

CONTRACT: DM00387

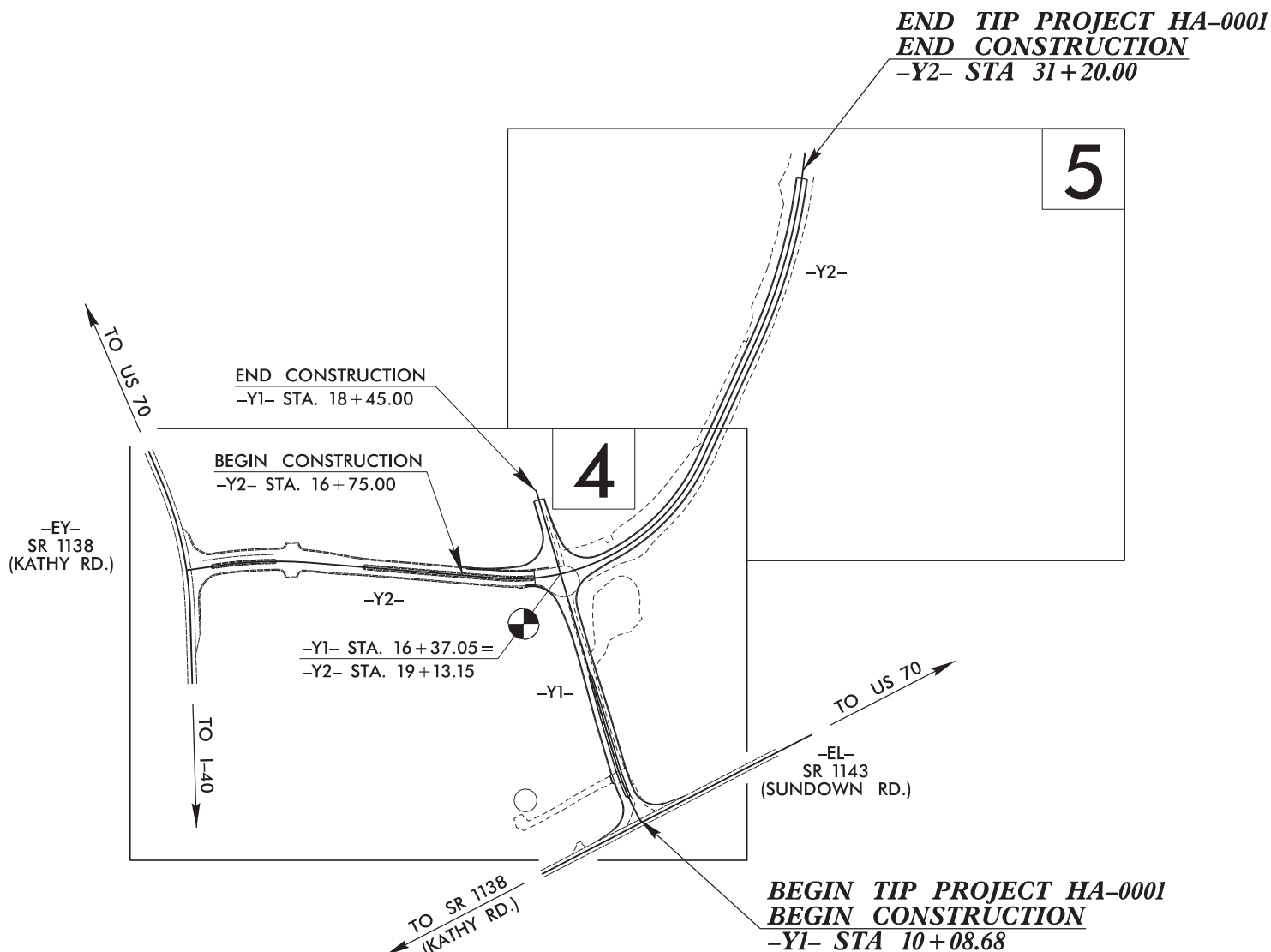
VICINITY MAP

NOT TO SCALE

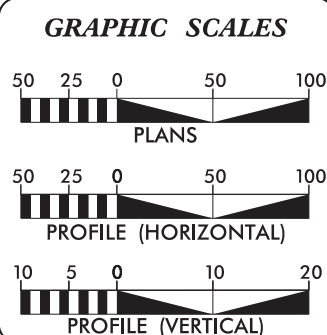
BURKE COUNTY

TYPE OF WORK: GRADING, DRAINAGE, AND PAVING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0001	1	
STATE PROJ.NO.	F.A.PROJ.NO.	DESCRIPTION	
49332.1.1	1311019	PE	
49332.2.1	1311019	R/W & UTILITIES	
49332.3.1	1311019	CONSTR.	



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



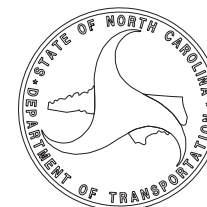
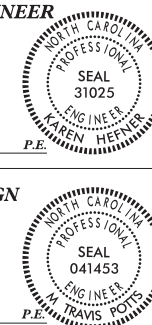
FUNC CLASS =
LOCAL
REGIONAL TIER

TOTAL LENGTH PROJECT HA-0001 = 0.348 MILES
(-Y1- & -Y2-)

LETTING DATE:
MAY 28, 2025

NYA K. BOAYUE, PE
PROJECT DESIGN ENGINEER

DocuSigned by:
M Travis Potts /8/2025
4CB1B21EEB284DF



07-MAR-2025 15:16
N:\00\60\06919-0

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel/Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage/Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
VEGETATION:	
Single Tree	
Single Shrub	
Hedge	

Woods Line	
Orchard	
Vineyard	

EXISTING STRUCTURES:

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

UTILITIES:

* SUE – Subsurface Utility Engineering
LOS – Level of Service – A,B,C or D (Accuracy)

POWER:	
Existing Power Pole	
Proposed Power Pole	
Existing Joint Use Pole	
Proposed Joint Use Pole	
Power Manhole	
Power Line Tower	
Power Transformer	
U/G Power Cable Hand Hole	
H-Frame Pole	
U/G Power Line Test Hole (SUE – LOS A)*	
U/G Power Line (SUE – LOS B)*	
U/G Power Line (SUE – LOS C)*	
U/G Power Line (SUE – LOS D)*	

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

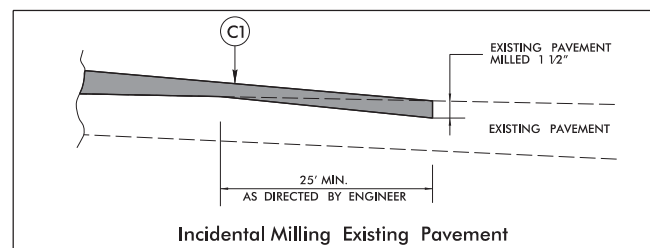
SANITARY SEWER:

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

MISCELLANEOUS:

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

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



-Y1- STA. 10+08.68 TO -Y1- STA. 13+80.76



*-Y1- STA. 13+80.76 TO -Y1- STA. 15+80.02

–Y1– STA. 16+54.61 TO –Y1– STA. 18+24.20 (END PAVEMENT)

-Y2- STA. 19+53.14 TO -Y2- STA. 31+00.00 (END PAVEMENT)



-Y1- STA. 15+80.02 TO -Y1- STA. 16+54.61

-Y2- STA. 18+49.35 TO -Y2- STA. 19+53.14

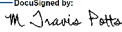
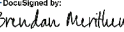


- Y2- STA. 16+81.86 TO -Y2- STA. 18+49.35 (LT)

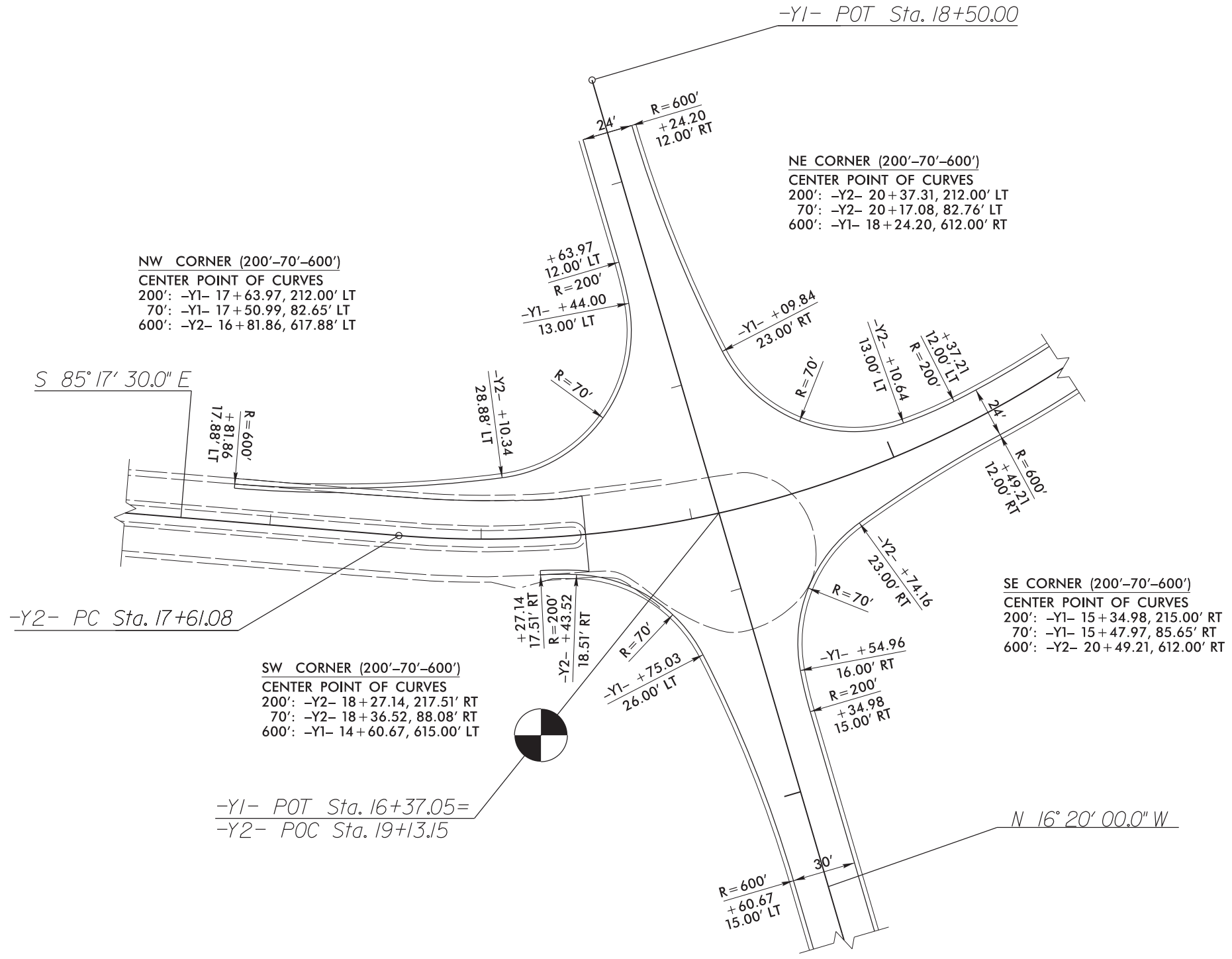
-Y2- STA. 18+27.14 TO -Y2- STA. 18+49.35 (RT) (MIRROR TYPICAL)



ms consultants, inc.
5444 Wake Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
	
Drawn/signed by: 	Drawn/signed by: 
L7/2023	/2023
ACB18107EER2MDF	SDCH041461MDF
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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21-SEP-2022 14:58
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USER:ms



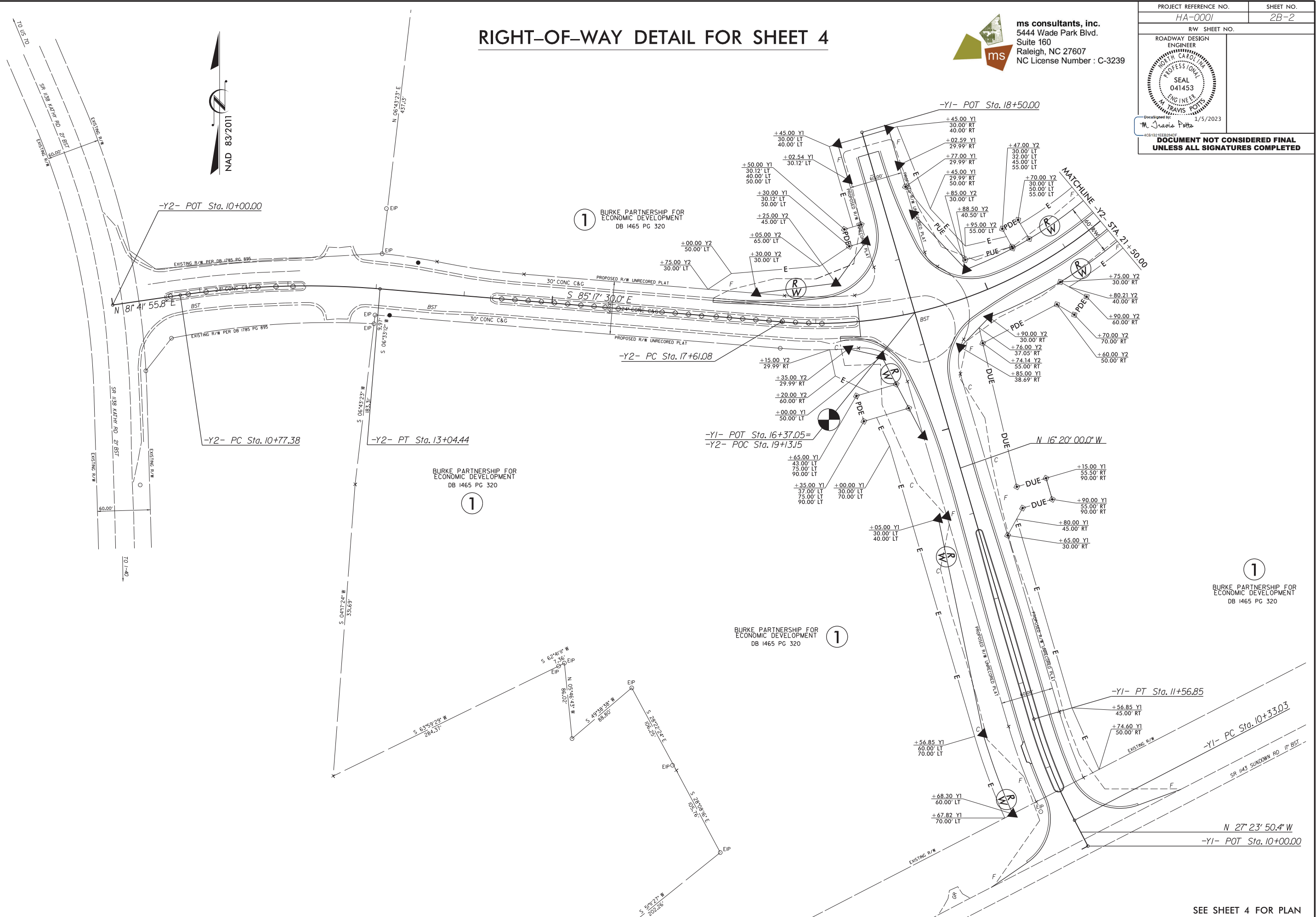
-Y1/-Y2- INTERSECTION DETAIL
THREE-CENTERED CURVE LAYOUT



ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

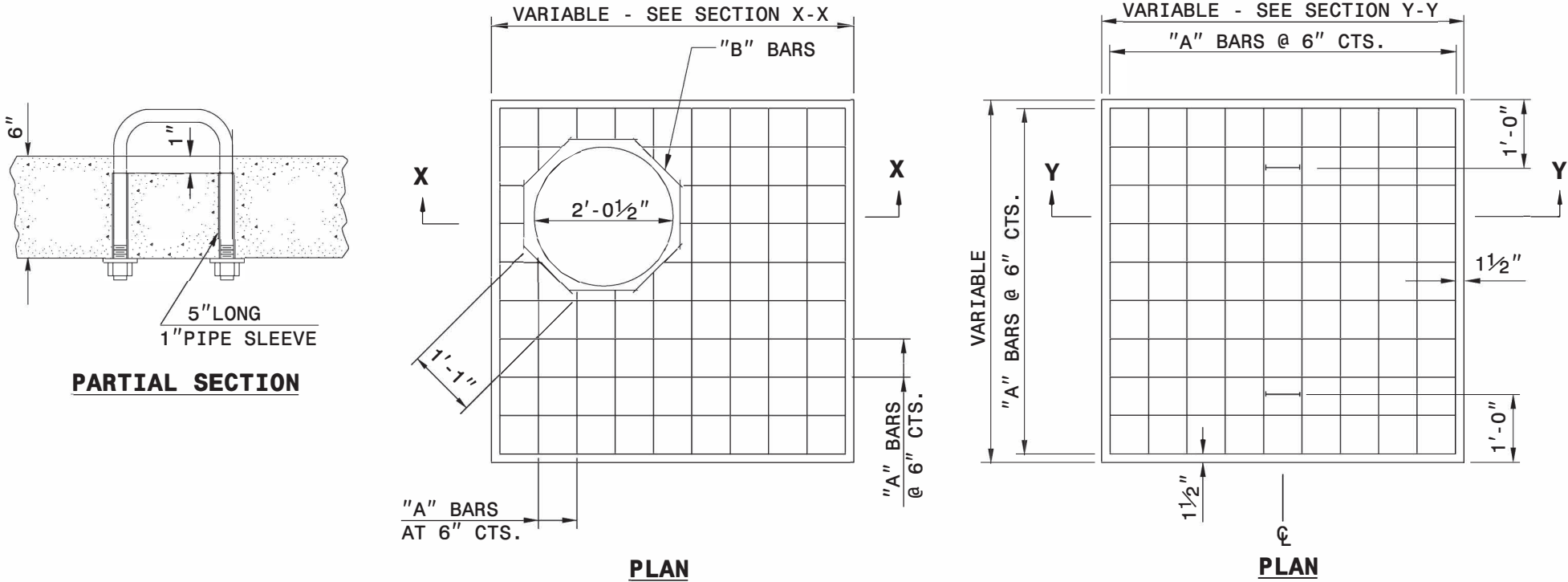
PROJECT REFERENCE NO.		SHEET NO.
HA-0001		2B-1
ROADWAY DESIGN ENGINEER		DocuSigned by: <i>M. Travis Potts</i> 5/2023
		
