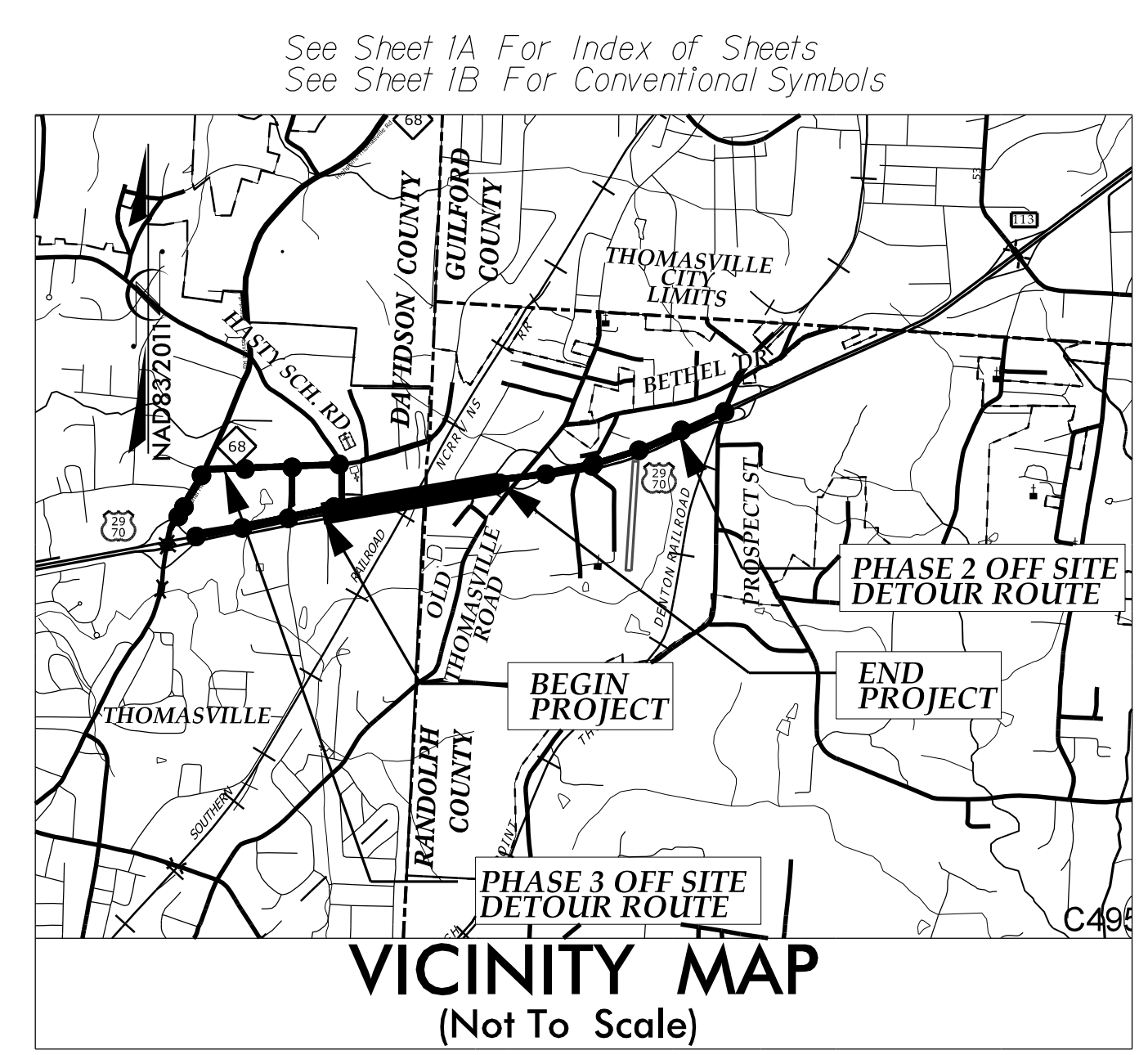
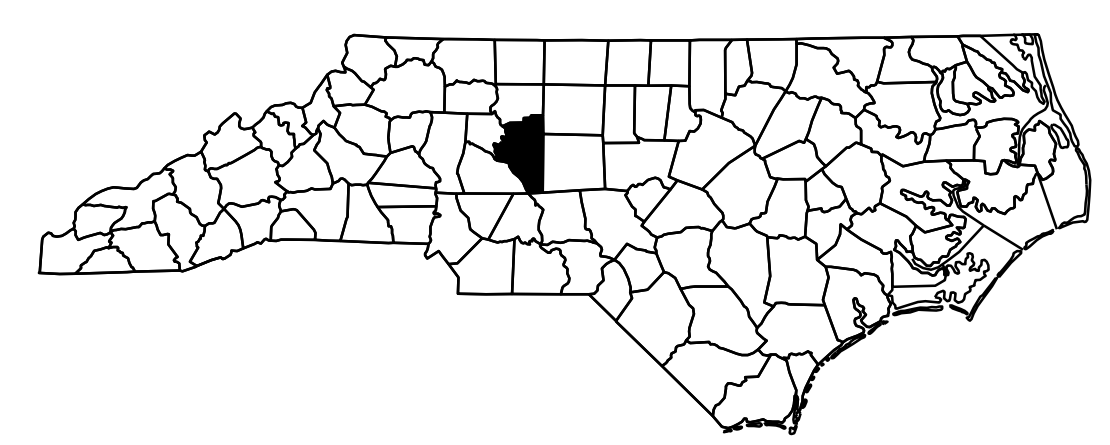


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5783	1	88
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45738.1.2	NHP-0029(063)	PE	
45738.2.1	NHP-0029(063)	RW & UTILITIES	
45738.3.1	NHP-0029(063)	CONSTRUCTION	

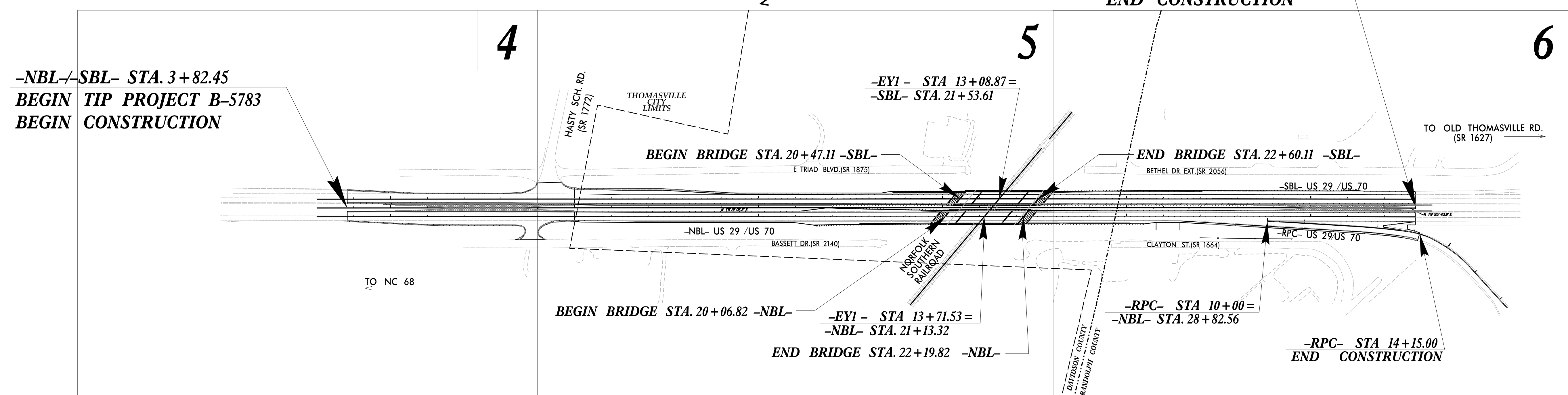
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
DAVIDSON COUNTY

**LOCATION: BRIDGE NO. 164 AND NO. 168 ON US 29
OVER NORFOLK SOUTHERN RAILROAD**

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



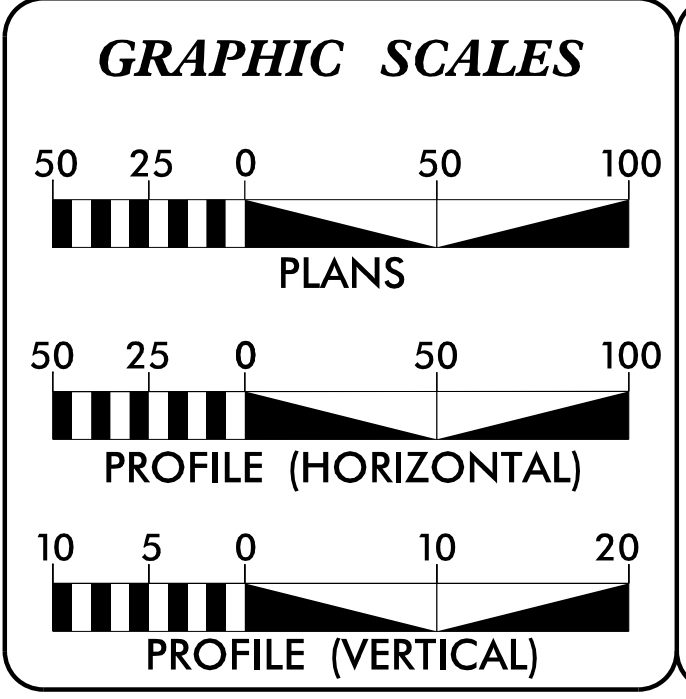
OFF SITE DETOUR



DESIGN EXCEPTION APPROVED

TIP PROJECT: B-5783

CONTRACT: C204815



DESIGN DATA

ADT (2023) =	25,700
ADT (2040) =	28,300
K =	10 %
D =	55 %
T =	12 % *
V =	60 MPH
* TTST = 4 DUAL = 8	
FUNC CLASS =	FREEWAY

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5783 =	0.510 MILES
LENGTH STRUCTURE TIP PROJECT B-5783 =	0.040 MILES
TOTAL LENGTH OF TIP PROJECT B-5783 =	0.550 MILES

Prepared for the North Carolina Department of Transportation in the Office of:

DAVENPORT
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
N/A

LETTING DATE:
AUGUST 15, 2023

NCDOT CONTACT: RYAN C. NEWCOMB, PE
DIVISION PROJECT ENGINEER

PROJECT ENGINEER: ZACHERY P. ANDREWS, PE

PROJECT DESIGN ENGINEER: EVAN T. BRIGHAM, PE

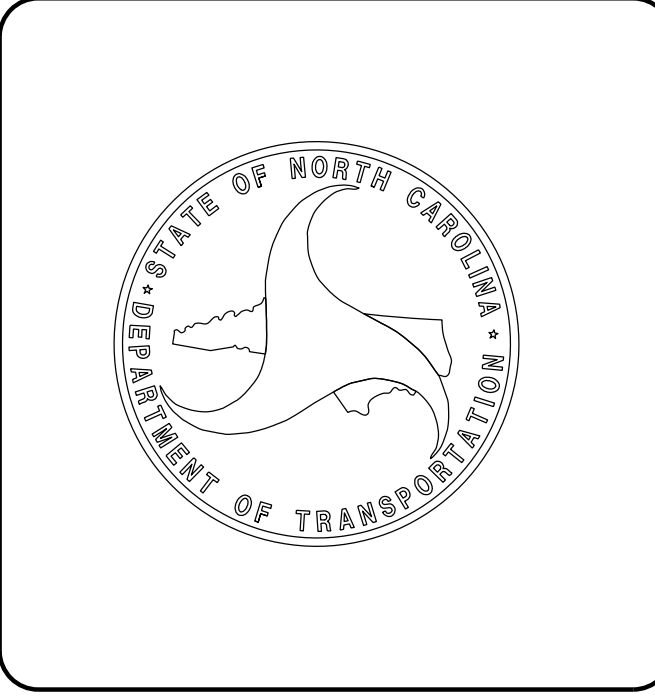
DIVISION PROJECT ENGINEER: RYAN C. NEWCOMB, PE

HYDRAULICS ENGINEER

DocuSigned by:
Andrew M. Howard
07/12/2023 10:04:16 AM
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

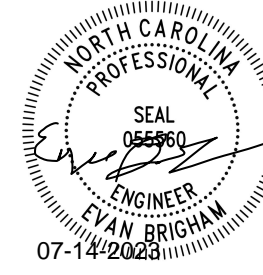

DocuSigned by:
Zachery P. Andrews
07/12/2023 10:04:16 AM
SIGNATURE: _____ P.E.



11:23:54 AM
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USER: zandrews

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARDS

PROJECT REFERENCE NO.	SHEET NO.
B-5783	1A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	

SHEET	DESCRIPTION
1	TITLE SHEET
1A	INDEX OF SHEETS / NOTES / STANDARDS
1B	CONVENTIONAL SYMBOLS
2A-1 - 2A-4	TYPICAL SECTIONS
2B-1 - 2B-2	ROADWAY DETAILS
2C-1 - 2C-3	SPECIAL DETAILS
3B-1	ROADWAY SUMMARIES
3D-1 - 3D-2	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
4 - 6	ROADWAY PLANS
7 - 10	ROADWAY PROFILES
TMP-1 - TMP-16	TRANSPORTATION MANAGEMENT PLANS
PMP-1 - PMP-4	PAVEMENT MARKING PLANS
EC-1 - EC-9 /CONST.6	EROSION CONTROL PLANS
SIGN-1 - SIGN-7	SIGNING PLANS
UO-1 - UO-3	UTILITY BY OTHERS PLANS
X-1 - X-20	CROSS SECTIONS
S1-01 - S2-40	STRUCTURE PLANS

GENERAL NOTES: (CONTINUED)

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS 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.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:
 GAS - PIEDMONT NATURAL GAS
 WATER & SANITARY SEWER - CITY OF THOMASVILLE
 WATER - DAVIDSON WATER, INC.

ANY RELOCATION OF EXISTING UTILITIES WIL BE ACCOMPLISHED BY OTHERS

EFF. 01-16-2018
REV.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.03	Deceleration and Acceleration Lanes
225.05	Method of Obtaining Superelevation - Divided Highways
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 - MAJOR STRUCTURES	
422.01	Bridge Approach Fills - Type I Standard Approach Fill
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.04	Concrete Open Throat Catch Basin - 12" thru 48" Pipe
840.05	Brick Open Throat Catch Basin - 12" thru 48" Pipe
840.17	Concrete Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Wide Slot Sag Grates
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.26	Brick Grated Drop Inlet Type 'A' - 12" thru 72" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
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 III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

BOUNDARIES AND PROPERTY:

Table listing boundary types such as State Line, County Line, Township Line, City Line, Reservation Line, Property Line, Existing Iron Pin, Computed Property Corner, Property Monument, 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:

Table listing building and cultural features such as Gas Pump Vent or U/G Tank Cap, Sign, Well, Small Mine, Foundation, Area Outline, Cemetery, Building, School, Church, Dam.

HYDROLOGY:

Table listing hydrology features such as 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:

Table listing railroad features such as Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

RIGHT OF WAY & PROJECT CONTROL:

Table listing right of way and project control features such as Secondary Horiz and Vert Control Point, Primary Horiz Control Point, Primary Horiz and Vert Control Point, Exist Permanent Easement Pin and Cap, New Permanent Easement Pin and Cap, Vertical Benchmark, Existing Right of Way Marker, Existing Right of Way Line, New Right of Way Line, New Right of Way Line with Pin and Cap, New Right of Way Line with Concrete or Granite R/W Marker, New Control of Access Line with Concrete C/A Marker, Existing Control of Access, New Control of Access, Existing Easement Line, New Temporary Construction Easement, New Temporary Drainage Easement, New Permanent Drainage Easement, New Permanent Drainage / Utility Easement, New Permanent Utility Easement, New Temporary Utility Easement, New Aerial Utility Easement.

ROADS AND RELATED FEATURES:

Table listing road and related features such as 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:

Table listing vegetation features such as Single Tree, Single Shrub.

Table listing landscape features such as Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing existing structures such as Bridge, Tunnel or Box Culvert, Bridge Wing Wall, Head Wall and End Wall, Head and End Wall, Pipe Culvert, Footbridge, Drainage Box: Catch Basin, DI or JB, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

Table listing utility features such as 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 LOS B (S.U.E.*), U/G Power Line LOS C (S.U.E.*), U/G Power Line LOS D (S.U.E.*).

