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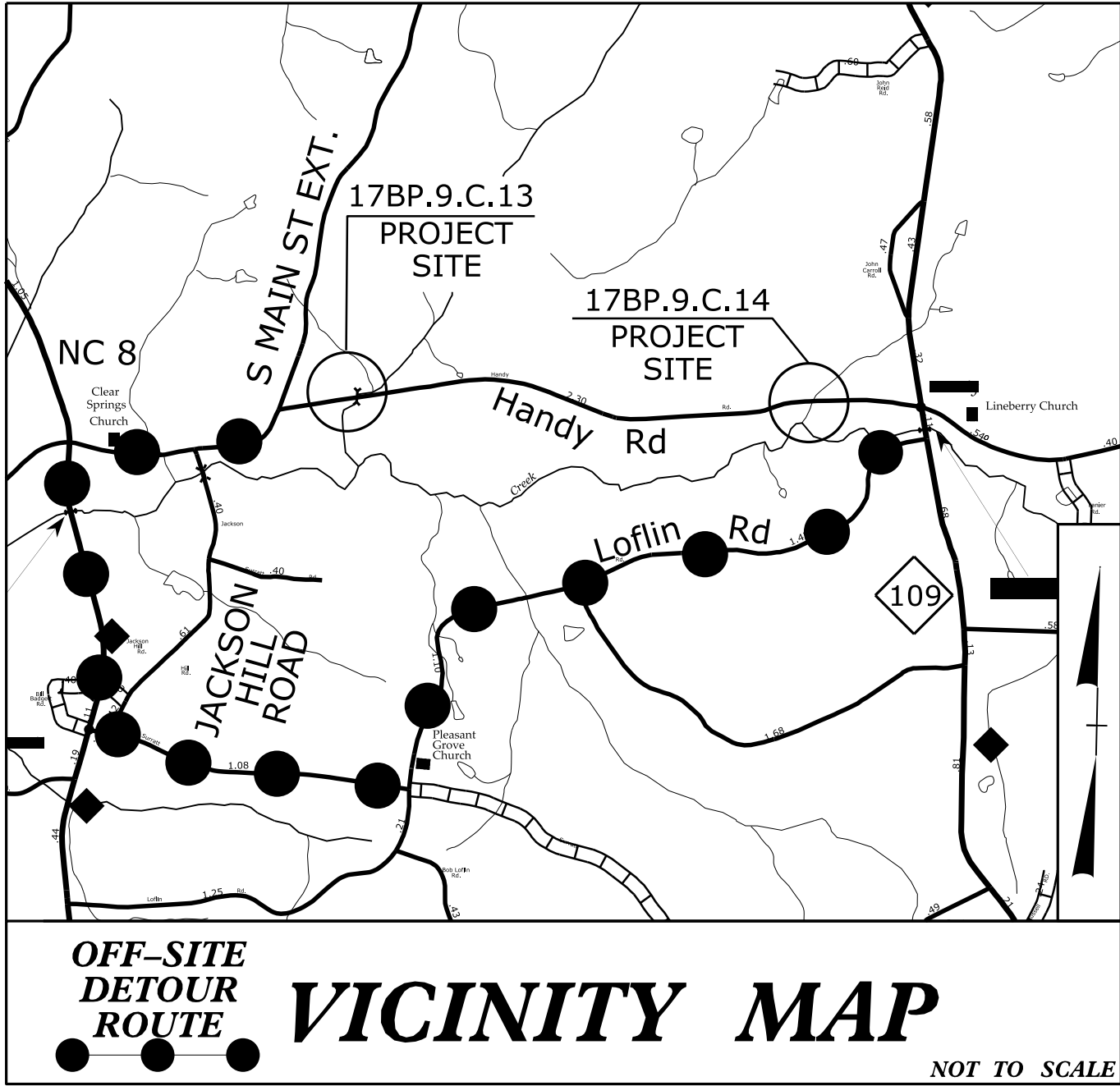
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with their signature on that page.**

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

25-JUN-2021 13:39
S:\Project_Development\17BP_Bridge_Projects\17BP_9.C.13_C.14 - Davidson 564 - Handy Rd\Roadway Design\Files\17BP9.C.13_C.14_rdy_+tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

CONTRACT: DI00248 (C.13) & DI00247 (C.14) TIP PROJECT: 17BP.9.C.13 & 17BP.9.C.14

See Sheet 1A For Index of Sheets



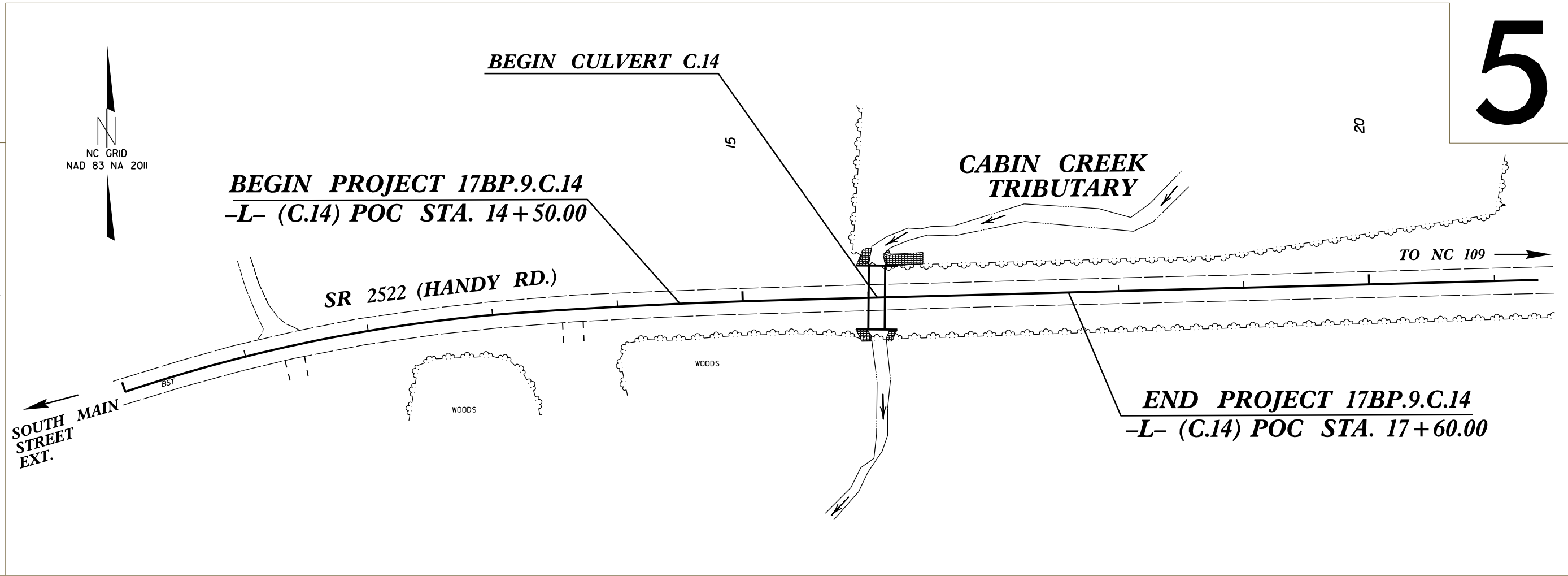
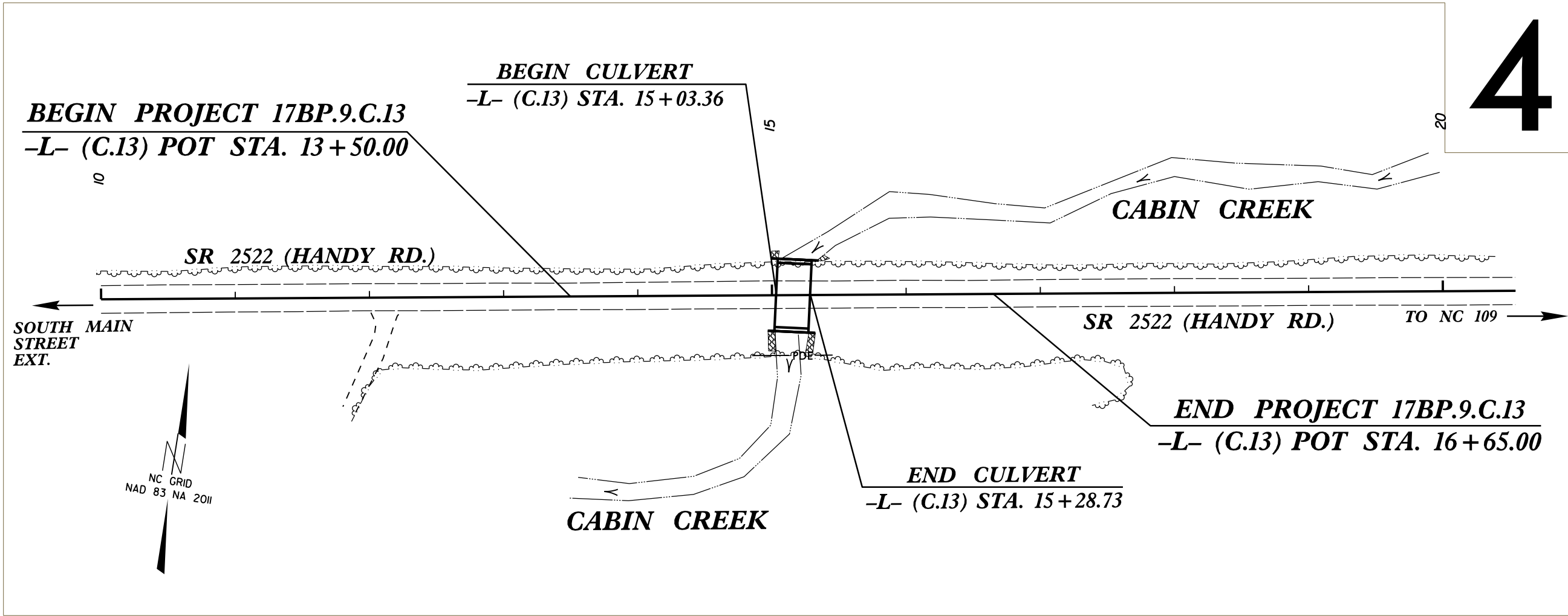
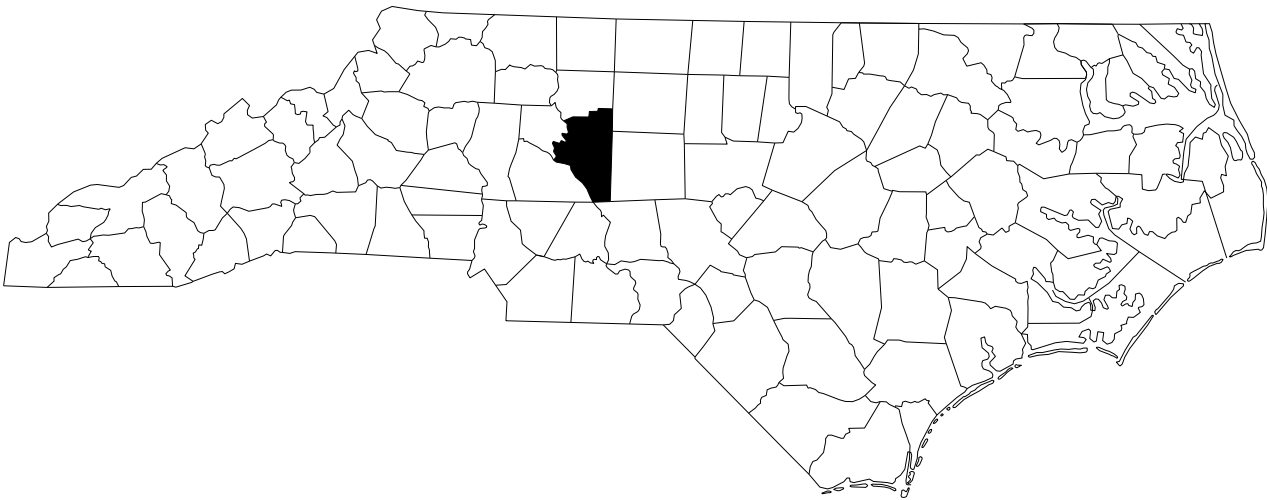
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIDSON COUNTY

LOCATION: CULVERT 564 OVER CABIN CREEK TRIBUTARY
ON SR 2522 (HANDY RD) AND CULVERT 504
OVER BRANCH CABIN CREEK ON SR 2522
(HANDY RD)

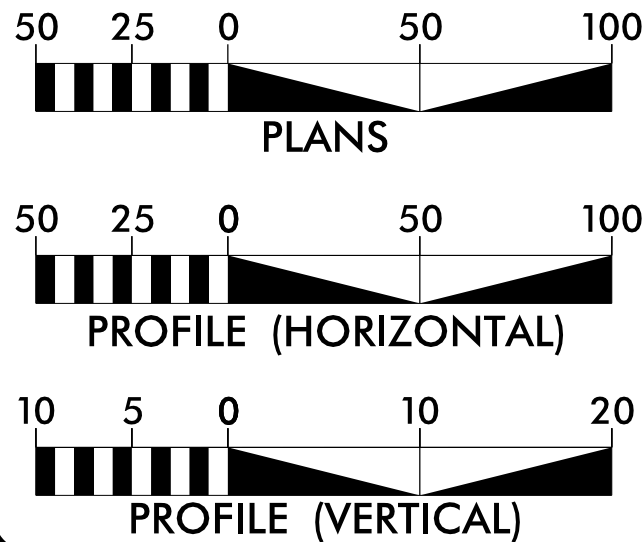
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND
STRUCTURE (CULVERT)

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.C.13 & 17BP.9.C.14	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.9.C.14	N/A	PE	
17BP.9.C.14	N/A	RW + UTIL	
17BP.9.C.14	N/A	CONST.	
17BP.9.C.13	N/A	PE	
17BP.9.C.13	N/A	RW + UTIL	
17BP.9.C.13	N/A	CONST.	



NOTE: THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
THIS PROJECT IS NOT WITHIN MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

GRAPHIC SCALES



DESIGN DATA

2019 ADT = 550
V = 60 MPH
FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT 17BP.9.C.14 = 0.059 MI
LENGTH OF ROADWAY TIP PROJECT 17BP.9.C.13 = 0.055 MI
LENGTH OF STRUCTURE 17BP.9.C.13 = .005
TOTAL LENGTH OF PROJECT 17BP.9.C.14 & 17BP.9.C.13 = 0.119 MI

Prepared In the Office of:
DIVISION OF HIGHWAYS
NINTH DIVISION DESIGN/CONSTRUCT
375 Silas Creek Parkway, Winston Salem NC, 27127

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 10, 2020

LETTING DATE:
AUGUST 25, 2021

SCOTT JONES, PE
PROJECT ENGINEER

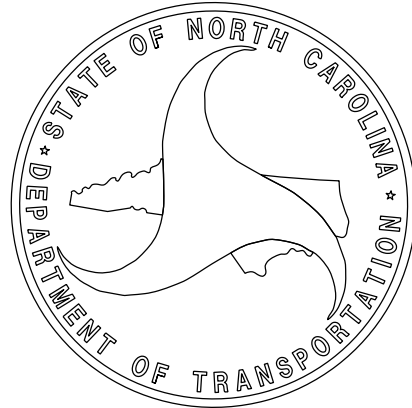
SCOTT JONES, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by:
William G. Cail
0051927010411420...
6/28/2021
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by:
Scott Jones
107888500744AC...
6/25/2021
SIGNATURE: P.E.



8/17/99

25-JUN-2021 3:39 PM C:\Users\scott.jones\OneDrive\Documents\17BP_Bridge-Projects\17BP_9.C.13.C.14 - Davidson 564 - Handy Rd\Roadway\DesignFiles\17BP9.C.1.rdy.1A.dgn

\$\$\$\$\$CERNAE\$\$\$\$\$

		PROJECT REFERENCE NO.		SHEET NO.	
		17BP.9.C.13 & 17BP.C.14		1-A	
				<div>ROADWAY DESIGN ENGINEER</div> <div><div>Professional Seal</div><div>SEAL 045458 ENGINEER SCOTT A. JONES</div><div>DocuSigned by Scott Jones 6/25/2021 70788860D82544C</div></div>	
<div>GENERAL NOTES:</div> <div>2018 SPECIFICATIONS</div> <div>EFFECTIVE: 01-16-2018</div> <div>REVISED:</div>					
<div>GRADING AND SURFACING OR RESURFACING AND WIDENING:</div> <div>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.</div> <div>CLEARING:</div> <div>CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.</div> <div>SUPERELEVATION:</div> <div>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.</div> <div>SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.</div> <div>SHOULDER CONSTRUCTION:</div> <div>ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01</div> <div>DRIVEWAYS:</div> <div>DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADIUS OR RADII AS SHOWN ON PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.</div> <div>GUARDRAIL:</div> <div>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.</div> <div>SUBSURFACE PLANS:</div> <div>NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.</div> <div>UTILITIES:</div> <div>UTILITY OWNERS ON THIS PROJECT ARE :</div> <div>POWER - ENERGY UNITED,</div> <div>COMMUNICATIONS - WINDSTREAM</div> <div>WATER - HANDY SANITARY</div> <div>ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.</div>					
INDEX OF SHEETS					
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					
225.04 Method of Obtaining Superelevation - Two Lane Pavement					
DIVISION 3 - PIPE CULVERTS					
300.01 Method of Pipe Installation					
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS					
560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I					
DIVISION 8 - INCIDENTALS					
806.01 Concrete Right-of-Way Marker					
806.02 Granite Right-of-Way Marker					
862.01 Guardrail Placement					
862.02 Guardrail Installation					
876.01 Rip Rap in Channels					
876.02 Guide for Rip Rap at Pipe Outlets					
SHEET NUMBER		SHEET			
1		TITLE SHEET			
1A		INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS			
1B		CONVENTIONAL SYMBOLS			
RW01-RW04		SURVEY CONTROL SHEETS (C.13)			
RW01-RW04		SURVEY CONTROL SHEETS (C.14)			
2A-1		PAVEMENT SCHEDULE AND TYPICAL SECTIONS			
3B-1		SUMMARY OF EARTHWORK, PAVEMENT REMOVAL AND GUARDRAIL			
4 - 5		PLAN AND PROFILE SHEETS			
TMP-1 THRU TMP-5		TRANSPORTATION MANAGEMENT PLANS			
EC-1 THRU EC-6		EROSION CONTROL PLANS			
UC-1 THRU UC-5		UTILITIES AS CONSTRUCTED			
X-1 THRU X-4		CROSS-SECTIONS			
S-1 THRU S-2		STRUCTURE PLANS			

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

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

PROJECT REFERENCE NO.	SHEET NO.
17BP.9C13 & 17BP.9C14	1B

BOUNDARIES AND PROPERTY:

State Line	-----x-----
County Line	-----
Township Line	-----x-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----x-----
Property Monument	□ 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	☠☠
Potential Contamination Area: Soil	☒☒
Known Contamination Area: Water	☠☠
Potential Contamination Area: Water	☒☒
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	⚡
Foundation	□
Area Outline	□
Cemetery	□ +
Building	□
School	□
Church	□
Dam	□

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	□
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⚡
Proposed Lateral, Tail, Head Ditch	→
False Sump	◇

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	△
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	---RW---
Proposed Right of Way Line with Iron Pin and Cap Marker	---RW---▲
Proposed Right of Way Line with Concrete or Granite RW Marker	---RW---▲
Proposed Control of Access Line with Concrete C/A Marker	---C/A---
Existing Control of Access	---C/A---
Proposed Control of Access	---C/A---
Existing Easement Line	---E---
Proposed Temporary Construction Easement	---E---
Proposed Temporary Drainage Easement	---TDE---
Proposed Permanent Drainage Easement	---PDE---
Proposed Permanent Drainage / Utility Easement	---DUE---
Proposed Permanent Utility Easement	---PUE---
Proposed Temporary Utility Easement	---TUE---
Proposed Aerial Utility Easement	---AUE---
Proposed Permanent Easement with Iron Pin and Cap Marker	---E---

ROADS AND RELATED FEATURES:

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

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	~~~~~
Woods Line	~~~~~

Orchard	☼☼☼☼
Vineyard	□

EXISTING STRUCTURES:

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

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○ P
Power Line Tower	□
Power Transformer	□
U/G Power Cable Hand Hole	○
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	---P---
U/G Power Line LOS C (S.U.E.*)	---P---
U/G Power Line LOS D (S.U.E.*)	---P---

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○ T
Telephone Pedestal	□
Telephone Cell Tower	⚡
U/G Telephone Cable Hand Hole	○
U/G Telephone Cable LOS B (S.U.E.*)	---T---
U/G Telephone Cable LOS C (S.U.E.*)	---T---
U/G Telephone Cable LOS D (S.U.E.*)	---T---
U/G Telephone Conduit LOS B (S.U.E.*)	---TC---
U/G Telephone Conduit LOS C (S.U.E.*)	---TC---
U/G Telephone Conduit LOS D (S.U.E.*)	---TC---
U/G Fiber Optics Cable LOS B (S.U.E.*)	---TFO---
U/G Fiber Optics Cable LOS C (S.U.E.*)	---TFO---
U/G Fiber Optics Cable LOS D (S.U.E.*)	---TFO---

WATER:

Water Manhole	○ W
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	---W---
U/G Water Line LOS C (S.U.E.*)	---W---
U/G Water Line LOS D (S.U.E.*)	---W---
Above Ground Water Line	---A/G Water---

TV:

TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
U/G TV Cable LOS B (S.U.E.*)	---TV---
U/G TV Cable LOS C (S.U.E.*)	---TV---
U/G TV Cable LOS D (S.U.E.*)	---TV---
U/G Fiber Optic Cable LOS B (S.U.E.*)	---TVFO---
U/G Fiber Optic Cable LOS C (S.U.E.*)	---TVFO---
U/G Fiber Optic Cable LOS D (S.U.E.*)	---TVFO---

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	---G---
U/G Gas Line LOS C (S.U.E.*)	---G---
U/G Gas Line LOS D (S.U.E.*)	---G---
Above Ground Gas Line	---A/G Gas---

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	---SS---
Above Ground Sanitary Sewer	---A/G Sanitary Sewer---
SS Forced Main Line LOS B (S.U.E.*)	---FSS---
SS Forced Main Line LOS C (S.U.E.*)	---FSS---
SS Forced Main Line LOS D (S.U.E.*)	---FSS---

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	□
Utility Unknown U/G Line LOS B (S.U.E.*)	---UTL---
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	AATUR
End of Information	E.O.I.

09/08/19

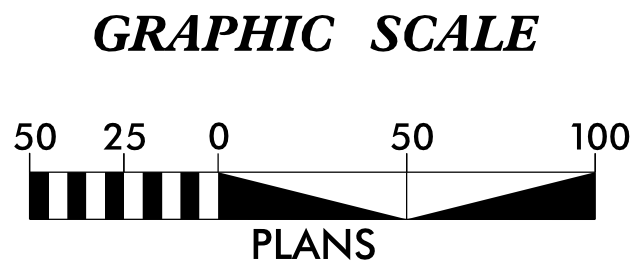
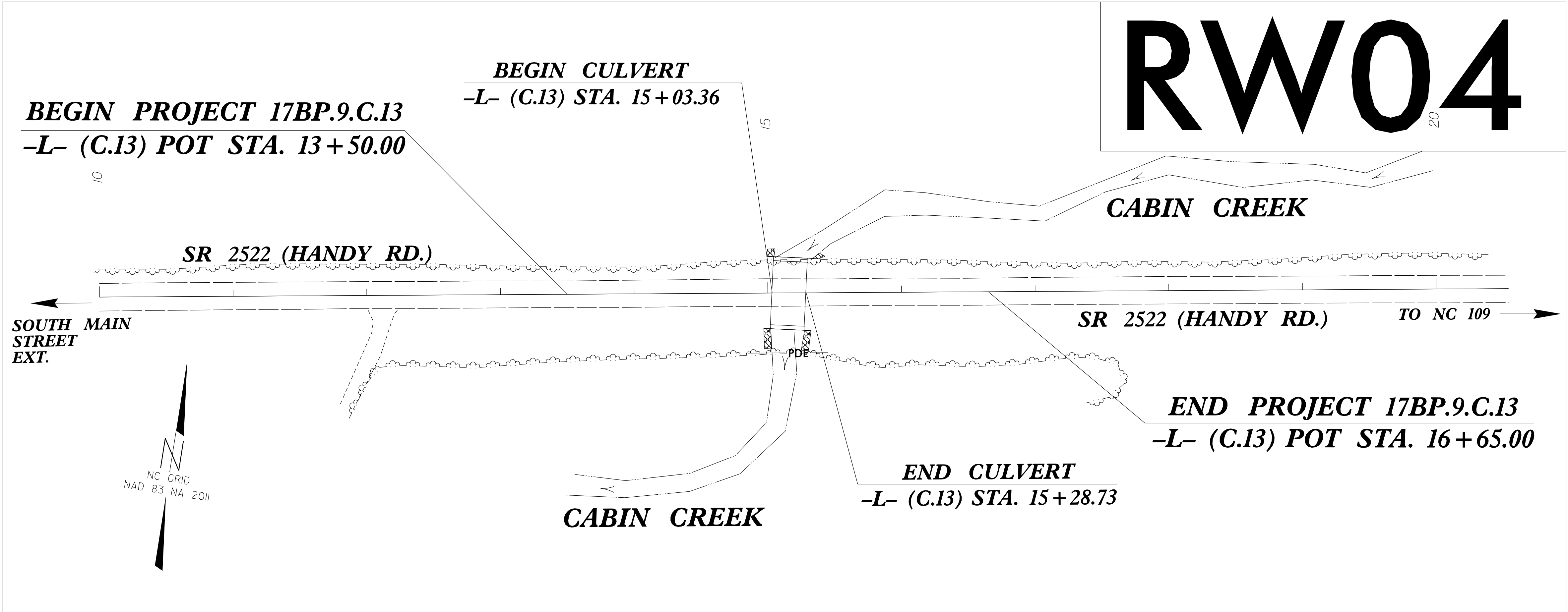
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.C.13	RW01	6

TIP PROJECT: 17BP.9.C.13

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

DAVIDSON COUNTY



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "28-0504 GPS-2" WITH NAD 83/2011 STATE PLANE GRID COORDINATES OF NORTHING: 671,165.339(ft) EASTING: 1,662,334.530(ft) ELEVATION: 623.18(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999864850 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "28-0504 GPS-2" TO -L- STATION IS

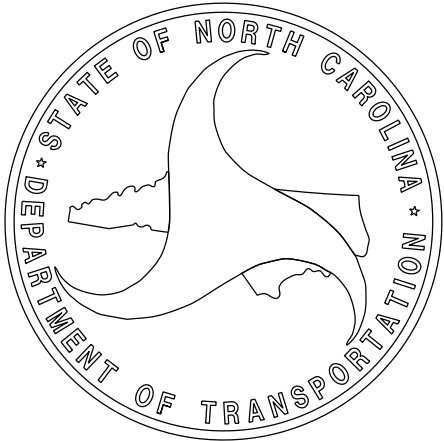
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: _____ **LETTING DATE:** _____

PROFESSIONAL LAND
SURVEYOR

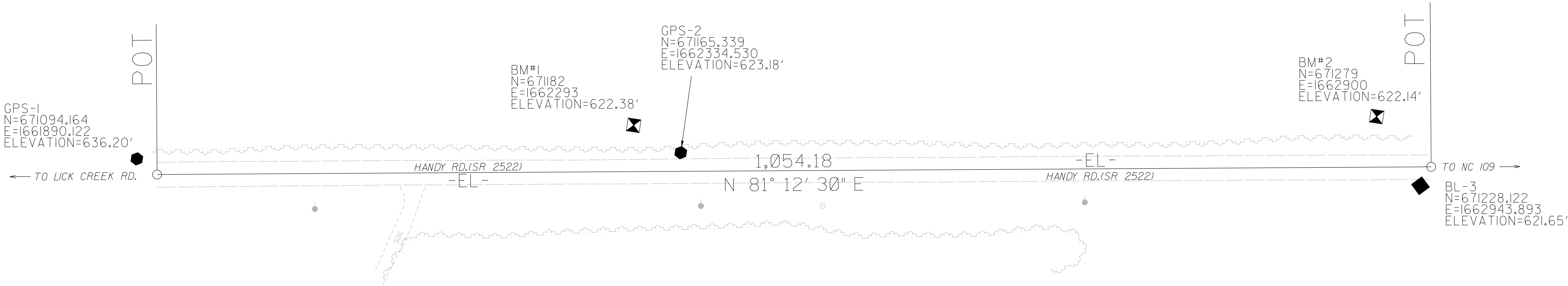


DocuSigned by:
Michael L. Motzinger
5/3/2021
SIGNATURE: _____ Date: _____

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



**SEE SHEET RW2C-2
FOR FURTHER
ALIGNMENT DETAILS**



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.13	RW2C-1
Location and Surveys	
PROJECT SURVEYOR	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Michael L. Motsinger, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
Type of GPS field procedure: [Static, OPUS, RTN]
Dates of survey: 4/19/2021 - 4/20/2021
Datum/Epoch: NAD 83 / 2011
Published/Fixed-control use: [Project Control if applicable, N/A for RTN]
Localized around: 28-0504 GPS-2
Northing: 671165.339
Easting: 1662334.530
Combined grid factor: 0.999864850
Geoid model: G12NC
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 from 4/19/2021 to 4/20/2021, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 20th day of April, 2021

DocuSigned by:

Michael L. Motsinger
Professional Land Surveyor L-3877



SURVEY CONTROL SHEET
W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

POINT	DESC.	NORTH	EAST	ELEVATION
1	GPS - 1	671094.1640	1661890.1220	636.20
2	GPS - 2	671165.3390	1662334.5300	623.18
3	BL - 3	671228.1220	1662943.8930	621.65

[illegible]

BM1 ELEVATION = 622.38
N 671182 E 1662293
BL STATION 9+11.36 23.09' LEFT
RR SPIKE SET IN 22" DIA OAK

* * * * *

[illegible]

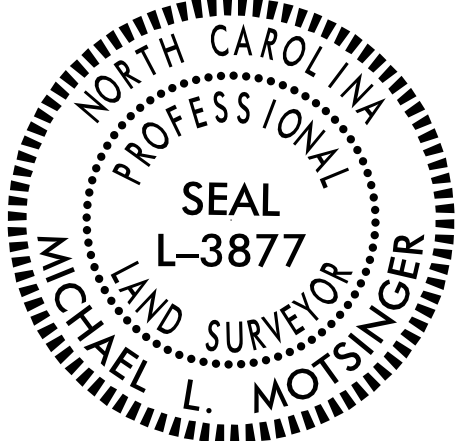
BM2 ELEVATION = 622.14
N 671279 E 1662900
BL STATION 15+23.95 55.64' LEFT
RR SPIKE SET IN 31" DIA OAK

[illegible]

EL				
POINT	N	E	BEARING	DIST
POT	671083.814	1661908.599		
LINE			N 81°12'30.1" E	1054.18
POT	671244.936	1662950.393		

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.13	RW2C-2
<h1>Location and Surveys</h1> <p>PROJECT SURVEYOR</p> 	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>	

I, Michael L. Motsinger, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**
Type of GPS field procedure: [Static, OPUS, RTN]
Dates of survey: 4/19/2021 - 4/20/2021
Datum/Epoch: NAD 83 / 2011
Published/Fixed-control use: [Project Control if applicable, N/A for RTN]
Localized around: 28-0504 GPS-2
Northing: 671165.339
Easting: 1662334.530
Combined grid factor: 0.999864850
Geoid model: G12NC
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 from 4/19/2021 to 4/20/2021 , and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
FDB8FE70E23C40E...

Michael L. Motsinger
Professional Land Surveyor L-3877




REVISIONS

6/2/99

03-MAY-2021 13:37
S:\motsinger\03-Winston\Ruhs Computer\Bridge\Division\LowImpact\28-0504\FoW\ToBeChecked\280504.LS.RW2D-1.dgn
mmotsinger AT LS-312635

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.13	RW2D-1
Location and Surveys	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Michael L. Motsinger, 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 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
F0B9AF70E25C4DE...

