Project Submittal Interim Form

Updated September 4, 2020

*Please note: fields marked with a red asterisk * below are required. You will not be able to submit the form until all mandatory questions are answered.*

Project Type: *

- ( ) For the Record Only (Courtesy Copy)
- ( ) New Project
- (•) Modification/New Project with Existing ID
- ( ) More Information Response
- ( ) Other Agency Comments
- ( ) Pre-Application Submittal
- ( ) Re-Issuance\Renewal Request
- ( ) Stream or Buffer Appeal

Pre-Filing Meeting Date Request was submitted on:

5/11/2022

Project Contact Information

Name: Chris Rivenbark

Who is submitting the information?

Email Address: * crivenbark@ncdot.gov

Project Information

Existing ID #: *

20080737

20170001 (no dashes)

Existing Version: *

13

1

Project Name: * Fayetteville Outer Loop

Is this a public transportation project? *

- (•) Yes
- ( ) No

Is this a DOT project? *

- (•) Yes
- ( ) No

Is the project located within a NC DCM Area of Environmental Concern (AEC)? *

( ) Yes (•) No ( ) Unknown

TIP#:

U-2519AA/AB

WBS#:

34817.3.13

(Applies to DOT projects only)

County (ies) *

Cumberland

Robeson

Please upload all files that need to be submited.

Click the upload button or drag and drop files here to attach document

U-2519 AA_AB Individual Modification Cumberland_Robeson June 30 2022.pdf 12.24MB

Only pdf or kmz files are accepted.

Describe the attachments or add comments:

Cover letter, 4C meeting minutes, vicinity map, stormwater management plan, revised permit drawings

* ☑ By checking the box and signing box below, I certify that:

- I, the project proponent, hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief.
- I, the project proponent, hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.
- I agree that submission of this online form is a “transaction” subject to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the online form.

Signature: * Mack C. Riverbank, III

Submittal Date: 6/30/2022

Is filled in automatically once submitted.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

June 30, 2022

US Army Corps of Engineers
Wilmington Regulatory Field Office
69 Darlington Avenue
Wilmington, North Carolina 28403

ATTN: Liz Hair, NCDOT Coordinator

NC Division of Water Resources
127 Cardinal Drive Ext.
Wilmington, NC 28405

ATTN: Hannah Sprinkle, NCDOT Coordinator

Subject: **Request for Modification to Individual Section 404 and Section 401 Water Quality Certification** for Fayetteville Outer Loop from I-95 South of Fayetteville to NC 24-87, Cumberland, Hoke, and Robeson Counties. Federal Aid Project No. NHP-0620(031), State Project No. 34817.3.13, TIP Nos. X-0002 B & C, and U-2519 AA, AB, BA, BB, CA, CB, DA, & E, and I-5987. Debit $570 from WBS 34817.3.13

Reference: Section 404 Individual Permit issued October 23, 2008 (SAW-2008-01413)
Section 401 Water Quality Certification issued October 6, 2008 (20080737)
Section 404 Modification issued July 30, 2019 (SAW-2008-01413)
Section 401 Modification issued July 15, 2019 (20080737 v.11)

Dear Madams:

This modification request is for additional impacts necessary for road widening and improvements of existing I-95 in Hope Mills, NC from north of Buckhorn Swamp to Chicken Foot Rd/NC 59. The existing U-2519AA&AB project ties to I-95 south of Green Springs Rd. The roadway along I-95 will be widened to an eight-lane median-divided facility on existing location through Robeson and Cumberland Counties. NCDOT has completed a Categorical Exclusion document for I-5987 which includes the road widening along I-95. This portion of roadway improvements was added to the U-2519AA&AB project due to the overlapping project areas (see attached vicinity map) as discussed at the May 11, 2022 4C Merger Meeting. Final meeting minutes from the meeting are included with this request.

As stated above, this modification request is for overlapping sites between the previously permitted U-2519AA&AB and the I-5987 segment as well as additional new sites along I-95. There are no modifications to previously permitted sites outside of the I-5987 segment along I-95. Impacts are necessary for the road widening and subsequent drainage improvements along the corridor. Revised permit drawings are included with this request which include sites with proposed changes as well as the new permit sites. Permanent impacts anticipated with construction of the I-95 portion of the U-2519AA&AB project modification to wetlands total 1.48 acres due to fill and mechanized clearing (Table 1). There will be < 0.01 acre permanent open water impacts and < 0.01 acre temporary open water impacts (Table 2). There will be 287 linear feet of permanent stream impact and 85 linear feet of

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENT ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Fax: (919) 212-5785
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

temporary stream impact associated with construction of the U-2519AA&AB project modifications (Table 3). These additional impacts are described in more detail:

Impact Description by Permit Site

Permit Site 22 – Impacts at Site 22 were previously permitted using the delineation from the original U-2519AA&AB project. Since that time the I-5987 project was delineated and verified by the US Army Corps of Engineers. Due to the time since the original delineation and the availability of the newer delineation and subsequent verification, it was decided to use the new delineation for design and permitting. Previously permitted impacts at Site 22 included 0.17 acre of permanent fill, 0.06 acre of temporary fill, and 0.14 acre of hand clearing (SAW-2008-01413, Permit Modification issued July 30, 2019). The previously permitted impacts were for roadway fill slopes and for the installation of a supplemental 42" steel pipe adjacent to the existing culvert that was to be installed through trenchless installation and was to increase capacity to meet the 100-year storm event. The current project design proposes a complete replacement of the existing culvert with a more appropriately sized double barrel 10' x 8' reinforced concrete box culvert (RCBC). Original permitted permanent impacts at this site were mitigated through credits at the Privateer Stream and Wetland Mitigation Bank and NCDOT plans to apply the credits to the revised impact.

Permit Site 22A – The widening of I-95 will result in fill impacts for road widening and bank stabilization impacts to Wetland WA on the southbound side of I-95 in the vicinity of Horsepen Branch. A geotechnical analysis has necessitated the need for a rock embankment to be placed at the toe of slope. Permanent fill impacts to wetlands at this site resulting from roadway fill which includes the rock embankment total 0.29 acre. Additional permanent mechanized clearing impacts total 0.12 acre.