TELEPHONE:

Table listing telephone features such as Existing Telephone Pole, Proposed Telephone Pole, Telephone Manhole, Telephone Pedestal, Telephone Cell Tower, U/G Telephone Cable Hand Hole, U/G Telephone Cable LOS B (S.U.E.*), U/G Telephone Cable LOS C (S.U.E.*), U/G Telephone Cable LOS D (S.U.E.*), U/G Telephone Conduit LOS B (S.U.E.*), U/G Telephone Conduit LOS C (S.U.E.*), U/G Telephone Conduit LOS D (S.U.E.*), U/G Fiber Optics Cable LOS B (S.U.E.*), U/G Fiber Optics Cable LOS C (S.U.E.*), U/G Fiber Optics Cable LOS D (S.U.E.*).

WATER:

Table listing water features such as Water Manhole, Water Meter, Water Valve, Water Hydrant, U/G Water Line LOS B (S.U.E.*), U/G Water Line LOS C (S.U.E.*), U/G Water Line LOS D (S.U.E.*), Above Ground Water Line.

TV:

Table listing TV features such as TV Pedestal, TV Tower, U/G TV Cable Hand Hole, U/G TV Cable LOS B (S.U.E.*), U/G TV Cable LOS C (S.U.E.*), U/G TV Cable LOS D (S.U.E.*), U/G Fiber Optic Cable LOS B (S.U.E.*), U/G Fiber Optic Cable LOS C (S.U.E.*), U/G Fiber Optic Cable LOS D (S.U.E.*).

GAS:

Table listing gas features such as Gas Valve, Gas Meter, U/G Gas Line LOS B (S.U.E.*), U/G Gas Line LOS C (S.U.E.*), U/G Gas Line LOS D (S.U.E.*), Above Ground Gas Line.

SANITARY SEWER:

Table listing sanitary sewer features such as Sanitary Sewer Manhole, Sanitary Sewer Cleanout, U/G Sanitary Sewer Line, Above Ground Sanitary Sewer, SS Forced Main Line LOS B (S.U.E.*), SS Forced Main Line LOS C (S.U.E.*), SS Forced Main Line LOS D (S.U.E.*).

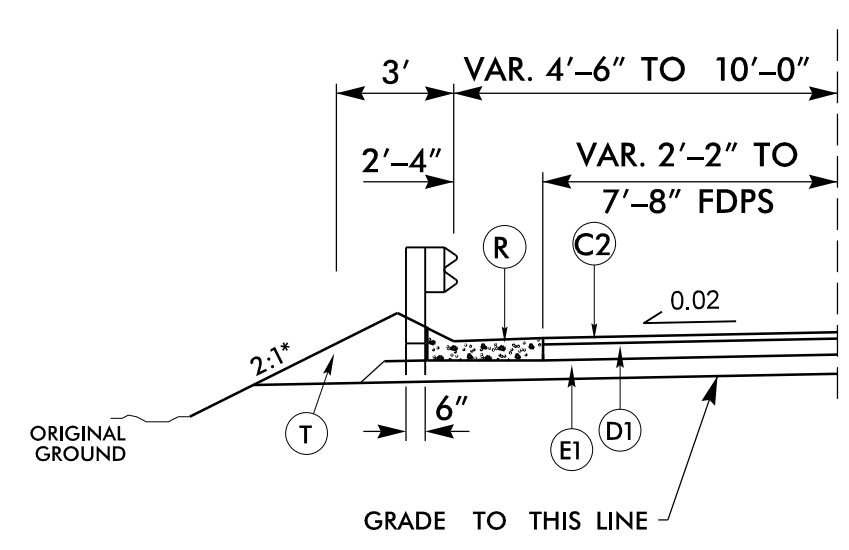
MISCELLANEOUS:

Table listing miscellaneous features such as Utility Pole, Utility Pole with Base, Utility Located Object, Utility Traffic Signal Box, Utility Unknown U/G Line LOS B (S.U.E.*), U/G Tank; Water, Gas, Oil, Underground Storage Tank, Approx. Loc., A/G Tank; Water, Gas, Oil, Geoenvironmental Boring, U/G Test Hole LOS A (S.U.E.*), Abandoned According to Utility Records, End of Information.

8/17/23

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. TO BE PLACED IN TWO LIFTS 1.5" DEPTH EACH.
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 EXCEEDING 2.0"
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
D3	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
E1	PROP. APPROX. 7" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5"
J	8" ABC
R	CONCRETE SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
V	MILLING ASPHALT PAVEMENT, 1.5" DEPTH
W	VAR. DEPTH ASPHALT PAVEMENT (SEE STD. WEDGING DETAIL, SHEET 2A-1)

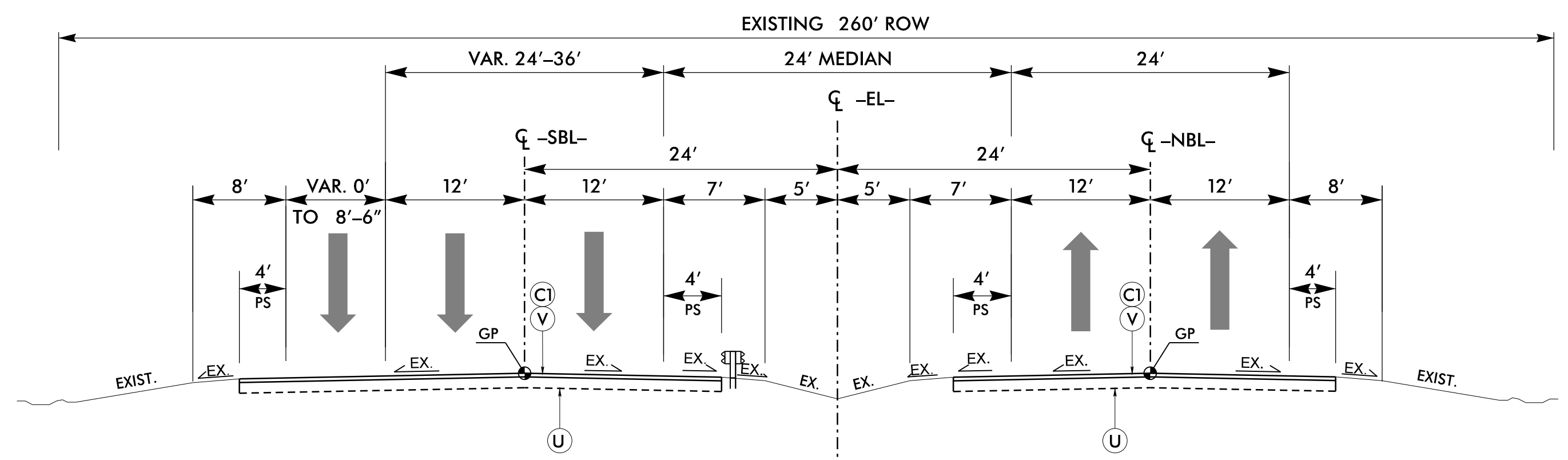
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE



**TYPICAL SECTION NO. 1B
CONCRETE SHOULDER BERM GUTTER**

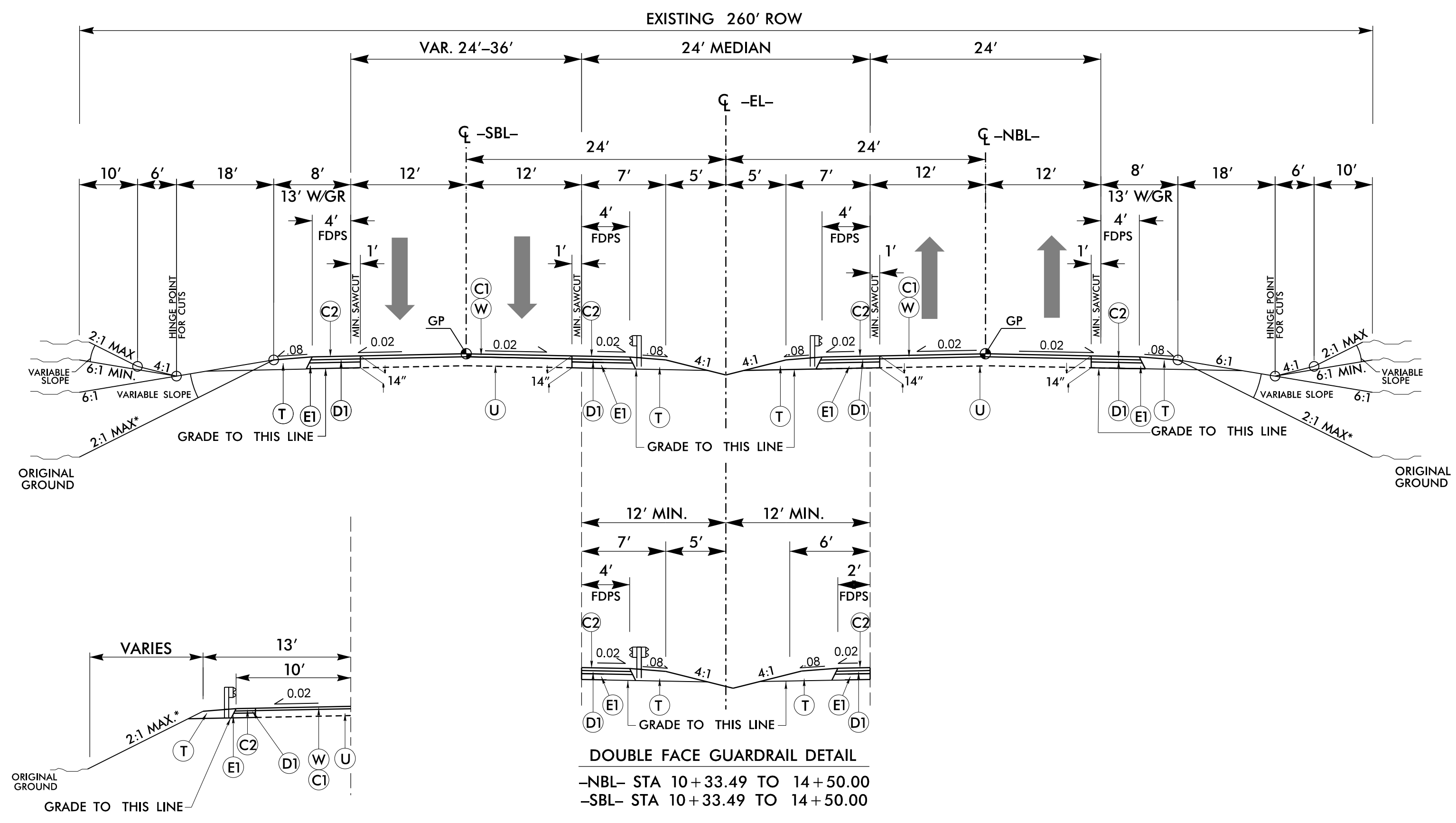
- NBL- STA 17+74.00 (RT) TO 19+66.55 (RT)
- NBL- STA 19+43.00 (LT) TO 19+94.07 (LT)
- NBL- STA 22+31.14 (RT) TO 25+10.00 (RT)
- NBL- STA 22+57.21 (LT) TO 23+25.00 (LT)
- SBL- STA 18+64.00 (LT) TO 20+41.37 (LT)
- SBL- STA 19+43.00 (RT) TO 20+02.69 (RT)
- SBL- STA 22+83.50 (RT) TO 23+24.00 (RT)
- SBL- STA 23+11.25 (LT) TO 27+05.00 (LT)

* SIDE SLOPE VARIES (SEE CROSS SECTIONS)
SEE NCDOT STANDARD DRAWING 862.01 (6 OF 11)
AND NCDOT STANDARD DRAWING 862.01 (3 OF 11)
FOR BRIDGE APPROACH GUARDRAIL APPLICATIONS.



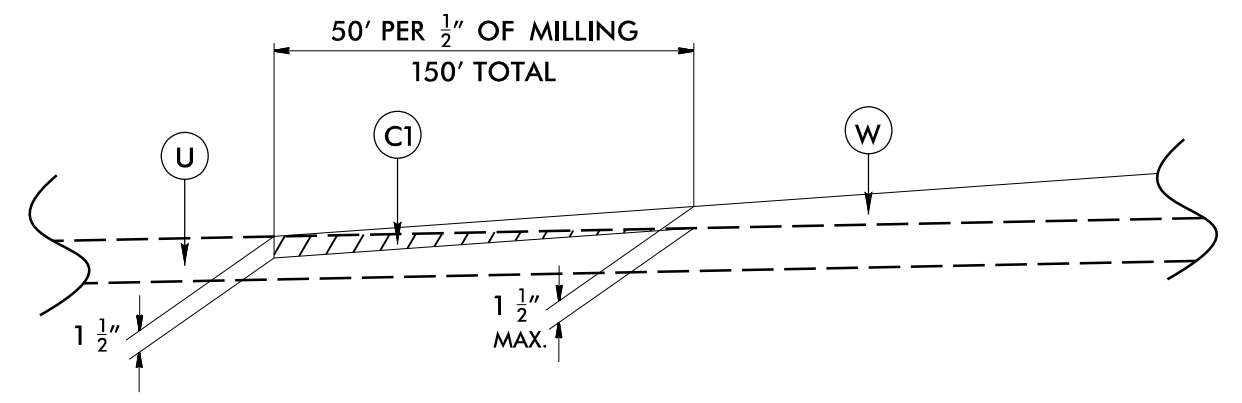
TYPICAL SECTION NO. 1

- NBL- STA. 3+82.45 TO STA. 10+00.00; STA. 31+00.00 TO STA. 32+84.39
- SBL- STA. 3+82.45 TO STA. 10+00.00; STA. 32+00.00 TO STA. 32+84.39

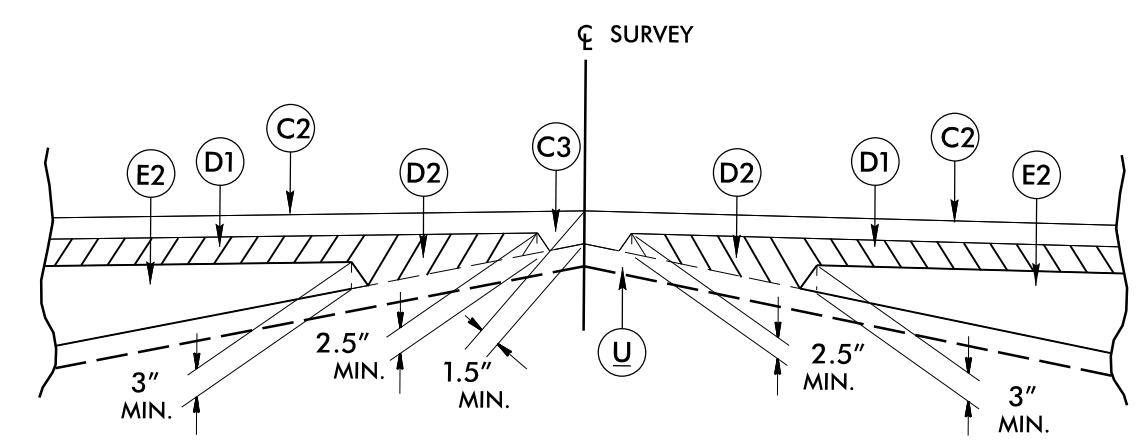


TYPICAL SECTION NO. 2

- NBL- STA. 10+00.00 TO STA. 14+50.00; STA. 26+50.00 TO STA. 31+00.00
- SBL- STA. 10+00.00 TO STA. 14+50.00; STA. 26+50.00 TO STA. 32+00.00