Michael L. Motsinger
Professional Land Surveyor L-3877



L

TYPE	STATION	NORTH	EAST
POT	10+00.00	671083.8137	1661908.5986
POT	20+54.18	671244.9362	1662950.3926

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

RIGHT OF WAY CONTROL SHEET

I, Michael L. Motsinger, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

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

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
F0B8FE70E23C48E...
Professional Land Surveyor

L-3877
PLS #

Seal



PROJECT REFERENCE NO.
17BP.9.C.13

SHEET NO.
RW3E-1

Location and Surveys

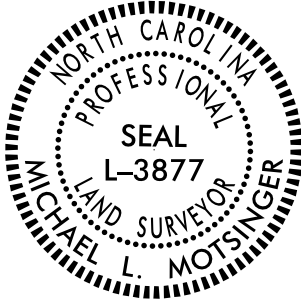
PROJECT SURVEYOR

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Michael L. Motsinger, 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 4/19/2021 to 4/20/2021, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
Michael L. Motsinger
Professional Land Surveyor L-3877



ROW MARKER PERMANENT EASEMENT - E					
ALIGN	STATION	OFFSET	NORTH	EAST	NOTES
EL	13+65.00	30.00	671109.9534	1662273.8953	
EL	14+00.00	65.00	671080.7141	1662313.8335	
EL	14+85.00	-30.00	671187.5894	1662383.3149	
EL	14+85.00	-50.00	671207.3544	1662380.2581	
EL	15+55.00	-50.00	671218.0533	1662449.4356	FELL IN CREEK, NOT SET
EL	15+55.00	-30.00	671198.2883	1662452.4925	FELL IN TREE, NOT SET
EL	16+35.00	65.00	671116.6318	1662546.0725	
EL	16+65.00	30.00	671155.8059	1662570.3705	

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

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

3. RIGHT OF WAY MONUMENTATION ESTABLISHED TO .

REVISIONS

I, Michael L. Motsinger, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

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

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

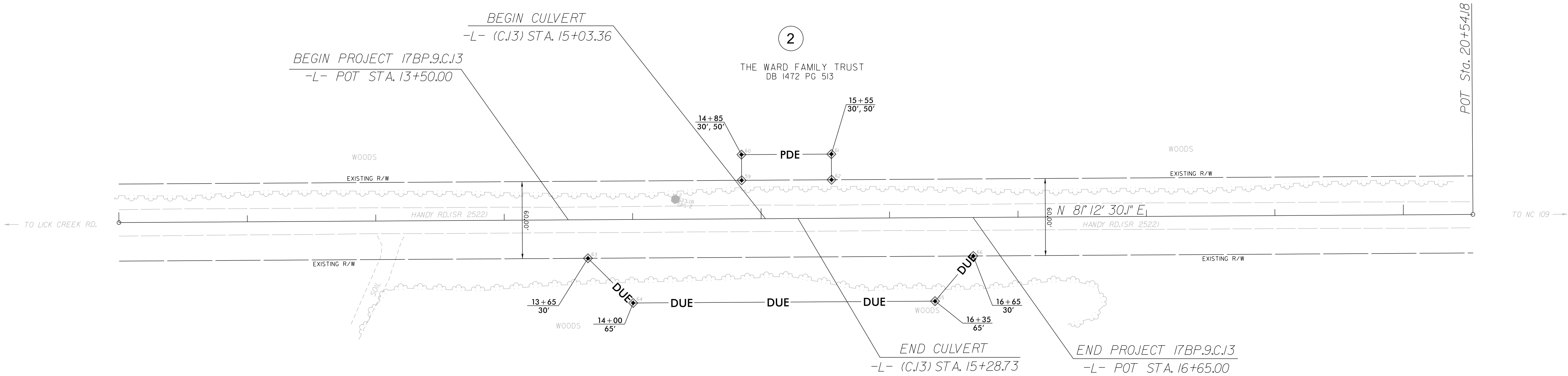
Witness my original signature, registration number and seal this 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
FDB8FE70E23C40E...

Professional Land Surveyor

L-3877
PLS #

Seal



RONNIE S. HARRISON AND WIFE,
VIRGINIA J. HARRISON
DB 687 PG 441
DB 596 PG 426

NOTES:

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

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.13	RW04
Location and Surveys	
PROJECT SURVEYOR	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

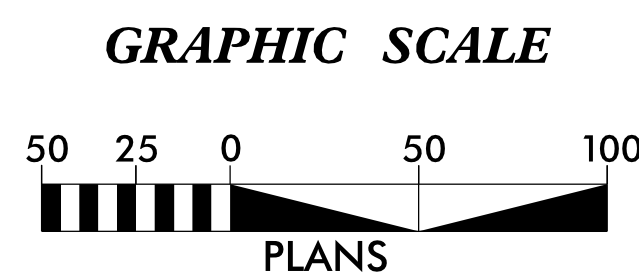
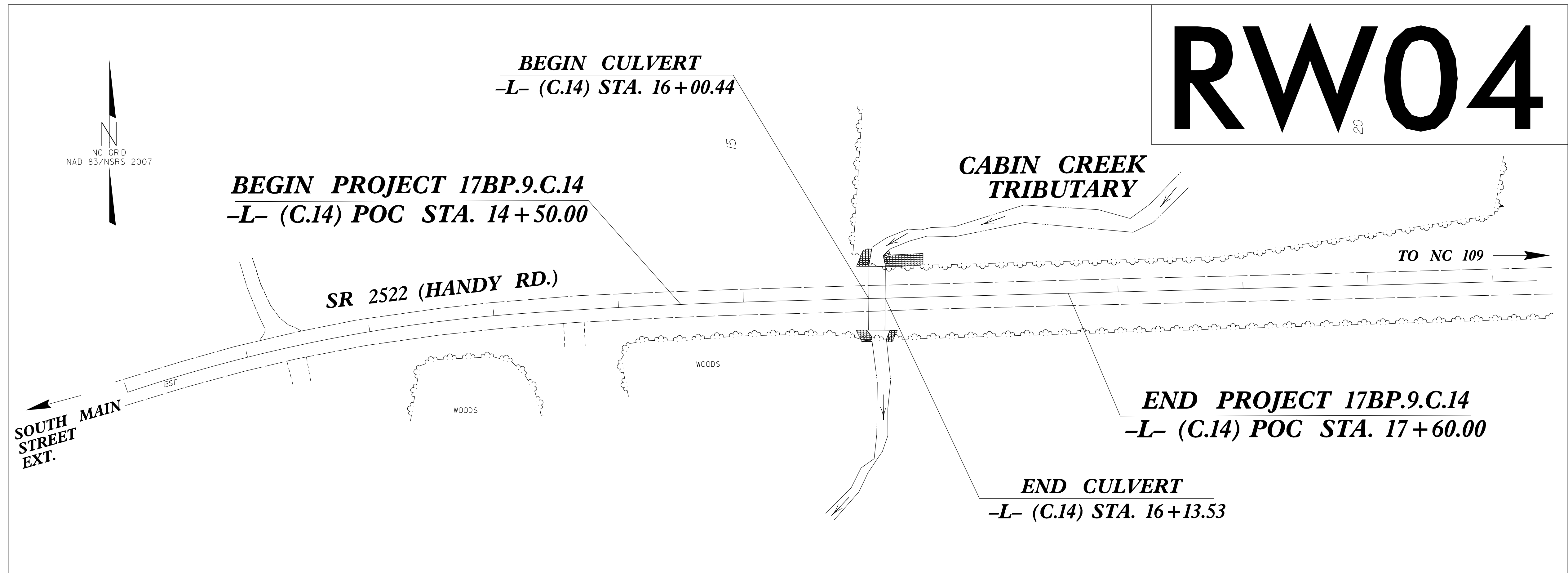
TIP PROJECT: 17BP.9.C.14

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.C.14	RW01	6

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

DAVIDSON COUNTY



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCCGS FOR MONUMENT "28-0564-2"
WITH NAD 83/NA 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 671,112.8230(ft) EASTING: 1,670,809.377(ft)
ELEVATION: 651.67(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.999863537
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"28-0564-2" TO -L- STATION IS

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

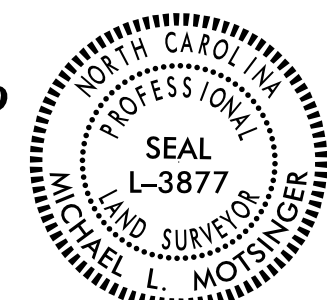
Prepared in the Office of:

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

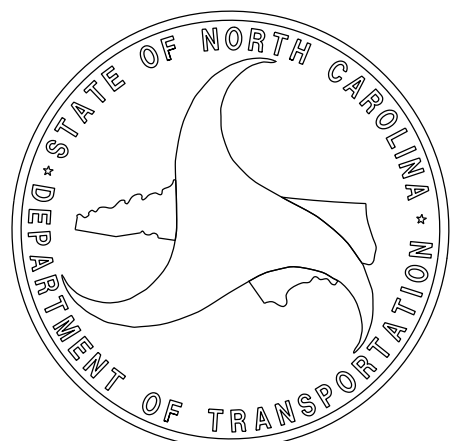
LETTING DATE:

**PROFESSIONAL LAND
SURVEYOR**



DocuSigned by:
Michael L. Motsinger
FDB8FE70E23C40E...

5/3/2021



W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

I, Michael L. Motsinger, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

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 on 4/19/21, and all coordinates are based on NAD 83/2007 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

DocuSigned by:
Michael L. Motsinger
FD86FE70E23C40E...
Michael L. Motsinger
Professional Land Surveyor L-3877



1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL	POINT	DESC.	NORTH	EAST	ELEVATION
1		GPS 1	671045.2300	1670272.8750	660.19
2		GPS 2	671112.8230	1670809.3770	651.67
3		BL -3	671086.1620	1671450.4080	664.07

BM1 ELEVATION = 658.50

N 671026 E 1670355

EL STATION 11+03.89 26' LEFT

REBAR AND CAP

BM2 ELEVATION = 647.26

N 671193 E 1670814

EL STATION 16+25.00 94.3' LEFT

REBAR AND CAP


EL	POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC		671023.955	1670254.117							
CURVE				N 78°43'46.4" E	322.78	14°32'39.0"(RT)	04°29'37.6"	323.65	162.70	1275.00
PCC		671087.039	1670570.675							
CURVE				N 87°13'59.6" E	205.59	02°28'01.4"(RT)	01°11'59.7"	205.60	102.82	4775.00
PT		671096.963	1670776.023							
LINE				N 88°28'00.3" E	605.74					
POT		671113.171	1671381.546							

PROJECT REFERENCE NO.
17BP.9.C.14

SHEET NO.
RW2C-2

Location and Surveys

PROJECT SURVEYOR



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Michael L. Motsinger, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

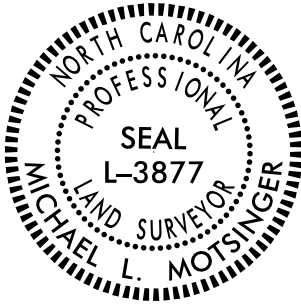
Class of survey: **AA**
Type of GPS field procedure: [Static, OPUS, RTN]
Dates of survey: 4/19/2021 - 4/20/2021
Datum/Epoch: NAD 83 / NA 2007
Published/Fixed-control use: [Project Control if applicable, N/A for RTN]
Localized around: 28-0564-2
Northing: 671112.8230
Easting: 1670809.377
Combined grid factor: 0.999863537
Geoid model: G12NC
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 on 4/19/2021, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 20th day of April, 2021.

DocuSigned by:

Michael L. Motsinger
Professional Land Surveyor L-3877



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

03-MAY-2021 15:48
S:\motsinger\03-103\Winston\Ruhs Computer\Bridge\Division_LowImpact\28-0564_Handy_Rd\Right of Way\Staking\ToBeChecked\280564.LS.RW2D-1.dgn
motsinger AT LS-312635

6/2/99


PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.
17BP.9.C.14

SHEET NO.
RW2D-1

Location and Surveys

PROJECT SURVEYOR



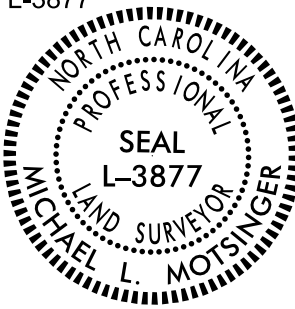
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Michael L. Motsinger, 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 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
F0B6FF70E23CA0E

Michael L. Motsinger
Professional Land Surveyor L-3877



NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

6/2/99

REVISIONS

03-MAY-2021 15:54
G:\Units\03\05\Winston\Ruhs Computer\Bridge\Division_LowImpact\28-0564_Handy_Rd\Right of Way\Staking\ToBeChecked\280564_L.S.RW3E-1.dgn
mmotsinger AT LS-312635

I, Michael L. Motsinger, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

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I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

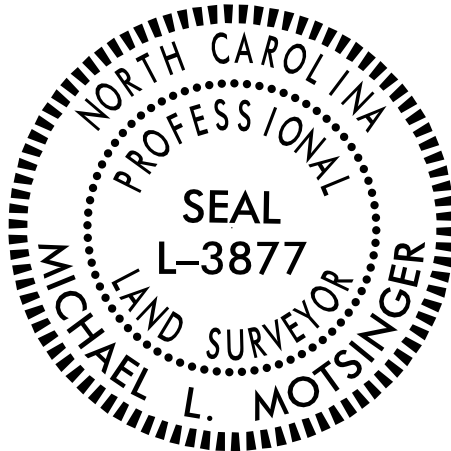
Witness my original signature, registration number and seal this 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
FD86F70E23C4DE...

Professional Land Surveyor

L-3877
PLS #

Seal



ROW MARKER PERMANENT EASEMENT - E

ALIGN	STATION	OFFSET	NORTH	EAST	NOTES
EL	14+55.00	30.00	671064.4261	1670703.0828	
EL	14+80.00	55.00	671040.4291	1670728.8328	
EL	15+80.00	-30.00	671128.3102	1670825.9479	
EL	15+80.00	-50.00	671148.3030	1670825.4128	
EL	16+55.00	-50.00	671150.3098	1670900.3859	FELL IN CREEK, NOT SET
EL	16+55.00	-30.00	671130.3170	1670900.9210	
EL	17+35.00	55.00	671047.4880	1670983.1668	
EL	17+60.00	30.00	671073.1480	1671007.4889	

NOTES:

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

PROJECT REFERENCE NO.
17BP.9.C.14

SHEET NO.
RW3E-1

Location and Surveys

PROJECT SURVEYOR

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

I, Michael L. Motsinger, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (Base map Compilation, R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

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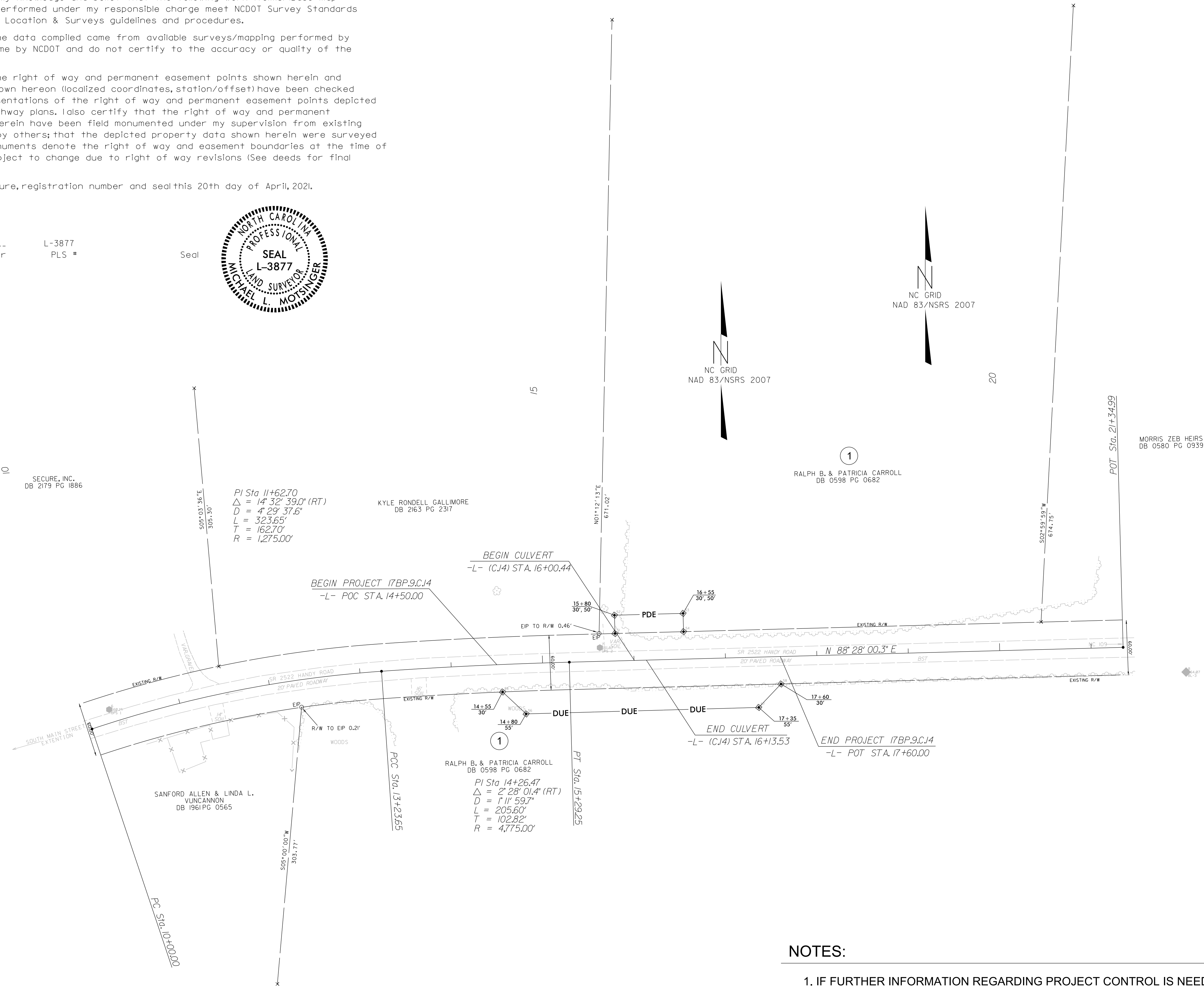
I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 20th day of April, 2021.

DocuSigned by:
Michael L. Motsinger
FOR BETTER BUSINESS
Professional Land Surveyor

L-3877
PLS #

Seal



NOTES:

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2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED ____ TO ____ .

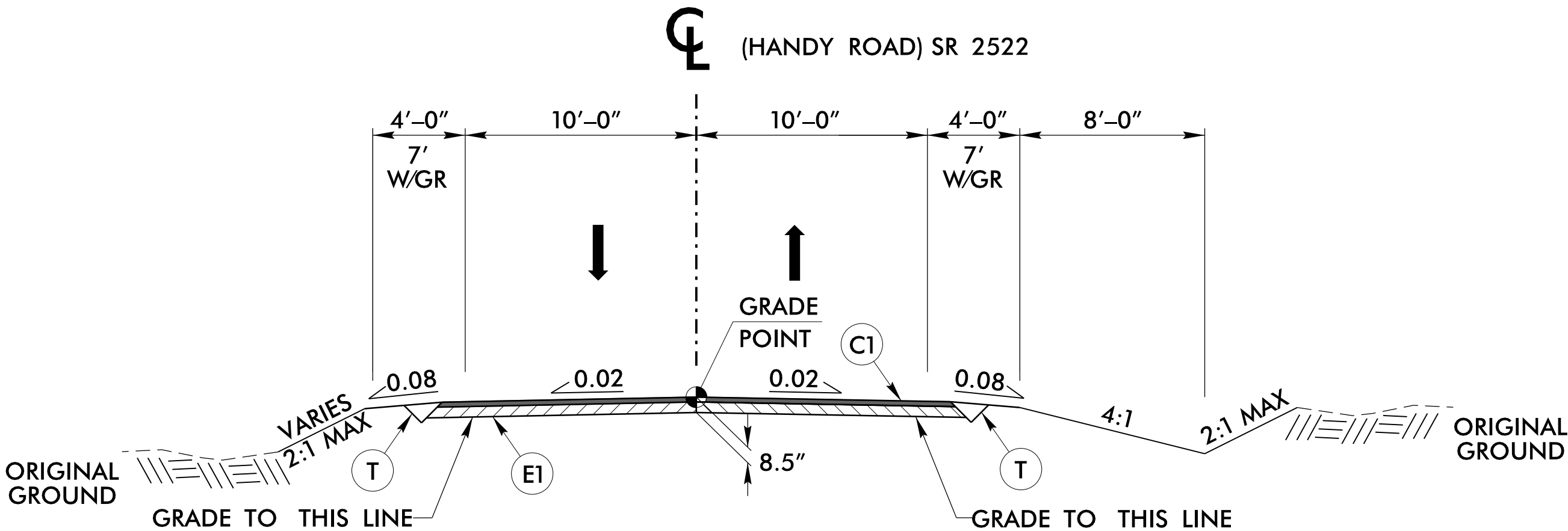
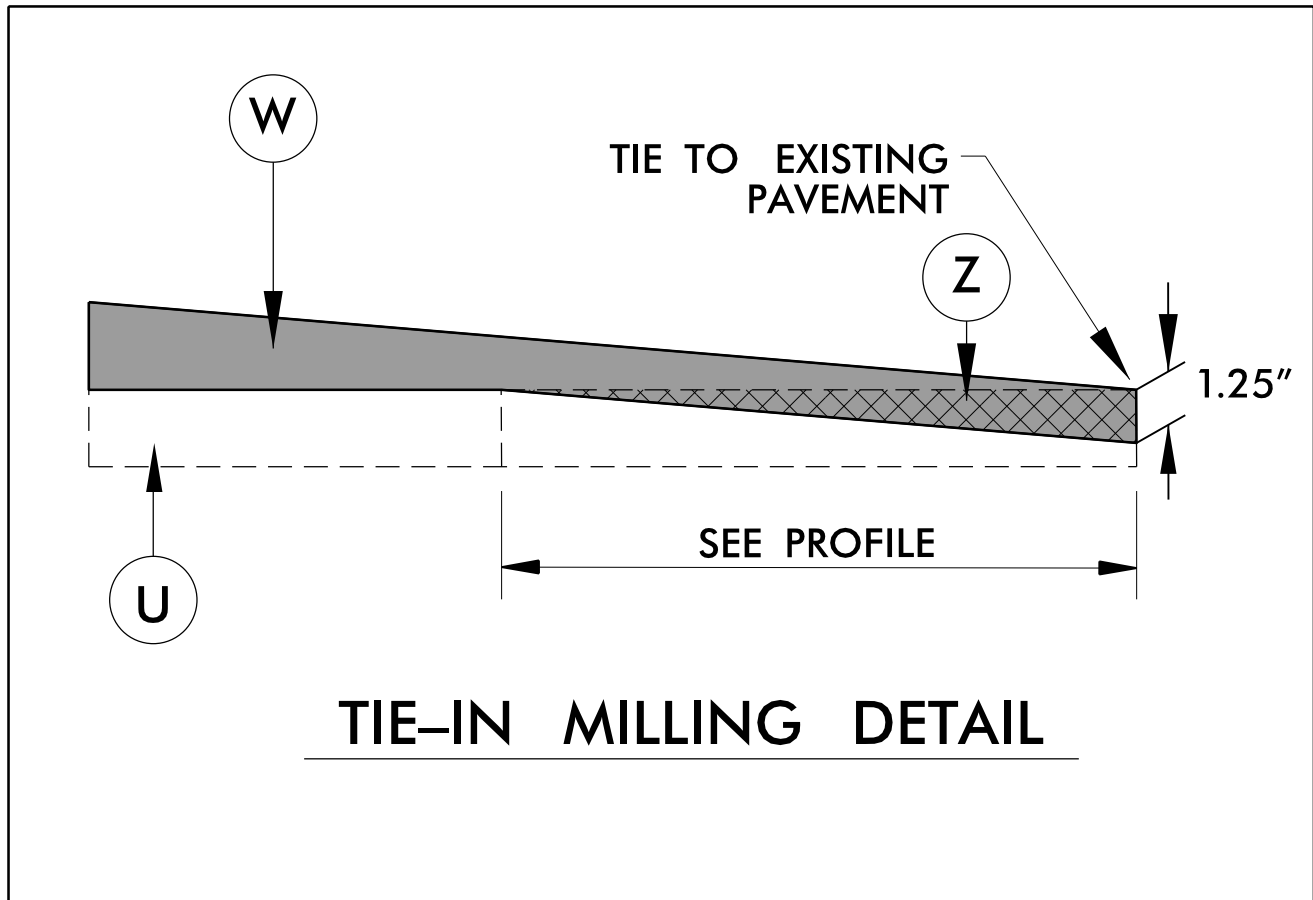
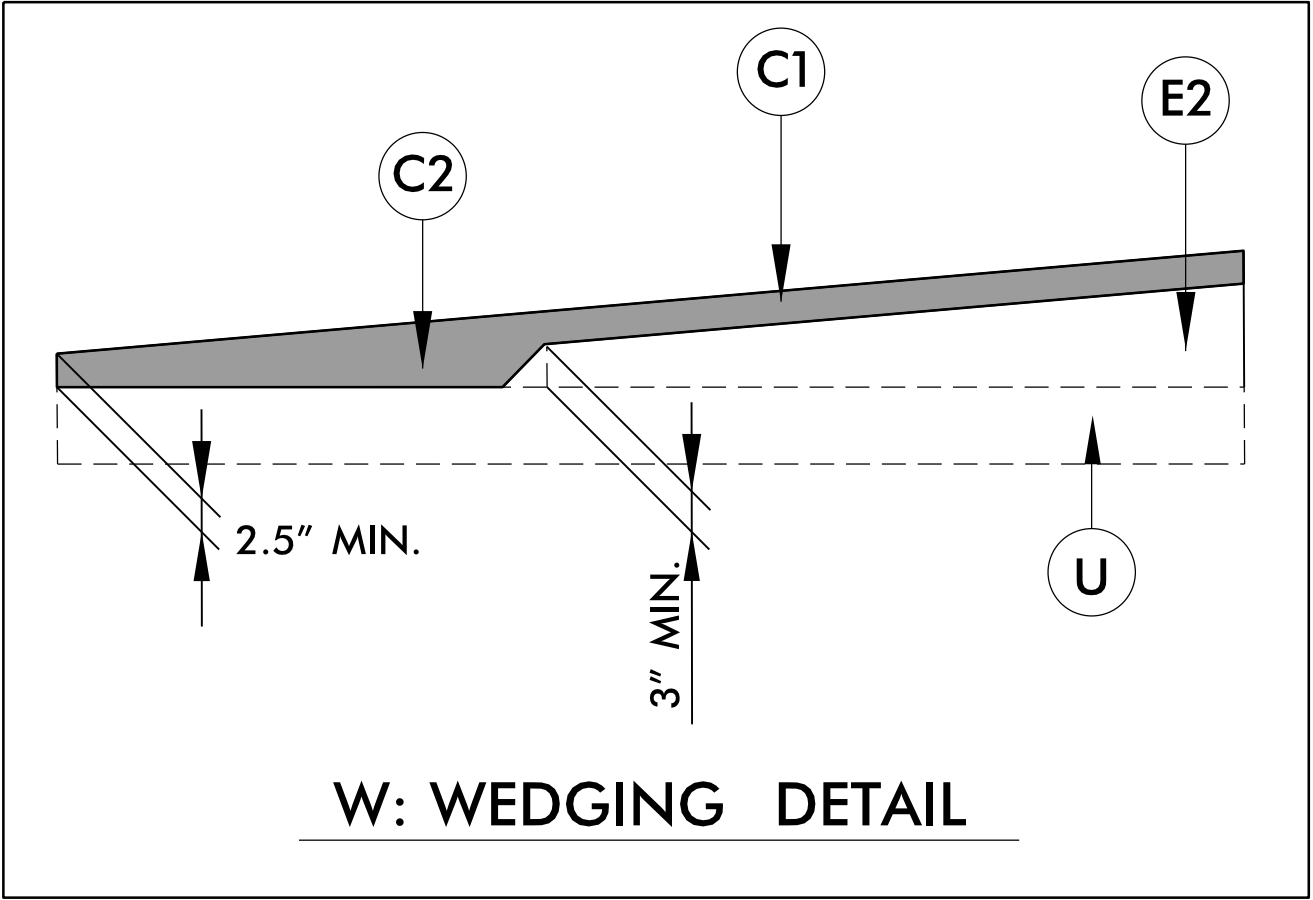
8/17/99

REVISIONS

25-JUN-2021 13:39
C:\Program Files\Autodesk\AutoCAD 2021\Projects\17BP.9.C.13.C.14 - Davidson 564 - Handy Rd\Roadway\DesignFiles\17BP9.C.1.rdy.2A1.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

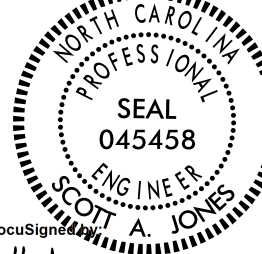
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.0" OR GREATER THAN 1.5".
E1	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
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" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING. SEE DETAIL THIS SHEET
Z	MILLING 0" TO 1.25"

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
SEE PLANS FOR VARIABLE PAVED SHOULDER WIDTHS.



-L- (17BP.9.C.14) STA. 15 + 50.00 TO STA. 16 + 00.00
-L- (17BP.9.C.13) STA. 14 + 60.00 TO STA. 16 + 00.00

NOTE: ONLY USE FULL DEPTH ASPHALT AT CULVERT REPLACEMENT LOCATIONS

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.13 & 17BP.9.C.14	2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 Scott A. Jones 6/25/2021	

8/17/99
25-JUN-2021 3:40
C:\Program Files\Autodesk\AutoCAD 2021\Projects\17BP.9.C.13.C.14 - Davidson 564 - Handy Rd\Roadway\DesignFiles\17BP9.C.1.ddc_2C-1.dgn
\$\$\$\$\$PERMANENT\$\$\$\$\$

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.13 & 17BP.9.C.14	2C-1

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

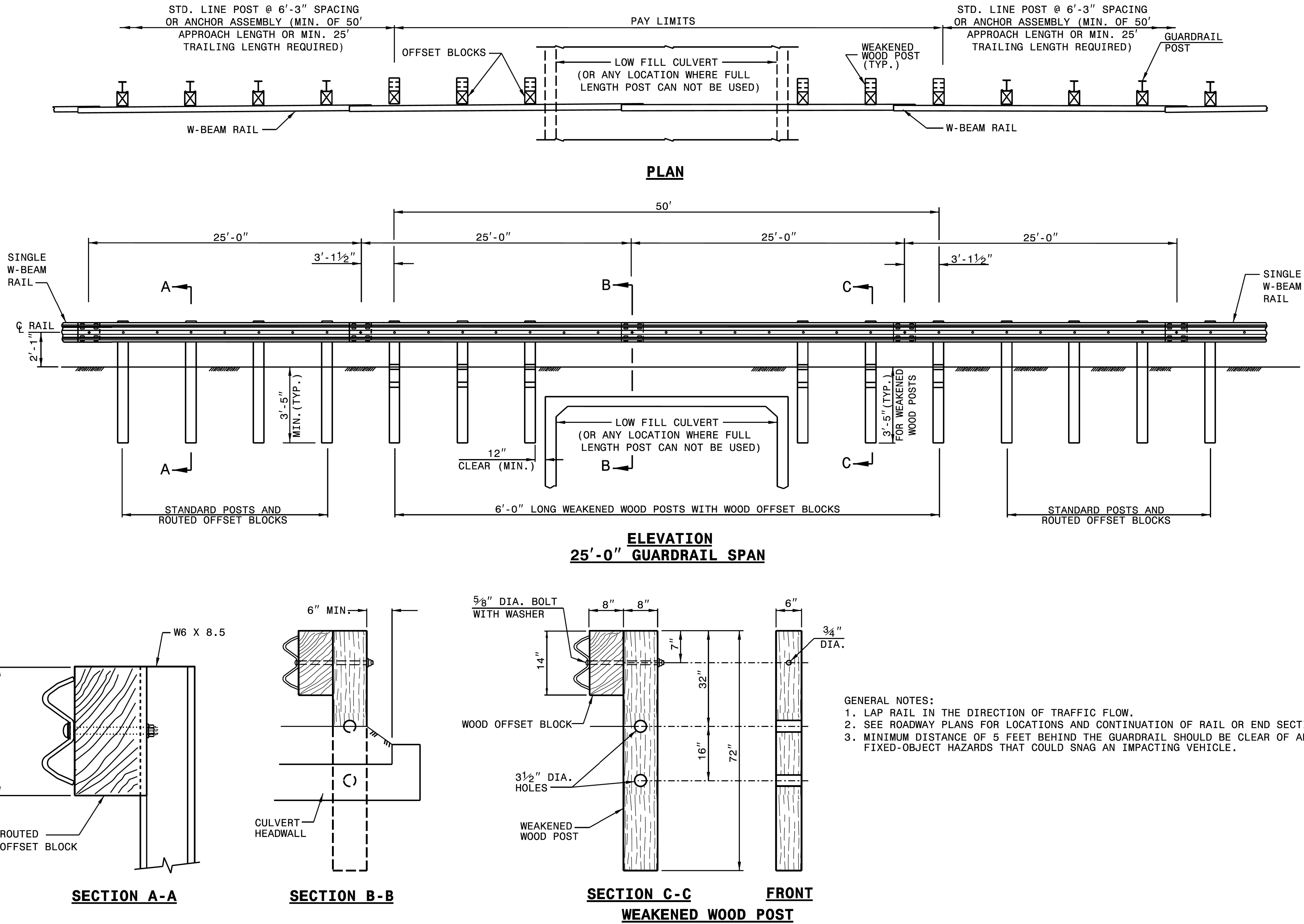
SPECIAL DETAIL FOR
GUARDRAIL PLACEMENT
25'-0" CLEAR SPAN

SHEET - OF -
862D01

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

SPECIAL DETAIL FOR
GUARDRAIL PLACEMENT
25'-0" CLEAR SPAN

SHEET - OF -
862D01



- GENERAL NOTES:
1. LAP RAIL IN THE DIRECTION OF TRAFFIC FLOW.
 2. SEE ROADWAY PLANS FOR LOCATIONS AND CONTINUATION OF RAIL OR END SECTIONS.
 3. MINIMUM DISTANCE OF 5 FEET BEHIND THE GUARDRAIL SHOULD BE CLEAR OF ANY FIXED-OBJECT HAZARDS THAT COULD SNAG AN IMPACTING VEHICLE.



