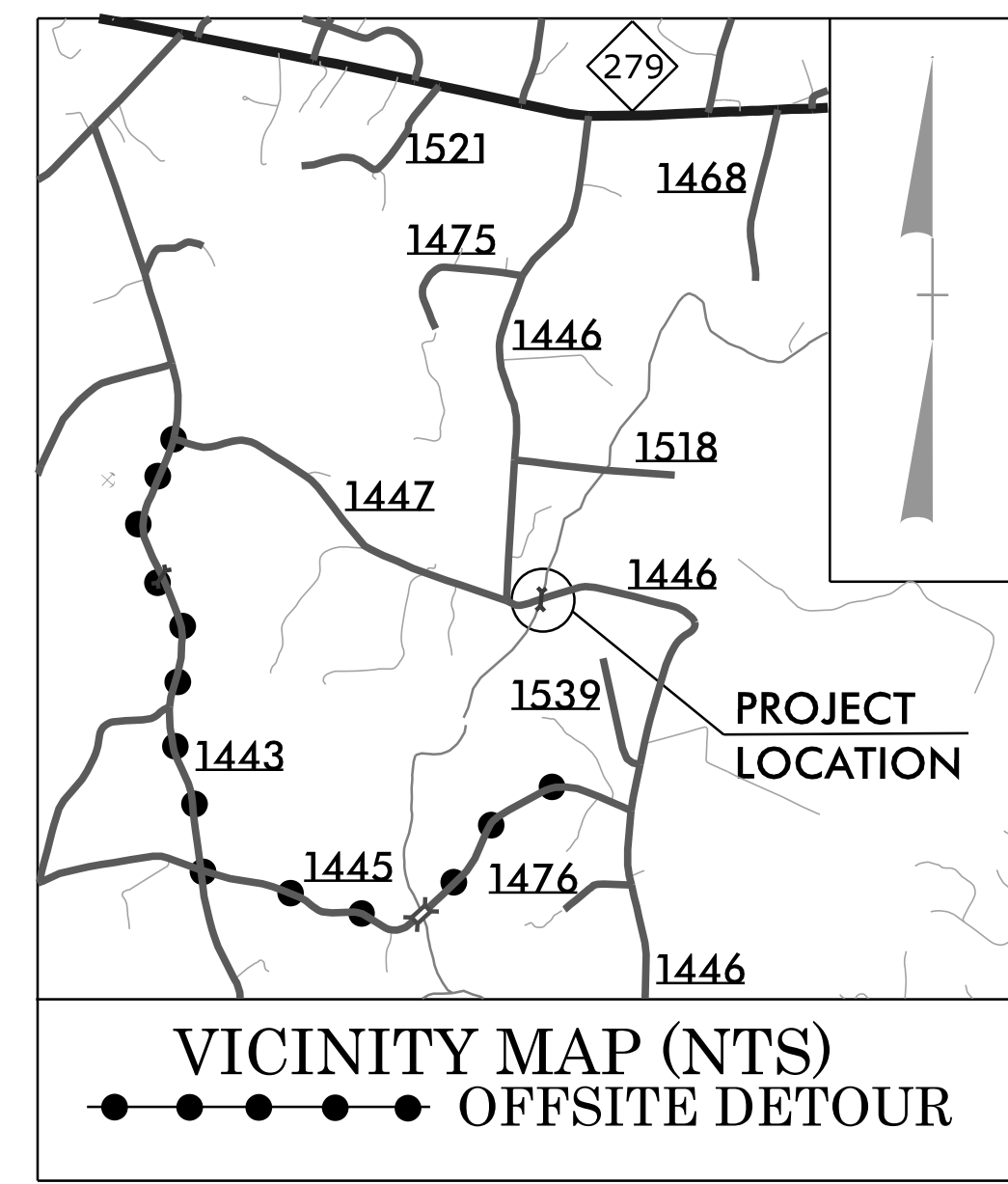


PROJECT: BP12-C004

CONTRACT: DL00383

See Sheet 1A For Index of Sheets



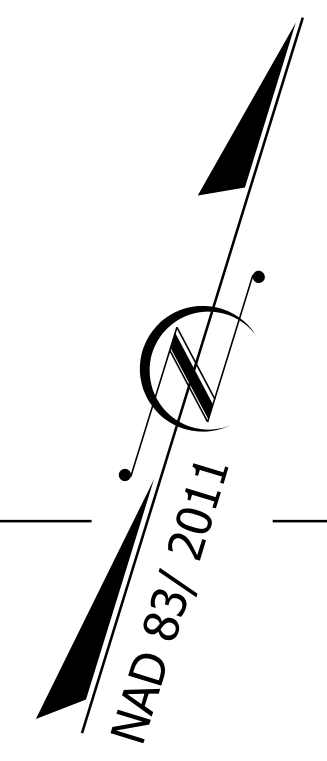
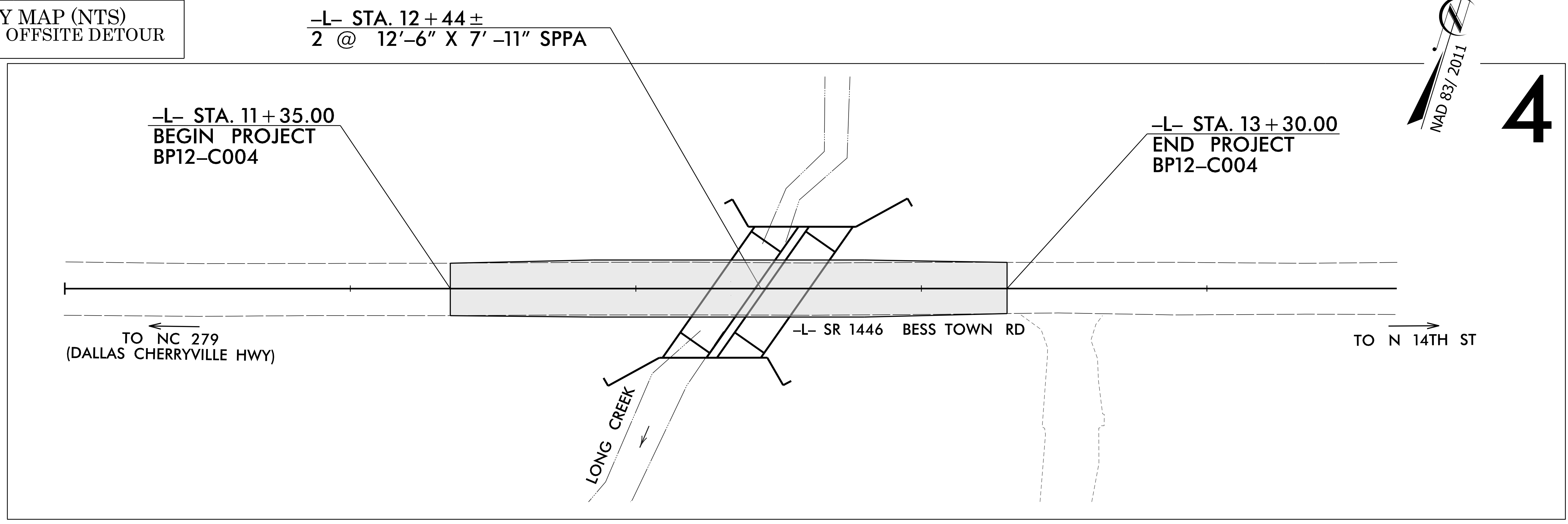
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

GASTON COUNTY

LOCATION: *REPLACE STRUCTURE #350312 OVER UT TO LONG CREEK
ON SR 1446 (BESS TOWN RD)*

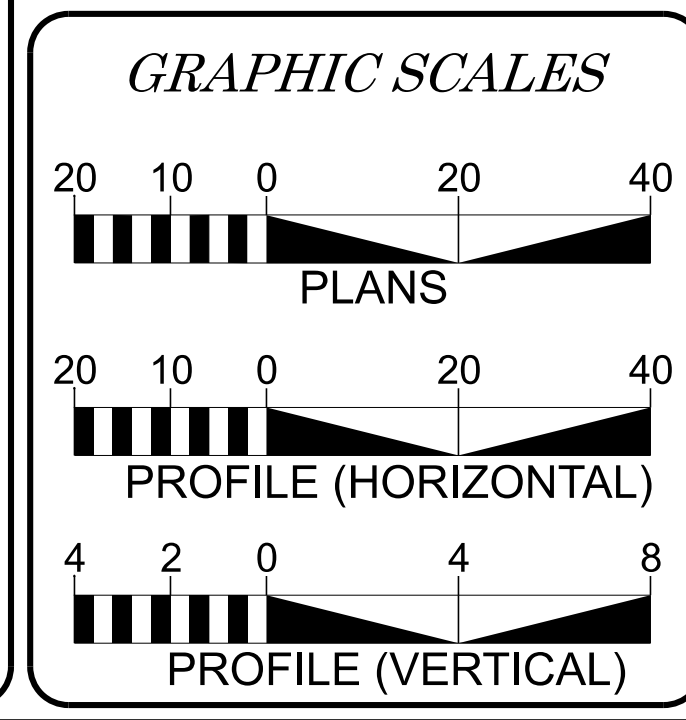
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND CULVERT*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP12-C004	11	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
BP12.C004.1	N/A	PE	
BP12.C004.2	N/A	R/W, UTIL.	
BP12.C004.3	N/A	CONST.	



4

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UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2025 = 515
ADT 2050 = 660
T = 6 % *
V = 50 MPH
* TTST = 3% DUAL = 3%

FUNC CLASS =
LOCAL RURAL
SUB REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT BP12-C004 = 0.037 MILES

TOTAL LENGTH OF PROJECT BP12-C004 = 0.037 MILES

TGS ENGINEERS
201 W. MARION ST.
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO. C-0275

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 2, 2025

LETTING DATE:
MAY 12, 2026

NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION

DIVISION 12
1710 E. MARION ST
SHELBY, NC 28150

JIMMY L. TERRY, PE
PROJECT ENGINEER

AUSTIN R. TURNER, PE
PROJECT DESIGN ENGINEER

JOSHUA B. WHITE PE, PLS
NCDOT CONTACT

HYDRAULICS ENGINEER

1/29/2026

Signed by: *John W. Twissdale, Jr.*
0964FD4C96304C... P.E.

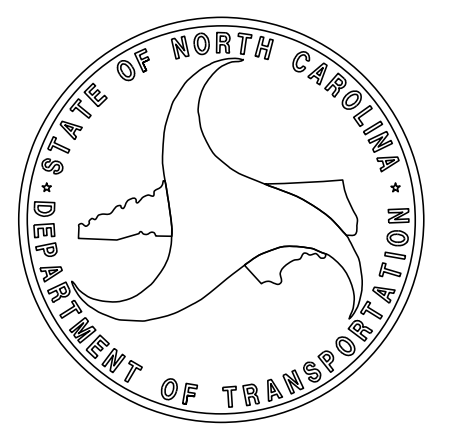
SIGNATURE:

ROADWAY DESIGN ENGINEER

2/2/2026

DocuSigned by:
Jimmy Terry
F038F088E8C46D... P.E.

SIGNATURE:



TGS
ENGINEERS
201 W. MARION ST., STE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

BP12-C004
3RD | 001A



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UNLESS ALL SIGNATURES COMPLETED**

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C-1 THRU 2C-2	SPECIAL DETAILS - METHOD OF PIPE INSTALLATION
3B-1	ROADWAY SUMMARIES
4	PLAN SHEET
5	PROFILE SHEET
RW-1 THRU RW-4	RIGHT OF WAY
TMP-1 THRU TMP-3	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
SIGN-1 THRU SIGN-2	SIGNING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-6	CROSS-SECTIONS
C-1 THRU C-4	CULVERT PLANS
STRUCTURE STANDARD NOTES	

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

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

TEMPORARY SHORING:

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

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE AT&T, and SPECTRUM

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

EFF. 01-16-2024
REV.

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement

DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)

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

DIVISION 8 - INCIDENTALS	
866.02	Woven Wire Fence - with Wood Post
876.01	Rip Rap in Channels and Ditches
876.04	Drainage Ditches with Class 'B' Rip Rap

Note: Not to Scale

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BP12-C004
3RD | 0018

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin (EIP)	○ EIP
Computed Property Corner	✕
Existing Concrete Monument (ECM)	□ ECM
Parcel / Sequence Number	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---WLB---
Proposed Wetland Boundary	---WLB---
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---
Existing Historic Property Boundary	---HPB---
Known Contamination Area: Soil	---S---
Potential Contamination Area: Soil	---S---
Known Contamination Area: Water	---W---
Potential Contamination Area: Water	---W---
Contaminated Site: Known or Potential	☠☢
BUILDINGS AND OTHER CULTURE:	
Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○ W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	□ †
Building	□
School	□
Church	□
Dam	▬
HYDROLOGY:	
Stream or Body of Water	~~~~~
Hydro, Pool or Reservoir	□
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⊥
Proposed Lateral, Tail, Head Ditch	▬
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	○
Primary Horiz and Vert Control Point	●
Secondary Horiz and Vert Control Point	◆
Vertical Benchmark	⊕
Existing Right of Way Monument	△
Proposed Right of Way Monument (Rebar and Cap)	▲
Proposed Right of Way Monument (Concrete)	⊙
Existing Permanent Easement Monument	◇
Proposed Permanent Easement Monument (Rebar and Cap)	◆
Existing C/A Monument	△
Proposed C/A Monument (Rebar and Cap)	▲
Proposed C/A Monument (Concrete)	⊙
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
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	---C---
Proposed Slope Stakes Fill	---F---
Proposed Curb Ramp	○ CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗
VEGETATION:	
Single Tree	☼
Single Shrub	☼
Hedge	~~~~~

Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

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

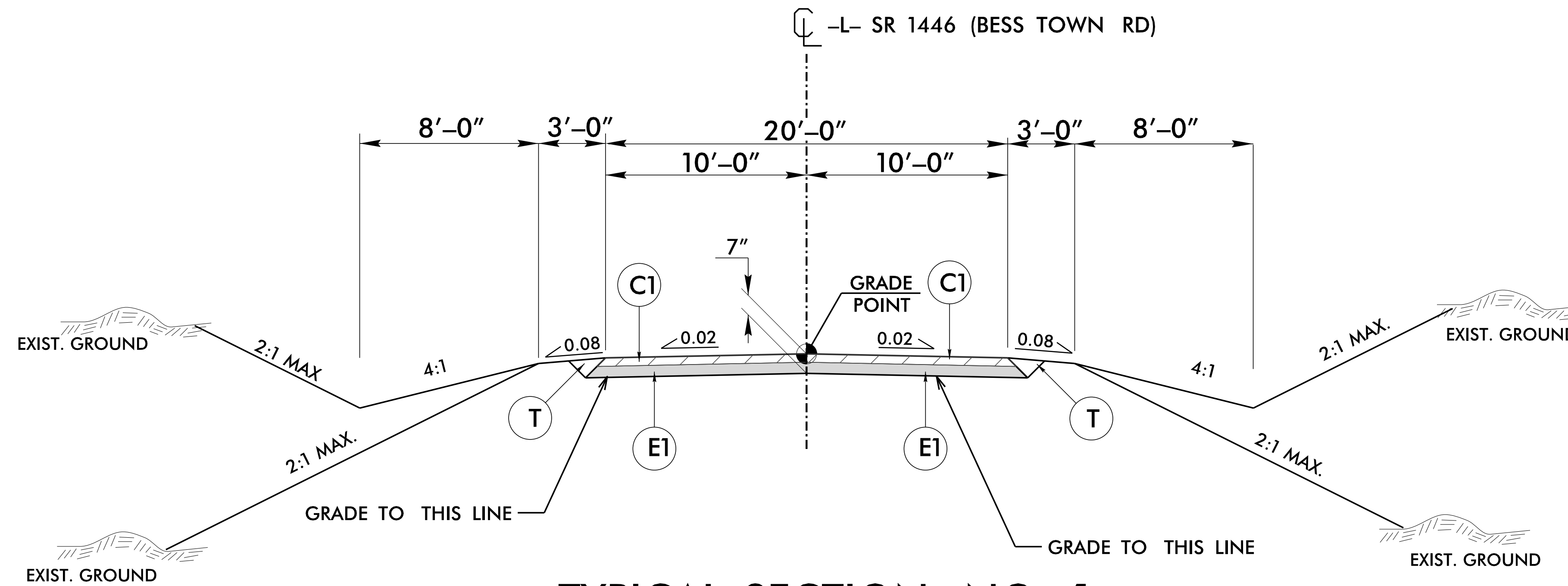
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Force Main Line Test Hole (SUE - LOS A)*	⊗
SS Force Main Line (SUE - LOS B)*	-----
SS Force Main Line (SUE - LOS C)*	-----
SS Force Main Line (SUE - LOS D)*	-----

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	AATUR
End of Information	E.O.I.

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

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



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO.1
 -L- STA. 11+85.00 TO -L- STA. 12+80.00

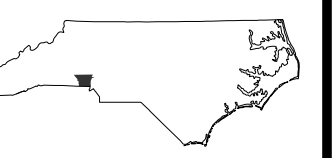
NOTE: TRANSITION BETWEEN EXISTING AND TYP. SECT. NO.1 AS FOLLOWS:

-L- STA. 11+35.00 TO -L- STA. 11+85.00
 -L- STA. 12+80.00 TO -L- STA. 13+30.00

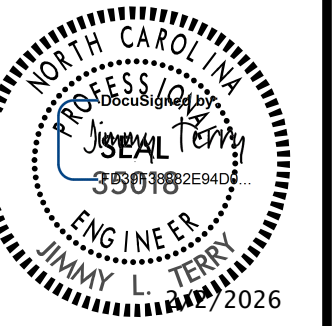
BP12-C004

3RD 2A-1

NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 GASTON COUNTY

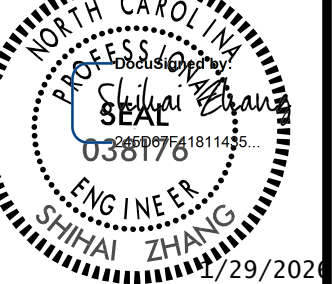


ROADWAY DESIGN UNIT
 ROADWAY DESIGN ENGINEER



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PAVEMENT DESIGN ENGINEER

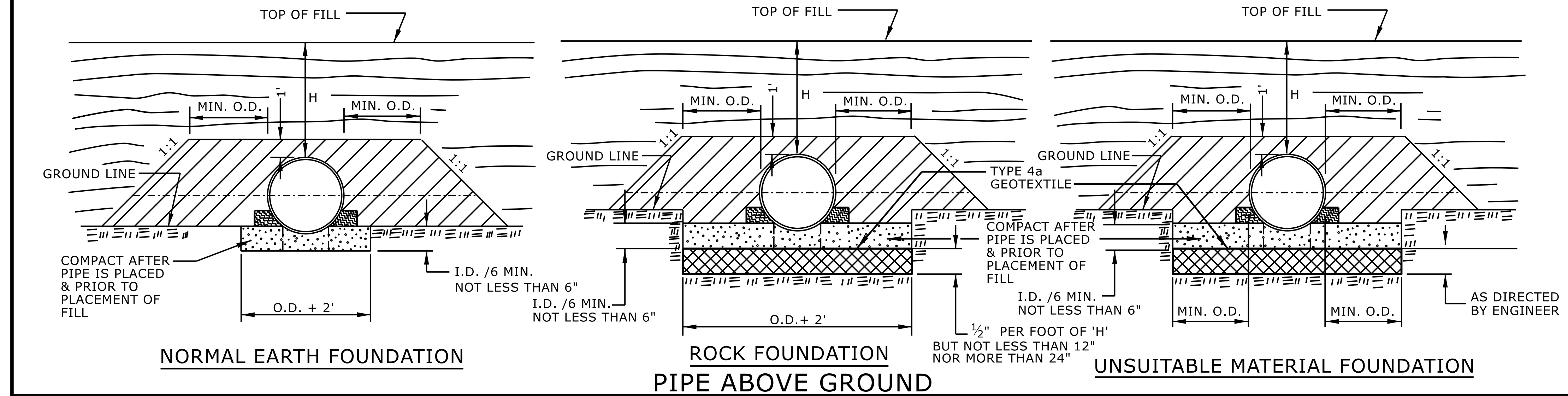
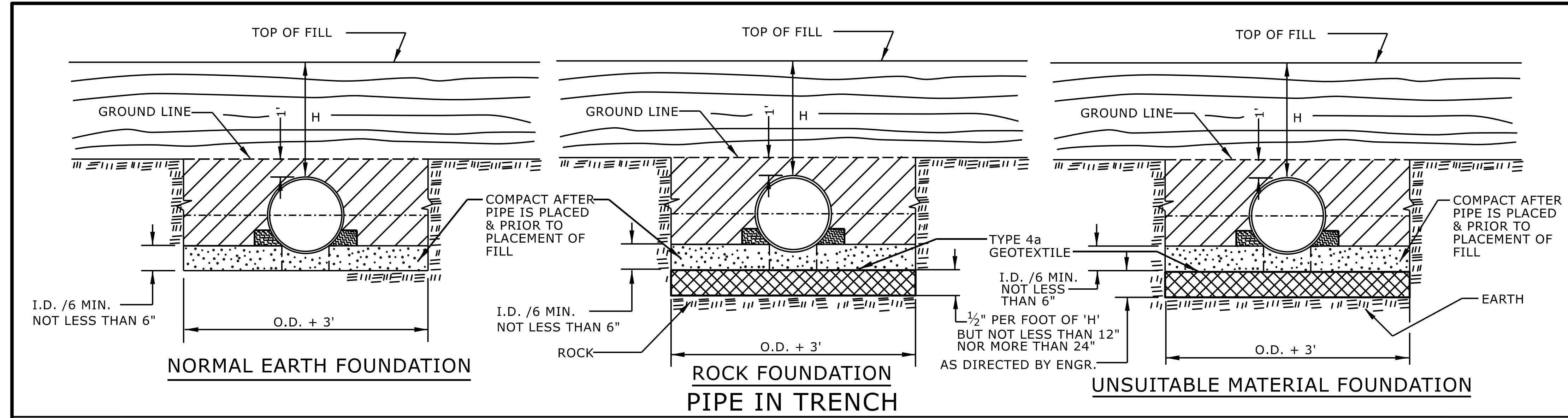


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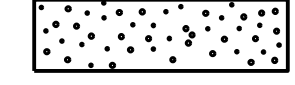
PREPARED BY

TGS ENGINEERS
 201 W. MAIN ST. 2ND FLOOR
 SHELBY, NC 27810
 CORP. LICENSE NO.: C-0272

REVISIONS

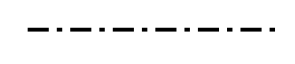
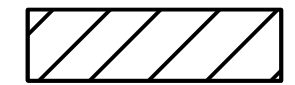
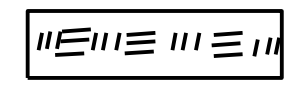



GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

 APPROVED SUITABLE LOCAL MATERIAL.
 TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

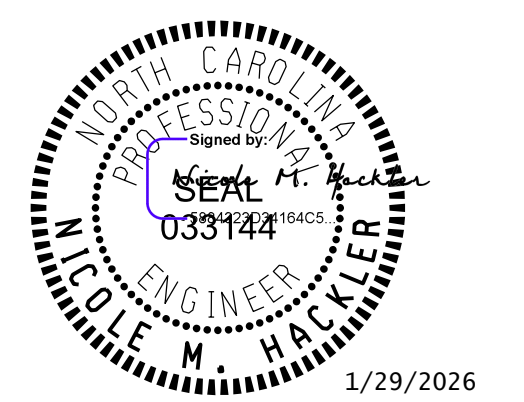
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

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

 SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
 UNDISTURBED EARTH MATERIAL
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

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

ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 FLEXIBLE PIPE



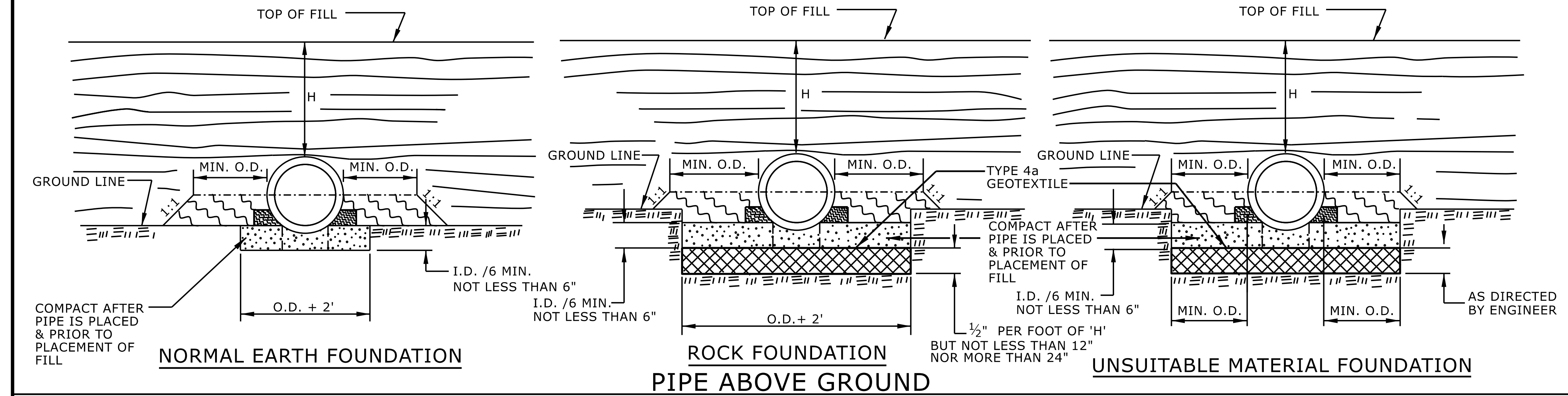
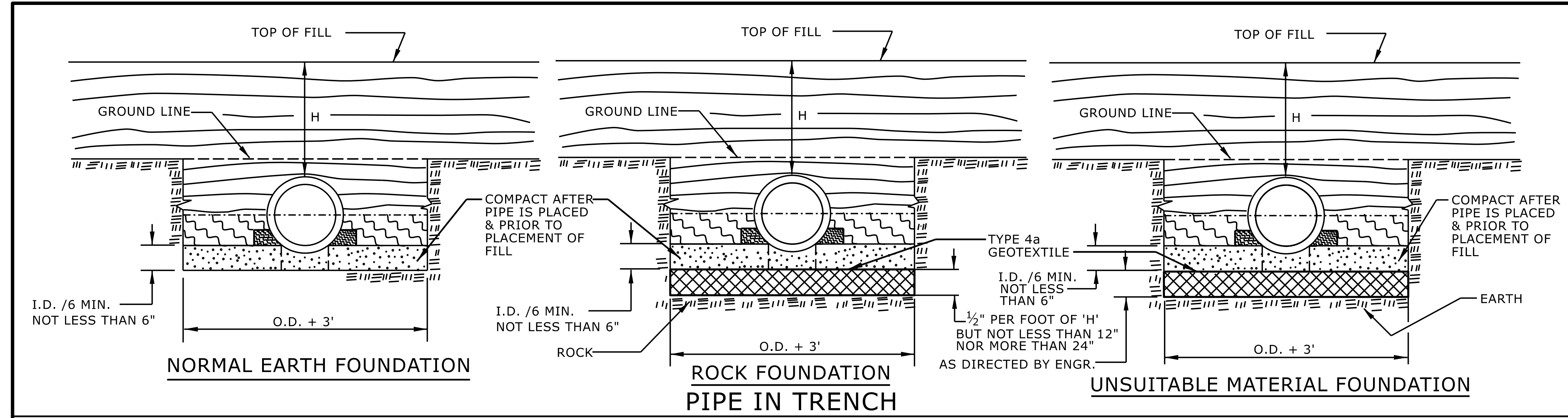
SHEET 1 OF 2
300.01

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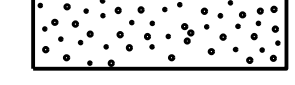
**CONTRACTS STANDARDS
 AND DEVELOPMENT UNIT**
 Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

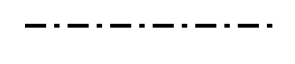

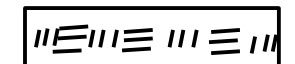



GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

-  APPROVED SUITABLE LOCAL MATERIAL.
-  TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
-  LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

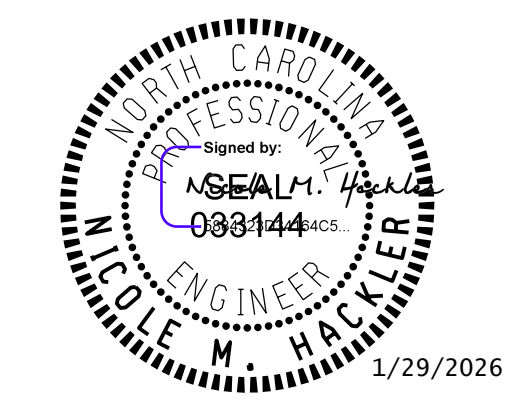
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

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

-  SPRINGLINE OF PIPE
-  SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
-  UNDISTURBED EARTH MATERIAL
-  SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION
 RIGID PIPE

SHEET 2 OF 2
300.01



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 Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

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

STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +15%	Borrow	Waste
-L- 11+35.00	-L- 13+30.00	69	174	105	
TOTALS:		69	174	105	0
LOSS DUE TO CLEARING & GRUBBING					
ROCK WASTE TO REPLACE BORROW					
ADJUST FOR ROCK WASTE					
WASTE IN LIEU OF BORROW					
PROJECT TOTALS:		69	174	105	0
Est. 5% to Replace Top Soil on Borrow Pit					
GRAND TOTALS:		69	174	110	0
SAY		75		150	

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

Note: Earthwork quantities are calculated by TGS Engineers.

SELECT GRANULAR MATERIAL = 50 CUBIC YARDS
 PER TGS RECOMMENDATION, ESTIMATED 50 CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER.