Permit Site 22B – The widening of I-95 will result in fill impacts for road widening and bank stabilization impacts to Wetland WA on the northbound side of I-95 in the vicinity of Horsepen Branch and Cole Camp Creek. A geotechnical analysis has necessitated the need for a rock embankment to be placed at the toe of slope. Permanent fill impacts to wetlands at this site resulting from roadway fill which includes the rock embankment total 0.40 acre. Additional permanent mechanized clearing impacts total 0.33 acre.

Permit Site 22C – The widening of I-95 will result in the replacement of an existing single barrel 9'x7' reinforced concrete box culvert (RCBC) along Horsepen Branch with a double barrel 10'x9' RCBC. The proposed culvert will be buried 1-foot and will have 1-foot sills placed at the inlet and outlet. The culverts will be backfilled with native bed material. The inlet and outlet will have Class II riprap placed for inlet bank and scour hole protection. There will be 50 lf (0.03 acre) of permanent surface water impact and 28 lf (0.03 acre) of temporary surface water impact for the installation of the culvert. There will be 19 lf (0.01 acre) of permanent surface water impacts for inlet protection and 36 lf (0.02 acre) of permanent surface water impacts for outlet protection.

Permit Site 31 – The widening of I-95 will result in the need for additional fill and mechanized clearing to Wetland WA along the southbound side of I-95 in the vicinity of Cole Camp Creek. A geotechnical analysis has necessitated the need for a rock embankment to be placed at the toe of slope. Fill impacts to wetlands at this site resulting from roadway fill which includes the rock embankment total 0.21 acre. Mechanized clearing impacts total 0.13 acre.

Permit Site 32 – The widening of I-95 will result in the replacement of a single barrel 7'x9' culvert with a double barrel 10'x9' RCBC. The new culvert will be buried 1 foot and will have 1-foot sills at the inlet and outlet. There will be Class II riprap placed at the inlet and outlet of the culvert for channel protection. There will be 48 lf (0.03 acre) of permanent impacts for the placement of the culvert. Additionally, there will be 20 lf (0.01 acre) of permanent impacts and 24 lf (0.03 acre) of temporary impacts for inlet channel protection and 44 lf (0.04 acre) of permanent impacts and 23 lf (0.02 acre) of temporary impacts for outlet channel protection within Cole Camp Creek.

Permit Site 33 – The widening of I-95 will result in permanent impacts to Tributary C at the inlet to the existing 42" reinforced concrete pipe (RCP). The existing 42" RCP will be replaced with a 60" steel pipe which will be installed through trenchless installation. The inlet to the pipe within Tributary C will be modified to be directed towards the new 60" pipe inlet and the banks will be stabilized with Class II riprap. There will be < 0.01 acre permanent open water impacts and < 0.01 acre temporary open water impacts to Tributary C.

Permit Site 34 – The widening of I-95 will result in the replacement of a 42" RCP with a 60" steel pipe with a new outlet location connecting Tributary C with Grays Creek. The 60" steel pipe will discharge into a 6-foot lateral base ditch which will then tie to Grays Creek. There will be 70 lf (< 0.01 acre) of permanent surface water impacts and 10 lf (< 0.01 acre) of temporary impacts to Grays Creek for the construction and tie in of the lateral base ditch to Grays Creek.

Table 1. U-2519AA&AB Wetlands Impacts

Permit Site Number	I-5987 CE Site ID	Riparian or Non-Riparian	Permanent Impacts (ac.) [2]	Temporary Impacts (ac.)	I-5987 CE Impacts (ac.)	Mitigation Required[3]
22A	WA	Riparian	0.41	0	2.2[4]	Yes
22B	WA	Riparian	0.73	0		Yes
31	WA	Riparian	0.34	0		Yes
Total[1]:			**1.48**	**0**	**2.2**	

Notes: 1 - Rounded totals are sum of actual impacts to 0.001 acre; Impact totals are in addition to previously permitted impacts.
2 - Includes fill and mechanized clearing.
3 - For permanent impacts.
4 - Impacts to WA were reported as one impact total in the I-5987 CE.

Table 2. U-2519AA&AB Open Water Impacts and Descriptions

Permit Site Number	Waterbody	Permanent		Temporary		I-5987 CE Impacts (lf)	Type of Stream	Mitigation Required
		lf	ac.	lf	ac.			
33	Tributary C	-	< 0.01	-	< 0.01	1063.5	Tributary	No
Total[1]:			**< 0.01**		**< 0.01**	**1063.5**		

Notes: 1 - Impact totals are in addition to previously permitted impacts.

Table 3. U-2519AA &AB Surface Water Impacts and Descriptions

Permit Site Number	Waterbody	Permanent		Temporary		I-5987 CE Impacts (lf)	Type of Stream	Mitigation Required[2]
		lf	ac.	lf	ac.			
22C	Horsepen Branch	105	0.06	28	0.03	147.4	Perennial	Yes
32	Cole Camp Creek	112	0.08	47	0.05	171.5	Perennial	Yes
34	Grays Creek	70	< 0.01	10	< 0.01	12.9	Perennial	Yes
Total[1]:		**287**	**0.16**	**85**	**0.09**	**331.8**		

Notes: 1 - Impact totals are in addition to previously permitted impacts.
2 - For permanent impacts

Protected Species

The United States Fish and Wildlife Service (USFWS) IPaC website lists seven federally-protected species as having the potential to occur within the project study area as of May 25, 2022 (Table 4).

Table 4. Federally-Protected Species Potentially Occurring Within the Project Study Area.

Common Name	Scientific Name	Habitat Present	Federal Status	Biological Conclusion
Vertebrate:				
American alligator	*Alligator mississippiensis*	Yes	T (S/A)	N/A
Red-cockaded woodpecker	*Picoides borealis*	Yes	E	No Effect*
Wood stork	*Mycteria americana*	Yes	T	MA-NLAA
Vascular Plant:				
American chaffseed	*Schwalbea americana*	Yes	E	No Effect
Michaux's sumac	*Rhus michauxii*	Yes	E	No Effect
Pondberry	*Lindera melissifolia*	Yes	E	No Effect
Rough-leaved Loosestrife	*Lysimachia asperulaefolia*	Yes	E	No Effect

E – Endangered
T – Threatened
MA-NLAA – May Affect, Not Likely to Adversely Affect
N/A – Not applicable
T(S/A) – Threatened due to similarity of appearance
* A Biological Opinion was issued for the entire Fayetteville Outer Loop project however the sections of concern have been or are under construction.