DocuSigned by:
S. Howard
6/25/2021
873F3D17DCDC45F...

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119	
25'-0" CLEAR SPAN GUARDRAIL PLACEMENT	
ORIGINAL BY: _____	DATE: _____
MODIFIED BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
FILE SPEC.: _____	

REVISIONS

EARTHWORK SUMMARY (CY)

STATION	STATION	UNCL. EXCAV.	EMBANK. + 20%	BORROW	WASTE
14 + 60 -L- (C.13)	15 + 80 -L- (C.13)		400		
15 + 50 -L- (C.14)	16 + 60 -L- (C.14)		300		
SUBTOTALS:			700		
LOSS DUE TO	CLEAR & GRUBB				
PROJECT TOTALS					
GRAND TOTALS					
SAY			700		

NOTE:
1) EARTHWORK QUANTITIES ARE CALCULATED BY DDC UNIT.
2) APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, SHOULDER BORROW, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING ASPHALT, AND REMOVAL OF EXISTING ASPHALT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".

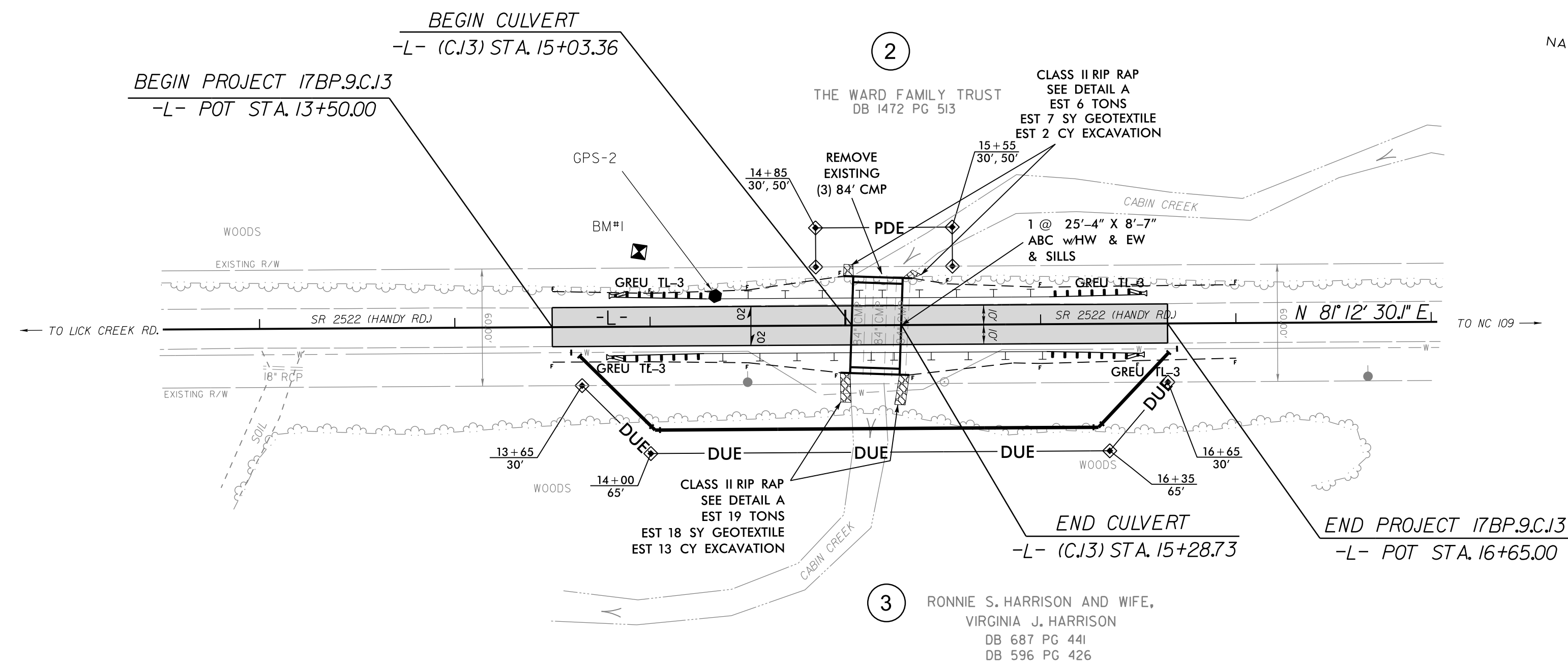
SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

SURVEY LINE	STATION	STATION	LOCATION LY/RT/CL	YD ²
—L— (C.13)	14 + 60.00	15 + 80.00	CL	275
—L— (C.14)	15 + 50.00	16 + 60.00	CL	252
TOTAL:				527
SAY:				550

"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

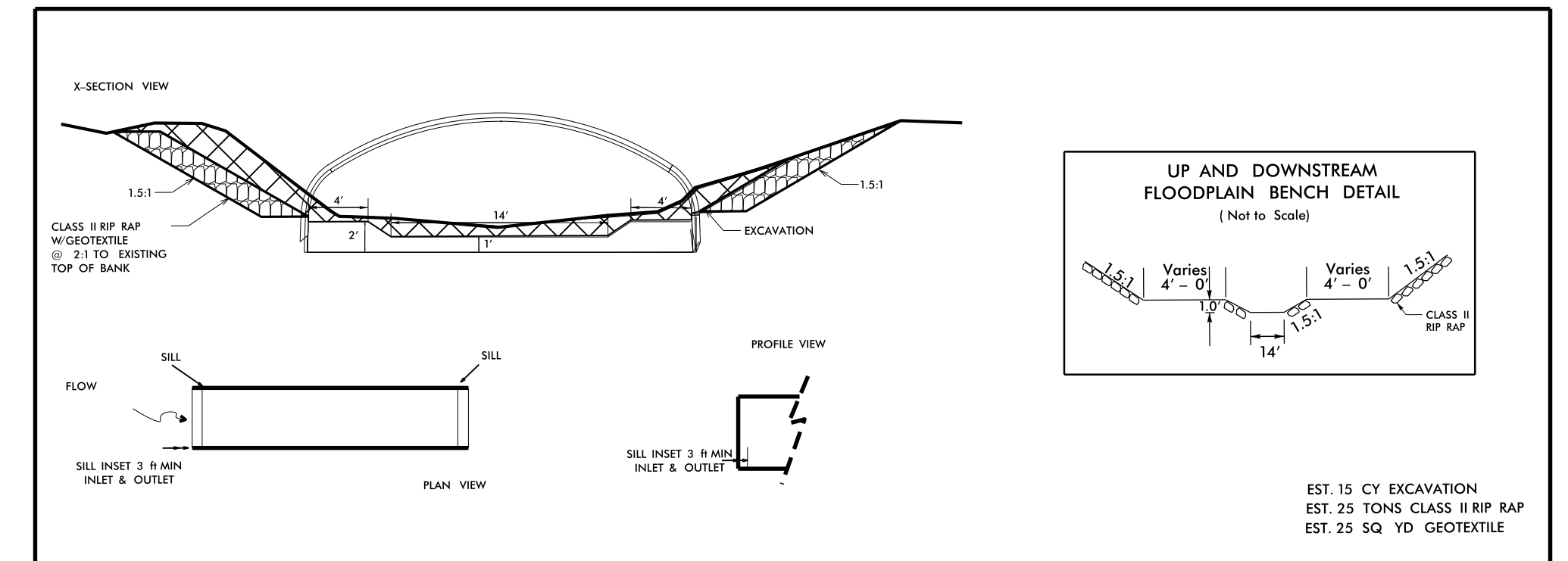
GUARDRAIL SUMMARY

[illegible]

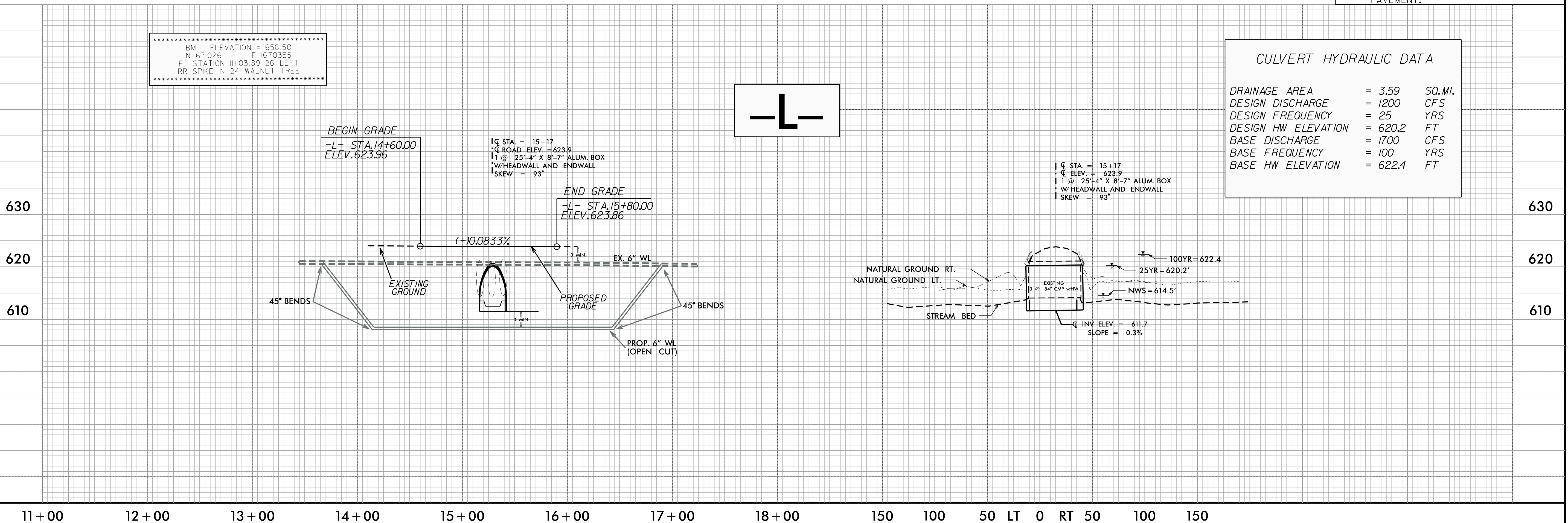


INLET/OUTLET
ALUMINUM BOX CULVERT &
CHANNEL - DETAIL A

NOT TO SCALE



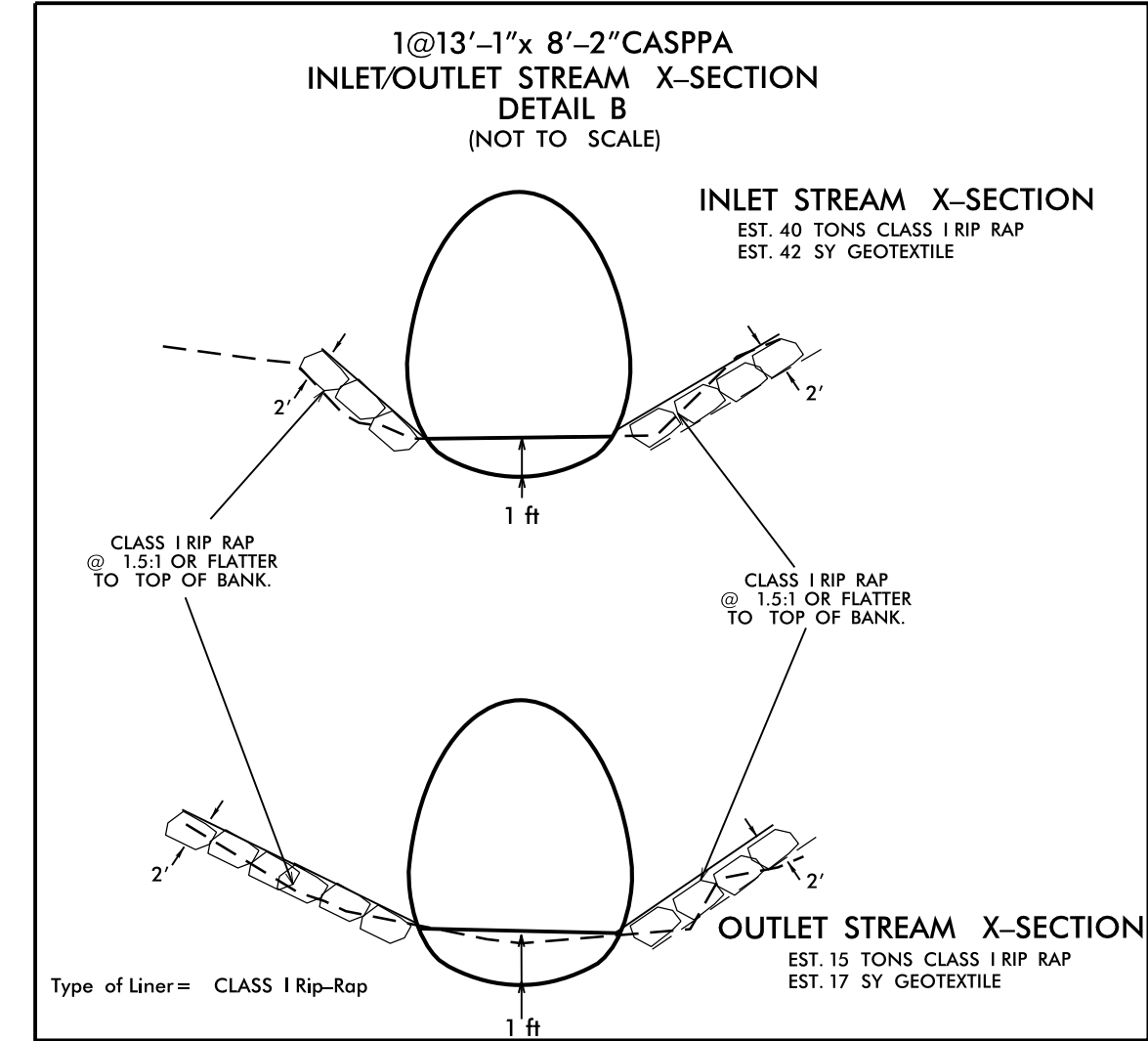
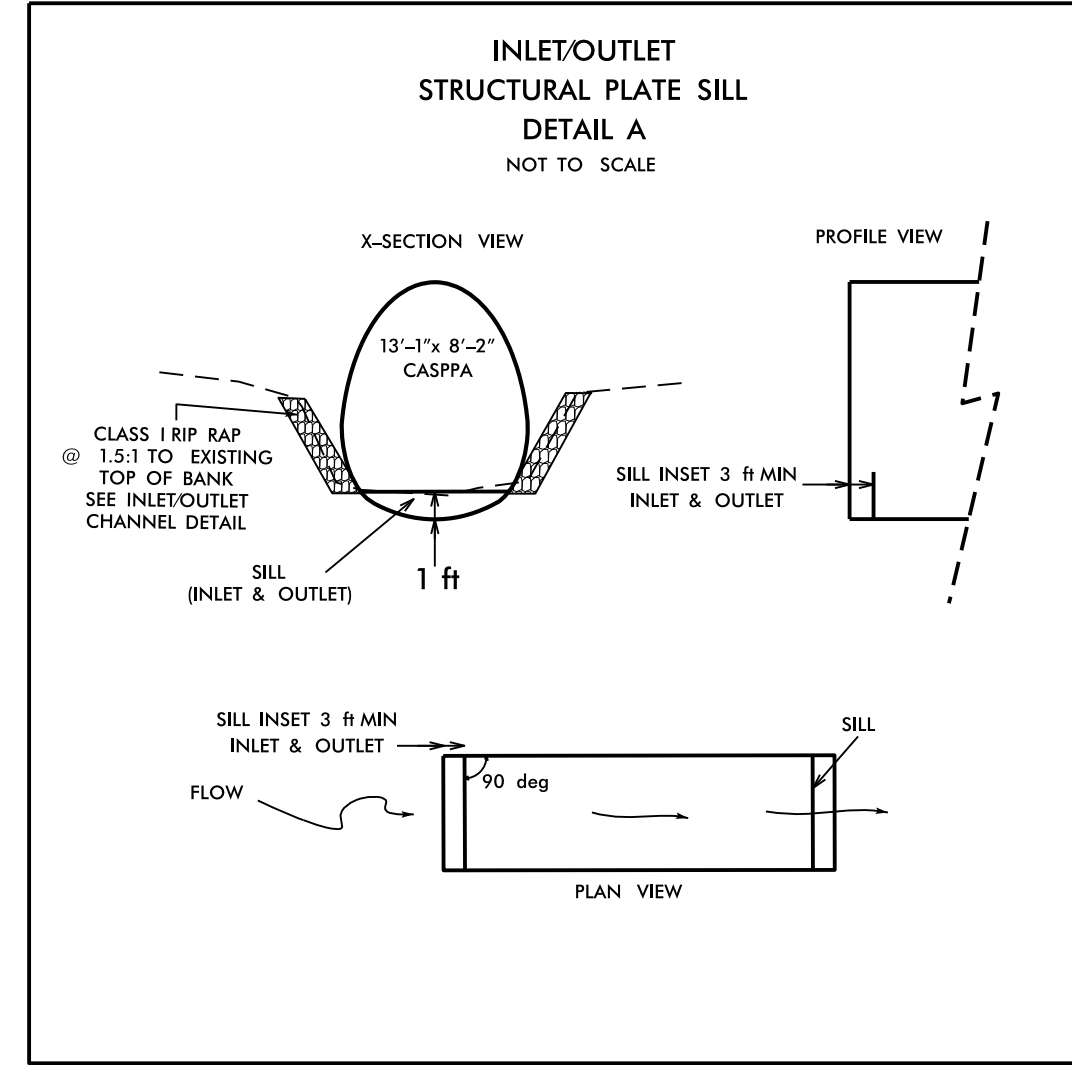
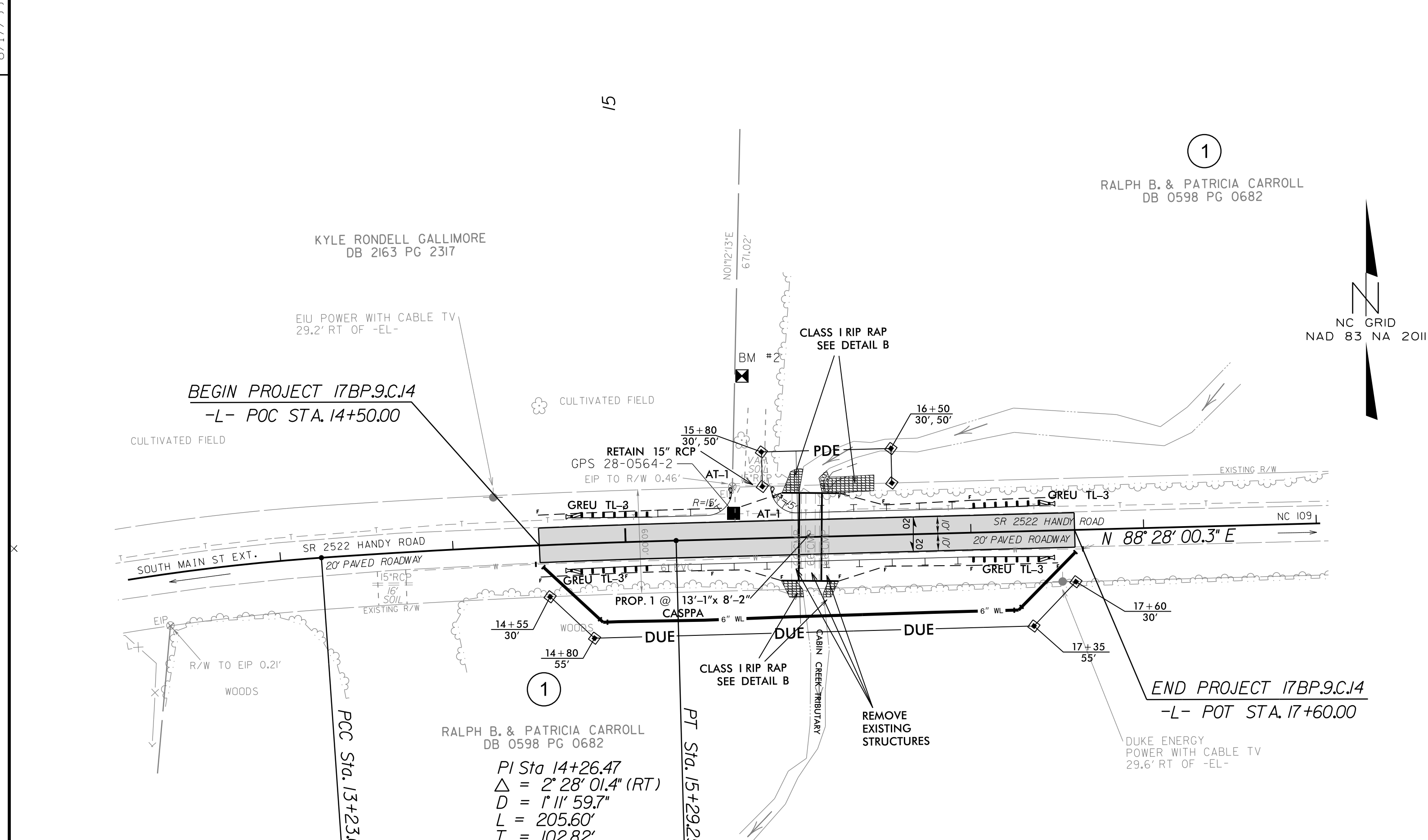
NOTE: INCIDENTAL MILL APPROX. 15' AT EACH
TIE IN TO PROVIDE A SMOOTH
TRANSITION TO THE EXISTING ASPHALT
PAVEMENT.



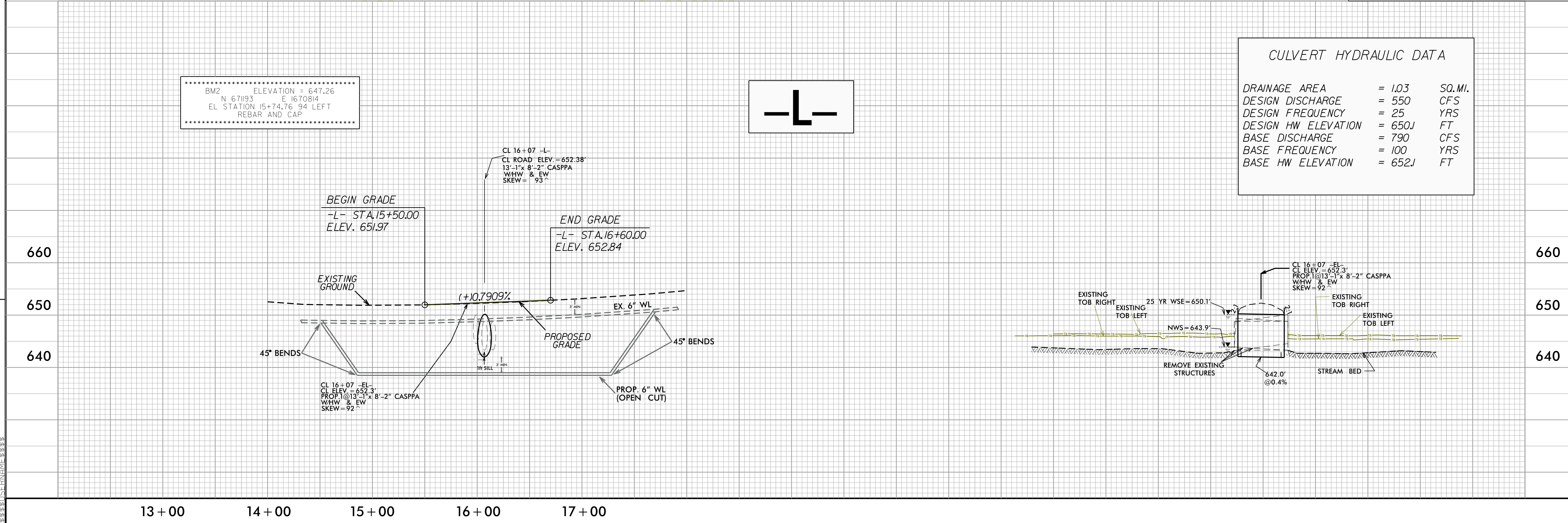
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REVISIONS

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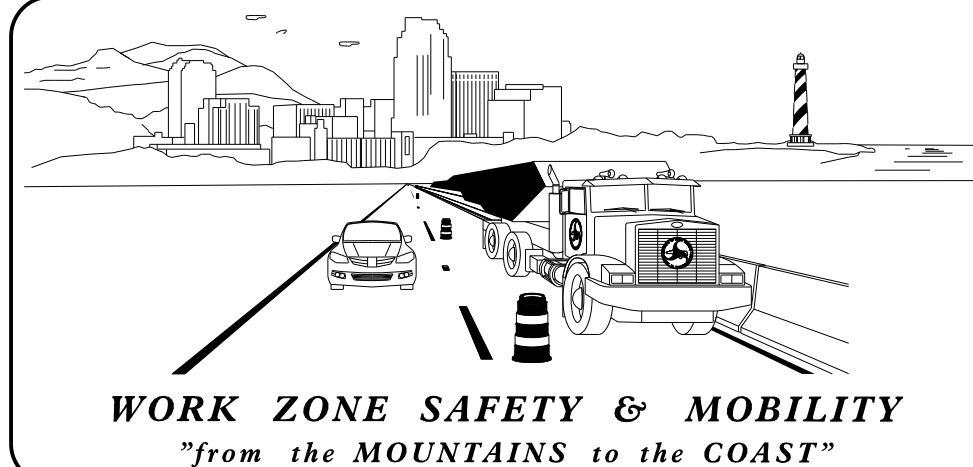
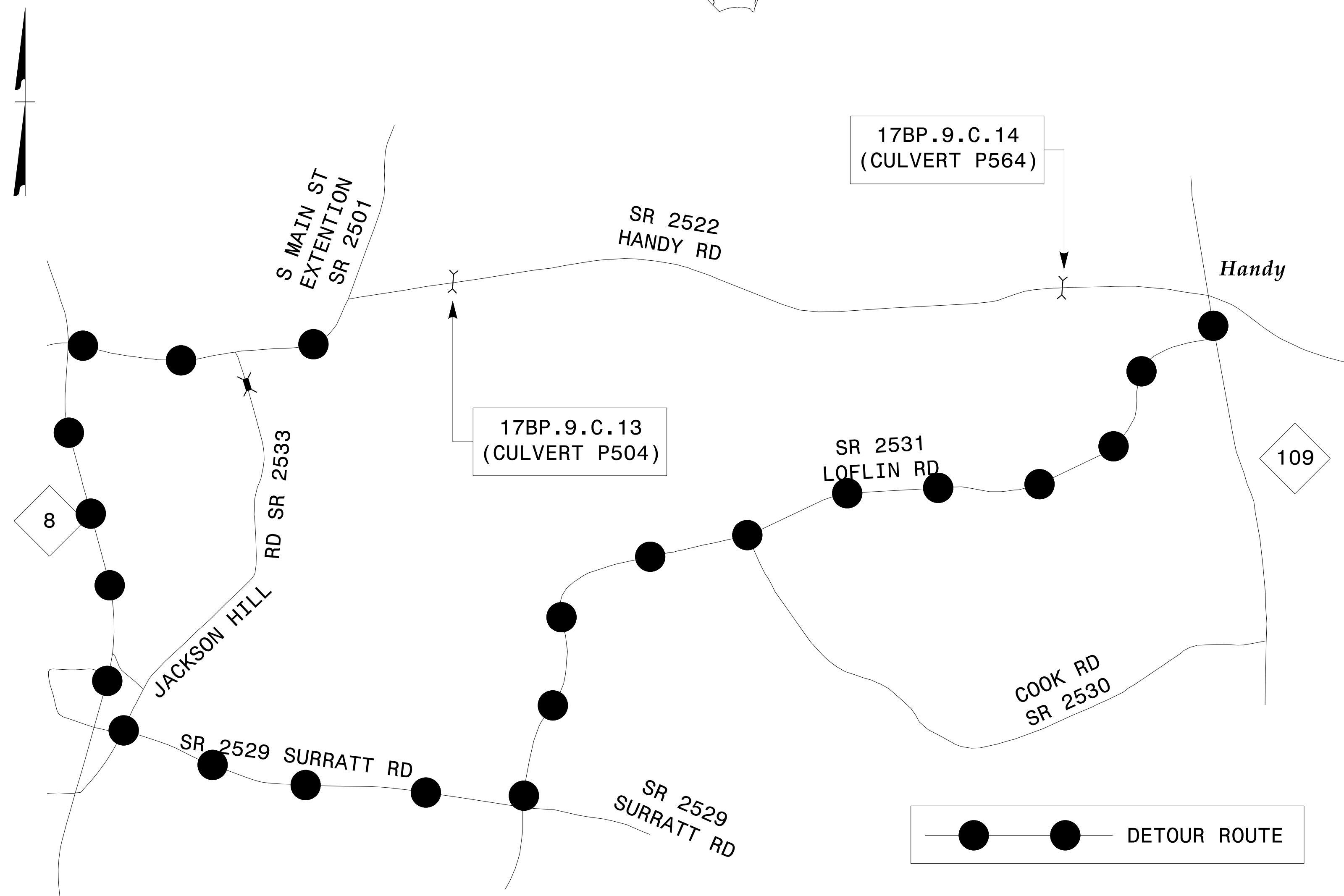
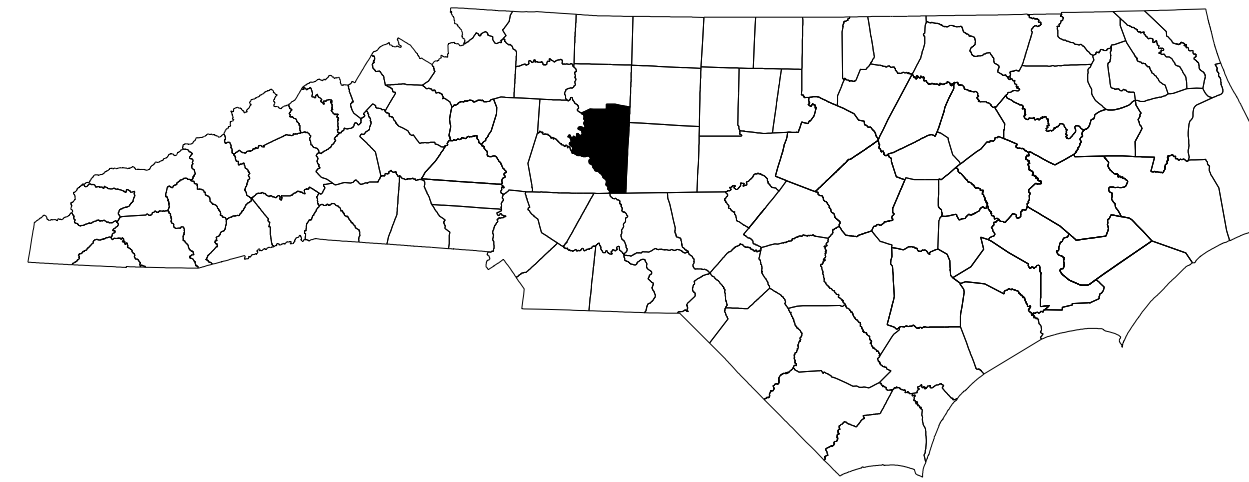
NOTE: INCIDENTAL MILL APPROX. 15' AT EACH
TIE IN TO PROVIDE A SMOOTH
TRANSITION TO THE EXISTING ASPHALT
PAVEMENT.



CULVERT HYDRAULIC DATA		
DRAINAGE AREA	= 1.03	SQ. MI.
DESIGN DISCHARGE	= 550	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 650J	FT
BASE DISCHARGE	= 790	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 652J	FT

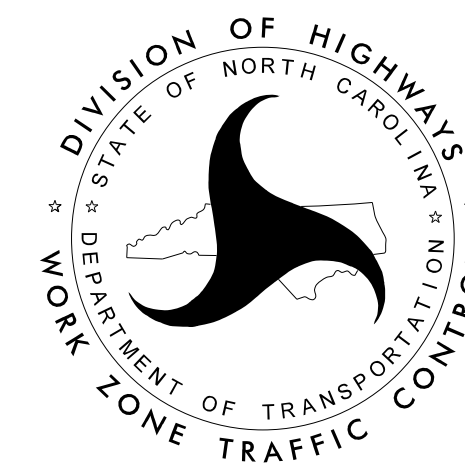
TRANSPORTATION MANAGEMENT PLAN

DAVIDSON COUNTY



D. E. RICHARDSON

M. H. STEELMAN
PROJECT DESIGN ENGINEER



TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, PHASING, AND LOCAL NOTES)
TMP-2	SPECIAL SIGN DESIGN
TMP-3	DETOUR ROUTE
TMP-4	ROAD CLOSURE DETAIL: 17BP.9.C.13 (CULVERT P504)
TMP-5	ROAD CLOSURE DETAIL: 17BP.9.C.14 (CULVERT P564)

SEAL



TMP-1

TIP PROJECT: 17BP.9.C.14 and 17BP.9.C.13






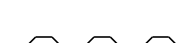

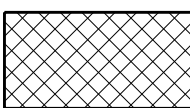
ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - 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
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.
-  TEMP. SHORING (LOCATION PURPOSES ONLY)
-  WORK AREA
-  REMOVAL







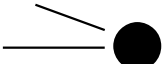




SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY




PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES




TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS
- 
- 

APPROVED



DATE: 4/8/2021



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



ROADWAY STANDARD
DRAWINGS & LEGEND

MANAGEMENT STRATEGEIES

- CLOSE SR 2522 (HANDY ROAD) AND DETOUR TRAFFIC OFF SITE. CONSTRUCT CULVERTS P564 AND P504 CONSECUTIVELY.
- LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED BETWEEN CLOSURE POINTS AT ALL TIMES DURING CONSTRUCTION.

