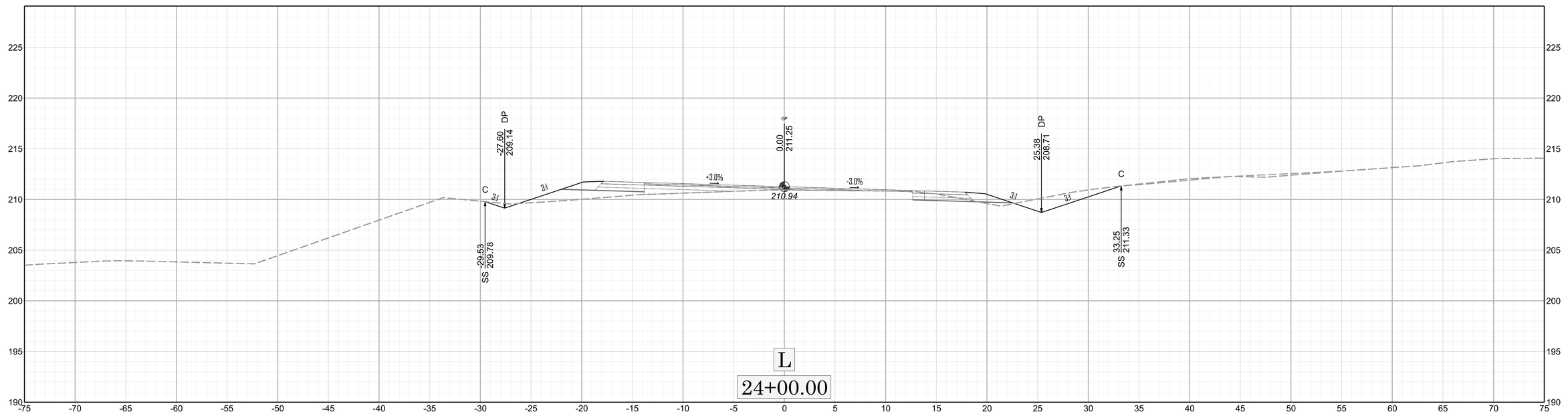
$$$-USER NAME-$$$ - $$$-DATE-$$$


DRIVEWAY
(-)15.00%
(-)8.00%
(-) 2.00%
+3.0%
-3.0%
GP
0.00
211.48
211.16
26.08
DP
208.96
C
3:1
3:1
SS
31.29
210.70
L
23+50.00
-31.39
SS
209.81
F
4:1
GP
0.00
211.76
211.42
+3.0%
-3.0%
26.91
DP
209.21
C
3:1
3:1
SS
31.29
210.67
L
23+00.00
225
220
215
210
205
200
195
190
-75
-70
-65
-60
-55
-50
-45
-40
-35
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75

11/14/23



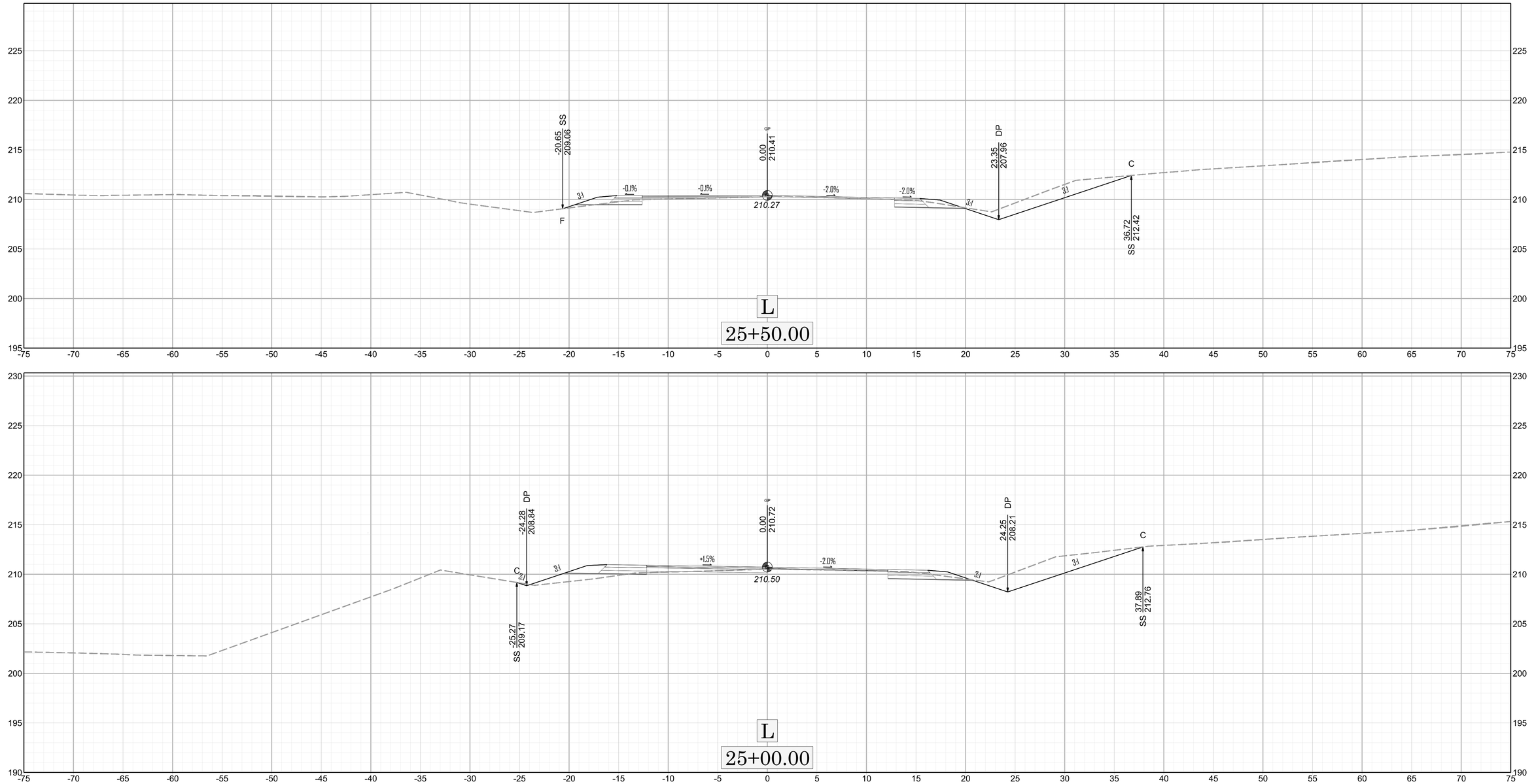


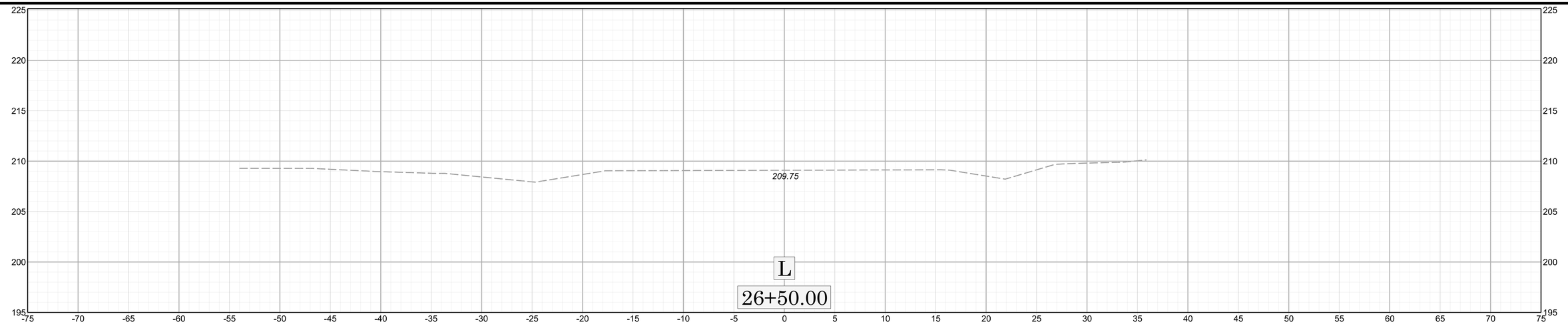
0 5 10

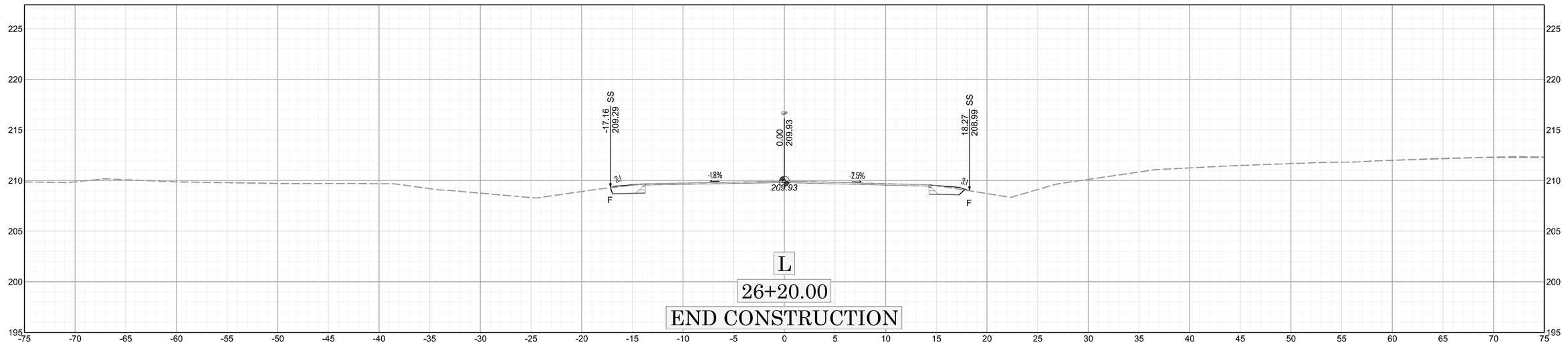
X 17

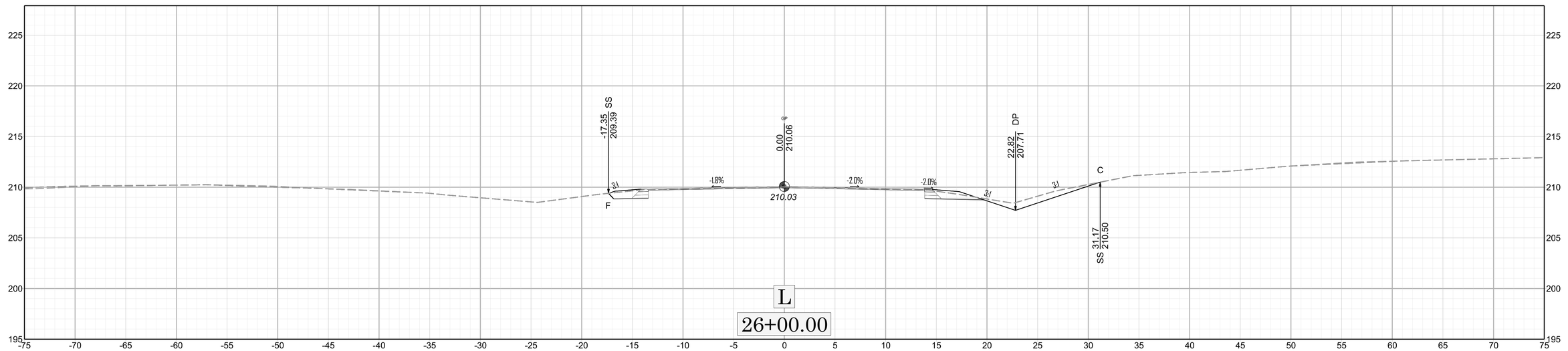
HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$