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	11+35.00	13+30.00	CL	396.45			
TOTAL:				396.45			
SAY				450			

BP12-C004
3R01 004

NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 GASTON COUNTY

ROADWAY DESIGN UNIT
 ROADWAY DESIGN
 ENGINEER

Professional Engineer Seal: **JAMES G. PHIFER**, No. 30018, Exp. 12/31/2026

Professional Engineer Seal: **ALFREDA L. SINGH**, No. 24897, Exp. 12/31/2026

Professional Engineer Seal: **CARMELA A. RUIZ**, No. 24897, Exp. 12/31/2026

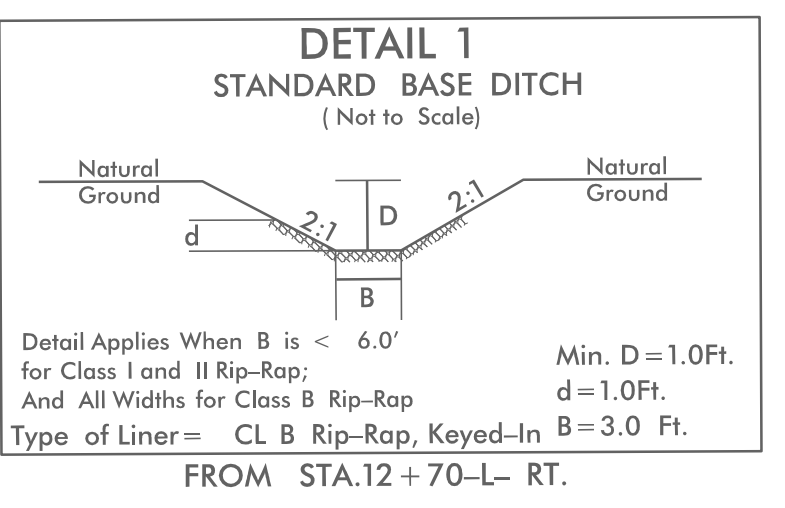
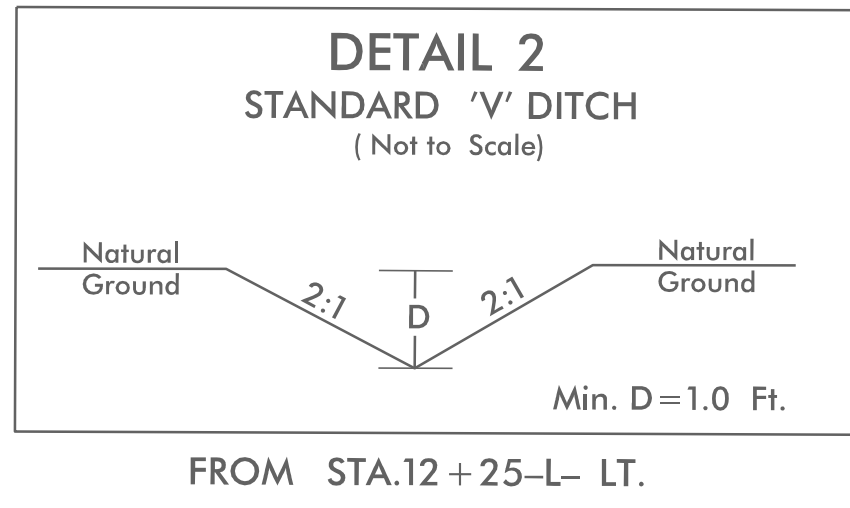
Professional Engineer Seal: **JOSE A. CANTILLANO**, No. 24897, Exp. 12/31/2026

Professional Engineer Seal: **JEANETTE L. CANTILLANO**, No. 24897, Exp. 12/31/2026

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

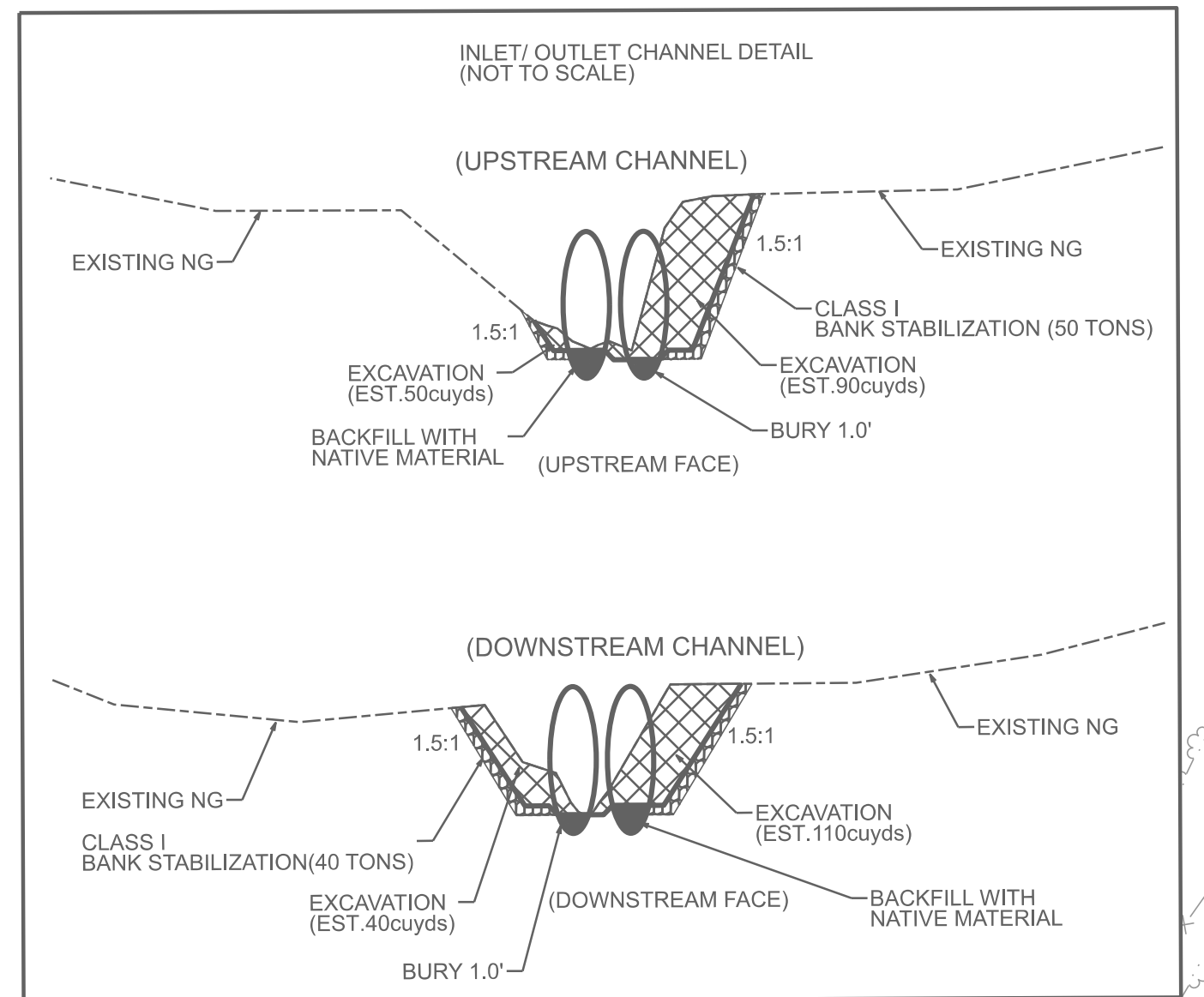
PREPARED BY

TGS ENGINEERS
 201 W. MAIN ST., 3RD FLOOR
 WILKES-BARRIE, PA 18093
 TEL: 717-247-2810
 FAX: 717-247-2811
 CORP. LICENSE NO.: C-02729



-L- POT 10+00.00

-L- POT 14+66.40



BEGIN PROJECT BP12-C004
 -L- STA. 11+35.00

END PROJECT BP12-C004
 -L- STA. 13+30.00

-L- STA. 12+44
 2 @ 12'-6" X 7'-11" SPPA

1
 JAMES G. PHIFER
 JEANINE L. COLEATES
 DB 4202 PG 833

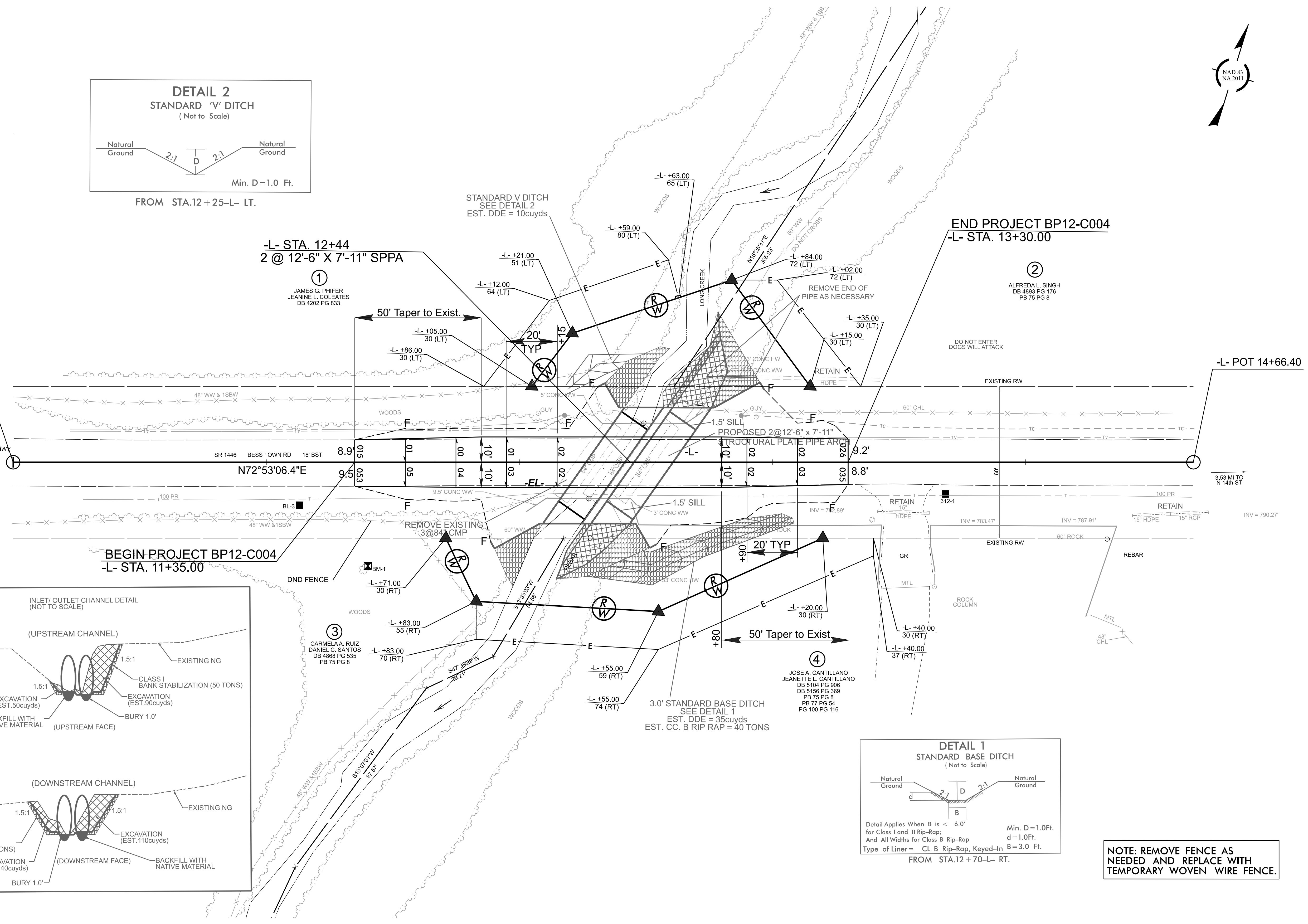
2
 ALFREDA L. SINGH
 DB 4893 PG 176
 PB 75 PG 8

3
 CARMELA A. RUIZ
 DANIEL C. SANTOS
 DB 4868 PG 535
 PB 75 PG 8

4
 JOSE A. CANTILLANO
 JEANETTE L. CANTILLANO
 DB 5104 PG 906
 DB 5156 PG 369
 PB 75 PG 8
 PB 77 PG 54
 PG 100 PG 116

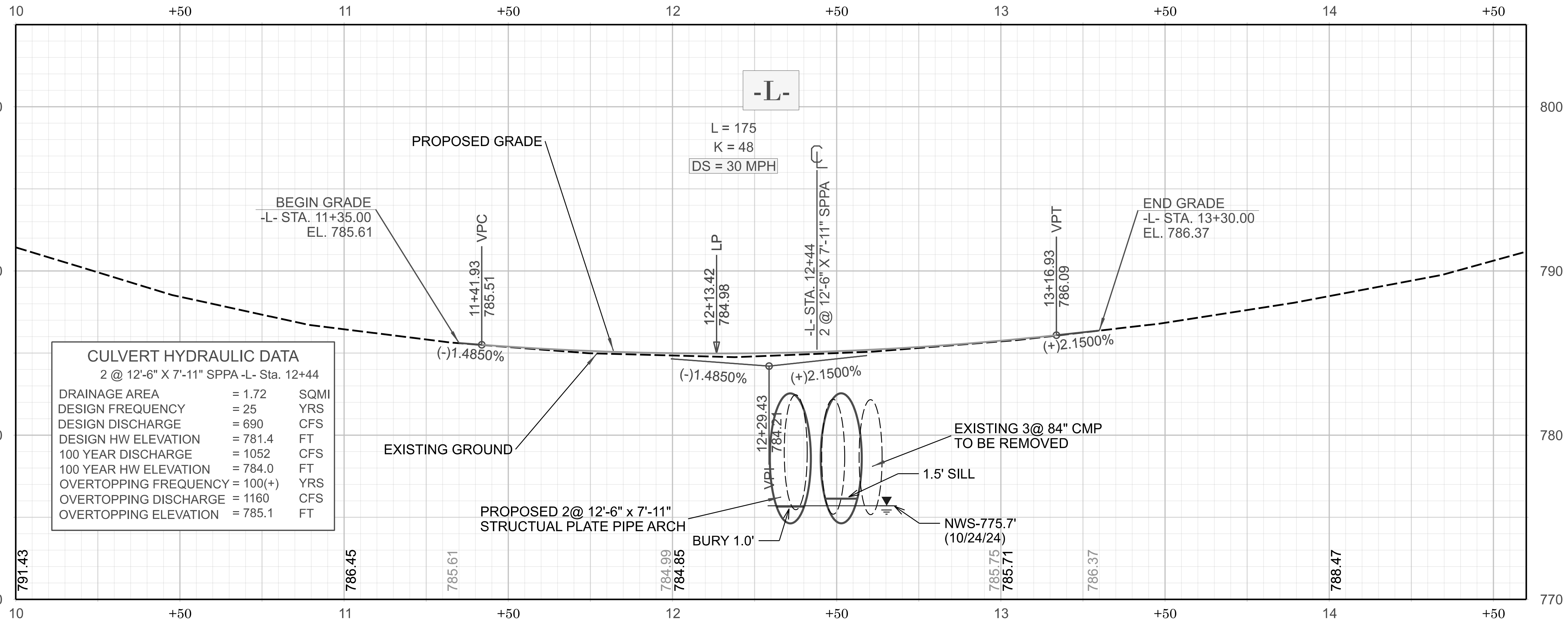
STANDARD V DITCH
 SEE DETAIL 2
 EST. DDE = 10cu yds

3.0' STANDARD BASE DITCH
 SEE DETAIL 1
 EST. DDE = 35cu yds
 EST. CC. B RIP RAP = 40 TONS



**NOTE: REMOVE FENCE AS
 NEEDED AND REPLACE WITH
 TEMPORARY WOVEN WIRE FENCE.**

FOR -L- PROFILE, SEE SHEET 5



BP12-C004
 3R01 | 005

NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 GASTON COUNTY

ROADWAY DESIGN UNIT
 ROADWAY DESIGN ENGINEER

Professional Engineer Seal: Joseph L. Terry, No. 35078, Exp. 12/31/2026

HYDRAULICS ENGINEER
 Professional Engineer Seal: Joseph L. Terry, No. 35078, Exp. 12/31/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PREPARED BY
 TGS ENGINEERS
 201 W. MAIN ST., SUITE 200
 SHREVE, NC 28150
 PH: 704.472.8100
 CORP. LICENSE NO.: C-02729

REVISIONS

FOR -L- PLAN, SEE SHEET 4

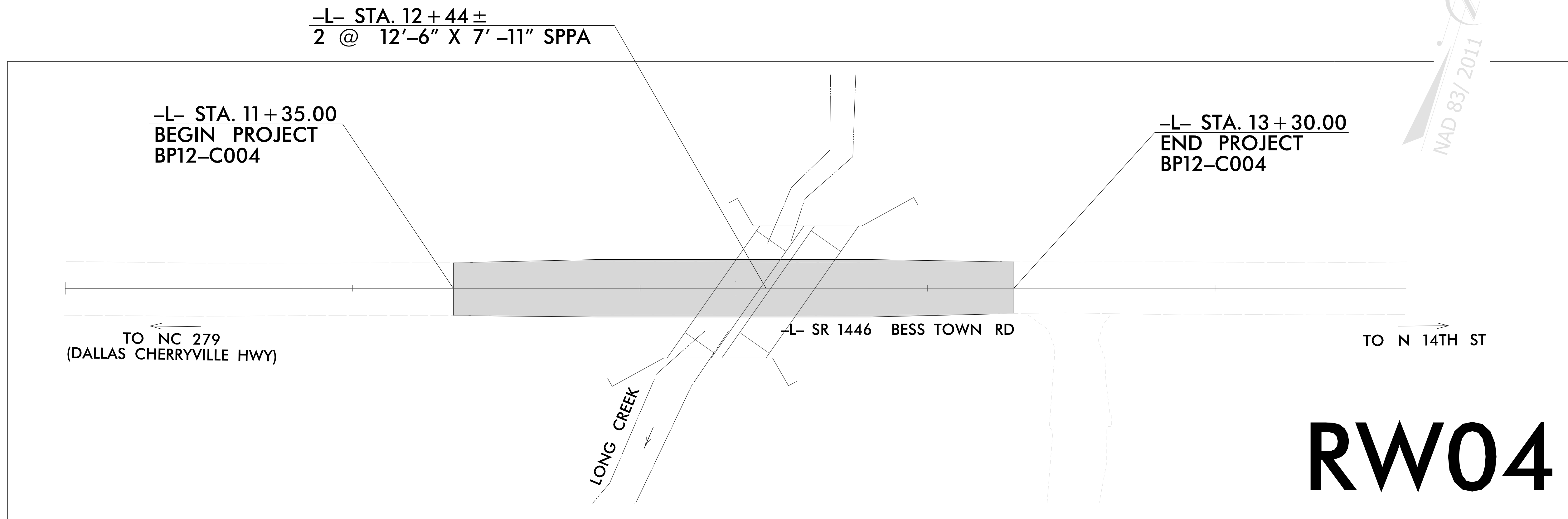
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP12-C004	RW01	5

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

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

GASTON COUNTY

TIP PROJECT: BP12-C004



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "312-1" WITH NAD83/2011 STATE PLANE GRID COORDINATES OF NORTHING: 585913.544 EASTING: 1320704.266 ELEVATION: 786.08'

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984108

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES

VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

TGS ENGINEERS
TGS ENGINEERS
201 WEST MARION STREET
SUITE 200
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 2, 2025

LETTING DATE:
MAY 12, 2026

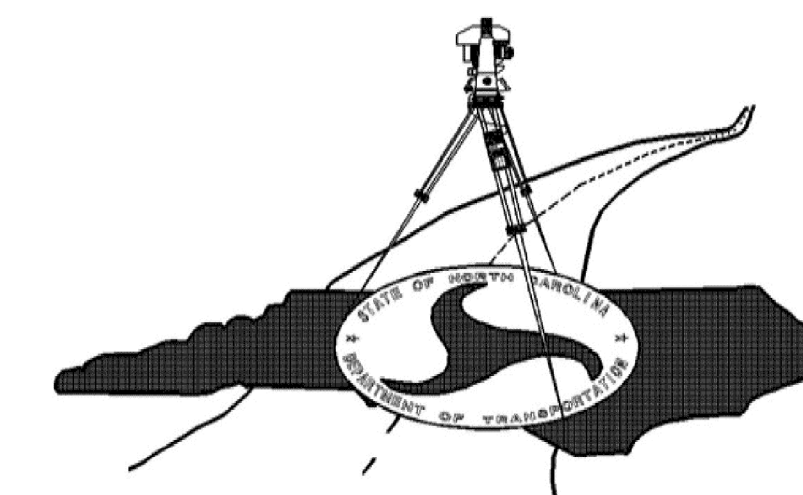
PROFESSIONAL LAND SURVEYOR



Signed by:
Matthew Cornwell 5/16/2025
E8028P11473E475

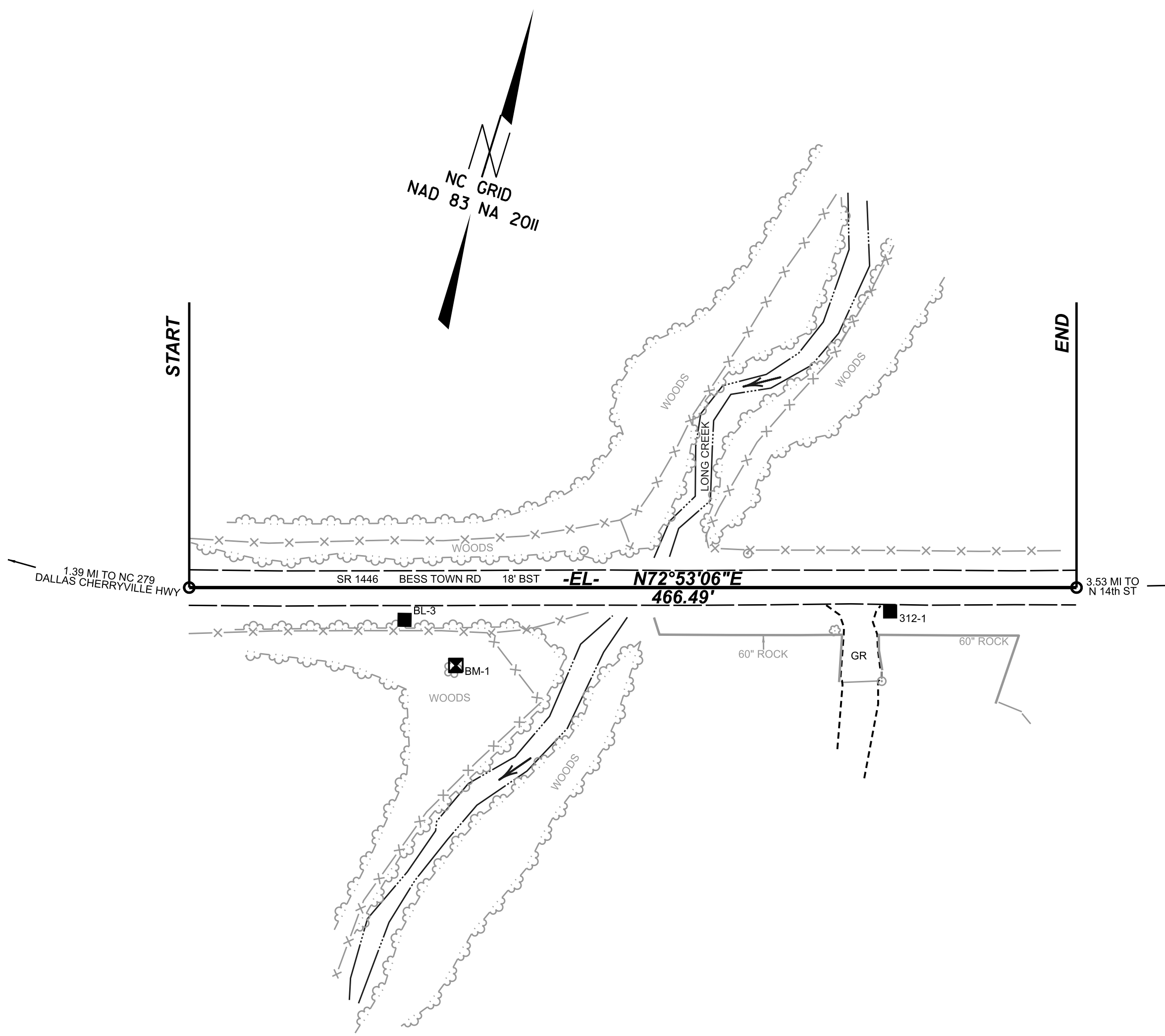
SIGNATURE:

DATE:



SURVEY CONTROL SHEET

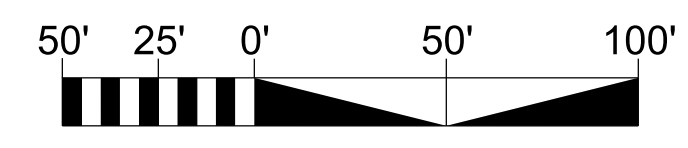
W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



BASELINE POINTS TABLE				
POINT	DESC	NORTH	EAST	ELEVATION
1	312-1	585913.5440	1320704.2660	786.0800
2	312-2	586055.2340	1321081.0330	817.4800
3	BL-3	585834.1232	1320461.5646	784.0900

BENCHMARK TABLE				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM1	585819.1733	1320494.4129	781.2900	RR SPIKE IN 32" BOX ELDER

EXISTING ALIGNMENT NAME:EL										
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	
START	585817.0705	1320348.3934								
LINE			N72°53'06.43"E	466.4891						
END	585954.3529	1320794.2249								



I, MATTHEW T. CORNWELL, PLS, CERTIFY THAT THE PROJECT CONTROL WAS PERFORMED UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

CLASS OF SURVEY: **AA**
 TYPE OF GPS FIELD PROCEDURE: RTN
 DATES OF SURVEY: 7/26/2024
 DATUM/EPOCH: NAD83/2011
 PUBLISHED/FIXED-CONTROL USE: N/A
 LOCALIZED AROUND: 312-1
 NORTHING: 585913.544
 EASTING: 1320704.266
 COMBINED GRID FACTOR: 0.99984108
 GEOID MODEL: GEOID18
 UNITS: US SURVEY FEET

I ALSO CERTIFY THAT THE BASELINE CONTROL FOR THIS PROJECT WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:20,000 (CLASS AA) AND VERTICAL ACCURACY TO CLASS A. FIELD WORK WAS PERFORMED AUGUST 2024, AND ALL COORDINATES ARE BASED ON NAD 83/NA 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 8/21/2024
 DocuSigned by:

 EB039F11473E475
 PROFESSIONAL LAND SURVEYOR L-4775

BP12-C004
 R/W 02G-1
 NORTH CAROLINA
 DEPARTMENT
 OF TRANSPORTATION

PROFESSIONAL LAND
 SURVEYOR

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

TIP PROJECT: BP12-C004
 County: Gaston

PREPARED FOR

LOCATION AND
 SURVEYS UNIT

PREPARED BY

TGS ENGINEERS
 201 WEST MARION ST.
 SUITE 200
 SHELBY, NC 28150
 704-476-0003

NOTES:

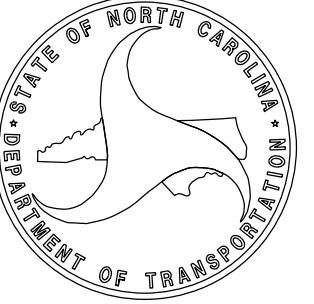
1. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROPOSED ALIGNMENT CONTROL SHEET

BP12-C004

R/W 020-1

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



I, MATTHEW T. CORNWELL, 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 5/16/2025

Signed by:
Matthew Cornwell
EB0396F11473E475

PROFESSIONAL LAND SURVEYOR L-4775

PROFESSIONAL LAND SURVEYOR



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES ARE COMPLETED

2024 STANDARD SPECIFICATIONS

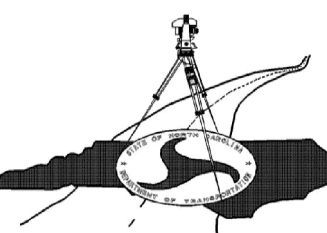
TIP PROJECT: BP12-C004
County: Gaston

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	585817.0705	1320348.3934	N72°53'06.4"E	466.49							
END	14+66.49	585954.3529	1320794.2249									

NOTES:

1. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

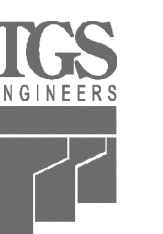
PREPARED FOR



LOCATION AND SURVEYS UNIT

PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003



RIGHT OF WAY CONTROL SHEET

I, MATTHEW T. CORNWELL, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 3/14/2025 TO 3/15/2025, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 12/18/2025

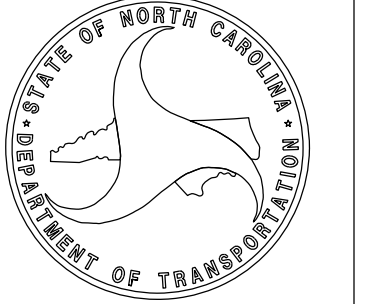
Signed by:
Matthew Cornwell
EBD36F11473E475
PROFESSIONAL LAND SURVEYOR L-4775

PERMANENT ROW MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
11+71.00	30.0000	585838.7224	1320520.6496
11+83.00	55.0000	585818.3609	1320539.4754
12+05.00	-30.0000	585906.0712	1320535.4667
12+21.00	-51.0000	585930.8498	1320544.5881
12+55.00	59.0000	585835.7268	1320609.4642
12+84.00	-72.0000	585969.4601	1320598.6282
13+15.00	-30.0000	585938.4429	1320640.6155
13+20.00	30.0000	585882.5713	1320663.0514