GENERAL NOTES

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

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- B) 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.

- C) 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.

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

PHASING

STEP 1 - INSTALL AND COVER ALL DETOUR SIGNS AS SHOWN ON TMP-2 AND TMP-3.

NOTE: CONTRACTOR MAY BEGIN EITHER PROJECT ON HANDY RD., BUT MUST COMPLETE PRIOR TO BEGINNING SECOND PROJECT.

17BP.9.C.14 (CULVERT 564)

STEP 2 - USING ROADWAY STANDARD DRAWING 1101.03, (SHEET 1 OF 9) AND TMP-5, CLOSE S.R. 2522 (HANDY ROAD) AND DETOUR ALL TRAFFIC OFF SITE AS SHOWN ON TMP-3.

STEP 3 - AWAY FROM TRAFFIC, REMOVE EXISTING CULVERT.

STEP 4 - AWAY FROM TRAFFIC, CONSTRUCT THE PROPOSED CULVERT AND ROADWAY. INSTALL FINAL PAVEMENT MARKINGS (PAINT).

STEP 5 - CONTRACTOR MUST COVER ALL DETOUR SIGNS AND REMOVE ALL DEVICES IMMEDIATELY AND OPEN S.R. 2522 (HANDY ROAD) OR BEGIN WORK ON 17BP.9.C.13 (CULVERT 504). SEE LOCAL NOTE 1. ONCE BOTH PROPOSED CULVERTS AND ROADWAY ARE COMPLETED, CONTRACTOR SHALL REMOVE ALL DETOUR SIGNS, ROAD CLOSURE SIGNS, AND TRAFFIC CONTROL DEVICES.

17BP.9.C.13 (CULVERT P504)

STEP 2 - USING ROADWAY STANDARD DRAWING 1101.03, (SHEET 1 OF 9) AND TMP-4, CLOSE S.R. 2522 (HANDY ROAD) AND DETOUR ALL TRAFFIC OFF SITE AS SHOWN ON TMP-3.

STEP 3 - AWAY FROM TRAFFIC, REMOVE EXISTING STRUCTURE.

STEP 4 - AWAY FROM TRAFFIC, CONSTRUCT THE PROPOSED CULVERT AND ROADWAY. INSTALL FINAL PAVEMENT MARKINGS (PAINT).

STEP 5 - CONTRACTOR MUST COVER ALL DETOUR SIGNS AND REMOVE ALL DEVICES IMMEDIATELY AND OPEN S.R. 2522 (HANDY ROAD) OR BEGIN WORK ON 17BP.9.C.14 (CULVERT 564). SEE LOCAL NOTE 1. ONCE BOTH PROPOSED CULVERTS AND ROADWAY ARE COMPLETED, CONTRACTOR SHALL REMOVE ALL DETOUR SIGNS, ROAD CLOSURE SIGNS, AND TRAFFIC CONTROL DEVICES.

LOCAL NOTES

1. THE N.C.D.O.T. RESIDENT ENGINEER WILL PROVIDE A MINIMUM OF 48 HOUR ADVANCE NOTICE TO ALL HOME OWNERS AND BUSINESSES ON HANDY RD. WHENEVER CHANGES TO ROAD CLOSURE POINTS OCCUR.

<div>DocuSigned by: APPROVED Kenneth C. Thornwell, Jr., P.E. 1E9B1EF27373405 DATE: 4/8/2021</div> <div></div> <div>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</div>	<div></div>	<div>TRANSPORTATION OPERATIONS PLAN</div>
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<div><div>SIGN NUMBER: SP19121 TYPE: STATIONARY QUANTITY: SEE PLANS SIGN WIDTH: 3'-6" HEIGHT: 1'-6" TOTAL AREA: 5.3 Sq.Ft. BORDER TYPE: INSET RECESS: 0.47" WIDTH: 0.63" RADII: 1.5" NO. Z BARS: LENGTH:</div><div>BACKG COLOR: Fluorescent Orange COPY COLOR: Black <table><tr><th>SYMBOL</th><th>X</th><th>Y</th><th>WID</th><th>HT</th></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> MAT'L: 0.080" (2.0 mm) ALUMINUM</div></div>		SYMBOL	X	Y	WID	HT																																				<div><div>DESIGN BY: J.Navarrete PROJECT ID:</div><div>CHECKED BY: LOCATION:</div><div>Aug 14, 2019 DIV: WZTC</div></div>																																																																																																																																																																																																			
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<div>LETTER POSITIONS</div> <table><tr><td colspan="24">Letter spacings are to start of next letter</td><td colspan="2">Series/Size Text Length</td></tr><tr><td></td><td></td><td>H</td><td>A</td><td>N</td><td>D</td><td>Y</td><td></td><td>R</td><td>D</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>C 2000 29.4</td></tr><tr><td>6.3</td><td>3.5</td><td>3.9</td><td>3.9</td><td>3.4</td><td>3.2</td><td>5</td><td>3.7</td><td>2.8</td><td>6.3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> <div>FILENAME: WZTC Handy Rd</div> <div>NORTH CAROLINA D.O.T. SIGN DETAIL</div>				Letter spacings are to start of next letter																								Series/Size Text Length				H	A	N	D	Y		R	D																C 2000 29.4	6.3	3.5	3.9	3.9	3.4	3.2	5	3.7	2.8	6.3																																																																																																																																																																												
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User: msfeelman

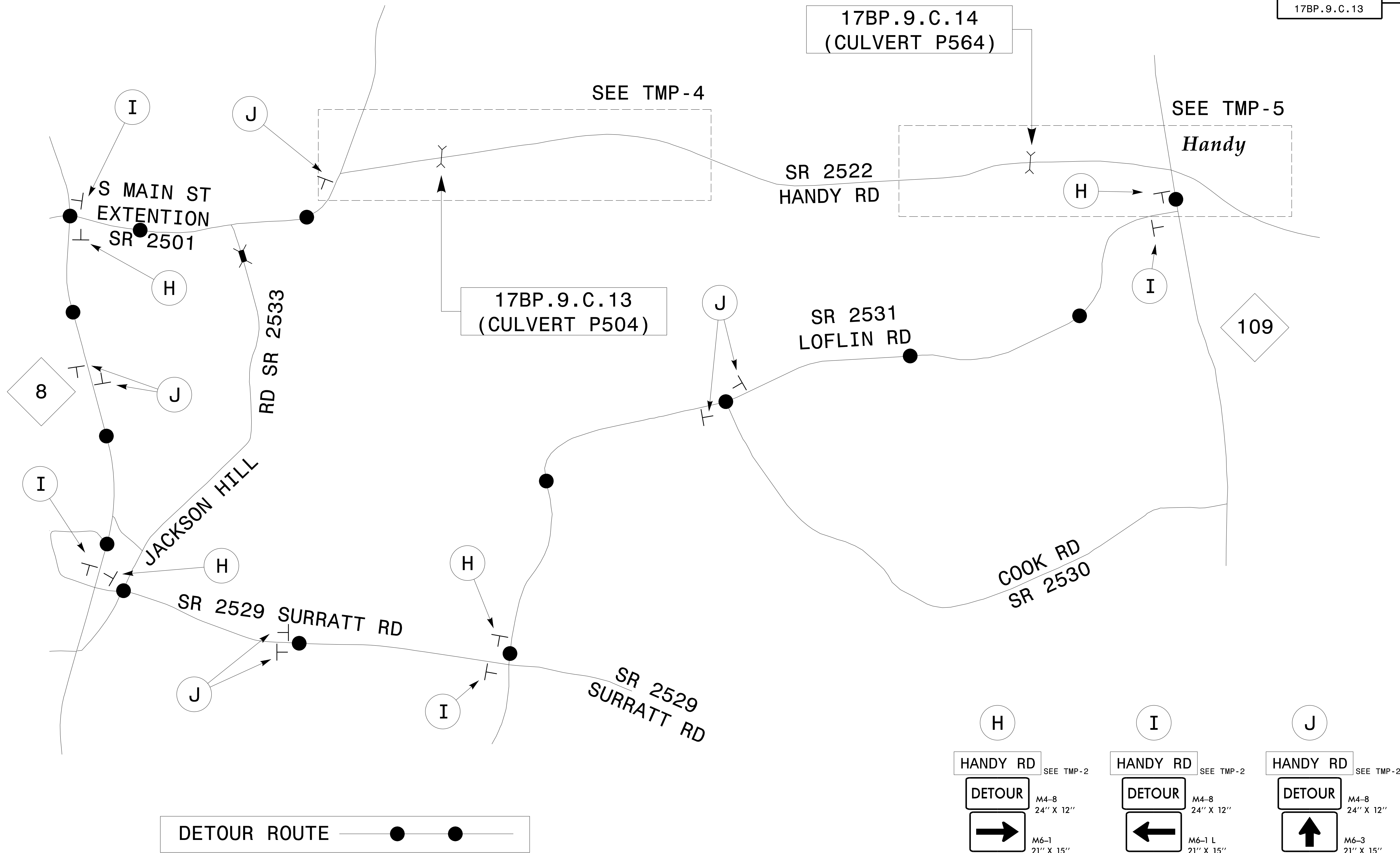
APPROVED
DATE: 4/6/2021

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NORTH CAROLINA
PROFESSIONAL
SEAL
024921
ENGINEER
RENEE B. ROACH

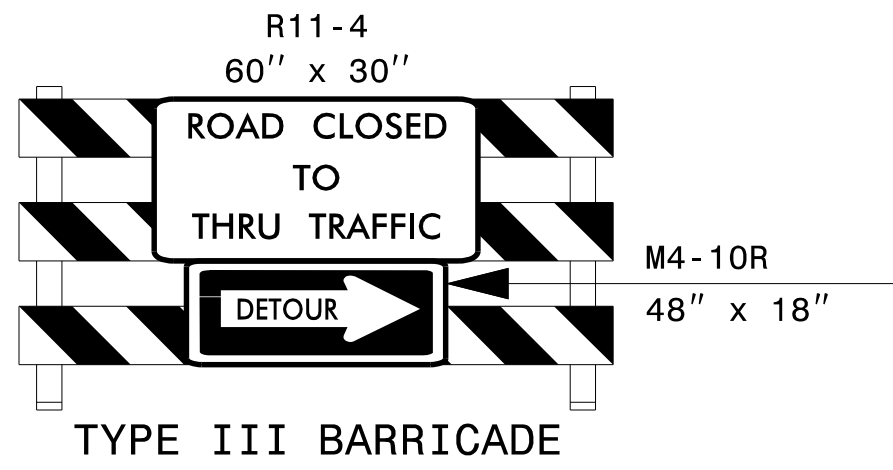
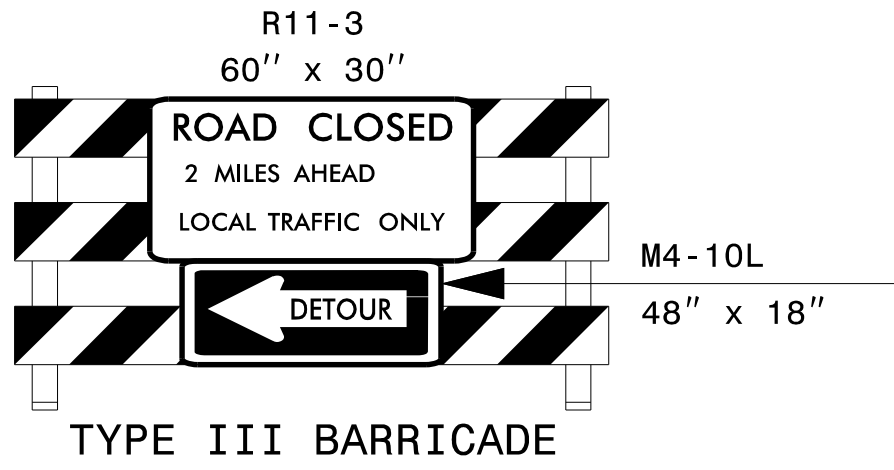
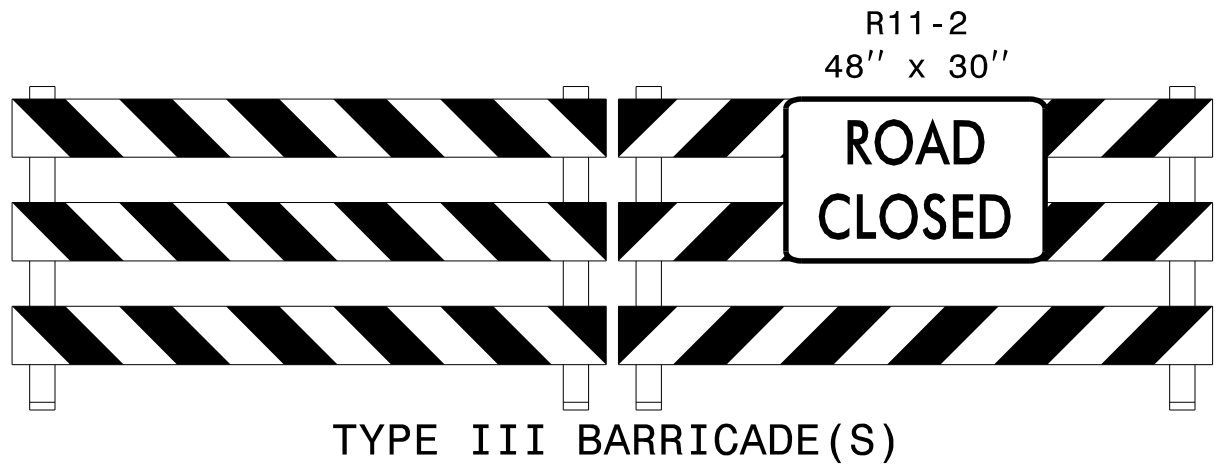
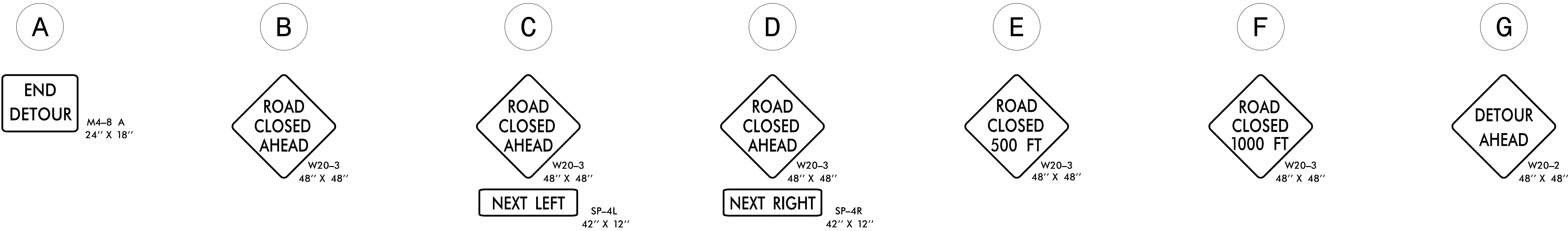
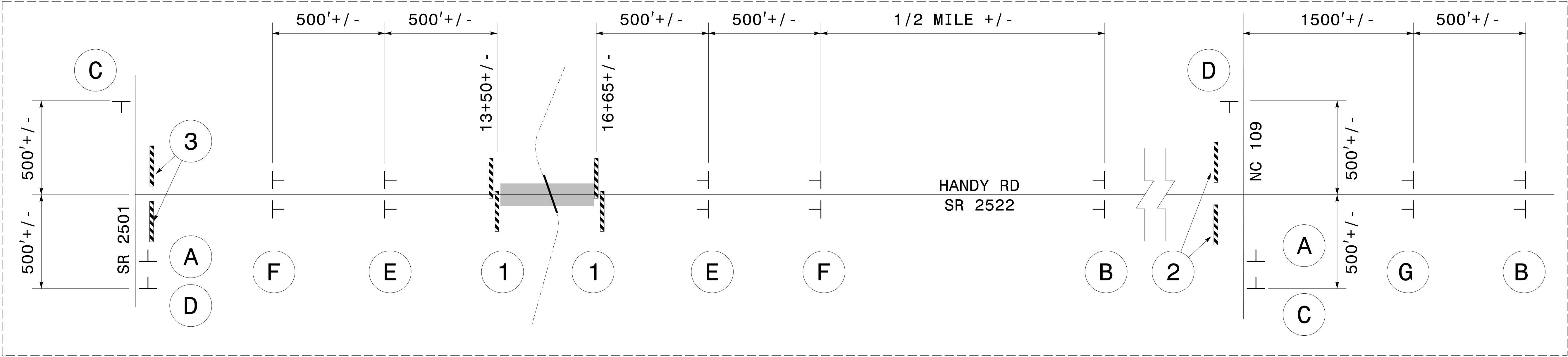
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

SPECIAL SIGN DESIGN



NOTES
SEE TMP-4 FOR 17BP.9.C.13 (CULVERT P504) ROAD CLOSURE DETAIL
SEE TMP-5 FOR 17BP.9.C.14 (CULVERT P564) ROAD CLOSURE DETAIL

<p>APPROVED <i>Kenneth C. Thorneill, Jr., P.E.</i> DATE: 4/8/2021</p> <p>Seal of Kenneth C. Thorneill, Jr., P.E., Professional Engineer, No. 044089, State of North Carolina.</p>	<p>Seal of the North Carolina Department of Transportation, Division of Highways, State of North Carolina.</p>	<p>DETOUR ROUTE</p>
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>		



NOTES
SEE TMP-3 FOR DETOUR ROUTE AND SIGNAGE

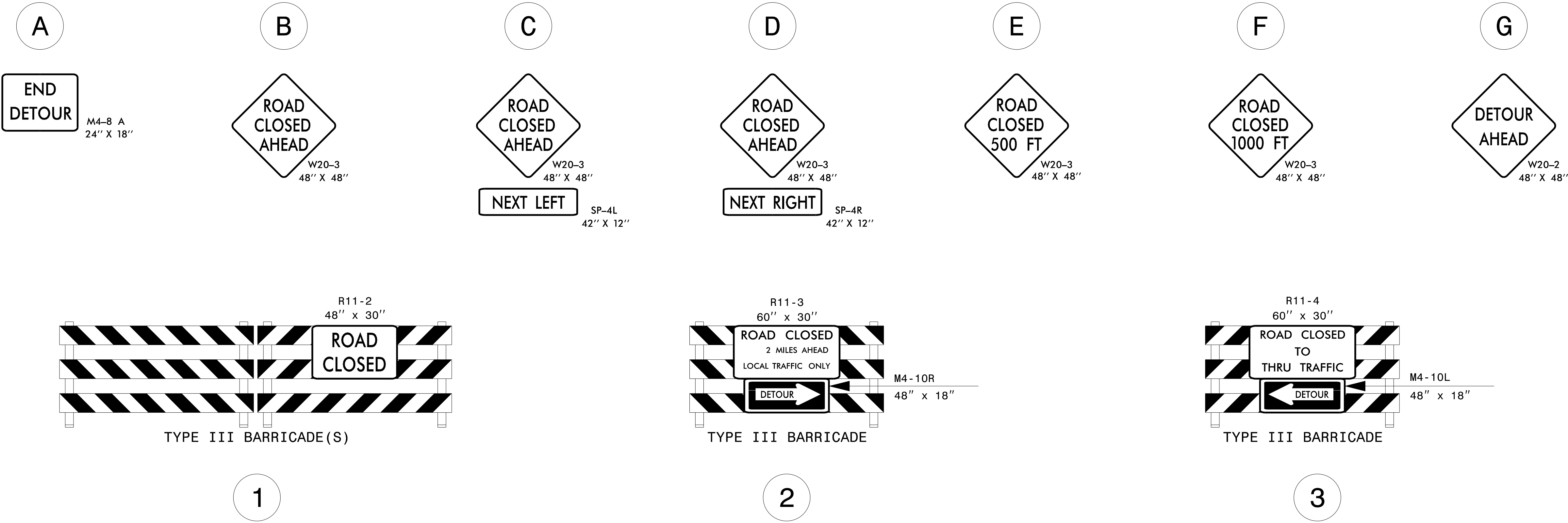
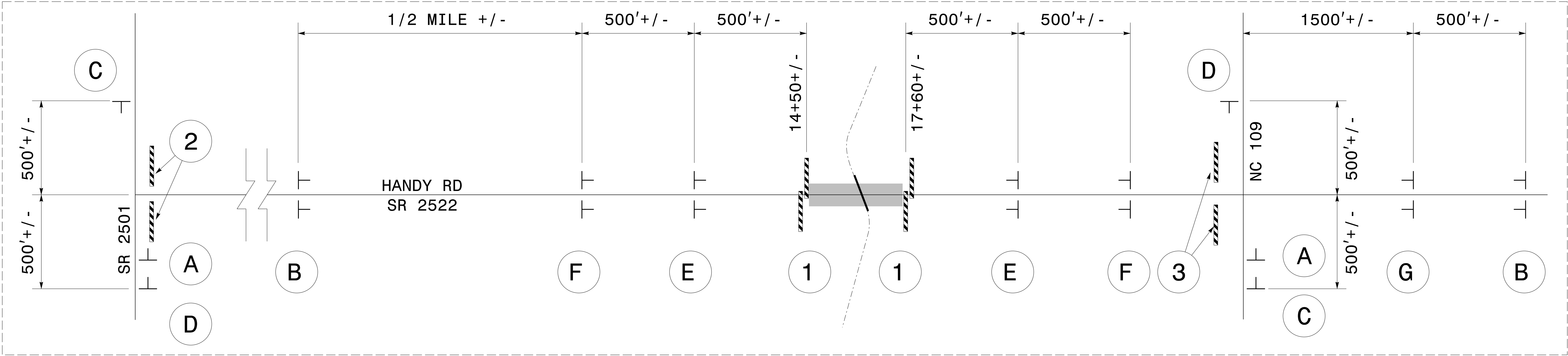
APPROVED: *Kenneth C. Thornwell, Jr., P.E.*
DATE: 4/8/2021

SEAL
044089
ENGINEER
KENNETH C. THORNWELL, JR., P.E.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DEPARTMENT OF TRANSPORTATION
NORTH CAROLINA
WORK ZONE TRAFFIC CONTROL

ROAD CLOSURE
DETAIL FOR
17BP.9.C.13
(CULVERT P504)



NOTES
SEE TMP-3 FOR DETOUR ROUTE AND SIGNAGE

APPROVED
DATE: 4/8/2021

DESIGNED BY
Kenneth C. Hornswell Jr., P.E.
1E991EF27373405...

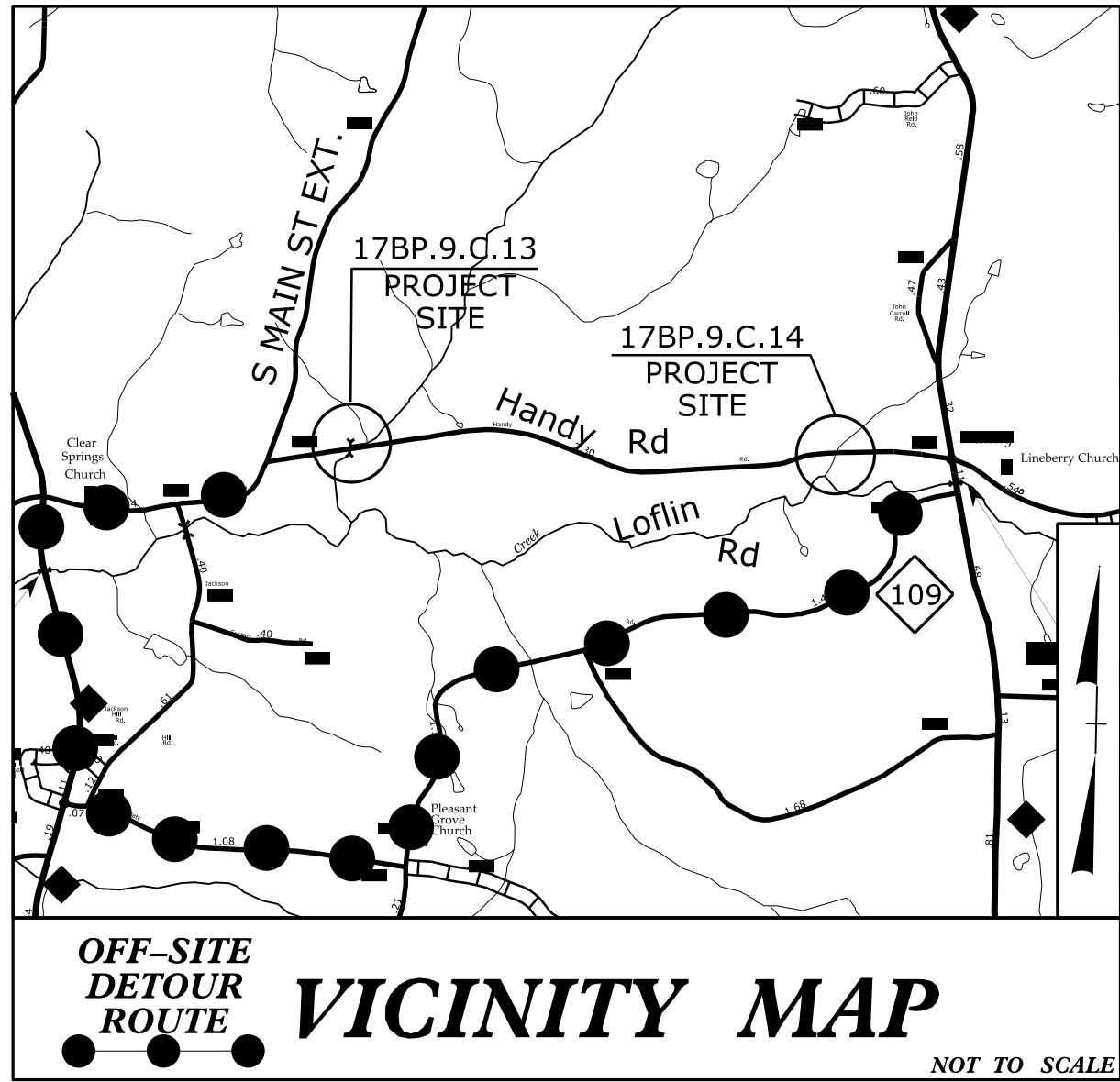
SEAL
044089
ENGINEER
C. THORNEVELL

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

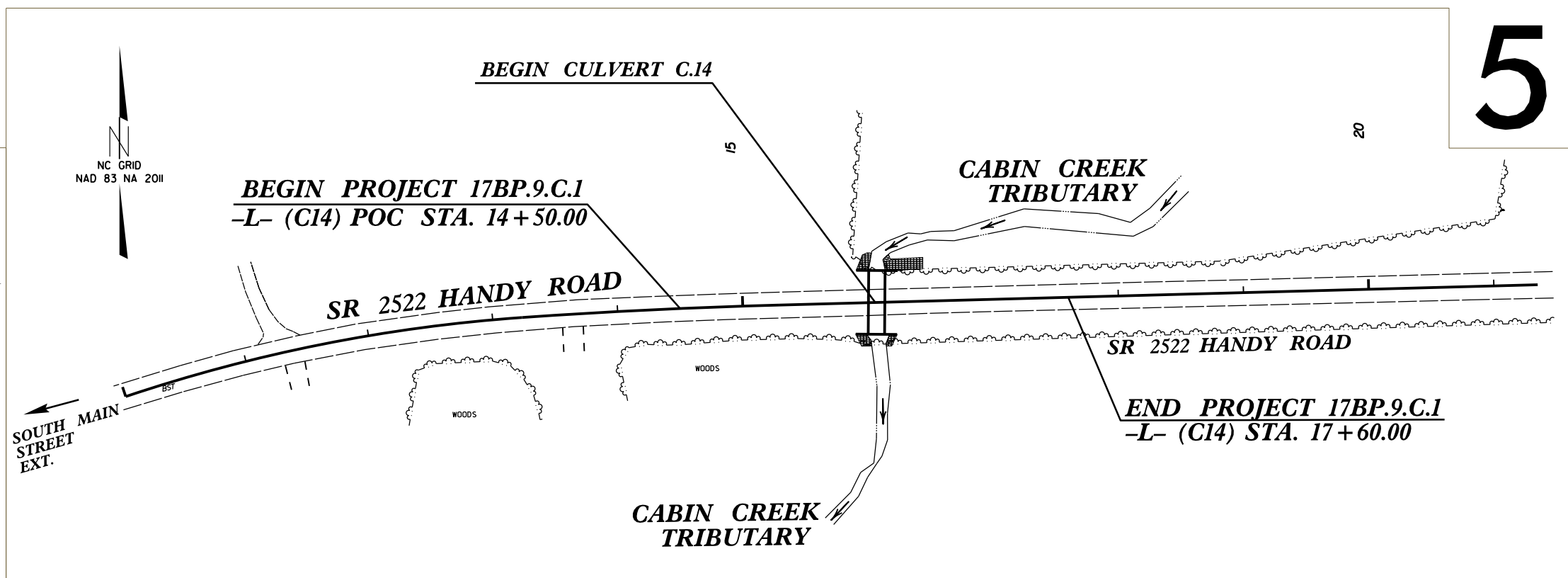
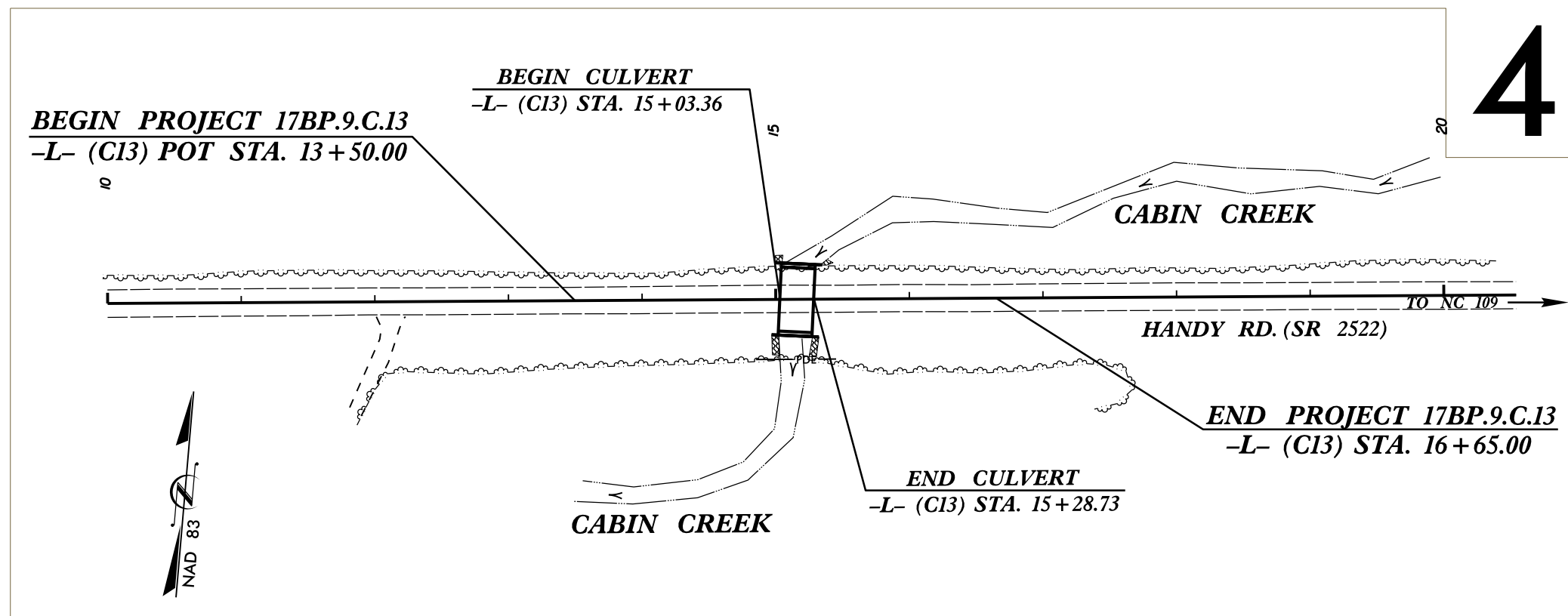
ROAD CLOSURE
DETAIL FOR
17BP.9.C.14
(CULVERT P564)

13.C.14_25-jUN-2021 10:47 - Handy Rd Erosion Control\Design Files\17BP.9.C.13 & 17BP.9.C.14.ddc-EC.tsh.dgn