DETAIL OF MILLING AT PAVEMENT TIE-INS




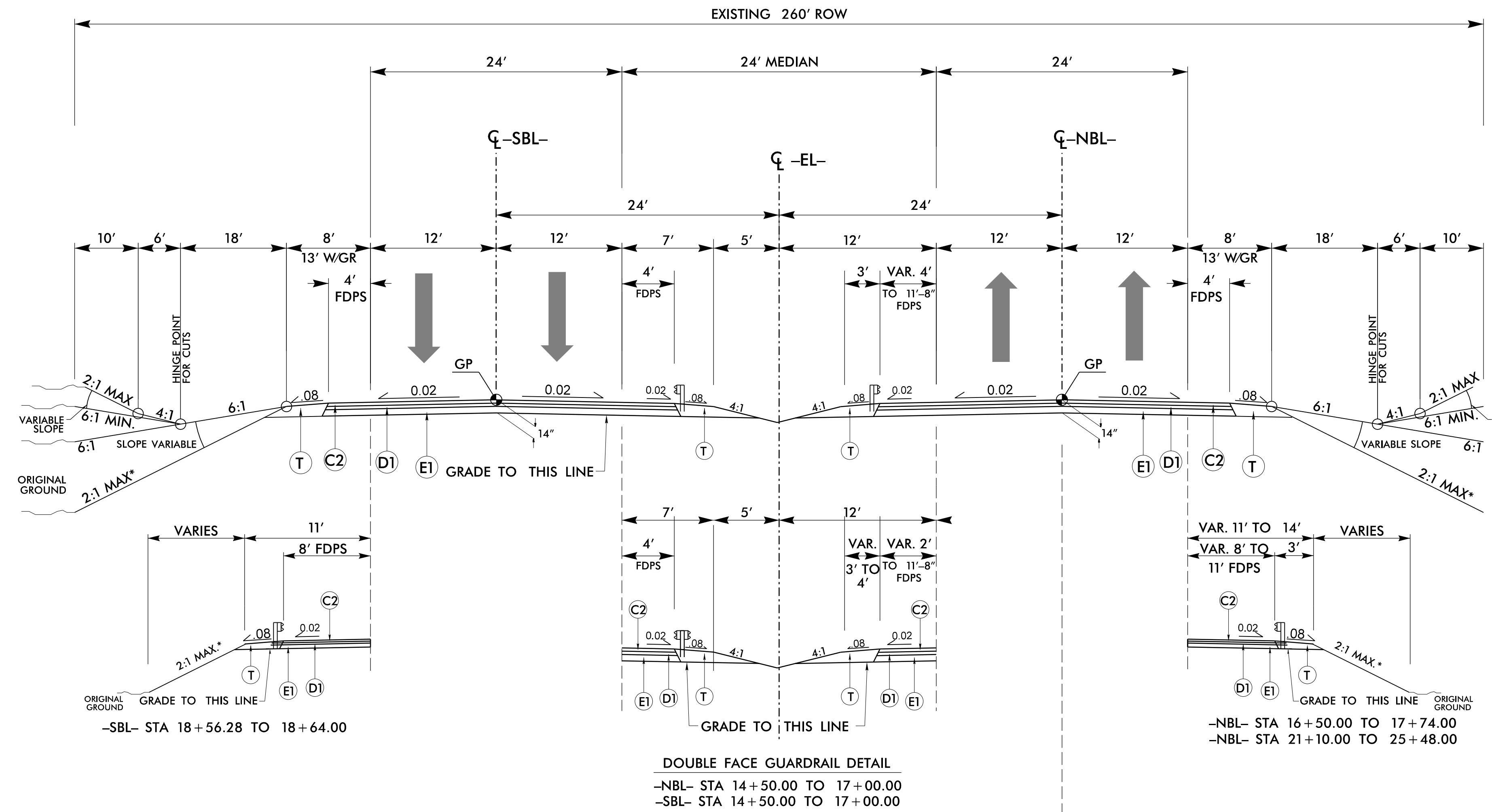
STANDARD WEDGING DETAIL

PROJECT REFERENCE NO. B-5783	SHEET NO. 2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 052554	PAVEMENT DESIGN ENGINEER SEAL 038448
DAVENPORT ENGINEER	DAVENPORT ENGINEER
07/12/2023	07/12/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
DAVENPORT HOME OFFICE 119 BROOKSTOWN AVE, SUITE PH1 WINSTON-SALEM, NC 27101 336.744.1658 www.davenportinc.com NCELS-9 FIRM LICENSE NO. C-2622	

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8/17/19

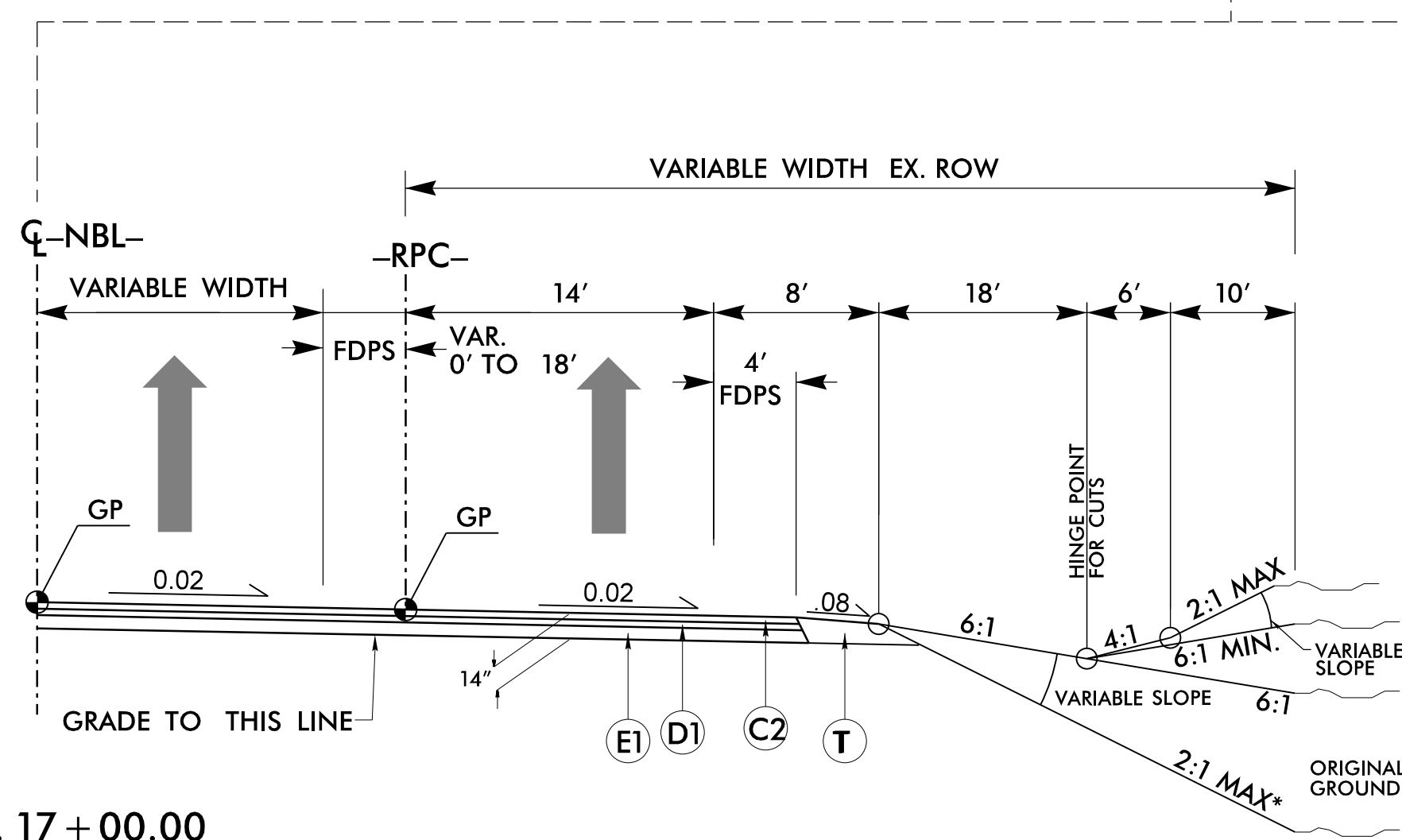
PROJECT REFERENCE NO. B-5783	SHEET NO. 2A-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 052554 07/12/2023	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 038448 07/12/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 DAVENPORT HOME OFFICE 119 BROOKSTOWN AVE, SUITE PH1 WINSTON-SALEM, NC 27101 336.744.1636 www.davenportinc.com NCELS FIRM LICENSE NO. C2622	



TYPICAL SECTION NO. 3

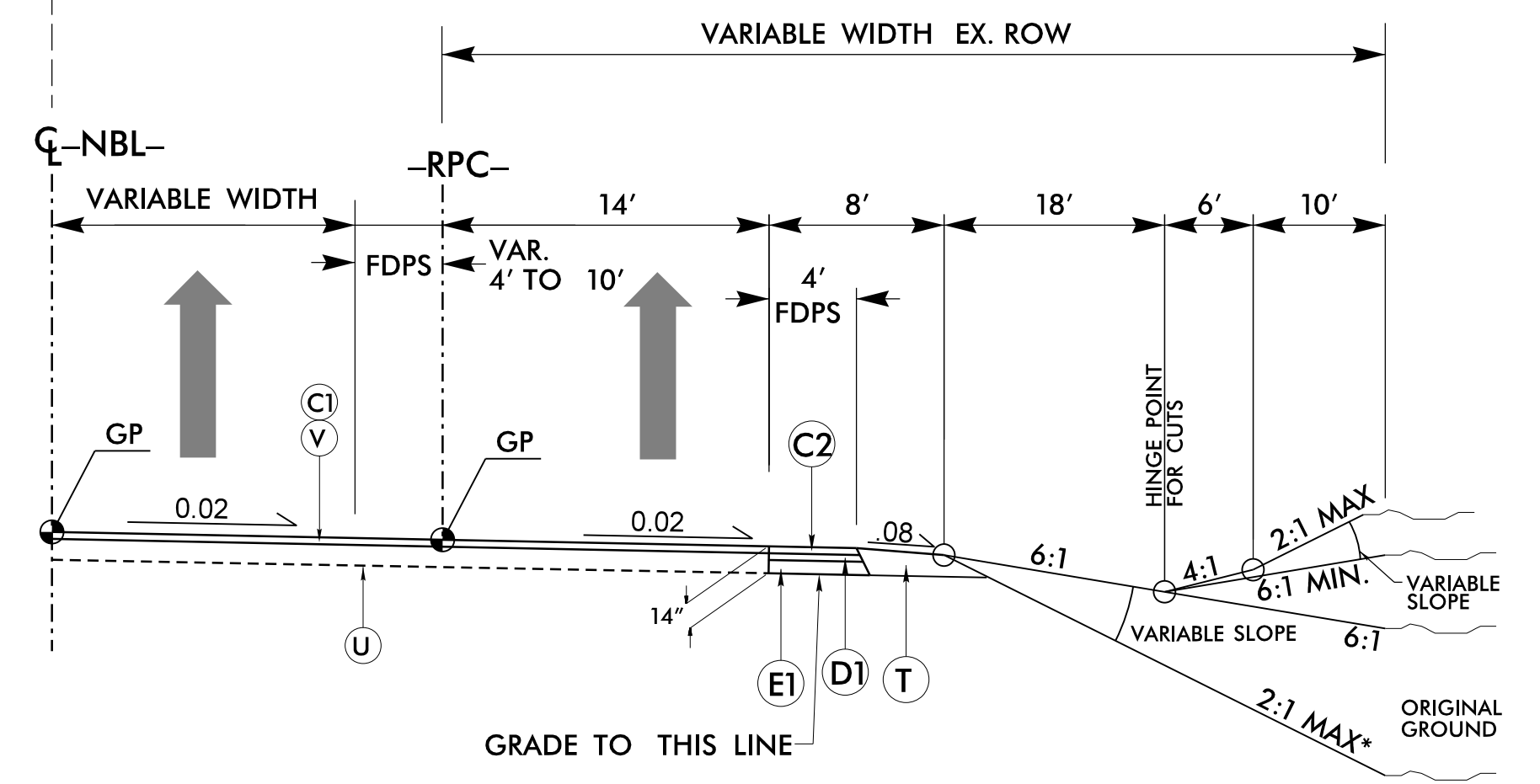
-NBL- STA. 14+50.00 TO STA. 20+06.82 (BEGIN BRIDGE); STA. 22+19.82 (END BRIDGE) TO STA. 26+50.00
 -SBL- STA. 14+50.00 TO STA. 20+41.11 (BEGIN BRIDGE); STA. 22+60.11 (END BRIDGE) TO STA. 26+50.00

PAVEMENT SCHEDULE	
C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR. S9.5C
D1	4" I19.0C
D2	VAR. I19.0C
D3	2.5" I19.0C
E1	7" B25.0C
E2	VAR. B25.0C
J	8" ABC
R	CONC. SBG
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	1.5" MILLING
W	WEDGING



TYPICAL SECTION NO. 3A

-RPC- STA. 10+00.00 TO STA. 13+15.06



TYPICAL SECTION NO. 3B

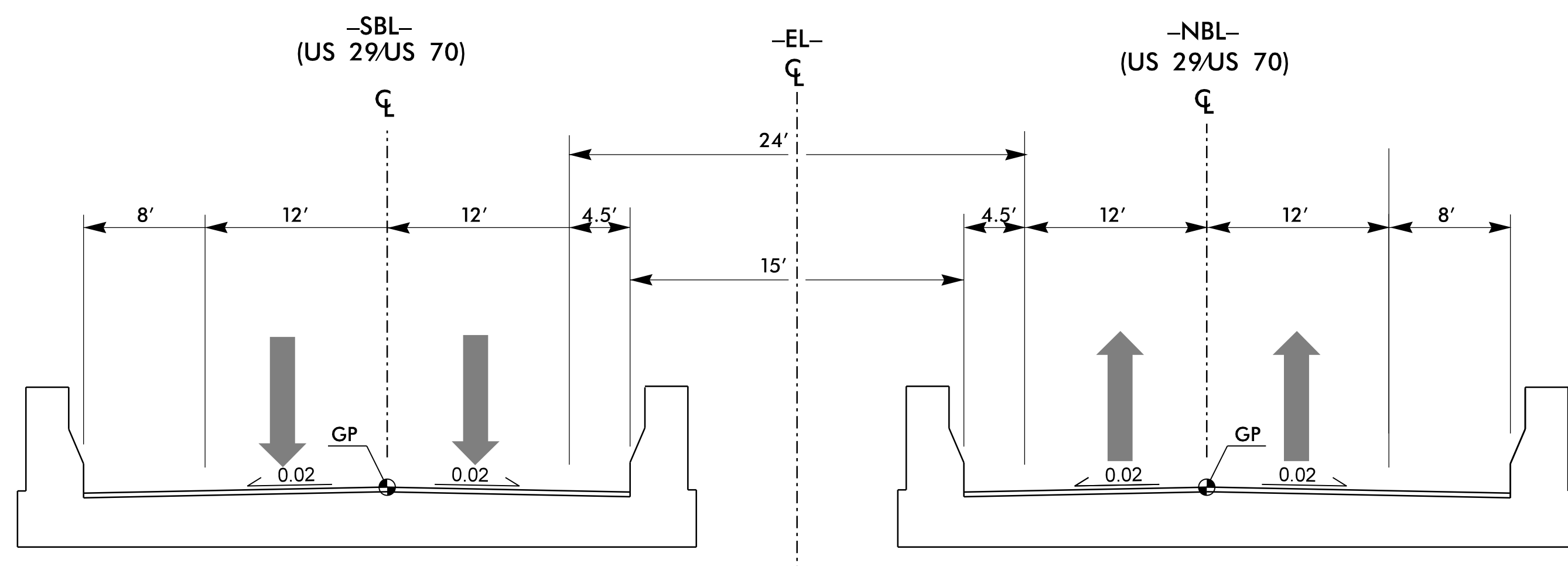
-RPC- STA. 13+15.06 TO STA. 14+15.00

* SIDE SLOPE VARIES (SEE CROSS SECTIONS)
 ** DOUBLE FACE GUARDRAIL FROM STA. 10+33.48 TO STA. 17+00.00
 SEE NCDOT STANDARD DRAWING 862.01 (6 OF 11)
 SEE NCDOT STANDARD DRAWING 862.01 (3 OF 11)
 FOR BRIDGE APPROACH GUARDRAIL APPLICATIONS.