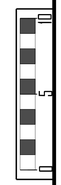

-20.65
SS
209.06
F
3:1
-0.1%
-0.1%
0.00
210.41
210.27
-2.0%
-2.0%
23.35
DP
207.96
3:1
C
SS 36.72
212.42
L
25+50.00
-24.28
DP
208.84
C
3:1
+1.5%
-2.0%
0.00
210.72
210.50
24.25
DP
208.21
3:1
C
SS 37.89
212.76
SS -25.27
209.17
L
25+00.00


209.75
L
26+50.00


-17.16
209.29
SS
0.00
209.93
℄
18.27
208.99
SS
3:1
-1.8%
-2.5%
3:1
F
F
209.93
L
26+20.00
END CONSTRUCTION


-17.35
209.39
SS
0.00
210.06
℄
22.82
207.71
DP
C
SS 31.17
210.50
3:1
-1.8%
-2.0%
-2.0%
3:1
3:1
F
210.03
L
26+00.00

11/14/23



X 20

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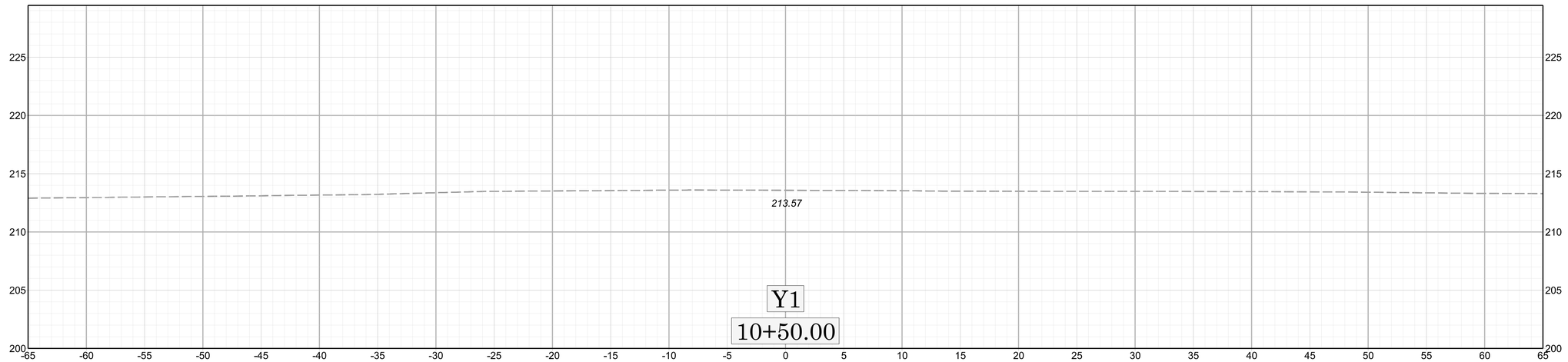
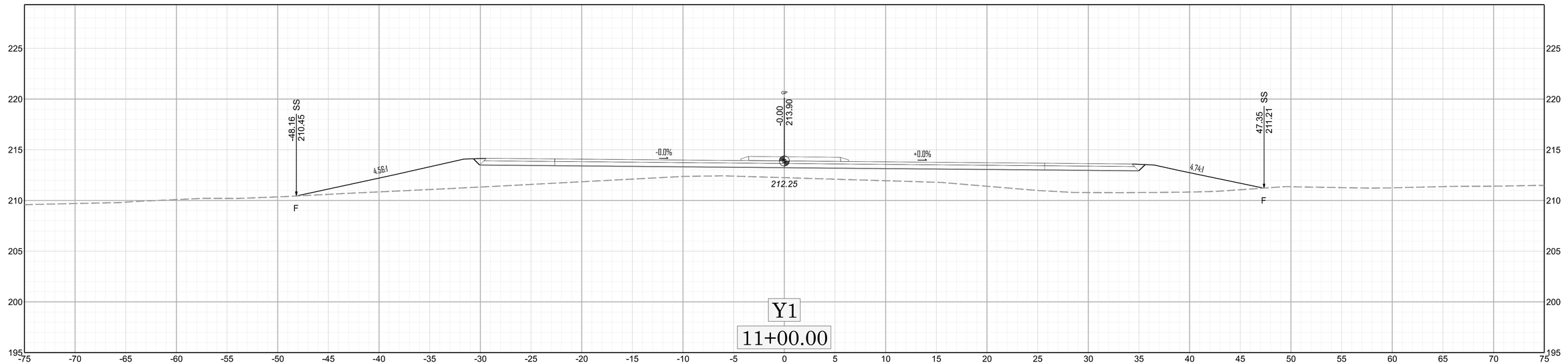
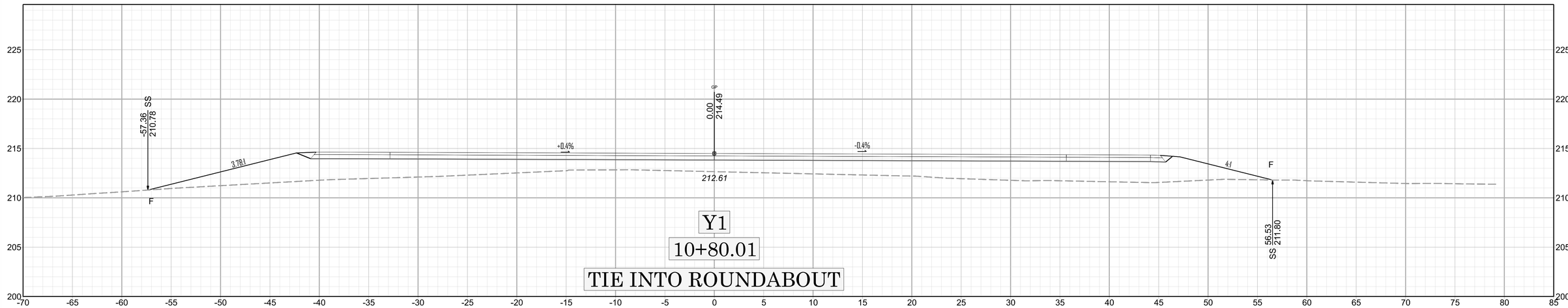


11/14/23



Y1

11+00.00



Y1

10+80.01

TIE INTO ROUNDABOUT

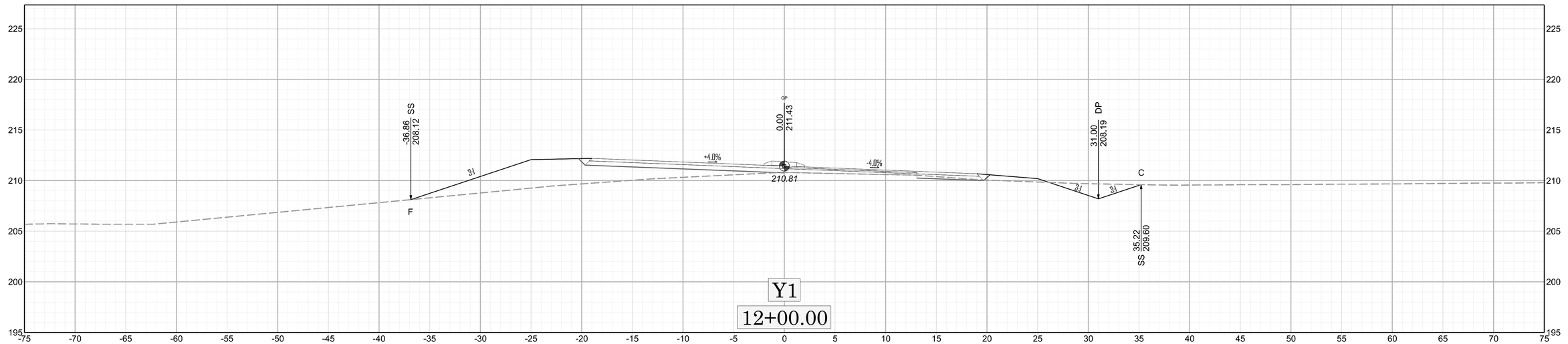
0 5 10

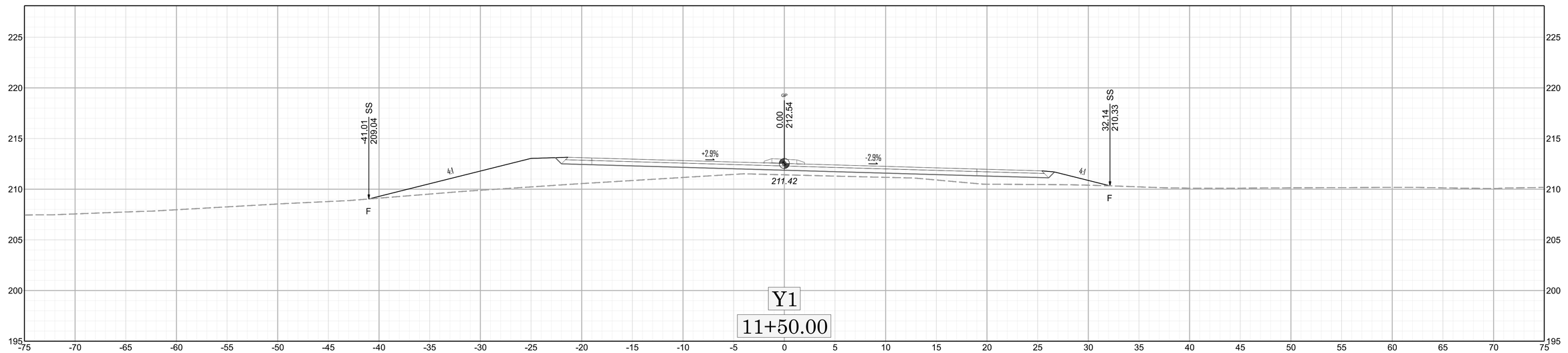
X 21

HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23





0 5 10

X 22

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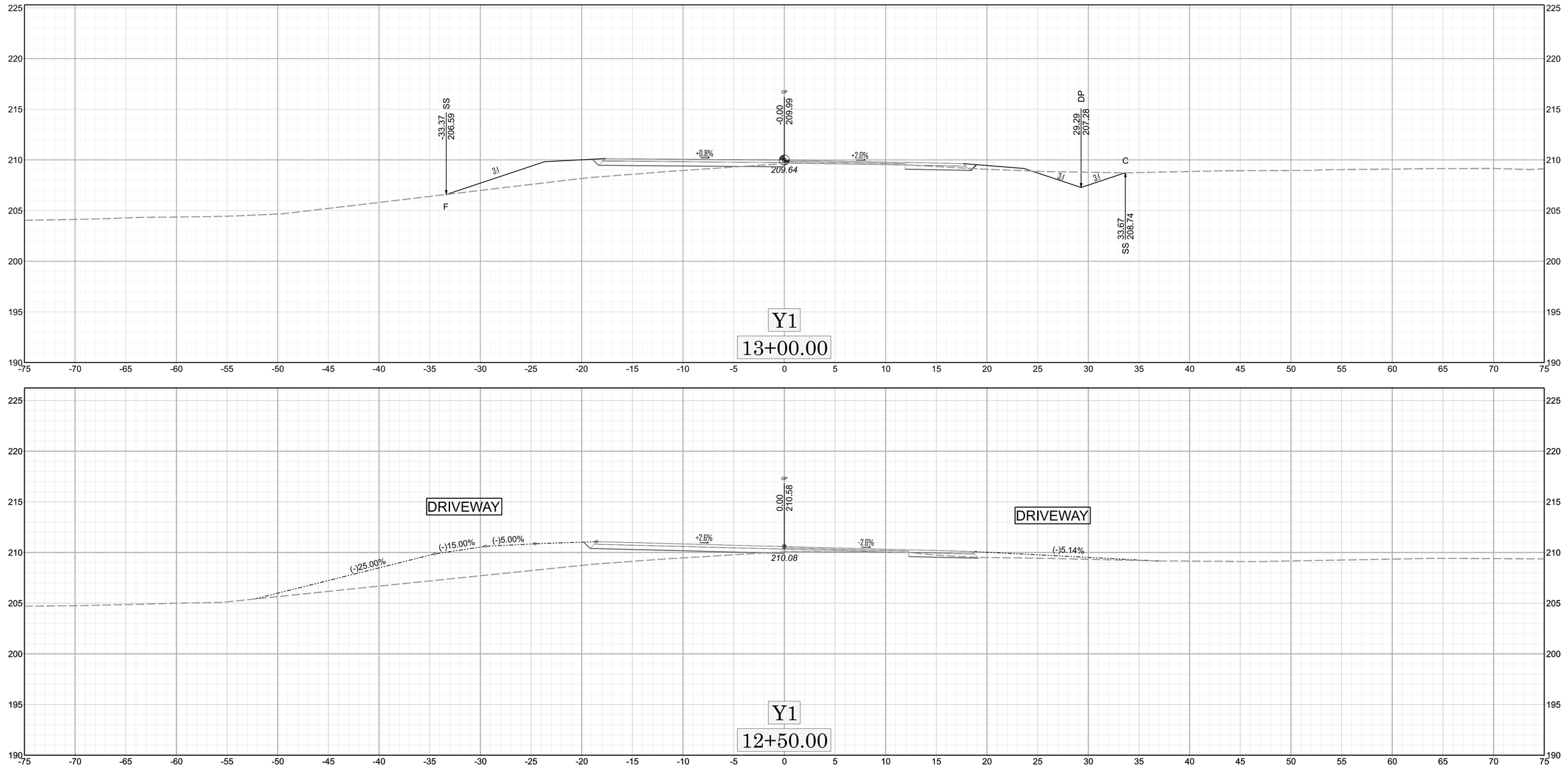
$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23