4CB1921EE8204DF		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER  NORTH CAROLINA PROFESSIONAL SEAL 041453 ENGINEER M. TRAVIS POTTS	
Documented by: <i>M. Travis Potts</i> 4CS11021EER0294DF	1/5/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SEE SHEET 4 FOR PLAN

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	2C-1



GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

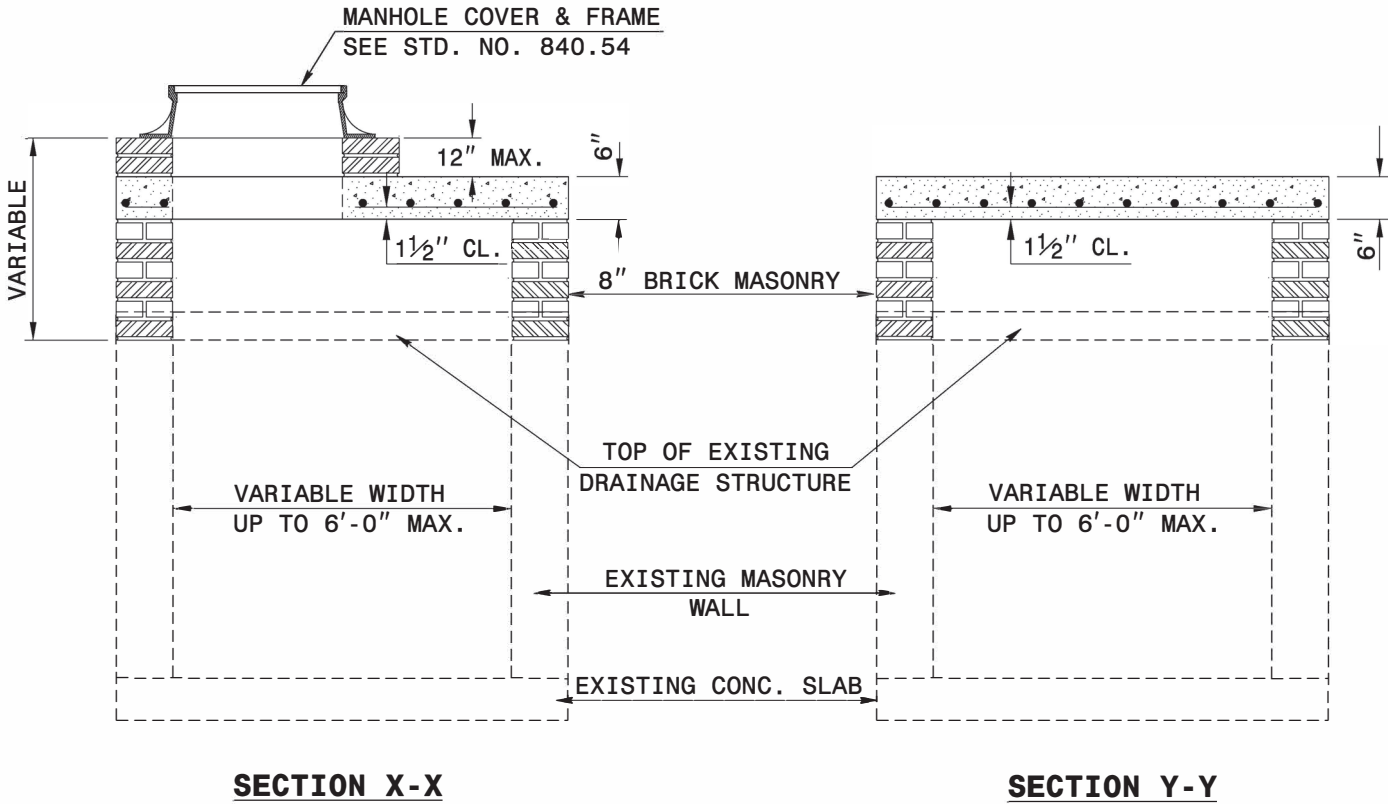
THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.

DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

BILL OF MATERIALS

REINFORCING STEEL				
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *
MASONRY				CU YDS
TOP SLAB CONCRETE CLASS "B"				.4326 *
BRICK MASONRY PER FT HT (MIN)				.4111

* NOTE:
QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.



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

**DETAIL TO CONVERT EXISTING
DI, CB, OTCB or GI
TO JUNCTION BOX
(MANHOLE OPTIONAL)**

ORIGINAL BY: T.S.S. DATE: NOV. 1997
MODIFIED BY: T.S.S. DATE: FEB. 2000
CHECKED BY: DATE:
FILE SPEC.: ds174:/usr/details/stand/boxtojbe.dgn

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

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
CONCRETE CATCH BASIN**
12" THRU 84" PIPE

SHEET 1 OF 2

840D02

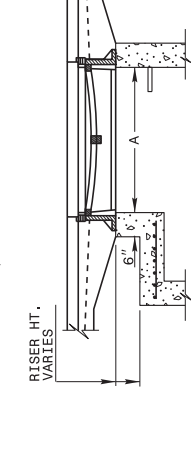
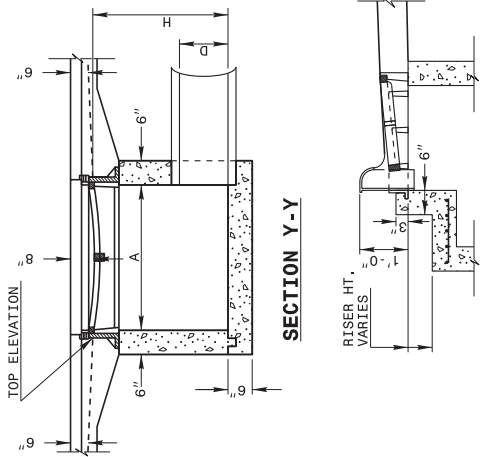
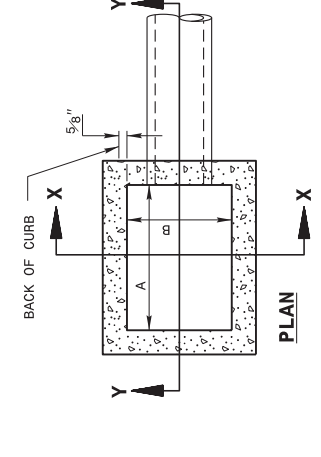
GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66, OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
CONSTRUCT WITH PIPE CROWNS MATCHING.
CHAMFER ALL EXPOSED CORNERS 1".
** FOR STRUCTURES WITH PIPE LARGER THAN 54", MAKE THE TOP SLAB 8" THICK.

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

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
CONCRETE CATCH BASIN**
12" THRU 84" PIPE

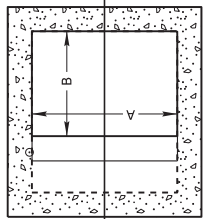
SHEET 1 OF 2

840D02

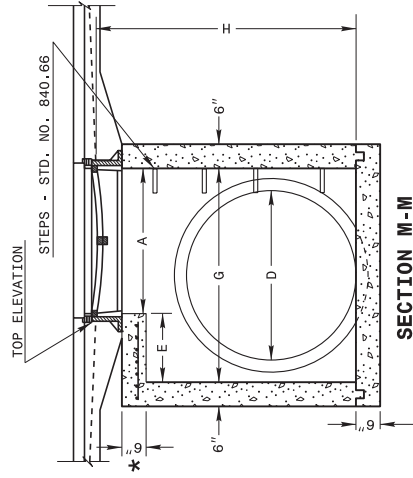


DETAIL SHOWING METHOD
OF RISER CONSTRUCTION

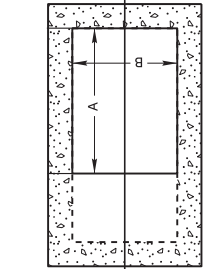
PLAN



SECTION M-M



PLAN



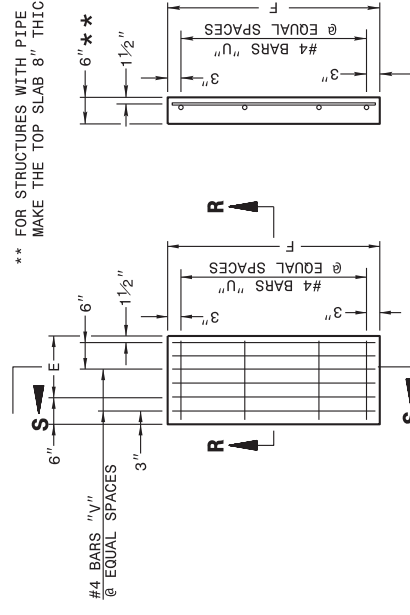
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
**MINIMUM DEPTH
CONCRETE CATCH BASIN**
12" THRU 84" PIPE

SHEET 2 OF 2

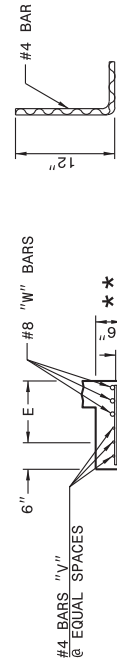
840D02

** FOR STRUCTURES WITH PIPE LARGER THAN 54",
MAKE THE TOP SLAB 8" THICK.



PLAN OF TOP SLAB

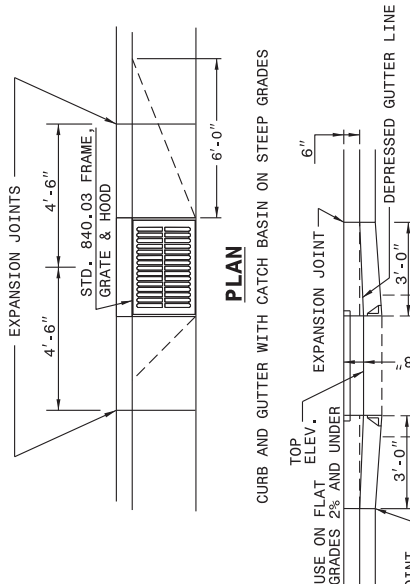
SECTION S-S



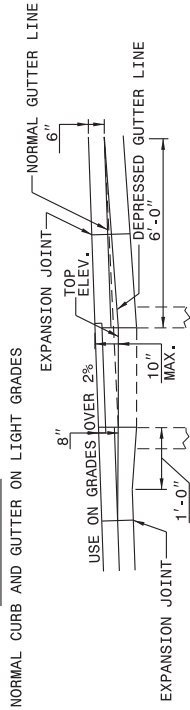
SECTION R-R

DOWEL

ELEVATION



ELEVATION



ELEVATION

NORMAL CURB AND GUTTER ON STEEP GRADES

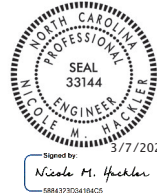
* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H, WITH NO RISER) *									
DIMENSIONS OF BOX AND PIPE					COVER				
PIPE D.	SPAN	WIDTH	DEPTH	MIN. HEIGHT	MIN. HEIGHT	MIN. HEIGHT	MIN. HEIGHT	MIN. HEIGHT	MIN. HEIGHT
12"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
15"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
18"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
24"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
30"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
36"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
42"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
48"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
54"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
60"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
66"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
72"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
78"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
84"	3'-0"	2'-2"	2'-2"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"

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

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 Std.840.01 DATE:
MODIFIED BY: E.E. WARD DATE: 3-1-02
CHECKED BY: DATE:
FILE SPEC.: s:Special_Details\jhowerton\840d02.dgn



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

12/06/07

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STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

VOLUME IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. + %	BORROW	WASTE
-Y1- 10+08.68	-Y1- 18+33.88	2,154	721		1,433
-Y2- 16+81.86	-Y2- 31+07.50	1,304	1,856	552	
SUBTOTALS:		3,458	2,577	552	1,433
TOTALS:		3,458	2,577	552	1,433
WASTE IN LIEU OF BORROW				-552	-552
PROJECT TOTALS:		3,458	2,577		881
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					
GRAND TOTALS:		3,458	2,577		881
SAY:		3,600			
EST. UNDERCUT = 200 CY EST. SELECT GRANULAR MATERIAL = 200 CY					

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

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

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD ²
-Y2-	16+81.86	17+31.44	LT	7.4
-Y2-	18+27.14	18+50.60	RT	3.8
TOTAL:				11.2
SAY:				15

[illegible]

COMPUTED BY: JK DATE: 5/12/2021
CHECKED BY: SC DATE: 5/12/2021

PROJECT NO.	SHEET NO.
HA-0001	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

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

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

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

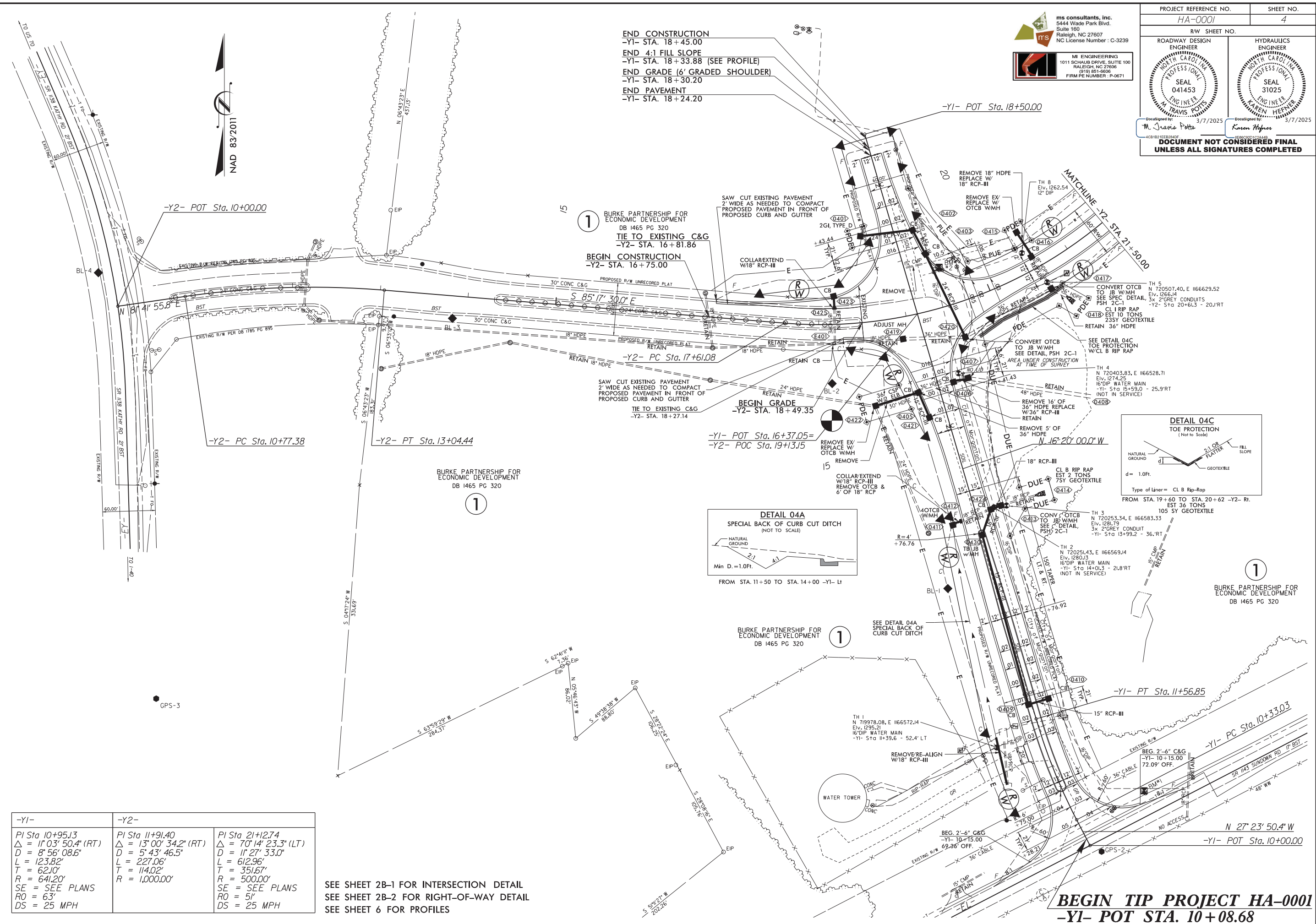
LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY				12	100	200	500		
			TOTAL CY/TONS/SY:		100	200**	500**	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 Soil 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.