BP12-C004

R/W 03E-1

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

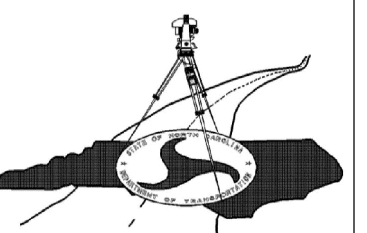


DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP12-C004
County: Gaston

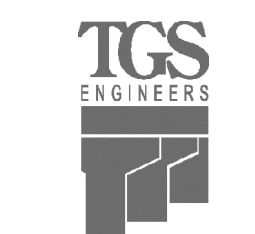
PREPARED FOR



LOCATION AND
SURVEYS UNIT

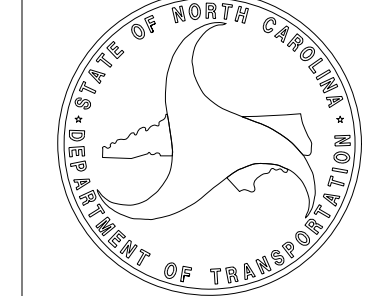
PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003



NOTES:

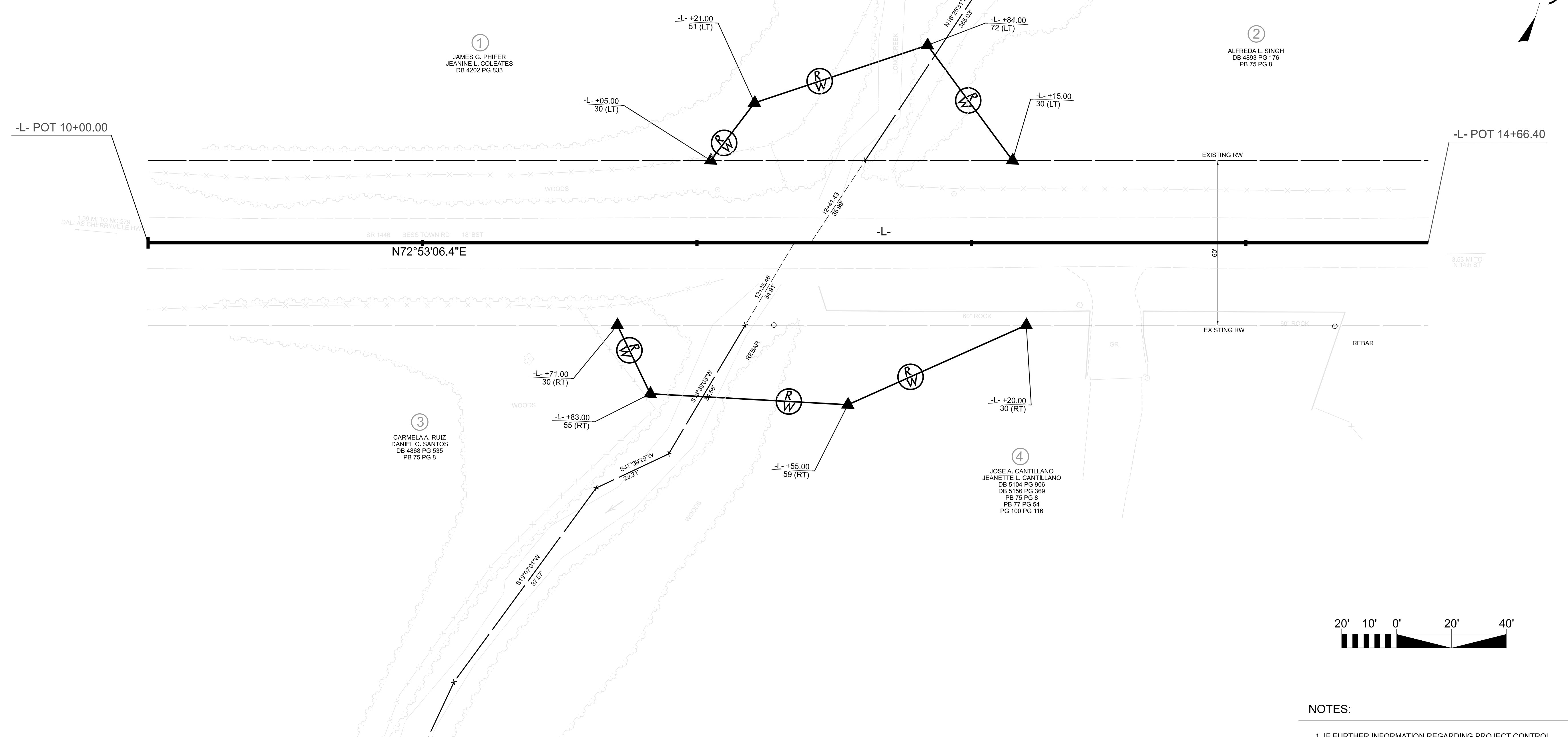
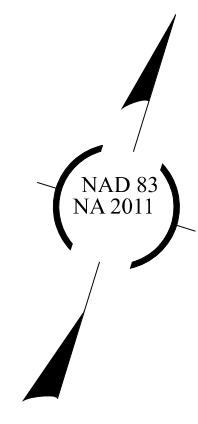
- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



I, MATTHEW T. CORNWELL, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 5/13/2025 TO 5/14/2025, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 5/16/2025

Signed by: **Matthew Cornwell**
EBC036F11473E475
PROFESSIONAL LAND SURVEYOR L-4775

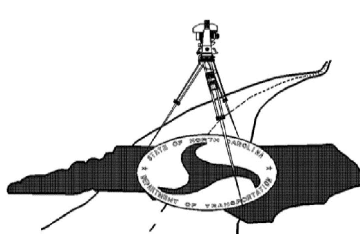


NOTES:
1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

TIP PROJECT: BP12-C004

County: Gaston

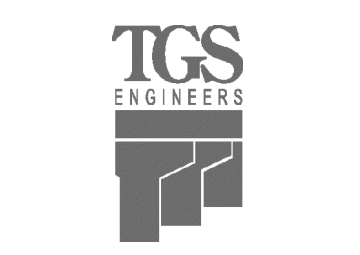
PREPARED FOR



LOCATION AND SURVEYS UNIT

PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003



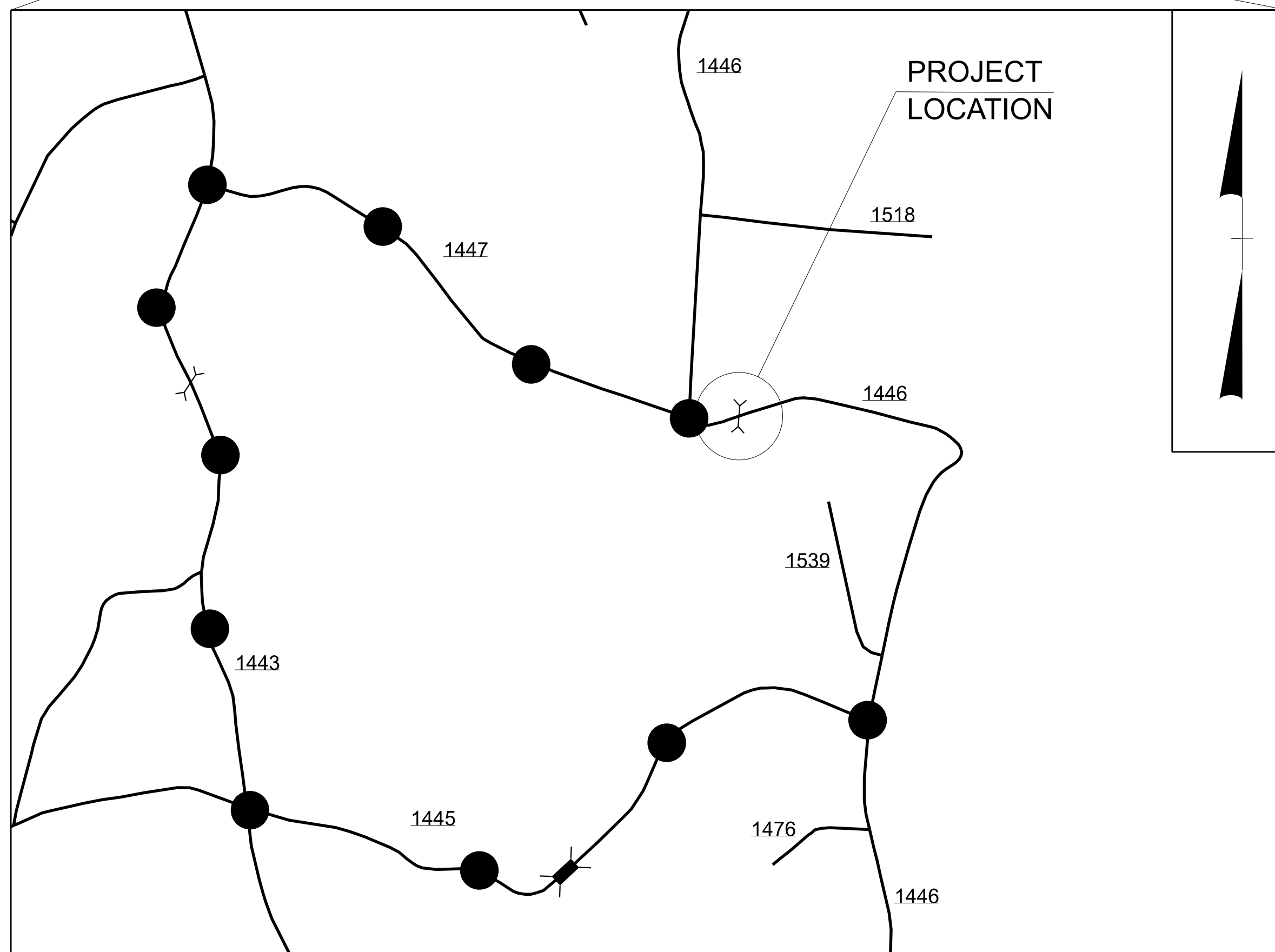
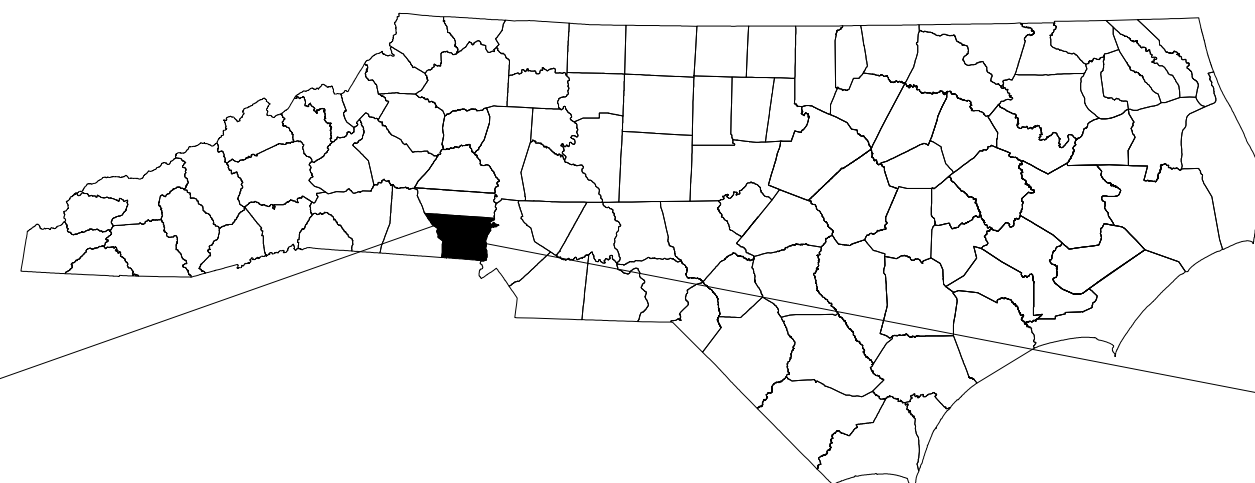
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GASTON COUNTY

LOCATION: *REPLACE STRUCTURE #350312 OVER UT TO LONG CREEK
ON SR 1446 (BESS TOWN RD)*

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



VICINITY MAP
OFF-SITE DETOUR

INDEX OF SHEETS



SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1A	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND PHASING)
TMP-2	SIGN DESIGN
TMP-3	DETOUR SIGNING

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:

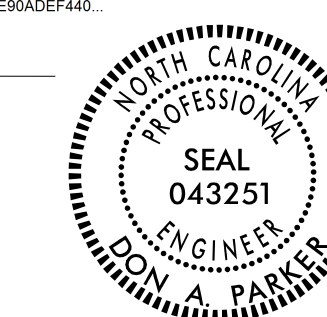
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS

LEGEND

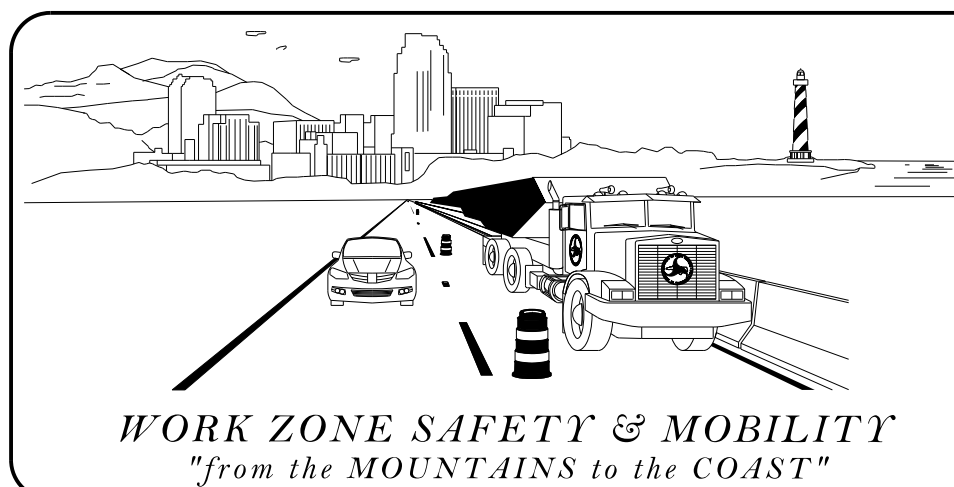
-  BARRICADE (TYPE III)
-  STATIONARY SIGN

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

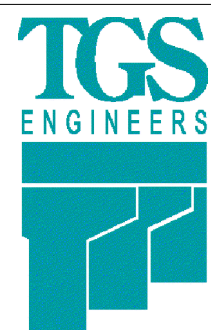
APPROVED: 
DATE: 1/29/2026



12/17/2025
X:\NC DOT\Div 12 Gaston 312\Work Zone Traffic Control\Gaston 312_TC_TMP_01.dgn
User: tbrannan



PLANS PREPARED FOR N.C.D.O.T. BY: TGS ENGINEERS



TGS ENGINEERS
706 HILLSBOROUGH ST. SUITE 200
RALEIGH, NC 27603
PH (919) 773-8887
CORP. LICENSE NO.: C-0275

DON A. PARKER, P.E.
PROJECT ENGINEER

CODA BRANNAN, E.I.
DESIGN ENGINEER



SHEET NO.
TMP-1

PROJECT: BP12-C004

PROJ. REFERENCE NO.	SHEET NO.
BP12-C004	TMP-1A
 TGS ENGINEERS 706 HILLSBOROUGH ST., SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

GENERAL NOTES

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

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

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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

- D) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- E) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

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

MANAGEMENT STRATEGIES

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

RECOMMENDED STRATEGIES:

TRAFFIC MANAGEMENT STRATEGIES:

- FULL ROADWAY CLOSURES
- OFF-SITE DETOURS / USE OF ALTERNATIVE ROUTES

PHASING

PHASE 1

STEP 1 -- INSTALL AND COVER DETOUR SIGNING. (SEE RSD 1101.03 AND TMP-2).

- PERMANENTLY RELOCATE EXISTING CURVE WARNING SIGN TO -L- STA. 13+80± (SEE SIGNING PLAN).

STEP 2 -- UNCOVER DETOUR SIGNING AND CLOSE SR 1446 (BESS TOWN RD.) (-L-).

- USING FLAGGERS, INSTALL 24" PAINT STOP BAR.

STEP 3 -- AWAY FROM TRAFFIC, INSTALL (2) 12'-6" X 7'-11" SPPA AND CONSTRUCT ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM -L- STA. 11+35 +/- TO -L- STA. 13+30 +/-.

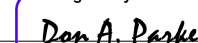
STEP 4 -- AWAY FROM TRAFFIC, INSTALL FINAL PAVEMENT MARKINGS.

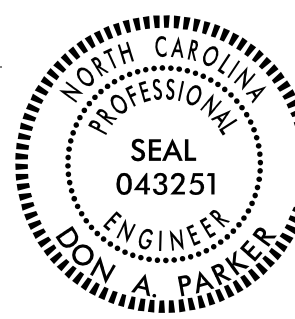
- USING FLAGGERS, REMOVE STOP BAR.

STEP 5 -- COVER OR REMOVE DETOUR SIGNING AND RE-OPEN SR 1446 (BESS TOWN RD.) (-L-) TO TRAFFIC.

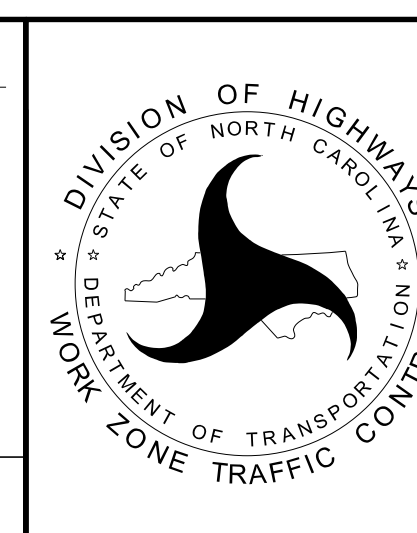
STEP 6 -- REMOVE ALL TRAFFIC CONTROL DEVICES.

9/5/2025 X:\NC001\Div 12 Gaston 312\Work Zone Traffic Control\Gaston 312_TC_TMP_01A.dgn User: tbrannan

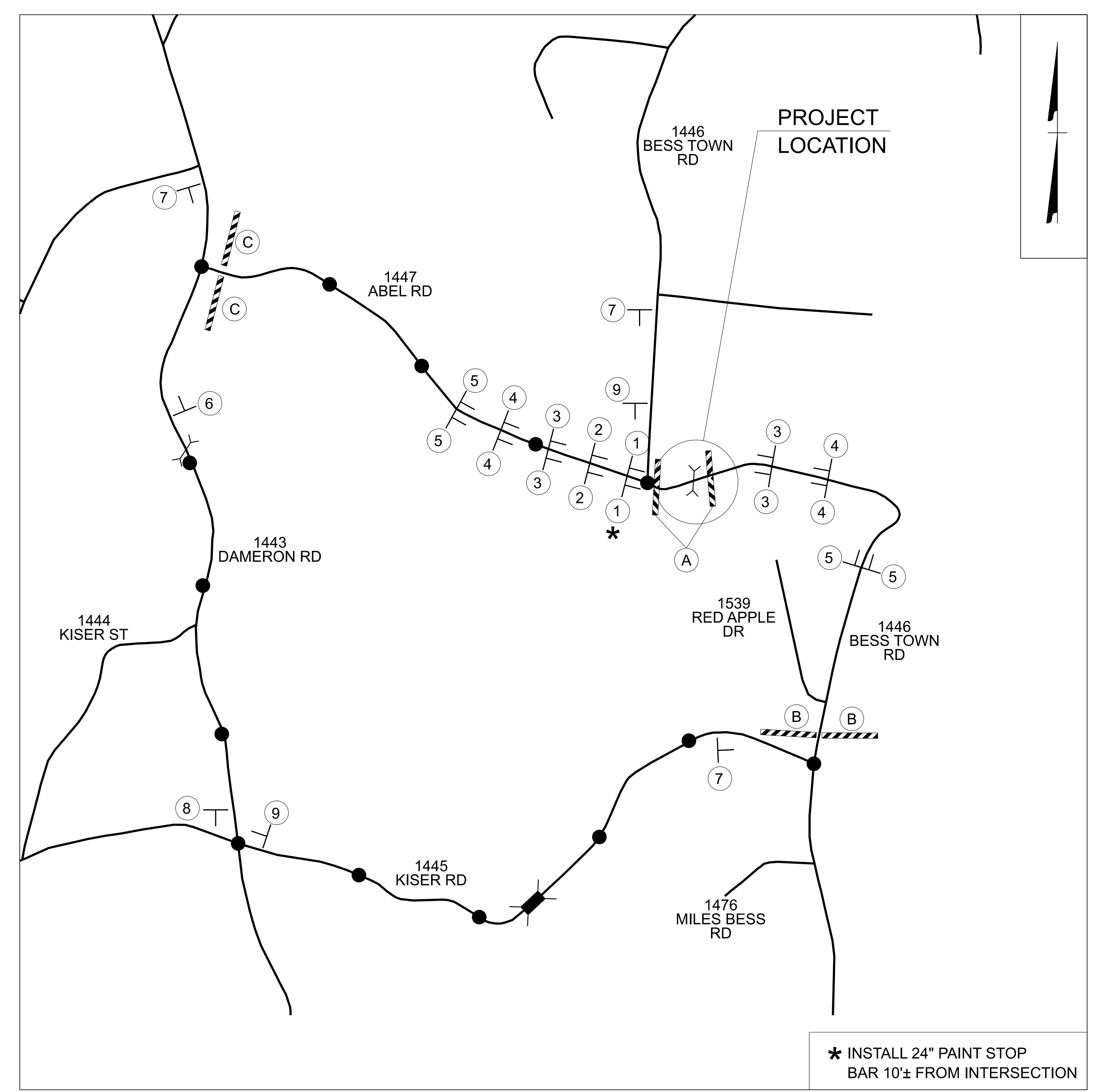
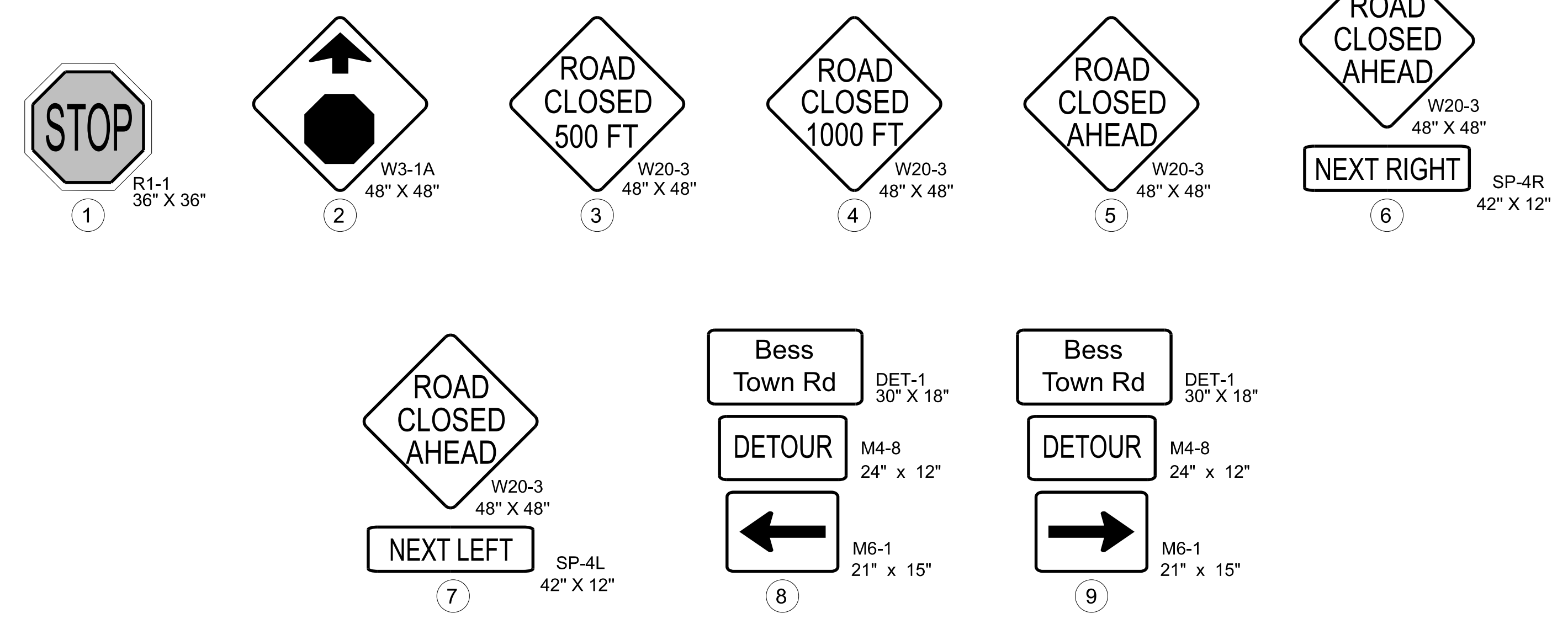
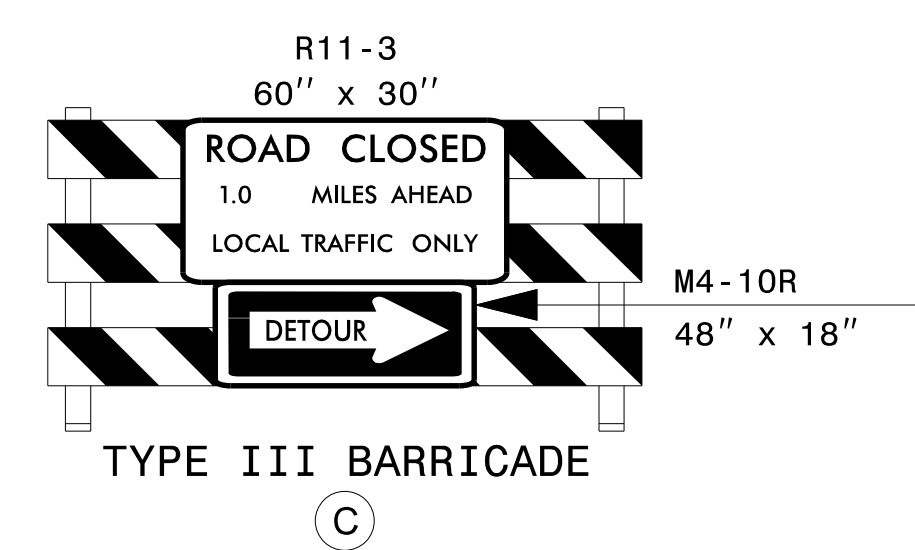
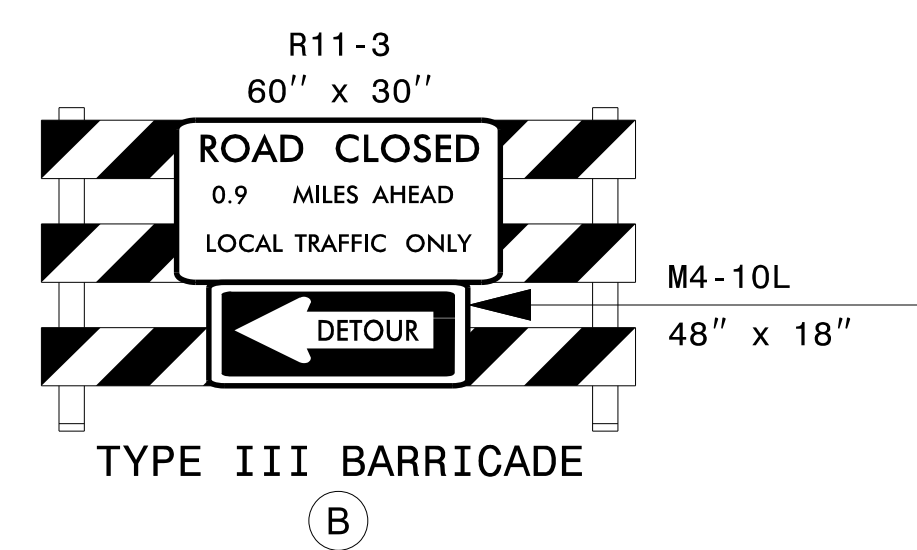
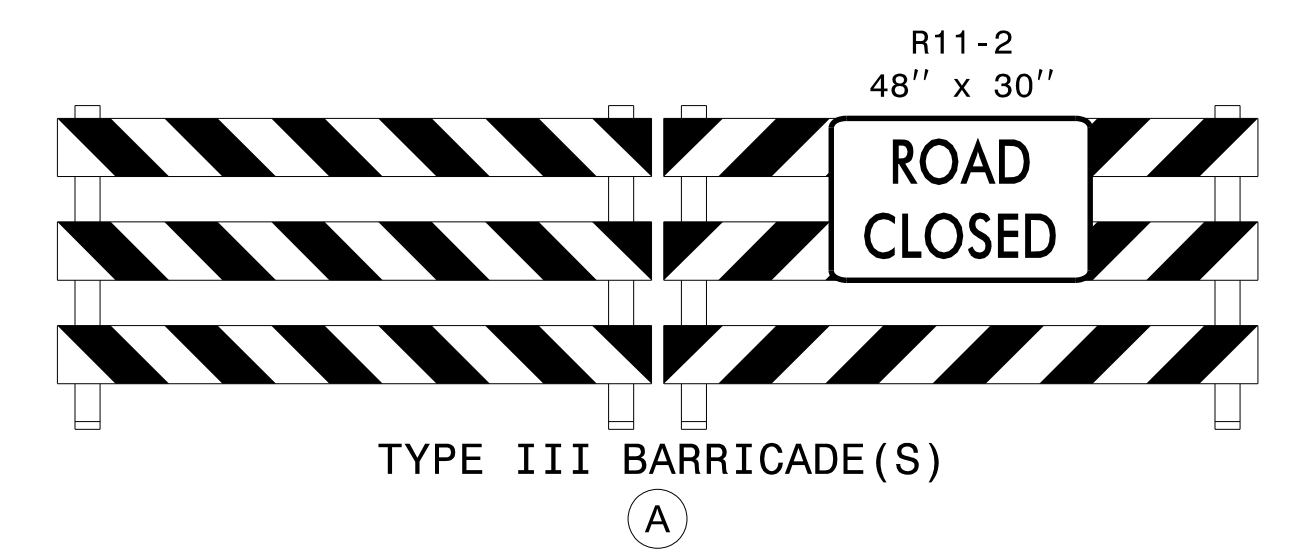
APPROVED:  **Don A. Parker**
 DATE: 1/29/2026