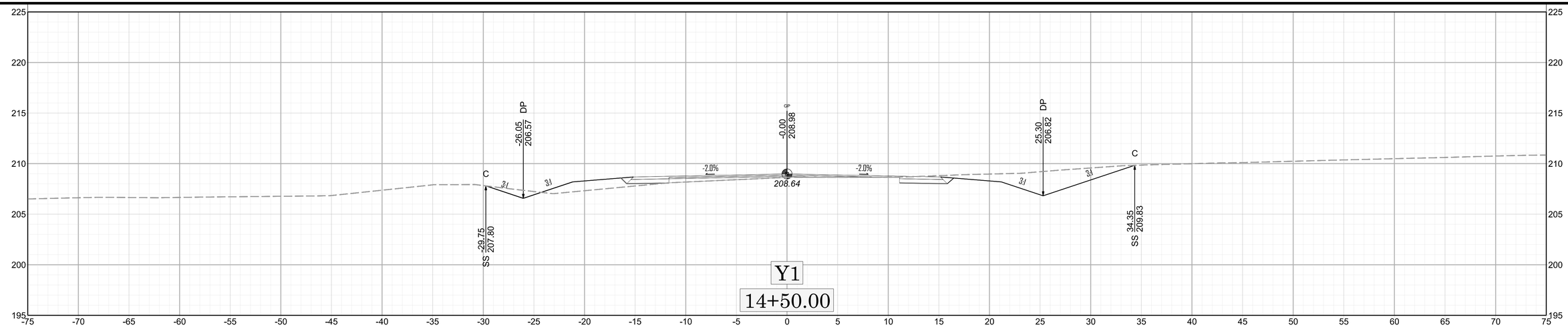


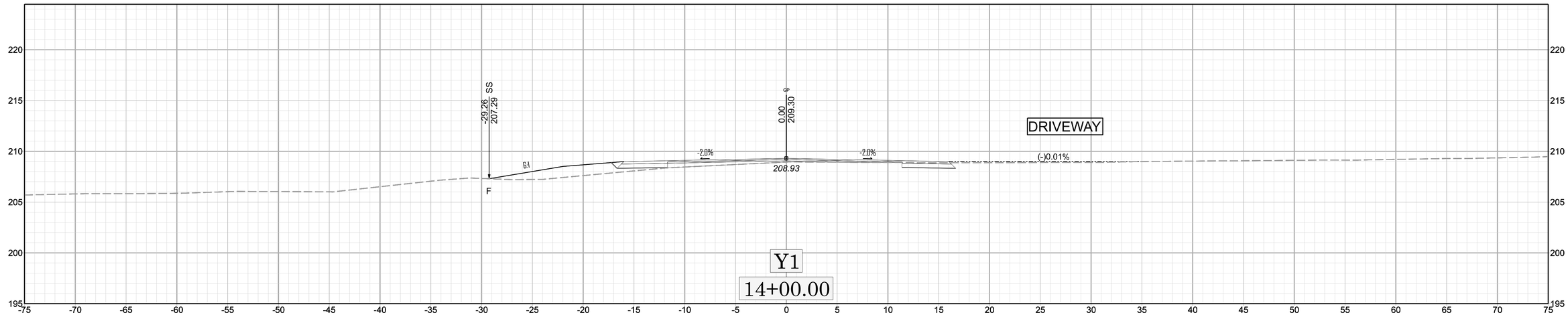
0 5 10

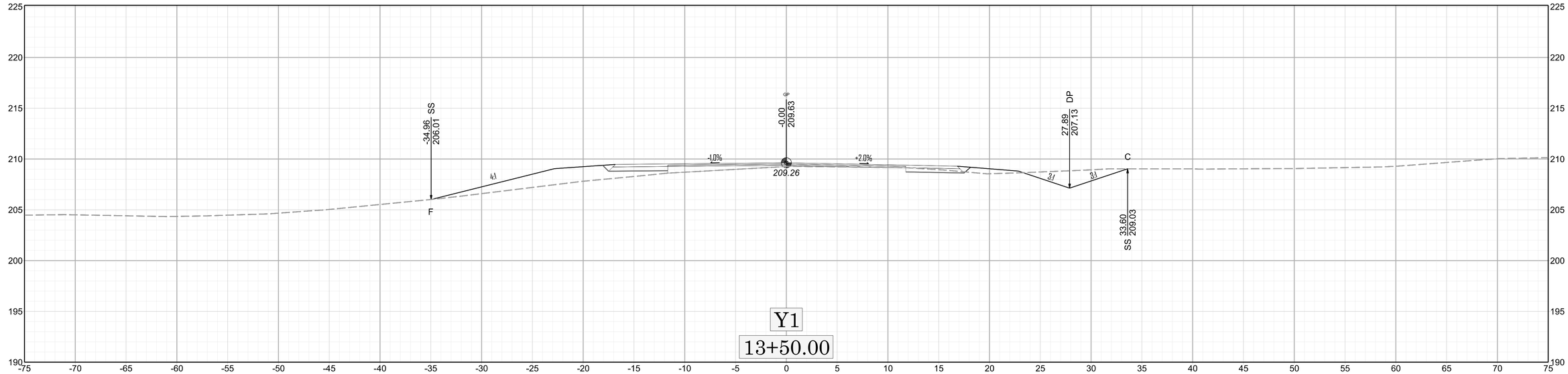
X 23

HN-0020

11/14/23







X 24

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$$$-USER NAME-$$$ - $$$-DATE-$$$

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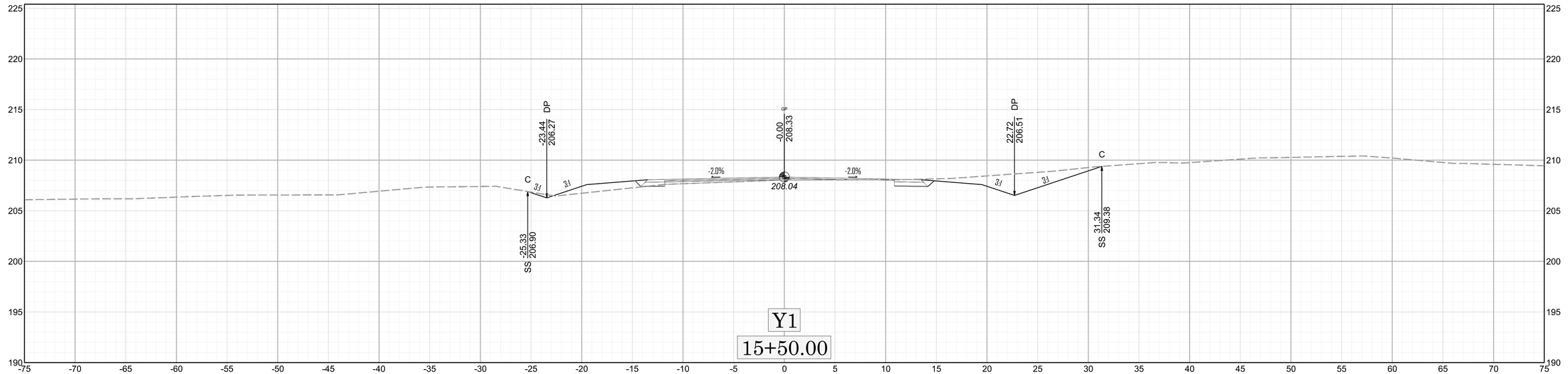
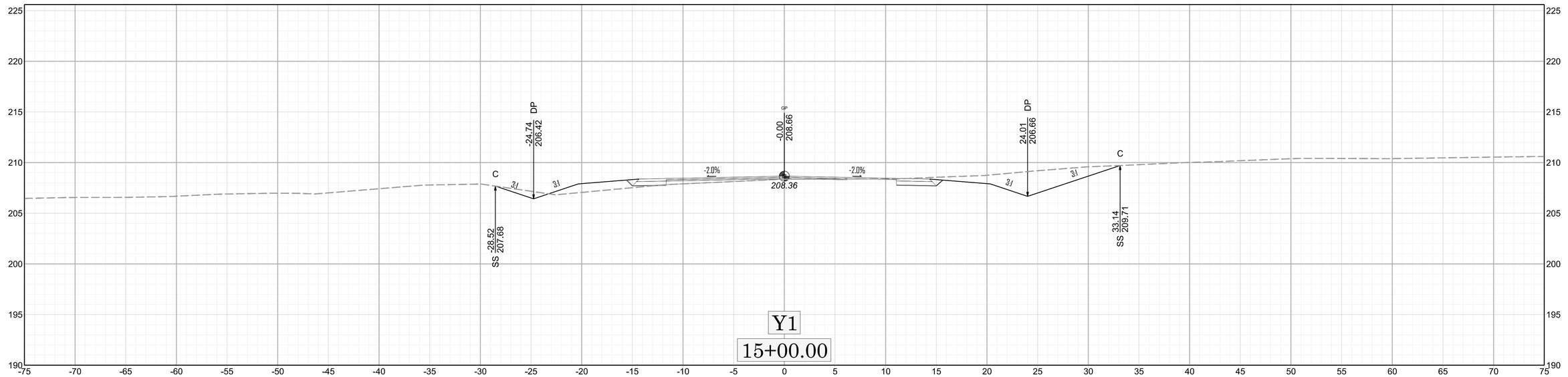
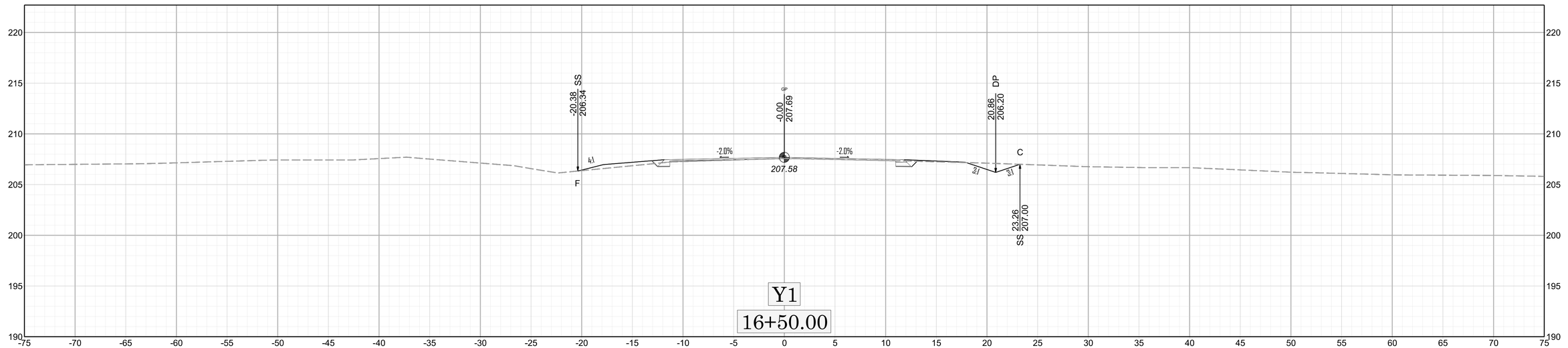