8/17/99

OC-MAR-2025 16:48:00 NCDOT HA-0001 Final and Post-Design Services\PW Exported files\Roadway\Design\HA0001\rdy.pst4.dgn

REVISIONS



-Y1-	-Y2-	
PI Sta 10+95.13	PI Sta 11+91.40	PI Sta 21+127.4
Δ = 11° 03' 50.4" (RT)	Δ = 13° 00' 34.2" (RT)	Δ = 70° 14' 23.3" (LT)
D = 8° 56' 08.6"	D = 5° 43' 46.5"	D = 11° 27' 33.0"
L = 123.82'	L = 227.06'	L = 612.96'
T = 62.10'	T = 114.02'	T = 351.67'
R = 641.20'	R = 1,000.00'	R = 500.00'
SE = SEE PLANS		SE = SEE PLANS
RO = 63"		RO = 51"
DS = 25 MPH		DS = 25 MPH

SEE SHEET 2B-1 FOR INTERSECTION DETAIL
SEE SHEET 2B-2 FOR RIGHT-OF-WAY DETAIL
SEE SHEET 6 FOR PROFILES

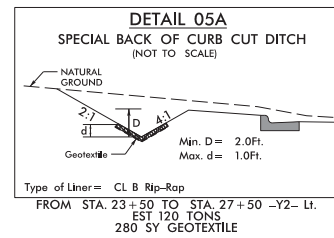
ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27608
(919) 851-6666
FIRM PE NUMBER : P-0671

PROJECT REFERENCE NO. HA-0001		SHEET NO. 4	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		NORTH CAROLINA PROFESSIONAL SEAL 31025 KAREN HEFFNER	
NORTH CAROLINA PROFESSIONAL SEAL 041453 M. J. TRAVIS, P.E.		NORTH CAROLINA PROFESSIONAL SEAL 31025 KAREN HEFFNER	
M. Travis Potts 3/7/2025		Karen Heffner 3/7/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

BEGIN TIP PROJECT HA-0001
-Y1- POT STA. 10+08.68

06-MAR-2025 16:49
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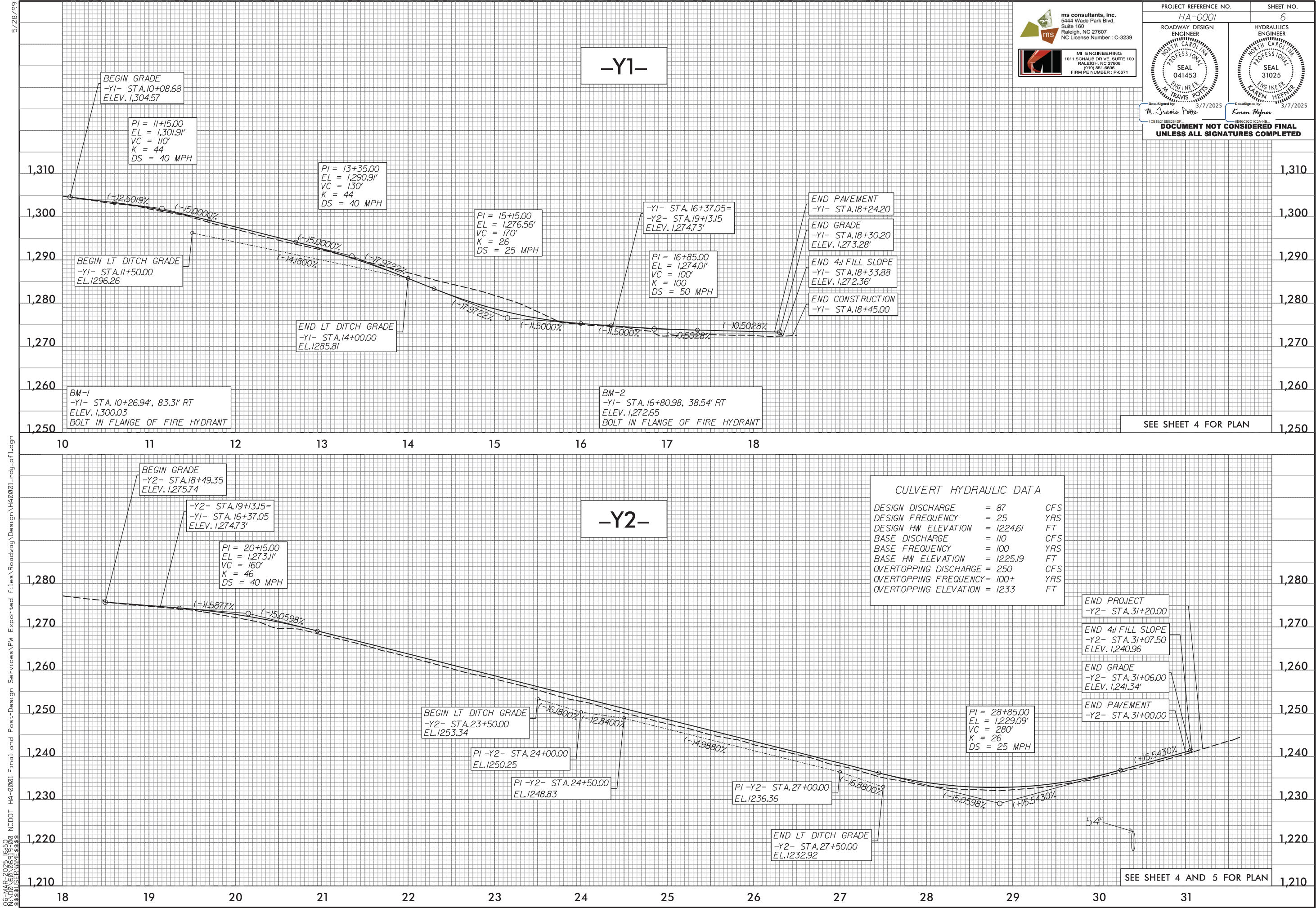


1
BURKE PARTNERSHIP FOR
ECONOMIC DEVELOPMENT
DB 1465 PG 320

-Y2-	
<i>PI Sta 21+12.74</i> $\Delta = 70^{\circ}14'23.3''$ (LT) <i>D = 17'27"33.0"</i> <i>L = 612.96'</i> <i>T = 351.67'</i> <i>R = 500.00'</i> <i>SE = SEE PLANS</i> <i>RO = 51'</i> <i>DS = 25 MPH</i>	<i>PI Sta 28+96.88</i> $\Delta = 17^{\circ}24'55.1''$ (LT) <i>D = 4'05"33.2"</i> <i>L = 425.54'</i> <i>T = 214.42'</i> <i>R = 1,400.00'</i> <i>SE = 0.02</i> <i>RO = 34'</i> <i>DS = 25 MPH</i>

SEE SHEET 6 FOR PROFILES

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
Drawn by: <u>M. Jarvie Potts</u> 3/7/2025 4CB18D17EEB204DF	Drawn by: <u>Karen Heener</u> 3/7/2025 4CB600D1C44148
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



PROJECT REFERENCE NO. <i>HA-0001</i>		SHEET NO. <i>6</i>
ROADWAY DESIGN ENGINEER <i>M. Travis Potts</i> SEAL 041453 NORTH CAROLINA PROFESSIONAL ENGINEER	HYDRAULICS ENGINEER <i>Karen Heffner</i> SEAL 31025 NORTH CAROLINA PROFESSIONAL ENGINEER	
Designed by <i>M. Travis Potts</i> 3/7/2025		Designed by <i>Karen Heffner</i> 3/7/2025
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

QC-MAR-2025 16:50
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NCDOT HA-0001 Final and Post-Design Services\PW Exported files\Roadway\Design\HA0001_rdy.plt.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

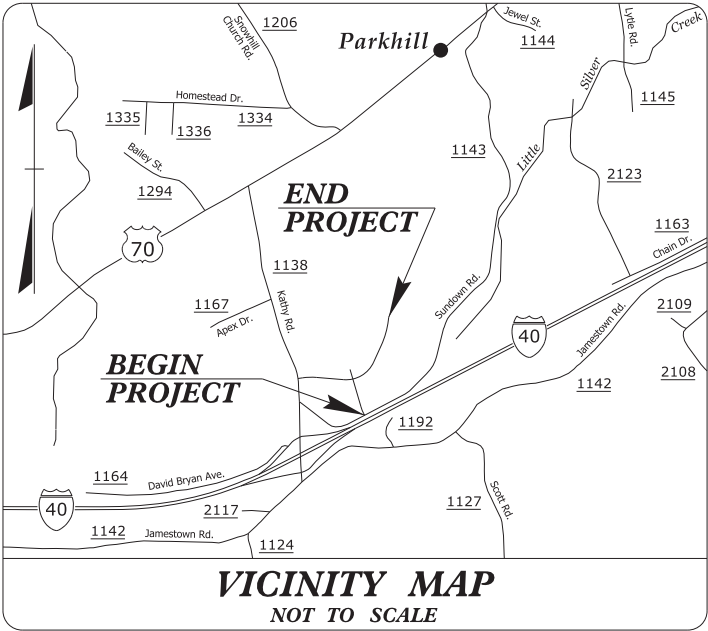
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0001	RW01	08

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

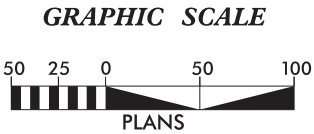
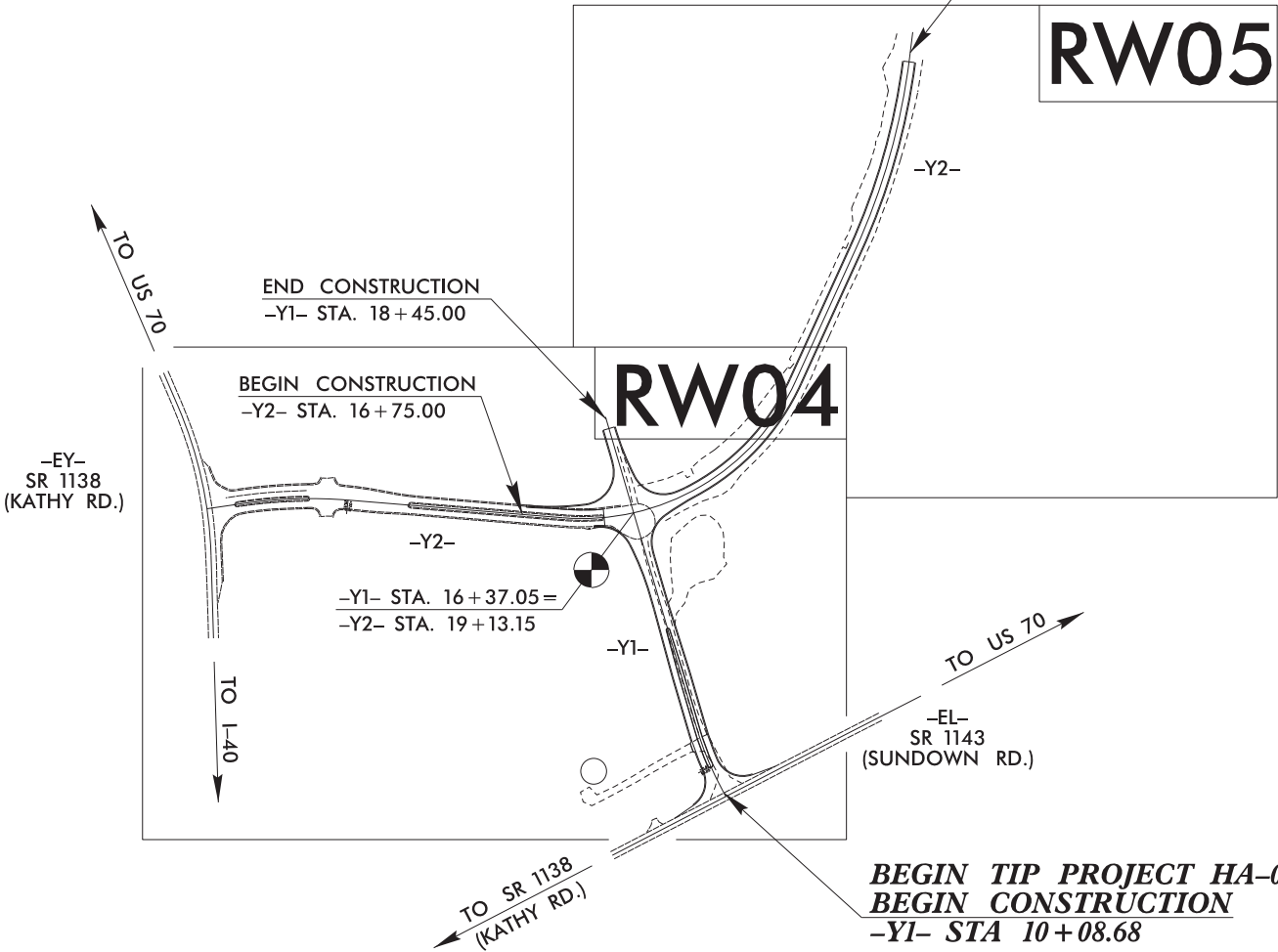
SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

BURKE COUNTY

LOCATION: BURKE INDUSTRIAL PARK ACCESS ROAD



END TIP PROJECT HA-0001
END CONSTRUCTION
-Y2- STA 31+20.00



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "HA-0001-2" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 719859.710(ft) EASTING: 1166691.437(ft) ELEVATION: 1303.69(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999845187 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HA-0001-2" TO -Y1- STATION 10+08.68 IS N 49°42'13.05" W 22.58(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared In the Office of:

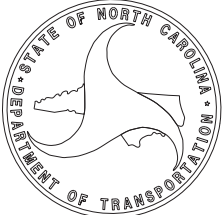
LOCATION & SURVEYS
ASHEVILLE
786 DOGWOOD ROAD
ASHEVILLE, NC 28806

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
08/31/2022

LETTING DATE:
05/28/2025

PROFESSIONAL LAND
SURVEYOR



DocuSigned by:
Brian Barrott
SIGNATURE:

Date:
04/07/2025

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



I, Brian Barwatt, PLS, certify that the Project Control was (performed/verified) under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: AA
Type of GPS field procedure: VRS
Dates of survey: 3/03/2021 - 3/05/2021
Datum/Epoch: NAD83/NA 2011
Published/Fixed-control used: N/A
Localized around: GPS2 (HA-0001-2)
Northing: 719859.710 ft
Easting: 1166691.437 ft
Combined grid factor: 0.999845187
Geoid model: 12BNC
Units: English

"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 from March 2021 to April 2021, and all coordinates are based on NAD 83 /2011 and all elevations are based on NAVD 88; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 3rd day of May, 2020.

DocSigned by:
Brian Barwatt
Professional Land Surveyor L-4727

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.

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.
HA-0001

SHEET NO.
RW02C-2

Location and Surveys

LOCATION & SURVEYS ASHEVILLE

PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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Type of GPS field procedure: VRS
Dates of survey: 3/03/2021 - 3/05/2021
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This 3rd day of May, 2020.

DocSigned by:

Brian Barwatt
Professional Land Surveyor L-4727

BASELINE

BL	POINT	DESC.	NORTH	EAST	ELEVATION
GPS1		HA0001 - 1	720105.8130	1167175.6020	1286.73
GPS2		HA0001 - 2	719859.7100	1166691.4370	1303.69
1		BL - 1	720159.0000	1166516.5080	1297.71
2		BL - 2	720392.1350	1166384.9550	1294.75
3		BL - 3	720466.3670	1165953.1120	1293.86
4		BL - 4	720518.2300	1165550.4540	1306.63

BY	POINT	DESC.	NORTH	EAST	ELEVATION
BY4		BY - 4	720518.2300	1165550.4540	1306.63
GPS3		HA0001 - 3	720033.7020	1165616.2690	1310.99
GPS4		HA0001 - 4	719483.2490	1165627.5800	1327.28

BENCHMARKS

BM1 ELEVATION = 1300.03
N 719929 E 1166740
BOLT IN FLANGE OF FIRE HYDRANT

BM2 ELEVATION = 1272.65
N 720524 E 1166507
BOLT IN FLANGE OF FIRE HYDRANT

NOTES:

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6/2/99

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REVISIONS

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	RW02C-3
Location and Surveys	
LOCATION & SURVEYS ASHEVILLE	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

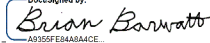
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Published/Fixed-control used: N/A
Localized around: GPS2 (HA-0001-2)
Northing: 719859.710 ft
Easting: 1166691.437 ft
Combined grid factor: 0.999845187
Geoid model: 12BNC
Units: English

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This 14th day of November, 2022.

DocuSigned by:



Professional Land Surveyor L-4727

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	719741.329	1166436.494							
LINE			N 62°36'09.6° E	518.63					
PC	719979.983	1166896.956							
CURVE			N 62°45'38.1° E	63.17	00°18'57.0°(RT)	00°30'00.0°	63.17	31.58	11459.16
PT	720008.895	1166953.119							
LINE			N 62°55'06.6° E	158.43					
POT	720081.022	1167094.180							

EY POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	720204.034	1165586.608							
LINE			N 01°41'22.2° W	176.17					
PC	720380.125	1165581.414							
CURVE			N 12°28'59.4° W	325.97	21°35'14.6°(LT)	06°35'00.0°	327.91	165.92	870.32
PT	720698.392	1165510.954							
LINE			N 23°16'36.7° W	77.81					
POT	720769.867	1165480.207							

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.

REVISIONS

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bobar-watt AT LS-330173L

SURVEY CONTROL SHEET
W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.
HA-0001

SHEET NO.
RW02C-3

Location and Surveys

LOCATION & SURVEYS ASHEVILLE

PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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Type of GPS field procedure: VRS
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Datum/Epoch: NAD83/NA 2011
Published/Fixed-control used: N/A
Localized around: GPS2 (HA-0001-2)
Northing: 719859.710 ft
Easting: 1166691.437 ft
Combined grid factor: 0.999845187
Geoid model: 12BNC
Units: English

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This 14th day of November, 2022.

DocSigned by:

BRIAN A. BARWATT
Professional Land Surveyor L-4727

EXISTING ALIGNMENTS

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	719741.329	1166436.494							
LINE			N 62°36'09.6° E	518.63					
PC	719979.983	1166896.956							
CURVE			N 62°45'38.1° E	63.17	00°18'57.0°(RT)	00°30'00.0°	63.17	31.58	11459.16
PT	720008.895	1166953.119							
LINE			N 62°55'06.6° E	158.43					
POT	720081.022	1167094.180							

EY POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	720204.034	1165586.608							
LINE			N 01°41'22.2° W	176.17					
PC	720380.125	1165581.414							
CURVE			N 12°28'59.4° W	325.97	21°35'14.6°(LT)	06°35'00.0°	327.91	165.92	870.32
PT	720698.392	1165510.954							
LINE			N 23°16'36.7° W	77.81					
POT	720769.867	1165480.207							

NOTES:

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6/2/99

REVISIONS

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bbarwatt AL LS-3301731

PROPOSED ALIGNMENT CONTROL SHEET

PROPOSED ALIGNMENTS

Y1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	719866.6076	1166678.2084
PC	10+33.03	719895.9344	1166663.0086
PT	11+56.85	720010.6666	1166616.9672
POT	18+50.00	720675.8427	1166422.0359

Y2			
TYPE	STATION	NORTH	EAST
POT	10+00.00	720480.1188	1165572.6739
PC	10+77.38	720491.2905	1165649.2423
PT	13+04.44	720498.3932	1165875.7023
PC	17+61.08	720460.9106	1166330.8009
PT	23+74.04	720752.1266	1166826.9371
PC	26+82.46	721032.8502	1166954.6840
PT	31+08.00	721440.8133	1167069.8251
POT	31+63.79	721496.1896	1167076.6767

NOTES:

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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.

PROJECT REFERENCE NO.
HA-0001

SHEET NO.
RW02D-1

Location and Surveys

LOCATION & SURVEYS

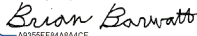
PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

This 14th day of November, 2022.