TIP PROJECT: 17BP.9.C.13 & 17BP.9.C.14



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



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.C.13 & 17BP.9.C.14	EC-1	6
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	TSF
1606.01	Special Sediment Control Fence	SSF
1622.01	Temporary Berms and Slope Drains	TBSD
1630.02	Silt Basin Type B	SB
1633.01	Temporary Rock Silt Check Type-A	TRSCA
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	TRSCA-PAM
1633.02	Temporary Rock Silt Check Type-B	TRSCB
	Wattle/ Coir Fiber Wattle	WCFW
	Wattle/ Coir Fiber Wattle with Polyacrylamide (PAM)	WCFW-PAM
1634.01	Temporary Rock Sediment Dam Type-A	TRSDA
1634.02	Temporary Rock Sediment Dam Type-B	TRSDB
1635.01	Rock Pipe Inlet Sediment Trap Type-A	RPISTDA
1635.02	Rock Pipe Inlet Sediment Trap Type-B	RPISTDB
1630.04	Stilling Basin	SB
1630.06	Special Stilling Basin	SSB
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	SB
	Tiered Skimmer Basin	TSB
	Infiltration Basin	IB

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

GRAPHIC SCALE



PLANS

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared in the Office of:

DIVISION 9 - DDC

375 Silas Creek Parkway
Winston-Salem, NC 27127

2018 STANDARD SPECIFICATIONS

Designed by:

SCOTT JONES

NAME

4058

LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.14 & 17BP.9.C.13	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

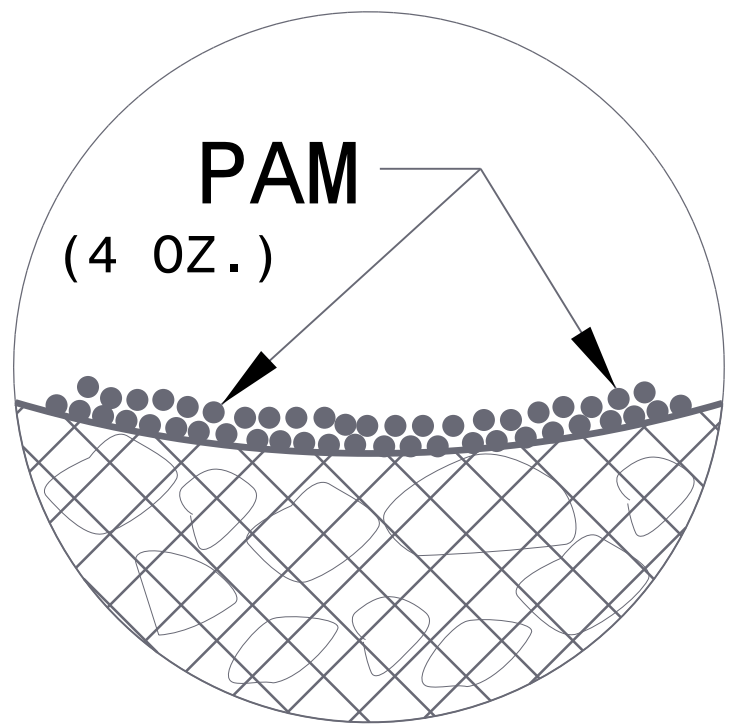
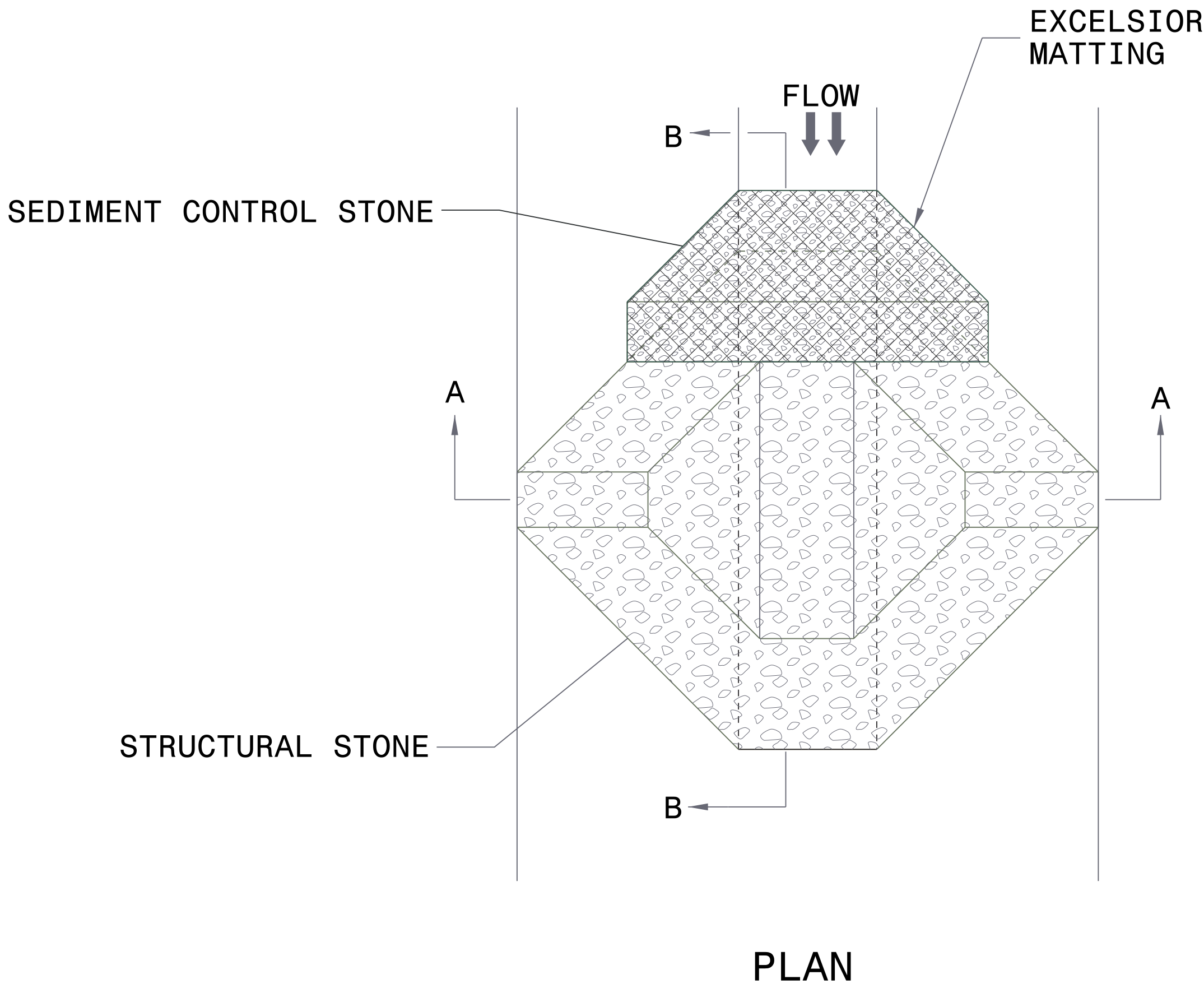
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

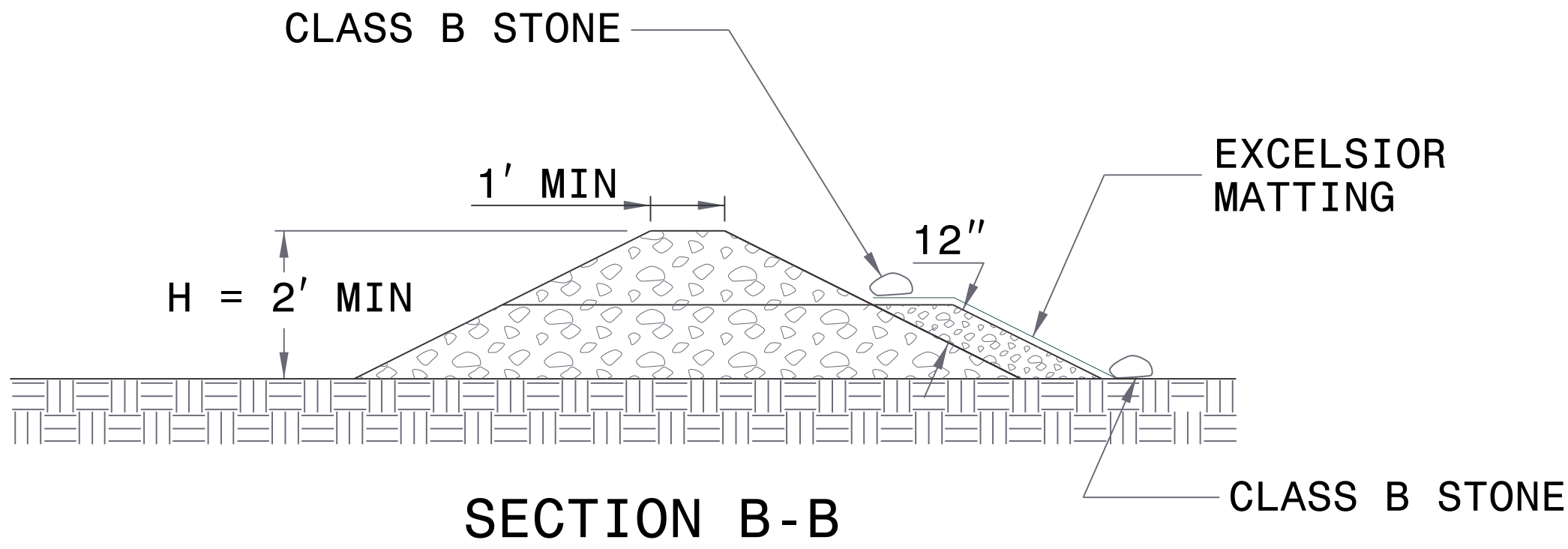
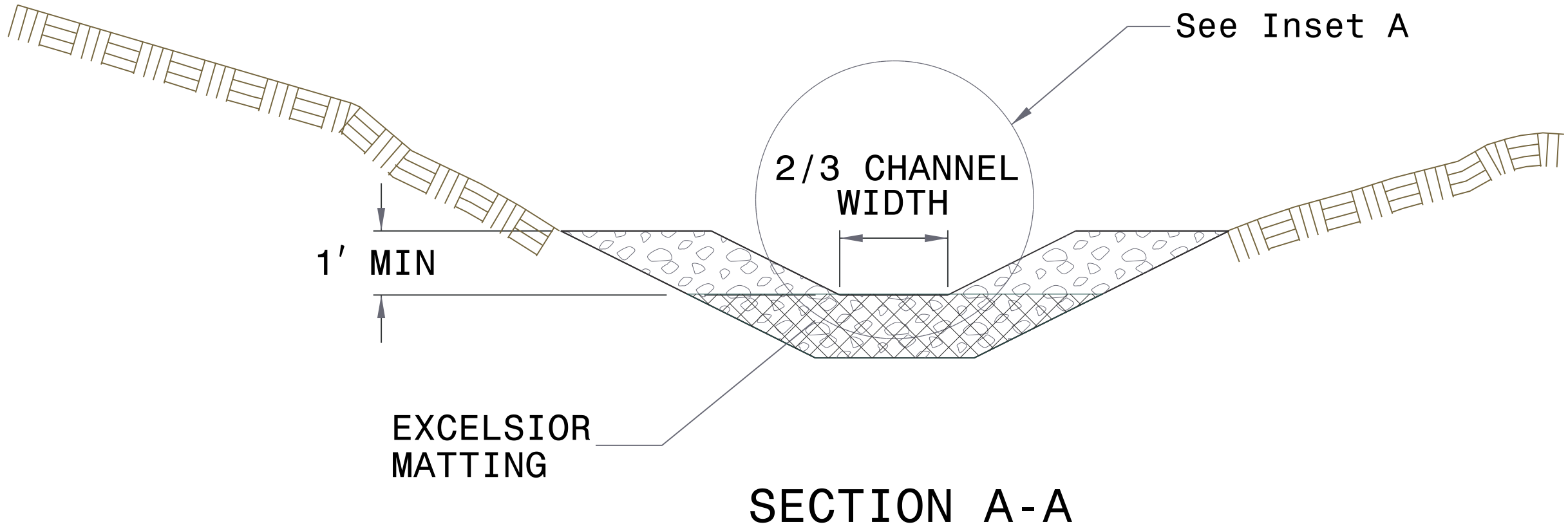
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



NOT TO SCALE

8/17/99

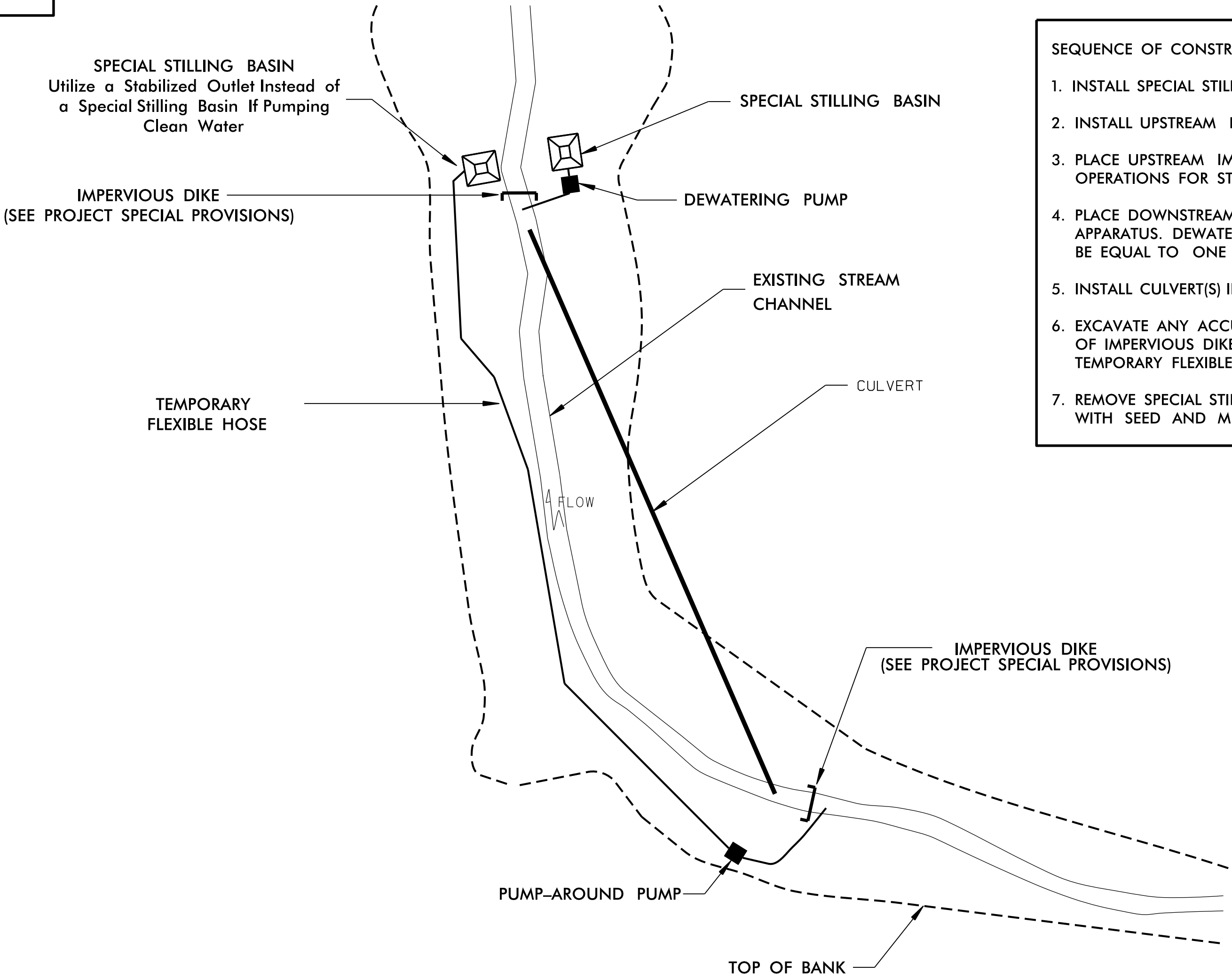
REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.14 & 17BP.9.C.13	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

EXAMPLE OF PUMP-AROUND OPERATION

- NOTES:
- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
 - 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
 - 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
 - 4) Pumps and hoses shall be of sufficient size to dewater the work area.



- SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA
1. INSTALL SPECIAL STILLING BASIN(S).
 2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
 3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
 5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
 6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
 7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

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

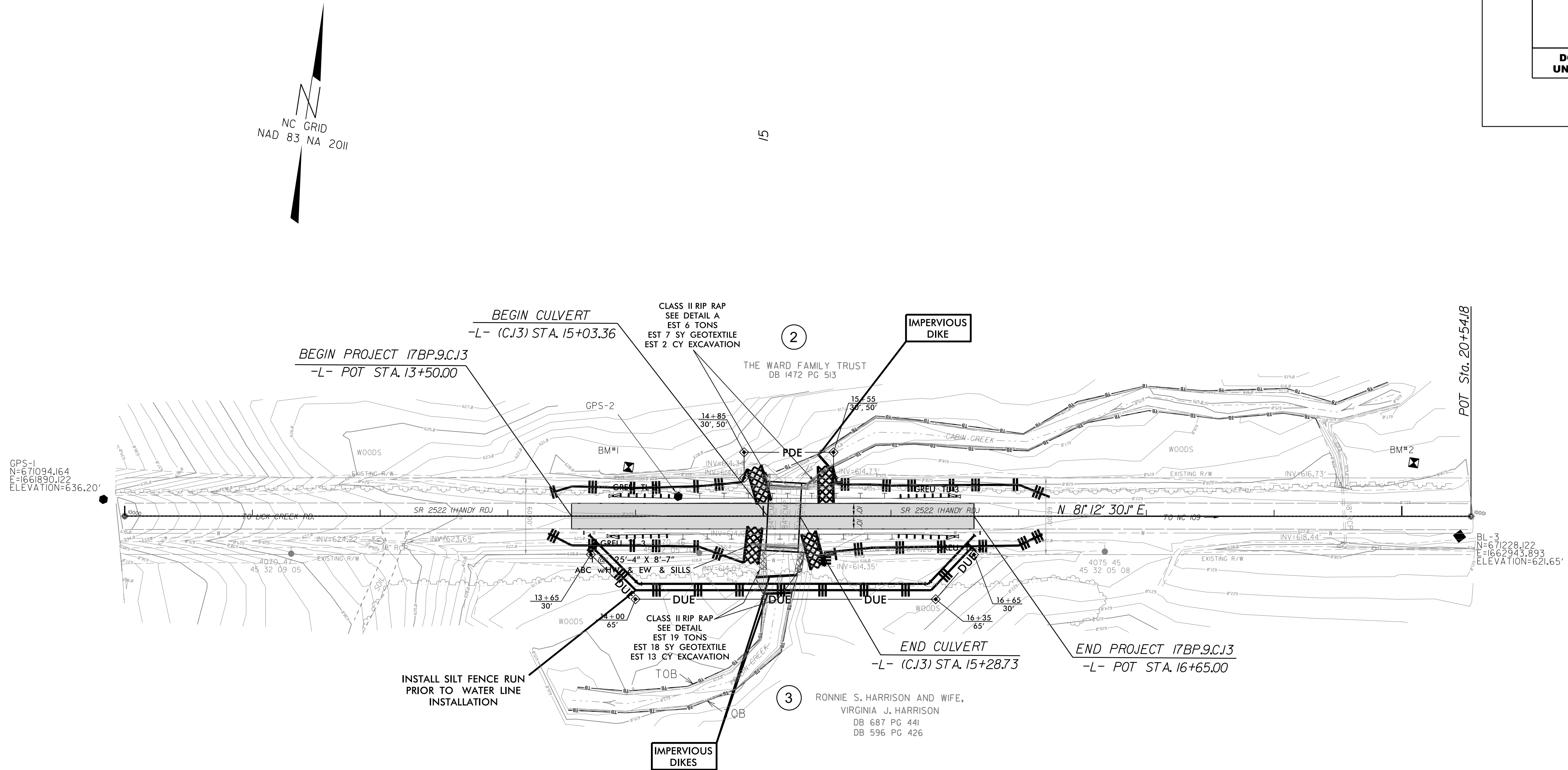
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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

PROJECT REFERENCE NO.		SHEET NO.
17BP.9.C.14 & 17BP.9.C.13		EC-3
RW SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



CONSTRUCTION SEQUENCE

1) INSTALL IMPERVIOUS DIKES #1 AND #2
AND INSTALL PUMP-AROUND IN ACCORDANCE
WITH PUMP-AROUND OPERATION (DETAIL
EC-2A)

2) DEWATER CONSTRUCTION AREA, UTILIZING SPECIAL STILLING BASIN(S) FOR PUMPED EFFLUENT

3) REMOVE EXISTING (3) 84" CMP

4) UTILIZING PUMP-AROUND OPERATION,
CONSTRUCT PROPOSED 25'-4" X 8'-7"
CASPPA AND INLET/OUTLET PROTECTION, IN
ACCORDANCE WITH PLANS

5) IN FINAL EC PHASE, INSTALL NEW SILT FENCE ALONG TOP OF HEADWALL AND TIE INTO EXISTING SILT FENCE ALONG TOE OF SLOPE

6) REMOVE IMPERVIOUS DIKES #1 AND #2
AND DIRECT FLOW THROUGH 25'-4" X 8'-7"
CASPPA

7) COMPLETE ROADWAY

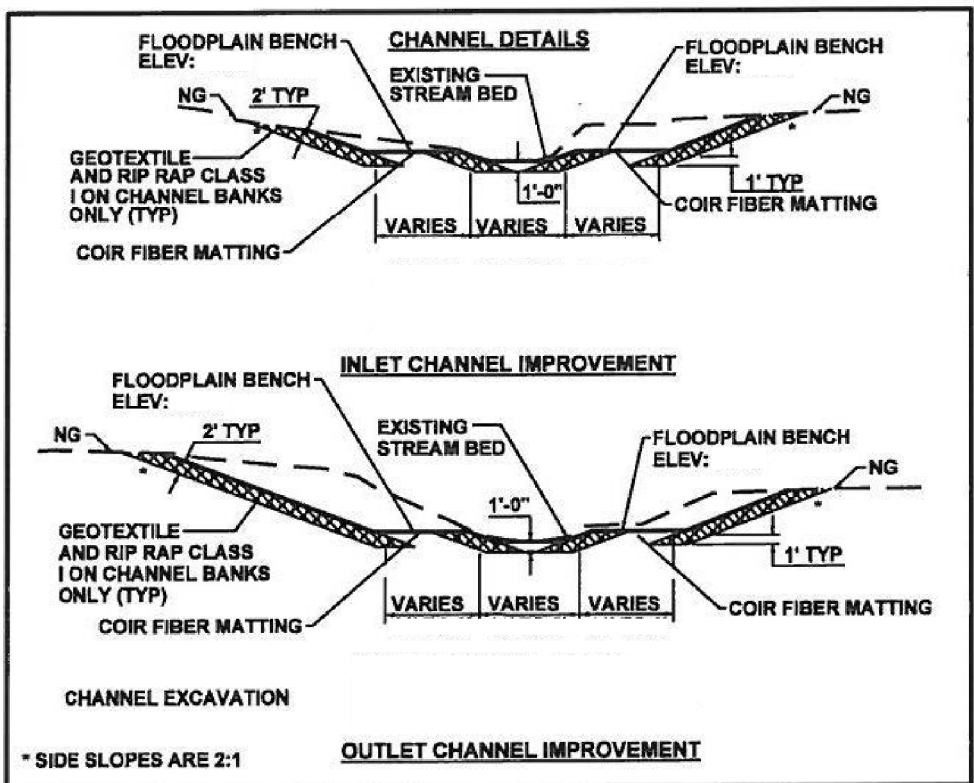
Impervious Dike:

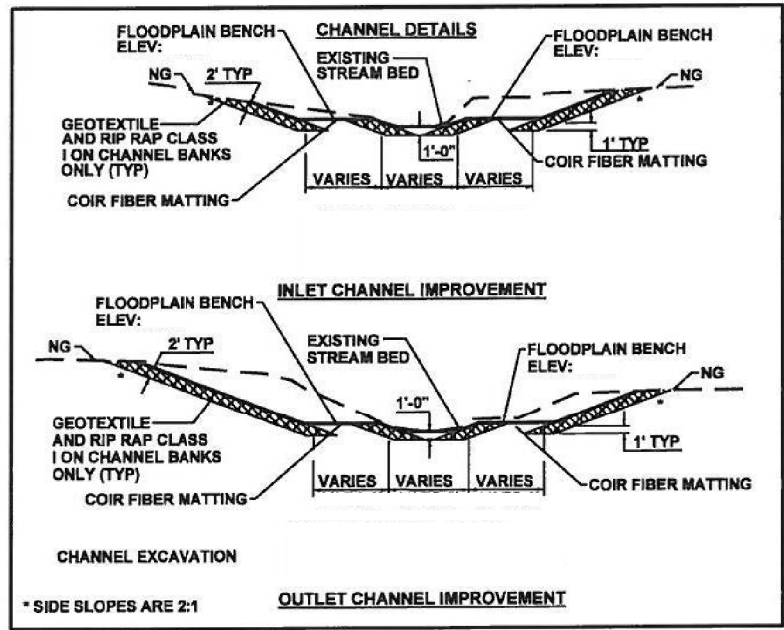
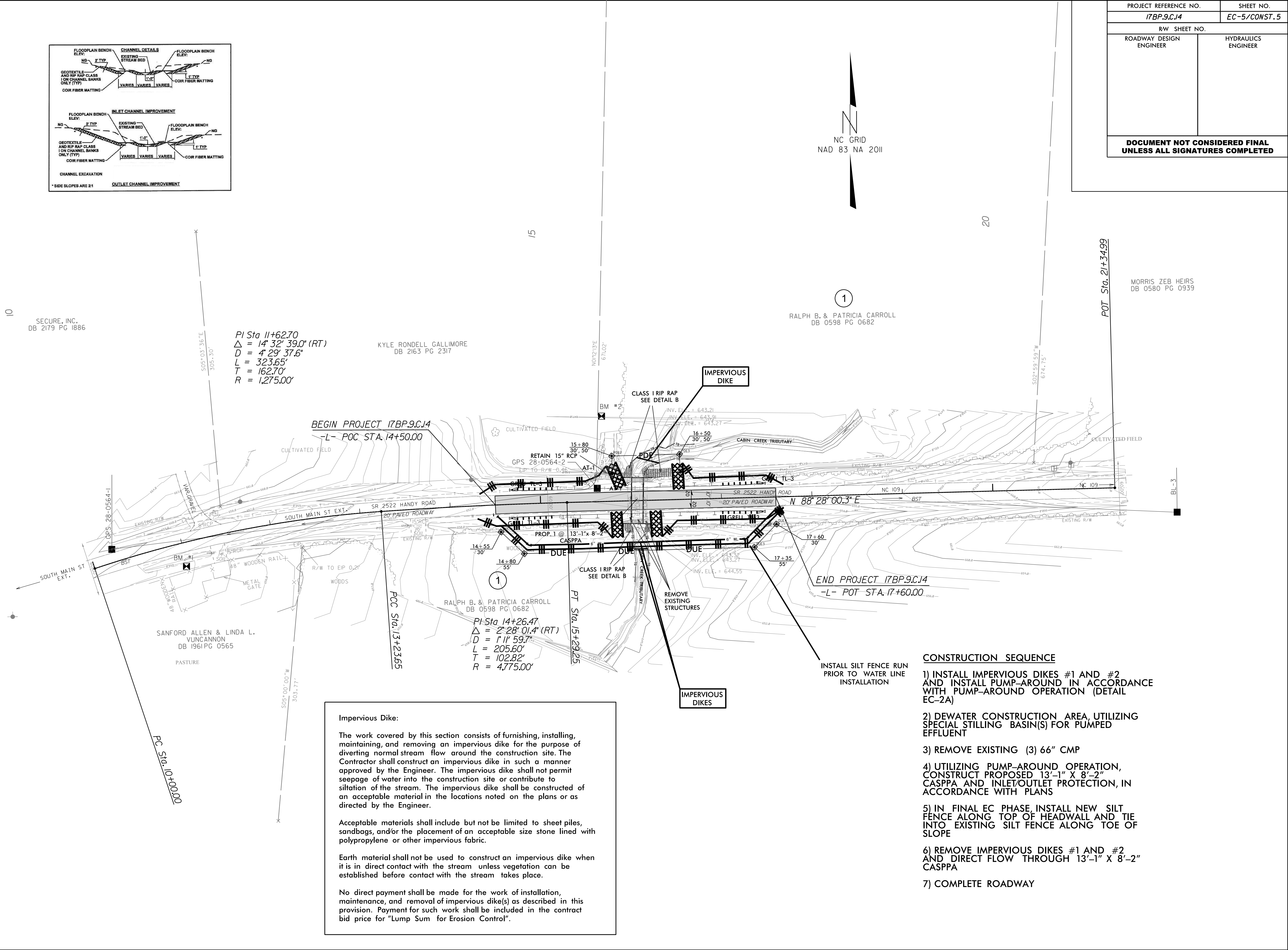
The work covered by this section consists of furnishing, installing, maintaining, and removing an impervious dike for the purpose of diverting normal stream flow around the construction site. The Contractor shall construct an impervious dike in such a manner approved by the Engineer. The impervious dike shall not permit seepage of water into the construction site or contribute to siltation of the stream. The impervious dike shall be constructed of an acceptable material in the locations noted on the plans or as directed by the Engineer.

Acceptable materials shall include but not be limited to sheet piles, sandbags, and/or the placement of an acceptable size stone lined with polypropylene or other impervious fabric.

Earth material shall not be used to construct an impervious dike when it is in direct contact with the stream unless vegetation can be established before contact with the stream takes place.

No direct payment shall be made for the work of installation, maintenance, and removal of impervious dike(s) as described in this provision. Payment for such work shall be included in the contract bid price for "Lump Sum for Erosion Control".