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8/17/99

PROJECT REFERENCE NO. <i>B-5783</i>		SHEET NO. <i>2A-3</i>	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 		PAVEMENT DESIGN ENGINEER 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
DAVENPORT <small>HOME OFFICE 119 BROOKSTOWN AVE, SUITE P11 WINSTON-SALEM, NC 27101 336.744.1656 www.davenportinc.com NC REG. FIRM LICENSE NO. C-2622</small>			



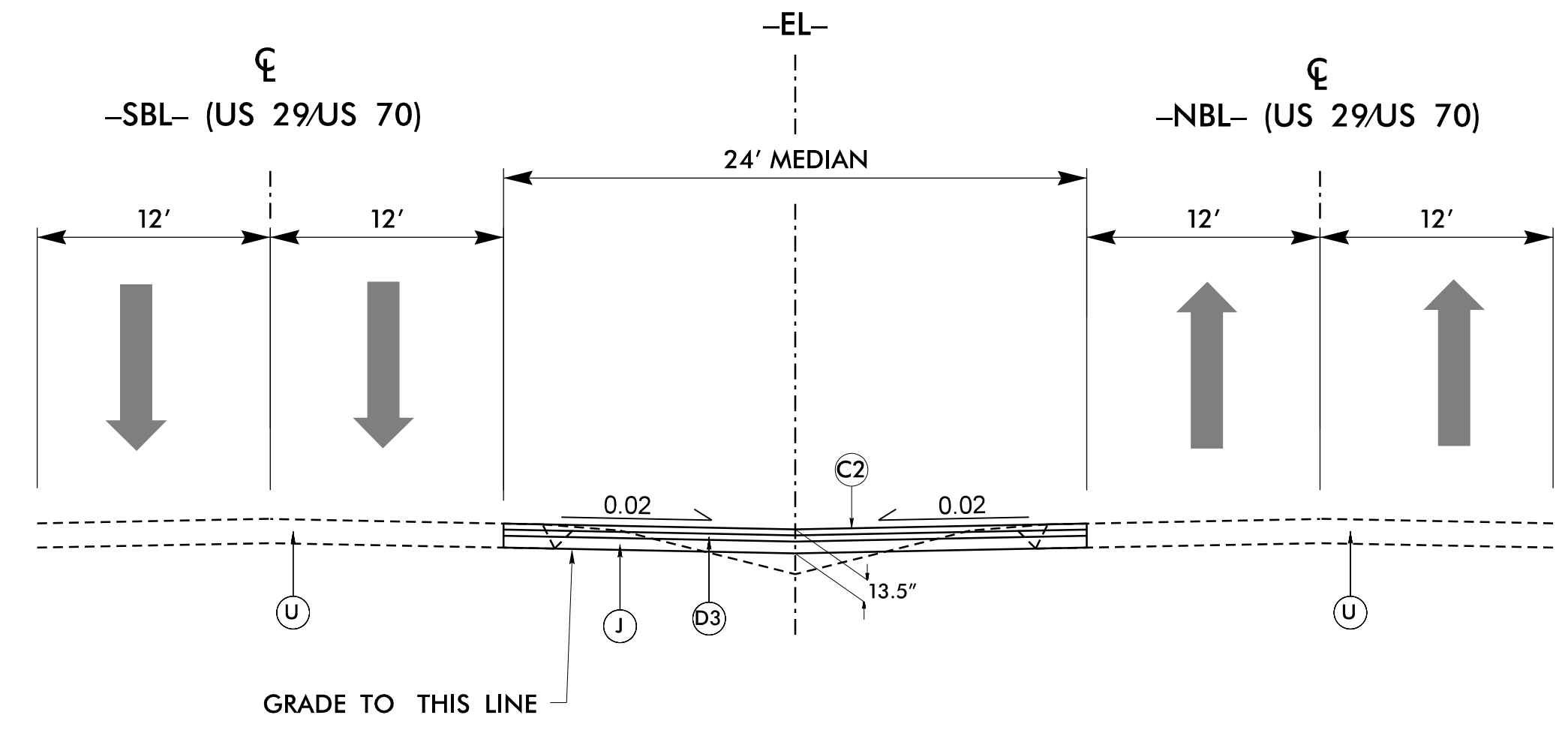
TYPICAL SECTION NO. 4
 -NBL- STA. 20+06.82 TO STA. 22+19.82
 -SBL- STA. 20+47.11 TO STA. 22+60.11

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21_2016\160905
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8/17/99

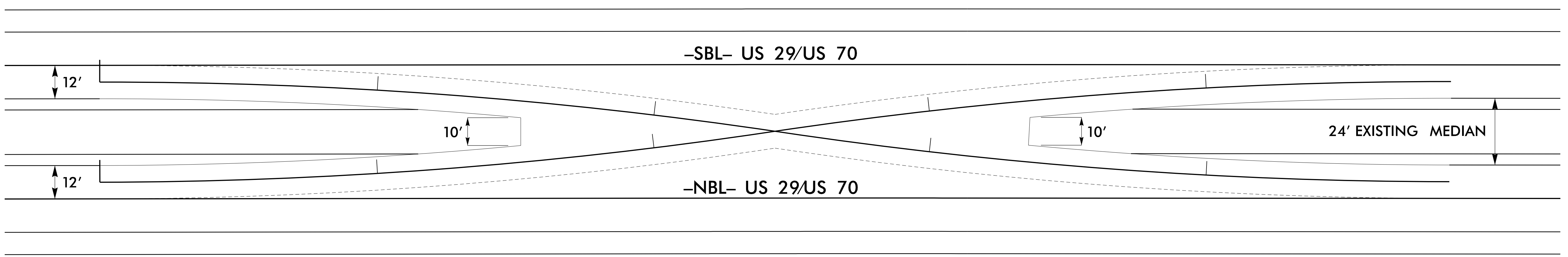
PAVEMENT SCHEDULE	
C1	1.5" S9.5C
C2	3" S9.5C
C3	VAR. S9.5C
D1	4" I19.0C
D2	VAR. I19.0C
D3	2.5" I19.0C
E1	7" B25.0C
E2	VAR. B25.0C
J	8" ABC
R	CONC. SBG
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

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



TEMPORARY HOUR GLASS TYPICAL SECTION

- DETA- STA 10+00.00 TO 14+87.89
- DET B- STA 10+00.00 TO 14+87.89
- DETC- STA 10+00.00 TO 14+87.62
- DETD- STA 10+00.00 TO 14+88.17



DETAIL OF DETOUR A,B,C AND D

PROJECT REFERENCE NO. <i>B-5783</i>	SHEET NO. <i>2A-4</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <i>[Signature]</i>	PAVEMENT DESIGN ENGINEER <i>[Signature]</i>
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 HOME OFFICE 119 BROOKSTOWN AVE, SUITE PH1 WINSTON-SALEM, NC 27101 336.744.1656 www.davenportinc.com NCBELS FIRM LICENSE NO. C-2622	

1:23:07 PM
Z:\2016\160905_NCDOT_B5783_US29-70\DESIGN\B5783_Roadway_Sheets\160905_07_TYP.dgn
USER: zandrews

8/17/19

CROSS-OVER LOCATION #1: STA.03+85.95 TO STA.08+67.06

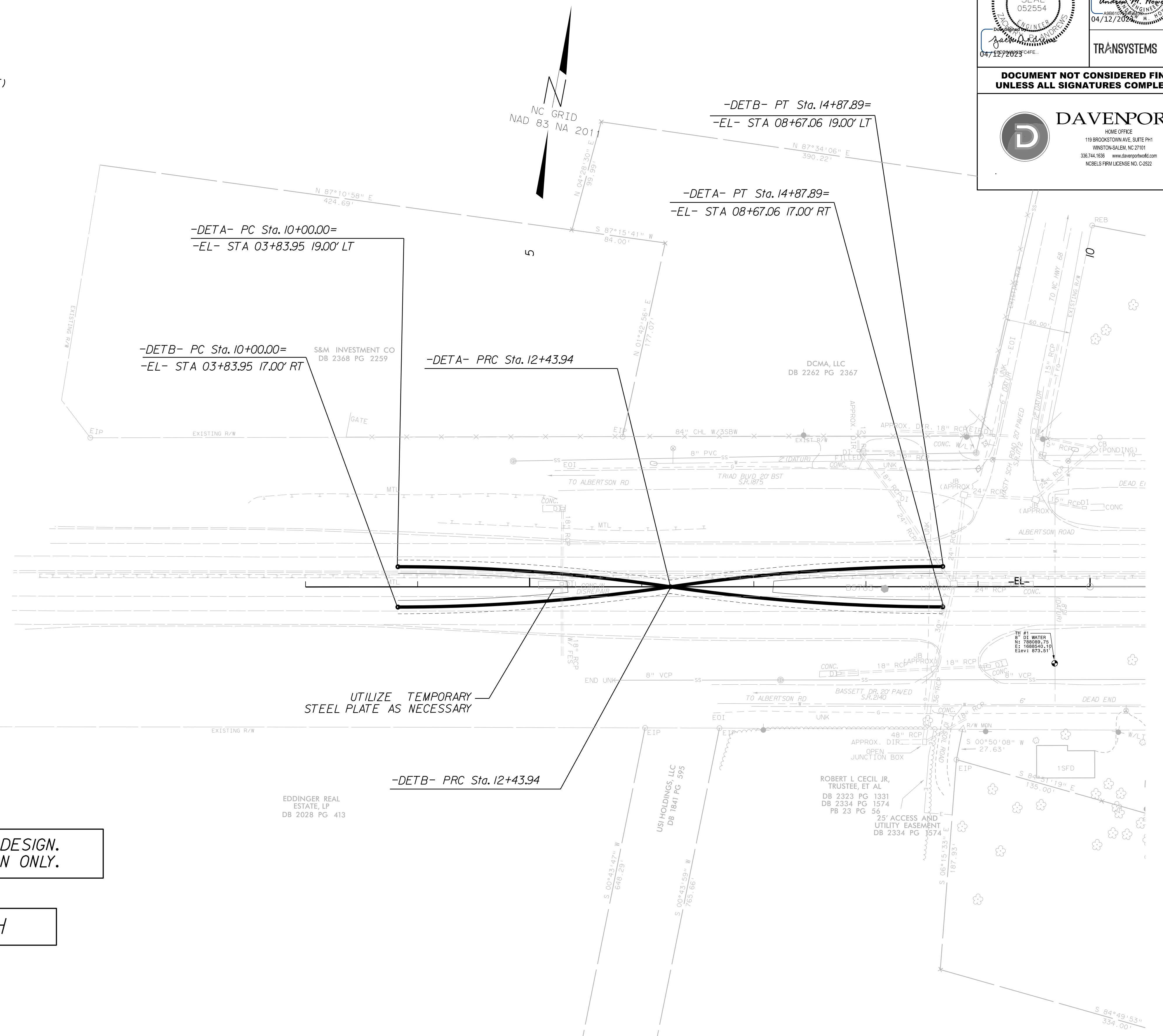
-DETA-

PI Sta 11+22.19	PI Sta 13+66.14
$\Delta = 8' 28' 15.1''$ (RT)	$\Delta = 8' 28' 15.1''$ (LT)
D = 3' 28' 20.9"	D = 3' 28' 20.9"
L = 243.94'	L = 243.94'
T = 122.19'	T = 122.19'
R = 1,650.00'	R = 1,650.00'

-DET B-

PI Sta 11+22.19	PI Sta 13+66.14
$\Delta = 8' 28' 15.1''$ (LT)	$\Delta = 8' 28' 15.1''$ (RT)
D = 3' 28' 20.9"	D = 3' 28' 20.9"
L = 243.94'	L = 243.94'
T = 122.19'	T = 122.19'
R = 1,650.00'	R = 1,650.00'

PROJECT REFERENCE NO. B-5783	SHEET NO. 2B-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULIC DESIGN ENGINEER
TRANSYSTEMS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
DAVENPORT HOME OFFICE 119 BROOKSTOWN AVE, SUITE PH1 WINSTON-SALEM, NC 27101 336.744.1656 www.davenportme.com NCELS FPM LICENSE NO. C2622	



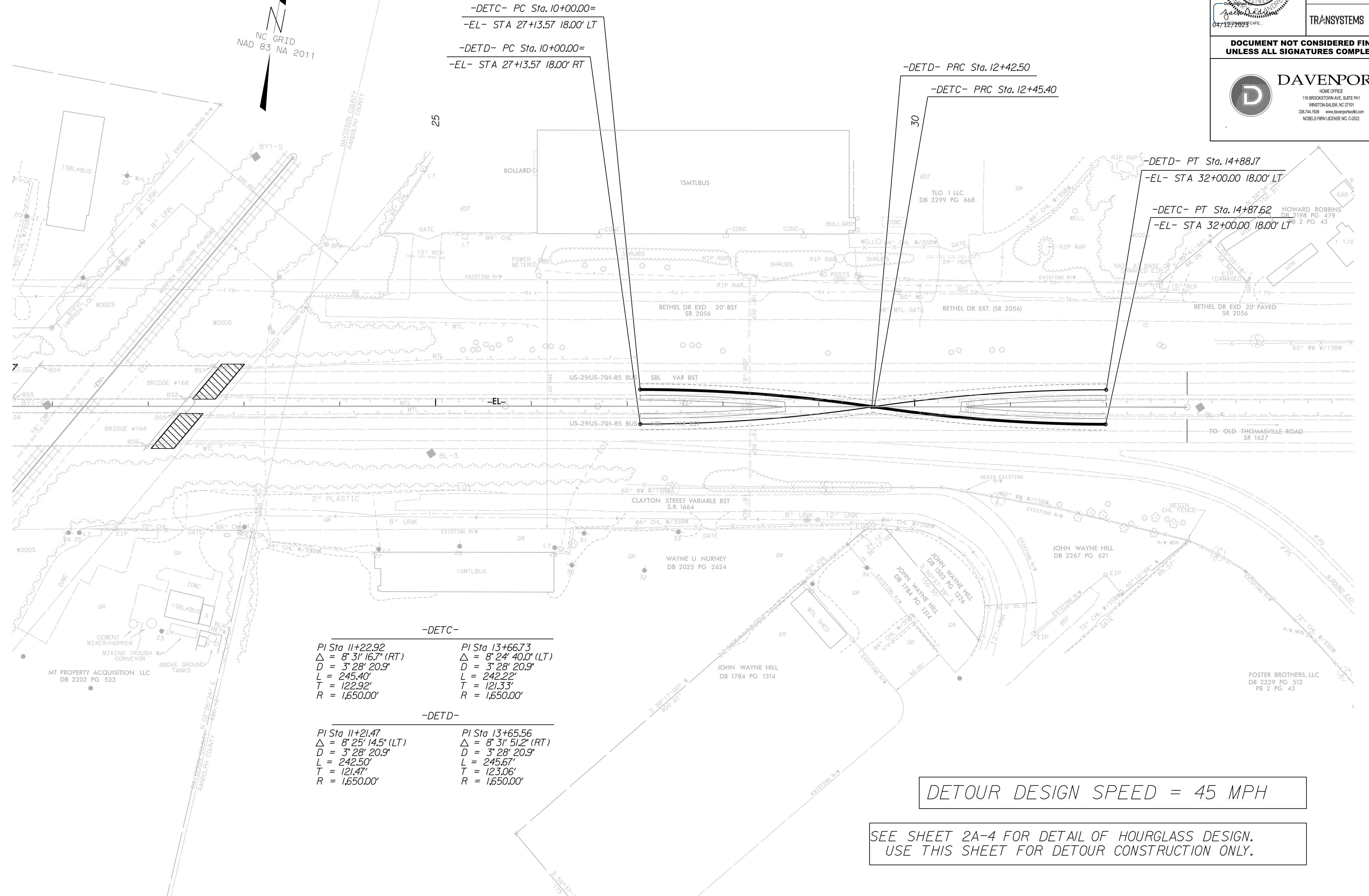
SEE SHEET 2A-4 FOR DETAIL OF HOURGLASS DESIGN.
USE THIS SHEET FOR DETOUR CONSTRUCTION ONLY.