DocuSigned by:

ASSURESIGNATURE

Professional Land Surveyor L-4727

REVISIONS

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bbarwatt

HA0001.LS.rw03e-1.dgn L&S revised\ha0001\ls.control_sheets_2\HA0001

RIGHT OF WAY CONTROL SHEET

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y1	10+68.30	-60.00	719903.0371	1166592.9417
Y1	11+56.85	-60.00	719993.7931	1166559.3886
Y1	14+05.00	-30.00	720240.3654	1166518.3918
Y1	14+05.00	-40.00	720237.5531	1166508.7954
Y1	15+00.00	-30.00	720331.5313	1166491.6754
Y1	15+85.00	38.69	720432.4182	1166533.6889
Y1	16+00.00	-50.00	720421.8710	1166444.3601
Y1	17+30.00	-30.12	720552.2160	1166426.8812
Y1	17+45.00	29.99	720583.5156	1166480.3488
Y1	18+02.54	-30.12	720621.8320	1166406.4800
Y1	18+02.59	29.99	720638.7819	1166464.1530
Y1	18+45.00	-30.00	720662.6078	1166394.6528
Y1	18+45.00	30.00	720679.4813	1166452.2313

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y2	17+30.00	-30.00	720493.3603	1166302.2909
Y2	18+25.00	-45.00	720504.6977	1166392.6149
Y2	18+35.00	29.99	720430.3745	1166406.6217
Y2	19+85.00	-30.00	720520.2975	1166539.9026
Y2	19+90.00	30.00	720466.1843	1166566.2971
Y2	23+00.00	-30.00	720703.5709	1166766.2305
Y2	23+74.04	30.00	720739.7008	1166854.2427
Y2	24+00.00	-45.00	720794.3981	1166796.7330
Y2	24+50.00	-40.00	720837.8366	1166821.9936
Y2	26+82.46	-40.00	721049.4179	1166918.2765
Y2	26+82.46	30.00	721020.4243	1166981.9897
Y2	27+75.00	-40.00	721132.4120	1166952.7809
Y2	27+75.00	-30.00	721128.8803	1166962.1365
Y2	31+07.99	-30.00	721444.4967	1167040.0521
Y2	31+08.00	30.00	721437.1295	1167099.5981
Y2	31+20.00	30.00	721449.0436	1167101.0722
Y2	31+20.00	-30.00	721456.4111	1167041.5262

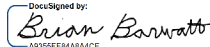
ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y1	13+65.00	30.00	720218.8524	1166587.2166
Y1	13+90.00	90.00	720259.7177	1166637.7672
Y1	13+90.00	55.00	720249.8749	1166604.1797
Y1	14+15.00	55.50	720274.0065	1166597.6289
Y1	14+15.00	90.00	720283.7088	1166630.7366
Y1	15+35.00	-90.00	720348.2453	1166424.2540
Y1	15+35.00	-37.00	720363.1502	1166475.1151
Y1	15+65.00	-43.00	720390.2521	1166460.9204
Y1	15+65.00	-90.00	720377.0346	1166415.8173
Y1	17+30.00	-50.00	720546.6245	1166407.8008
Y1	17+50.00	-50.00	720565.8173	1166402.1763
Y1	17+50.00	-30.12	720571.4088	1166421.2566
Y1	17+77.00	29.99	720614.2242	1166471.3496

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y2	19+74.14	55.00	720436.7296	1166558.9932
Y2	19+88.50	-40.50	720531.2640	1166539.1478
Y2	20+47.00	-32.00	720546.2187	1166591.9590
Y2	20+47.00	-30.00	720544.4538	1166592.8996
Y2	20+47.00	-55.00	720566.5160	1166581.1413
Y2	20+60.00	50.00	720480.7437	1166643.0571
Y2	20+70.00	70.00	720469.0648	1166662.7801
Y2	20+70.00	-30.00	720555.0575	1166611.7385
Y2	20+70.00	-55.00	720576.5557	1166598.9780
Y2	20+75.00	30.00	720506.1899	1166646.9075
Y2	20+90.00	60.00	720489.4796	1166676.7046
Y2	26+25.00	70.00	720951.5584	1166994.5982
Y2	26+25.00	30.00	720968.1261	1166958.1907
Y2	26+55.00	70.00	720978.8640	1167007.0240
Y2	26+55.00	30.00	720995.4318	1166970.6165
Y2	27+20.00	30.00	721055.5350	1166997.4024
Y2	27+25.00	65.00	721046.7198	1167031.6663
Y2	27+55.00	30.00	721088.6303	1167010.9191
Y2	27+60.00	65.00	721080.6744	1167045.3926
Y2	28+70.00	-55.00	721224.1238	1166968.0598
Y2	28+70.00	-30.00	721216.9008	1166991.9936
Y2	28+90.00	-30.00	721235.6773	1166997.5141
Y2	28+90.00	-55.00	721242.5576	1166973.4796
Y2	30+10.00	-70.00	721357.4931	1166985.7007
Y2	30+20.00	-30.00	721359.4276	1167026.8008
Y2	30+30.00	30.00	721358.3793	1167087.6190
Y2	30+35.00	-75.00	721381.7129	1166985.1266
Y2	30+40.00	90.00	721358.1874	1167148.5179
Y2	30+45.00	-30.00	721383.5092	1167031.1090
Y2	30+65.00	30.00	721393.6351	1167093.5372
Y2	30+75.00	85.00	721395.6963	1167149.4755

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	RW03E-1
Location and Surveys	
LOCATION & SURVEYS	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Brian Barwatt, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 10/25/2022 to 11/8/2022 and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 14th day of November, 2022.

DocuSigned by:

Brian Barwatt
Professional Land Surveyor L-4727

NOTES:

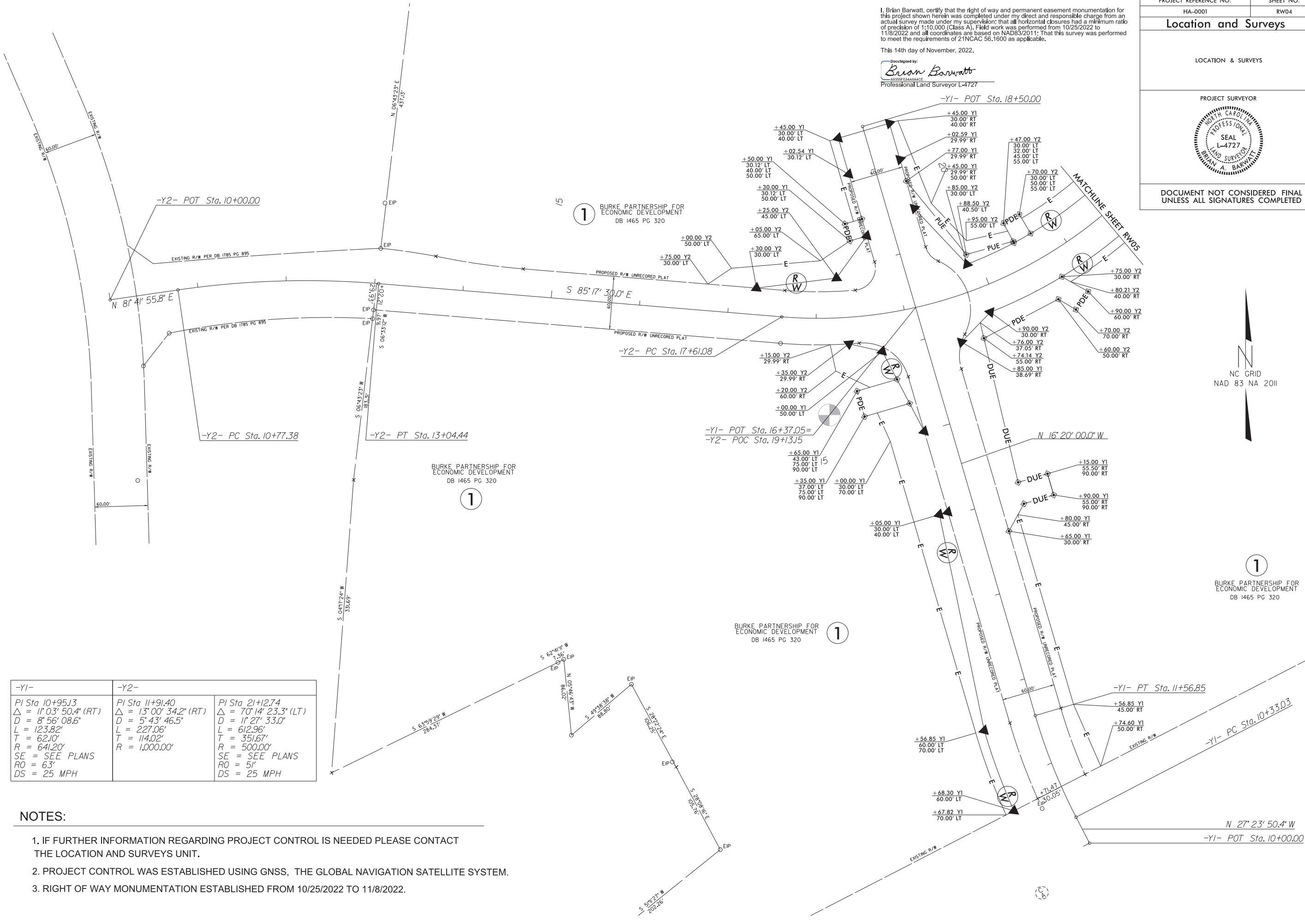
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED FROM 10/25/2022 TO 11/8/2022.

REVISIONS

-Y1-	-Y2-	
PI Sta 10+95.13	PI Sta 11+91.40	PI Sta 21+12.74
$\Delta = 11^{\circ}03'50.4"$ (RT)	$\Delta = 13^{\circ}00'34.2"$ (RT)	$\Delta = 70^{\circ}14'23.3"$ (LT)
D = 8'56'08.6"	D = 5'43'46.5"	D = 11'27'33.0"
L = 123.82'	L = 227.06'	L = 612.96'
T = 62.10'	T = 114.02'	T = 351.67'
R = 641.20'	R = 1,000.00'	R = 500.00'
SE = SEE PLANS		SE = SEE PLANS
RO = 63'		RO = 51'
DS = 25 MPH		DS = 25 MPH

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED FROM 10/25/2022 TO 11/8/2022.



I, Brian Barwatt, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 10/25/2022 to 11/8/2022 and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 14th day of November, 2022.

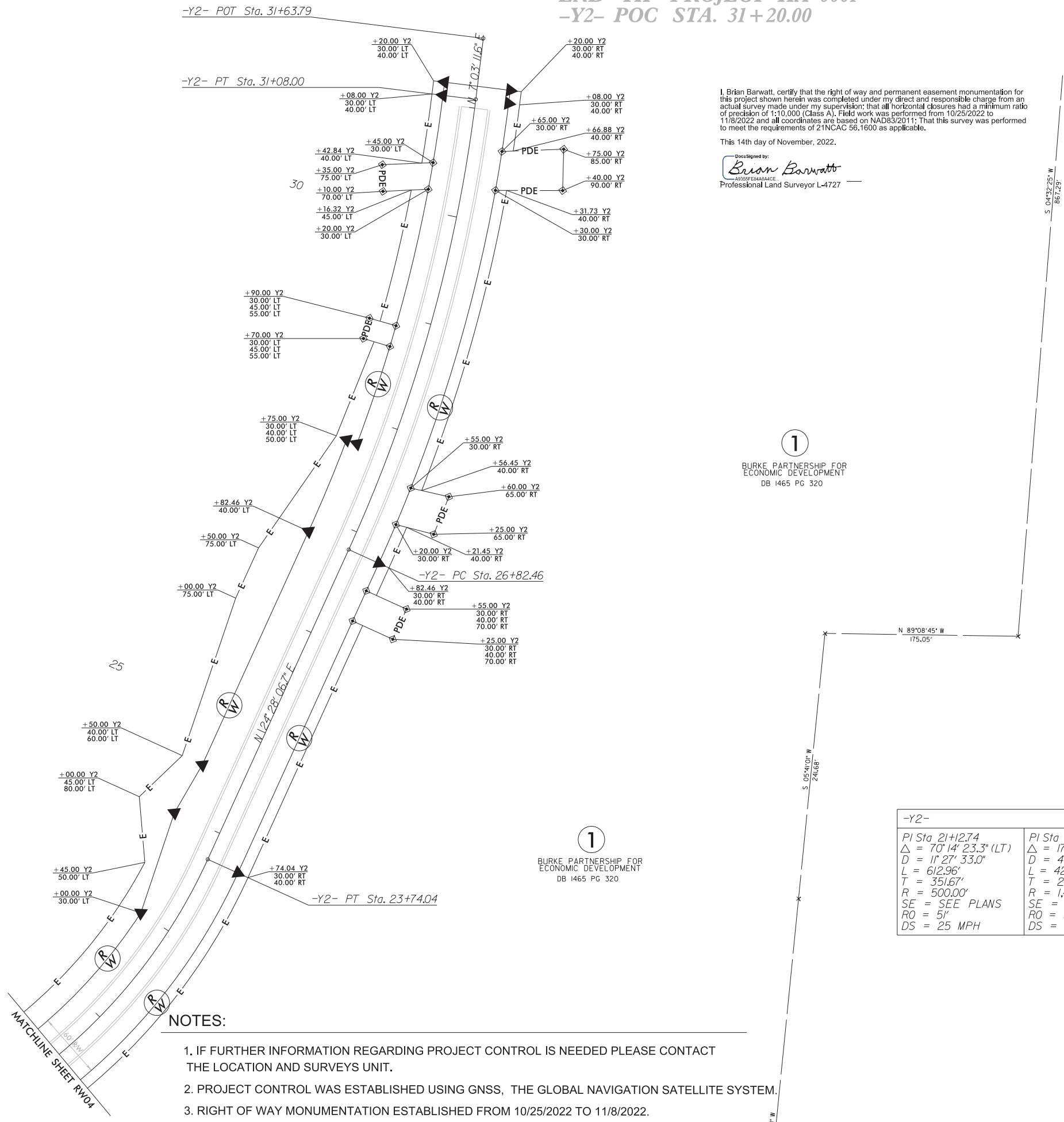
DocuSigned by:
Brian Barwatt
APPROFESSE
Professional Land Surveyor L-4727

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	RW04
Location and Surveys	
LOCATION & SURVEYS	
PROJECT SURVEYOR	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



1
BURKE PARTNERSHIP FOR
ECONOMIC DEVELOPMENT
DB 1465 PG 320

REVISIONS



I, Brian Barwatt, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 10/25/2022 to 11/8/2022 and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 14th day of November, 2022.

DocuSigned by:
Brian Barwatt
Professional Land Surveyor L-4727

1
BURKE PARTNERSHIP FOR
ECONOMIC DEVELOPMENT
DB 1465 PG 320

-Y2-	
PI Sta 21+12.74 Δ = 70° 14' 23.3" (LT) D = 11' 27' 33.0" L = 612.96' T = 351.67' R = 500.00' SE = SEE PLANS RO = 51' DS = 25 MPH	PI Sta 28+96.88 Δ = 17° 24' 55.1" (LT) D = 4' 05' 33.2" L = 425.54' T = 214.42' R = 1,400.00' SE = 0.02 RO = 34' DS = 25 MPH

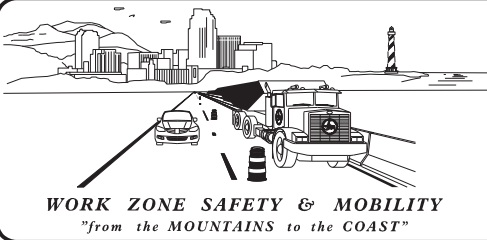
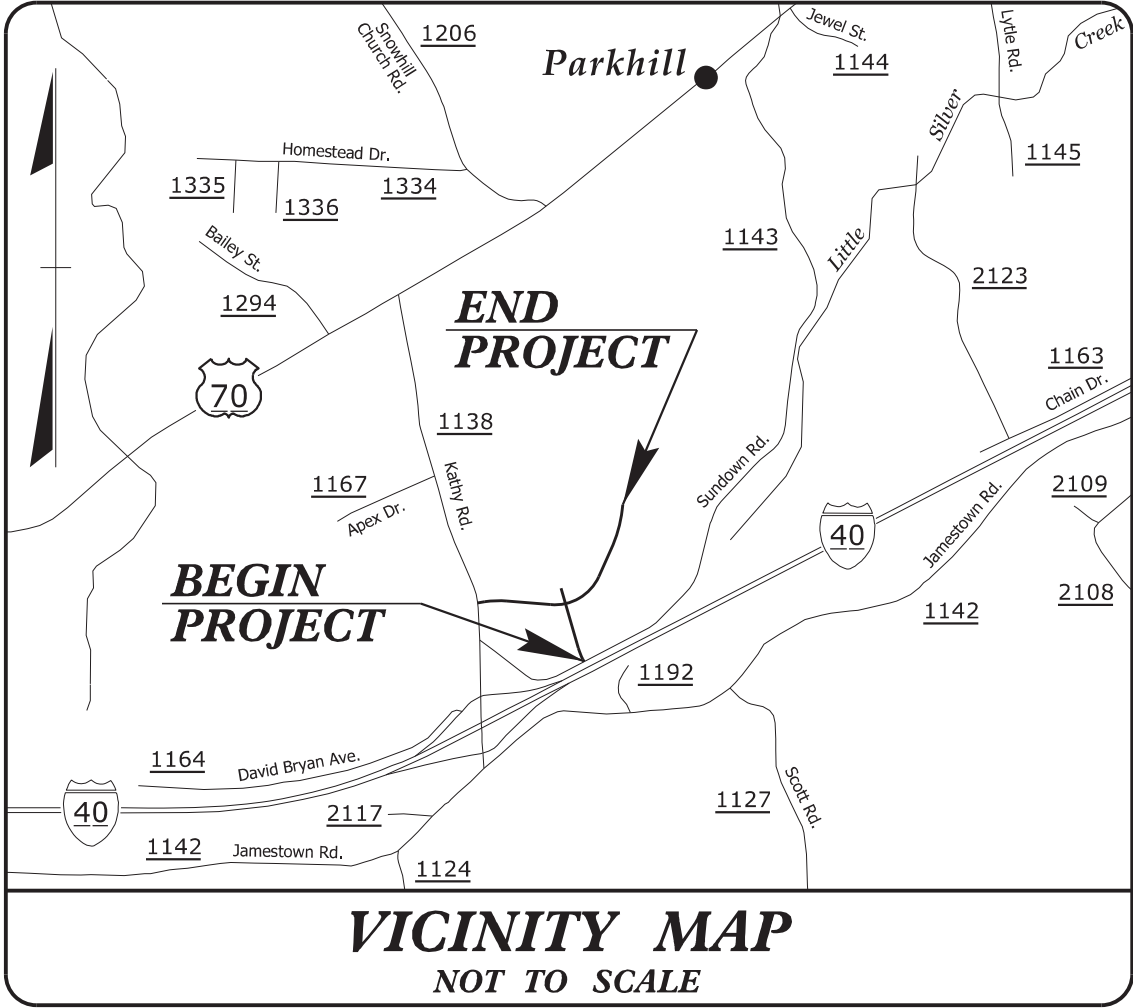
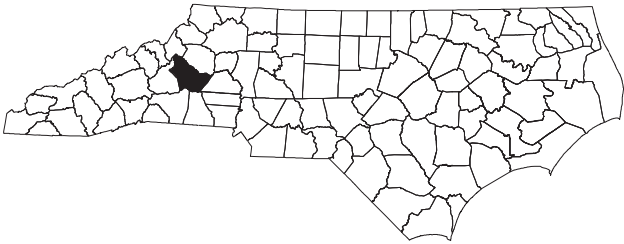
PROJECT REFERENCE NO.	SHEET NO.
HA-0001	RW05
Location and Surveys	
LOCATION & SURVEYS	
PROJECT SURVEYOR	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BURKE COUNTY