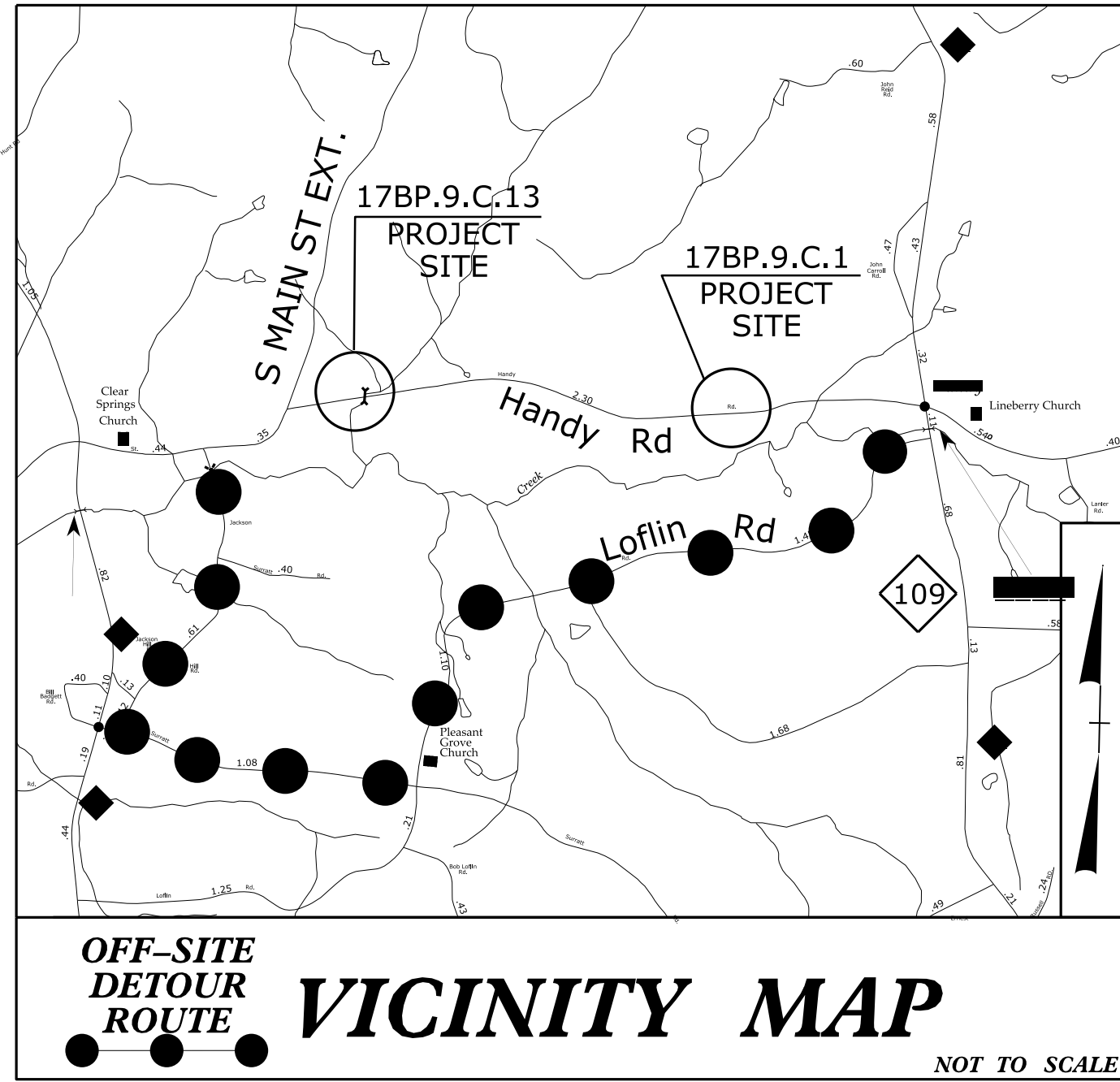
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17BP.9.C.14		EC-5/CONST. 5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

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REVISIONS

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TIP PROJECT: 17BP.9.C.14 & 17BP.9.C.13

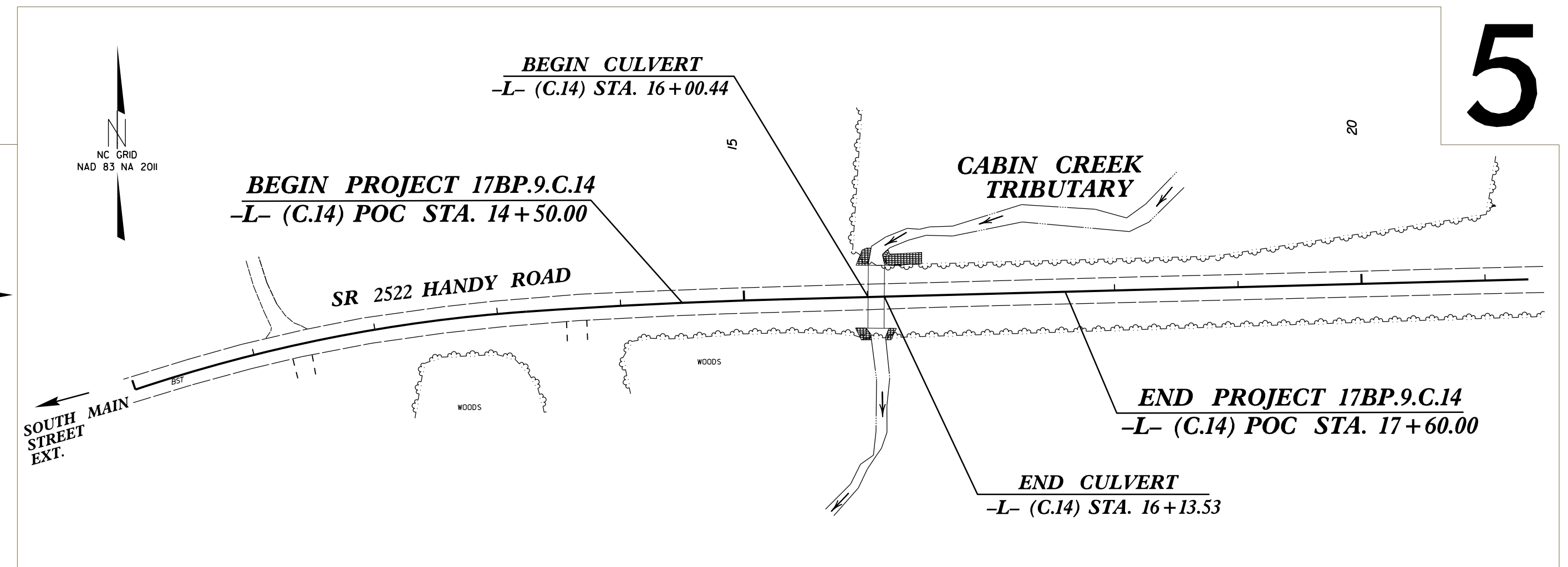
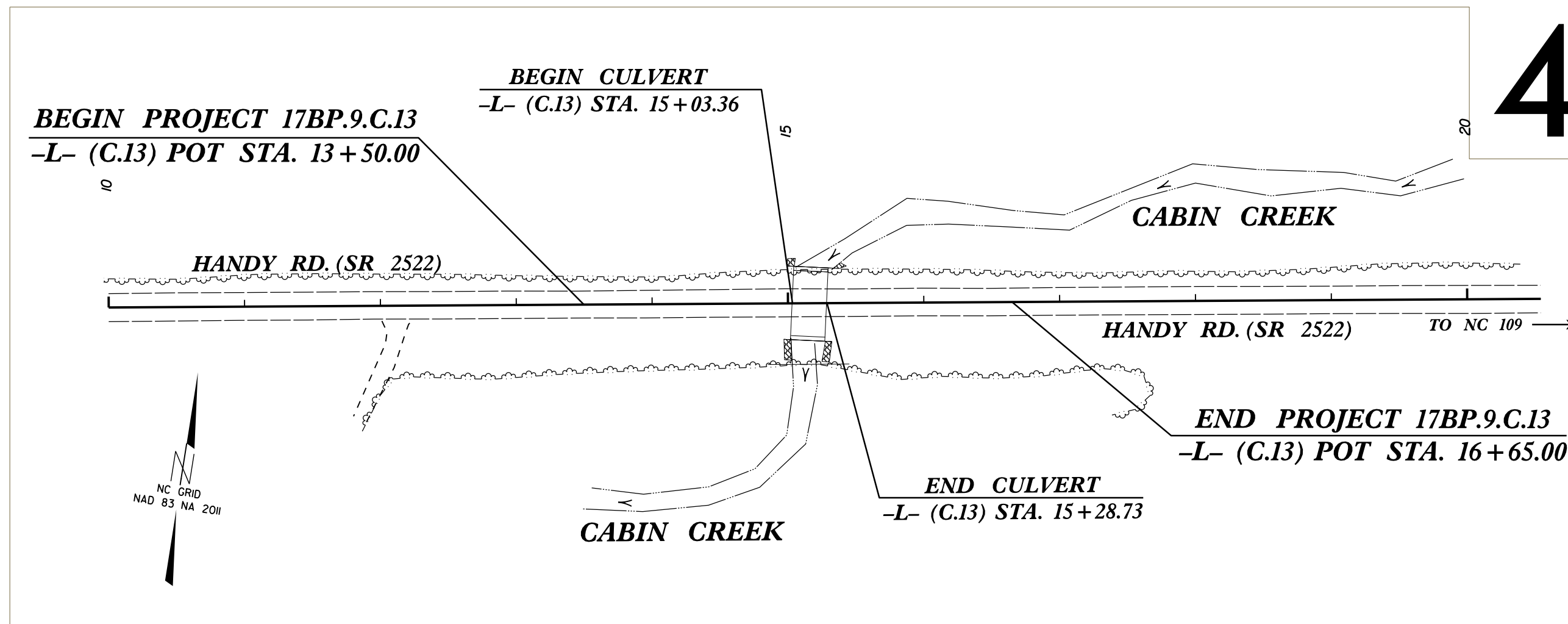
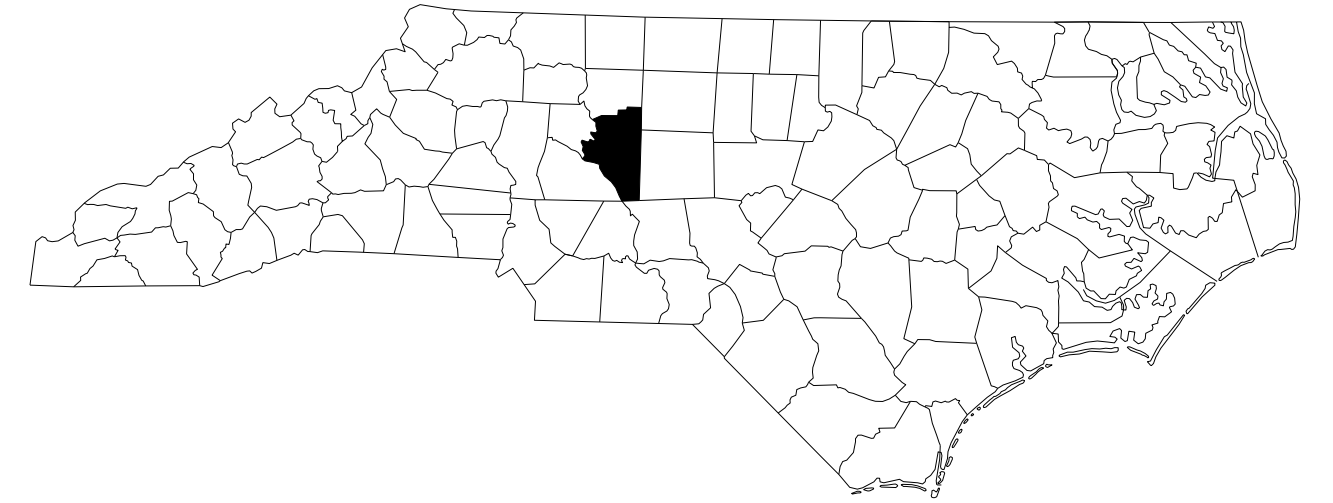


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

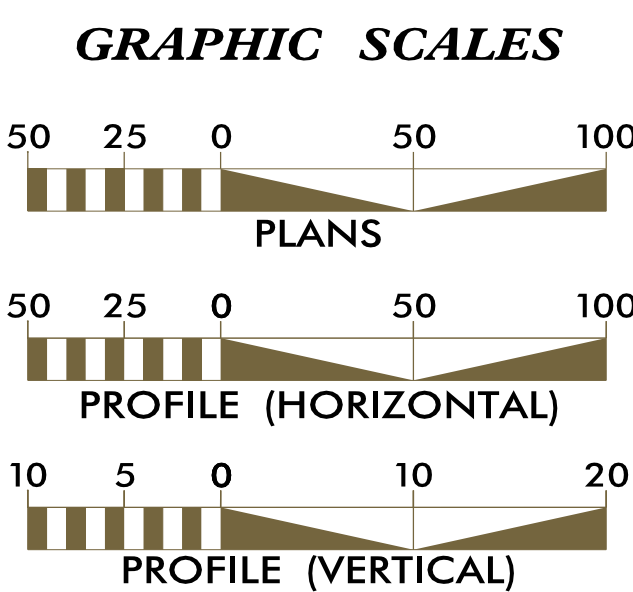
UTILITY CONSTRUCTION PLANS DAVIDSON COUNTY

CULVERT 564 OVER CABIN CREEK TRIBUTARY
ON SR 2522 (HANDY RD.) AND CULVERT 504
OVER BRANCH CABIN CREEK ON SR 2522
(HANDY RD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND
STRUCTURE (CULVERT)



DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED




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

WATER AND SEWER OWNERS ON PROJECT

- (A) WATER: HANDY SANITARY DISTRICT
(B) XXXXX
(C) XXXXX
(D) XXXXX
(E) XXXXX


PREPARED IN THE OFFICE OF

 **DIVISION 9 DDC**

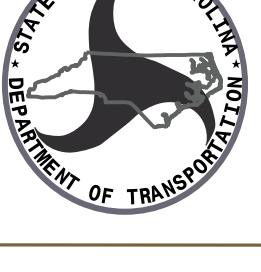
375 SILAS CREEK PARKWAY
WINSTON-SALEM, NC 27127
PHONE (336) 747-7800

SCOTT A. JONES NCDOT CONTACT #1
DAVID TRANHAM NCDOT CONTACT #2
LYNN BASINGER NCDOT CONTACT #3

SEAL



DocuSigned by:
Scott Jones
7078865D87F4AC... 7/1/2021

 **DIVISION OF HIGHWAYS
UTILITIES UNIT**

1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

XXXX UTILITIES REGIONAL ENGINEER
RANDALL TRANHAM UTILITIES ENGINEER
XXXX UTILITIES AREA COORDINATOR
LYNN BASINGER UTILITIES COORDINATOR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.14 & 17BP.9.C.13	UC-2

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

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

PROPOSED SEWER SYMBOLS

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

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

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

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

EXISTING UTILITIES SYMBOLS

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

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

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

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REVISIONS

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
2. THE EXISTING UTILITIES BELONG TO HANDY SANITARY DISTRICT .
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

UTILITY CONSTRUCTION

PROJECT SPECIFIC NOTES:

1. PROPOSED WATER LINE FROM -X- LINE STATION XX+XX TO -X- LINE STATION XX+XX SHALL BE D.I.R.J. (DUCTILE IRON RESTRAINED JOINT) PIPE.
(EXAMPLE)
2. NITRILE GASKETS SHALL BE USED FROM -X- LINE STATION XX+XX TO -X- LINE STATION XX+XX DUE TO PETROLEUM CONTAMINATED SOILS.
(EXAMPLE)
3. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
4. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.

LIST OF STANDARD DRAWINGS

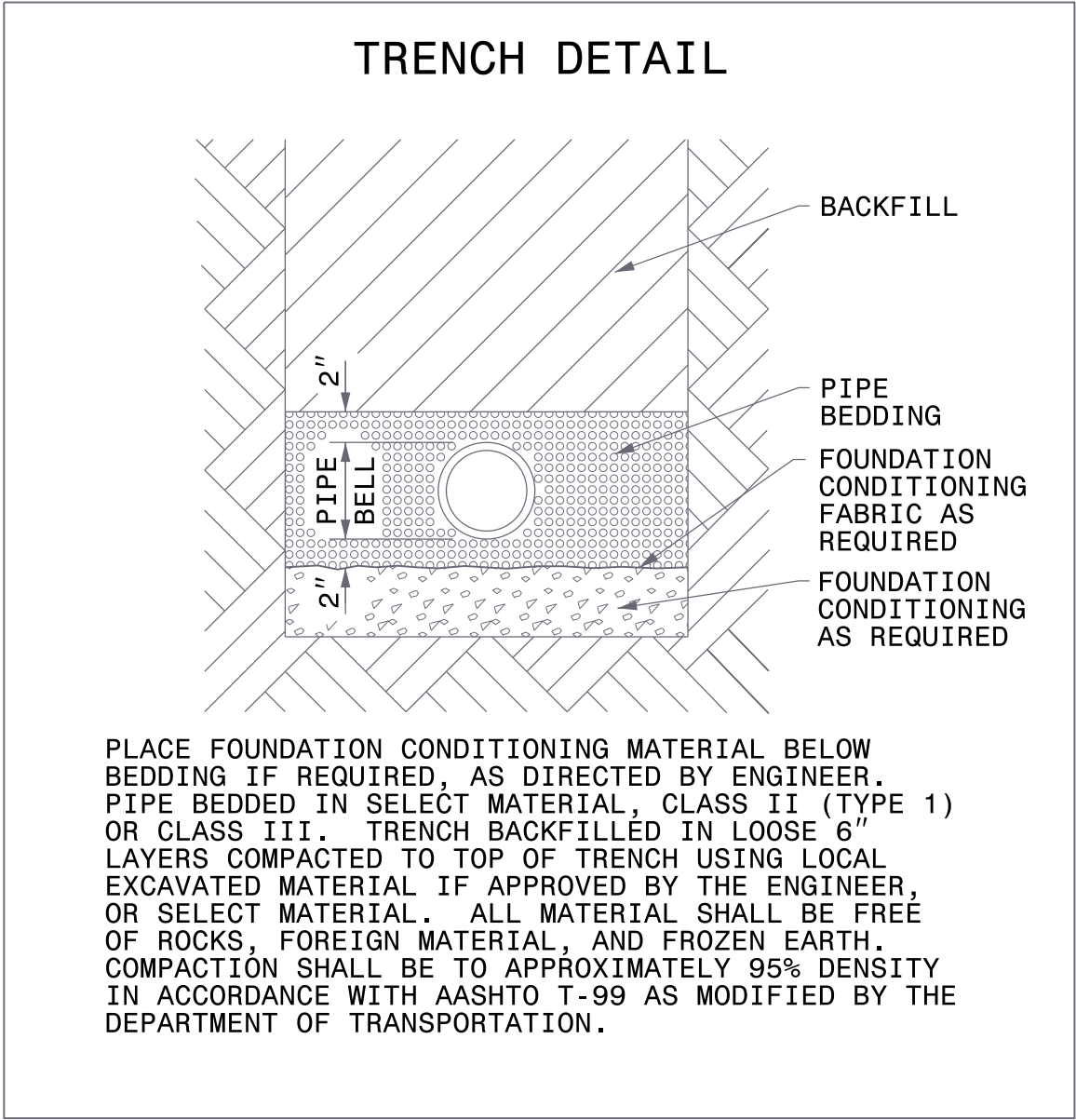
PROJECT REFERENCE NO.		SHEET NO.
17BP.9.C.14 & 17BP.9.C.13		UC-3
DESIGNED BY: SAJ		
DRAWN BY: SAJ		
CHECKED BY:		
APPROVED BY:		
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151		
		UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

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7. (EXAMPLE) SPACE FOR EXTRA NOTES ON
END OF COLUMN.

PROJECT TYPICAL DETAILS



PROJECT REFERENCE NO.		SHEET NO.
17BP.9.C.14 & 17BP.9.C.13		UC-3A
DESIGNED BY: SAJ		
DRAWN BY:		
CHECKED BY:		
APPROVED BY:		
REVISED:		
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UTILITY CONSTRUCTION

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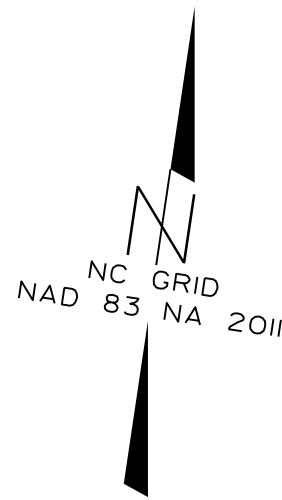
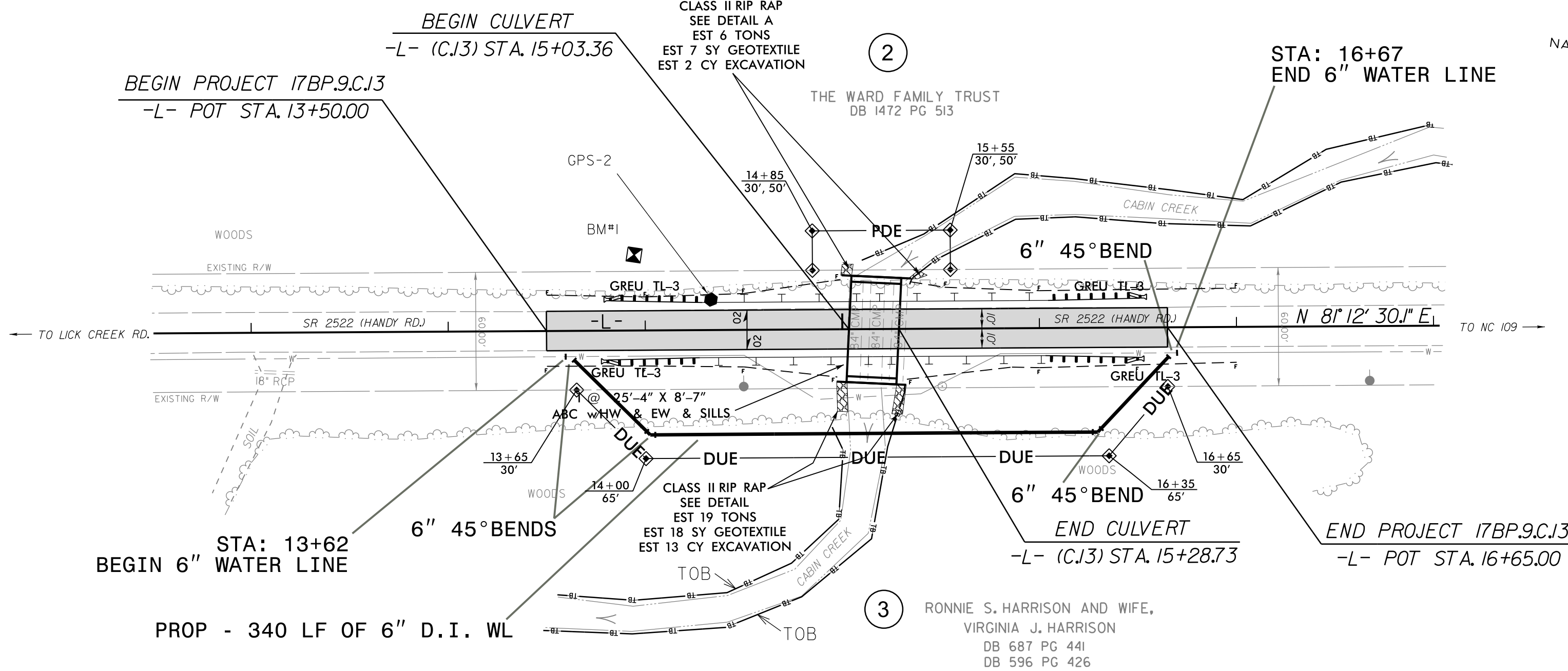
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PROP. 340' LF OF 6" D.I. WATERLINE

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 300 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS



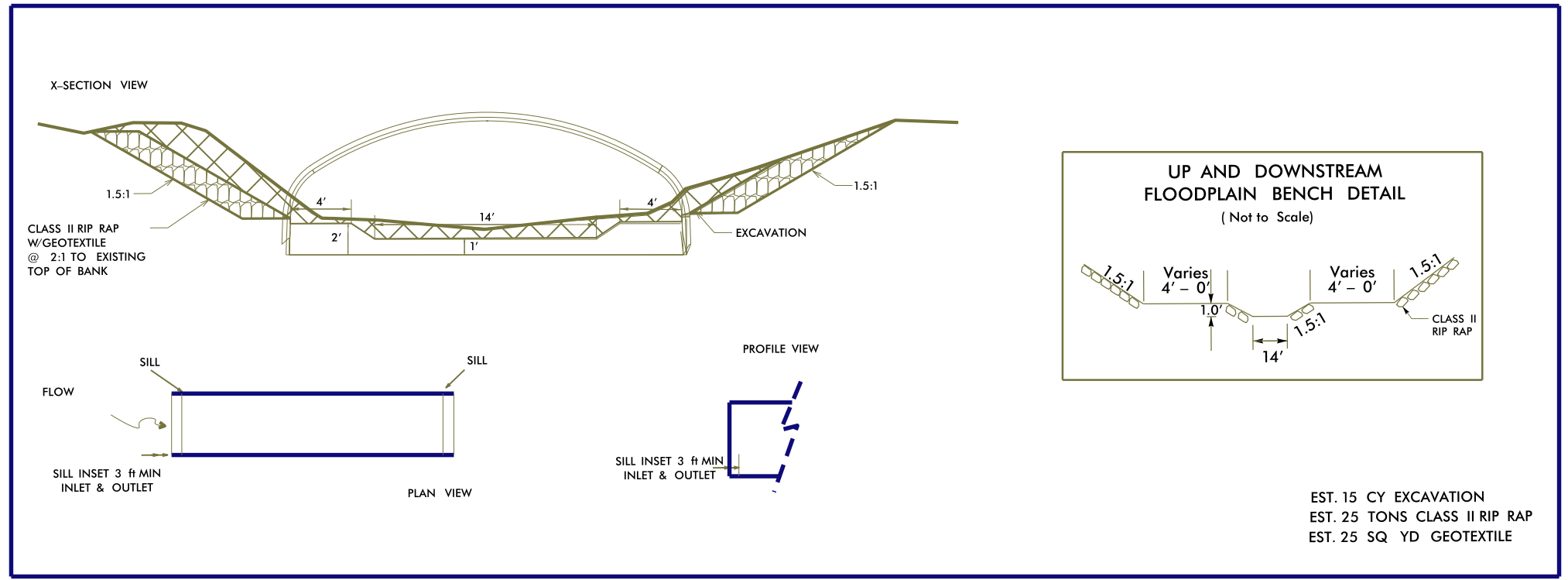
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DESIGNED BY: SAJ	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SECTION	
PHONE: (919) 707-6690	
FAX: (919) 250-4151	

Scott A. Jones
7/1/2021
PLANS ONLY

UTILITY CONSTRUCTION

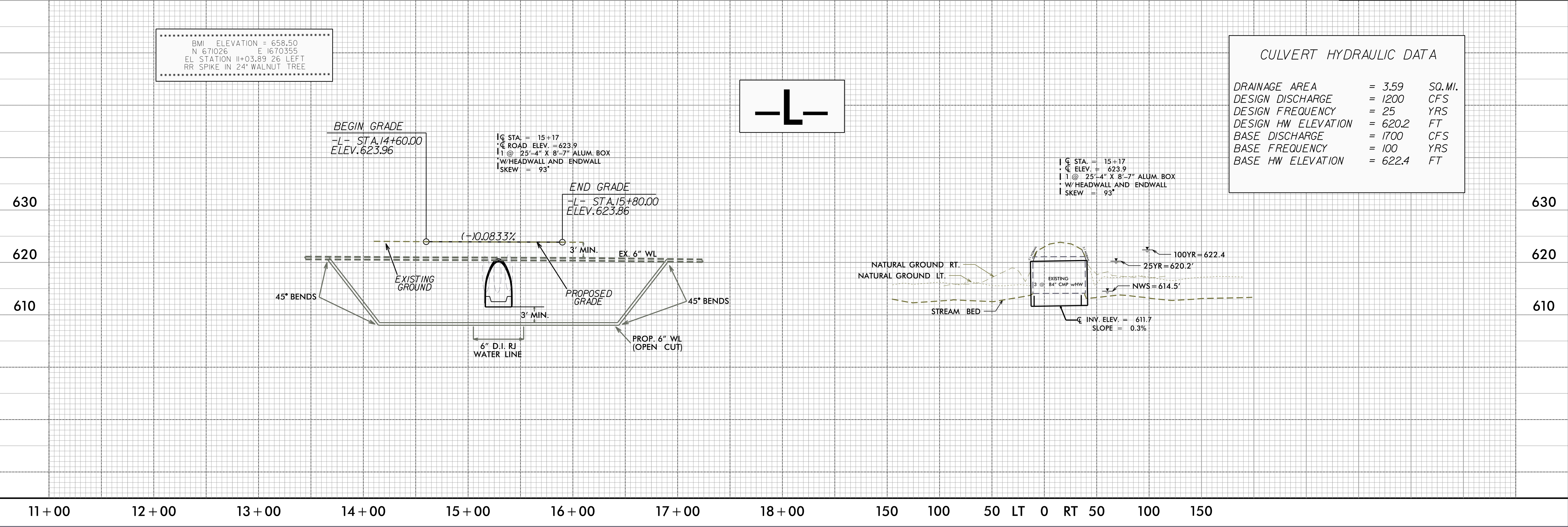
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

INLET/OUTLET
ALUMINUM BOX CULVERT &
CHANNEL - DETAIL A
NOT TO SCALE



NOTE: INCIDENTAL MILL APPROX. 15' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

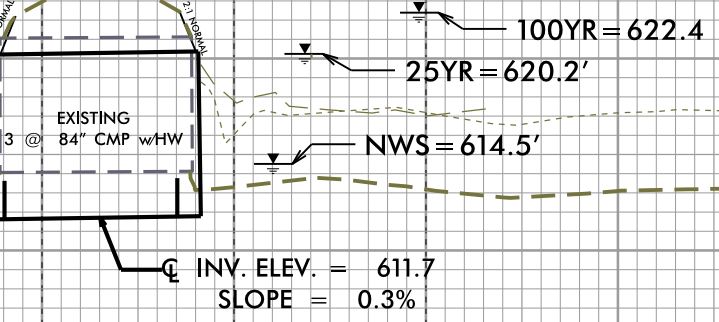
BMI ELEVATION = 658.50
N 671026 E 1670355
EL STATION 11+03.89 26 LEFT
RR SPIKE IN 24" WALNUT TREE



CULVERT HYDRAULIC DATA

DRAINAGE AREA	= 3.59	SQ. MI.
DESIGN DISCHARGE	= 1200	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 620.2	FT
BASE DISCHARGE	= 1700	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 622.4	FT

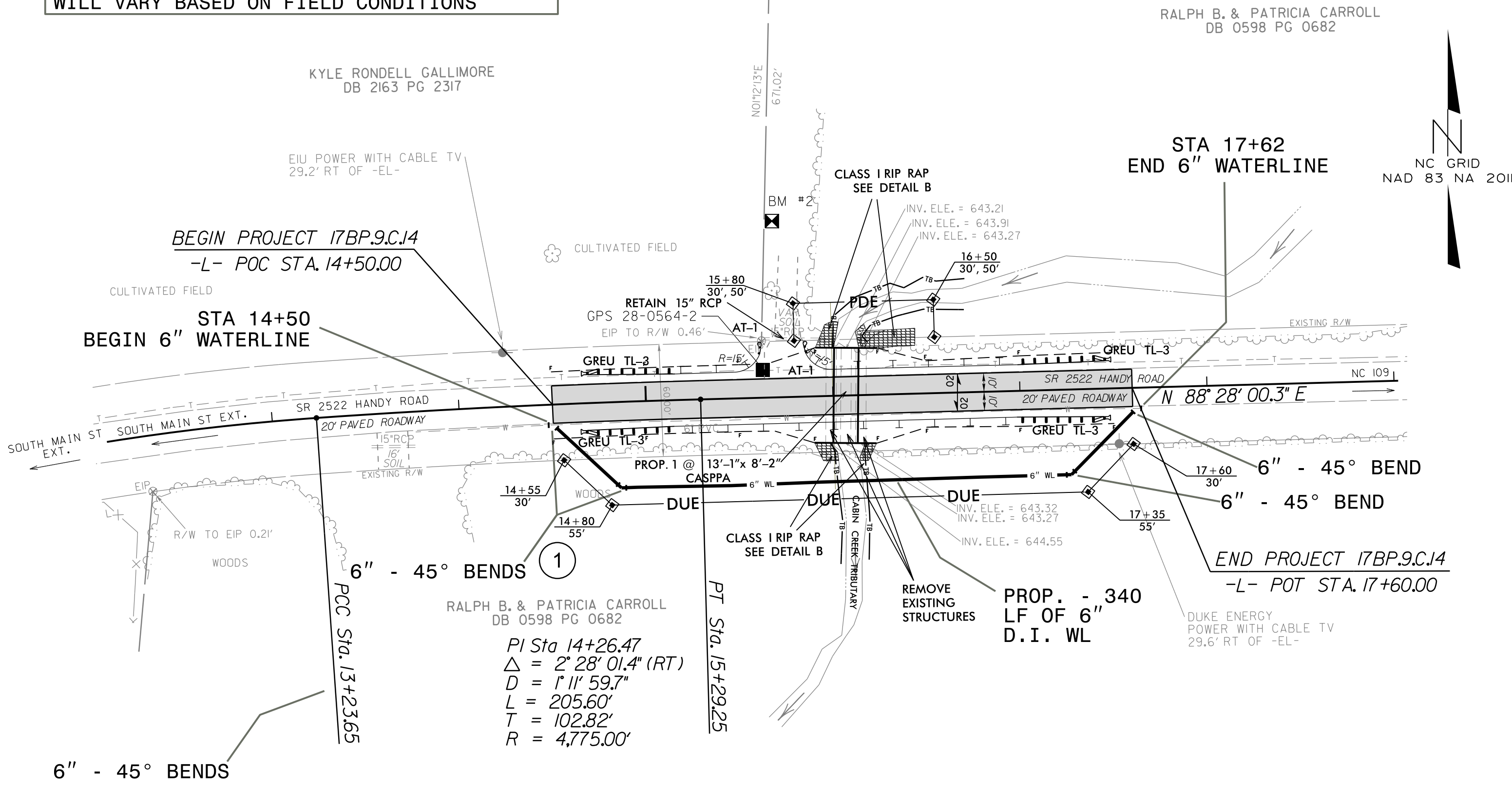
IC STA. = 15+17
• C ELEV. = 623.9
I 1 @ 25'-4" X 8'-7" ALUM. BOX
• W HEADWALL AND ENDWALL
I SKEW = 93°



8/17/99
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\$\$\$\$\$SYTIME\$\$\$\$\$