DETOUR DESIGN SPEED = 45 MPH

4:56:38 PM
 7:20:16 AM
 I:\SEB\zandrews

PROJECT REFERENCE NO. B-5783	SHEET NO. 2B-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULIC DESIGN ENGINEER
TRANSYSTEMS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
DAVENPORT HOME OFFICE 119 BROOKSTOWN AVE, SUITE PH1 WINSTON-SALEM, NC 27101 336.744.1656 www.davenportllc.com NC REG. P.E. LICENSE NO. C2622	

CROSS-OVER LOCATION #2: STA. 27+13.57 TO STA. 32+00



-DETC- PC Sta. 10+00.00=
 -EL- STA 27+13.57 18.00' LT
 -DETD- PC Sta. 10+00.00=
 -EL- STA 27+13.57 18.00' RT

-DETD- PRC Sta. 12+42.50
 -DETC- PRC Sta. 12+45.40

-DETD- PT Sta. 14+88.17
 -EL- STA 32+00.00 18.00' LT
 -DETC- PT Sta. 14+87.62
 -EL- STA 32+00.00 18.00' LT

-DETC-
 PI Sta 11+22.92
 $\Delta = 8' 31'' 16.7''$ (RT)
 $D = 3' 28'' 20.9''$
 $L = 245.40'$
 $T = 122.92'$
 $R = 1,650.00'$

PI Sta 13+66.73
 $\Delta = 8' 24'' 40.0''$ (LT)
 $D = 3' 28'' 20.9''$
 $L = 242.22'$
 $T = 121.33'$
 $R = 1,650.00'$

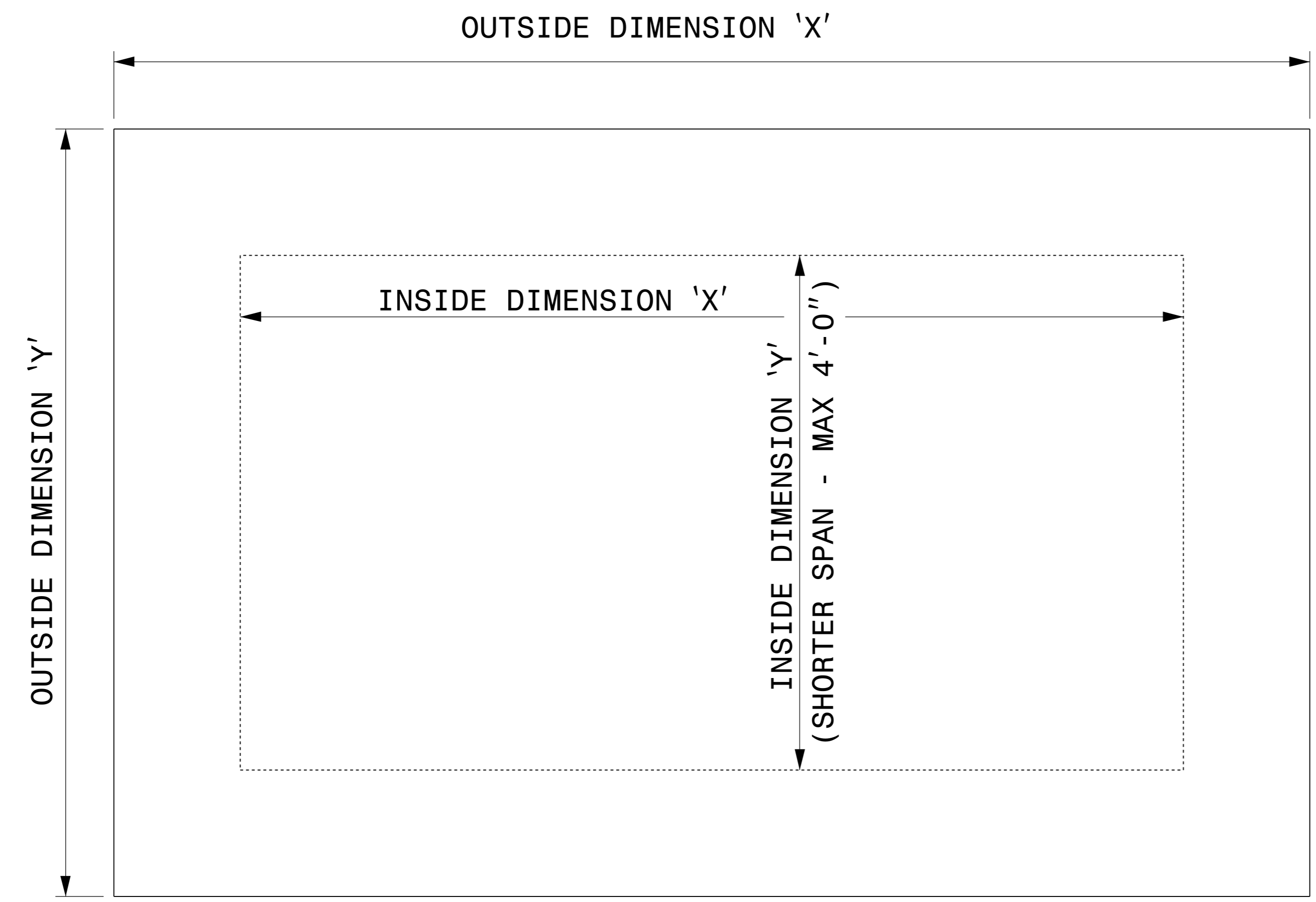
-DETD-
 PI Sta 11+21.47
 $\Delta = 8' 25'' 14.5''$ (LT)
 $D = 3' 28'' 20.9''$
 $L = 242.50'$
 $T = 121.47'$
 $R = 1,650.00'$

PI Sta 13+65.56
 $\Delta = 8' 31'' 51.2''$ (RT)
 $D = 3' 28'' 20.9''$
 $L = 245.67'$
 $T = 123.06'$
 $R = 1,650.00'$

DETOUR DESIGN SPEED = 45 MPH

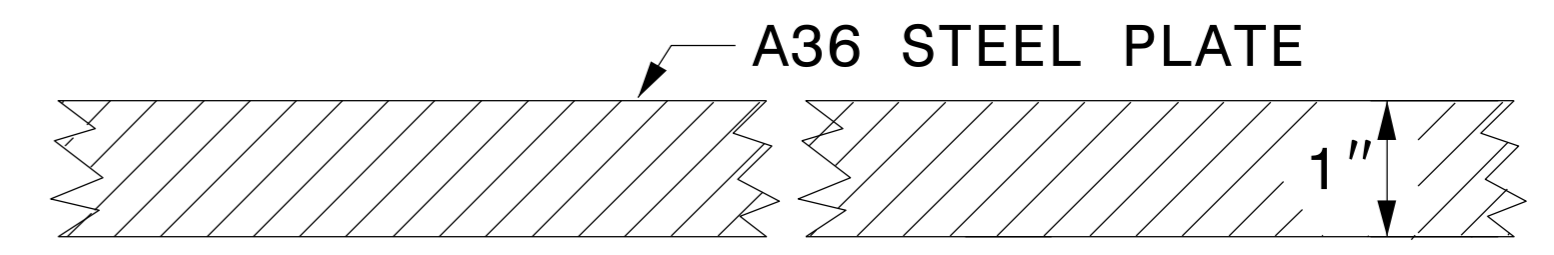
SEE SHEET 2A-4 FOR DETAIL OF HOURGLASS DESIGN.
USE THIS SHEET FOR DETOUR CONSTRUCTION ONLY.

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USER: zandrews



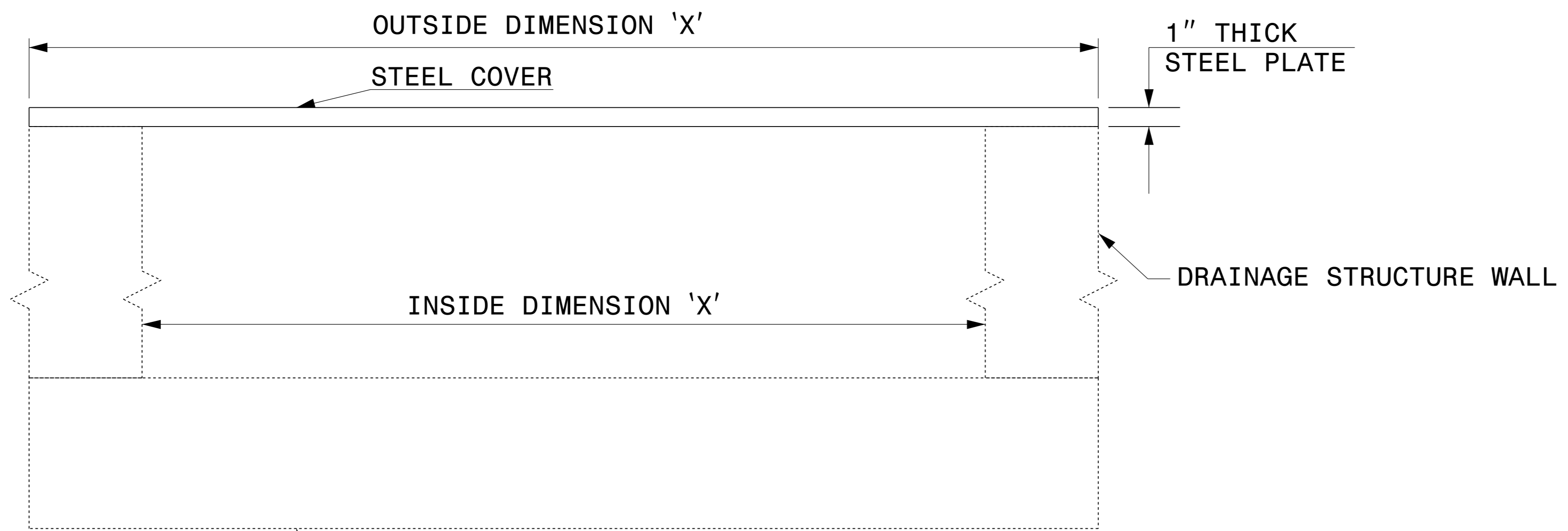
GENERAL NOTES:

- USE GRADE A36 STEEL
- STEEL COVERS ARE FOR TEMPORARY USE DURING PHASE CONSTRUCTION.
- FILL SHALL BE PLACED DIRECTLY OVER THE STEEL PLATES.
- SEE ROADWAY PLANS AND PROVISIONS FOR LOCATIONS
- QUANTITIES TO BE PAID FOR AT THE UNIT PRICE BID PER EACH.

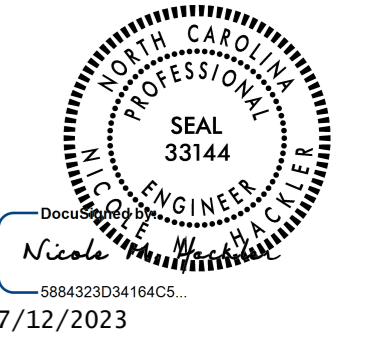


SECTION VIEW OF STEEL TOP PLATE

PLAN VIEWS



ELEVATION VIEWS



07/12/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

DETAIL OF TEMPORARY 1" STEEL COVER OVER DRAINAGE STRUCTURE

ORIGINAL BY: E.E. WARD DATE: 2-2-98
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: eric:/usr/details/metric/stand/st1cvr2.dgn

\$\$\$\$\$ USERNAME\$\$\$\$\$

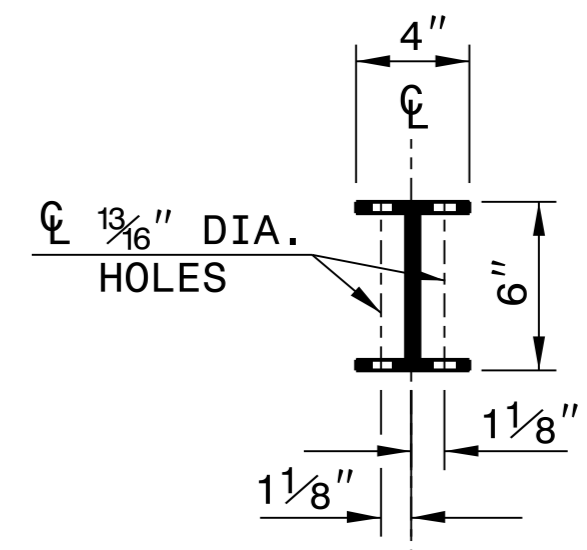
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



STANDARD W-BEAM GUARDRAIL



PLAN



**WOOD OFFSET BLOCK
(FOR WOOD POSTS)**

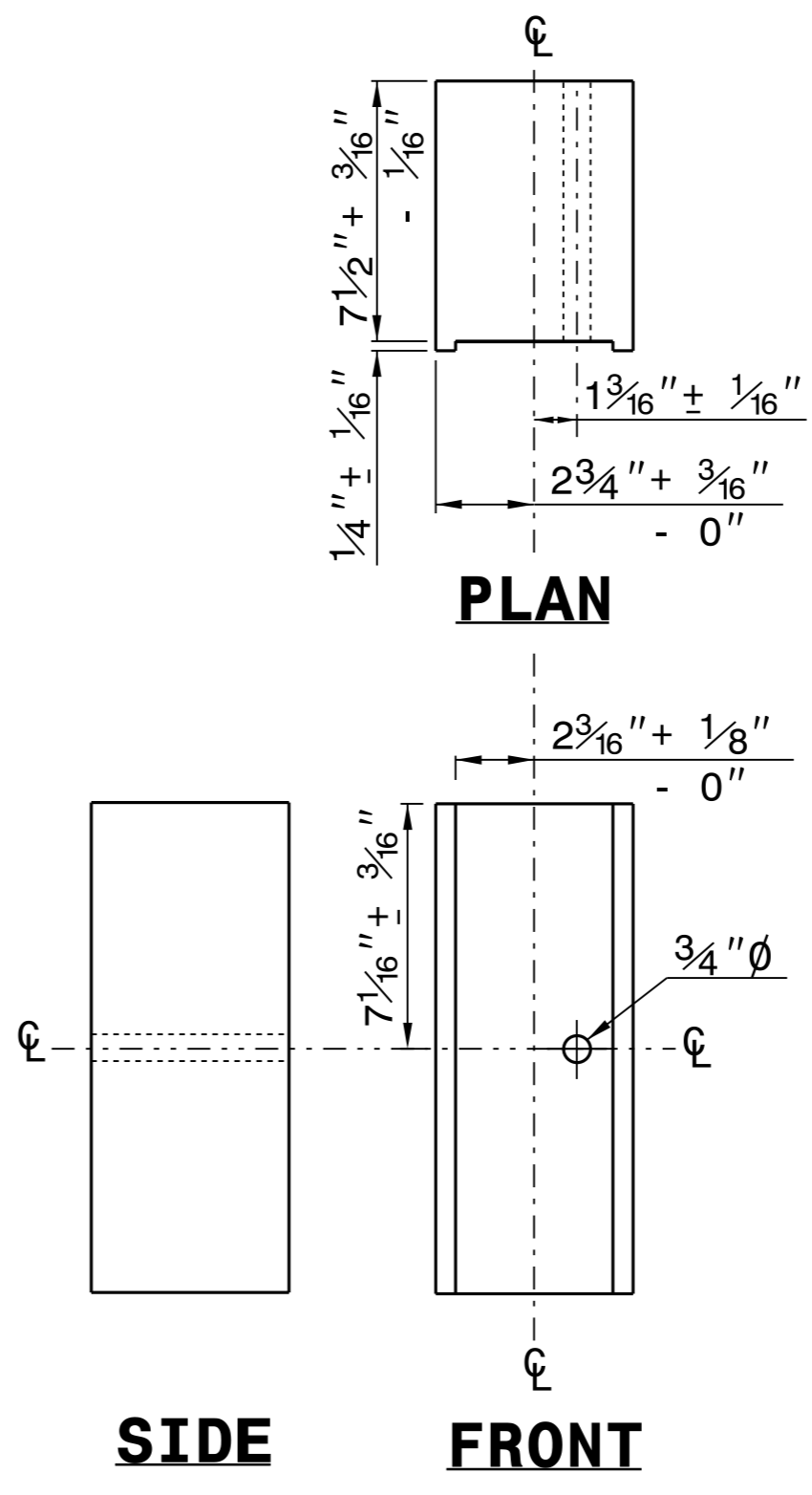
**STANDARD
LINE POST**

**SHORT WOOD
BREAKAWAY POST**



**STEEL TUBE
TS 6"x8"x0.1875"**

SYSTEM PARTS

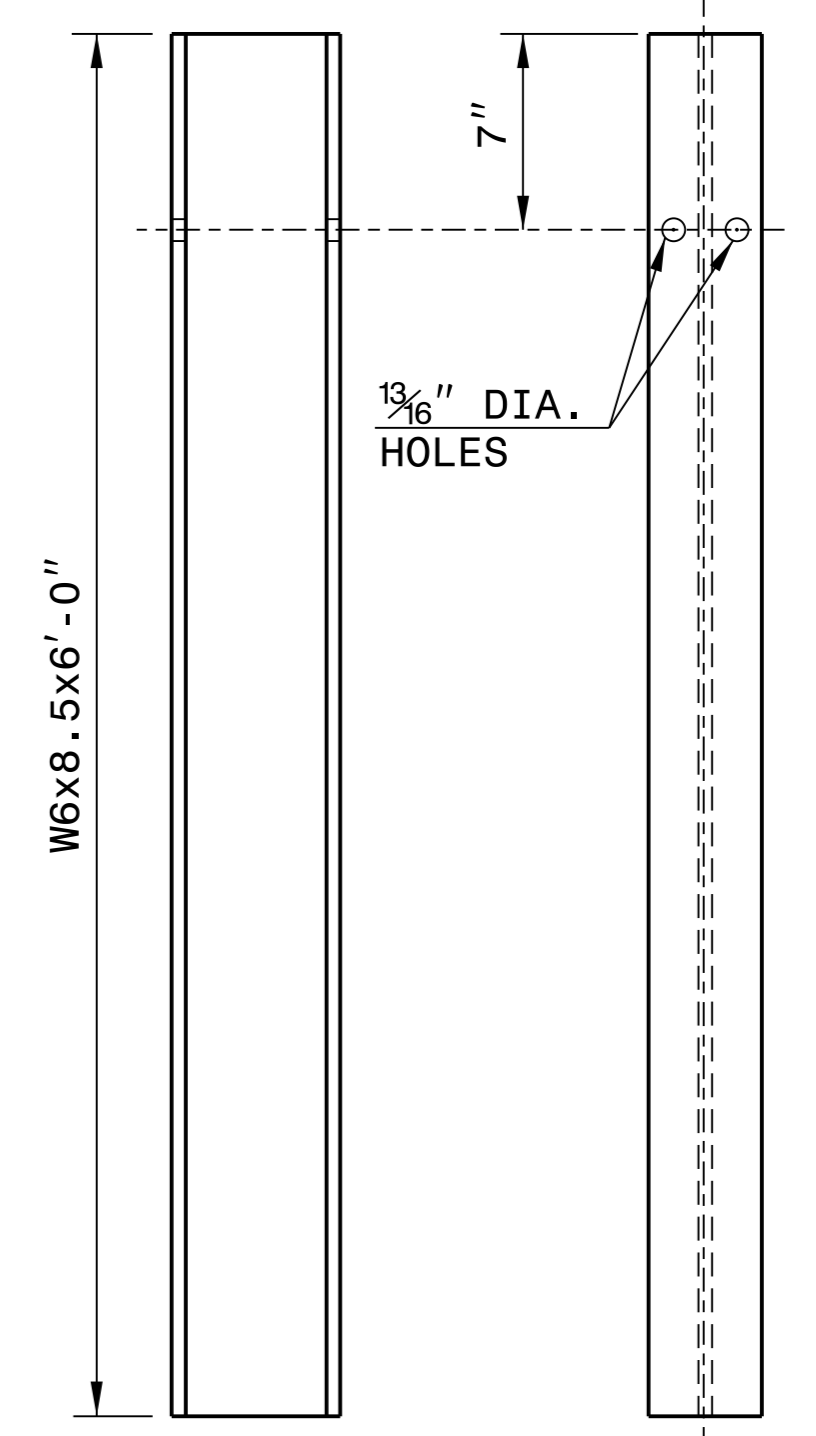


PLAN

SIDE

FRONT

**ROUTED
OFFSET BLOCK**



SIDE

FRONT

"W6" STEEL POST

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



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

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON	DATE: 3-7-2018
MODIFIED BY:	DATE:
CHECKED BY:	DATE:
FILE SPEC.:	