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



TRANSPORTATION
OPERATIONS
PLAN

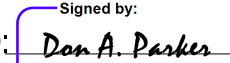



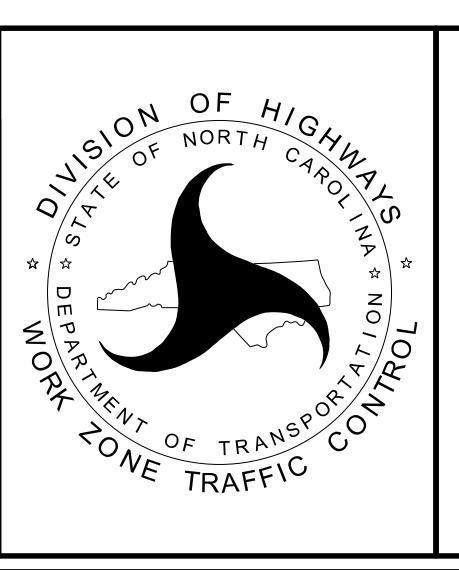
VICINITY MAP (NTS)

● ● ● ● ● OFFSITE DETOUR

9/5/2025 3:21:00 PM 312\Work Zone Traffic Control\Gaston 312_TC_TMP_Detour.dgn User: rcdbrannan

NOTE: SEE RSD 1101.03, SHEET 2 FOR ADDITIONAL NOTES AND DETAILS

APPROVED: 
 DATE: 1/29/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DETOUR SIGNING

12/19/2025 11:58:00 AM NCDOT Div. 12 Gaston 312\Signing and Delineation\Pavement Marking\Design\Gaston 312_Sgn_PMP_01.dgn User: jbrannan

PROJECT: BP12-C004

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKING PLAN
GASTON COUNTY**

LOCATION: *REPLACE STRUCTURE #350312 OVER UT TO LONG CREEK
ON SR 1446 (BESS TOWN RD)*

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

TIP NO. BP12-C004	SHEET NO. PMP-1
APPROVED: Signed by: <u>Don A. Parker</u>	
DATE: 1/29/2026	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE, SCHEDULE SHEET, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, GENERAL NOTES, AND FINAL PAVEMENT MARKING SCHEDULE
PMP-1A	REVISED ROADWAY STANDARD DRAWING (1250D01)
PMP-2	PAVEMENT MARKING DETAIL

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
-L- SR 1446 (BESS TOWN RD)	PAINT	NONE

C) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

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

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

E) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

**FINAL PAVEMENT MARKING
SCHEDULE**

SYMBOL	DESCRIPTION	QUANTITY
PAVEMENT MARKINGS		
PAINT (4")		
P1	(4") WHITE EDGELINE (X2)	780 LF
P13	(4") YELLOW DOUBLE CENTER (X2)	780 LF
		1560 LF

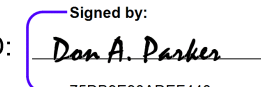


ROADWAY STANDARD DRAWING

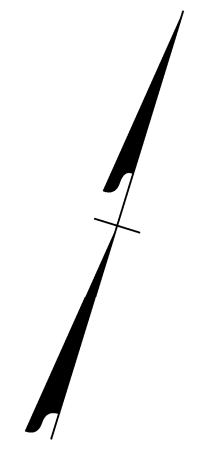
THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS

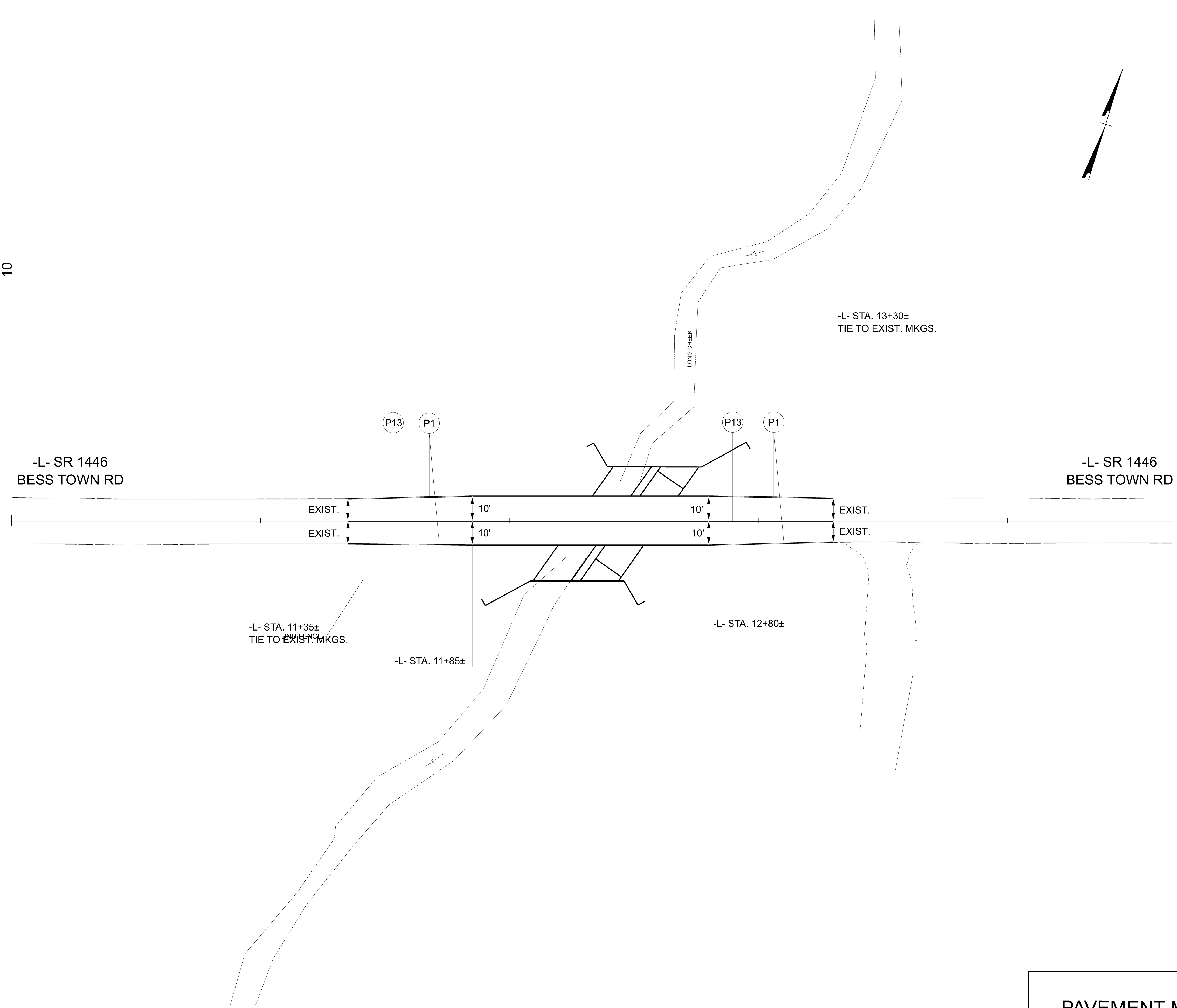
<i>PLAN SUBMITTED TO: NCDOT</i>		
<i>JOSHUA B. WHITE, PE, PLS</i>	DIVISION 12 PROJECT TEAM LEAD	

<i>PLAN PREPARED BY: TGS ENGINEERS</i>		
<i>DON A. PARKER, P.E.</i>	PROJECT ENGINEER	
<i>CODA BRANNAN, E.I.</i>	DESIGN ENGINEER	
		TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275

TIP NO. BP12-C004	SHEET NO. PMP-2
APPROVED:  DATE: 1/29/2026	
SEAL 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 706 HILLSBOROUGH STREET (SUITE 200) RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	



10



PAVEMENT MARKING DETAIL

12/19/2025
X:\NC001\Div 12 Gaston 312\Signing and Delineation\Pavement Marking\Design\Gaston 312_Sgn_PMP.dgn
User: tbrannan

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

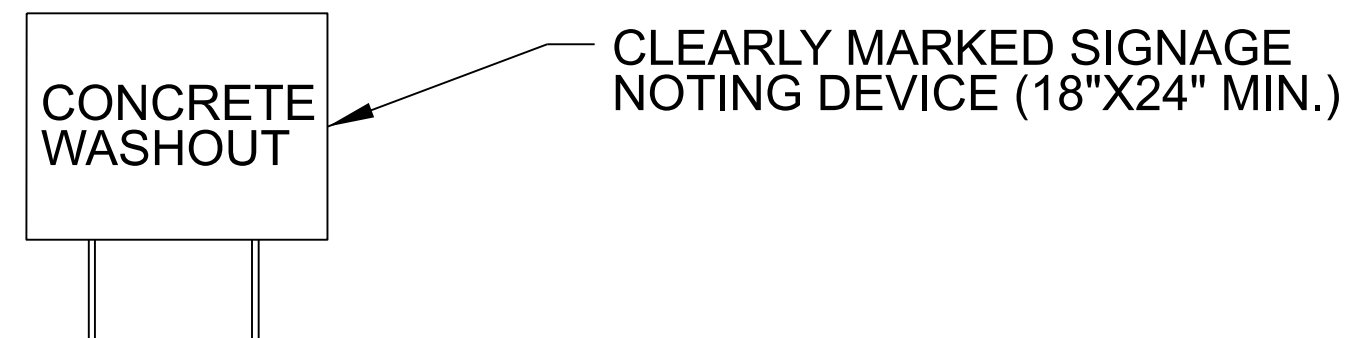
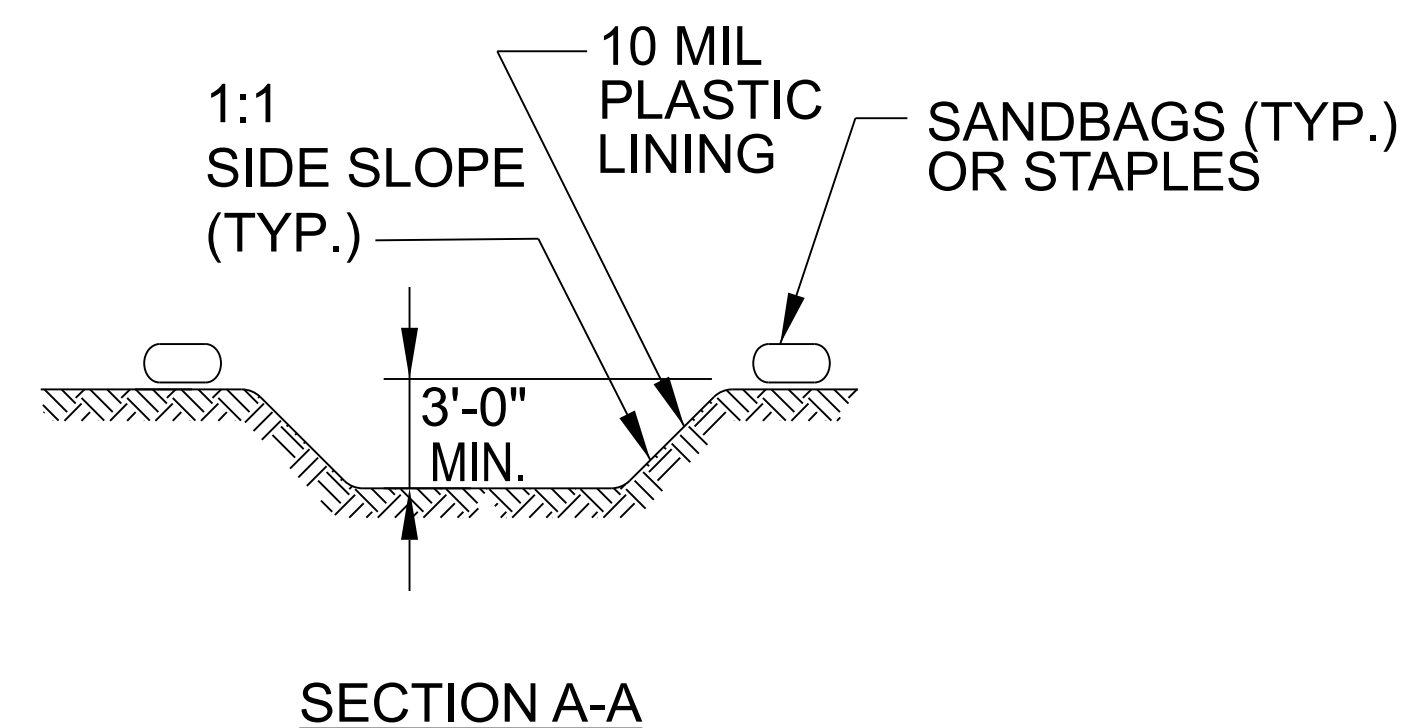
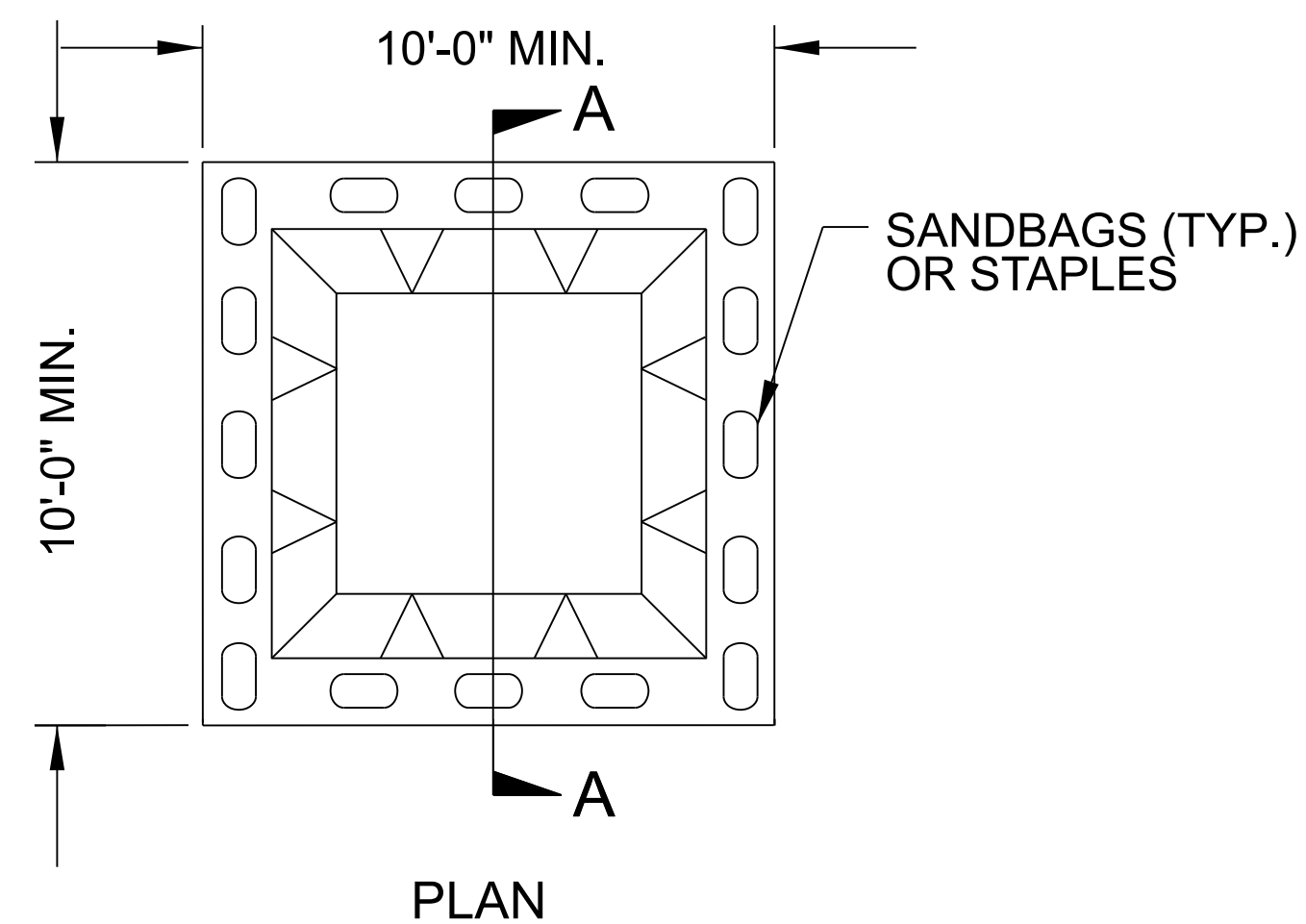
PROJECT REFERENCE NO. BP12.C004	SHEET NO. EC-02
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EROSION & SEDIMENT CONTROL LEGEND

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

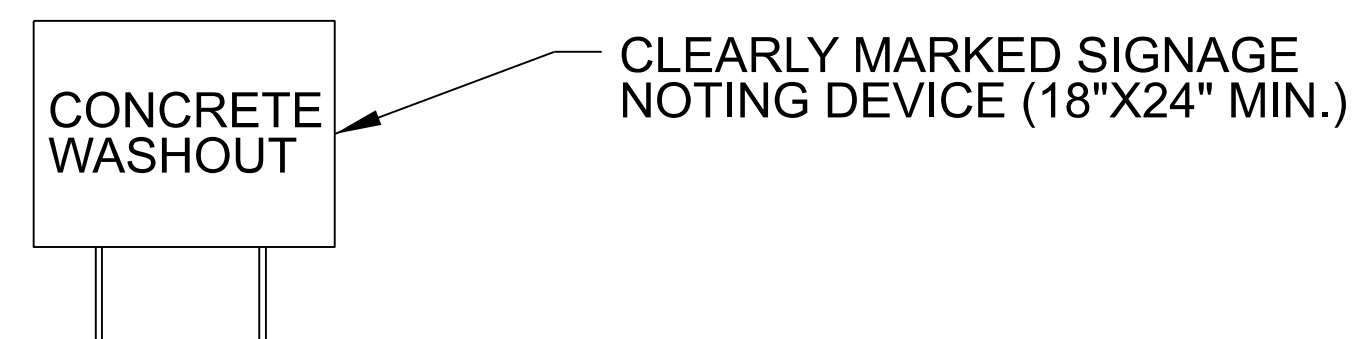
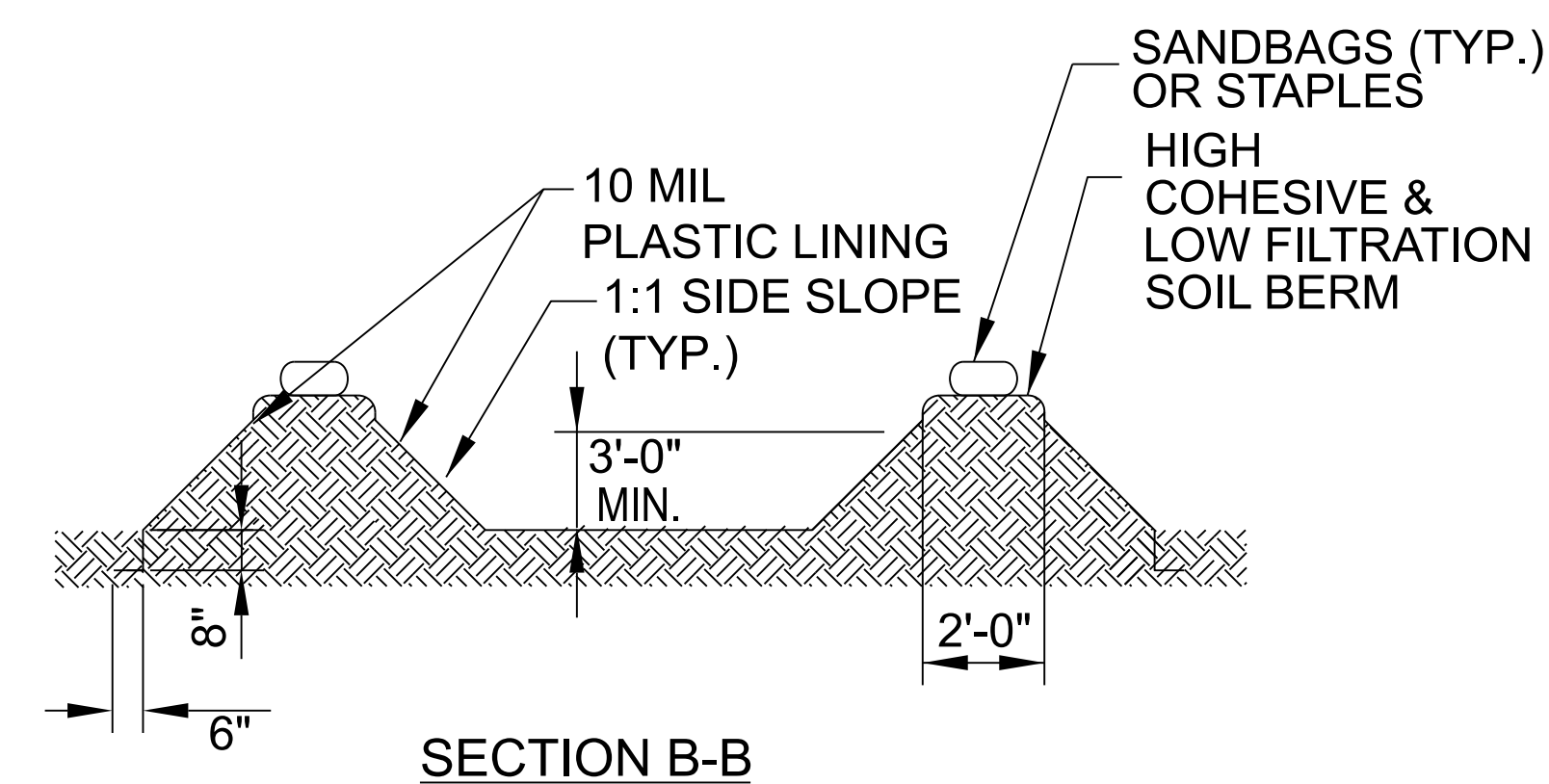
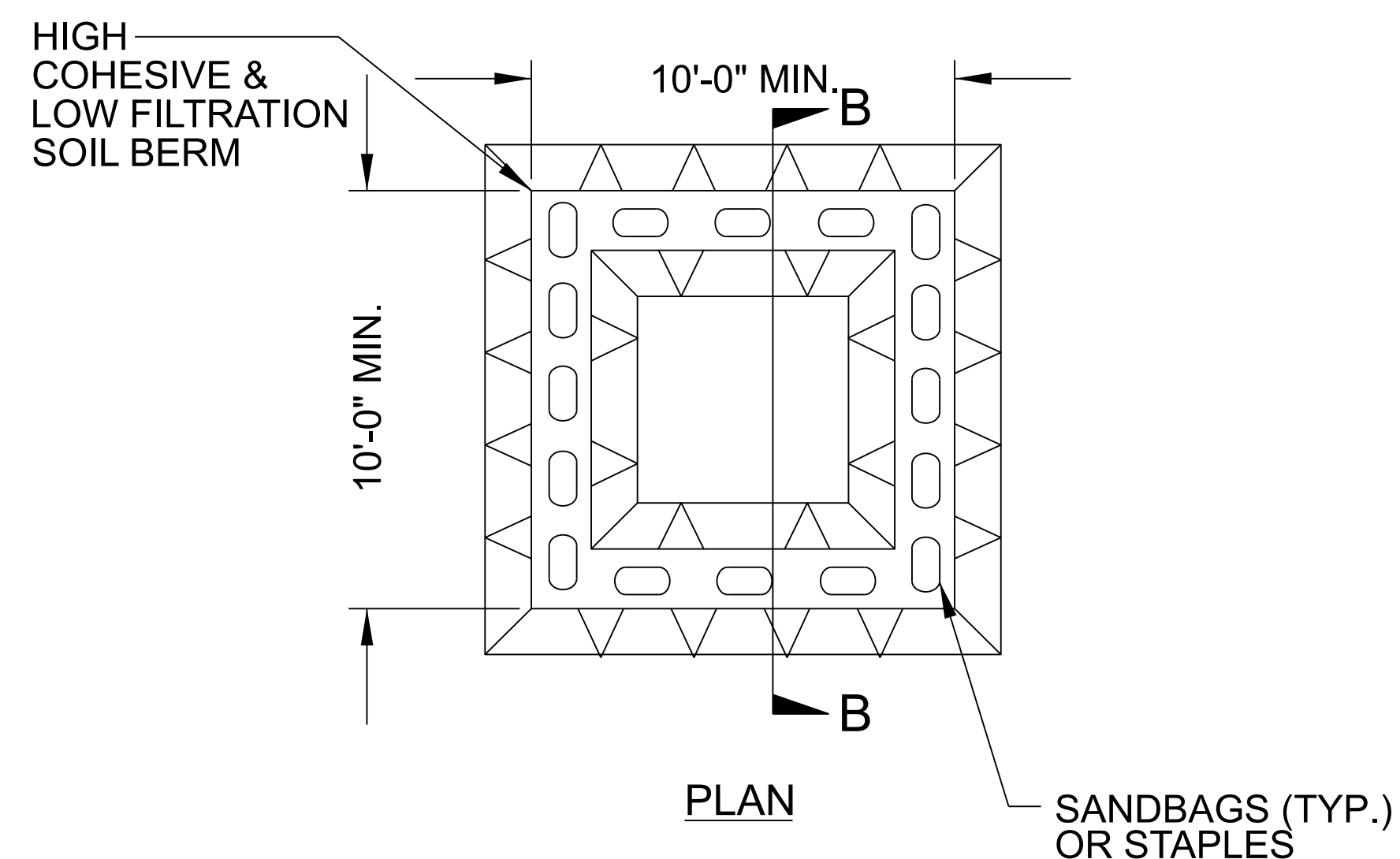
PROJECT REFERENCE NO. BP12.C004	SHEET NO. EC-02A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