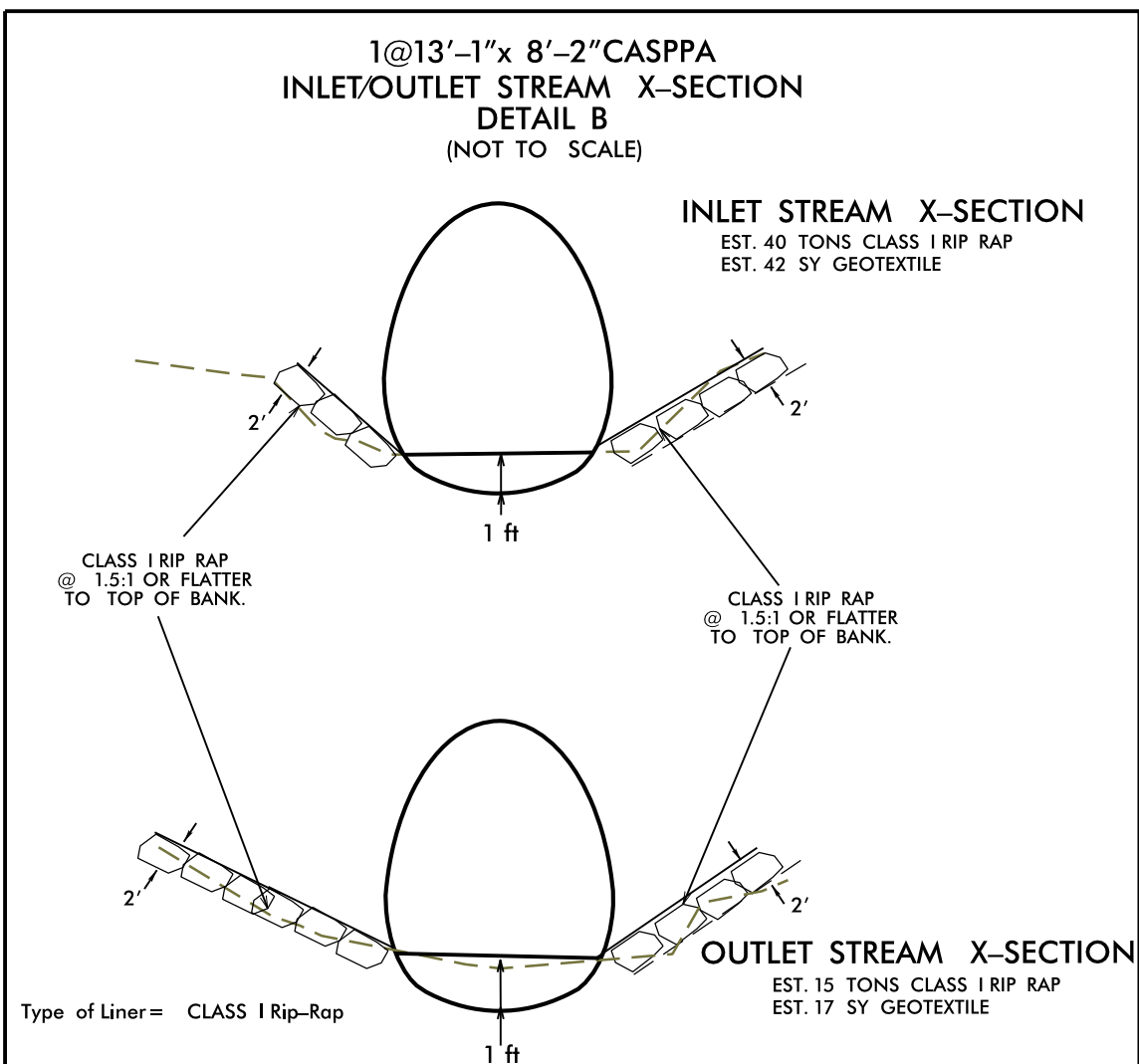
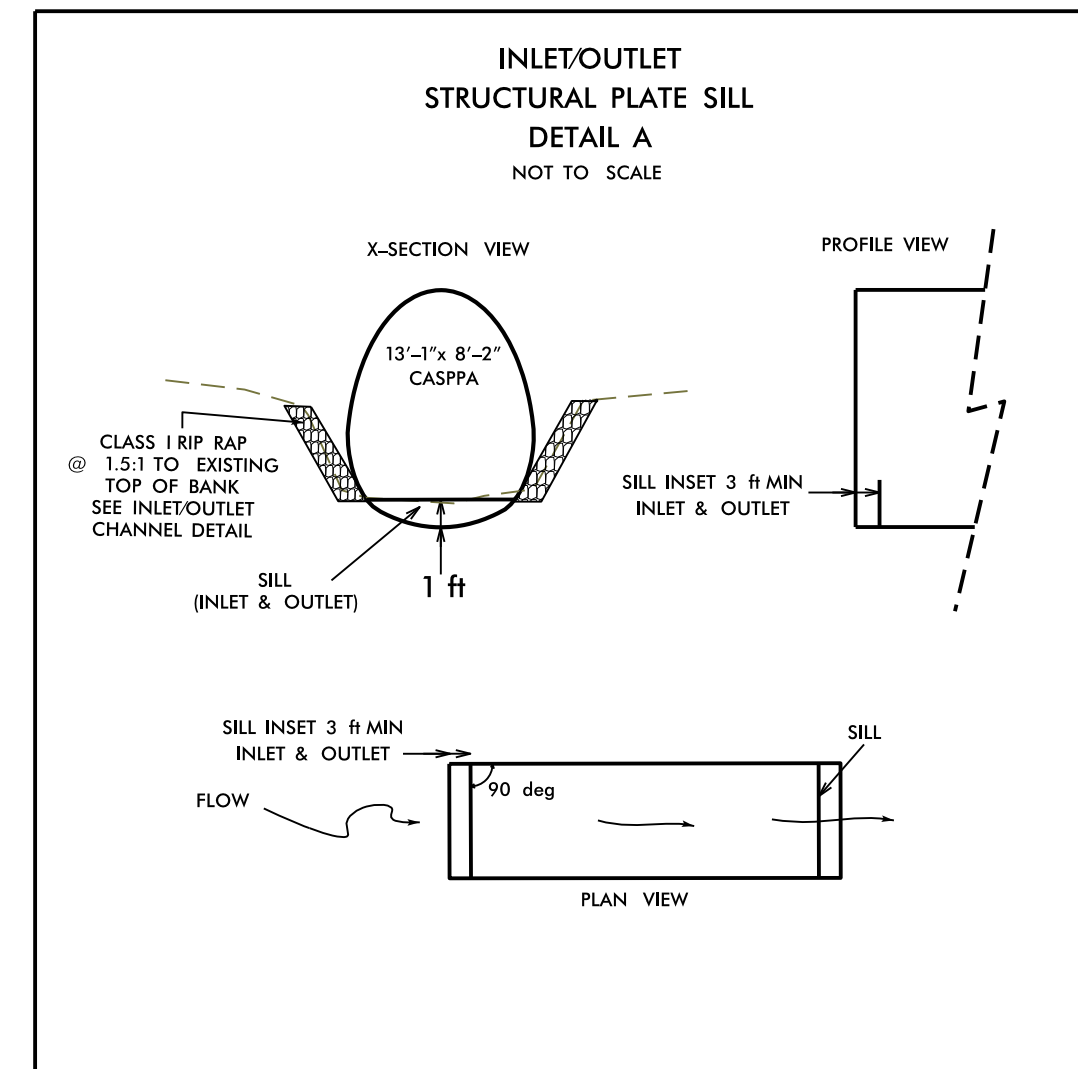
PROP. 340' LF OF 6" D.I. WATERLINE

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 300 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS



RALPH B. & PATRICIA CARROLL
DB 0598 PG 0682

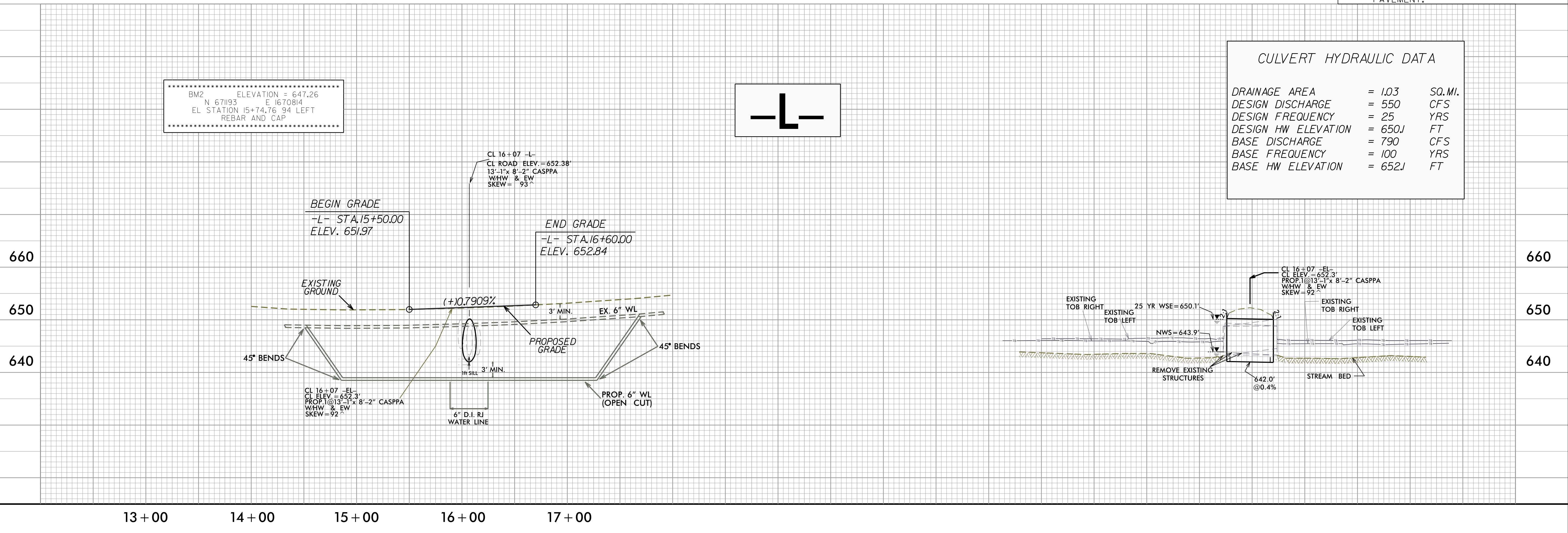
RALPH B. & PATRICIA CARROLL
DB 0598 PG 0682
PI Sta 14+26.47
Δ = 2' 28" 01.4" (RT)
D = 1' 11" 59.7"
L = 205.60'
T = 102.82'
R = 4775.00'



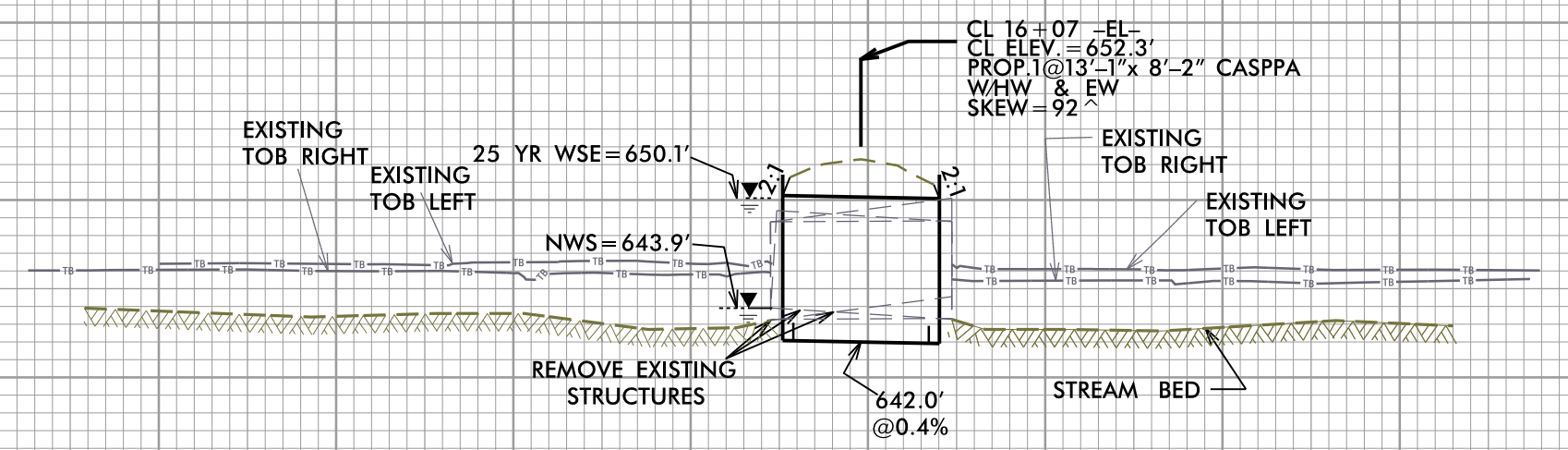
NOTE: INCIDENTAL MILL APPROX. 15' AT EACH TIE IN TO PROVIDE A SMOOTH TRANSITION TO THE EXISTING ASPHALT PAVEMENT.

BM2 ELEVATION = 647.26
N 67193 E 1670814
EL STATION 15+74.76 94 LEFT
REBAR AND CAP

-L-



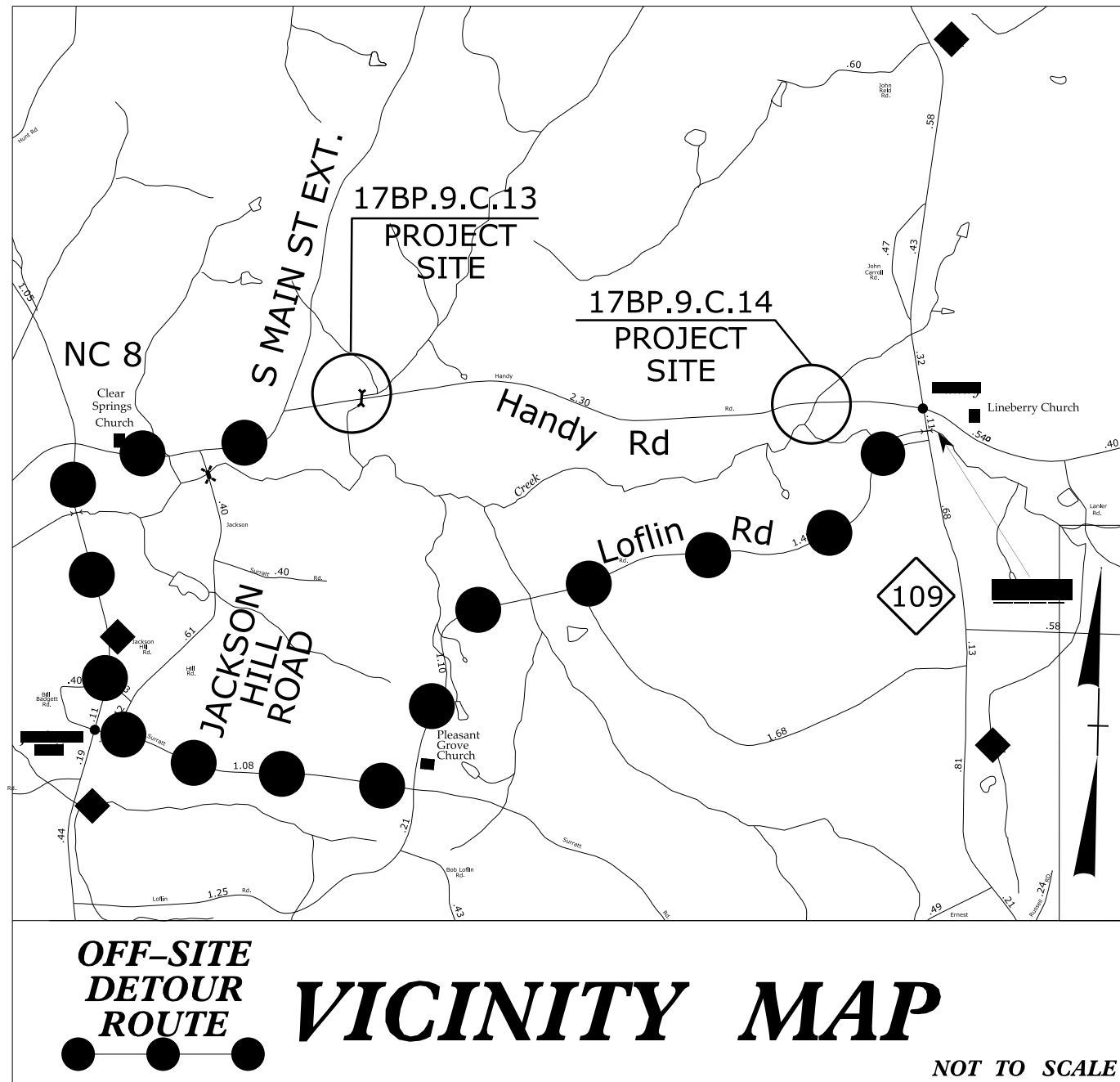
CULVERT HYDRAULIC DATA		
DRAINAGE AREA	= 1.03	SQ. MI.
DESIGN DISCHARGE	= 550	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 650J	FT
BASE DISCHARGE	= 790	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 652J	FT



29-JUN-2021 08:42
S:\Project_Development\17BP_Bridge_Projects\17BP.9.C.13_C.14 - Davidson 564 - Handy Rd\Utilities\UBO Plans\17BP.9.C.13&C.14UBO_ddc_+sh.dgn
salones8 AT DIV09-3922L

09/08/99

TIP PROJECT: 17BP.9.C.13 & 17BP.9.C.14



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

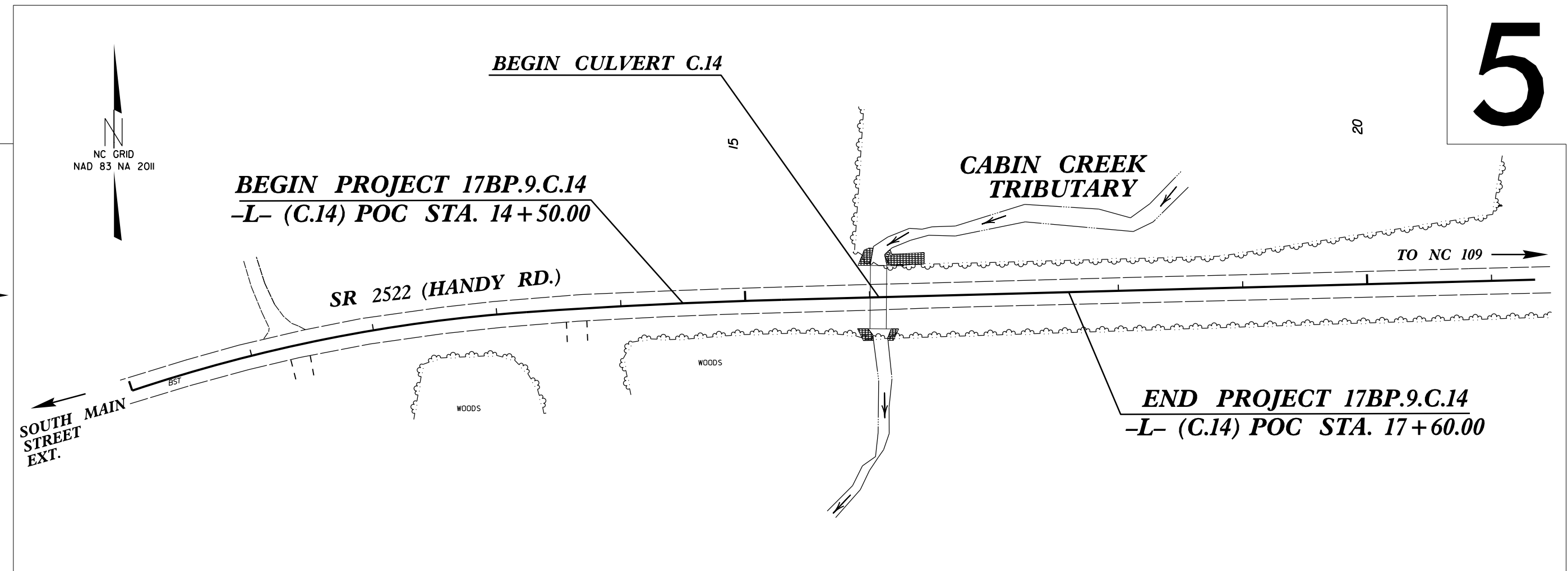
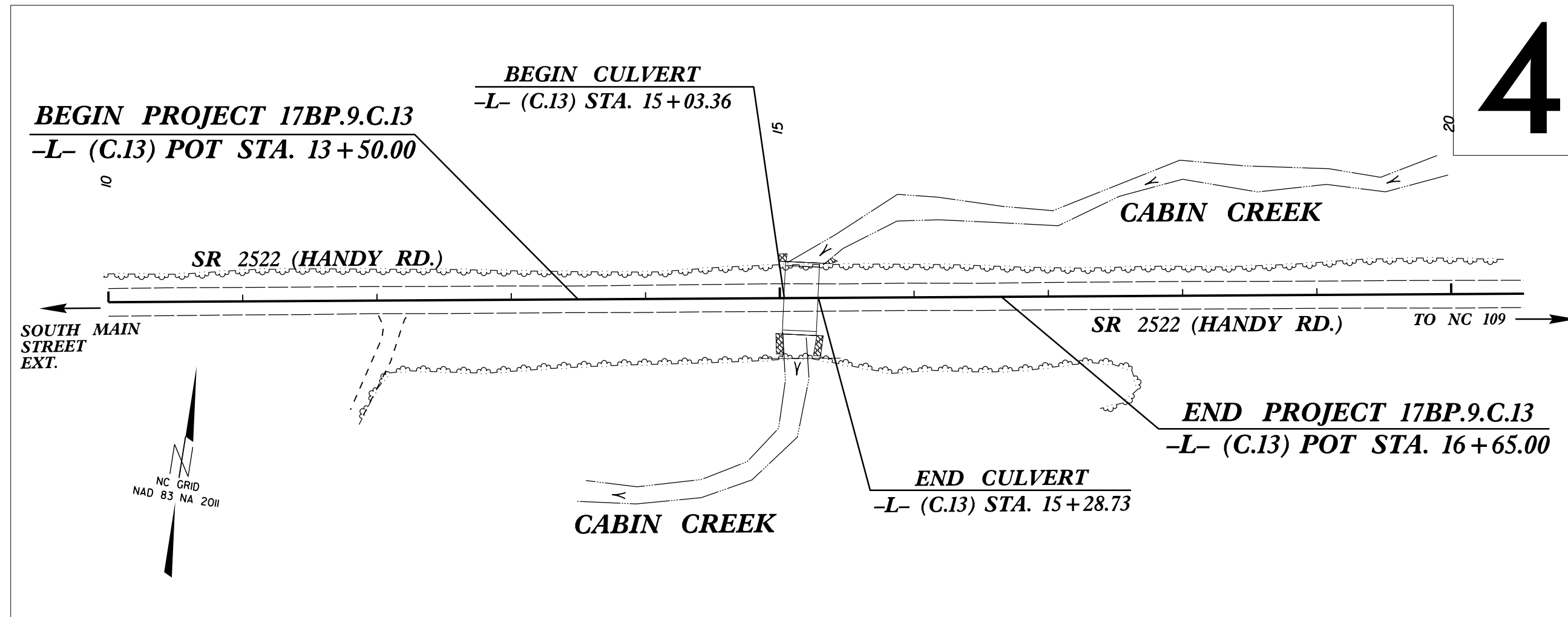
UTILITIES BY OTHERS PLANS DAVIDSON COUNTY

LOCATION: CULVERT 564 OVER CABIN CREEK TRIBUTARY
ON SR 2522 (HANDY ROAD) AND CULVERT 504
OVER BRANCH CABIN CREEK ON SR 2522
(HANDY ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE & STRUCTURE (CULVERT)

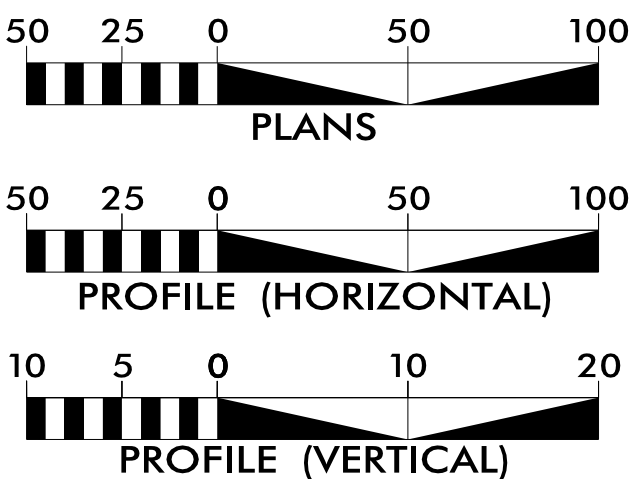
T.I.P. NO.	SHEET NO.
17BP.9.C.13 & C.14	UO-1

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.



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



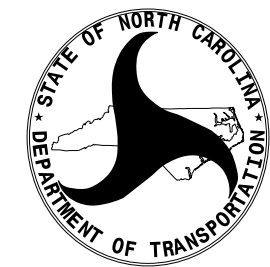
INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-4 THRU UO-5	UBO PLAN SHEETS

UTILITY OWNERS WITH CONFLICTS

- (A) CATV - WINDSTREAM
- (B) POWER - ENERGY UNITED
- (C) WATER - HANDY SANITARY

PREPARED IN THE OFFICE OF:	
DIVISION OF HIGHWAYS DIVISION 9 - DDC	
375 SILAS CREEK PARKWAY WINSTON-SALEM, NC 27127	
DAVID TRANTHAM	UTILITY PROJECT MANAGER
LYNN BASINGER	PROJECT UTILITY COORDINATOR
XXXX	PROJECT UTILITY XXXX



DIVISION OF HIGHWAYS
DIVISION 9

375 SILAS CREEK PARKWAY
WINSTON-SALEM, NC 27127

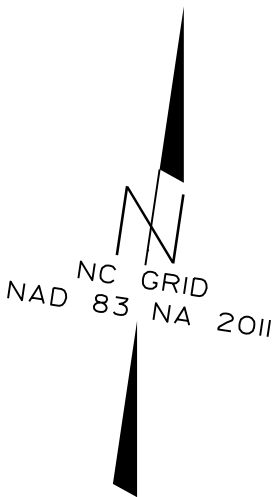
DAVID TRANTHAM	UTILITIES REGIONAL ENGINEER
LYNN BASINGER	UTILITIES AREA COORDINATOR
XXXX	DIVISION CONTACT #3
XXXX	DIVISION CONTACT #4

5/14/99

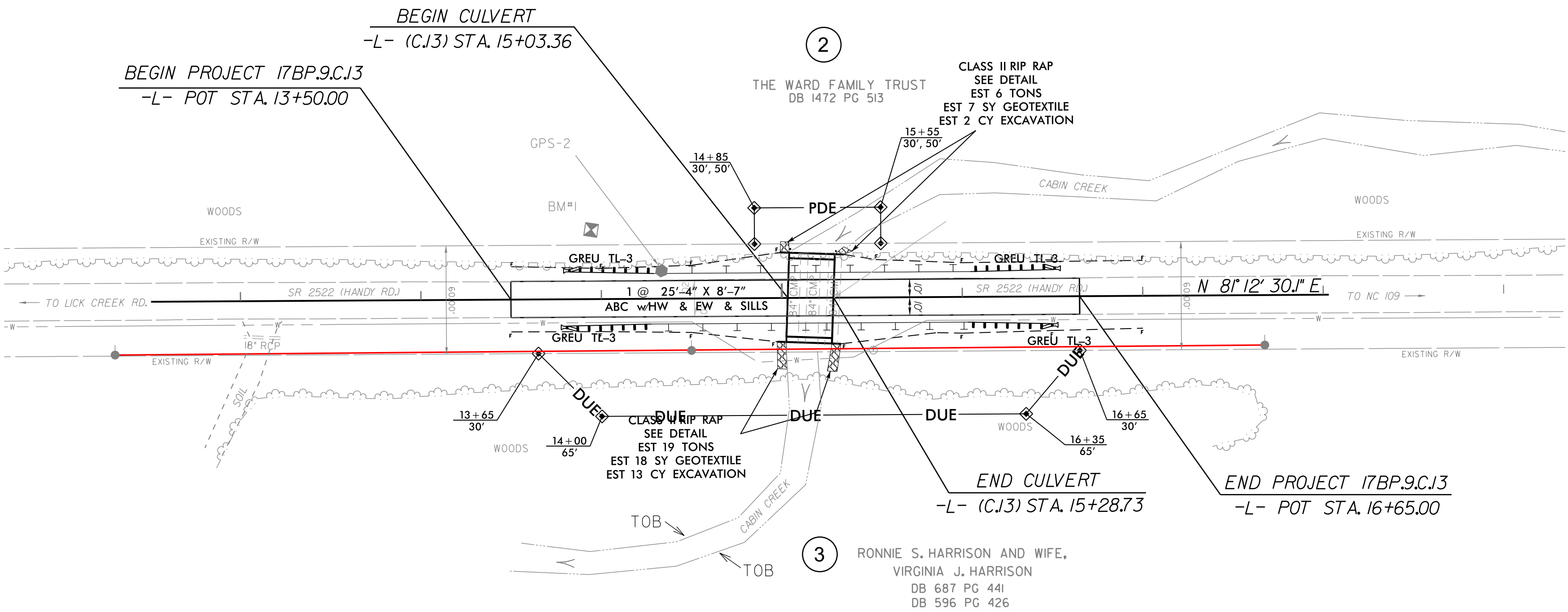
PROJECT REFERENCE NO.	SHEET NO.
17BP.9.C.13 & C.14	UD-4
THIS SHEET CORRESPONDS TO PSH-4	

UTILITIES BY OTHERS

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

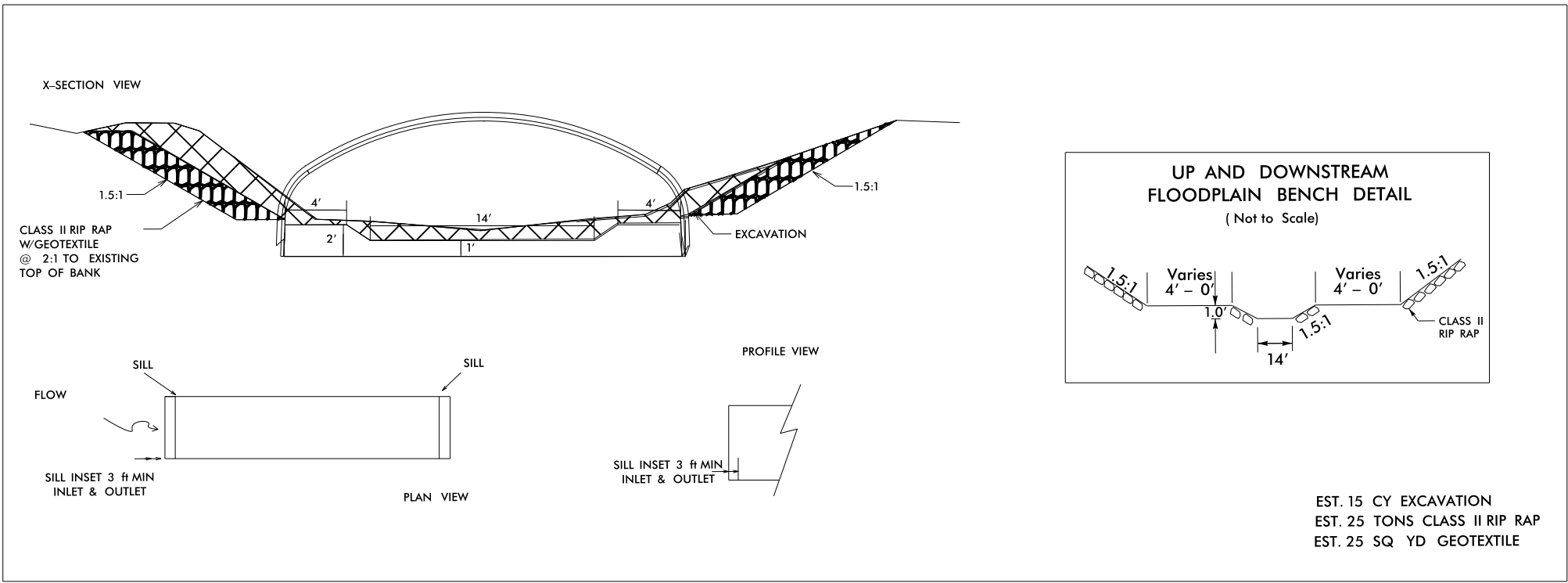


NO UTILITY CONFLICTS ON 17BP.9.C.13,
ALL POLES TO REMAIN



INLET/OUTLET
ALUMINUM BOX CULVERT &
CHANNEL - DETAIL A

NOT TO SCALE



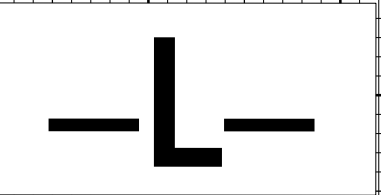
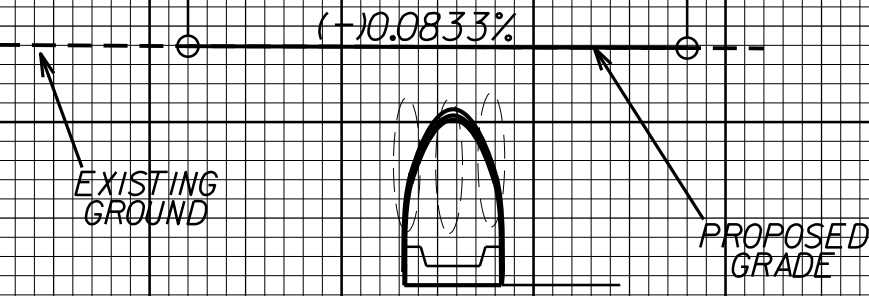
NOTE: INCIDENTAL MILL APPROX. 15' AT EACH
TIE IN TO PROVIDE A SMOOTH
TRANSITION TO THE EXISTING ASPHALT
PAVEMENT.