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

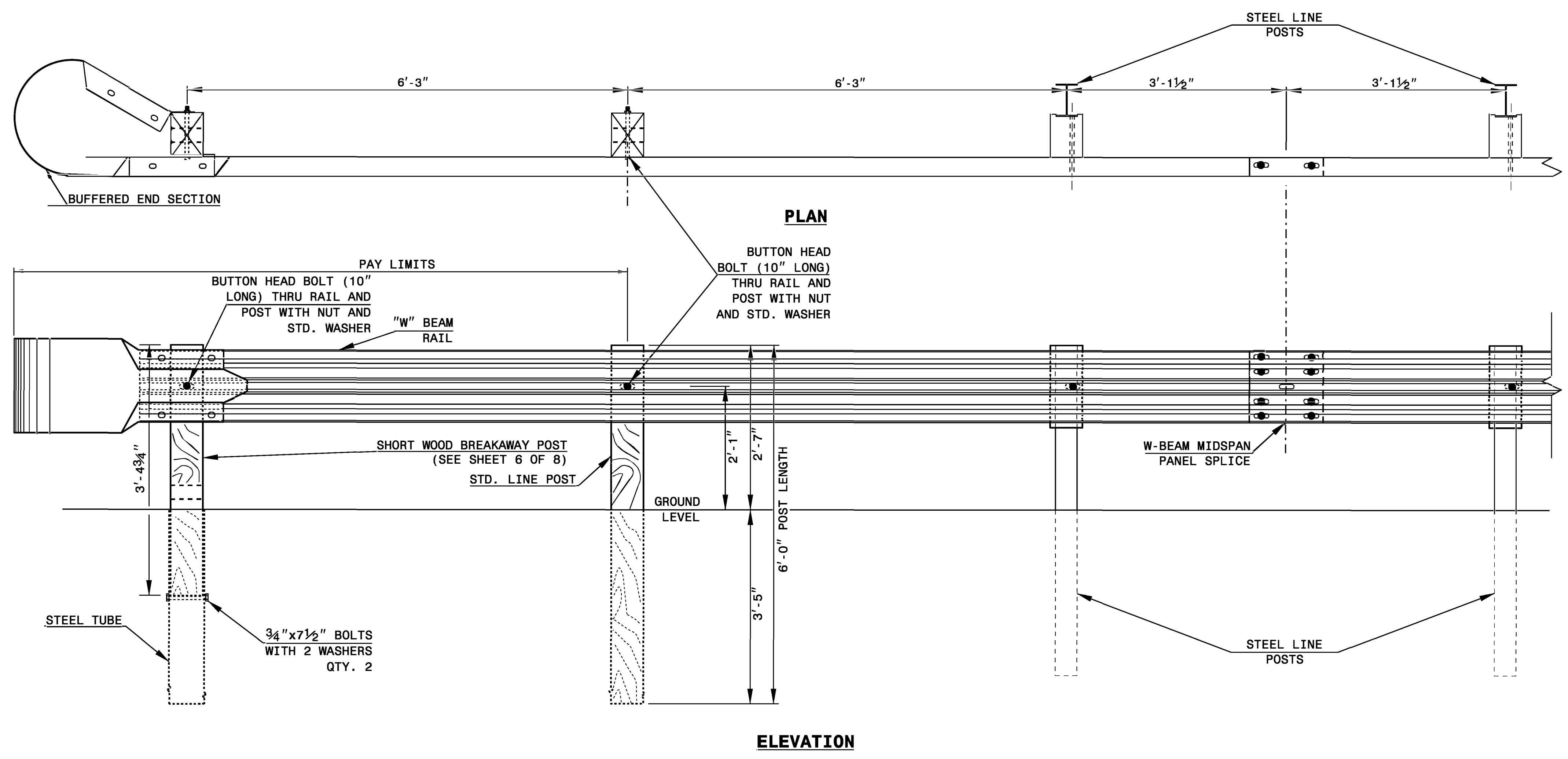
ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET OF

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET OF



TRAILING END UNIT ASSEMBLY
A.T. - 1 SYSTEM



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT	
Office 919-707-6950	FAX 919-250-4119
A.T. - 1 SYSTEM	
ORIGINAL BY: _____	DATE: _____
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	


GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)		
		HP 10x42	HP 12x53	HP 14x73	HP 10x42	HP 12x53	HP 14x73				
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
	12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
	12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5

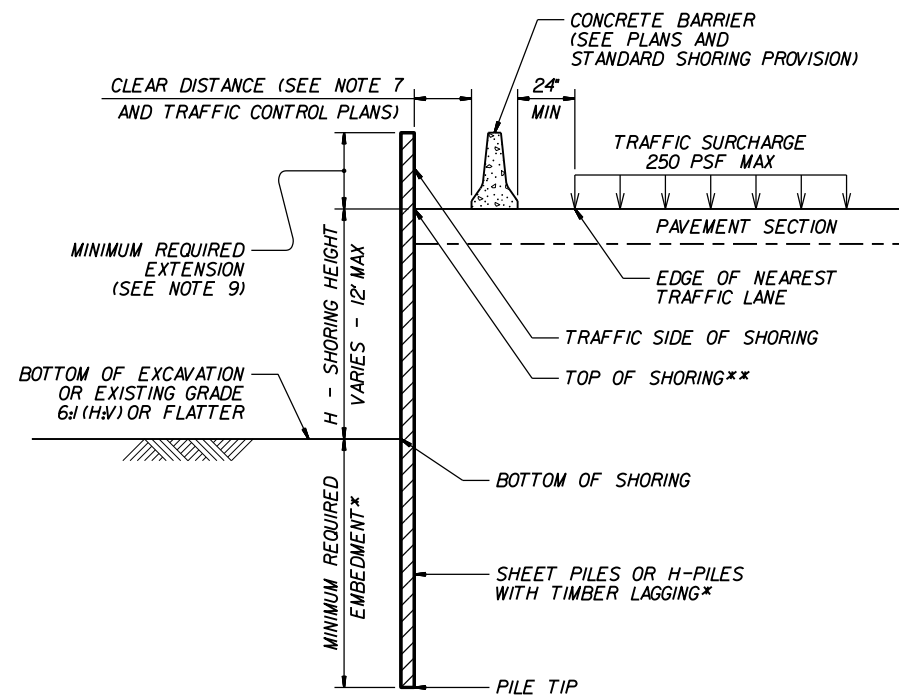
MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

*DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".

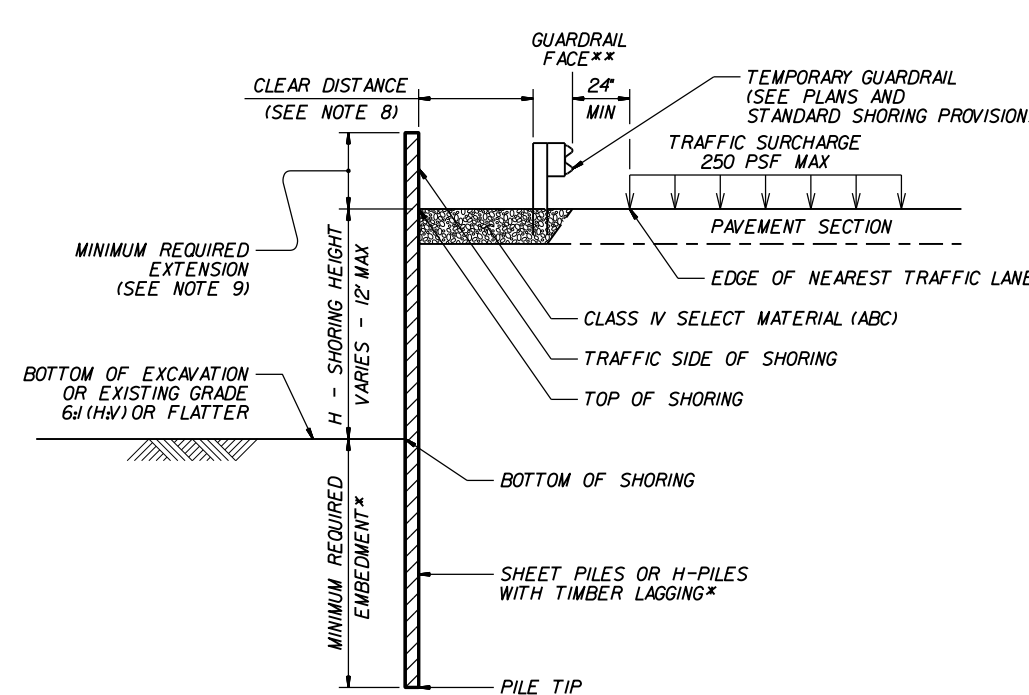
NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
4. DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
7. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
8. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
9. MINIMUM REQUIRED EXTENSION IS 6' FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32' FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
10. MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
11. SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
12. CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

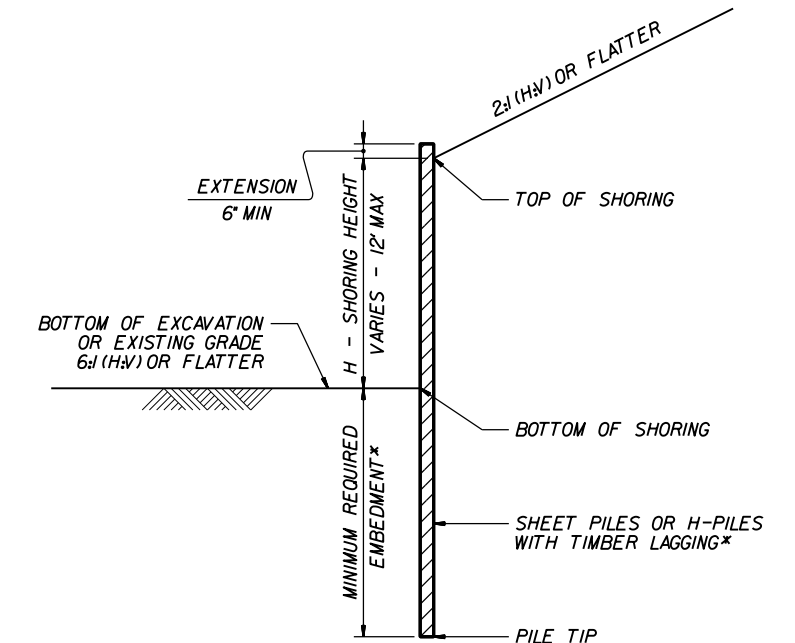
GEOTECHNICAL ENGINEER  SEAL PE # _____ ENGINEER SEAL NAME _____	ENGINEER SIGNATURE _____ DATE _____ SIGNATURE _____ DATE _____
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



CONCRETE BARRIER
**TOP OF SHORING = EDGE OF PAVEMENT

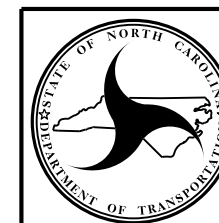


TEMPORARY GUARDRAIL
**GUARDRAIL FACE = EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING (SLOPE CASE)
*SEE TABLE ABOVE.

STANDARD TEMPORARY SHORING (SURCHARGE CASE)
*SEE TABLE ABOVE.



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STANDARD DETAIL NO. 1801.01

STANDARD TEMPORARY SHORING

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SUMMARY OF EARTHWORK
(IN CUBIC YARDS)

STATION	STATION	UNCL. EXCAV.	EMBANK. %	BORROW	WASTE
9+50.00 -EL-	17+00.00 -EL-	1,597	3,971	2,374	
17+00.00 -EL-	20+00.00 -EL-	47	5,392	5,345	
22+50.00 -EL-	30+00.00 -EL-	367	5,194	4,827	
30+00.00 -EL-	32.50.00 -EL-	225	73	0	152
10+00.00 -RPC-	14+15.00 -RPC-	195	61	0	134
10+00.00 -DET A/B-	14+15.00 -RPC-	0	8	8	
10+00.00 -DET C/D-	14+15.00 -RPC-	0	5	5	
SUBTOTALS:		2,430	14,702	12,557	286
MATERIAL FOR SHOULDER CONST.			1,365	1,365	
LOSS DUE TO CLEARING & GRUBBING:		-350		350	
UNSUITABLE WASTE		150			150
WASTE IN LIEU OF BORROW				-286	-286
GRAND TOTALS:		2,230	16,066	14,685	150
SAY:		2,300		14,700	
EST. CONTINGENCY UNDERCUT = 600 CU. YD. EST. SHALLOW UNDERCUT = 200 CU. YD.					
EST. SELECT GRANULAR MATERIAL = 600 CU. YD.					

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

ASPHALT PAVEMENT REMOVAL SUMMARY

STATION	STATION	LOCATION	AREA SQ FT	AREA SQ YD
12+75 ± -NBL-	13+50 ± -NBL-	APPROACH	2,625	291.67
28+50 ± -NBL-	30+00 ± -NBL-	TRAILING	4,350	483.33
13+00 ± -SBL-	13+50 ± -SBL-	APPROACH	1,600	177.78
29+00 ± -SBL-	30+50 ± -SBL-	TRAILING	4,500	500.00
10+50 ± -RPC-	13+50 ± -RPC-	ALL	2,400	266.67
10+00 ± -DET A/B-	14+90 ± -DET A/B-	ALL	490	54.44
10+00 ± -DET C/D-	14+90 ± -DET C/D-	ALL	490	54.44
SUBTOTAL:				1,828.33
SAY:				1,830

SHOULDER BERM GUTTER SUMMARY
(IN LINEAR FEET)

SURVEY LINE	STATION	STATION	LOCATION	LENGTH
-EL-	17+74.00	19+66.32	RT	192.3
-EL-	19+42.95	19+96.96	MED-RT	54.0
-EL-	19+42.99	20+09.62	MED-LT	66.6
-EL-	18+64.00	20+41.32	LT	177.3
-EL-	22+26.86	25+09.81	RT	283.0
-EL-	22+58.02	23+25.00	MED-RT	67.0
-EL-	22+69.50	23+25.00	MED-LT	55.5
-EL-	23+01.41	27+05.01	LT	403.6
TOTAL:				1,299.3
SAY:				1,300

GUARDRAIL SUMMARY
(IN LINEAR FEET)

"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.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH		WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W	ANCHORS										REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS						
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END			TRAILING END	APPROACH END		TRAILING END	APPROACH END	TRAILING END	XI MOD	B-77	GREU TL-3	M-350	III	CAT-1	VI MOD			BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA G NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	
-NBL-	16+53.85	19+66.35	RT	262.50			19+00.00	19+66.35	10	13	50				1	1												262.50		
-NBL-	22+26.29	25+51.29	RT	325.00			22+26.29	25+50.00	8	11					1													112.5		
-NBL-	16+85.00	19+95.00	MED-LT	260.00				19+95.00	VAR						1	1												260.00		
-NBL-	22+58.18	32+70.68	MED-LT	1012.50			22+58.18	32+70.68	4	7					1													1012.50		
-SBL-	4+80.00	17+00.00	MED-RT	0		1220.00	4+80.00	17+00.00	4	6																		1220.00		
-SBL-	18+56.00	20+37.00	LT	174.75			18+50.00	20+37.00	8	11					1													139.75		
-SBL-	23+05.00	31+30.00	LT	775.00			23+05.00	29+50.00	10	13	50				1	1												445.00		
-SBL-	17+00.00	20+09.00	MED-RT	309.00					4	7					1													309.00		
-SBL-	22+69.51	32+69.51	MED-RT	1000.00					4	7					1													1000.00		
SUBTOTAL				4118.75		1220.00																								
LESS ANCHOR DEDUCTIONS (8 B-77, 3 TL-3, 2 CAT-1)																														
TOTAL				3806.25		1220.00			52	75	50	50			8	3												4760.75		
SAY				3812.50		1225.00																						4800.00		
ADDITIONAL GUARDRAIL POSTS = 5 EACH																														

TEMPORARY GUARDRAIL SUMMARY

-SBL-	3+82.00		RT																										535	
-SBL-	9+15.00		RT																											
-SBL-	27+13.50		RT																											
-NBL-	32+00.00		LT												1															1070
-SBL-	3+82.00		RT												1															535
-SBL-	9+15.00		RT																											
-NBL-	26+48.50		LT																											
-SBL-	32+00.00		RT																											
TOTAL																2	2													3210

5:31:35 PM 2/20/16 16:05:05 NCDOT_B5783_US29-70\DESIGN\B5783_US29-70\Roadway\Sheets\B5783_ROY_PSH_3B-1.dgn

COMPUTED BY: Hunsberger, W. S. DATE: 6/9/22

CHECKED BY: Hamm, J. R. DATE: 6/9/22

(12-17-19)

PROJECT NO.