The US Fish and Wildlife Service has revised the previous programmatic biological opinion (PBO) in conjunction with the Federal Highway Administration (FHWA), the US Army Corps of Engineers (USACE), and NCDOT for the northern long- eared bat (NLEB) (*Myotis septentrionalis*) in eastern North Carolina. The PBO covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. Although this programmatic covers Divisions 1-8, NLEBs are currently only known in 22 counties, but may potentially occur in 8 additional counties within Divisions 1-8. NCDOT, FHWA, and USACE have agreed to two conservation measures which will avoid/minimize mortality of NLEBs. These conservation measures only apply to the 30 current known/potential counties shown on Figure 2 of the PBO at this time. The programmatic determination for NLEB for the NCDOT program is May Affect, Likely to Adversely Affect. The PBO will ensure compliance with Section 7 of the Endangered Species Act for ten years (effective through December 31, 2030) for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Robeson and Cumberland Counties, where U-2519AA&AB is located.

Compensatory Mitigation

The proposed permit modification request includes wetland impacts of 1.48 acres. However, 0.17 acres of this impact was previously permitted at Site 22, and compensation has already been provided at the Privateer Wetland and Stream Mitigation Site for this quantity. The remaining 1.31 acres of wetland impacts identified in this modification request will require compensation from the Privateer Wetland and Stream Mitigation Site at a 3:1 ratio (i.e., 3.93 acres of mitigation). In addition, the proposed modification request includes an additional 287 linear feet of permanent stream impacts, which will be mitigated at the Privateer Wetland and Stream Mitigation Site at a 1.5:1 ratio (i.e., 431 linear feet of mitigation). With these additional impacts, the total permanent wetland impacts from the project are 1.97 acres, and the total stream impacts are 16,151 linear feet. A revised debit ledger for the Privateer Wetland and Stream Mitigation Site is included with this modification request.

Utility Impacts
There are no additional utility impacts associated with this portion of the project and remain as previously permitted for U-2519AA&AB.

Regulatory Approvals
Section 404: We are hereby requesting the modifications described above for the USACE Individual 404 Permit signed October 23, 2008 (SAW-2008-01413), for the above-described activities.

Section 401: We are hereby requesting a modification to the 401 Water Quality Certification from the NCDWR issued October 6, 2008 (DWQ No. 003278). In compliance with Section 143-215.3D(e) of the NCAC, please debit $570.00 from WBS 34817.3.13 for processing the Section 401 certification modification. A copy of this modification request and its distribution list will be posted on the NCDOT website at: https://xfer.services.ncdot.gov/pdea/PermApps/

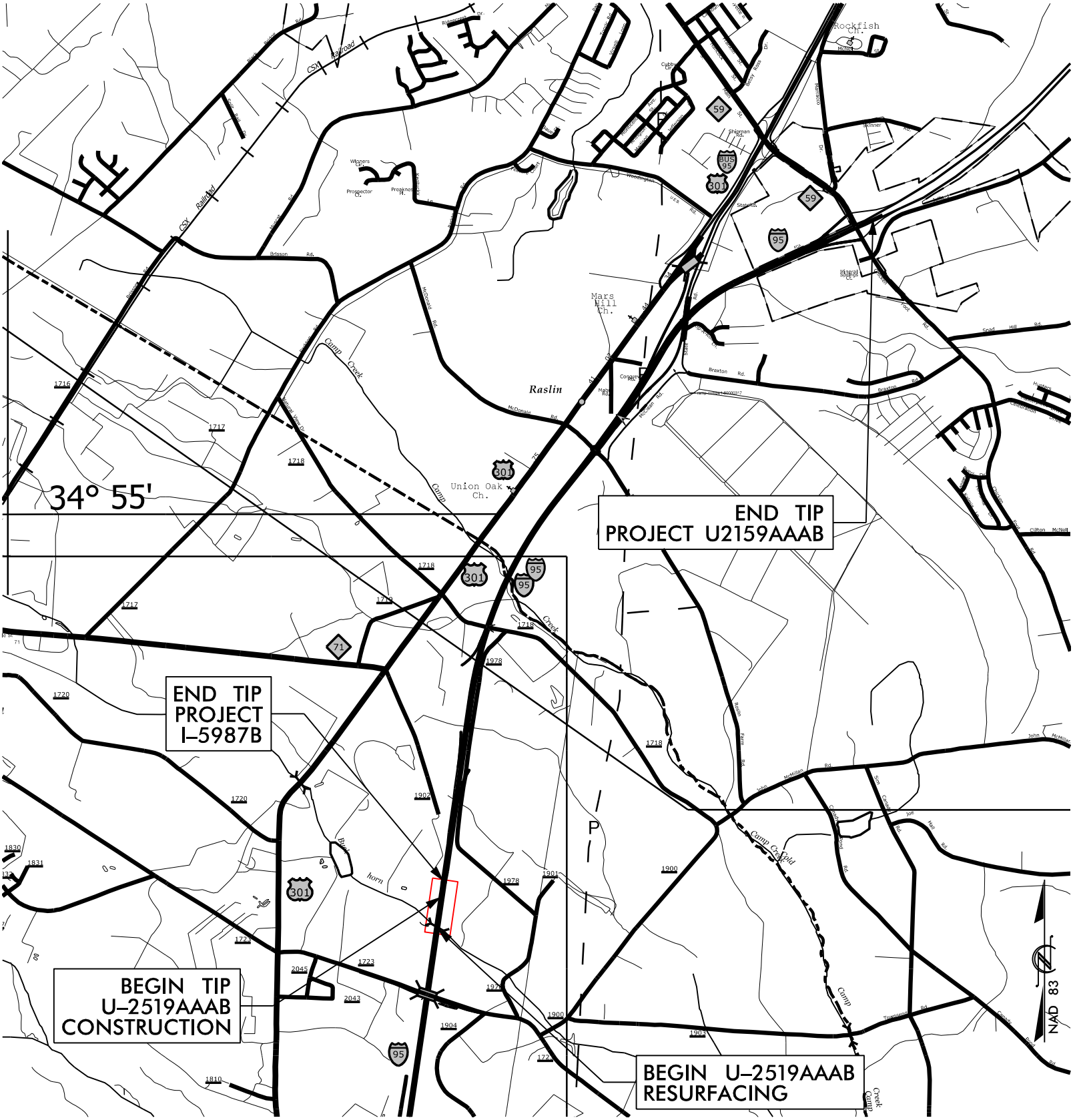
Thank you for your assistance with this project. If you have any questions or need additional information, please contact Chris Rivenbark at 919-707-6152 or crivenbark@ncdot.gov.