PLANS PREPARED BY:

TYSON GRAVES, PE

NCDOT CONTACTS:

ZACHARY CLARK, PE
PROJECT ENGINEER

SHEENA N. GREEN
PROJECT DESIGN ENGINEER

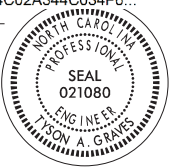


ms consultants, inc.
5444 Wake Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

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UNLESS ALL SIGNATURES COMPLETED
DocuSigned by:

APPROVED: *Tyson Graves*
DATE: 9-23-24

SEAL



SHEET NO.
TMP-1

HA-0001

TIP PROJECT:

<u>SHEET NO.</u>	<u>TITLE</u>
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-2	GENERAL NOTES AND PHASING
TMP-3	TEMPORARY TRAFFIC CONTROL PHASE I

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES

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

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

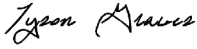
PAVEMENT MARKING SYMBOLS



9/23/2024
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User: tgraves



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Suite 160
Raleigh, NC 27607
NC License Number : C-3239

APPROVED: 

DATE: 9-23-24

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UNLESS ALL SIGNATURES COMPLETED



ROADWAY STANDARD
DRAWINGS & LEGEND

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 UNDESIRE

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.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) 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.
- B) 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.
- C) 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- D) 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- F) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 10 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- G) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- J) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- L) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
- M) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

PHASING

PHASE I

- STEP 1 - INSTALL ADVANCE WARNING SIGNS ACCORDING TO ROADWAY STANDARD DRAWING 1101.01 (SHEET 3 OF 3), AND ROADWAY STANDARD DRAWING 1101.05 (SHEET 1 OF 2).
- STEP 2 - USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 1 OF 19) AS NECESSARY, CONSTRUCT -Y1- FROM -Y1- STA. 10+08+/- TO -Y1- STA. 18+24+/-, AND -Y2- FROM -Y2- STA. 16+82+/- TO -Y2- STA. 32+00+/- UP THRU THE FINAL LAYER OF SURFACE COURSE. SEE SHEET TMP-3.
- STEP 3 - REMOVE TEMPORARY TRAFFIC CONTROL DEVICES.

9/23/2024
N:\D0160\0699-00 NCDOT HA-0001\Final and Post-Design Services\FW Exported files\Work Zone Traffic Control\HA-0001_TMP_notes_PSH_2.dgn
User: tgraves



ms consultants, inc.
5444 Wake Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

APPROVED: _____

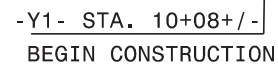
DATE: 9-23-24

SEAL

DocuSigned by:
Tyson A. Graves
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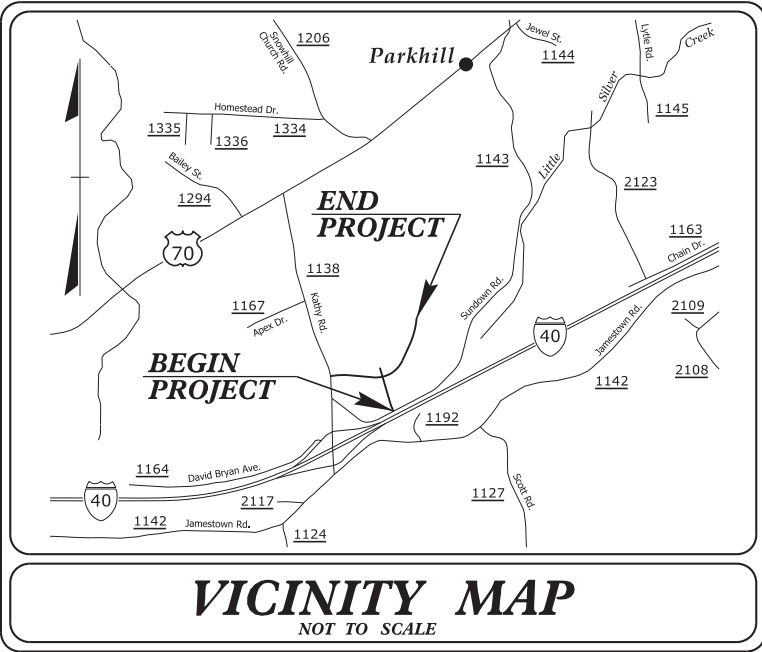
GENERAL NOTES
PHASING

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



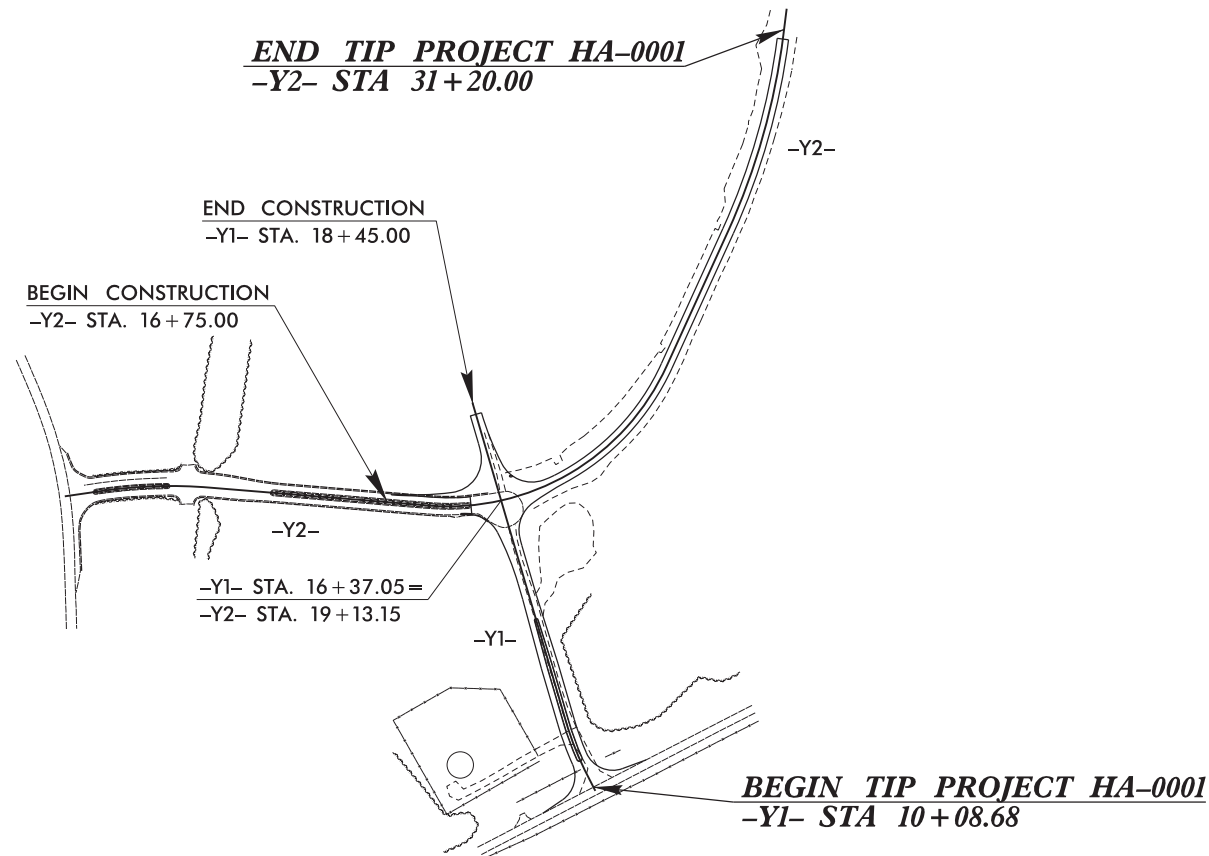
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TIP PROJECT: HA-0001



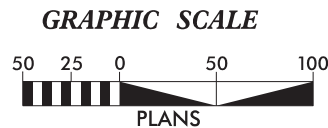
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
BURKE COUNTY

LOCATION: BURKE INDUSTRIAL PARK ACCESS ROAD
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	HA-0001	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

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



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



Prepared in the Office of:
ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607

Designed by:
Andrew Hollen **3490**
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.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.		SHEET NO.	
HA-0001		EC-02	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

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	
1630.04	Stilling Basin	
1630.05	Temporary Diversion	
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	
1632.02	Type B	
1632.03	Type 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	
1635.02	Rock Pipe Inlet Sediment Trap Type 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	
	Silt Fence Coir Fiber Wattle Break	
1636.03	Excelsior Wattle Barrier	
1636.03	Coir Fiber Wattle Barrier	

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>HAAA-0001</i>	<i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

[illegible]

MATTING FOR EROSION CONTROL

[illegible]

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
HA-0001	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

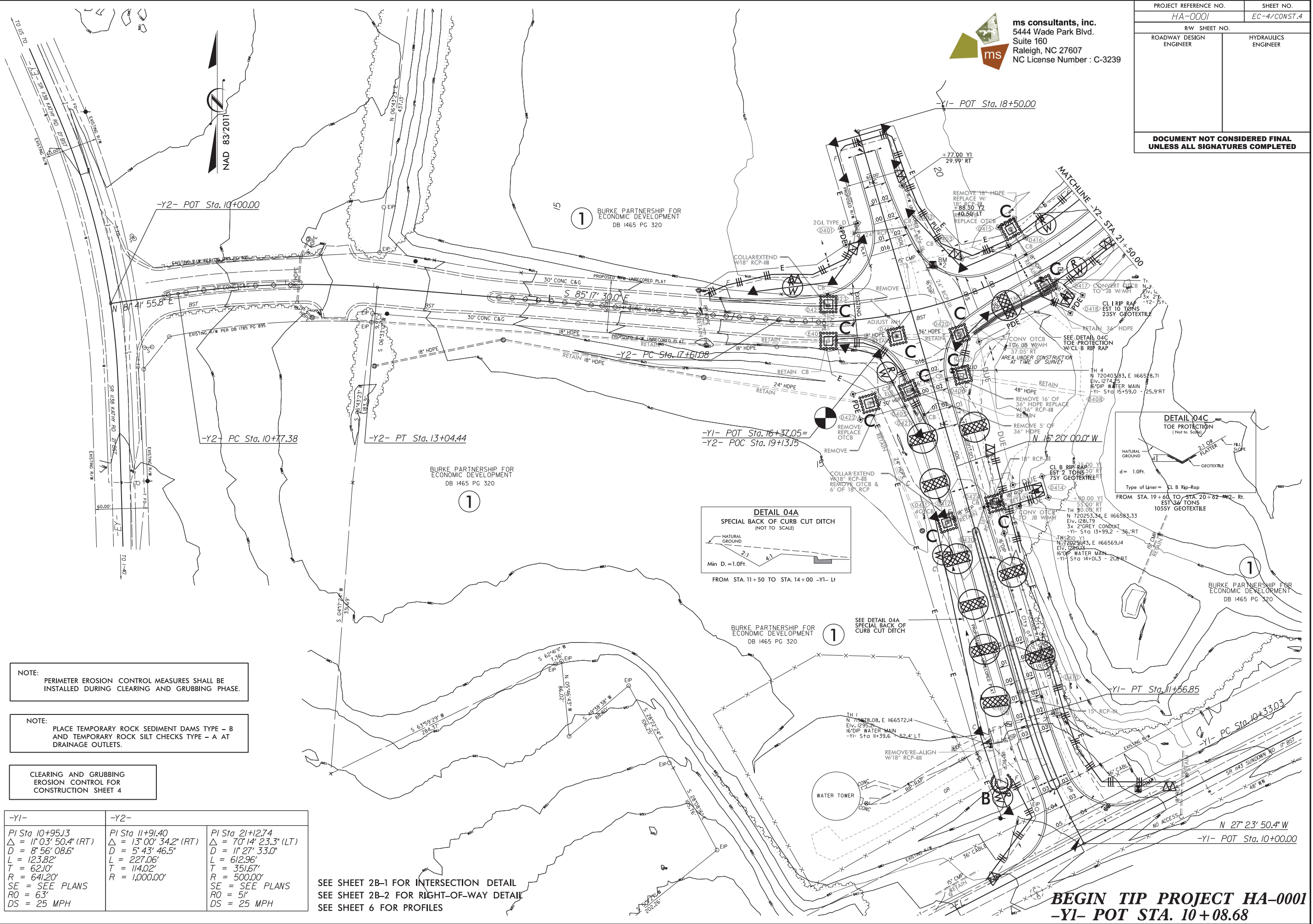
SOIL STABILIZATION TIMEFRAMES

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

8/17/99

31-AUG-2022 15:30
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shollen

REVISIONS



ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

PROJECT REFERENCE NO.		SHEET NO.	
HA-0001		EC-4/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE
INSTALLED DURING CLEARING AND GRUBBING PHASE.

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 4

-Y1-	-Y2-	
PI Sta 10+95.13 Δ = 11°03' 50.4" (RT) D = 8' 56' 08.6" L = 123.82' T = 62.10' R = 641.20' SE = SEE PLANS RO = 63' DS = 25 MPH	PI Sta 11+91.40 Δ = 13°00' 34.2" (RT) D = 5' 43' 46.5" L = 227.06' T = 114.02' R = 1,000.00'	PI Sta 21+127.4 Δ = 70°14' 23.3" (LT) D = 11°27' 33.0" L = 612.96' T = 351.67' R = 500.00' SE = SEE PLANS RO = 51' DS = 25 MPH

SEE SHEET 2B-1 FOR INTERSECTION DETAIL
SEE SHEET 2B-2 FOR RIGHT-OF-WAY DETAIL
SEE SHEET 6 FOR PROFILES

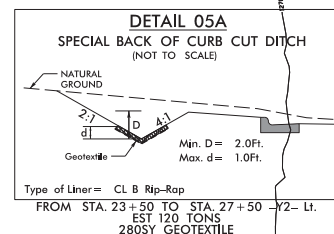
BEGIN TIP PROJECT HA-0001
-Y1- POT STA. 10+08.68



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

NOTE: PERIMETER EROSION CONTROL MEASURES SHALL BE
INSTALLED DURING CLEARING AND GRUBBING PHASE.

SEE SHEET 6 FOR PROFILES



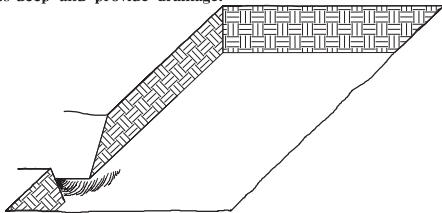
REVISIONS

25-AUG-2022 17:01
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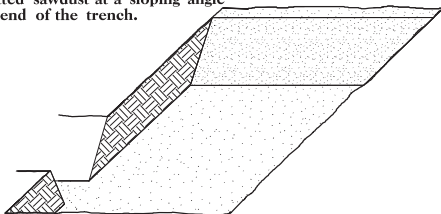
PLANTING DETAILS
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

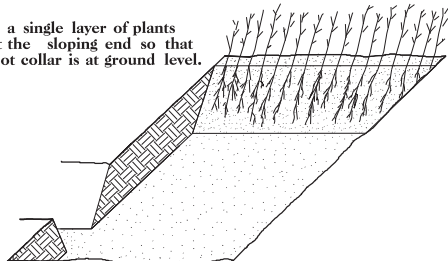
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



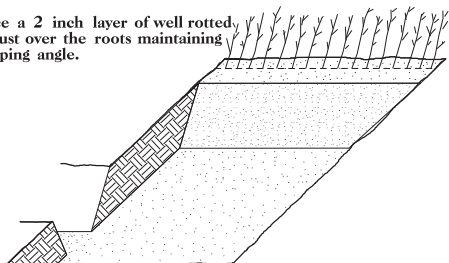
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

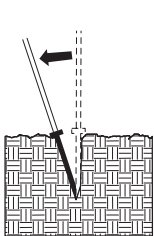


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

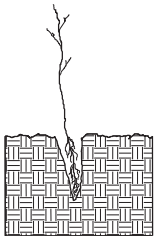


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

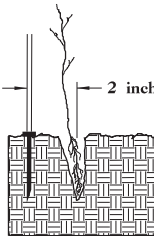
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



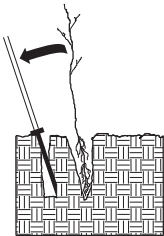
1. Insert planting bar as shown and pull handle toward planter.



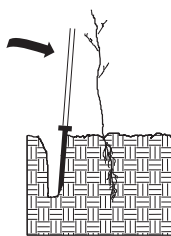
2. Remove planting bar and place seedling at correct depth.