B-5783

SHEET NO.

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
-L-	12+00	14+00	LT/RT	SD	400
				TOTAL LF:	400

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

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

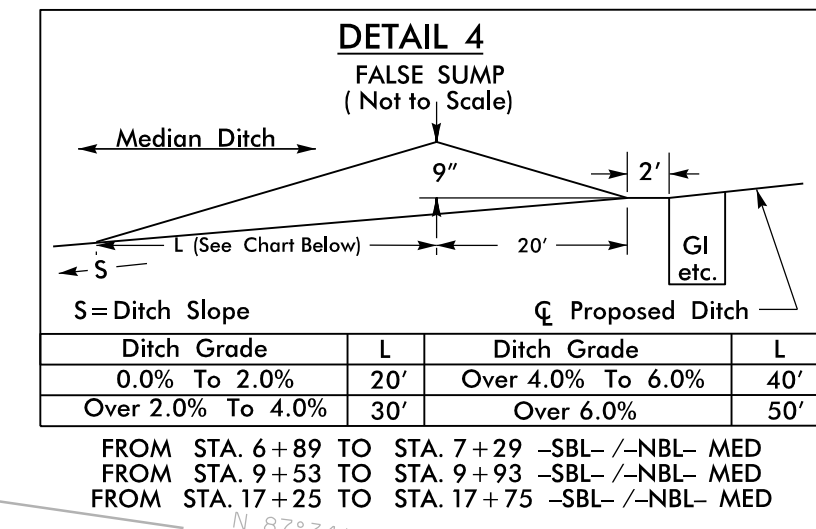
LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
			CONTINGENCY	ASU(1)	18	200	800	1000	
				TOTAL CY/TONS/SY:		200	800**	1000**	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)

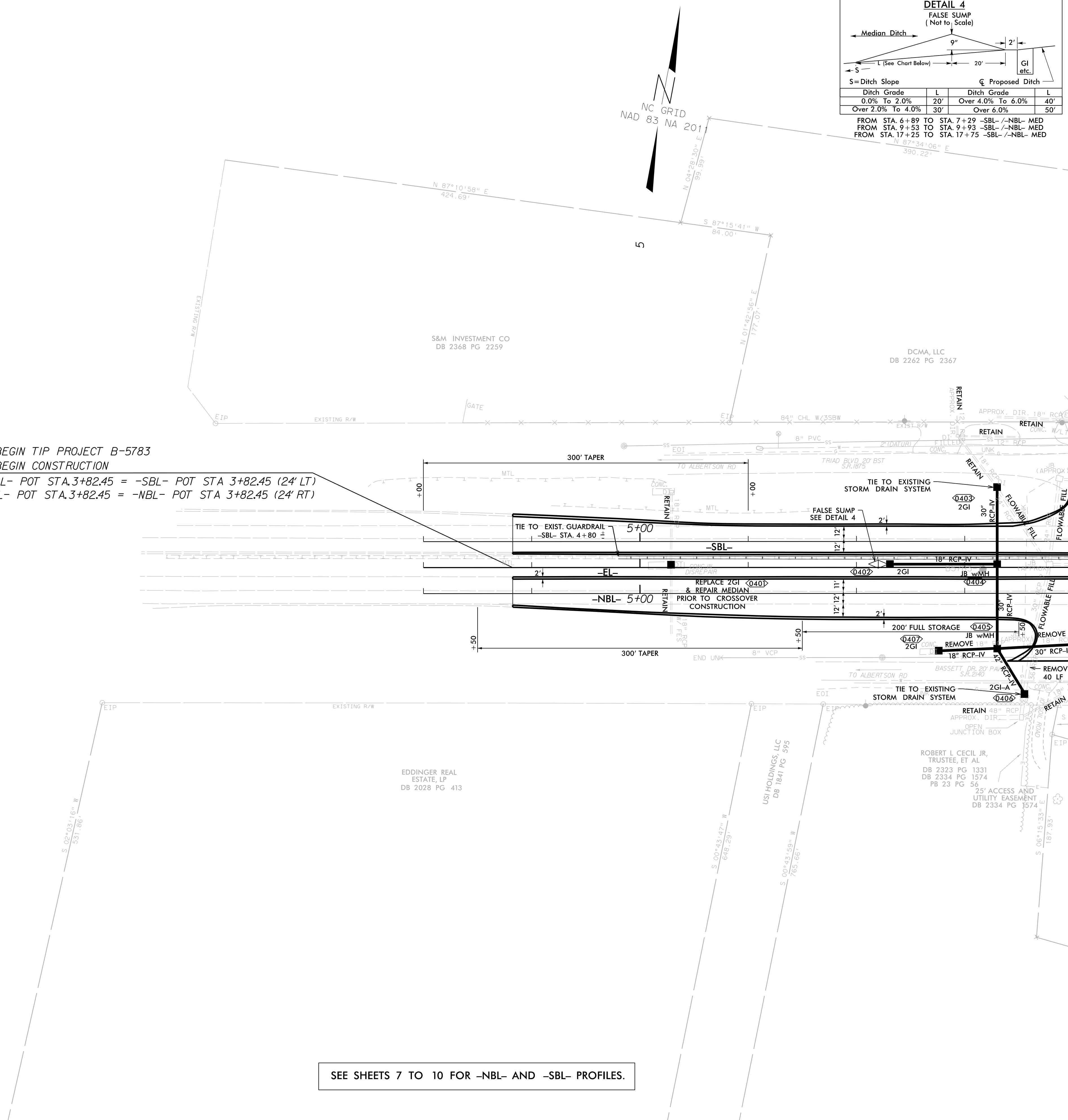
*AST = Aggregate Stabilization

**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.

PROJECT REFERENCE NO. B-5783		SHEET NO. 4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULIC DESIGN ENGINEER	
TRANSYSTEMS		TRANSYSTEMS	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
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BEGIN TIP PROJECT B-5783
 BEGIN CONSTRUCTION
 -EL- POT STA.3+82.45 = -SBL- POT STA 3+82.45 (24' LT)
 -EL- POT STA.3+82.45 = -NBL- POT STA 3+82.45 (24' RT)



MATCHLINE STA. 9+00 SHEET 5

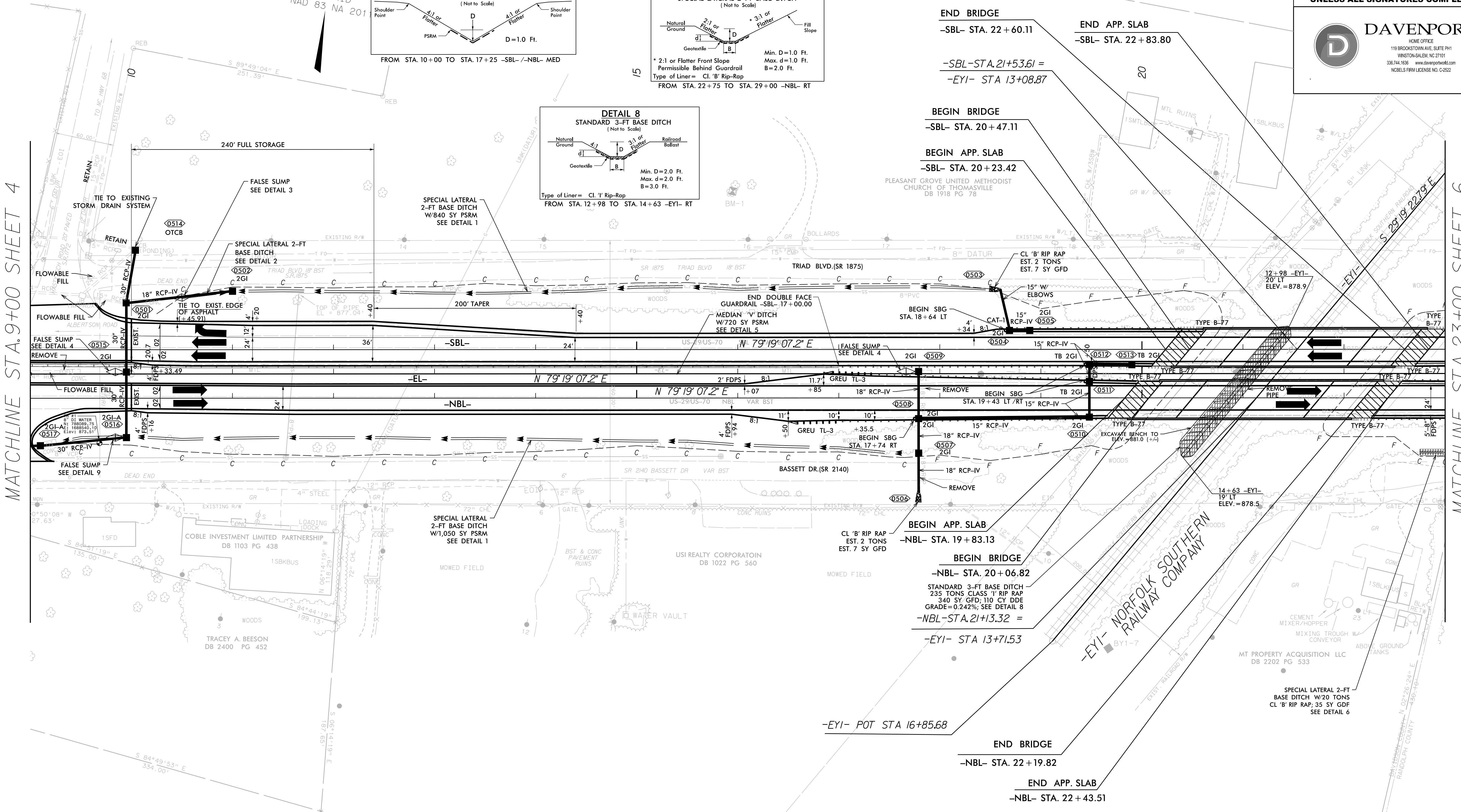
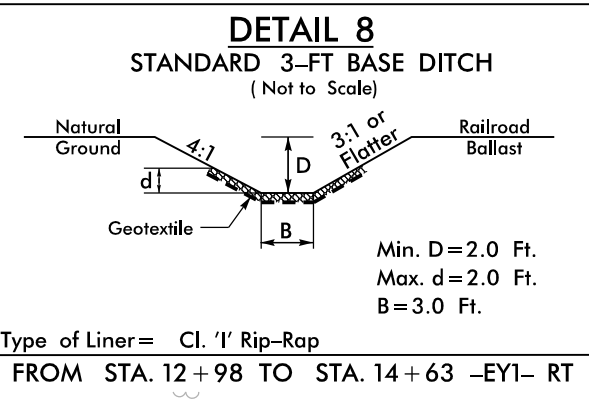
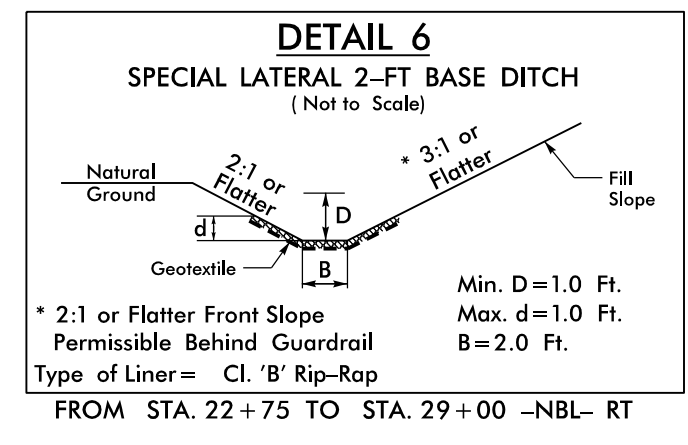
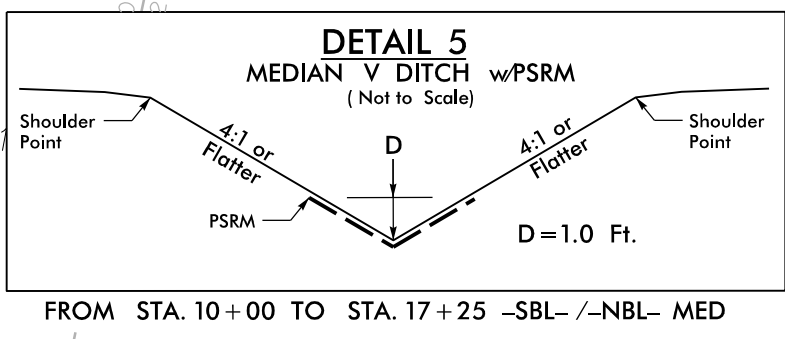
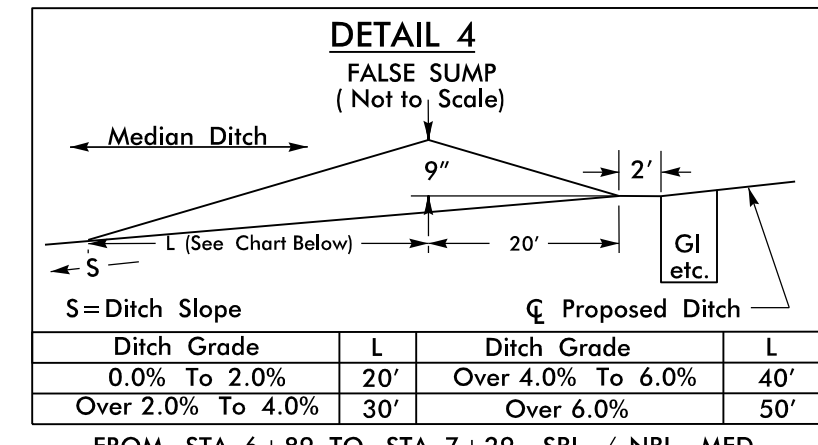
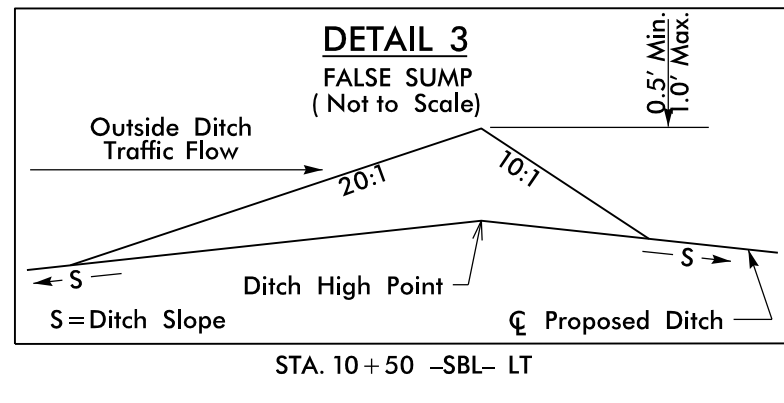
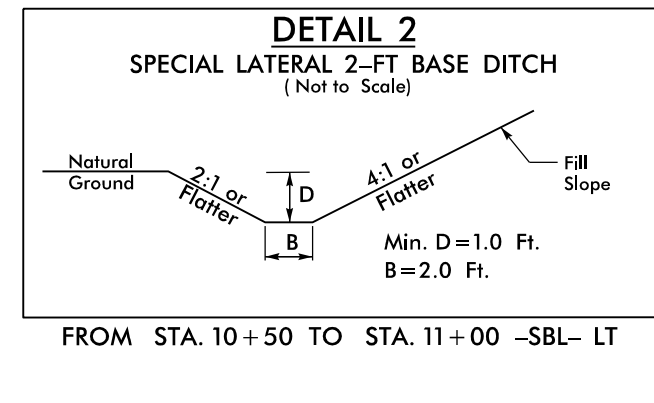
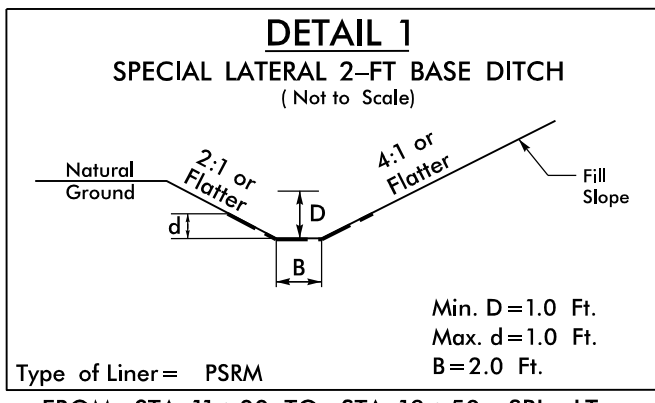
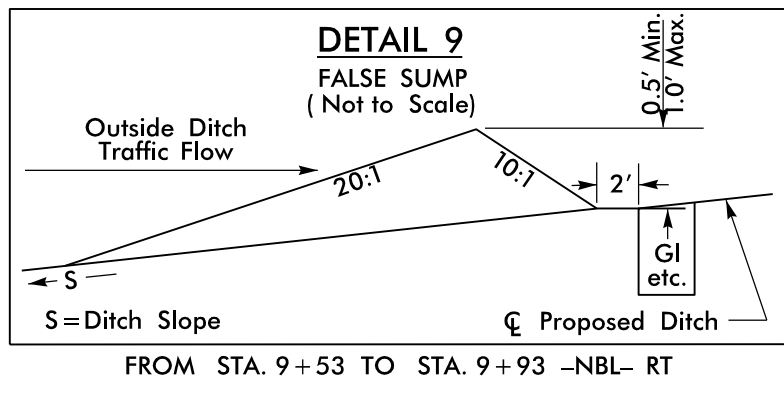
SEE SHEETS 7 TO 10 FOR -NBL- AND -SBL- PROFILES.