Sincerely,

DocuSigned by:
Mack C. Rivenbark III
AAAD1248B309416...

for Philip S. Harris III, P.E., C.P.M., Unit Head
Environmental Analysis Unit

cc: NCDOT Permit Application Standard Distribution List


34° 55'
END TIP
PROJECT U2159AAAB
END TIP
PROJECT
I–5987B
BEGIN TIP
U–2519AAAB
CONSTRUCTION
BEGIN U–2519AAAB
RESURFACING
Raslin
Mars Hill Ch.
Union Oak Ch.
Rockfish Cr.
Camp Creek
CSX Railroad
NAD 83

Minutes from the Interagency 4C Permit Review Meeting
U-2519AA & AB – Cumberland and Robeson Counties
Meeting Date: May 11, 2022
Minutes Date: June 9, 2022

Team Members:

Liz Hair, USACE	(present)
Hannah Sprinkle, NCDWR	(present)
Jim Rerko, DEO	(present)
Joseph Parker, NCDOT Div. 6	(present)
Carl Anderson , NCDOT Div. 6	(present)
Steve Kendall, NCDOT Div. 6	(present)
Michael Penny, NCDOT DBU	(present)
Mark Staley, NCDOT REU	(present)
Marissa Cox, NCDOT BSG	(present)
Chris Rivenbark, NCDOT EAU	(present)

Participants:
Paul Atkinson, NCDOT Hydraulics
Kristy Alford, NCDOT SMU
Keith Nixon, Balfour Beatty - Contractor
Shonn Wallace, Balfour Beatty - Contractor
David Patterson, Branch Civil - Contractor
Adam Freeman, STV - Roadway
Michael Iagnocco, STV - Environmental
Joshua Kotheimer, STV – Environmental
Narong Phal, STV - Roadway
Eric Leonhart, Sungate Design Group - Hydraulics
David Talbert, Sungate Design Group - Hydraulics

Minutes:

Adam Freeman opened the meeting and introductions were provided in the GoToMeeting participants tab. He then provided an overview of the project limits and roadway design.

All drainage design reviewed during the 4C meeting had been reviewed by NCDOT prior to review and two minor changes were made to the plans prior to the distribution of plans to Agency members. The first change was adding a note to call out the proposed rock embankment at the culvert sites in order to clarify the intent of the rock hatching. The second revision was a revision made to the phrasing on the Wetland Impact Summary Sheet notes section to remove a mention of the U-2519AA & AB Loop project final survey to eliminate redundancy. Prior to beginning the meeting, PDF distribution was offered to any Agency members that did not have copies of plans as well as hard copy distribution within the meeting room.

David Talbert and Eric Leonhart proceeded through the 'Wetland and Surface Water Impacts Permit' drawing plan set.

General:

Before the closure of the meeting, Liz Hair asked for a schedule update. Josh Kotheimer noted that the permit modification would be submitted to NCDOT on May 25th. Based on this timeline and NCDOT review schedule, Agency members should expect a permit modification application by the end of June.

Wetland and Stream Impact Drawings:

Plan Sheet 8:

- Sheet 2 of 21 – Site 22C – Station 99+60 -Y-:
    - David Talbert – Existing 1@7'x6' Reinforced Concrete Box Culvert is to be removed. The proposed 2@10'x8' RCBC will have a beveled headwall and 1' sills at the inlet and outlet. The culverts are to be backfilled to a depth of 1' with native bed material. All backfill material shall be reviewed by the DEO and shall consist of native material only unless the Engineer in consultation with the DEO determine the native material is either unsuitable or additional material is required to supplement the native material. A 6' toe wall will be installed at the outlet end of the proposed culvert. The inlet and outlet of the existing and proposed culverts are perched due to scour, therefore, Class II rip rap will be utilized as scour hole stabilization and will tie to the existing stream bed at a 4:1 slope.

Plan Sheet 9:

- Sheet 8 of 21 – Site 32 – Station 108+30 -Y-:
    - David Talbert – Existing 1@9'x7' Reinforced Concrete Box Culvert is to be removed. The proposed 2@10'x9' RCBC will have a beveled headwall and 1' sills at the inlet and outlet. The culverts are to be backfilled to a depth of 1' with native bed material. All backfill material shall be reviewed by the DEO and shall consist of native material only unless the Engineer in consultation with the DEO determine the native material is either unsuitable or additional material is required to supplement the native material. A 7' toe wall will be installed at the outlet end of the proposed culvert. The inlet and outlet of the existing and proposed culverts are perched due to scour, therefore, Class II rip rap will be utilized as scour hole stabilization and will tie to the existing stream bed at a 4:1 slope.
    - Hannah Sprinkle asked if any consideration had been given to the skew at which Cold Camp Creek approaches the inlet of the proposed culvert.
        - David Talbert and Michael Penny responded that the headwall design and the Class II rip rap would be sufficient in preventing any bank scour at this location. Michael Penny noted this was looked into in the initial design phase but was decided against in order to reduce impacts.

Plan Sheet 16 and 17:

- Sheet 14 of 21 – Site 33 – Station 210+50 -Y- LT:
  Site 34 – Station 214 -Y- RT:
    - Eric Leonhart – The existing 42" Reinforced Concrete Pipe is to be flow filled and replaced with a proposed 60" Welded Steel Pipe that buried 1'. The existing 42" RCP is perched, therefore, there is proposed channel

work and bank stabilization will be installed on the upstream side of the 60" WSP to provide a smooth transition from the existing stream to the proposed pipe.
    - Eric Leonhart noted that on West side of I-95 (upstream), the stream is a Jurisdictional Non-Mitigable, therefore, impact totals are only calculated and shown on the Wetland Impact Summary Table as an acreage quantity. On the East side of I-95 (downstream), Grays Creek is a Jurisdictional stream so stream impact totals are quantified as both linear feet and an acreage quantity.
    - Due to the existing stream bed elevations and alignment of the existing structure, the proposed 60" WSP will be installed at a 0.0% slope and will include a stream realignment on the downstream side. The proposed stream realignment will be constructed at a 0.0% slope in order to provide positive drainage to tie with Grays Creek.