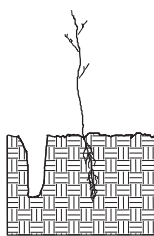
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- ☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

33%	LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in - 18 in BR
33%	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR
34%	BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR

REFORESTATION DETAIL SHEET

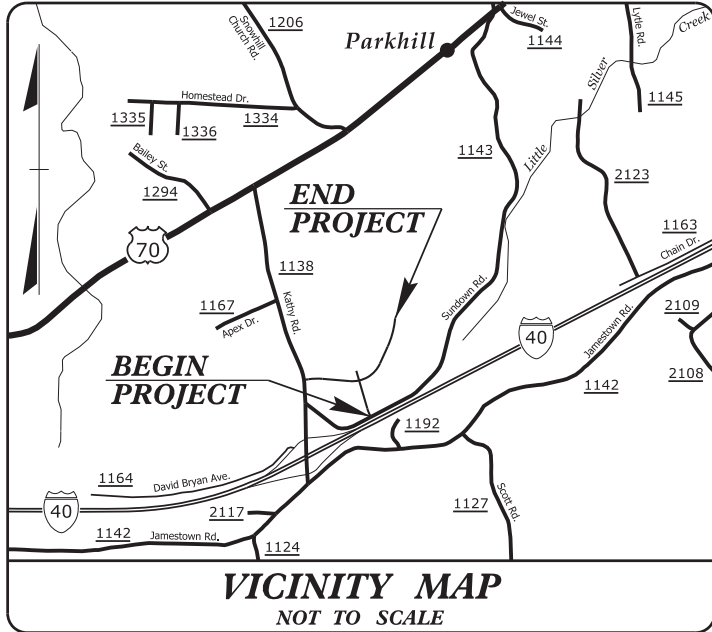
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

09/08/99

2/27/2025
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USERNAME--

TIP PROJECT: HA-0001

CONTRACT:

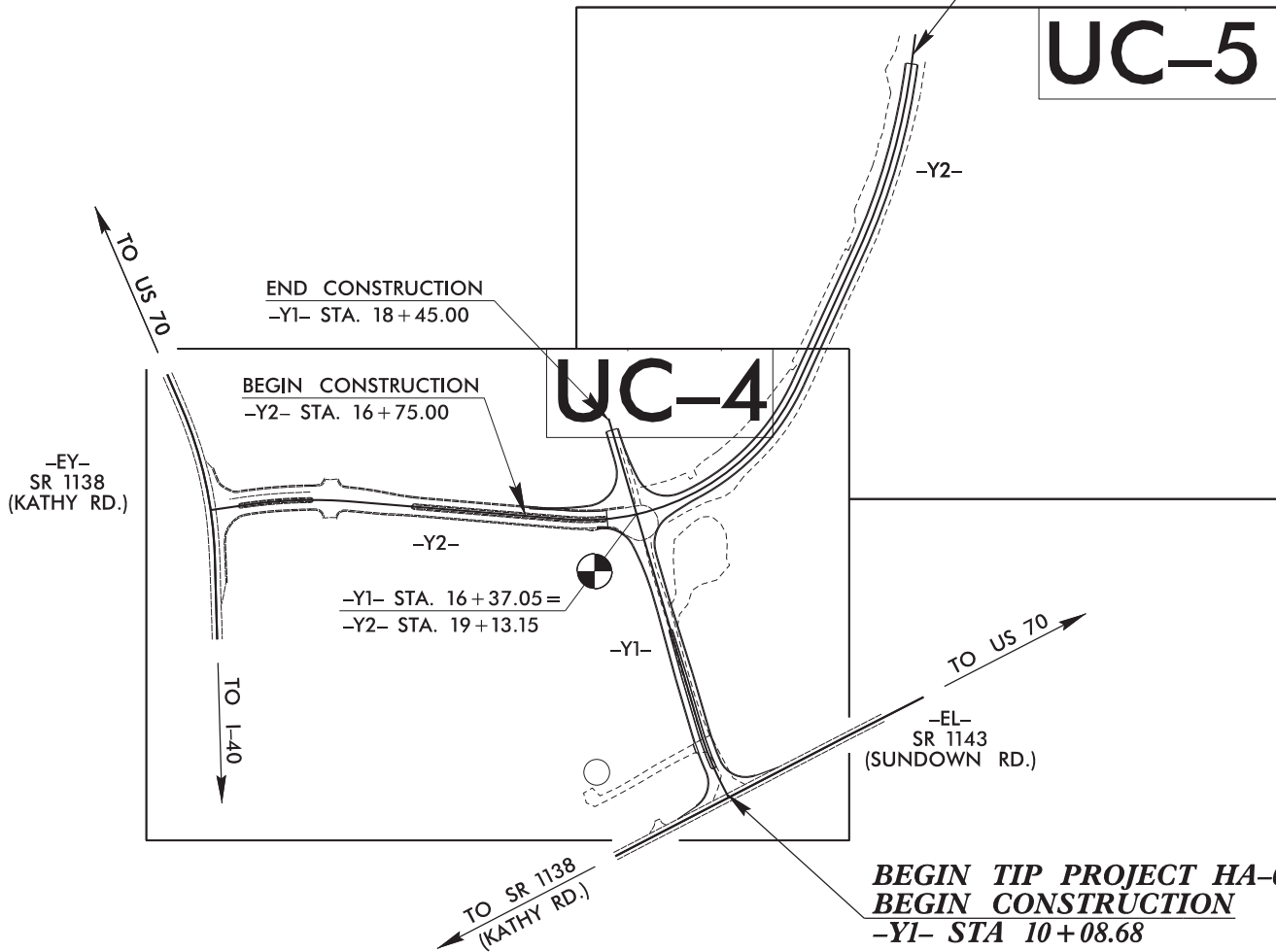


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
BURKE COUNTY

LOCATION: BURKE INDUSTRIAL PARK ACCESS ROAD

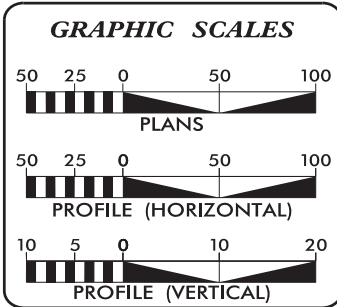
TYPE OF WORK: WATER LINE ABANDONMENT & VALVE BOX INSTALLATION
END TIP PROJECT HA-0001
END CONSTRUCTION
-Y2- STA 31+20.00



THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

NAD 83/2011

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS	
SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES & DETAILS
UC-4	UTILITY CONSTRUCTION SHEET
UC-5	UTILITY CONSTRUCTION SHEET

WATER AND SEWER OWNERS ON PROJECT	
(A) WATER: CITY OF MORGANTON	

PREPARED IN THE OFFICE OF	
PENNONI ASSOCIATES INC. 5430 WADE PARK BLVD., SUITE 106, RALEIGH, NC 27607 PHONE: 919.929.1173 FAX: 919.493.6548 NC LICENSE #F-1267	
ERIC TWEED, PE	UTILITY ENGINEER
BRIAN WILES, PE	PROJECT MANAGER
WAYNE WILEY	UTILITY COORDINATOR

SEAL	
DocuSigned by: Eric Tweed	3/5/2025

DIVISION OF HIGHWAYS DIVISION 13	
55 ORANGE ST. ASHEVILLE, NC 28801	
EDDIE DOUGLAS	PROJECT ENGINEER
KEITH RADCLIFF	SR. UTILITY COORDINATOR
JOHN METCALF	DIV. UTILITY COORDINATOR
BRENDAN MERITHEW, PE	DIV. PROJECT TEAM LEAD



PENNONI ASSOCIATES INC.
5430 WADE PARK BLVD., SUITE 106,
RALEIGH, NC 27607 PHONE: 919.929.1173
FAX: 919.493.6548 NC LICENSE #F-1267

UTILITY SYMBOLOGY

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

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

PROPOSED SEWER SYMBOLS

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

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	TEL PED
Utility Line by Others (Type as Shown)	PROP O/H POW LINES
Trenchless Installation	12" TL INSTALL
Encasement by Open Cut	24" ENCAS BY OC
Encasement	24" ENCASMENT

Thrust Block	
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

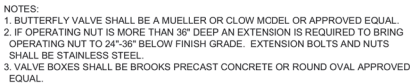
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*Underground Telephone Cable	T
*Underground Telephone Conduit	TC
*Underground Fiber Optics Telephone Cable	T FO
*Underground TV Cable	TV
*Underground Fiber Optics TV Cable	TV FO
*Underground Gas Pipeline	G
Aboveground Gas Pipeline	A/G Gas
*Underground Water Line	W
Aboveground Water Line	A/G Water
*Underground Gravity Sanitary Sewer Line	SS
Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
*Underground SS Forced Main Line	FSS
Underground Unknown Utility Line	UUL
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

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

GENERAL NOTES:

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

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



	BUTTERFLY VALVE	STD. NO.	DATE
		118	3-7-11
		SHEET 1 OF 1	
CITY OF MORGANTON			



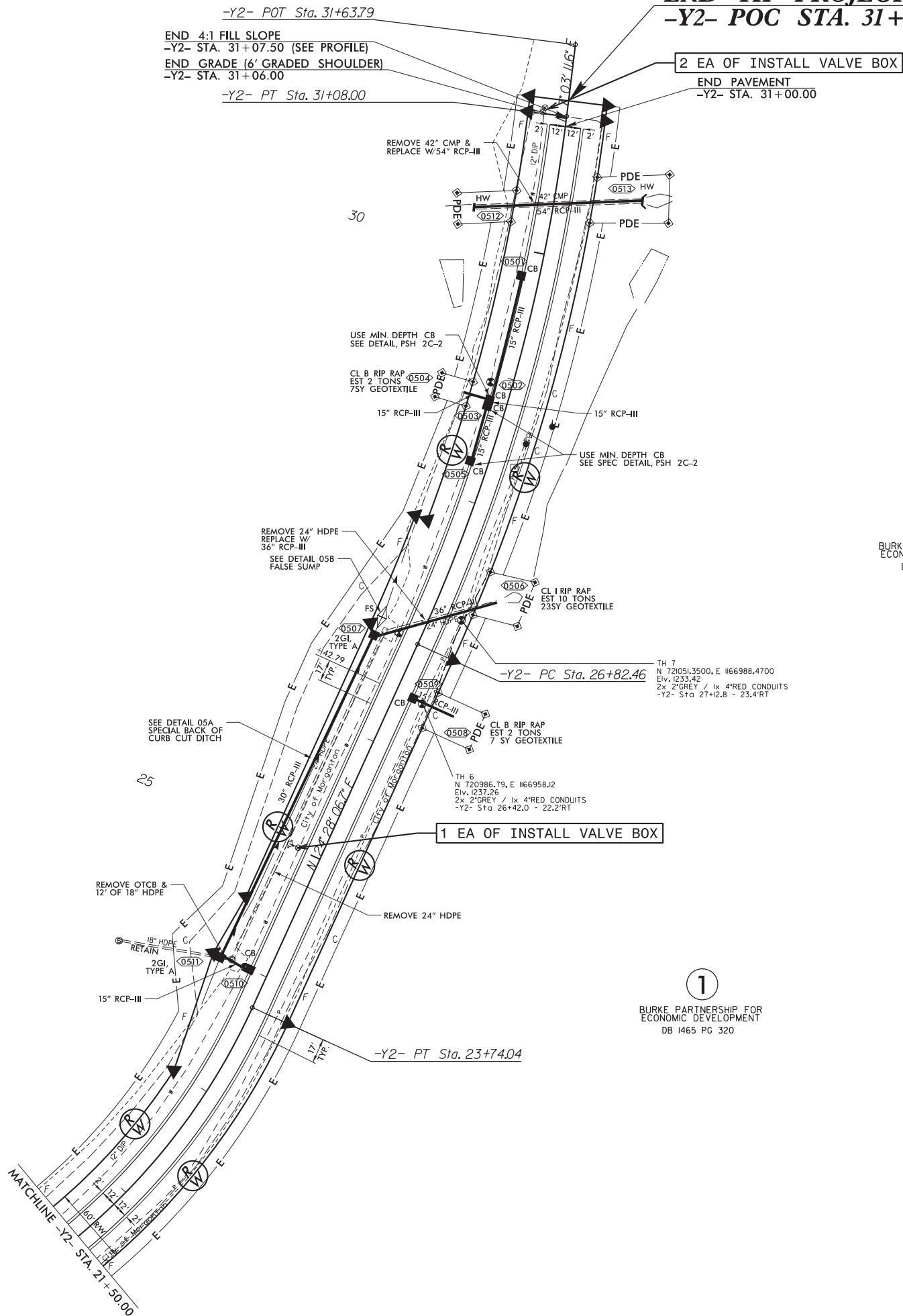
	VERTICAL GATE VALVE ASSEMBLY	STD. NO.	DATE
		105	3-7-11
			SHEET 1 OF 1
CITY OF MORGANTON			



8/17/99

REVISIONS

2/26/2025
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USERNAME



PENNONI ASSOCIATES INC.
5430 WADE PARK BLVD., SUITE 106,
RALEIGH, NC 27607 PHONE: 919.929.1173
FAX: 919.493.6548 NC LICENSE #F-1267

PROJECT REFERENCE NO.		SHEET NO.	
HA-0001		UC-4	
DESIGNED BY: EMT		DocuSigned by <i>Eric J. Wood</i> 3/5/2025 SEAL NORTH CAROLINA ENGINEER 028912 ERIC M. TWEED	
DRAWN BY: EMT			
CHECKED BY: BAW			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

1
BURKE PARTNERSHIP FOR
ECONOMIC DEVELOPMENT
DB 1465 PG 320

1
BURKE PARTNERSHIP FOR
ECONOMIC DEVELOPMENT
DB 1465 PG 320

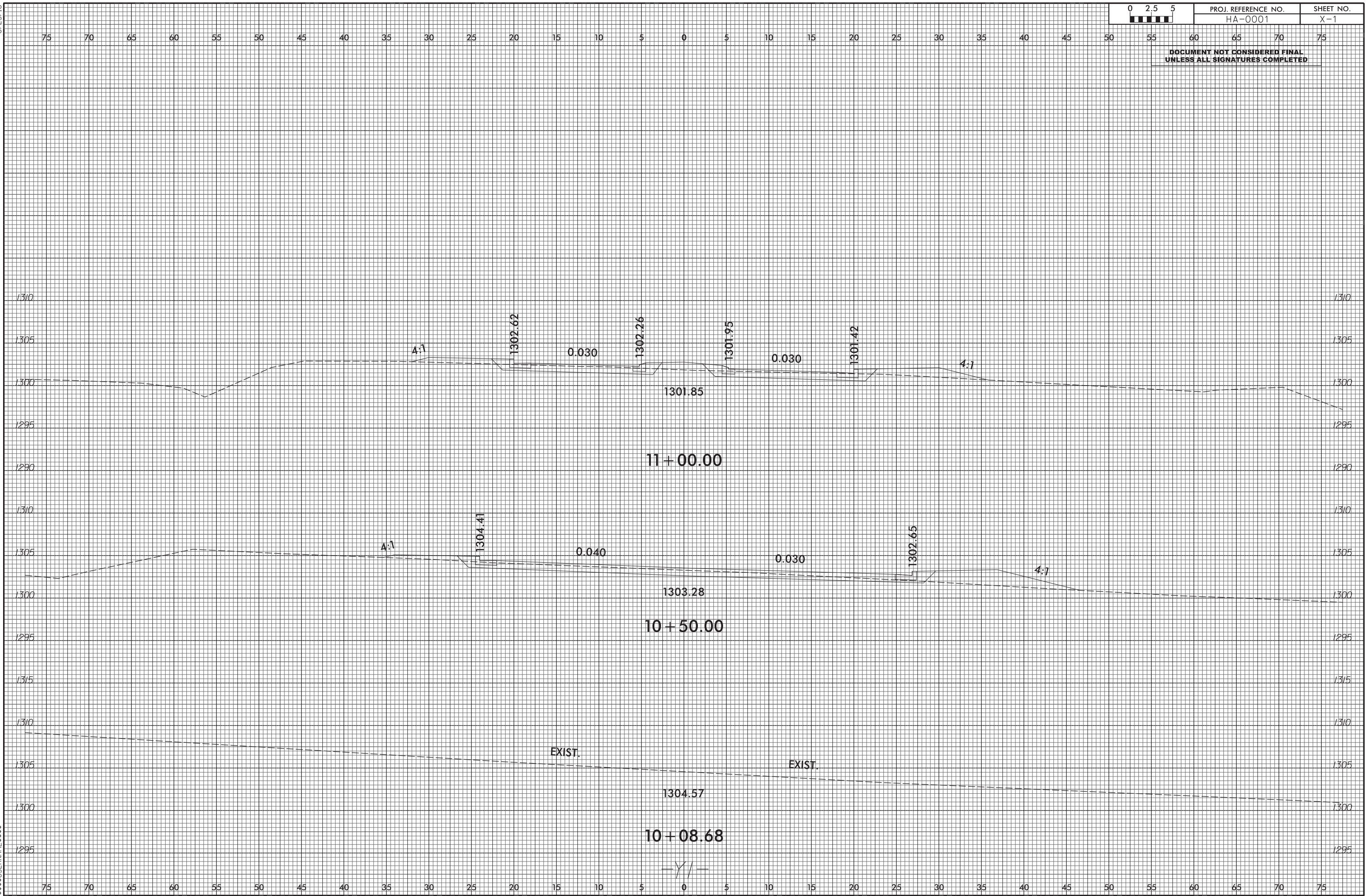
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCGS FOR MONUMENT "HA-0001-2"
WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF
NORTHING: 719859.710(ft) EASTING: 1166691.437(ft)
ELEVATION: 1303.69(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.999845187
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"HA-0001-2" TO -L- STATION IS