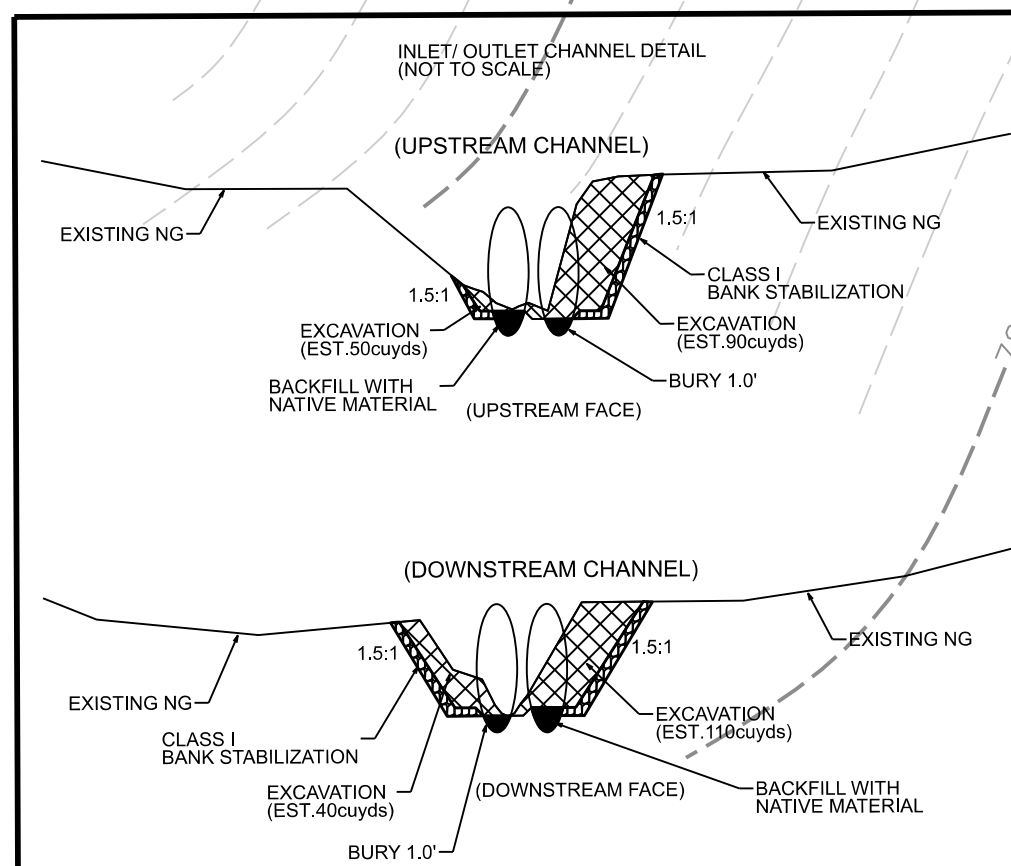
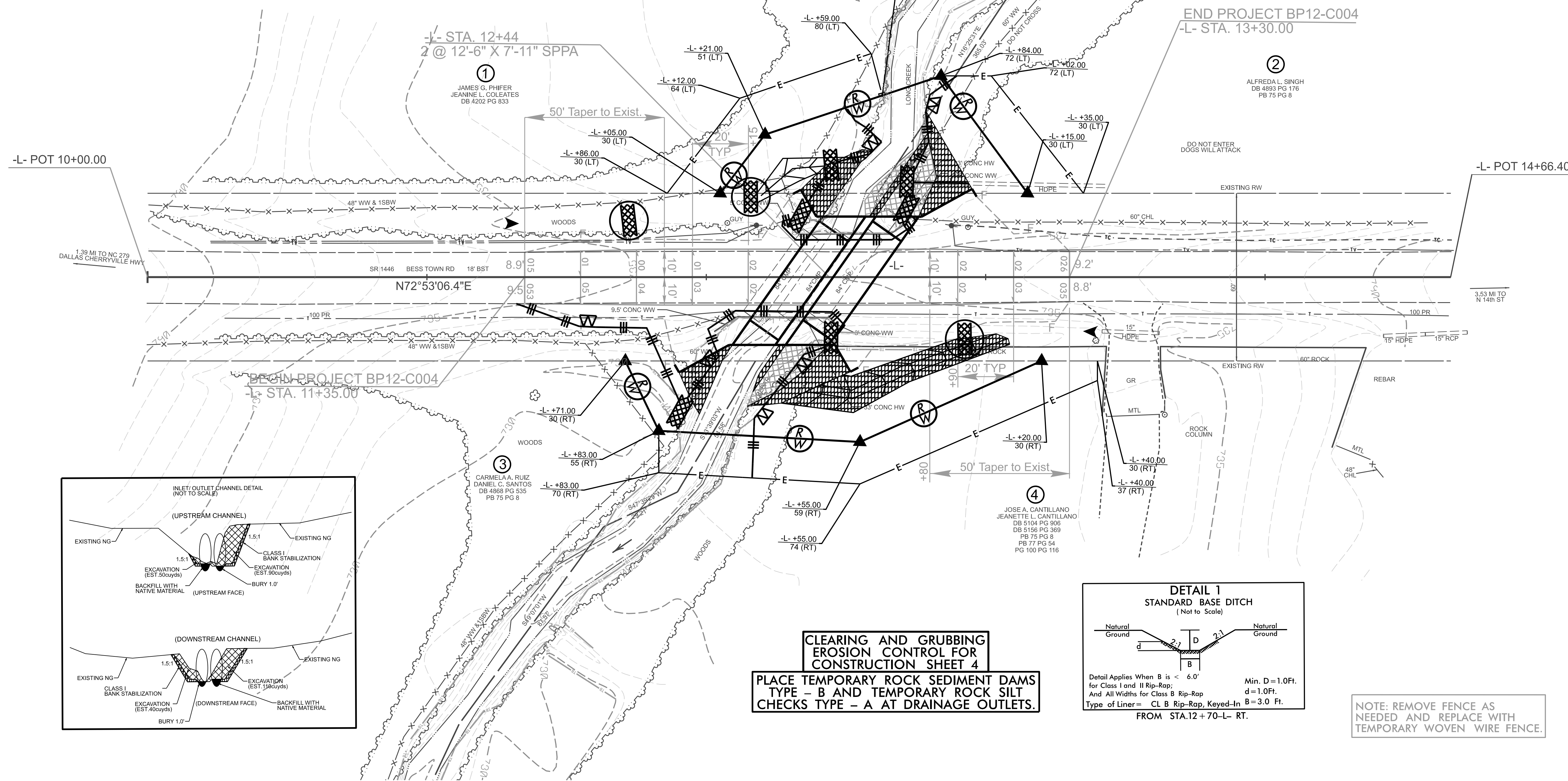
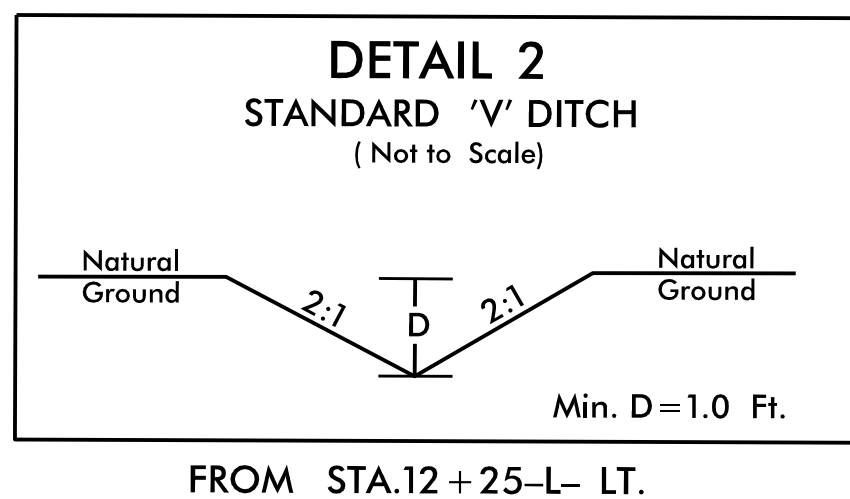
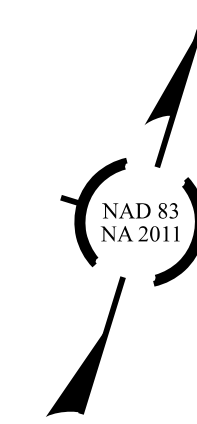
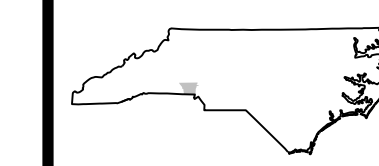
- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. BP12.C004	SHEET NO. EC-03
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

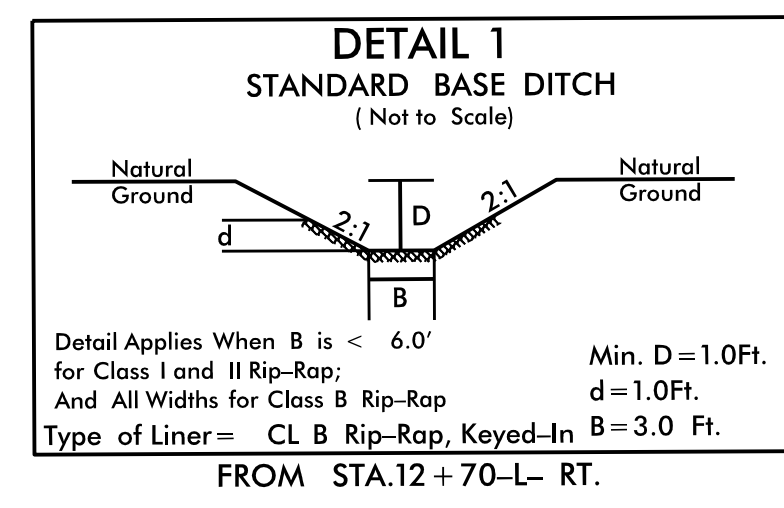
SOIL STABILIZATION TIMEFRAMES

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



**CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4**

**PLACE TEMPORARY ROCK SEDIMENT DAMS
TYPE - B AND TEMPORARY ROCK SILT
CHECKS TYPE - A AT DRAINAGE OUTLETS.**




**NOTE: REMOVE FENCE AS
NEEDED AND REPLACE WITH
TEMPORARY WOVEN WIRE FENCE.**

REVISIONS

CULVERT CONSTRUCTION SEQUENCE STA. 12+44 -L-

BP12-C004
EC-04A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
GASTON COUNTY

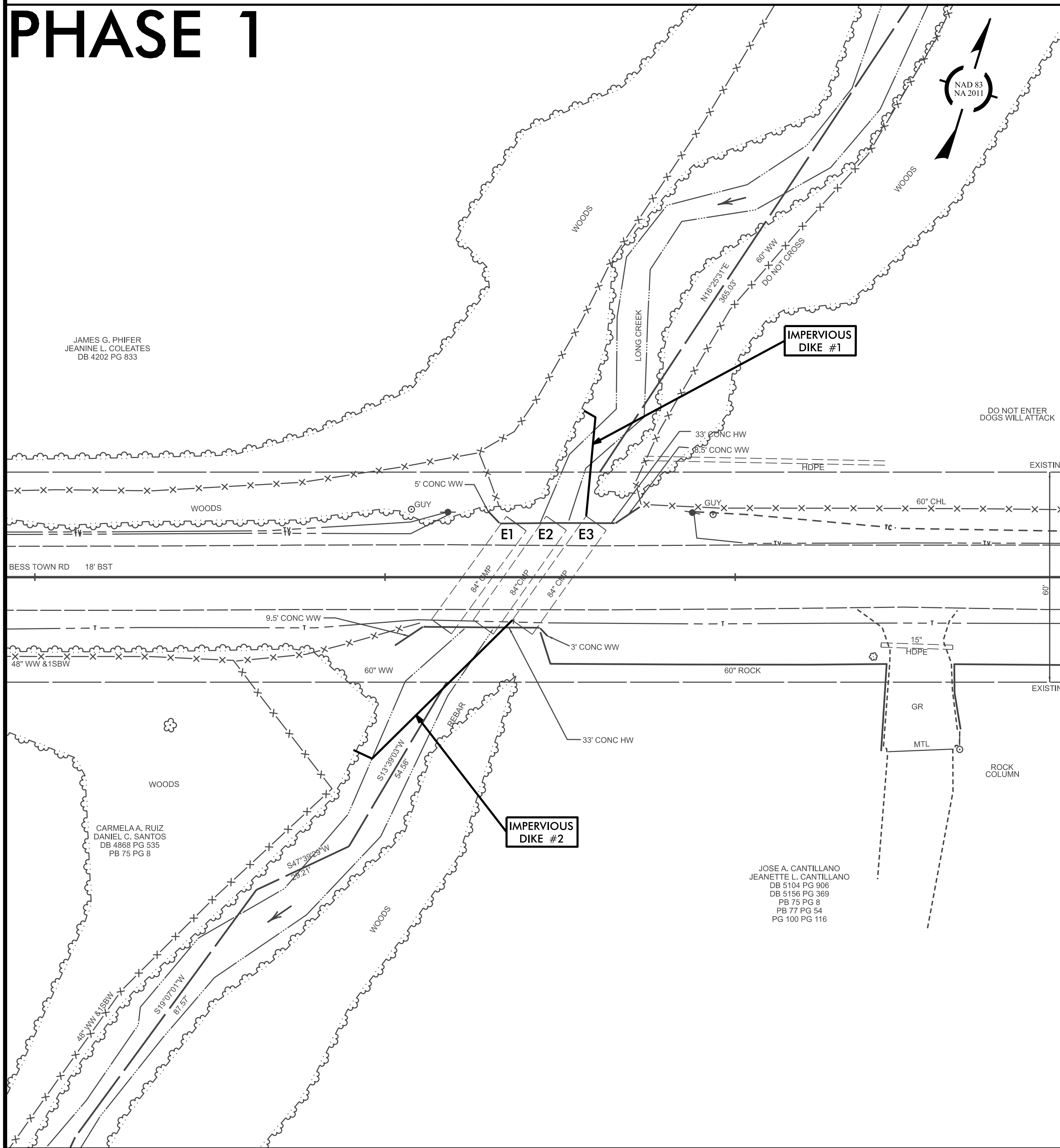


ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

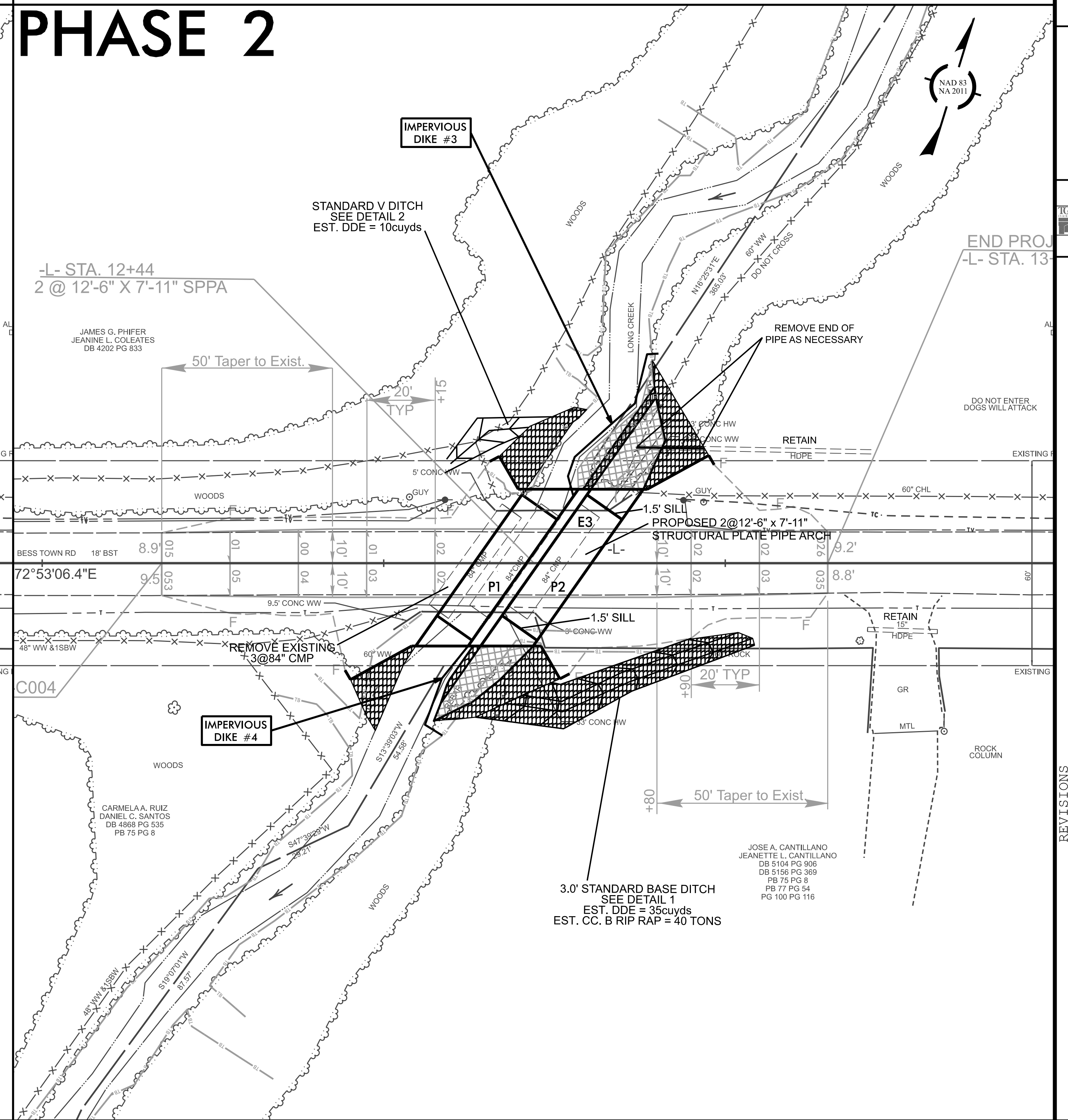
1. INSTALL TRAFFIC CONTROL DEVICES AS SHOWN ON TMP PLANS.
2. INSTALL IMPERVIOUS DIKES #1 & #2 AND DIRECT FLOW THROUGH EXISTING CULVERT E3.
3. DEWATER WORK SITES AS NEEDED INTO SPECIAL STILLING BASIN(S).
4. REMOVE EXISTING CULVERTS E1 & E2.
5. BUILD PROPOSED CULVERT P1 AND WEST BANK WING WALLS AND BANK STABILIZATION.

1. REMOVE IMPERVIOUS DIKES #1 & #2.
2. INSTALL IMPERVIOUS DIKES #3 & #4 AND DIRECT FLOW THROUGH NEW CULVERT P1.
3. REMOVE EXISTING CULVERT E3.
4. BUILD PROPOSED CULVERT P2 AND FLOODPLAIN GRADING AND CHANNEL STABILIZATION.
5. REMOVE IMPERVIOUS DIKES #3 & #4 AND REESTABLISH STREAM ACCORDING TO CONST. PLANS.

PHASE 1



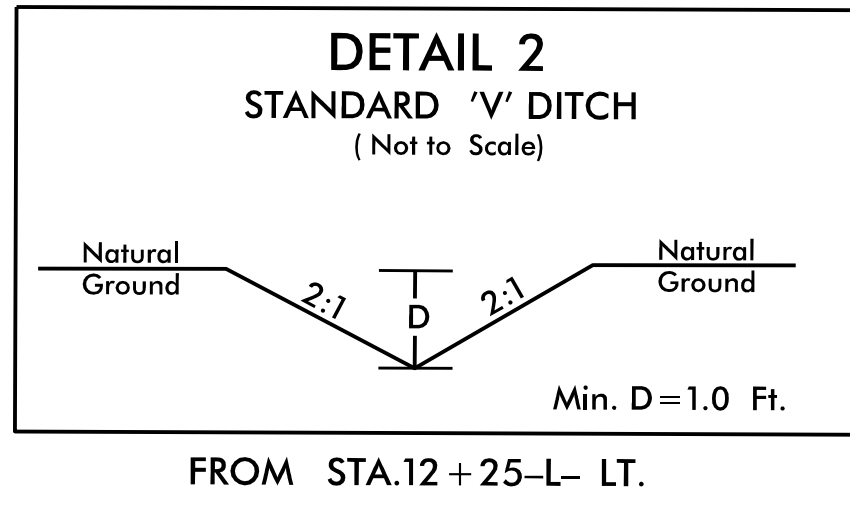
PHASE 2



HYDRAULICS
ENGINEER

PREPARED BY

TGS ENGINEERS
201 W. MAIN ST. 3RD FLOOR
SHELBY, NC 28150
PH: 704.472.2100
CORP. LICENSE NO. 1-C-0272



INSTALL PSRM TYPE 3
IN THE PROPOSED DITCH LINE
 -L- STA 12+25 TO 12+52 LT
 EST. 15 SY



END PROJECT BP12-C004
 -L- STA. 13+30.00

-L- POT 10+00.00

-L- POT 14+66.40

-L- STA. 12+44
 2 @ 12'-6" X 7'-11" SPPA

①
 JAMES G. PHIFER
 JEANINE L. COLEATES
 DB 4202 PG 833

②
 ALFREDA L. SINGH
 DB 4893 PG 176
 PB 75 PG 8

50' Taper to Exist.

DO NOT ENTER
 DOGS WILL ATTACK

BEGIN PROJECT BP12-C004
 -L- STA. 11+35.00

1.39 MI TO NC 279
 DALLAS CHERRYVILLE HW

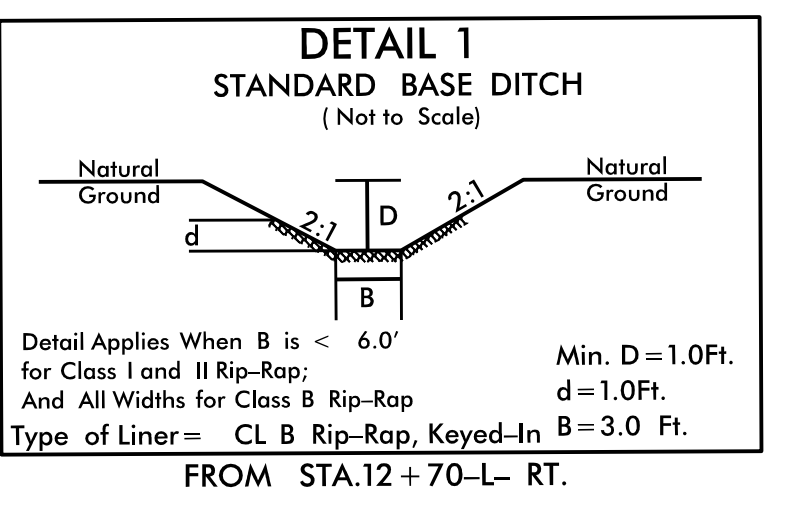
3.53 MI TO
 N 14th ST

SR 1446 BESS TOWN RD 18' BST
 N72°53'06.4"E

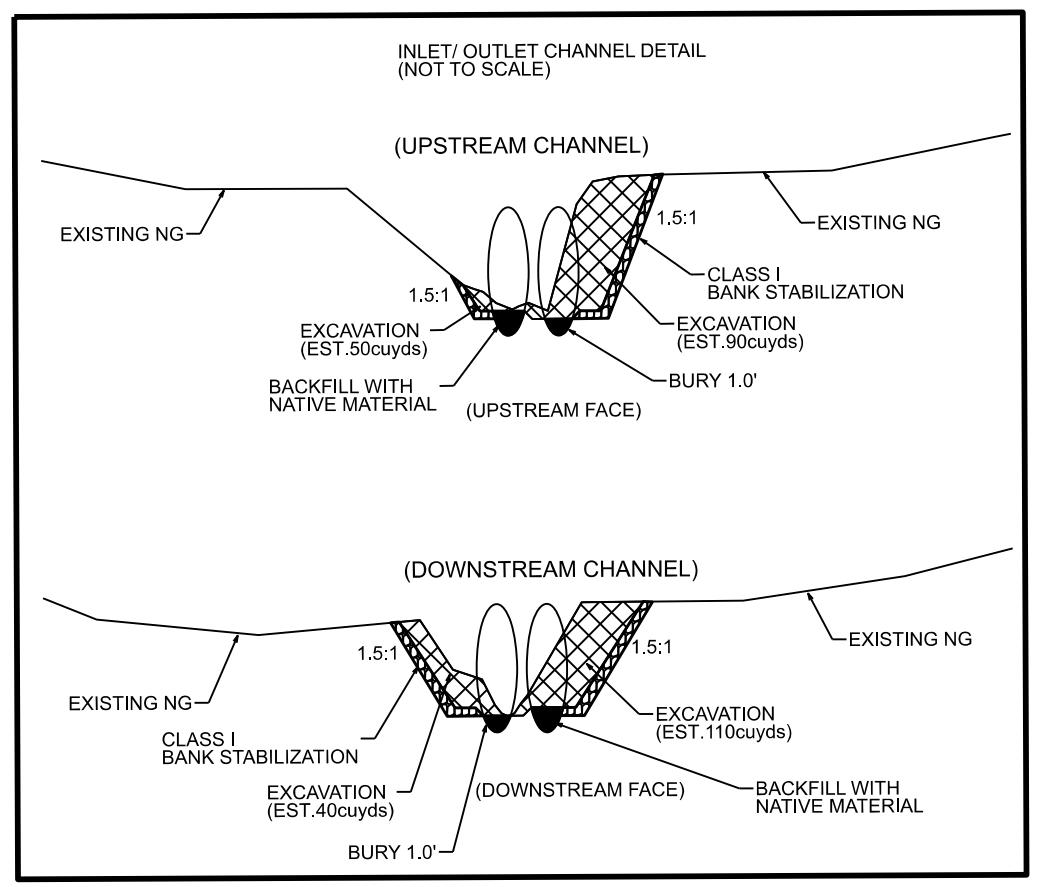
③
 CARMELA A. RUIZ
 DANIEL C. SANTOS
 DB 4868 PG 535
 PB 75 PG 8

④
 JOSE A. CANTILLANO
 JEANETTE L. CANTILLANO
 DB 5104 PG 906
 DB 5156 PG 369
 PB 75 PG 8
 PB 77 PG 54
 PG 100 PG 116

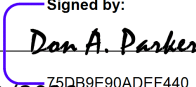
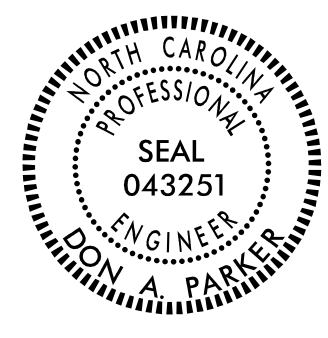
INSTALL MATTING FOR EROSION
CONTROL ON ALL FILL SLOPES ABOVE
CULVERT HEADWALLS AND WING WALLS



NOTE: REMOVE FENCE AS
NEEDED AND REPLACE WITH
TEMPORARY WOVEN WIRE FENCE.



REVISIONS

TIP NO.	SHEET NO.
BP12-C004	SIGN-1
APPROVED:  <i>Don A. Parker</i>	
DATE: 1/29/2025	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

**SIGNING PLAN
GASTON COUNTY**

LOCATION: *REPLACE STRUCTURE #350312 OVER UT TO LONG CREEK
ON SR 1446 (BESS TOWN RD)*
TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND CULVERT*

PROJECT: BP12-C004

CONTRACT:

ROADWAY STANDARD DRAWING

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

<u>STD. NO.</u>	<u>TITLE</u>
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

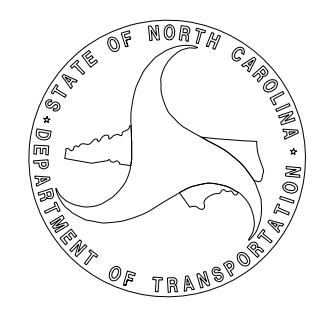
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

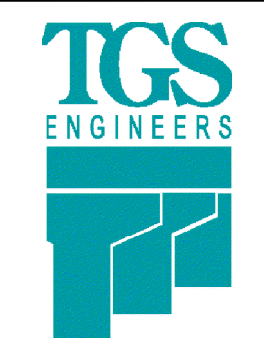
SUMMARY OF QUANTITIES

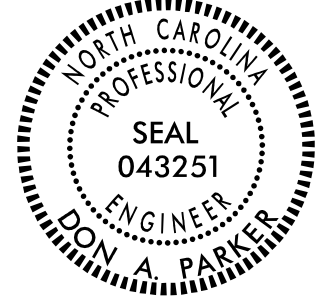

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	13	L. F.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E	1	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	4	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	1	EA.

INDEX

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
SIGN-1	TITLE SHEET
SIGN-2	EXISTING AND PROPOSED SIGN DETAIL SHEETS

<i>PLAN SUBMITTED TO: NCDOT</i>		
<i>JOSHUA B. WHITE, PE, PLS</i>	DIVISION 12 PROJECT TEAM LEAD	

<i>PLAN PREPARED BY: TGS ENGINEERS</i>		
<i>DONA. PARKER, P.E.</i>	PROJECT ENGINEER	
<i>CODA BRANNAN, E.I.</i>	DESIGN ENGINEER	
		<small>TGS ENGINEERS 706 HILLSBOROUGH ST. SUITE 200 RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275</small>

TIP NO. BP12-C004	SHEET NO. SIGN-2
APPROVED: <i>Don A. Parker</i> <small>75789890ADEF440</small>	
DATE: 1/29/2026	
SEAL	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 706 HILLSBOROUGH STREET (SUITE 200) RALEIGH, NC 27603 PH (919) 773-8887 CORP. LICENSE NO.: C-0275	

10

-L- SR 1446
BESS TOWN RD

-L- SR 1446
BESS TOWN RD

-L- STA. 11+35±

-L- STA. 13+30±

LONG CREEK

SEE NOTE 1

SEE NOTE 1

SEE NOTE 1

SEE NOTE 1

RELOCATE TYPE E SIGN TO NEW
3 LB U-CHANNEL SUPPORT AT
-L- STA. 13+80± AND DISPOSE OF
EXISTING U-CHANNEL SUPPORT.
SEE NOTE 2 AND 3.