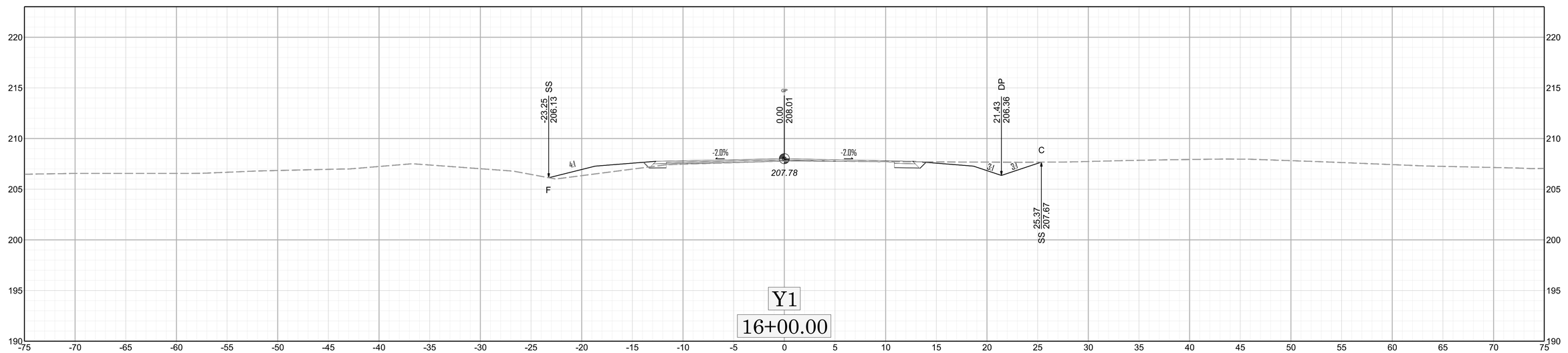


0 5 10

X 25

HN-0020



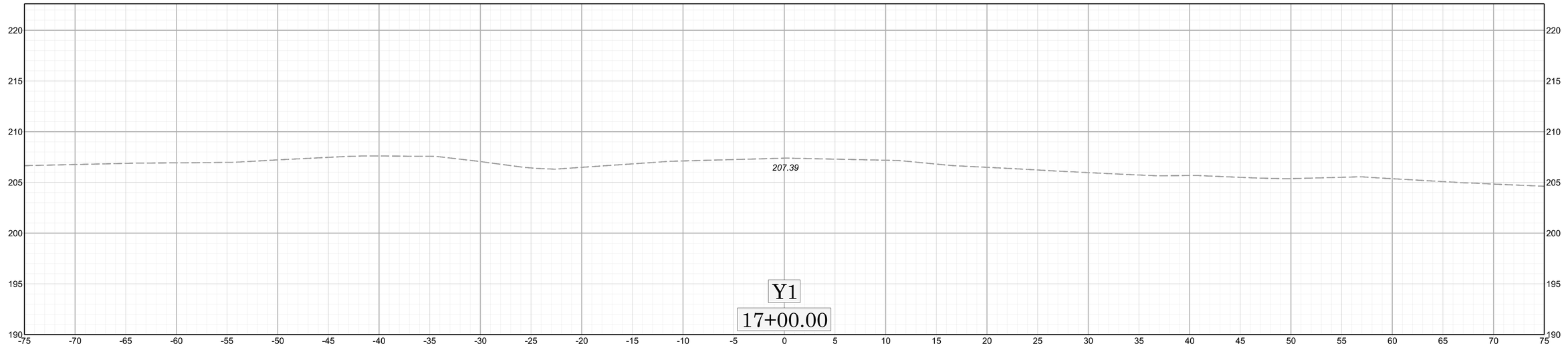


0 5 10

X 26

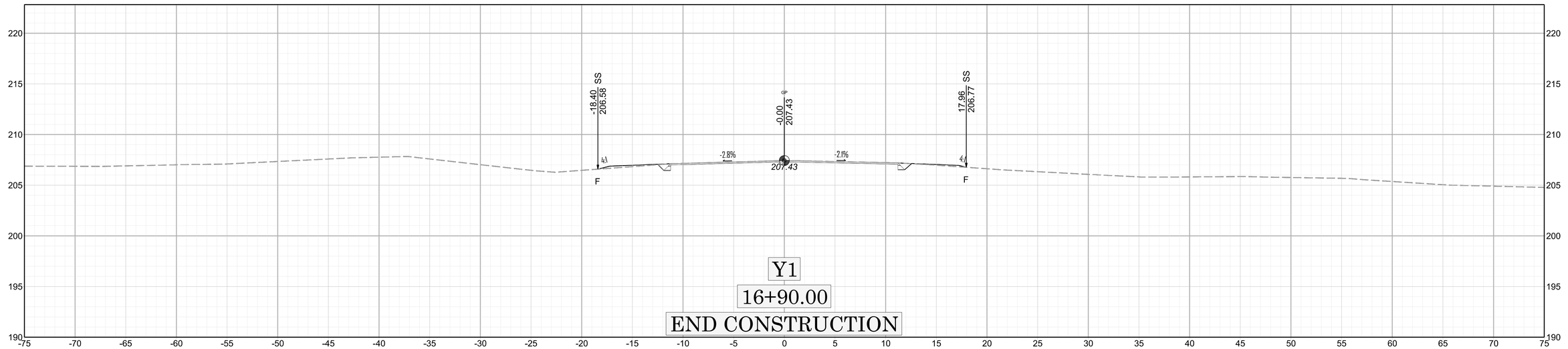
HN-0020

11/14/23



Y1

17+00.00



Y1

16+90.00

END CONSTRUCTION

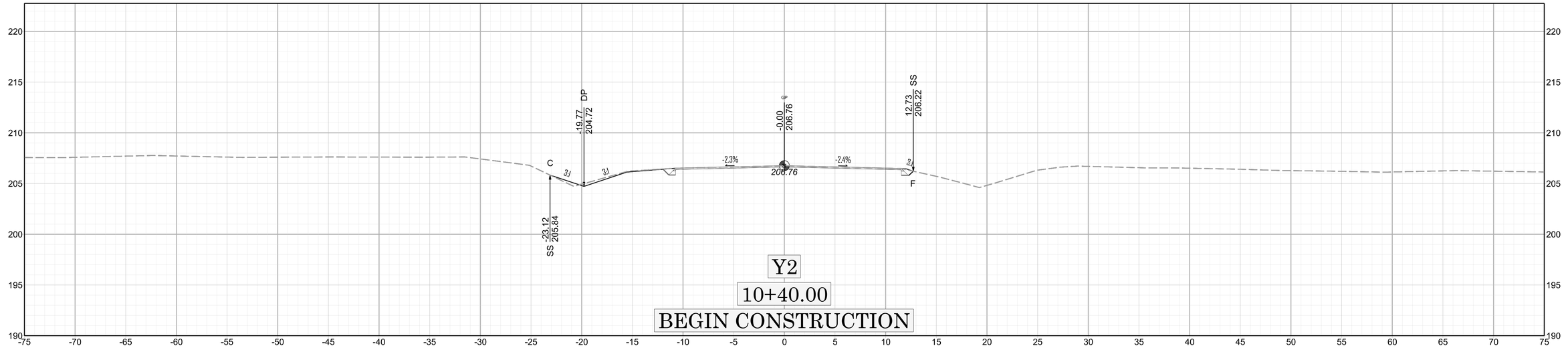
0 5 10

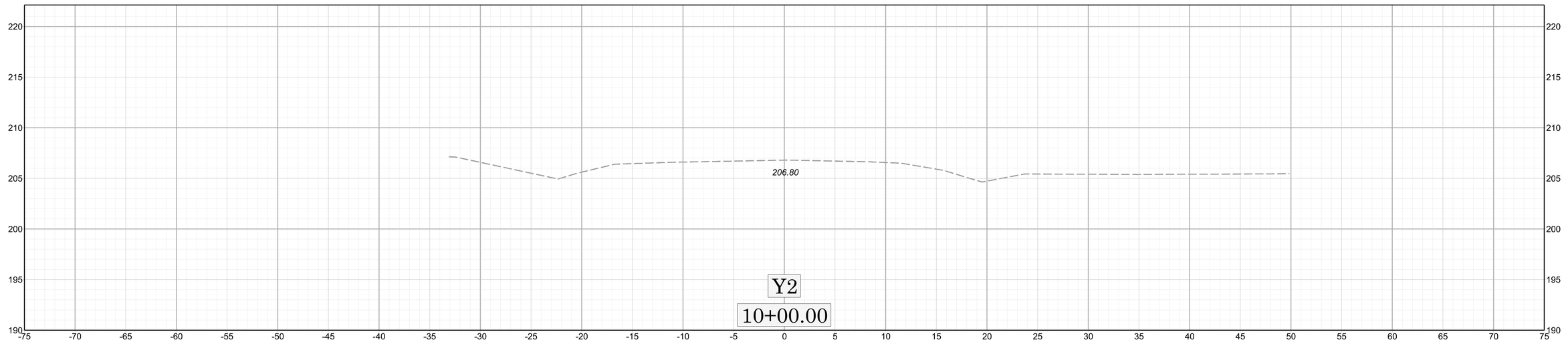
X 27

HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23





0 5 10

28

X

HN-0020

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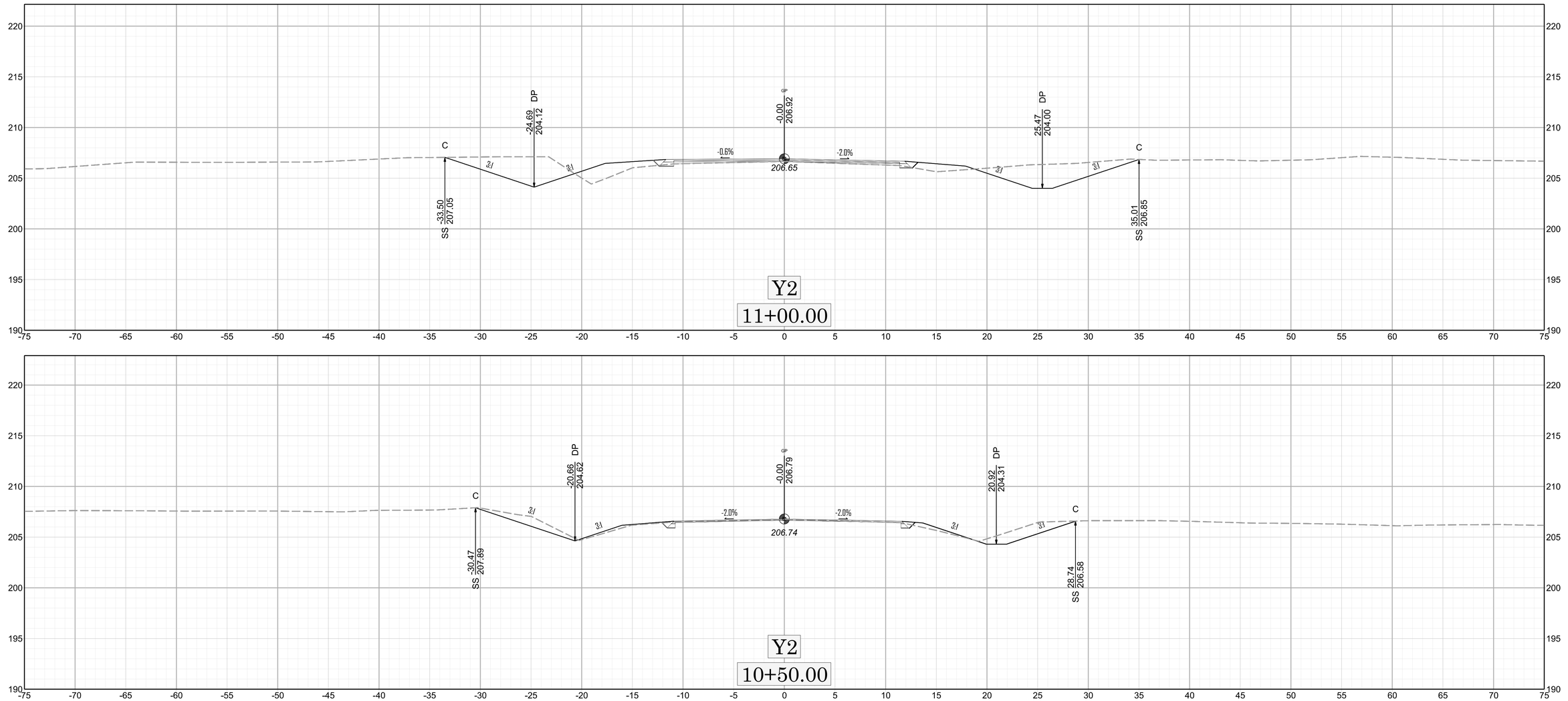
11/14/23