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88



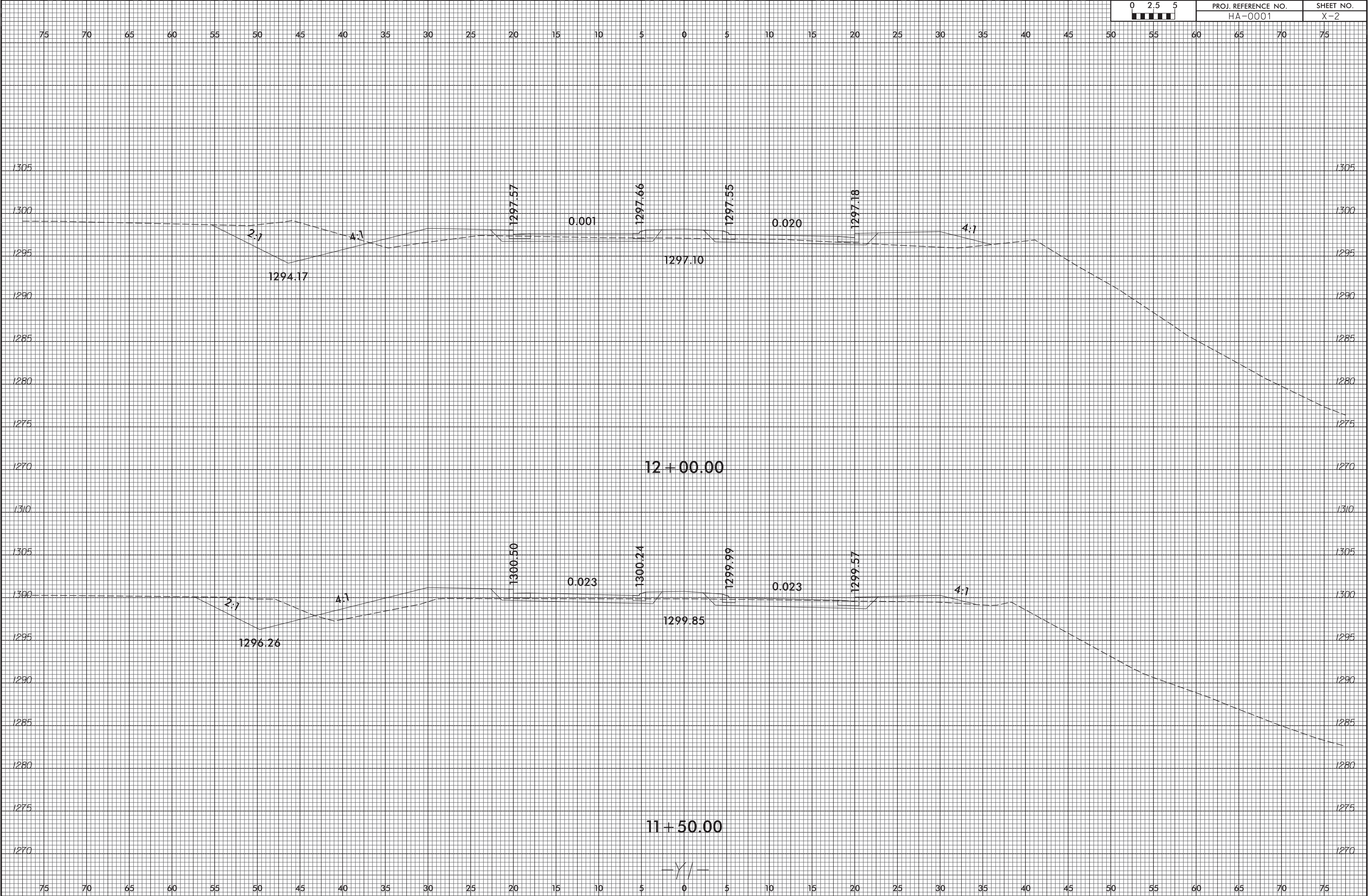
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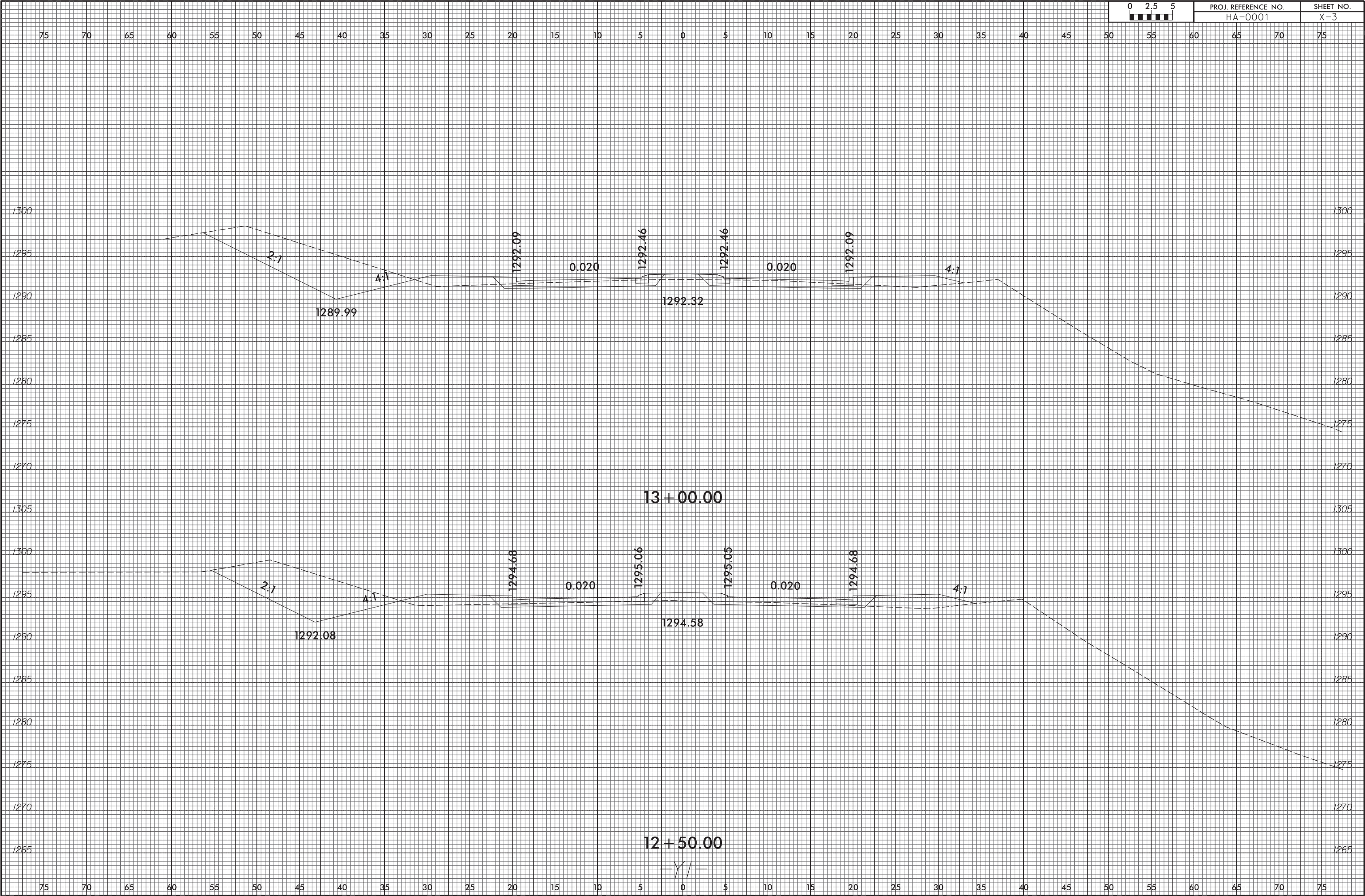


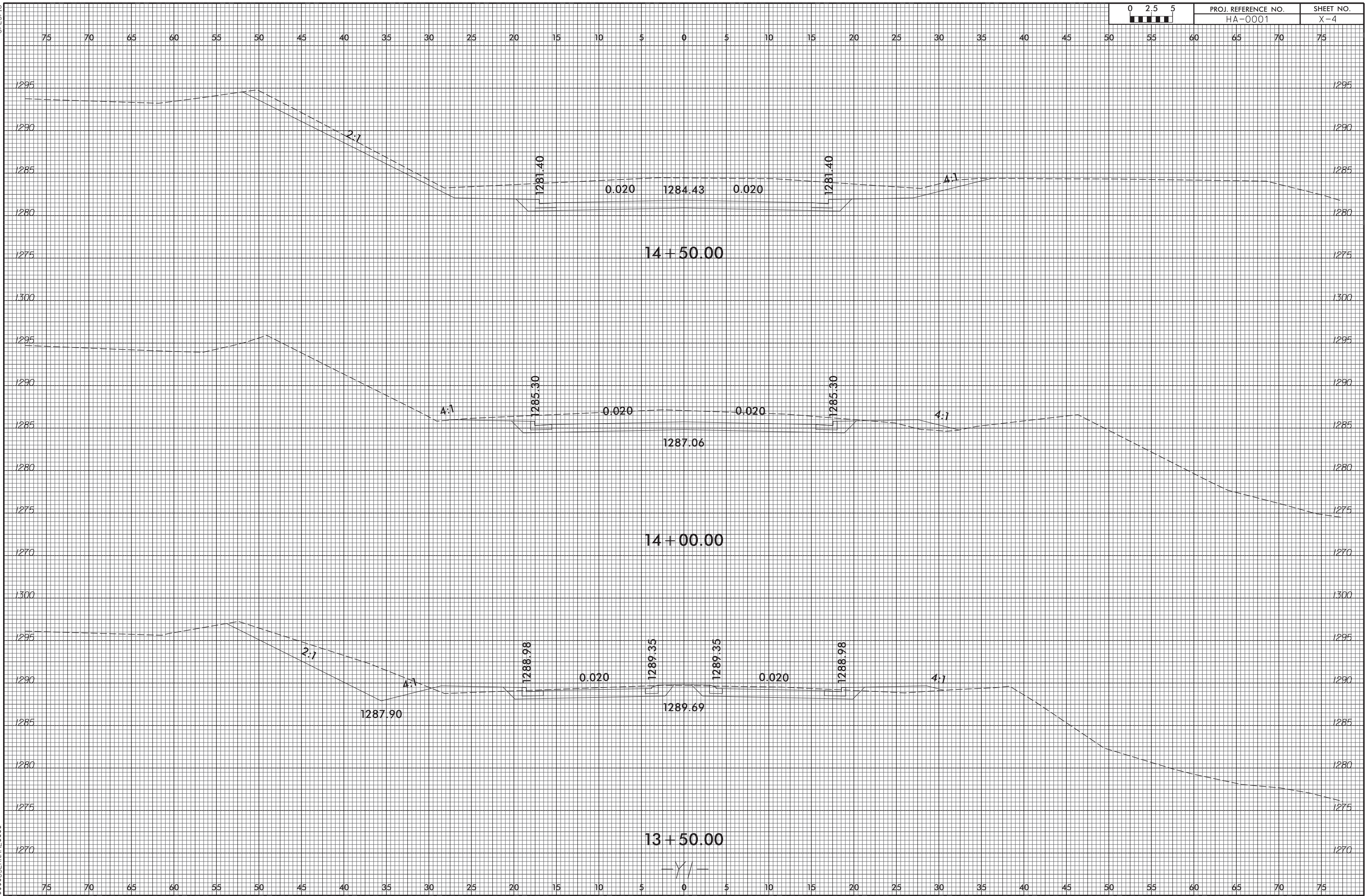
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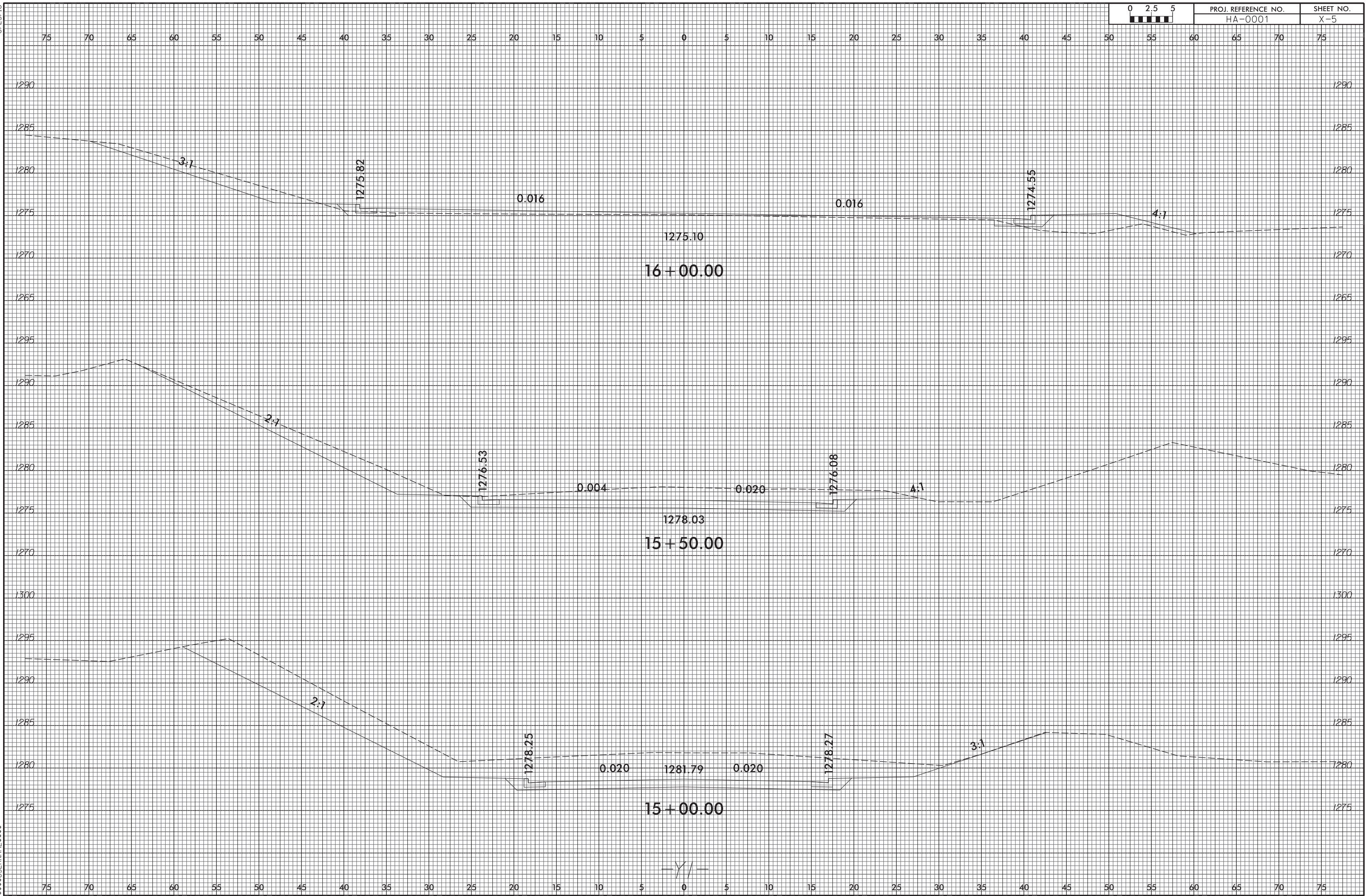
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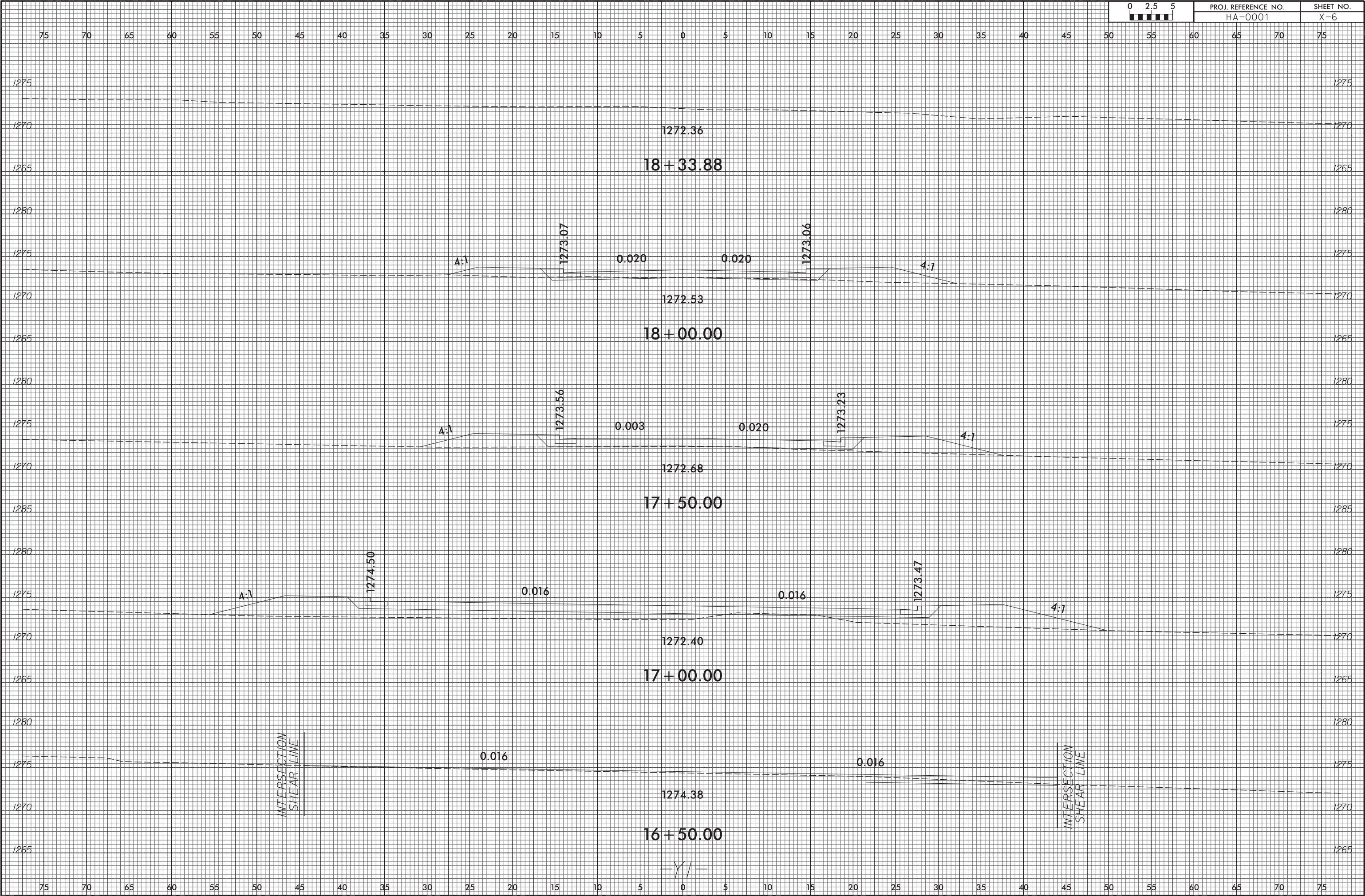
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	HA-0001	X-2