BMI ELEVATION = 658.50
N 671026 E 1670355
EL STATION 11+03.89 26' LEFT
RR SPIKE IN 24" WALNUT TREE

BEGIN GRADE
-L- STA. 14+60.00
ELEV. 623.96

IG STA. = 15+17
ROAD ELEV. = 623.9
1 @ 25'-4" X 8'-7" ALUM. BOX
W/ HEADWALL AND ENDWALL
SKEW = 93°

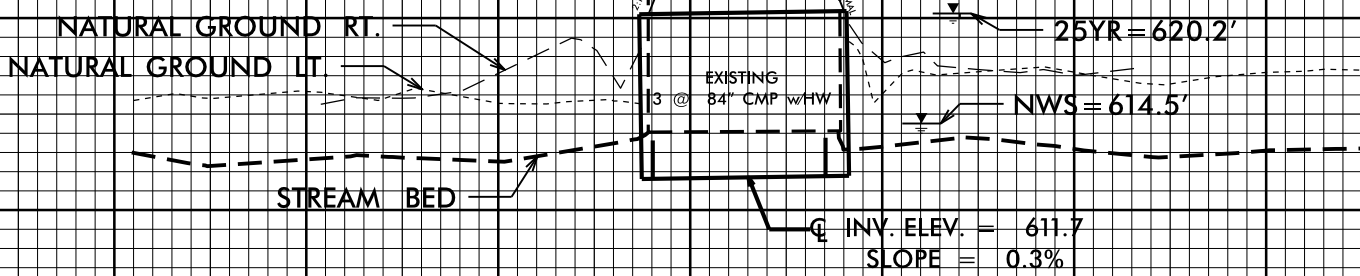
END GRADE
-L- STA. 15+80.00
ELEV. 623.86



IG STA. = 15+17
ROAD ELEV. = 623.9
1 @ 25'-4" X 8'-7" ALUM. BOX
W/ HEADWALL AND ENDWALL
SKEW = 93°

CULVERT HYDRAULIC DATA

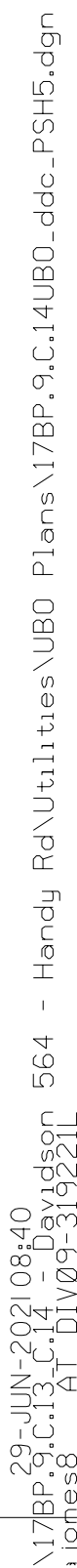
DRAINAGE AREA = 3.59 SQ. MI.
DESIGN DISCHARGE = 1200 CFS
DESIGN FREQUENCY = 25 YRS
DESIGN HW ELEVATION = 620.2 FT
BASE DISCHARGE = 1700 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 622.4 FT



11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 150 100 50 LT 0 RT 50 100 150

23 JUN 2007 08:39
17BP.9.C.13.C.14.dgn 564 - Handy Rd\Utilities\UD0 Plans\17BP.9.C.13\UD0.dde_PSH4.dgn
UD0.dde_PSH4.dgn

NOTE: INCIDENTAL MILL APPROX. 15' AT EACH
TIE IN TO PROVIDE A SMOOTH
TRANSITION TO THE EXISTING ASPHALT
PAVEMENT.

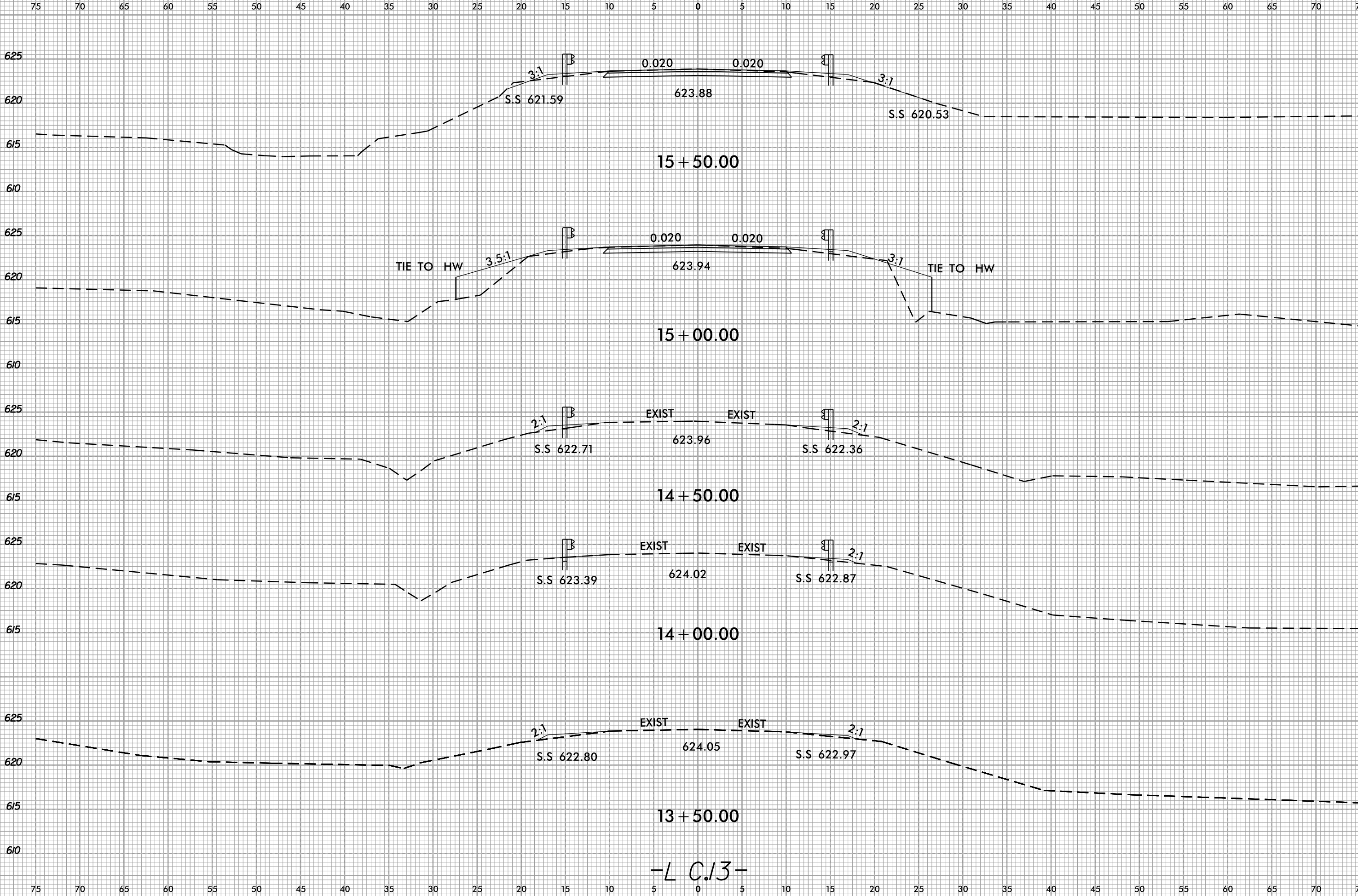


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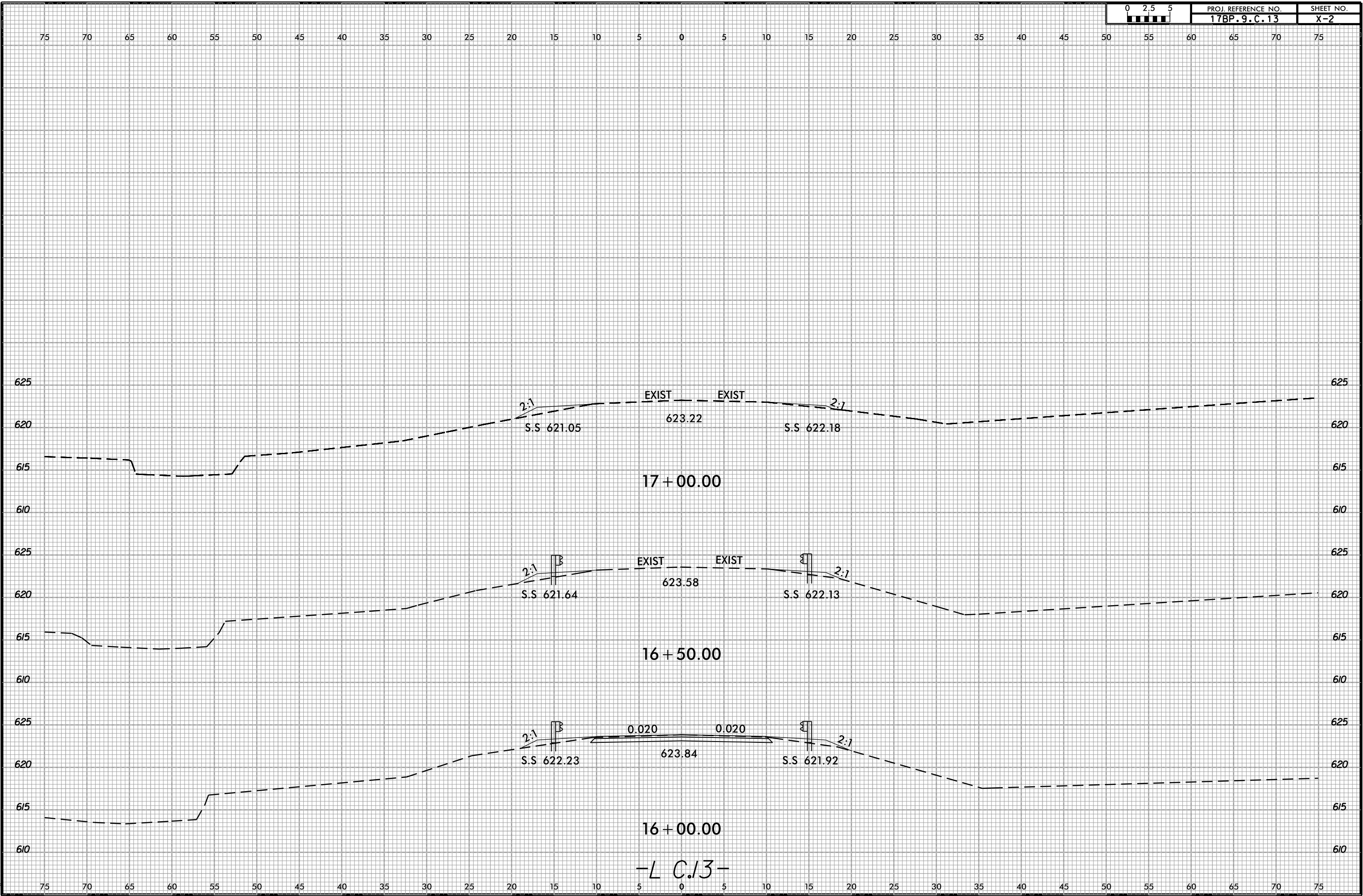
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17BP.9.C.13

SHEET NO.
X-1



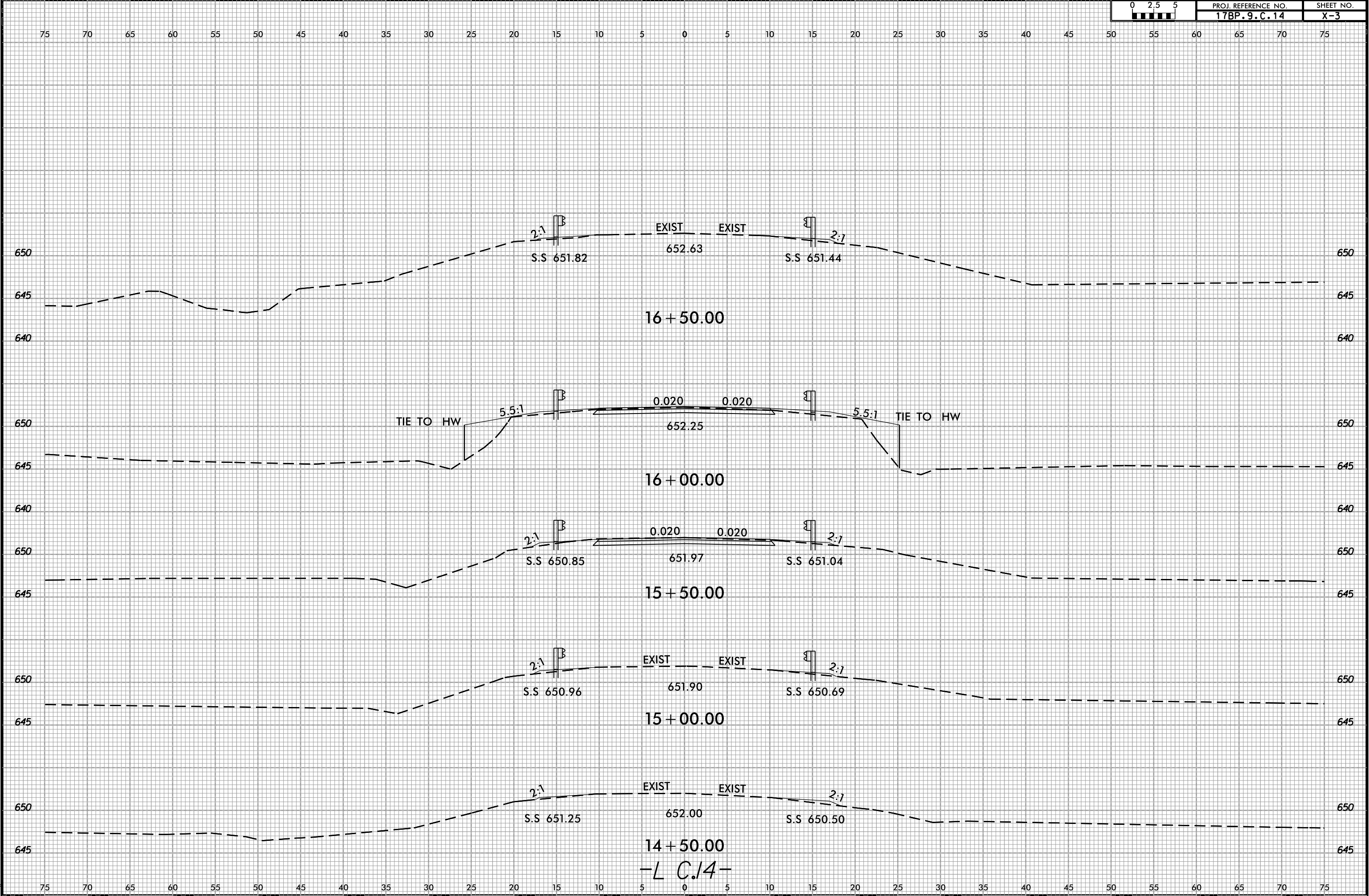
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6/23/16

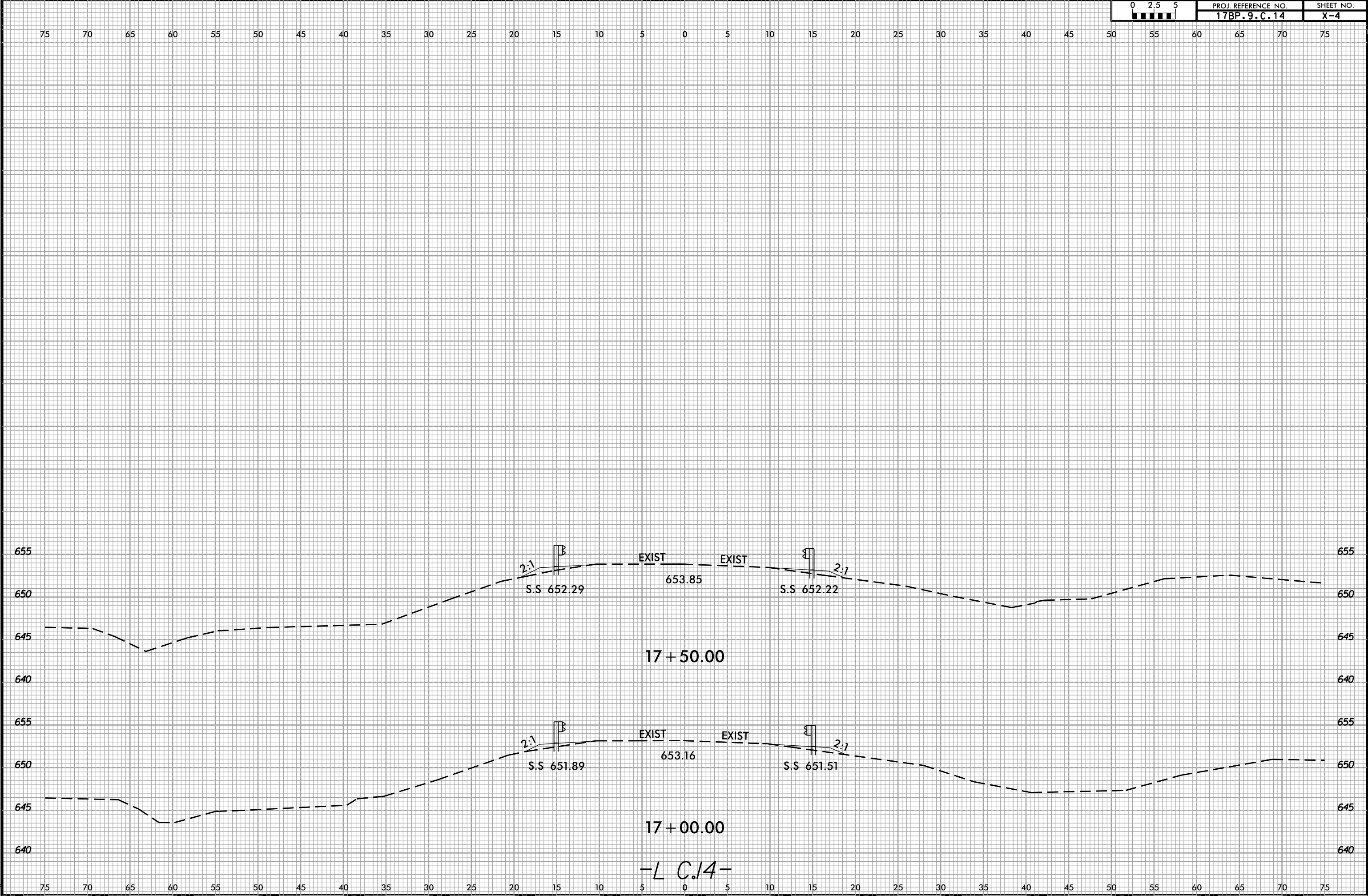
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6/23/16

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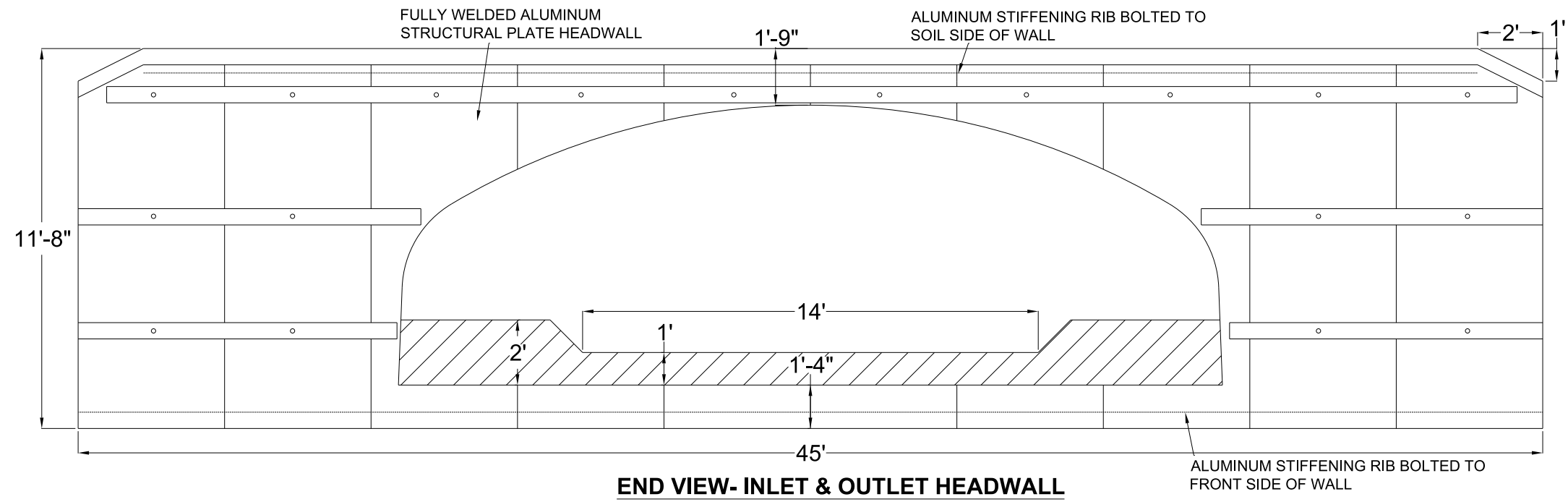
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	17BP.9.C.14	X-4



8/17/99

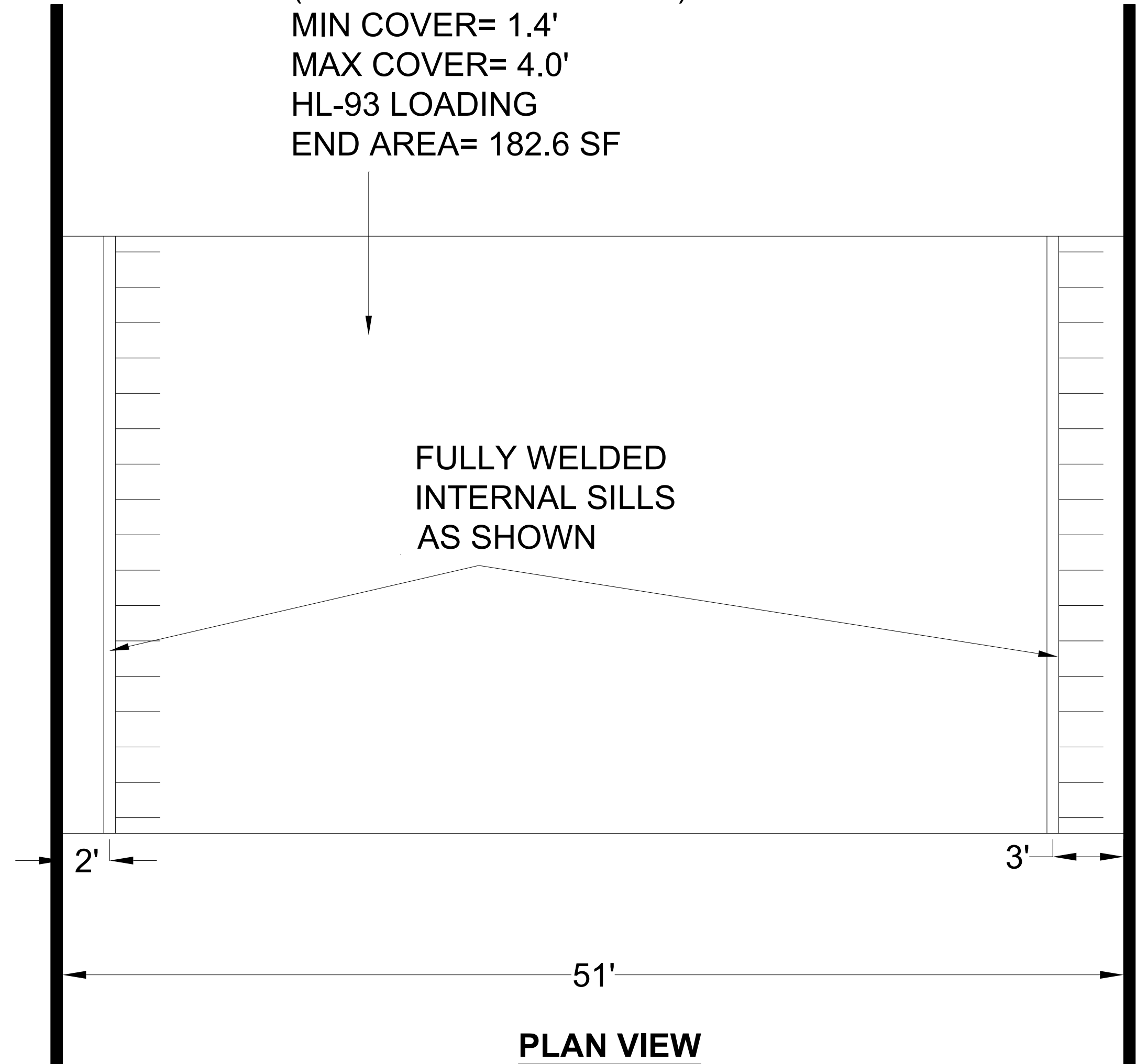
REVISIONS

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



51 LF OF #85-L2 ALUMINUM BOX
CULVERT WITH FULL ALUMINUM INVERT
(25'-4" SPAN X 8'-7" RISE)
MIN COVER= 1.4'
MAX COVER= 4.0'
HL-93 LOADING
END AREA= 182.6 SF

FLOW



PLAN VIEW

PROJECT REFERENCE NO.		SHEET NO.	
17BP.9.C.13		S-1	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<div>INCOMPLETE PLANS</div> <div>DO NOT USE FOR R/W ACQUISITION</div>			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

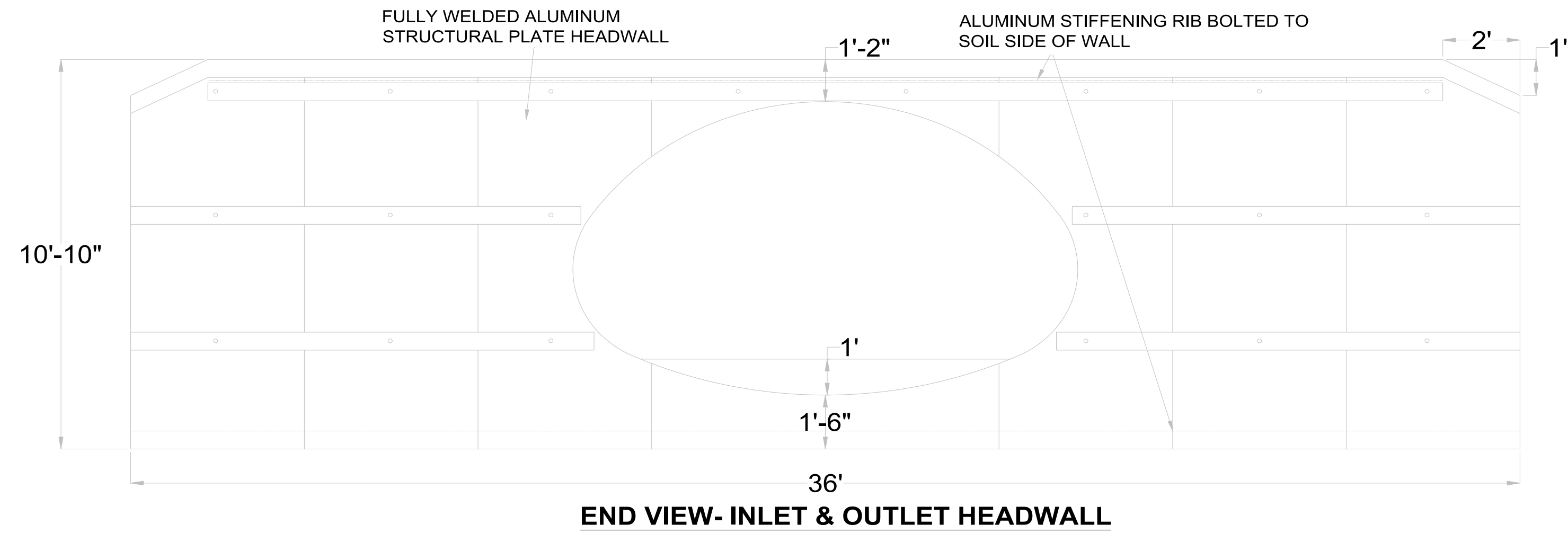
FOUNDATION RECOMMENDATION NOTES ON PLANS

- FOR BOX CULVERT EXCAVATION, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.
- THE REINFORCED ALUMINUM BOX CULVERT SHALL BE PLACED ON THE STANDARD 1.0 FOOT BLANKET OF FOUNDATION CONDITIONING MATERIAL.
- NO SOIL INFORAMTION WAS OBTAINED AT THE SITE. RECOMMENDATIONS ARE BASED ON THE GENERAL SOIL CONDITIONS IN THE AREA OF THE PROPOSED CULVERT. ACTUAL SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION SHOULD BE VERIED TO MEET THE REQUIRED BEARING.
- UNDERCUT SOFT/VERY LOOSE SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATION CONDITIONING MATERIAL. BACKFILL UNDERCUT AREAS WITH FOUNDATION CONDITIONING MATERIAL. IF MORE THAN 1 FT UNDERCUT IS REQUIRED, CONTACT THE OPERATIONS ENGINEER FOR APPROVAL.

PROPOSED ELEVATIONS:

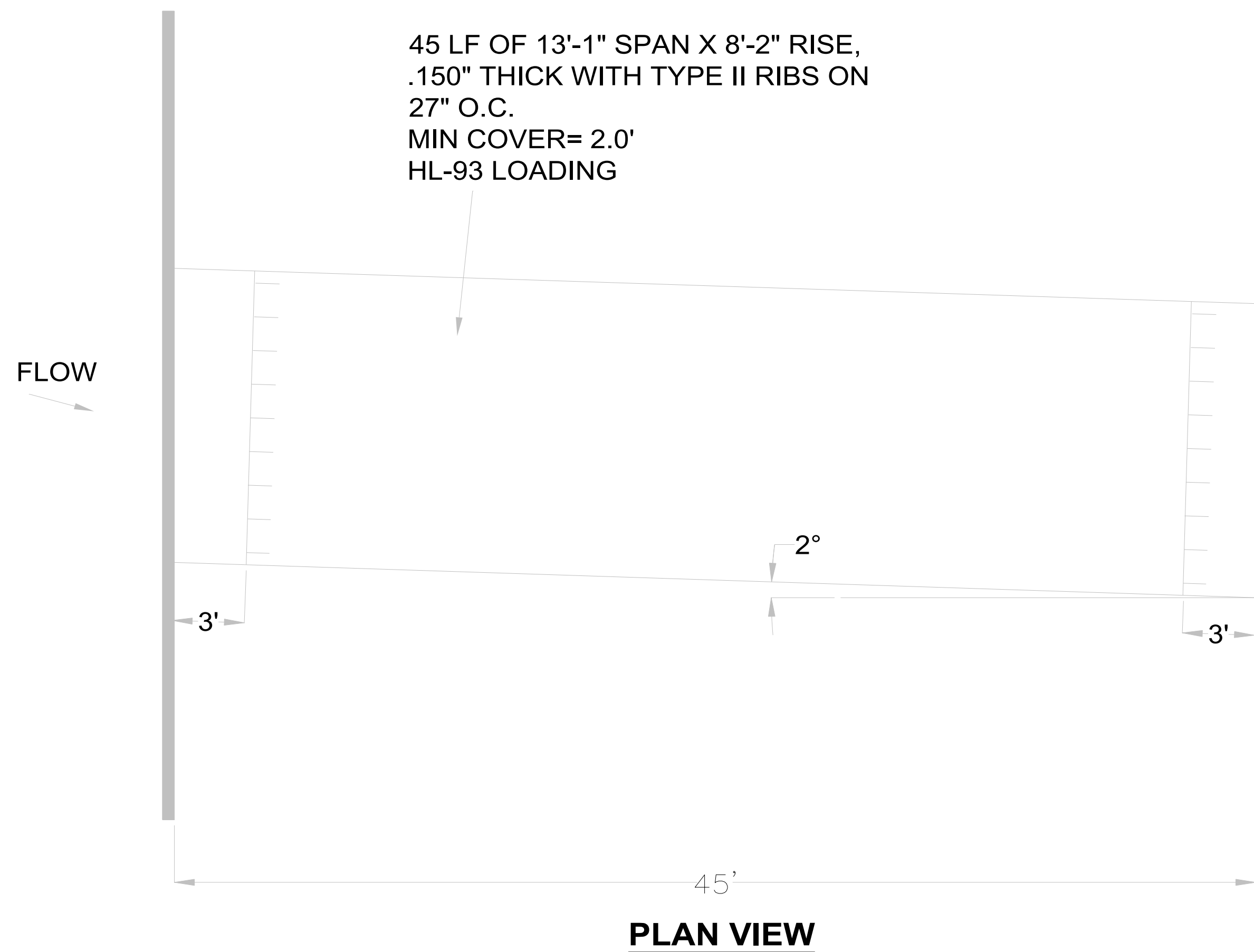
TOP CL ROAD= 623.90
TOP HW= 622.83
TOP ALBC= 621.08
INV STREAM= 613.50
INV ALBC= 612.50 (611.70)

INCLUDES 1 ROLL TX 160 TENSAR



FOUNDATION RECOMMENDATION NOTES ON PLANS

1. FOR BOX CULVERT EXCAVATION, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.
2. THE CASPPA CULVERT SHALL BE PLACED ON THE STANDARD 1.0 FOOT BLANKET OF FOUNDATION CONDITIONING MATERIAL.
3. UNDERCUT SOFT/VERY LOOSE SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATION CONDITIONING MATERIAL. BACKFILL UNDERCUT AREAS WITH FOUNDATION CONDITIONING MATERIAL. IF MORE THAN 1 FT UNDERCUT IS REQUIRED, CONTACT THE OPERATIONS ENGINEER FOR APPROVAL.



PROPOSED ELEVATIONS:

TOP CL ROAD= 652.3
TOP HW= 651.3
TOP PIPE= 650.16
INV STREAM= 643.30
TOP SILL= 643.00
INV PIPE= 642.00

* INCLUDES 1 ROLL TENSAR TX
GEOGRID TO BE PLACED @ ELEVATION
651.00 TO PROVIDE PROTECTION FOR
MINIMUM COVER IN ROAD WAY & IN
SHOULDERS