- Sheet 17 of 21 – Site 33 – Station 210+50 -Y- LT:
  Site 34 – Station 214+50 -Y- RT:
    - James Rerko noted the scale of the proposed 60" Welded Steel pipe on the profile along culvert sheet may be incorrect. Eric Leonhart concurred and noted the scale will be adjusted to show the proposed 60" WSP correctly.

<u>Impact Summary Table</u>

- Sheet 21 of 21
    - Hannah Sprinkle asked if the permanent and temporary surface water impacts shown as <0.01 ac could be extended out to three decimal places for the permit modification application. Chris Rivenbark stated that <0.01 ac is the standard representation for the summary table, but a spreadsheet with the precise impacts will be included with the application.

Privateer
WM 026-005

The Privateer Farms Restoration Site (Site) is located in Bladen and Cumberland Counties, North Carolina, approximately fourteen miles southeast of Fayetteville. Prior to restoration, land use on the Site over the past 20 years had been primarily row crop agriculture. Stream and riparian functions on the Site had been severely impacted as a result of agricultural conversion. Harrison Creek had historically meandered through the Site, but was channelized in the early 1980s to reduce flooding and provide a drainage outlet for the extensive network of ditches excavated across the Site. Subsequent to channelization, Harrison Creek existed as a large canal running straight through the Site.

Restoration activities for the Site involved moving the stream channel back to its historic location and elevation, and filling drainage ditches to raise the local water table and restore wetland and stream hydrology. The plan also included scarification of the fields and breaking of the local plow pan to increase surface water storage and provide a range of hydrologic conditions suitable for a variety of native wetland plant species. The restoration plan for the Site predicted the restoration of 405 acres of riverine wetlands, 25 acres of riverine wetland enhancement, and 33,985 linear feet (LF) of stream restoration. Following construction, the as-built data indicated that the total area of restored riverine wetlands was 402.5 acres (excluding 2.5 acres for road accesses), with 25 acres of enhanced riverine wetlands, and 34,005 LF of restored stream channel.

As of fall 2009, the Site has met all prescribed hydrologic and vegetative monitoring criteria and been recommended for closeout.

To offset unavoidable stream and wetland impacts associated with a second modification to T.I.P. U-2519 AA/AB, the Privateer Mitigation Site will be debited 3.93 ac of Riparian wetland for 1.31 acres of Riparian wetland impact, and 431 linear feet of stream for 287 linear of stream impacts. These debits and credits are reflected in the following ledger.

HUC	Mitigation Type	Starting Amount	Additional Notes
3030004	Stream Restoration	25676	**Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts
3030004	Riparian Wetland Restoration	185.58	**Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts

Privateer
WM 026-005

TYPE	DEBITAMOUNT	Status	SITE TIP	Action ID#	Notes
S_REST	-25676	Close Out	From EEP for U-2519/X-2		Credits transferred from EEP. **Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts
S_REST	-918	Close Out	U-2519CB, DA Mod	2008-01413	612 lf reduction @ 1.5:1
S_REST	-529.5	Close Out	U-2519CB, DA Mod	2008-01413	353 lf reduction @ 1.5:1
S_REST	214.5	Close Out	U-2519CB, DA Mod	2008-01413	143 lf addition @ 1.5:1
S_REST	615	Close Out	X-0002C Site 8 Mod	2008-01413	410 lf addition @ 1.5:1
S_REST	852	Close Out	U-2519CA Mod	2008-01413	568 lf addition @ 1.5:1
S_REST	1329	Close Out	U-2519, X-0002 Mod	2008-01413	886 lf addition @ 1.5:1. Unable to Confirm in permits. Taken from old ledger (Math works out)
S_REST	1518	Close Out	R-4903	2009-00655	1012 lf of impacts @ 1.5:1.
S_REST	8329	Close Out	EEP		Site transferred to EEP
S_REST	18519	Close Out	U-2519, X-0002	2008-01413	12,346 lf @ 1.5:1. Original Permit
S_REST	2142	Close Out	U-2519 BA BB		1428 lf @ 1.5:1
S_REST	431	Close Out	U-2519AA/AB		2nd mod 287 ln ft impacts at 1.5:1 ratio

Privateer
WM 026-005

TYPE	DEBIT AMOUNT	Status	SITE TIP	Action ID#	Notes
RW_REST	-101.76	Close Out	From EEP for U-2519/X-2		Credits transferred from EEP. **Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts
RW_REST	-39.6	Close Out	From EEP for R-2303		Credits transferred from EEP. **Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts
RW_REST	-23.86	Close Out	From EEP for U-2519/X-2		Credits transferred from EEP. **Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts
RW_REST	-20.36	Close Out	From EEP for U-2519		Credits transferred from EEP. **Out of service area ratios: 1.5:1 ratio for stream impacts 3:1 for wetland impacts
RW_REST	-0.6	Close Out	U-2519CB, DA Mod	2008-01413	0.2 ac reduction @ 3:1.
RW_REST	-0.06	Close Out	U-2519CB, DA Mod	2008-01413	0.02 ac reduction @ 3:1.
RW_REST	0.15	Close Out	R-2303A	1992-03237	Permit Mod 0.5 ac impacts @ 3:1
RW_REST	1.14	Close Out	U-2519CB, DA Mod	2008-01413	0.38 ac addition @ 3:1.
RW_REST	1.29	Close Out	X-0002C Site 8	2008-01413	0.43 ac addition @ 3:1.
RW_REST	5.1	Close Out	U-2519E		Unable to Confirm. Unknown what the source of this debit is.
RW_REST	6.99	Close Out	U-2519CA Mod	2008-01413	2.33 ac addition @ 3:1.
RW_REST	7.38	Close Out	R-2303A	1992-03237	
RW_REST	145.29	Close Out	U-2519, X-0002	2008-01413	48.43 ac @ 3:1. Original Permit Estimate for all sections
RW_REST	216.92	Close Out	EEP		Site Transferred to EEP
RW_REST	1	Close Out	U-2519 BA/BB		1 ac Riparian Wetland impact @ 1:1 ratio
RW_REST	21.54	Close Out	U-2519 BA/BB		7.18 ac Non-Riparian wetland impact @ 3:1
RW_REST	3.93	Close Out	U-2519AA/AB		2nd mod 1.31 ac of impacts at 3:1 ratio