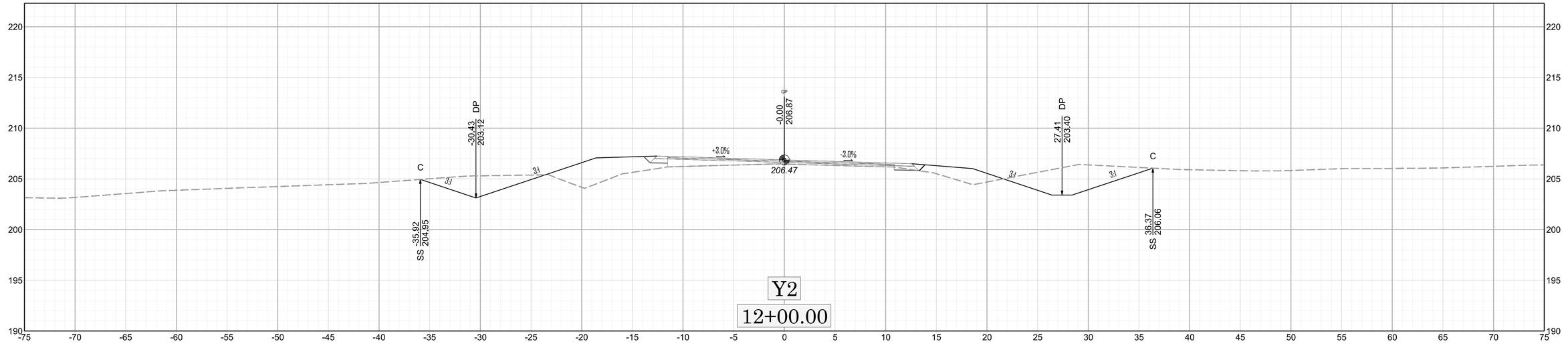
0 5 10

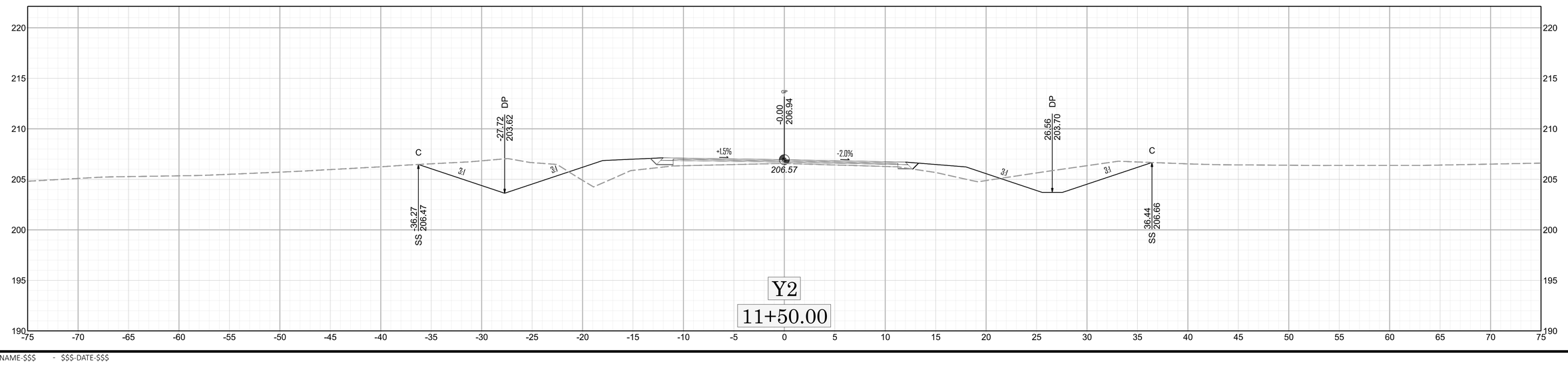
X 29

HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23



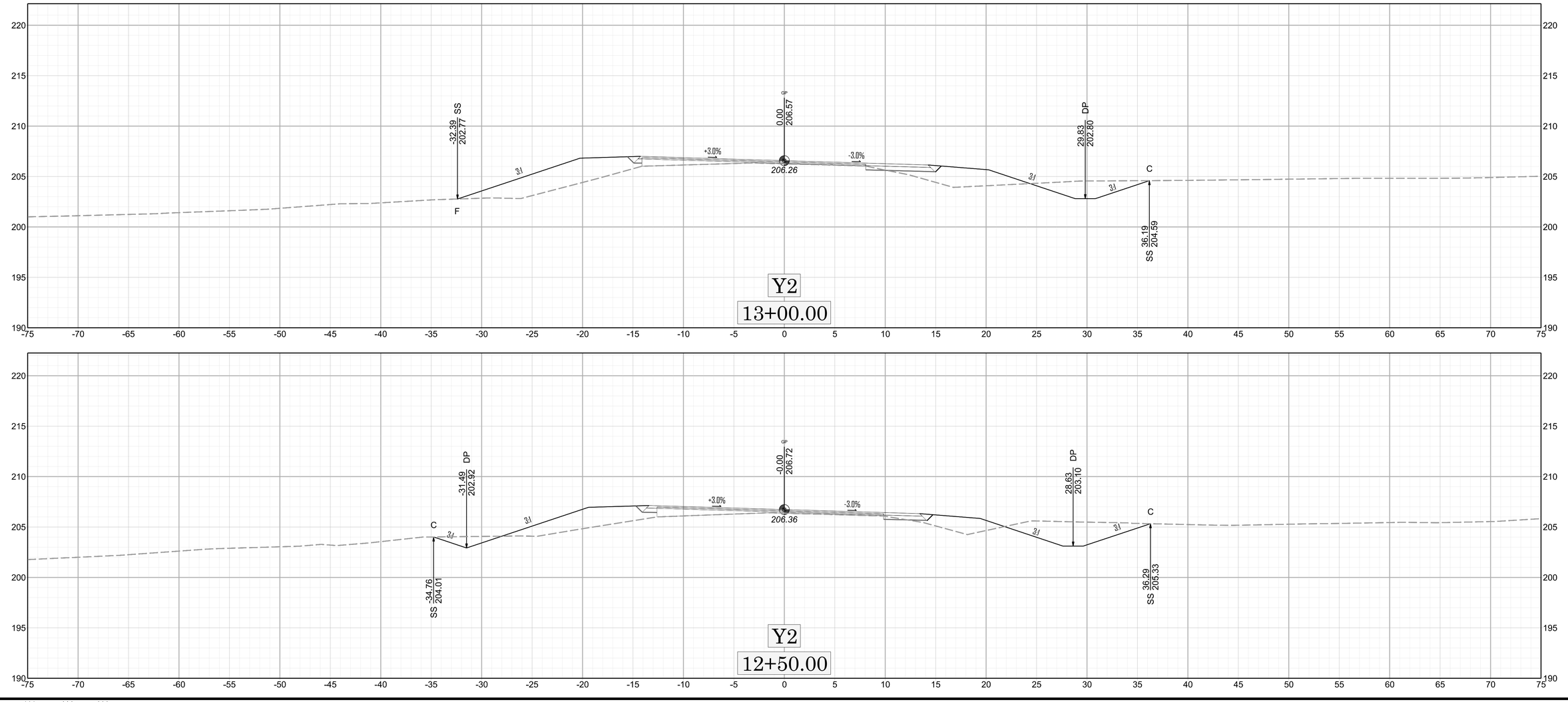


0 5 10

X 30

HN-0020

11/14/23

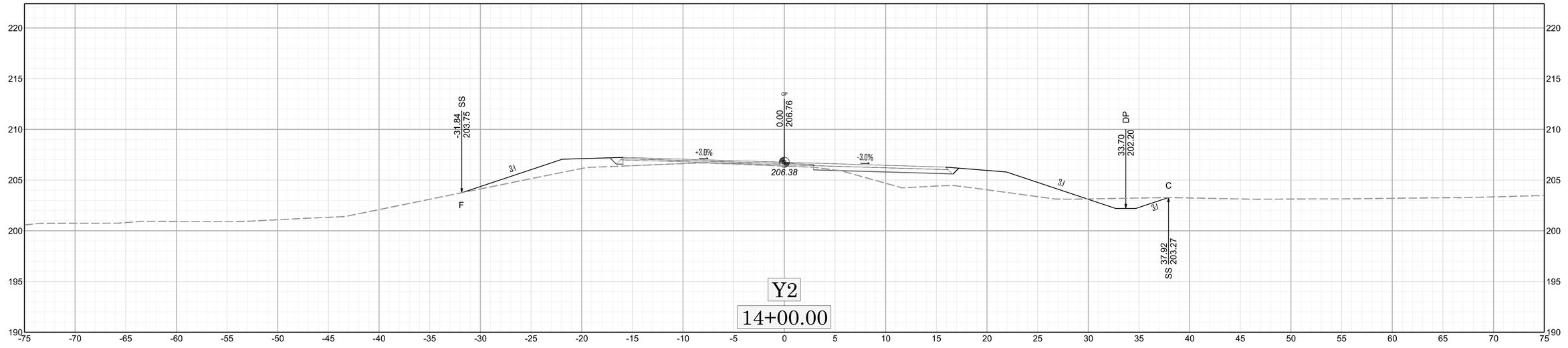


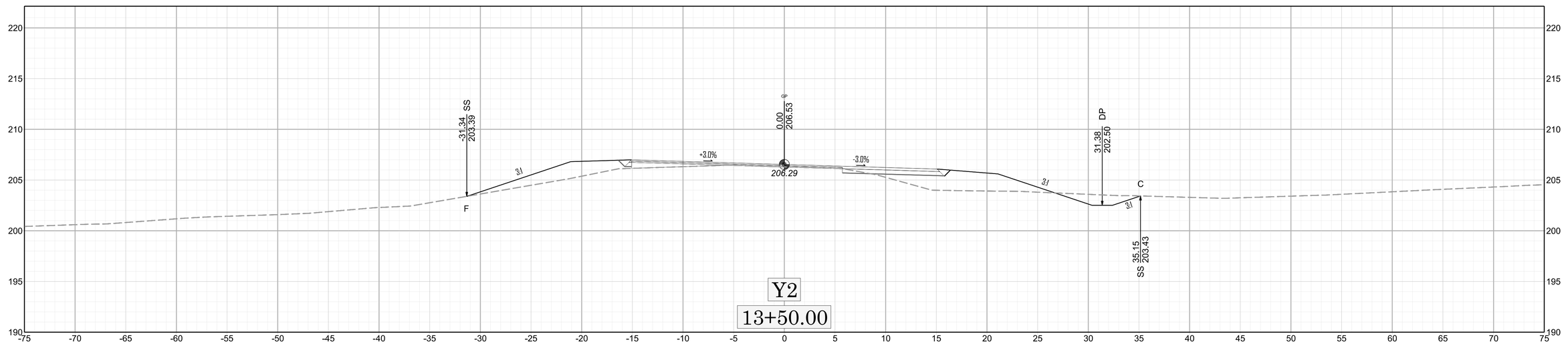
0 5 10

X 31

HN-0020

11/14/23





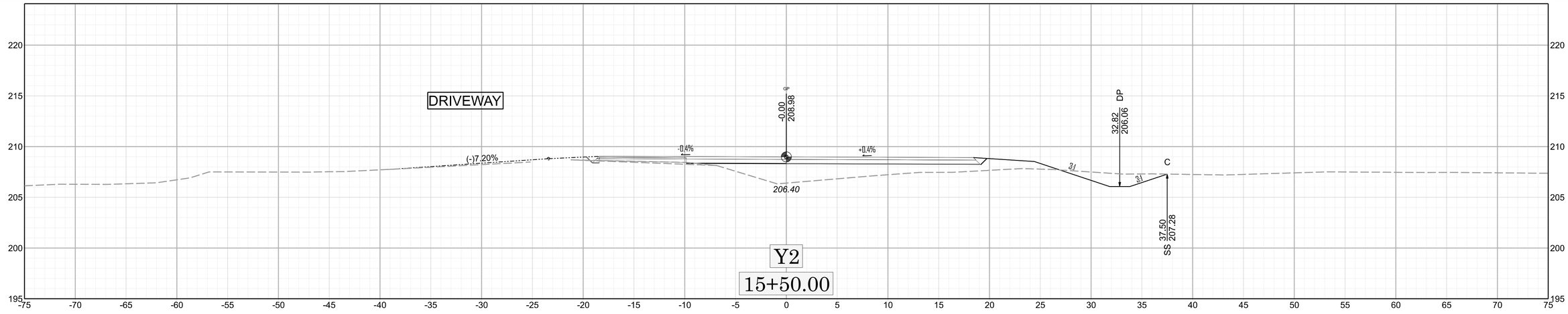
0 5 10

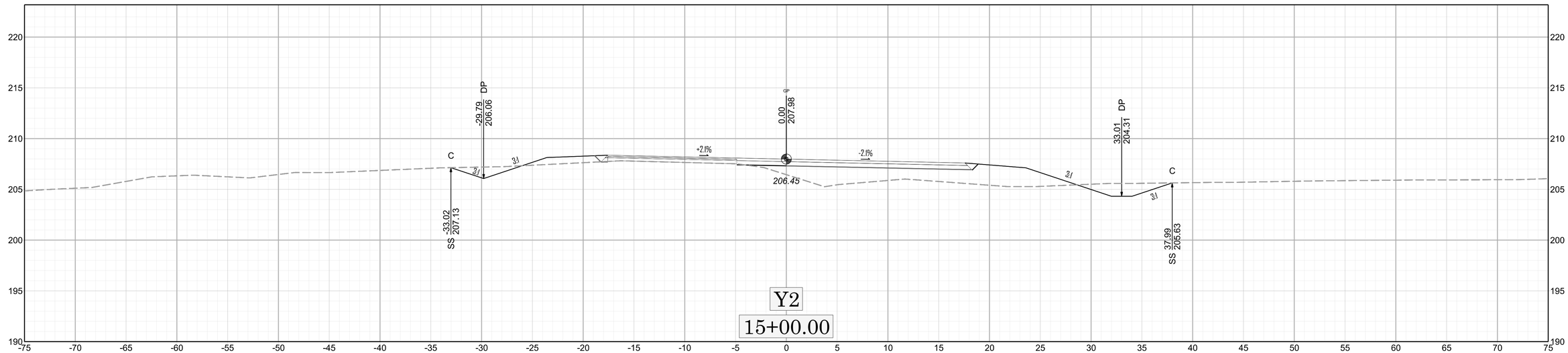
X 32

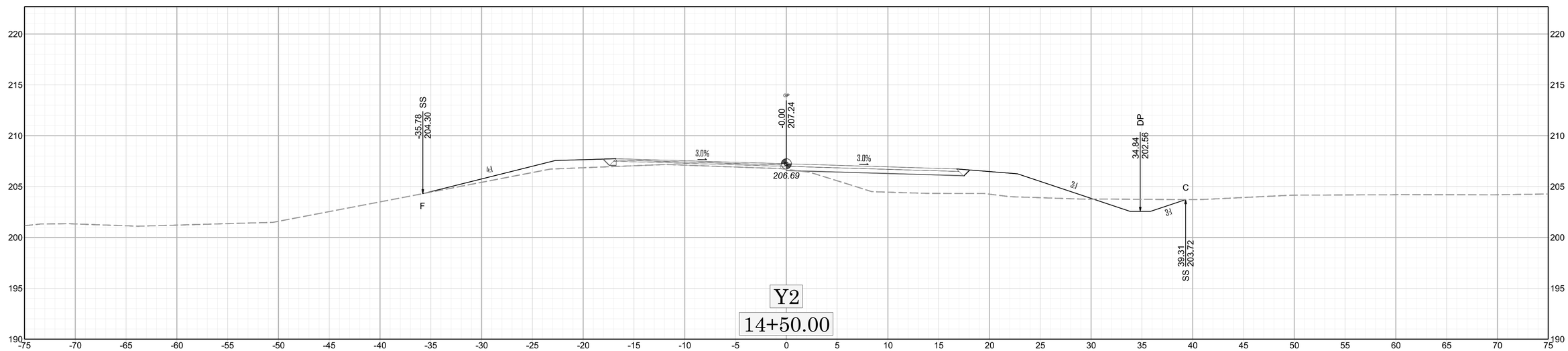
HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23





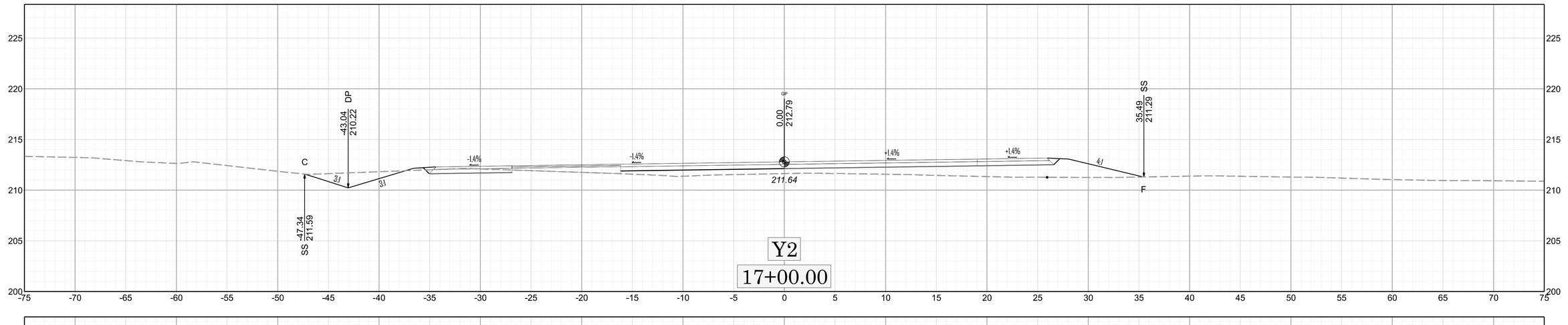


X 33

HN-0020

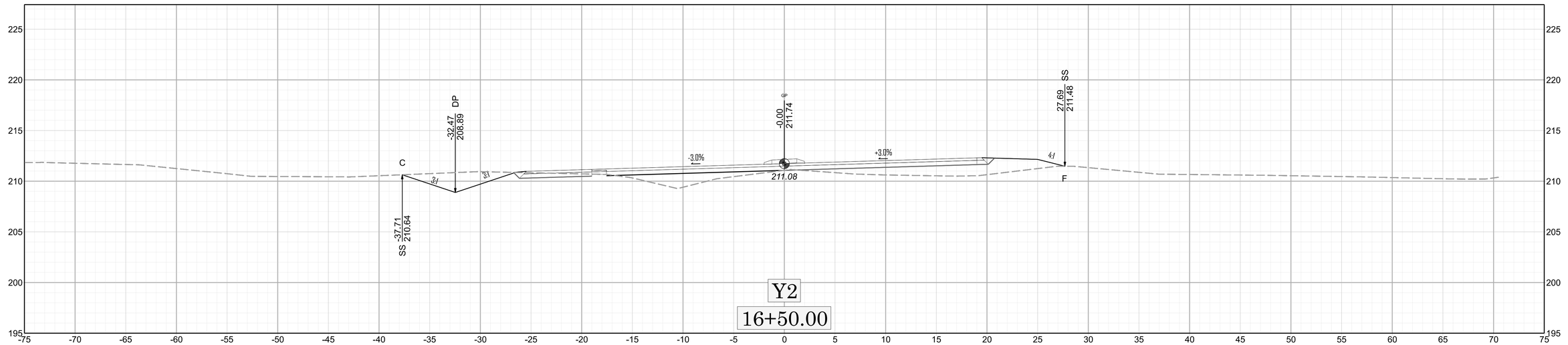
$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23