35
MPH

PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL
2. DISPOSAL OF SUPPORT, U-CHANNEL
3. SIGN ERECTION, RELOCATE TYPE E

EXISTING/PROPOSED
SIGNS

I:\1\2025
X:\NC001\Div 12 Gaston 312\Signing and Delineation\Signing\Gaston 312_Sgn_SGN_Exist_proposed.dgn
User:tcbrannen

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

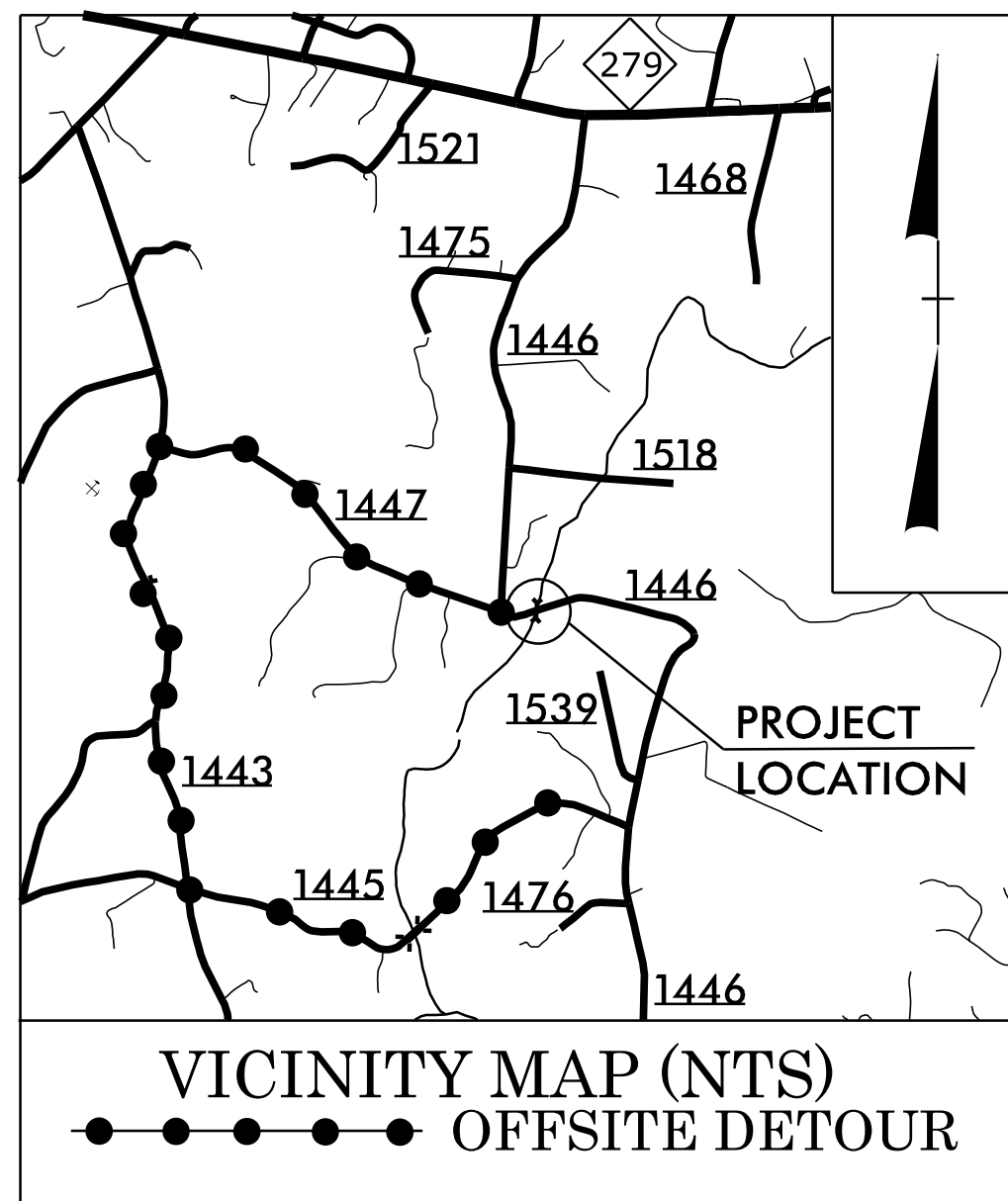
**UTILITIES BY OTHERS PLANS
GASTON COUNTY**

**LOCATION: REPLACE STRUCTURE #350312 OVER UT TO LONG CREEK
ON SR 1446 (BESS TOWN RD)**

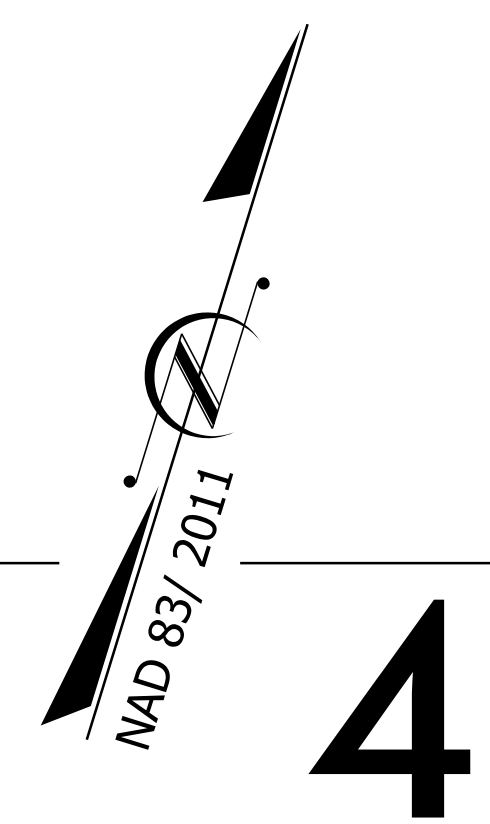
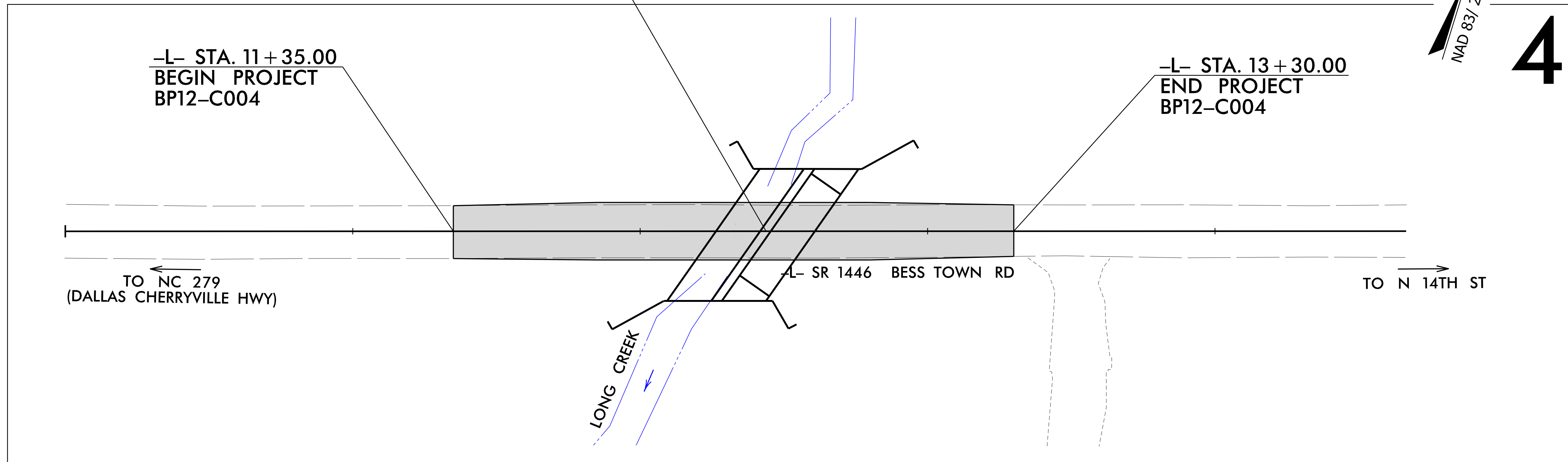
TYPE OF WORK: COMMUNICATIONS

T.I.P. NO.	SHEET NO.
BP12-C004	UO-1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

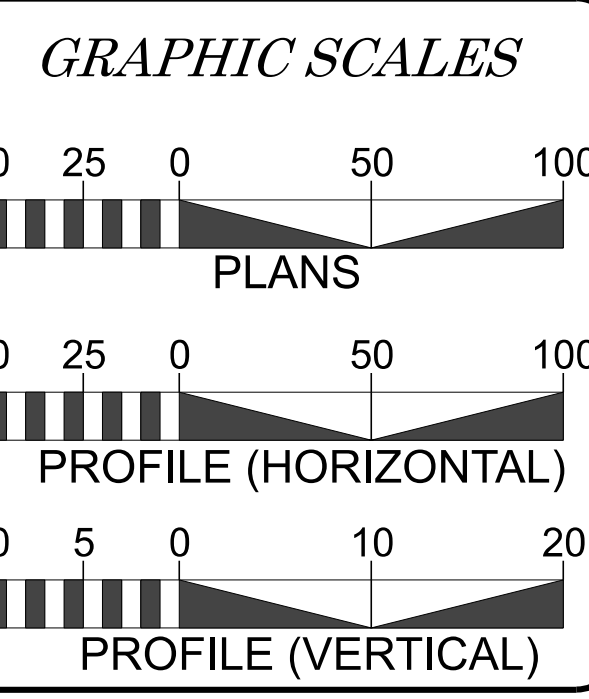


-L- STA. 12 + 44 ±
2 @ 12'-6" X 7' -11" SPPA



TIP PROJECT: BP12-C004

CONTRACT:



INDEX OF SHEETS

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

UTILITY OWNERS WITH CONFLICTS

(A) COMMUNICATIONS - AT&T

(B) COMMUNICATIONS - SPECTRUM

PREPARED IN THE OFFICE OF

TELICS
1598 WESTBROOK PLAZA DR.
SUITE 202
WINSTON SALEM, NC 27103
(336) 705 - 8844

CORY WOOD UTILITY PROJECT MANAGER
CORY WOOD UTILITY COORDINATOR

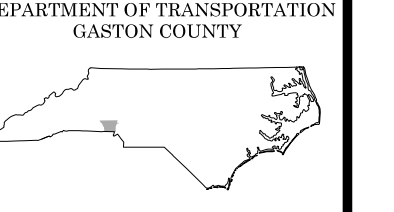
DIVISION OF HIGHWAYS
DIVISION 12
1710 E. MARION ST.
SHELBY, NC 28150
PHONE (980) 552-4400
FAX (704) 480-5401

WARREN ANDERSON DIVISION UTILITY ENGINEER
DANNY POWELL DIVISION UTILITY COORDINATOR

UTILITIES BY OTHERS

BP12-C004

UO-2



UTILITY DESIGN UNIT
UTILITY CONSTRUCTION PLANS ONLY

ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

DESIGNED BY:

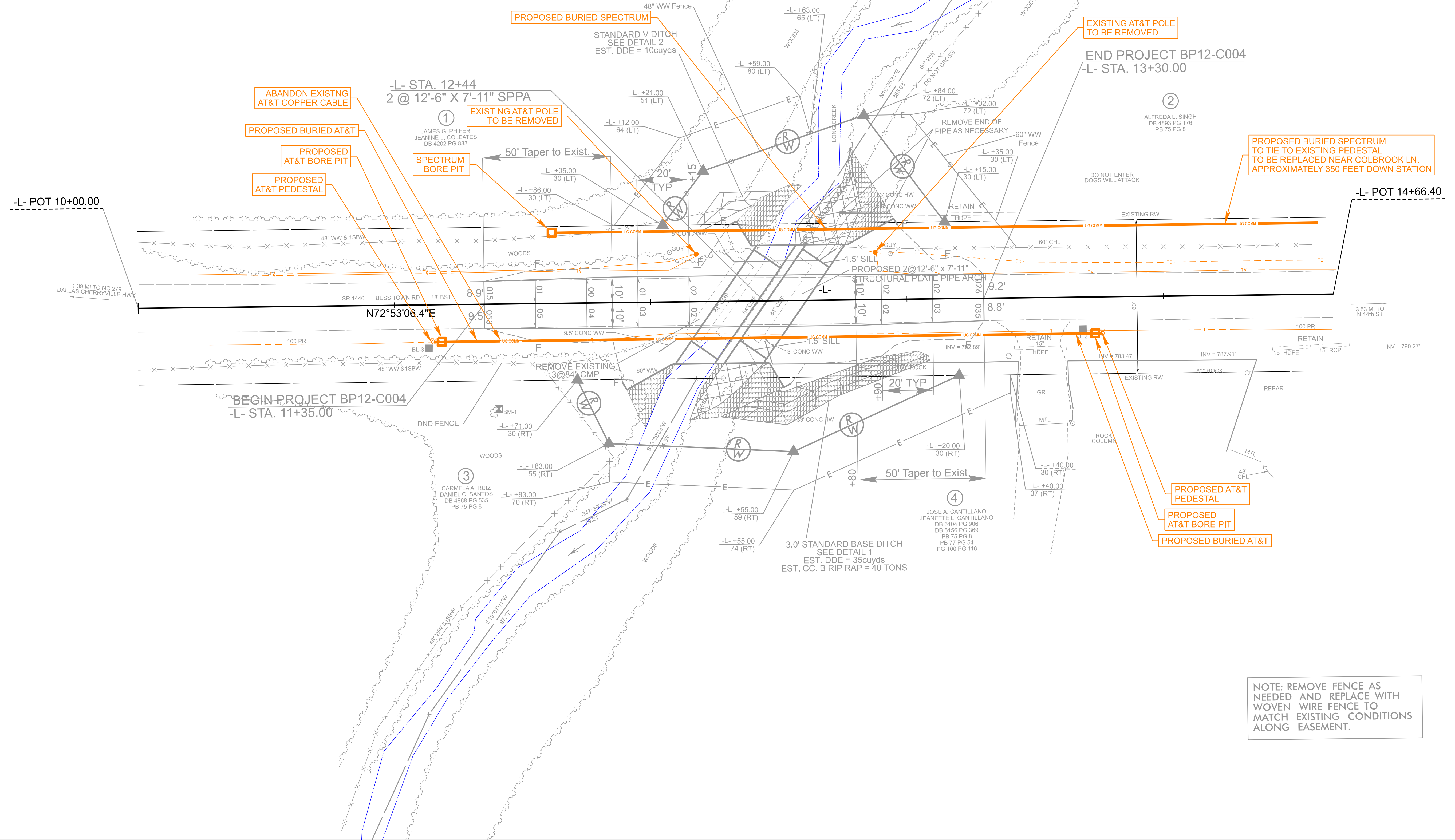
DRAWN BY:

CHECKED BY:

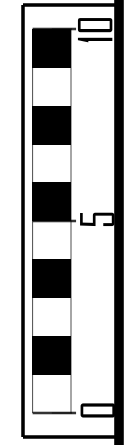
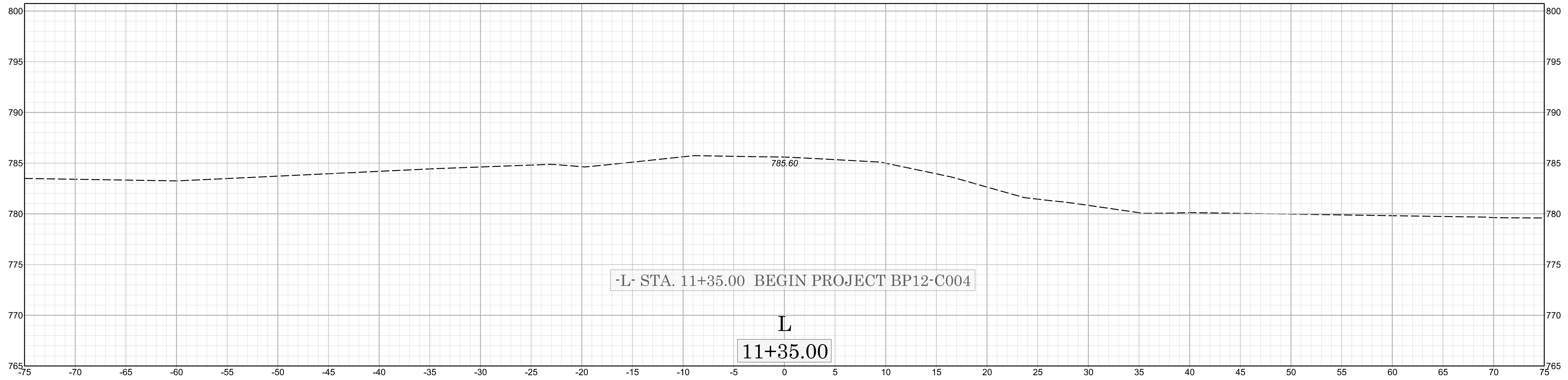
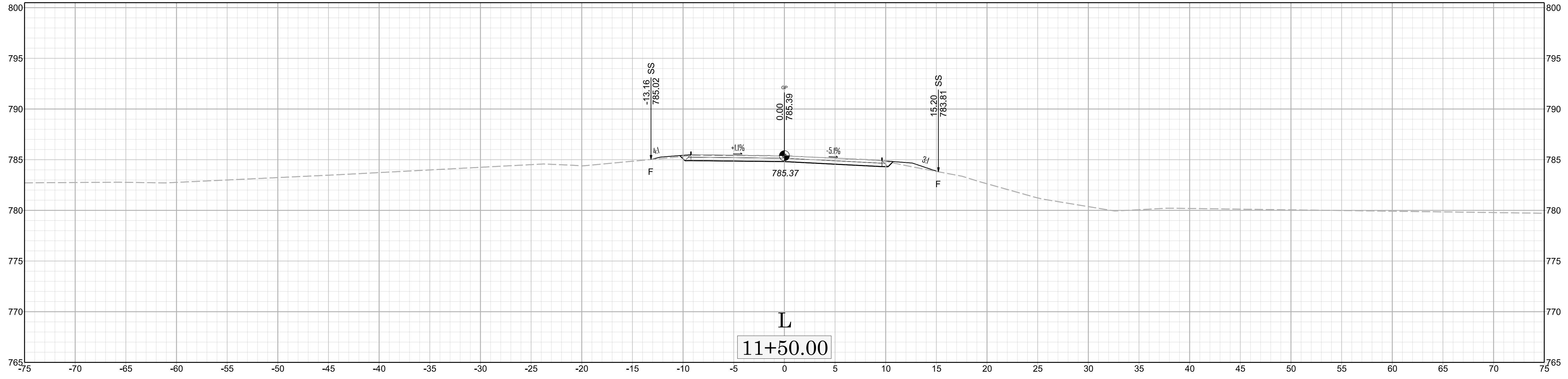
APPROVED BY:

REVISED:

MELICS
1598 WESTBROOK PLAZA DR.
SUITE 200
WINSTON SALEM, NC 27103
PHONE (336)705-8844

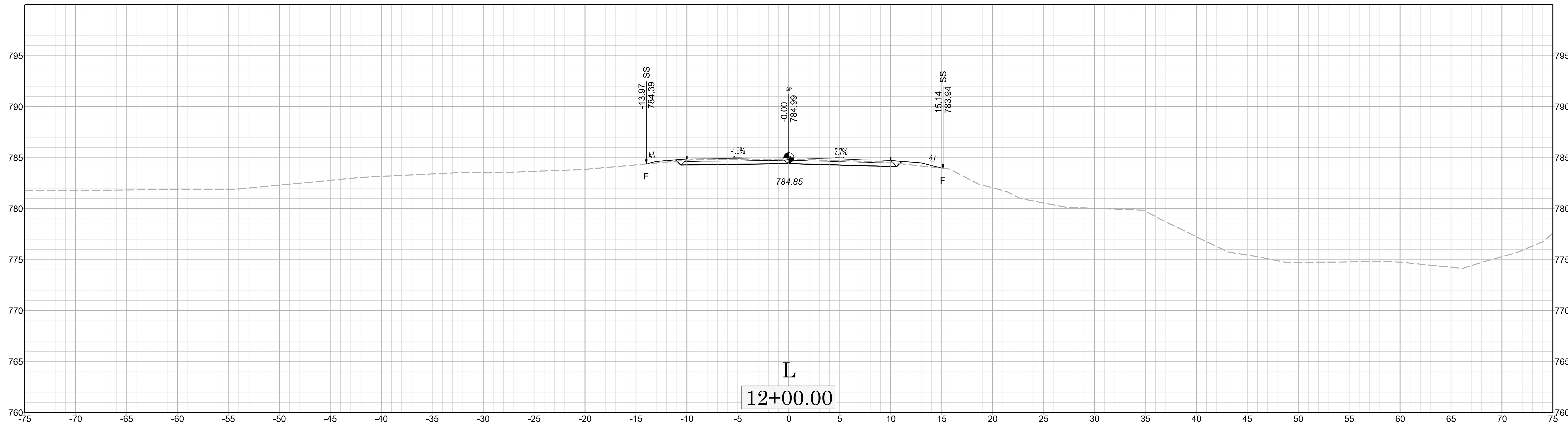


REVISIONS

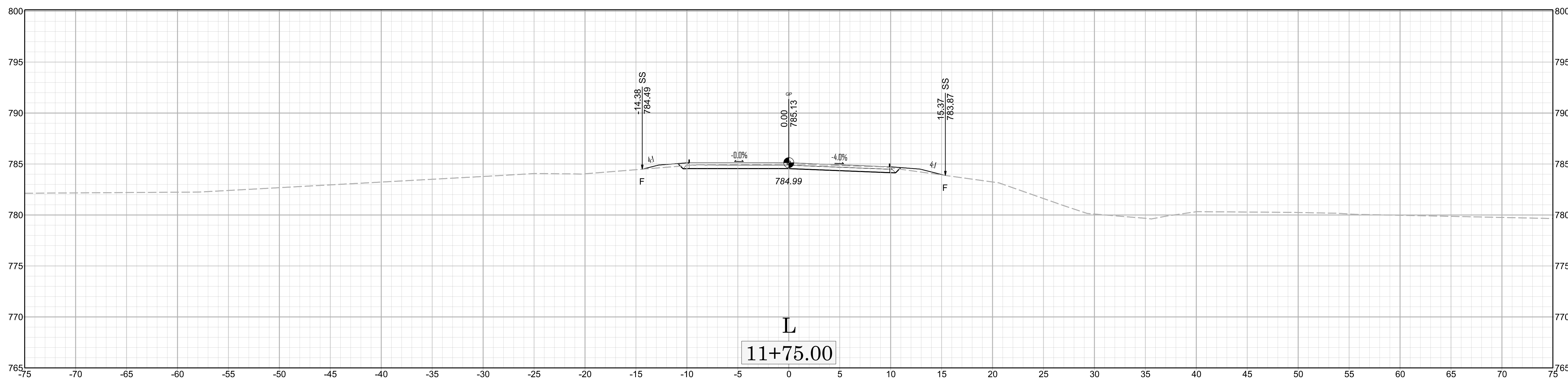


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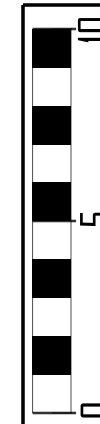
BP12-C004



L
12+00.00

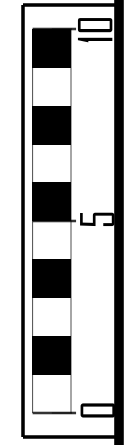
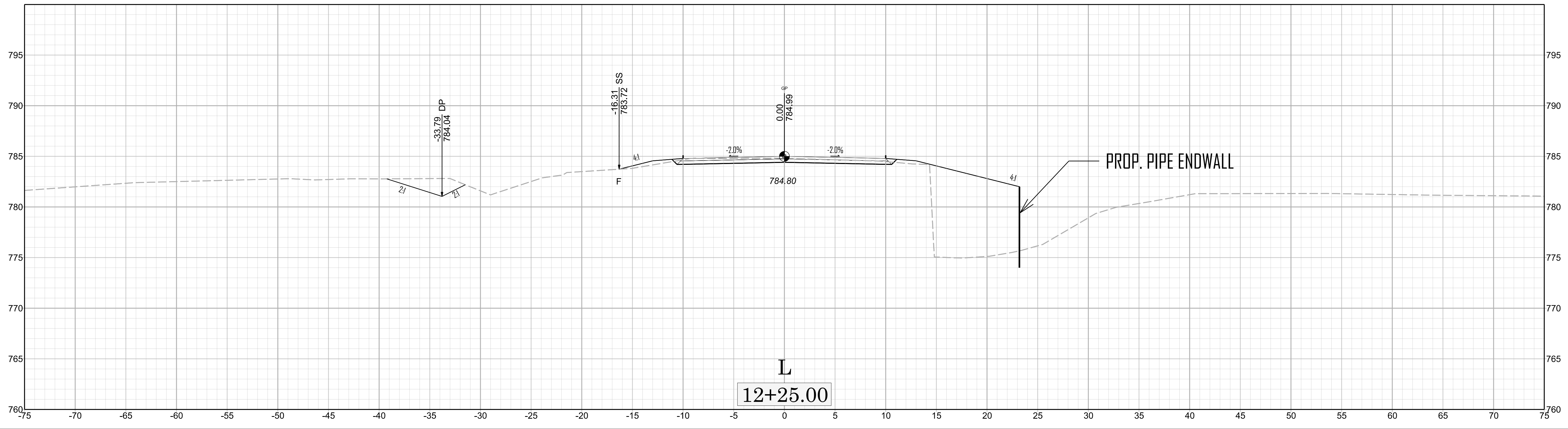
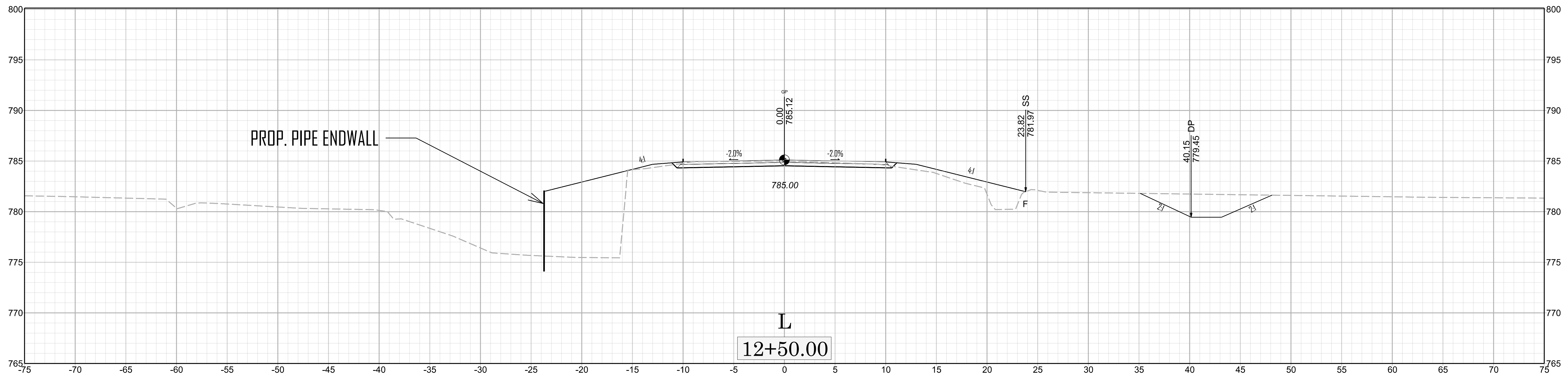


L
11+75.00



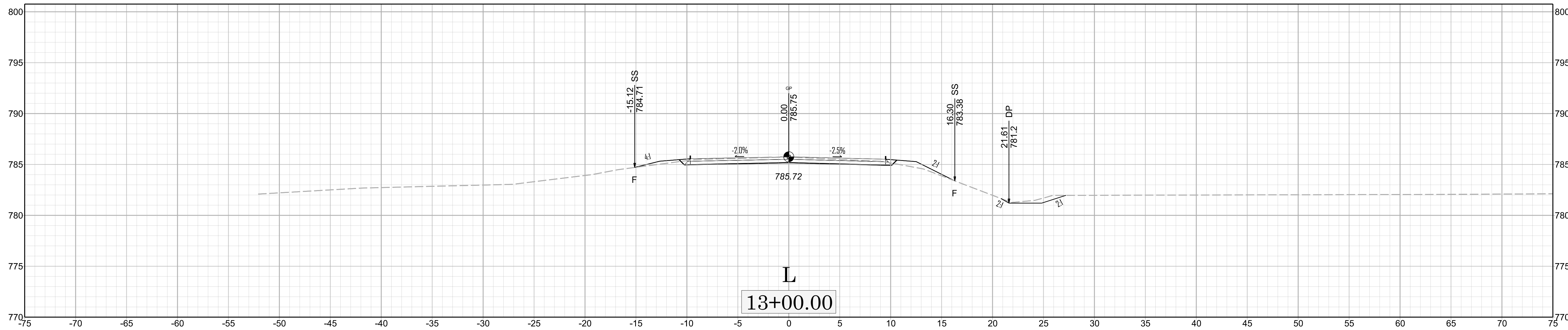
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BPHZ-C004

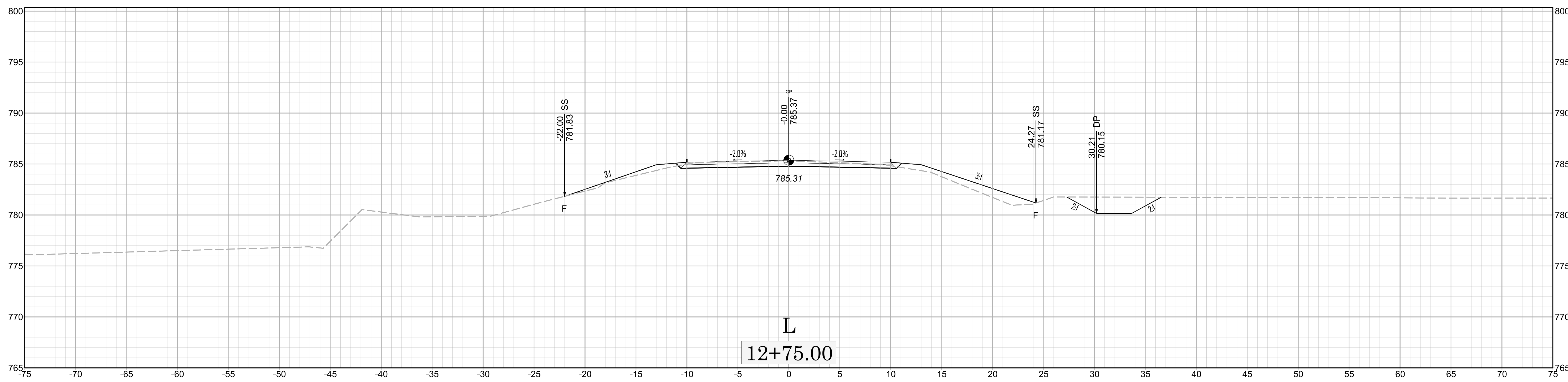


X 04

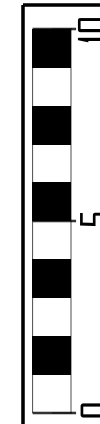
BPHZ-C004



L
13+00.00

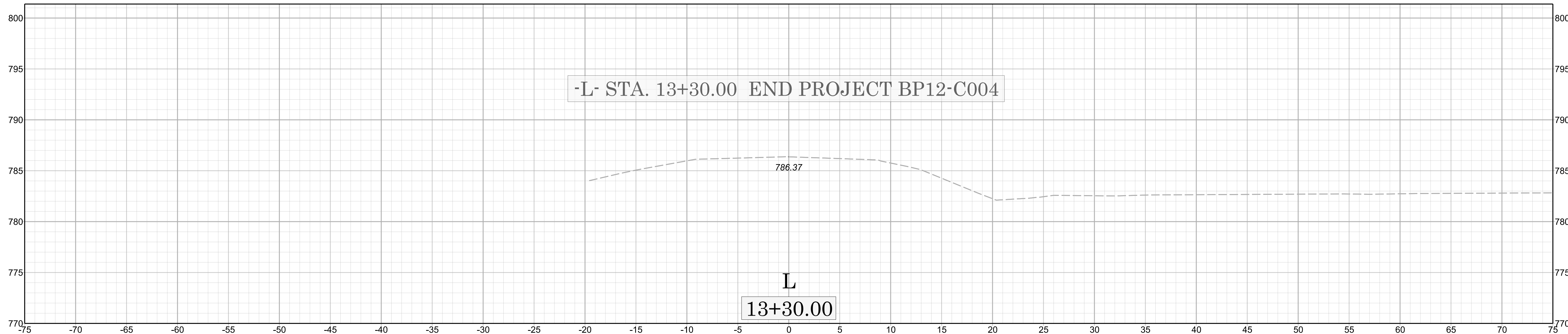
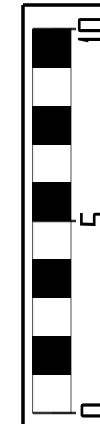


L
12+75.00



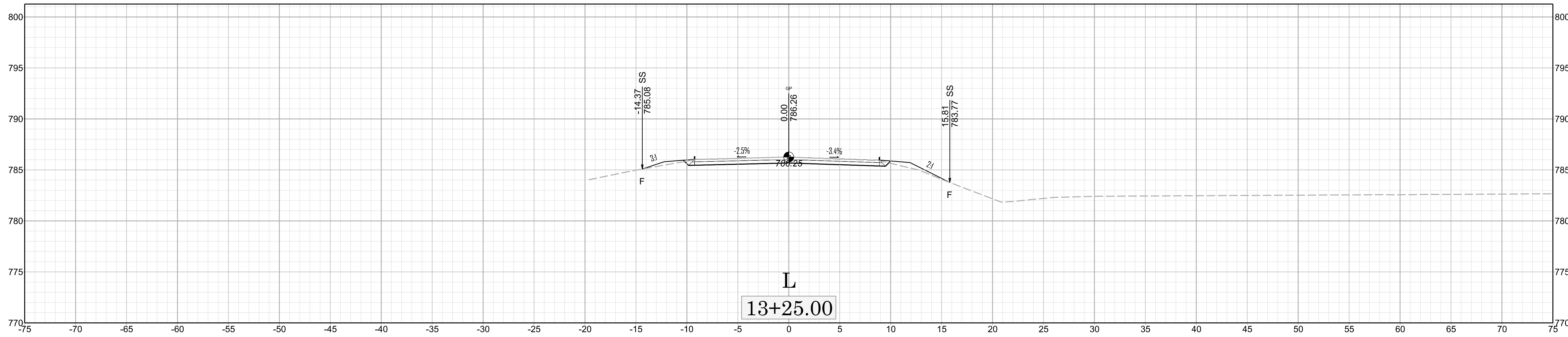
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BPHZ-C004