Submitted 6/30/2022

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

WBS Element: 34817.3.4 **TIP/Proj No:** U-2519AA & AB **County(ies):** Cumberland Robeson

General Project Information

WBS Element:	34817.3.4	**TIP Number:**	U-2519AA & AB	**Project Type:**	Roadway Widening	**Date:**	2/15/2022
NCDOT Contact:	Paul Atkinson, PE	**Contractor / Designer:**	Joshua G. Dalton, PE				
Address:	NCDOT Hydraulics Unit 1590 Mail Service Raleigh, NC 27699-1590		**Address:**	Sunate Design Group, P.A. 905 Jones Franklin Road Raleigh, NC 27606			
Phone:	919-707-6707		**Phone:**	919-859-2243			
Email:	patkinson@ncdot.gov		**Email:**	jdalton@sungatedesign.com			
City/Town:	Hope Mills	**County(ies):**	Cumberland	Robeson			
River Basin(s):	Cape Fear	**CAMA County?**	No	No			
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	4.16	**Surrounding Land Use:**	Rural, Low Density Residential, Agricultural, Woods				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	83.5	ac.		50.0	ac.		
Typical Cross Section Description:	I-95 Sta. 18+80 - 22+90, 145+00 - 246+00 -Y-: Grassed ditch median with varying 4:1 to 10:1 side slopes. 8 paved lanes (total 96' wide). 12' full depth paved shoulder on each side (17' with guardrail). Varying fill and cut slopes (see project XSC's for detailed information). I-95 Sta 22+90 - 145+00 -Y-: Paved median separated by median barrier with 13'-24' paved median. 8 paved lanes (total 96' wide). 12' full depth paved shoulder on each side (17' with guardrail). Varying fill and cut slopes (see project XSC's for detailed information).			I-95: Grassed ditch median with varying 6:1 to 8:1 side slopes. 4 paved lanes (total 48' wide). 12' paved shoulder on each side. Varying fill and cut slopes.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	77,900	Year: 2040	Existing:	58,300	Year:	2018

General Project Narrative: (Description of Minimization of Water Quality Impacts)

The North Carolina Department of Transportation (NCDOT) has proposed the widening and improvements of existing I-95 in Hope Mills, NC. As part of the U-2519AA&AB project, I-95 is considered the -Y- alignment because it is part of the Fayetteville Loop project. The U-2519 AA & AB project includes 2 proposed culverts at existing stream crossings along I-95. All major structures have been designed to have as little environmental and surface water impacts as possible. The first proposed major structure is along I-95 at Horsepen Branch. The proposed structure is a 2@10'x8' Reinforced Concrete Box Culvert buried 1'. The existing structure at this crossing is a 1@7'x6' Reinforced Concrete Box Culvert. The second proposed major structure is along I-95 at Cold Camp Creek. The proposed structure is a 2@10'x9' Reinforced Concrete Box Culvert buried 1'. The existing structure at this crossing is a 1@9'x7' Reinforced Concrete Box Culvert. Grassed conveyances were used to reduce flow velocity, promote sedimentation infiltration and runoff attenuation. Velocities at jurisdictional and wetland features are non-erosive.

Submitted 6/30/2022

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

WBS Element:	34817.3.4	TIP/Proj No.:	U-2519AA & AB	County(ies):	Cumberland Robeson	Page	2	of	2