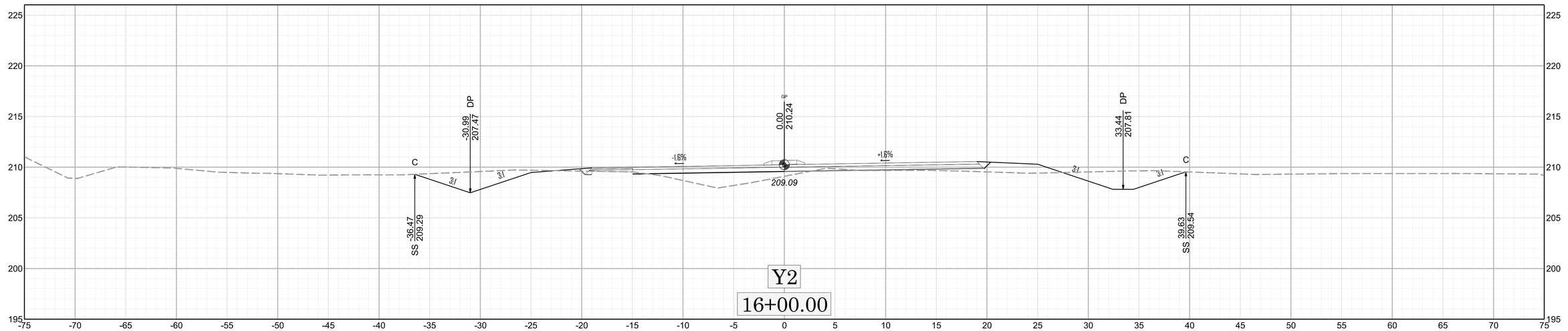
Y2

17+00.00



Y2

16+50.00



Y2

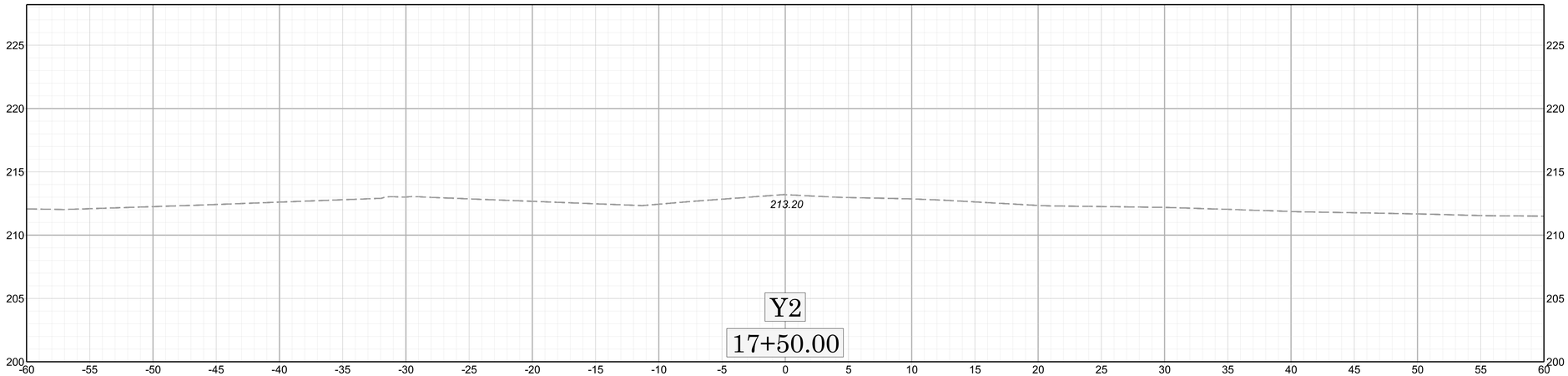
16+00.00

HN-0020

X 34

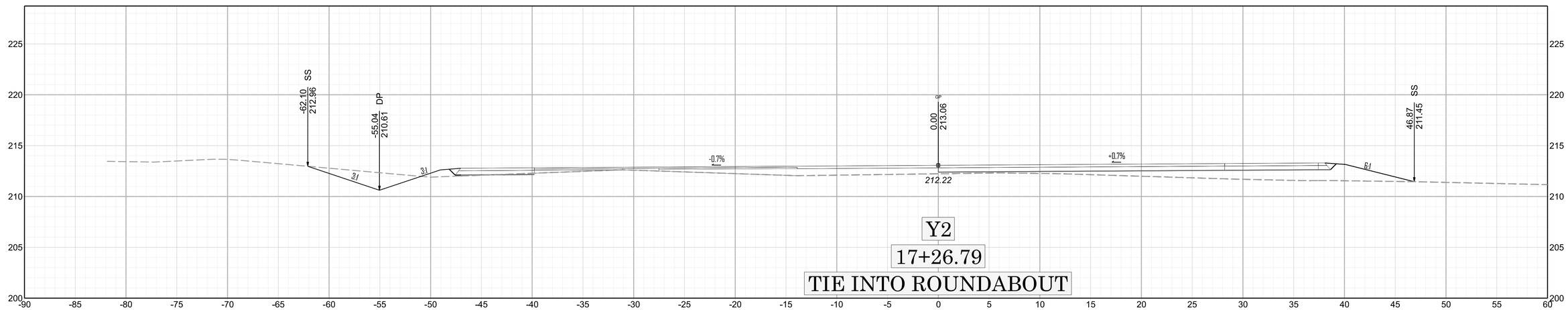
$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23