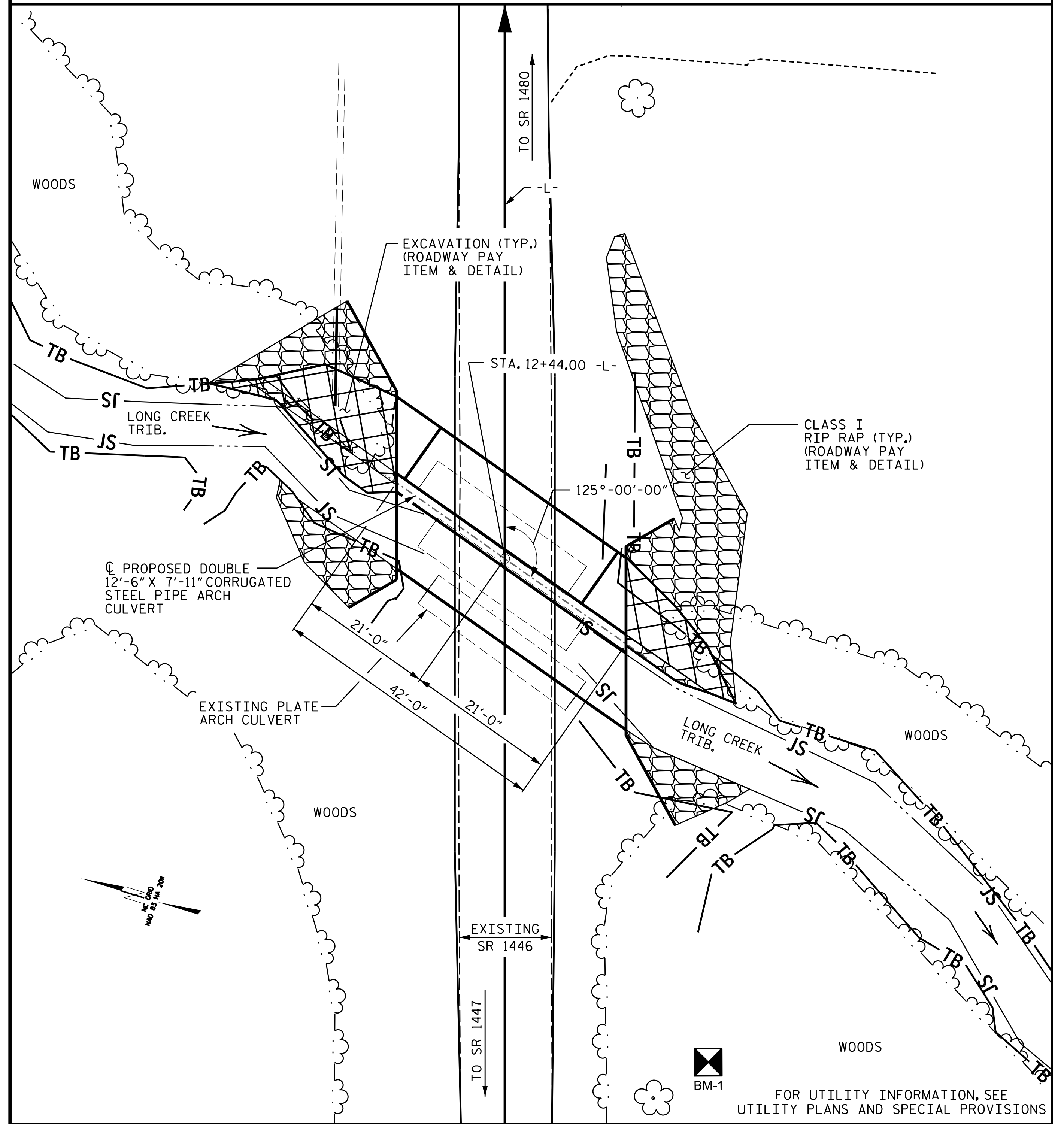


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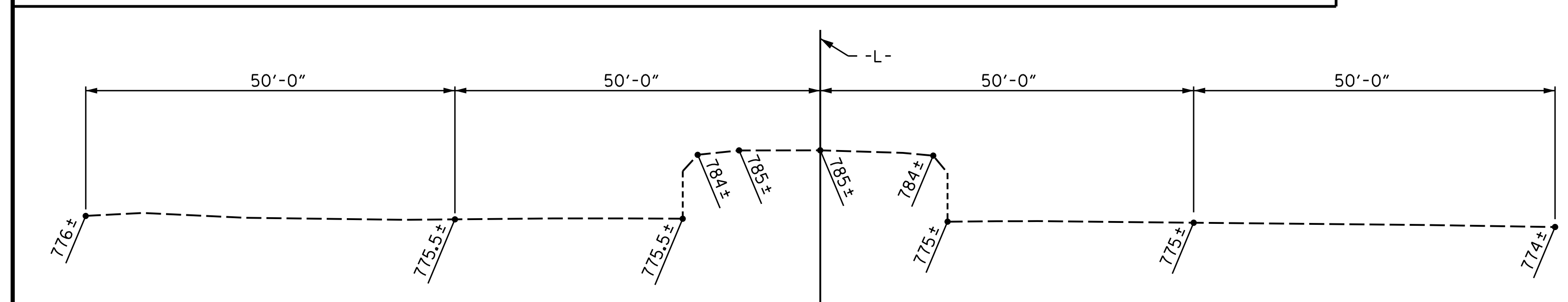
BP12-C004



BM#1: RR SPIKE IN 32" BOX ELDER; 41' RT OF STA. 11+40.20 -L-; ELEV. = 781.29



LOCATION SKETCH



PROFILE ALONG CULVERT

DRAWN BY : STM DATE : 05/25
 CHECKED BY : MCC DATE : 08/25

ROADWAY DATA	
GRADE POINT ELEV. @ STA. 12+44.00 -L-	785.08
BED ELEV. @ STA. 12+44.00 -L-	774.40
ROADWAY SLOPES	4:1
HYDRAULIC DATA	
DESIGN DISCHARGE	690 CFS
FREQUENCY OF DESIGN FLOOD	25 YRS.
DESIGN HIGH WATER ELEVATION	781.4
DRAINAGE AREA	1.72 SQ. MI.
BASIC DISCHARGE	1052 CFS
FREQUENCY OF BASE DISCHARGE	100 YRS.
BASIC HIGH WATER ELEVATION	784.0
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	1160 CFS
FREQUENCY OF OVERTOPPING FLOOD	100+ YRS.
OVERTOPPING FLOOD ELEVATION	785.1' *

* AT LEFT EDGE OF SHOULDER @ LOW POINT (STA 12+13 -L-) W.S. ELEV. TAKEN @ RIVER STATION 1243

TOTAL STRUCTURE QUANTITIES	
CORRUGATED STEEL PIPE ARCH CULVERT	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	118 TONS

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.

SEAL

NOTES

- ASSUMED LIVE LOAD - HL-93 OR ALTERNATE.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- CULVERT SHALL BE DESIGNED FOR A MAXIMUM FILL DEPTH OF 2.5'.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF THE CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.
- FOR CORRUGATED STEEL PIPE ARCH CULVERT, SEE SPECIAL PROVISIONS.
- THE DETAILS SHOWN HERE ARE FOR GENERAL LAYOUT ONLY. THE CONTRACTOR SHALL SUPPLY DESIGNS AND DETAILS THAT MEET THE REQUIREMENTS OF AASHTO SECTION 12, AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE STANDARD NOTES SHEET.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
- REMOVAL OF THE EXISTING PIPE ARCH CULVERT & HEADWALLS SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. REMOVAL OF THE EXISTING ARCH CULVERT SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR CULVERT EXCAVATION.
- EXCAVATE AT LEAST 1 FOOT BELOW THE CULVERT AND REPLACE EXCAVATED MATERIAL WITH FOUNDATION CONDITIONING MATERIAL. FOR FOUNDATION CONDITIONING MATERIAL, SEE CULVERT EXCAVATION SPECIAL PROVISION.
- THE MANUFACTURER OF THE CORRUGATED STEEL PIPE ARCH CULVERT SHALL PROVIDE LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY PER NCDOT REQUIREMENTS.
- FOR CULVERT EXCAVATION, SEE SPECIAL PROVISIONS.
- FOR FOUNDATION CONDITIONING MATERIAL, SEE CULVERT EXCAVATION SPECIAL PROVISION.

PROJECT NO. BP12-C004
GASTON COUNTY
 STATION: 12+44.00 -L-

SHEET 1 OF 4 REPLACES STR. #350312

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

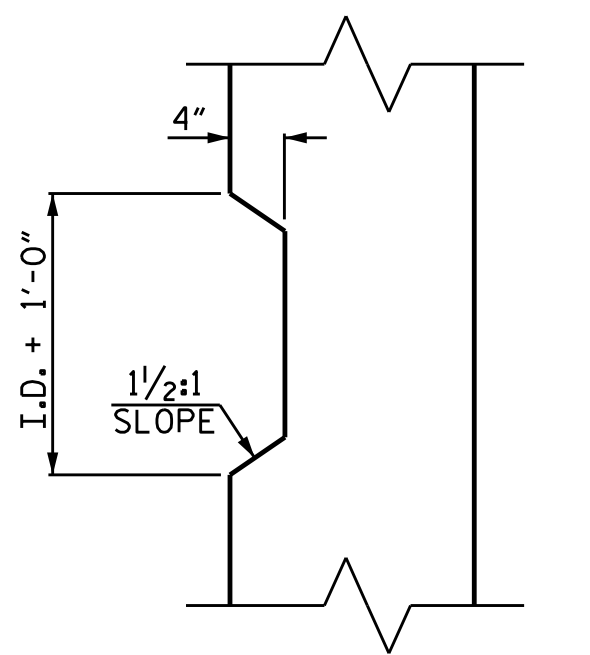
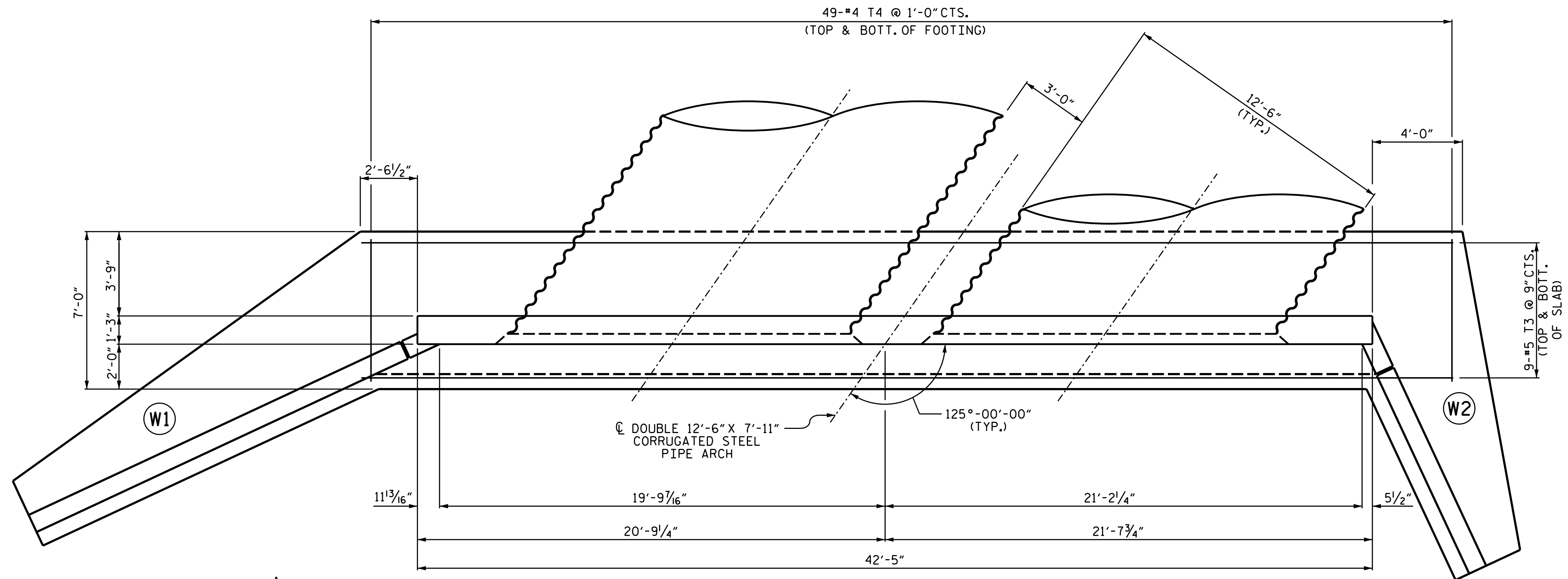
DOUBLE 12'-6" X 7'-11"
 CORRUGATED STEEL
 PIPE ARCH
 125°-00'-00" SKEW

1/29/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

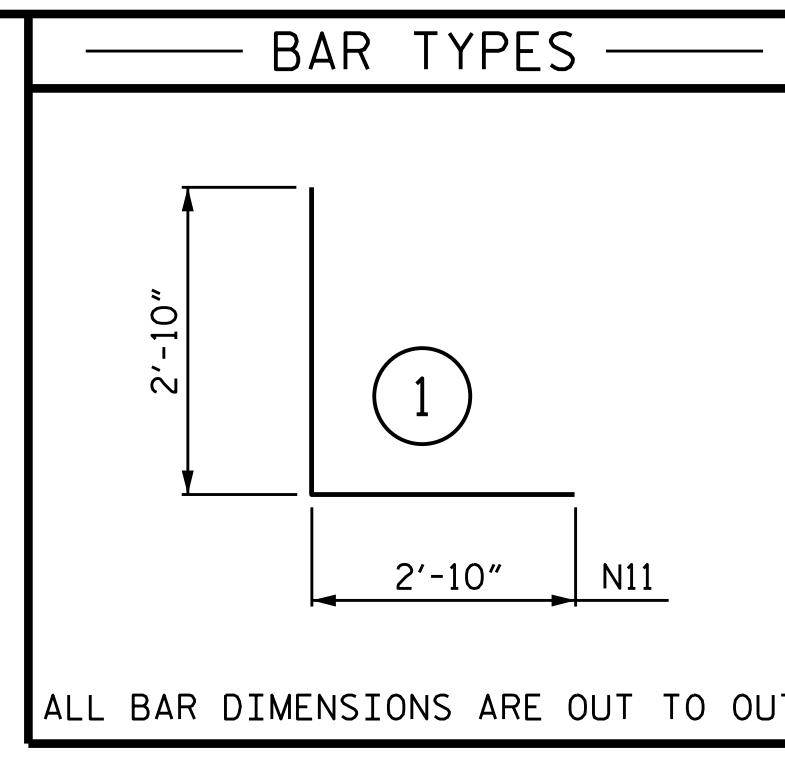
TGS ENGINEERS
 201 W. MARION STREET
 SUITE 200
 SHELBY, NC 28150
 PH (704) 476-0003
 CORP. LICENSE NO.: C-0275

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			4



PLAN
INLET HEADWALL SHOWN, OUTLET HEADWALL SIMILAR.
FOR LOCATION OF CULVERT SILLS, SEE SHEET 4 OF 4.

TOTAL QUANTITIES	
REINFORCING CONCRETE	
4 WINGS	2,035 LBS.
2 HEADWALLS	3,851 LBS.
TOTAL	5,886 LBS.
CLASS A CONCRETE	
4 WINGS	13.6 C.Y.
2 END CURTAIN WALLS	6.5 C.Y.
2 HEADWALLS	21.8 C.Y.
2 FOOTINGS	35.0 C.Y.
TOTAL	76.9 C.Y.



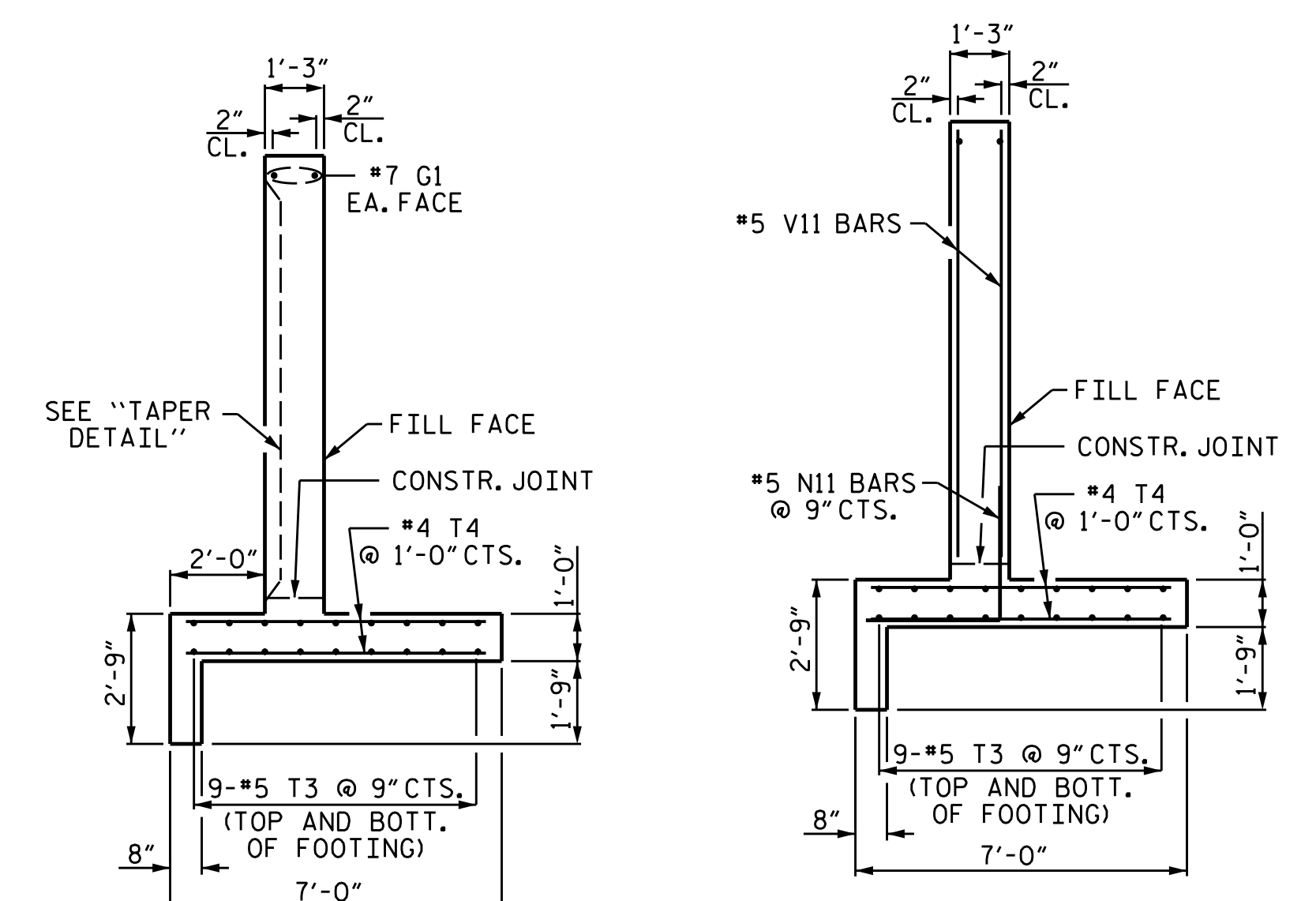
BILL OF MATERIAL FOR 2 HEADWALLS					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	32	#4	STR	6'-9"	144
G1	4	#7	STR	41'-11"	343
N11	30	#5	1	5'-8"	177
T3	36	#5	STR	48'-6"	1821
T4	196	#4	STR	6'-8"	873
V11	52	#5	STR	9'-1"	493
REINFORCING STEEL					3851 LBS.

NOTES

NO SEPARATE PAYMENT WILL BE MADE FOR REINFORCING STEEL OR CLASS A CONCRETE. THE ENTIRE COST OF THESE ITEMS SHALL BE PAID FOR UNDER THE LUMP SUM PRICE BID FOR CORRUGATED STEEL PIPE ARCH CULVERT.

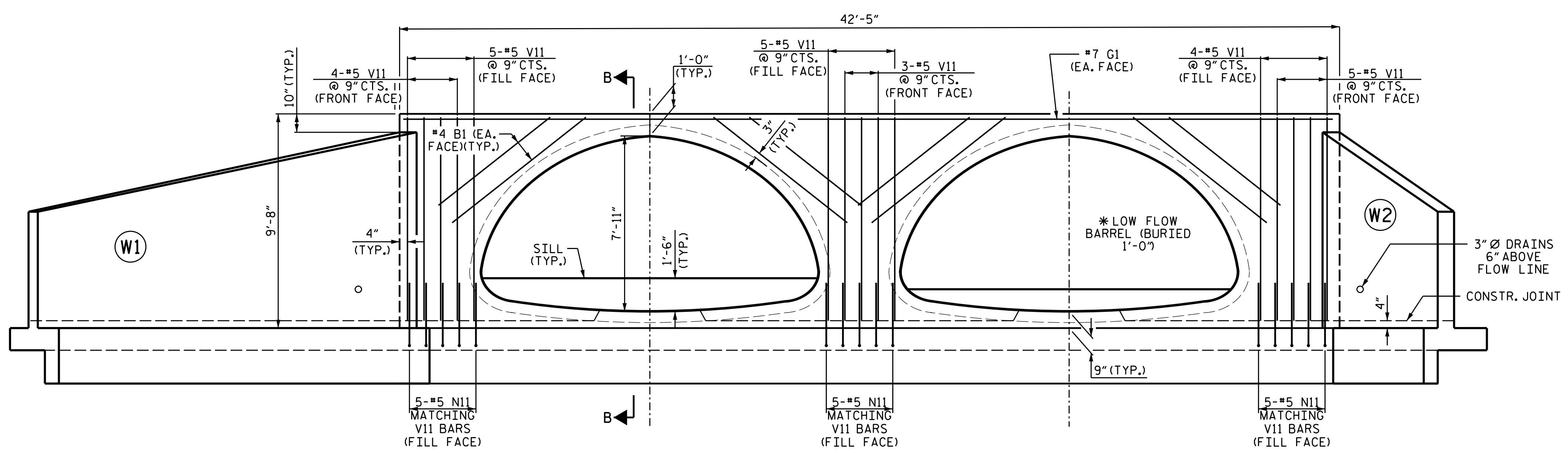
CHAMFER ALL CORNERS 1"

PLACE A STONE DRAIN CONSISTING OF ONE (1) CUBIC FOOT OF NUMBER 78M STONE CONTAINED IN A POROUS FABRIC AT EACH WEEP HOLE. PLACE SUBDRAIN FINE AGGREGATE BENEATH, AROUND AND OVER THE STONE DRAIN SO THE STONE DRAIN IS COMPLETELY COVERED BY A LAYER OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT THICK. WHERE THERE IS MORE THAN ONE WEEP HOLE IN A WING WALL, PLACE A HORIZONTAL DRAIN OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT SQUARE IN A CROSS SECTION TO CONNECT ALL STONE DRAINS. PLACE A VERTICAL DRAIN OF SUBDRAIN FINE AGGREGATE AT LEAST ONE (1) FOOT SQUARE IN CROSS SECTION AT EACH WEEP HOLE TO AN ELEVATION OF TWO (2) FEET BELOW THE SURFACE OF THE EMBANKMENT.



SECTION B-B

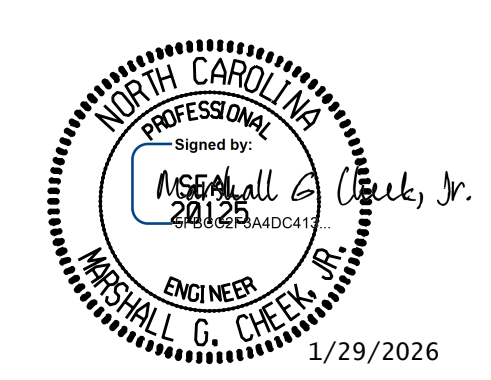
SECTION @ CL



ELEVATION

LOOKING DOWNSTREAM (ALONG SKEW)

PROJECT NO. BP12-C004
GASTON COUNTY
 STATION: 12+44.00 -L-
 SHEET 2 OF 4

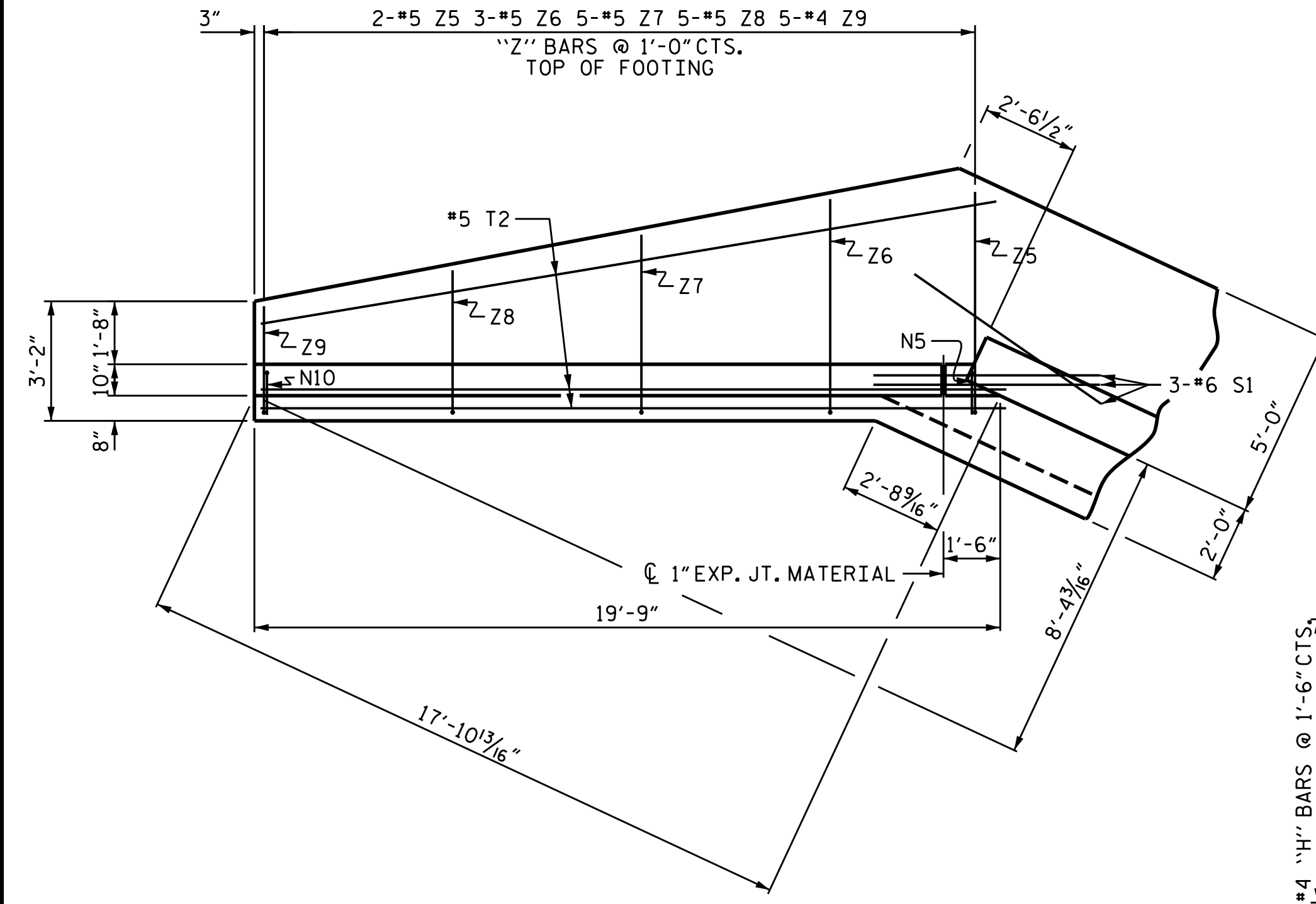


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
DOUBLE 12'-6" X 7'-11"
CORRUGATED STEEL
PIPE ARCH
125°-00'-00" SKEW