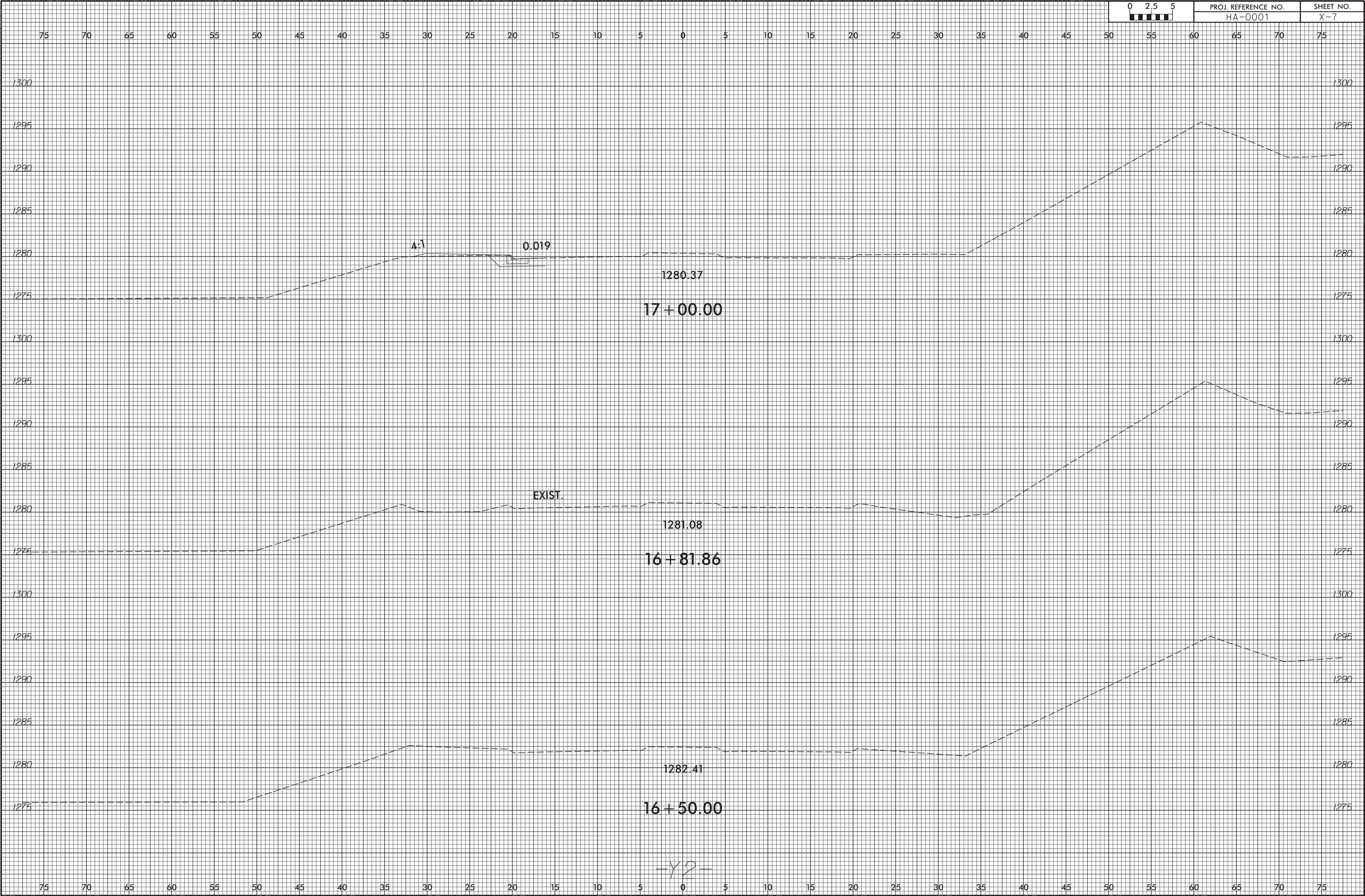


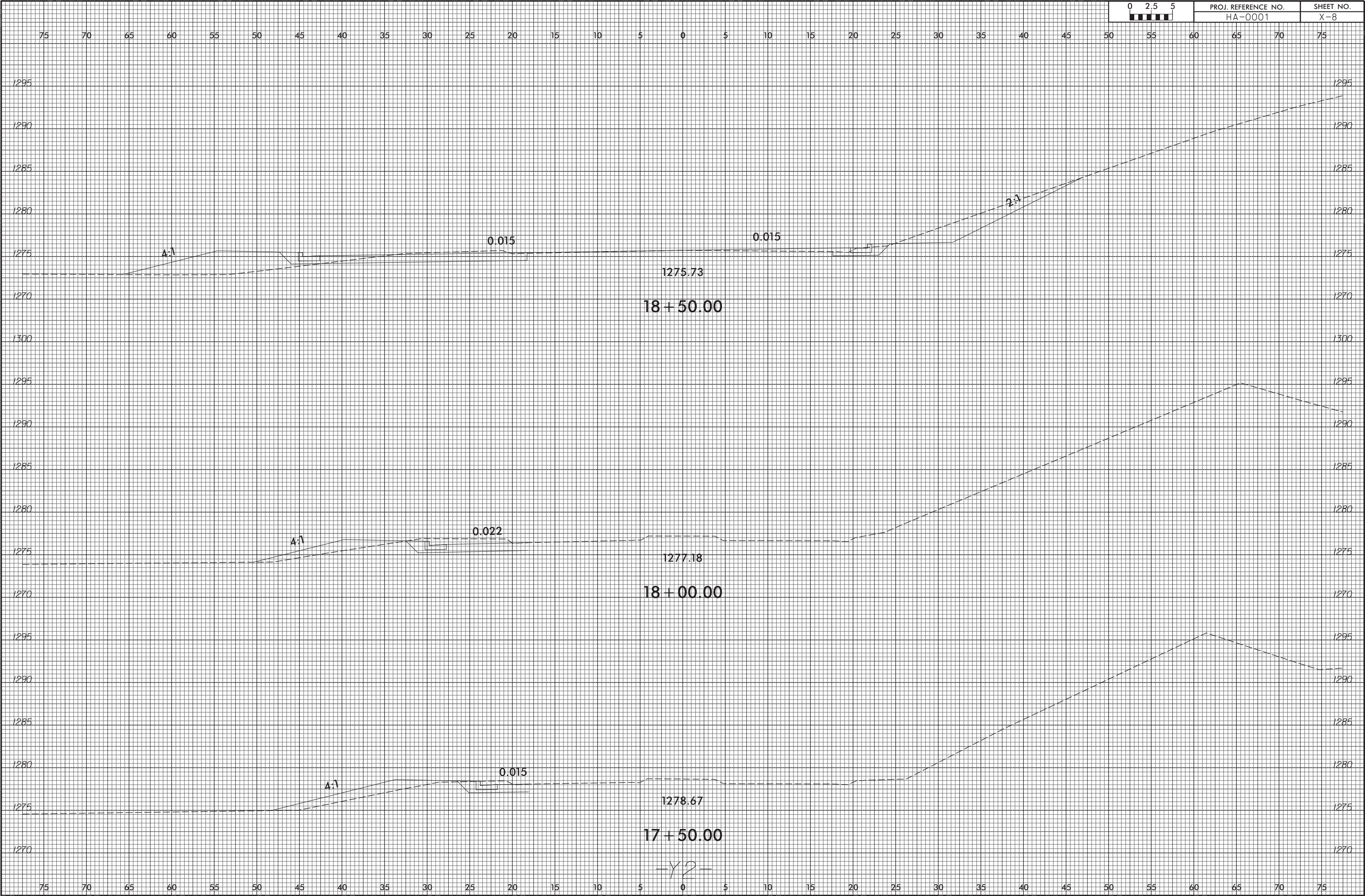


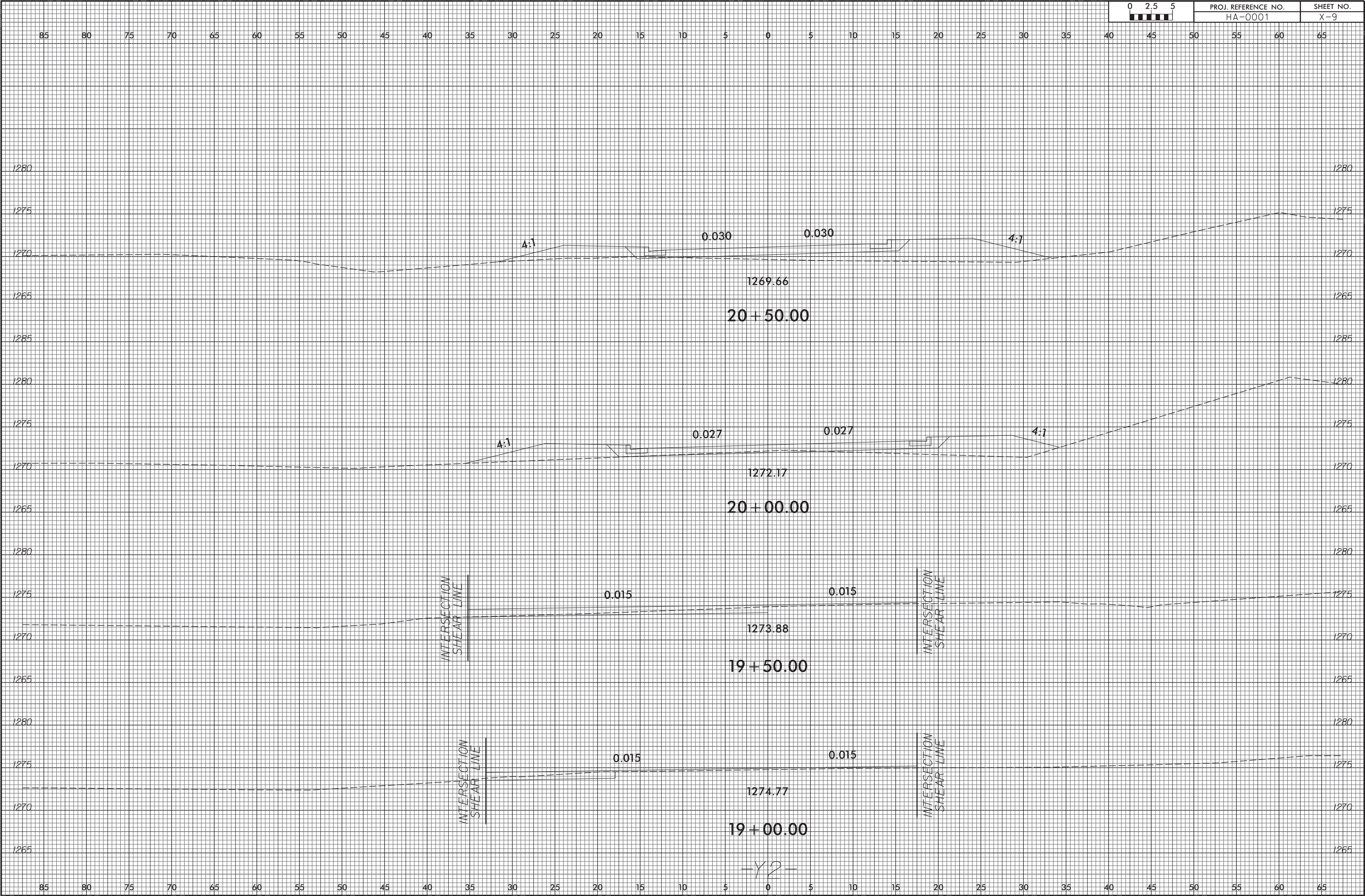


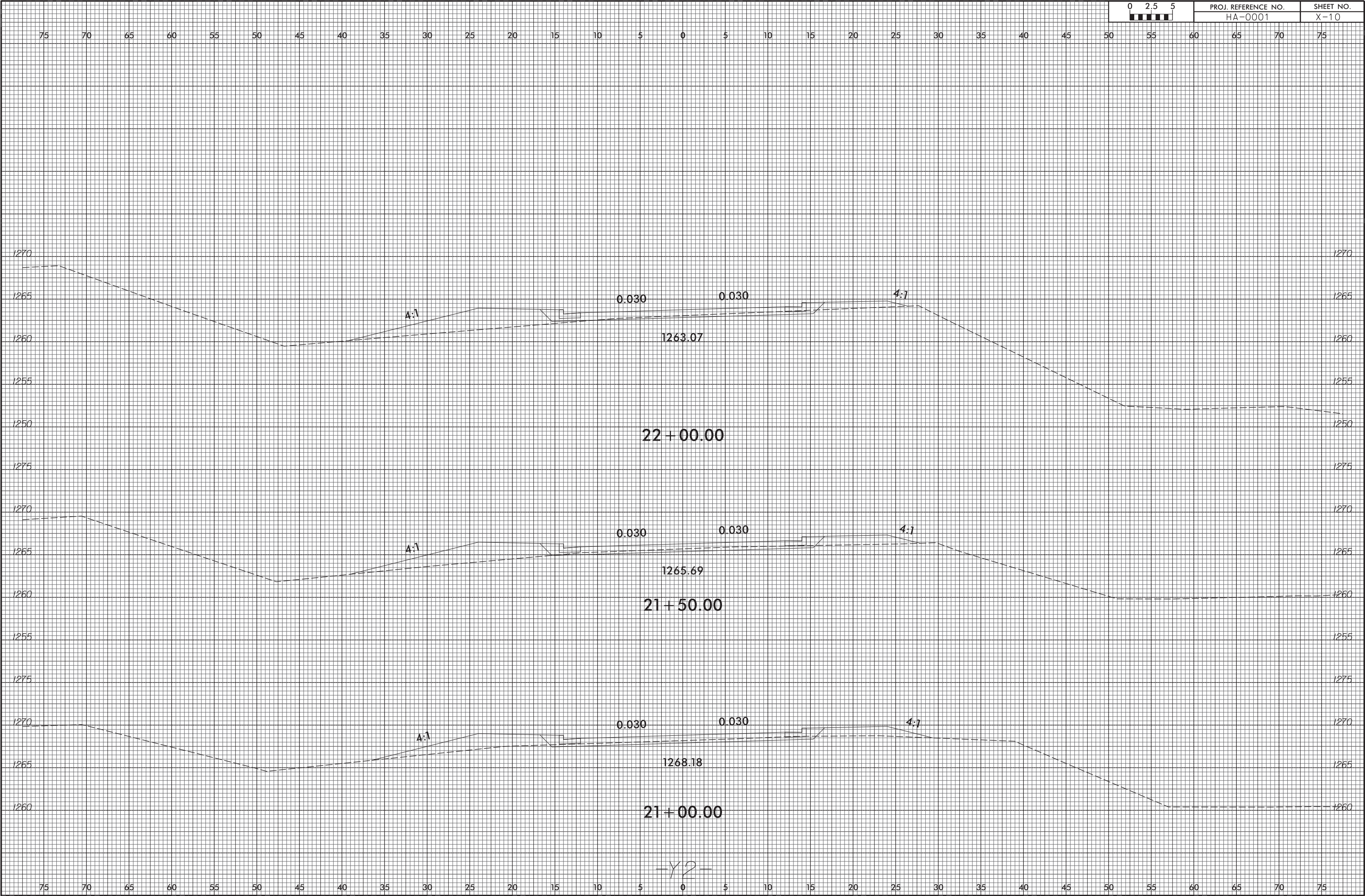


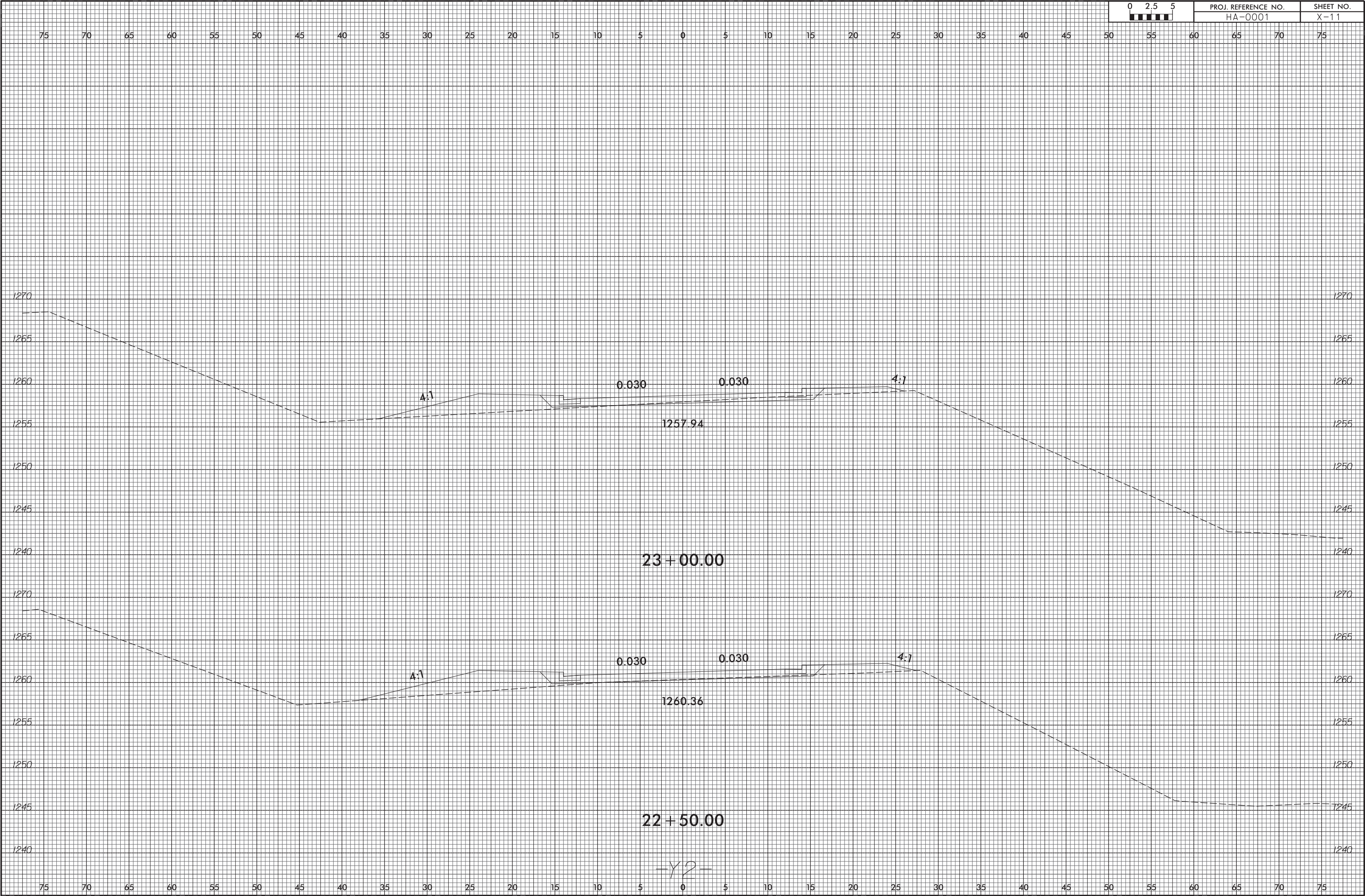












6/23/16



PROJ. REFERENCE NO.	SHEET NO.
HA-0001	X-12