Y2

17+50.00



Y2

17+26.79

TIE INTO ROUNDABOUT

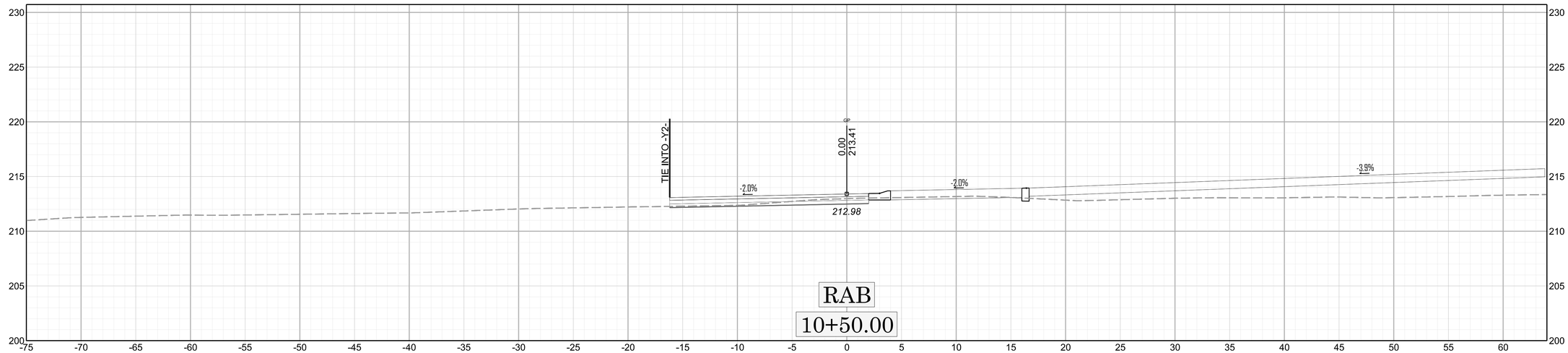
0 5 10

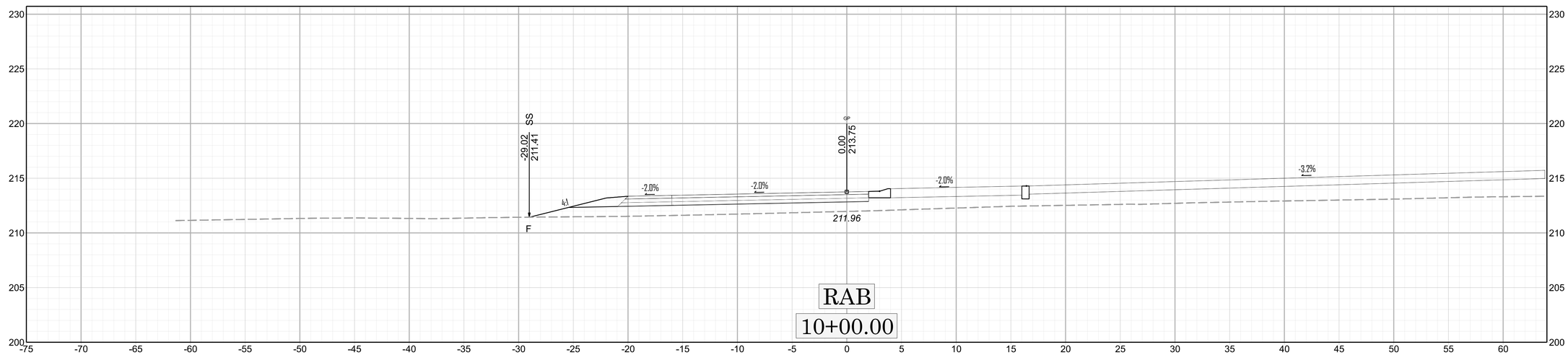
X 35

HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23





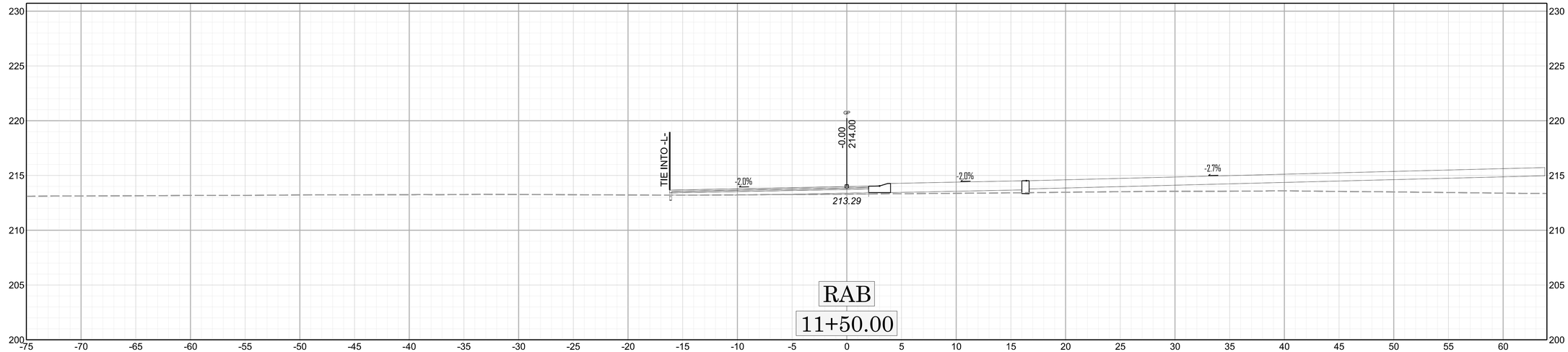
3B

X

HN-0020

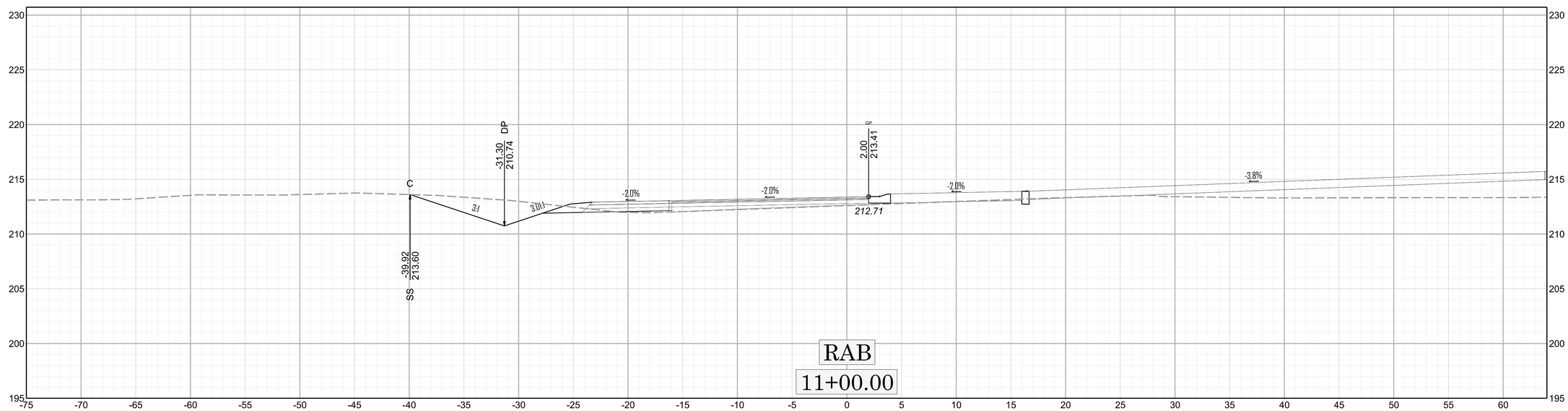
$$$-USER NAME-$$$ - $$$-DATE-$$$

11/14/23



RAB

11+50.00



RAB

11+00.00

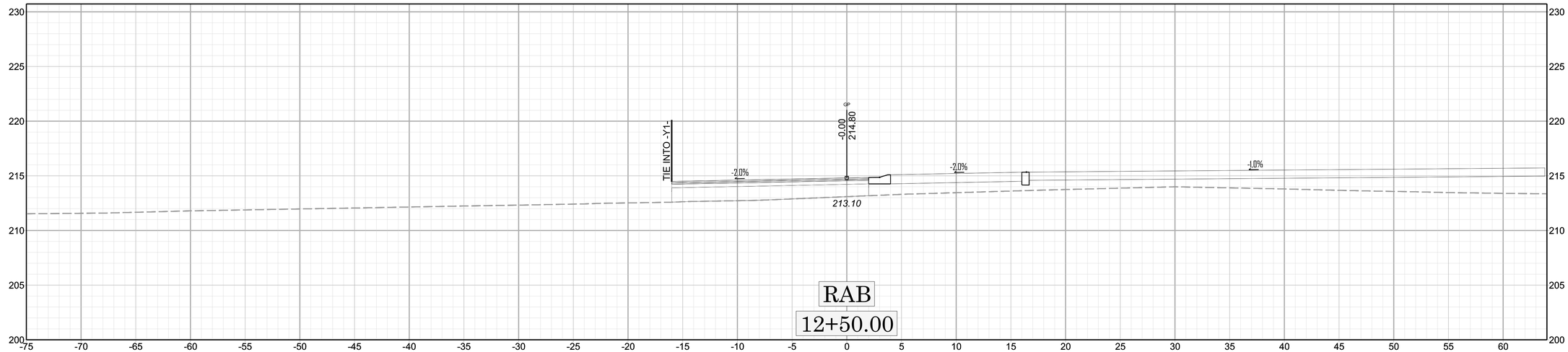
0 5 10

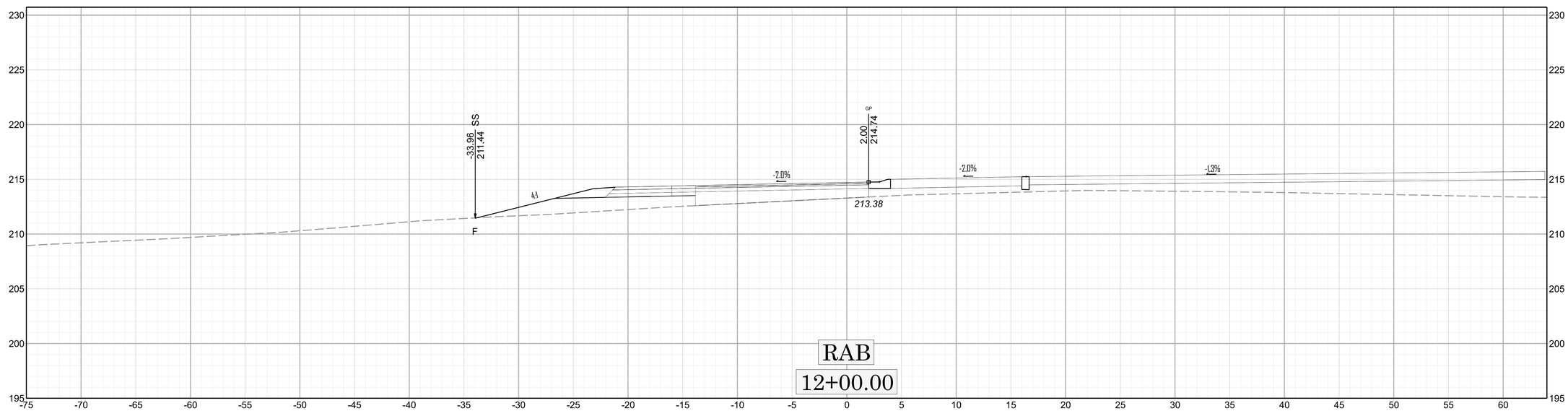
37

X