8/17/19

PROJECT REFERENCE NO. B-5783		SHEET NO. 5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULIC DESIGN ENGINEER	

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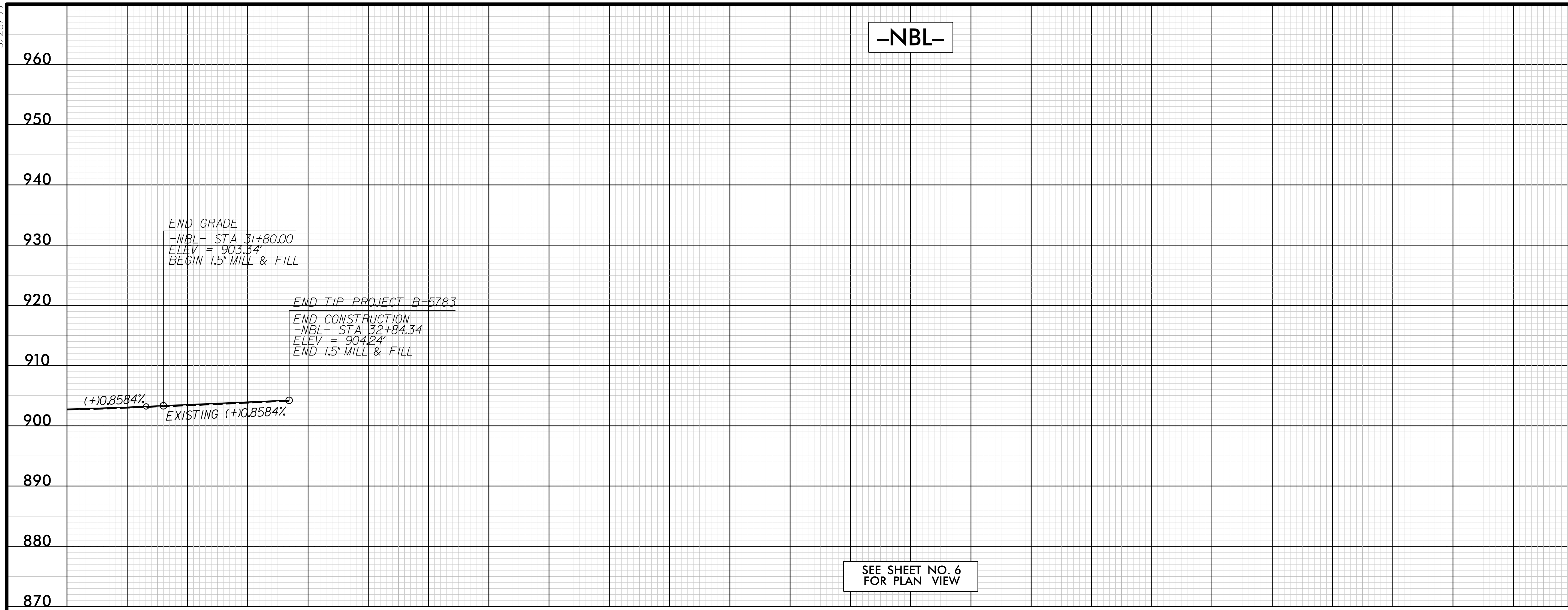
MATCHLINE STA. 9+00 SHEET 4

MATCHLINE STA. 23+00 SHEET 6

SEE SHEETS 7 TO 10 FOR -NBL- AND -SBL- PROFILES.

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5/28/99



-NBL-

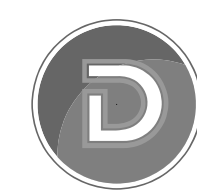
SEE SHEET NO. 6 FOR PLAN VIEW

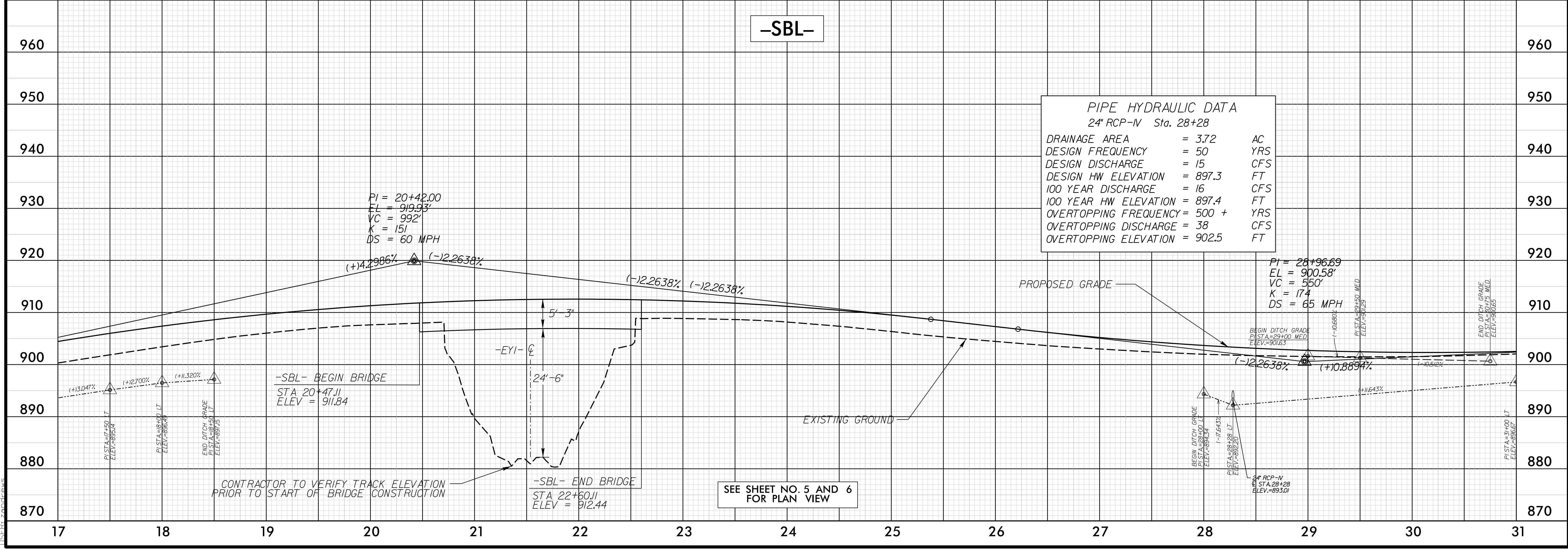
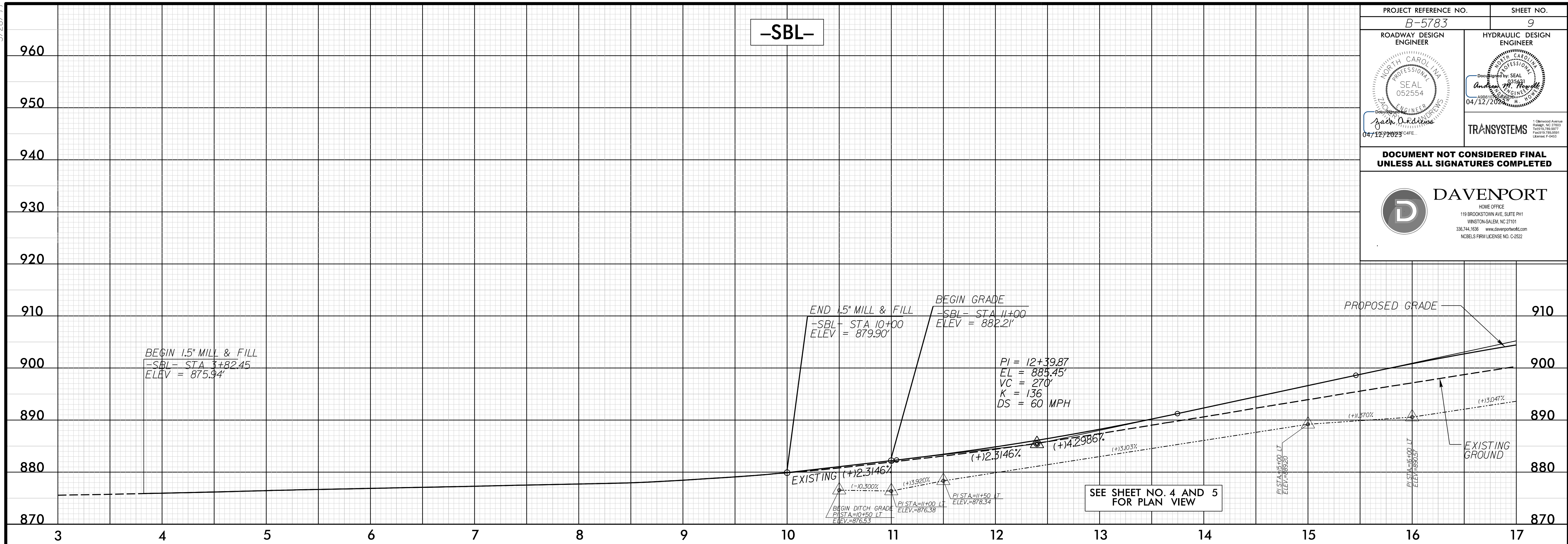
PROJECT REFERENCE NO. <i>B-5783</i>		SHEET NO. <i>8</i>	
ROADWAY DESIGN ENGINEER		HYDRAULIC DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
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31 32 33 34 870 880 890 900 910 920 930 940 950 960

5/28/2023

PROJECT REFERENCE NO. B-5783	SHEET NO. 9
ROADWAY DESIGN ENGINEER <i>Jack Ardine</i> SEAL 052554 04/12/2023	HYDRAULIC DESIGN ENGINEER <i>Andrew M. ...</i> SEAL 052554 04/12/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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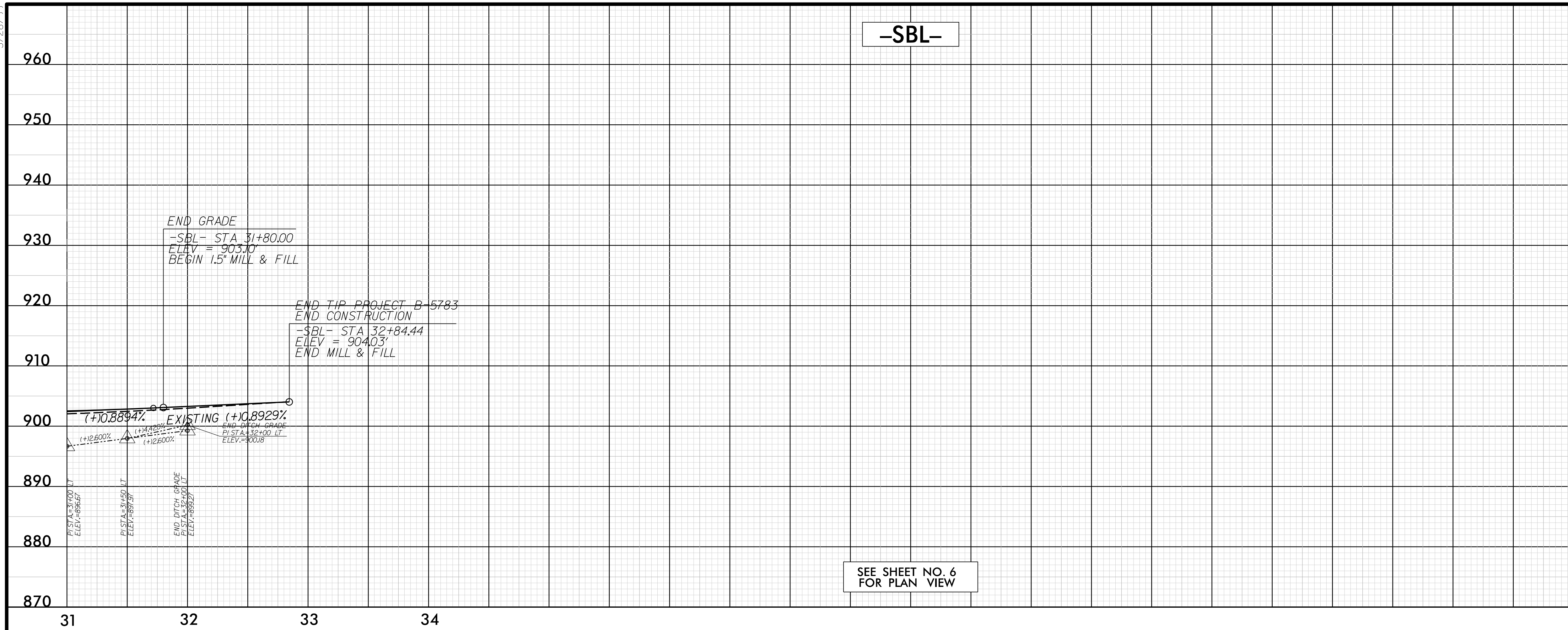
PIPE HYDRAULIC DATA
24" RCP-IV Sta. 28+28

DRAINAGE AREA	= 3.72	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 15	CFS
DESIGN HW ELEVATION	= 897.3	FT
100 YEAR DISCHARGE	= 16	CFS
100 YEAR HW ELEVATION	= 897.4	FT
OVERTOPPING FREQUENCY	= 500 +	YRS
OVERTOPPING DISCHARGE	= 38	CFS
OVERTOPPING ELEVATION	= 902.5	FT

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5/28/99

PROJECT REFERENCE NO. B-5783	SHEET NO. 10
ROADWAY DESIGN ENGINEER SEAL 052554 04/12/2023	HYDRAULIC DESIGN ENGINEER SEAL 035921 04/12/2023
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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