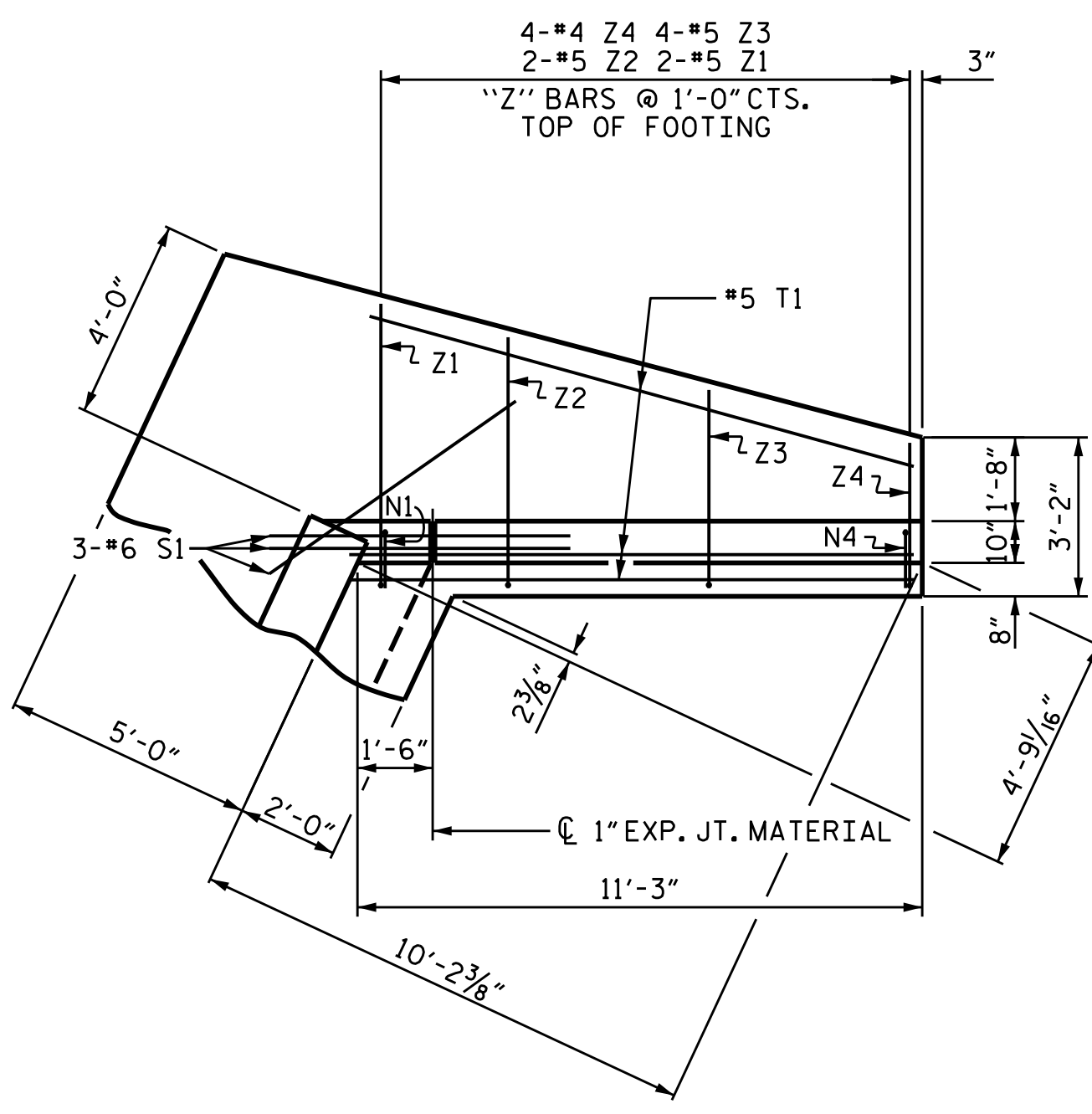
DRAWN BY : STM DATE : 08/25
 CHECKED BY : MGC DATE : 08/25
 DESIGN ENGINEER OF RECORD: STM DATE : 08/25

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					
TGS ENGINEERS					
201 W. MARION STREET					
SUITE 200					
SHELBY, NC 28150					
PH (704) 476-0003					
CORP. LICENSE NO.: C-0275					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

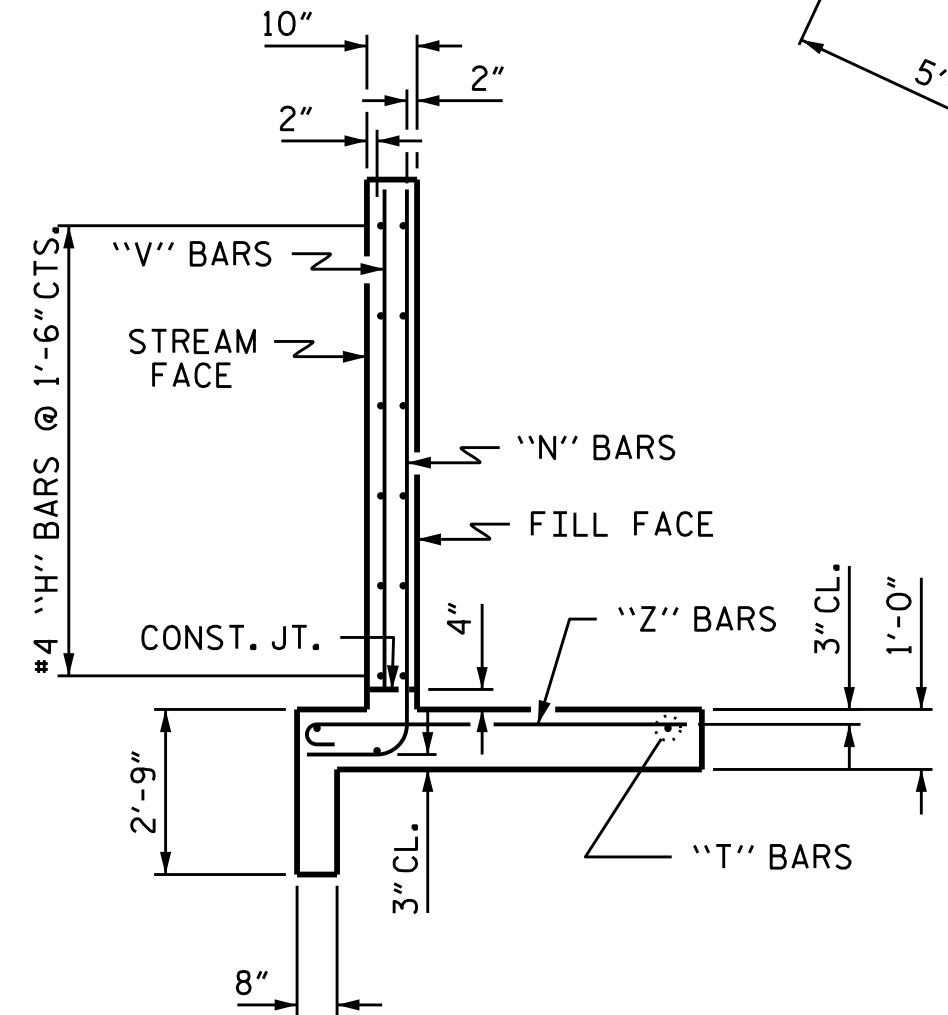
SHEET NO.		C-2
TOTAL SHEETS		4



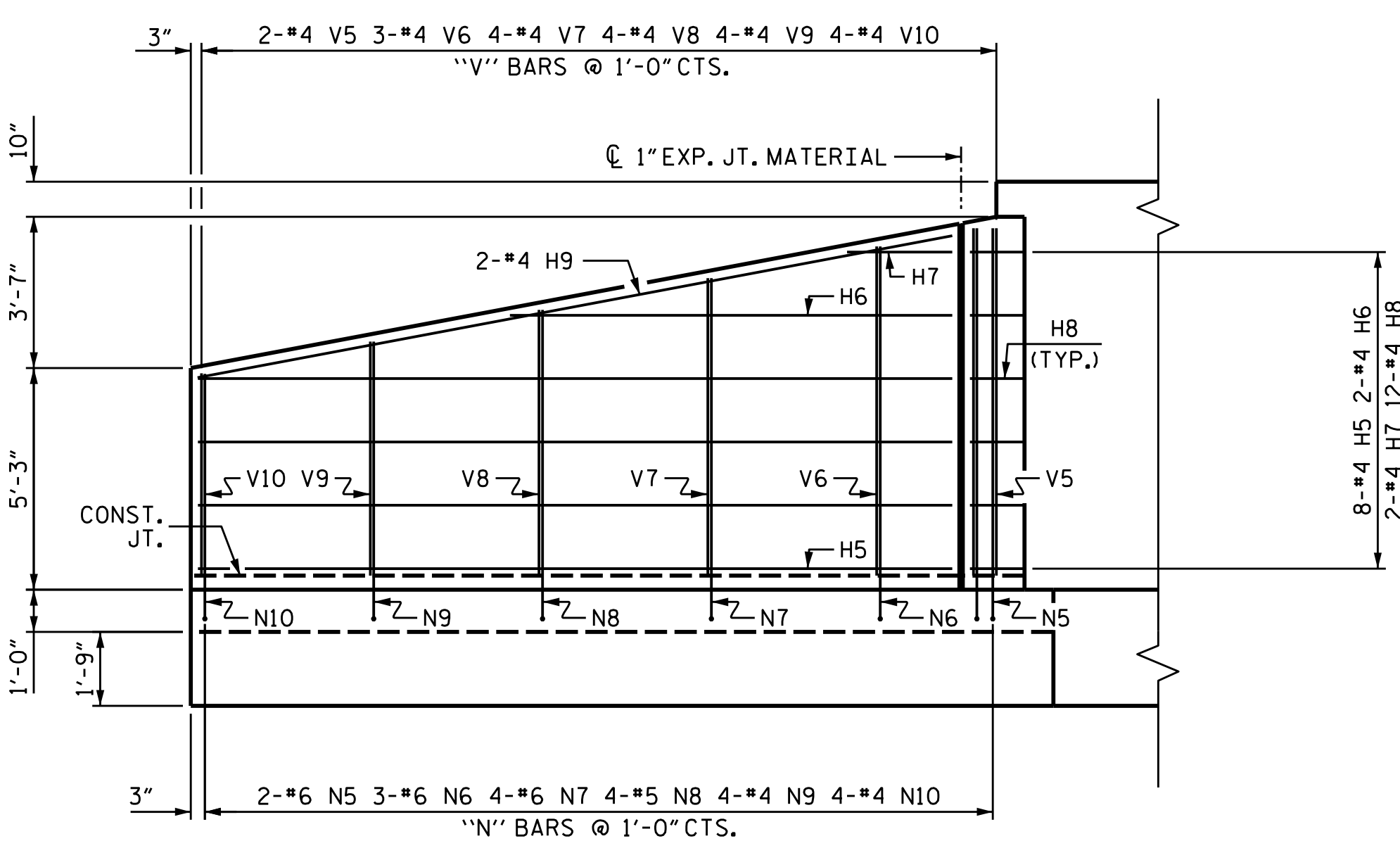
PLAN W1



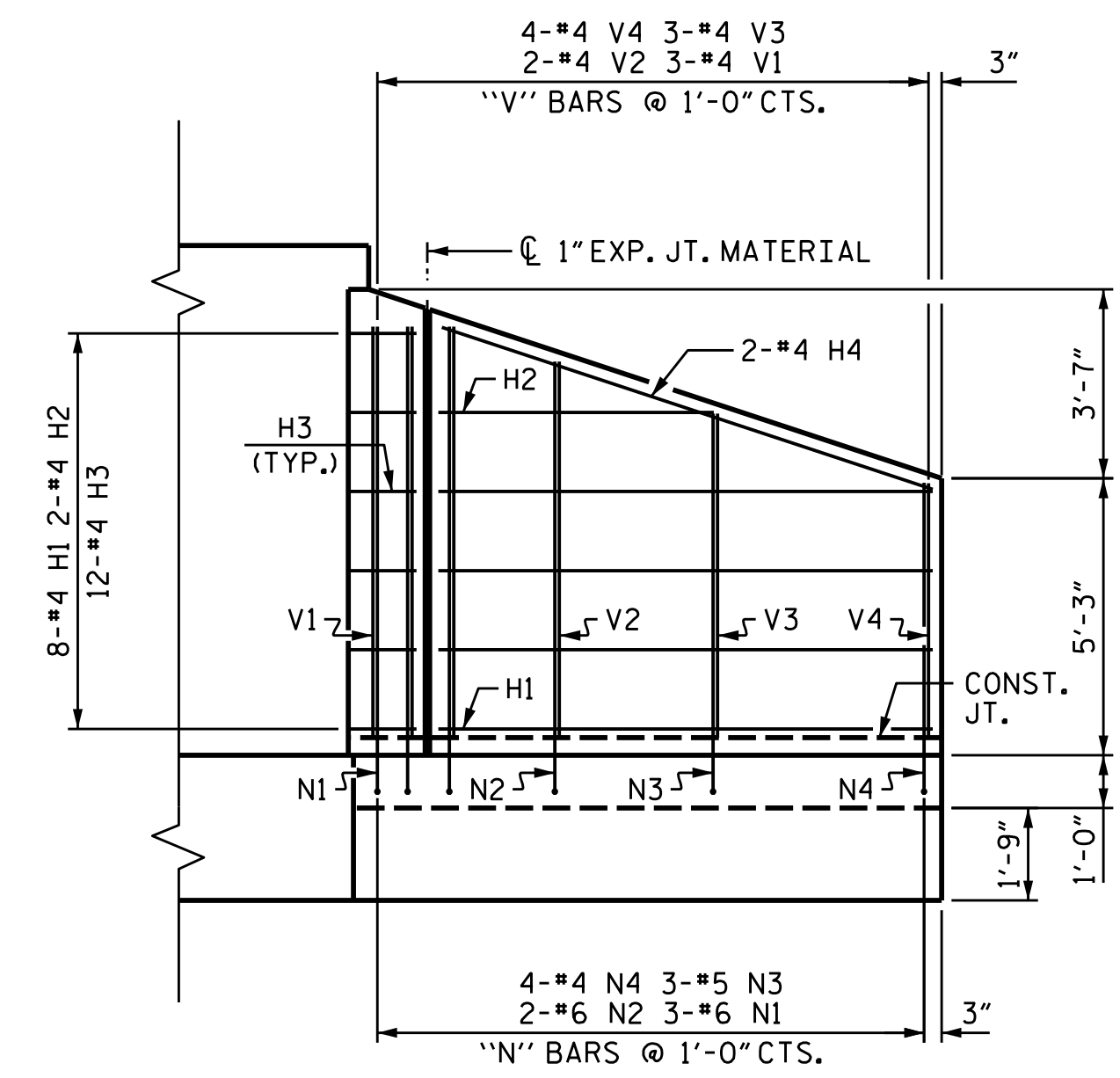
PLAN W2



TYPICAL WING SECTION



ELEVATION W1



ELEVATION W2

BAR TYPES

BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	16	#4	STR	9'-4"	100
H2	4	#4	STR	5'-2"	14
H3	24	#4	1	3'-3"	52
H4	4	#4	STR	9'-10"	26
H5	16	#4	STR	17'-10"	191
H6	4	#4	STR	10'-5"	28
H7	4	#4	STR	2'-6"	7
H8	24	#4	2	3'-3"	52
H9	4	#4	STR	18'-2"	49
N1	6	#6	3	10'-1"	91
N2	4	#6	3	9'-5"	57
N3	6	#5	3	8'-2"	51
N4	8	#4	3	6'-10"	37
N5	4	#6	3	10'-3"	62
N6	6	#6	3	9'-10"	89
N7	8	#6	3	9'-1"	109
N8	8	#5	3	8'-4"	70
N9	8	#4	3	7'-7"	41
N10	8	#4	3	6'-10"	37
S1	12	#6	STR	6'-0"	108
T1	6	#5	STR	11'-3"	70
T2	6	#5	STR	19'-9"	124
V1	6	#4	STR	7'-10"	31
V2	4	#4	STR	7'-1"	19
V3	6	#4	STR	6'-1"	24
V4	8	#4	STR	4'-9"	25
V5	4	#4	STR	8'-2"	22
V6	6	#4	STR	7'-8"	31
V7	8	#4	STR	6'-11"	37
V8	8	#4	STR	6'-3"	33
V9	8	#4	STR	5'-6"	29
V10	8	#4	STR	4'-9"	25
Z1	4	#5	4	6'-2"	26
Z2	4	#5	4	5'-7"	23
Z3	8	#5	4	4'-6"	38
Z4	8	#4	4	3'-4"	18
Z5	4	#5	4	6'-5"	27
Z6	6	#5	4	6'-3"	39
Z7	10	#5	4	5'-4"	56
Z8	10	#5	4	4'-4"	45
Z9	10	#4	4	3'-4"	22

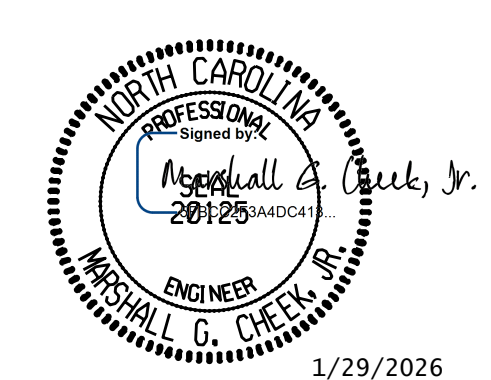
REINFORCING STEEL 2035 LBS
FOR 4 WINGS
CLASS A CONCRETE 4 WINGS 13.6 CY

ALL BAR DIMENSIONS ARE OUT TO OUT.

NOTES

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

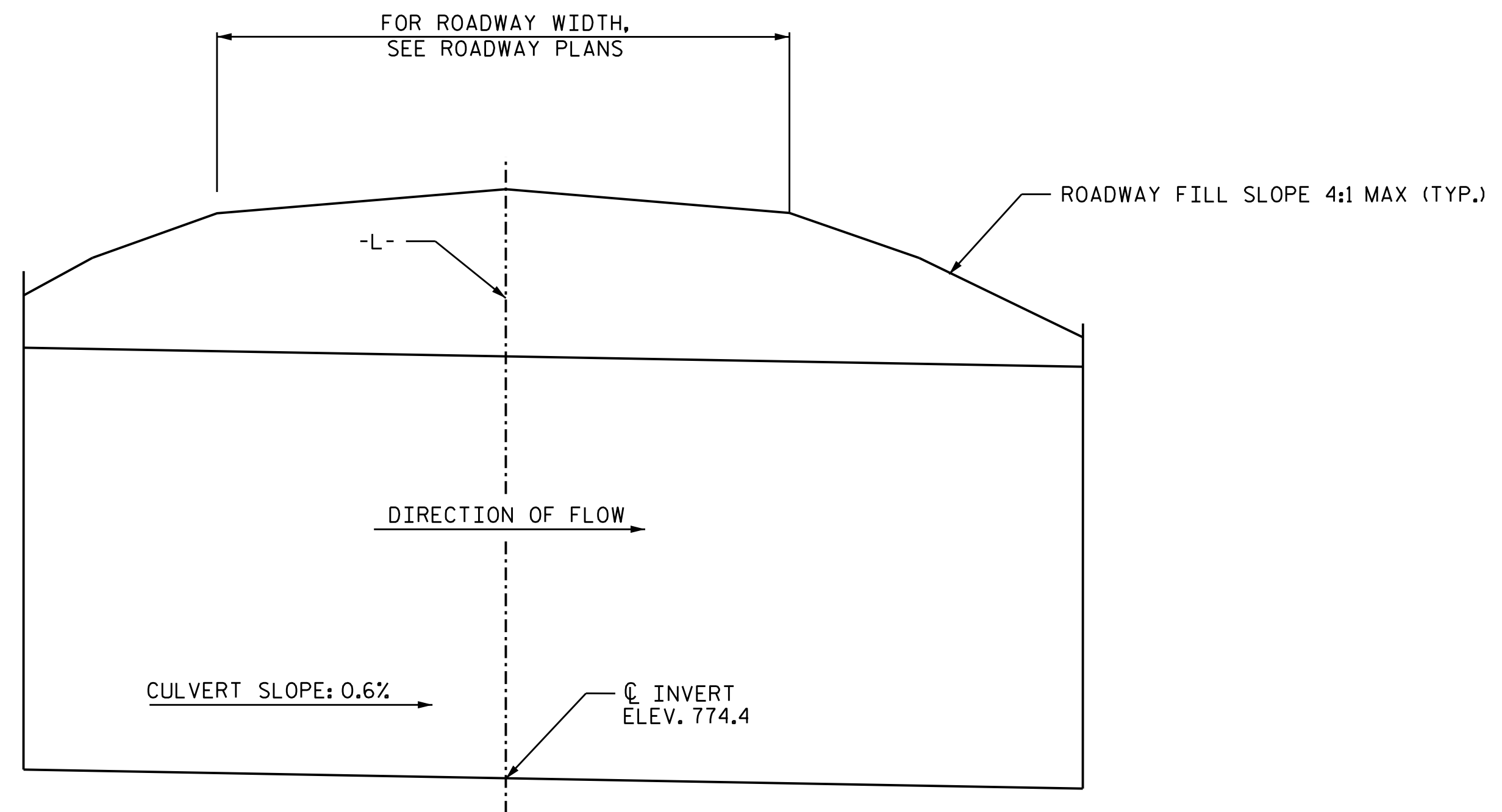
PROJECT NO. BP12-C004
GASTON COUNTY
 STATION: 12+44.00 -L-
 SHEET 3 OF 4



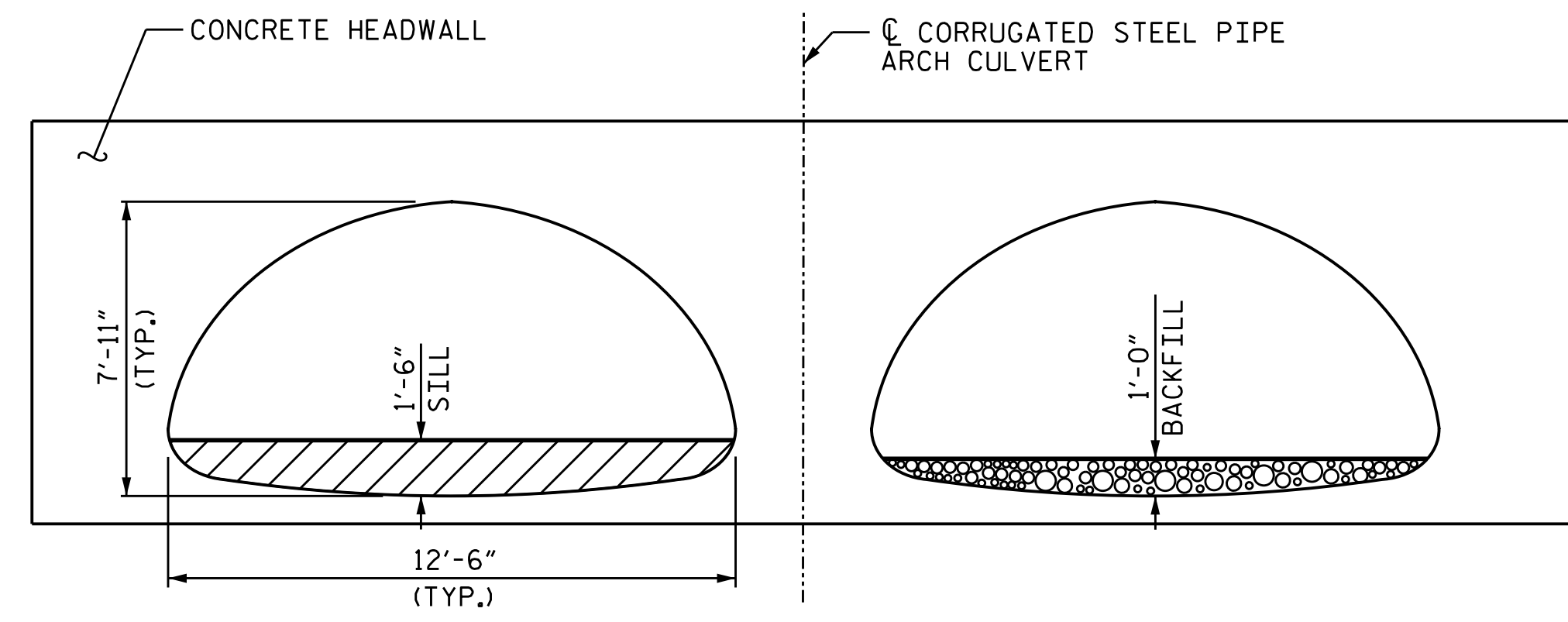
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**WINGS FOR DOUBLE
 12'-6" X 7'-11"
 CORRUGATED STEEL
 PIPE ARCH CULVERT**

DRAWN BY: STM DATE: 07/25
 CHECKED BY: MGC DATE: 08/25
 DESIGN ENGINEER OF RECORD: STM DATE: 08/25

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED						REVISIONS			SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-3			
1			3			TOTAL SHEETS			
2			4			4			

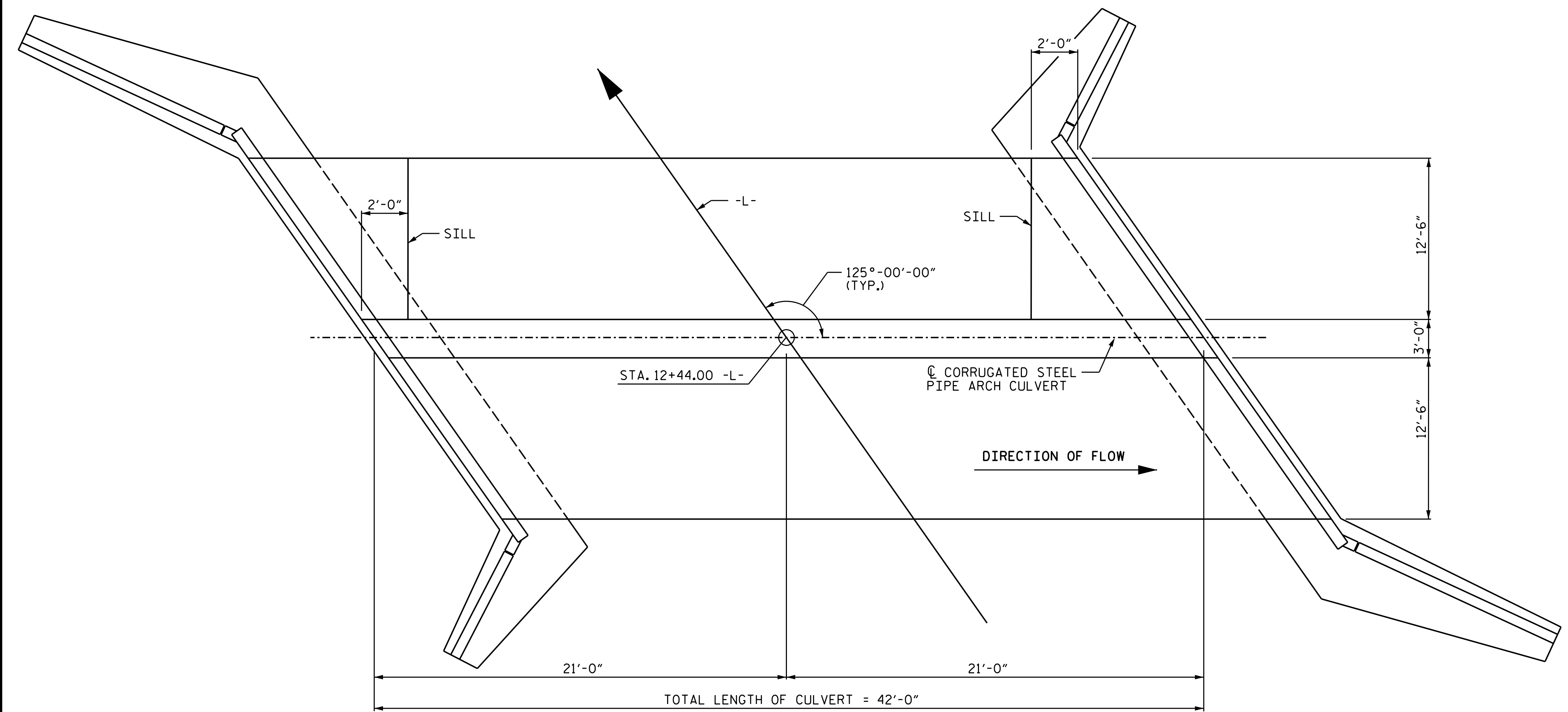


CULVERT SECTION NORMAL TO ROADWAY



SILL DETAIL

LOOKING DOWNSTREAM
(PERPENDICULAR TO BARREL)
(WINGS NOT SHOWN)



FLOOR SILL LAYOUT

NOTES

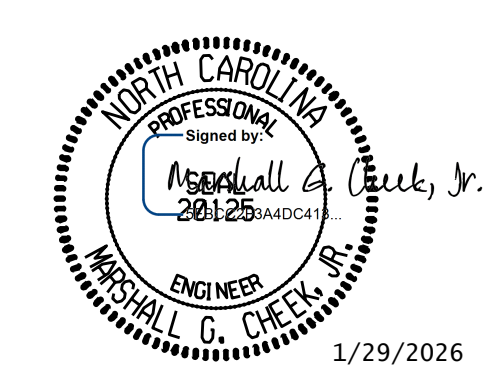
THE ENGINEER, IN CONSULTATION WITH DEO STAFF, SHALL REVIEW ALL MATERIAL TO BE USED IN BACKFILL ACTIVITY. BACKFILL SHALL CONSIST OF NATIVE MATERIAL ONLY UNLESS THE ENGINEER, IN CONSULTATION WITH DEO STAFF, DETERMINES THAT (1) THE NATIVE MATERIAL IS UNSUITABLE, OR (2) ADDITIONAL MATERIAL IS REQUIRED TO SUPPLEMENT THE NATIVE MATERIAL. THE CHOSEN BACKFILL MATERIAL SHALL NOT HAVE ADVERSE EFFECTS TO AQUATIC LIFE, AQUATIC LIFE PASSAGE, OR WATER QUALITY. NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM BED OF FLOODPLAIN AT THE PROJECT SITE DURING CULVERT CONSTRUCTION.

THE ENTIRE COST OF THE WORK REQUIRED TO PLACE THE EXCAVATED MATERIAL, OR ANY SUPPLEMENTAL MATERIAL, SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE BID FOR THE CULVERT EXCAVATION.

THE ENTIRE COST OF THE SILLS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR CORRUGATED STEEL PIPE ARCH CULVERT.

PROJECT NO. BP12-C004
GASTON COUNTY
 STATION: 12+44.00 -L-

SHEET 4 OF 4



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
DOUBLE 12'-6" X 7'-11"
CORRUGATED STEEL
PIPE ARCH CULVERT
125°-00'-00" SKEW

DRAWN BY : STM DATE : 05/25
 CHECKED BY : MGC DATE : 08/25

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED						REVISIONS						SHEET NO.	
TGS ENGINEERS 201 W. MARION STREET SUITE 200 SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275						NO.	BY:	DATE:	NO.	BY:	DATE:	C-4	
						1			3			TOTAL SHEETS	
						2			4			4	