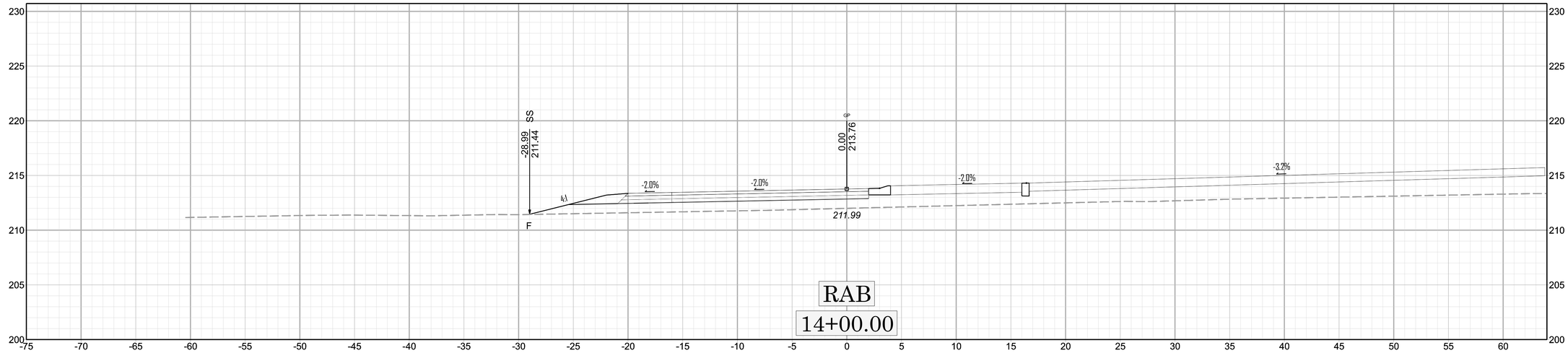
HN-0020

$$$-USER NAME-$$$ - $$$-DATE-$$$


TIE INTO -Y1-
-0.00
214.80
GP
-2.0%
-2.0%
-1.0%
213.10
RAB
12+50.00

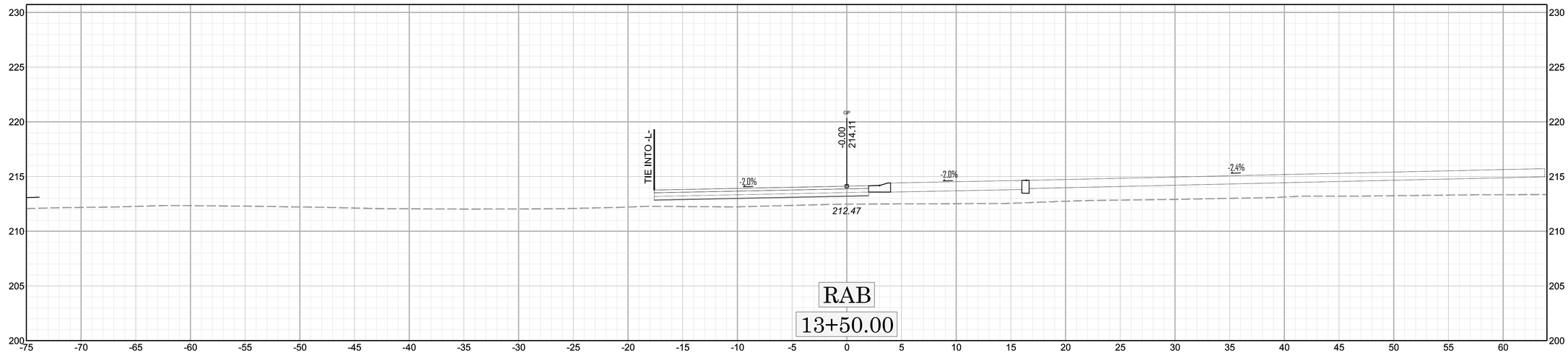

-33.96
211.44
SS
4:1
F
-2.0%
2.00
214.74
GP
-2.0%
-1.3%
213.38
RAB
12+00.00

11/14/23



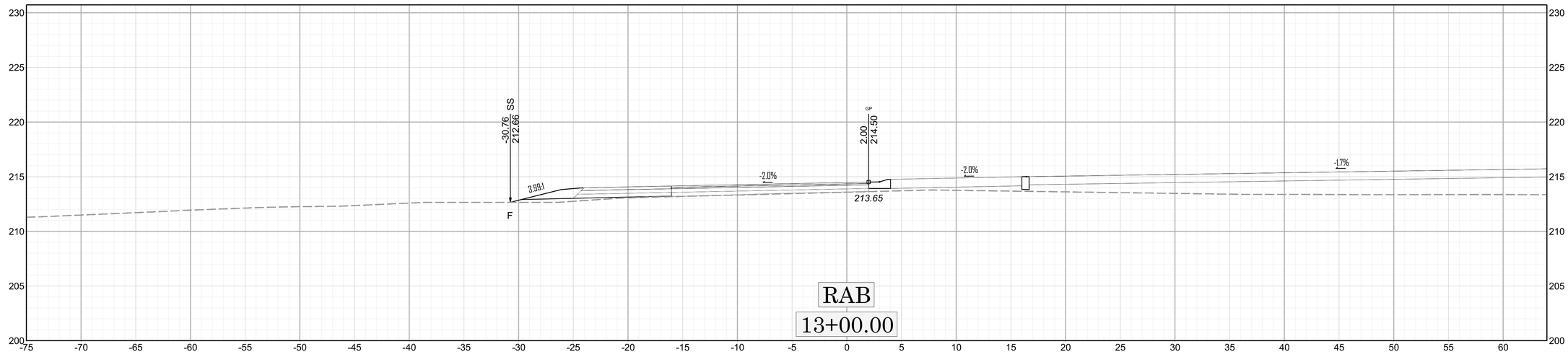
RAB

14+00.00



RAB

13+50.00



RAB

13+00.00

$$$-USER NAME-$$$ - $$$-DATE-$$$

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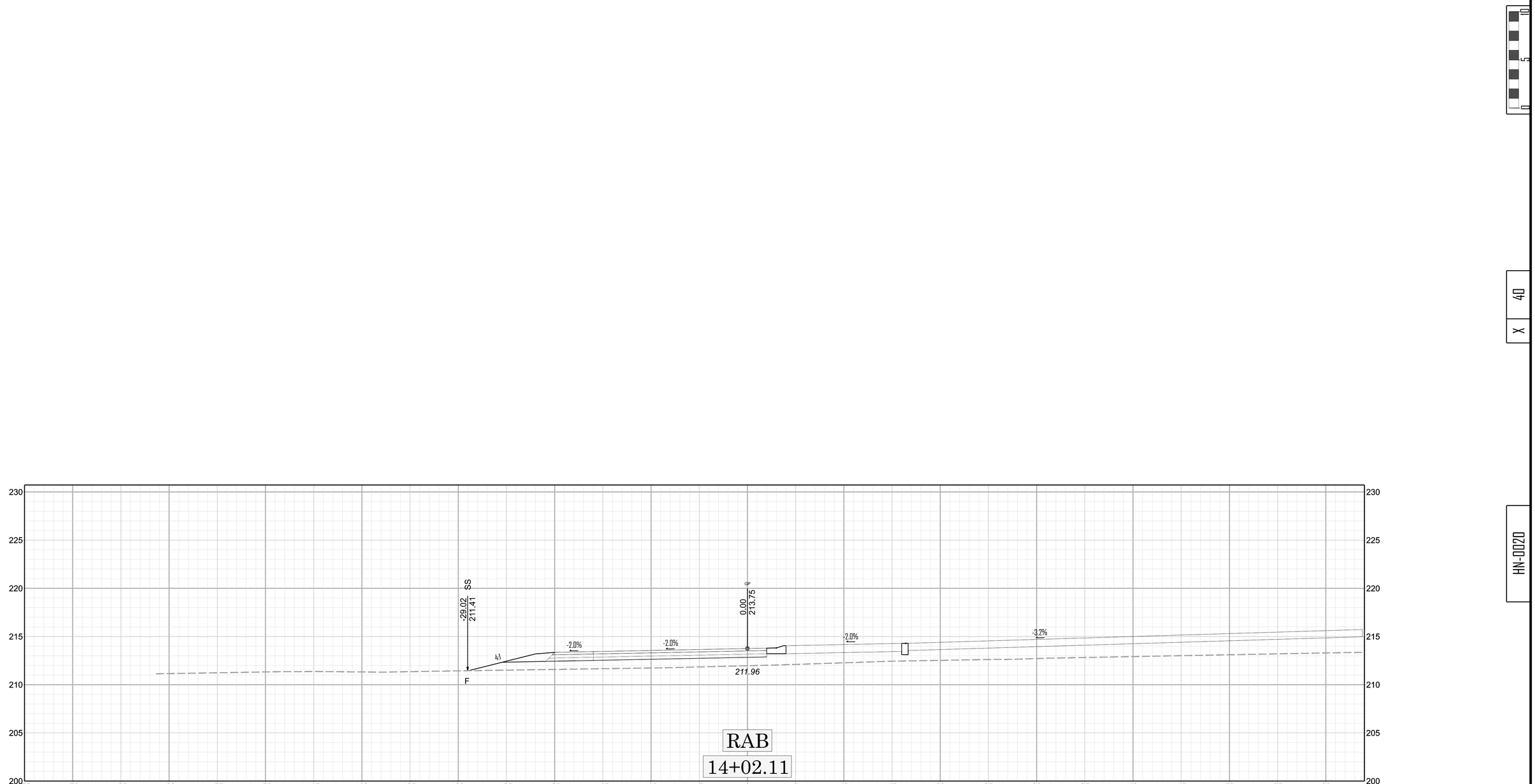

0 5

X 40

HN-0020