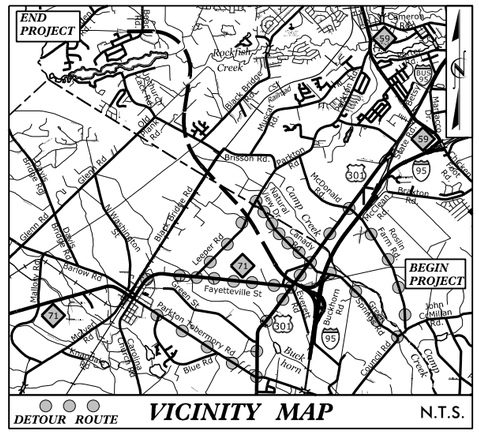
General Project Information

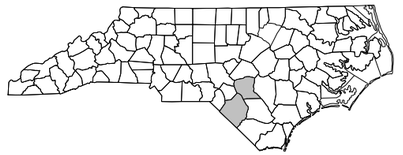
Waterbody Information

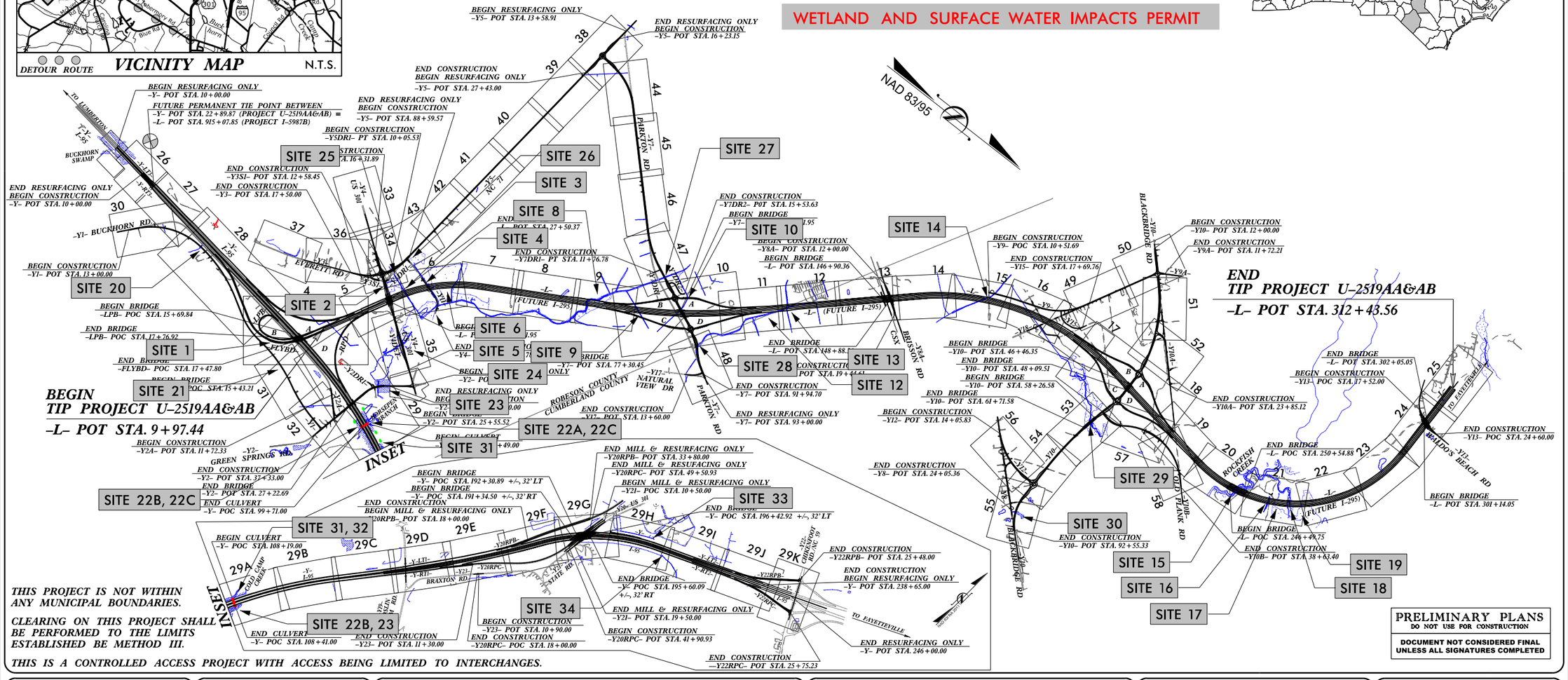
Surface Water Body (1):	Horsepen Branch		**NCDWR Stream Index No.:**	14-22-1-1-1			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C				
		Supplemental Classification:	Swamp Waters (Sw)				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A		
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	No		
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

Surface Water Body (2):	Cold Camp Creek		**NCDWR Stream Index No.:**	14-22-1-1			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C				
		Supplemental Classification:	Swamp Waters (Sw)				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A		
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A		
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							

Surface Water Body (3):	Grays Creek (Rainey Pond, Rainbow Pond)		**NCDWR Stream Index No.:**	18-35-(1)			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class B				
		Supplemental Classification:	None				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A		
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A		
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
(If yes, provide justification in the General Project Narrative)							







TIP PROJECT: U-2519AA&AB

CONTRACT: C204043

See Sheet 1A For Index of Sheets
See Sheet 1B For Standard Symbology Sheet

VICINITY MAP

Submitted 6/30/2022

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 132
DATE: 06-10-22

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2519AA&AB	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34817.3.4	NHP-1118(11)	P.E., ROW, UTILITIES & CONSTRUCTION

CUMBERLAND /ROBESON COUNTY

LOCATION: FUTURE I-295 – FAYETTEVILLE OUTER LOOP FROM I-95 IN ROBESON COUNTY TO SOUTH OF SR 1003 (CAMDEN RD) IN CUMBERLAND COUNTY

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNING AND STRUCTURES

WETLAND AND SURFACE WATER IMPACTS PERMIT

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

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

THIS IS A CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

DESIGN DATA

ADT 2015 = 25,000
ADT 2040 = 33,100
K = 8%
D = 55%
T = 12%*
V = 70 MPH
* (TTST = 4% + DUAL 8%)
FUNC. CLASSIFICATION = INTERSTATE STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2519AA & AB = 5.582 MILES

*LENGTH STRUCTURE TIP PROJECT U-2519AA & AB = 0.150 MILES **

TOTAL LENGTH OF TIP PROJECT U-2519AA & AB = 5.732 MILES

** LENGTH BASED OFF NB BRIDGES*

NCDOT CONTACT: MICHAEL PENNEY, PE
DESIGN BUILD ENGINEER – DESIGN BUILD

PLANS PREPARED FOR THE NCDOT BY:

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 21, 2017

LETTING DATE:
NOVEMBER 21, 2017

JOSEPH A. FREEMAN, PE
DESIGN PROJECT MANAGER

NARONG PHAL, PE
PROJECT DESIGN ENGINEER

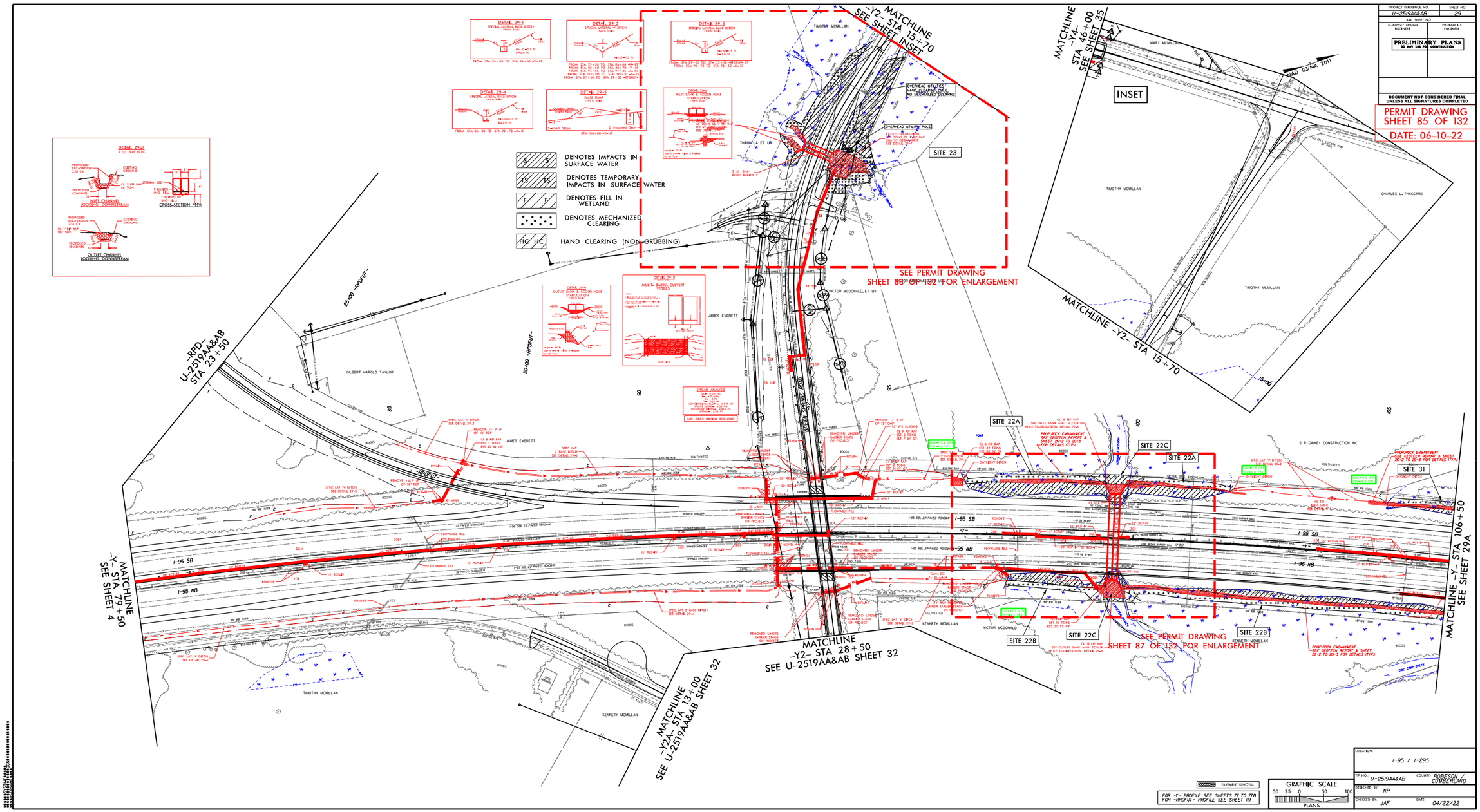
HYDRAULICS ENGINEER

SIGNATURE: ____________ P.E.

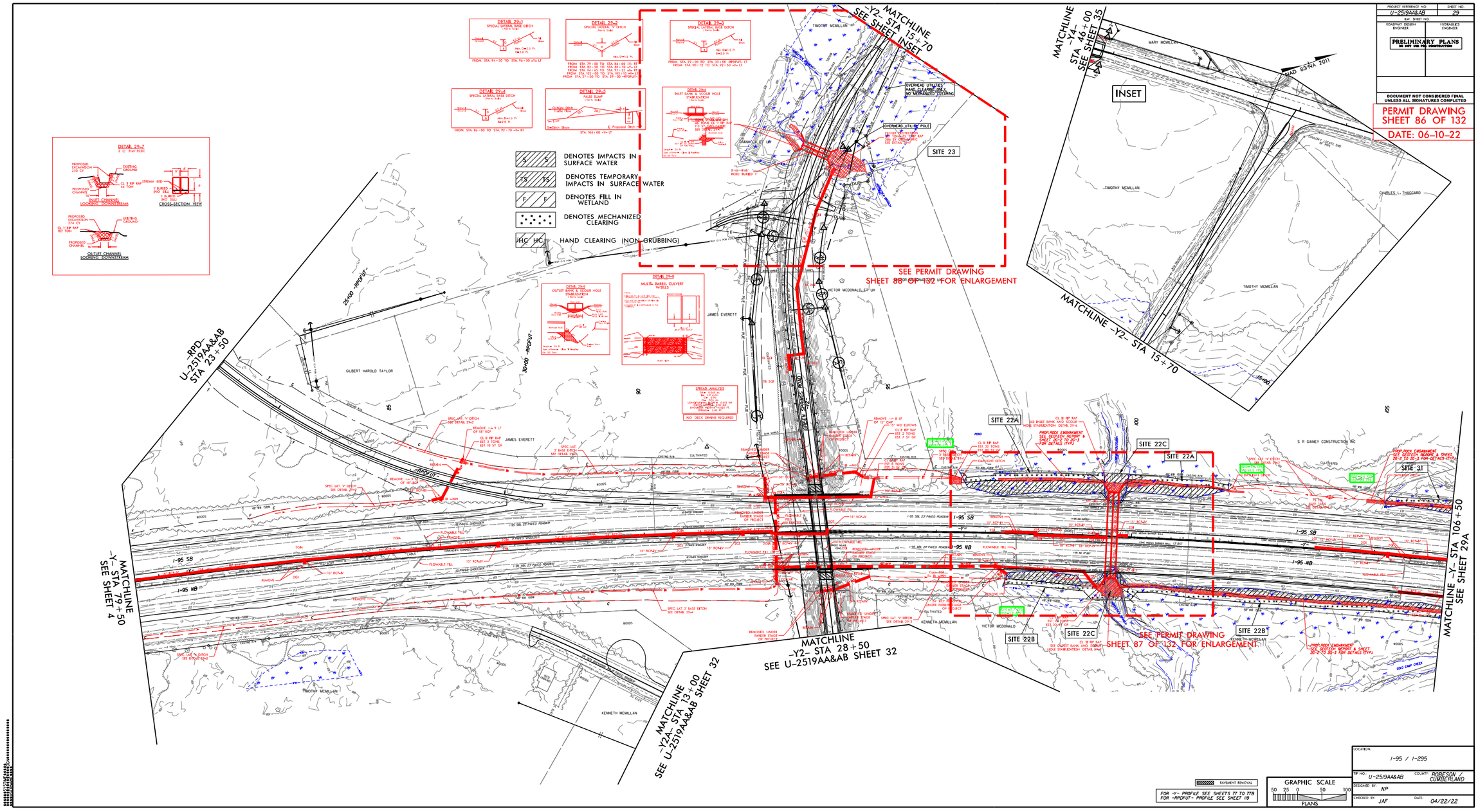
ROADWAY DESIGN ENGINEER

SIGNATURE: ____________ P.E.

Submitted 6/30/2022



Submitted 6/30/2022



Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 87 OF 132

DATE: 06-10-22

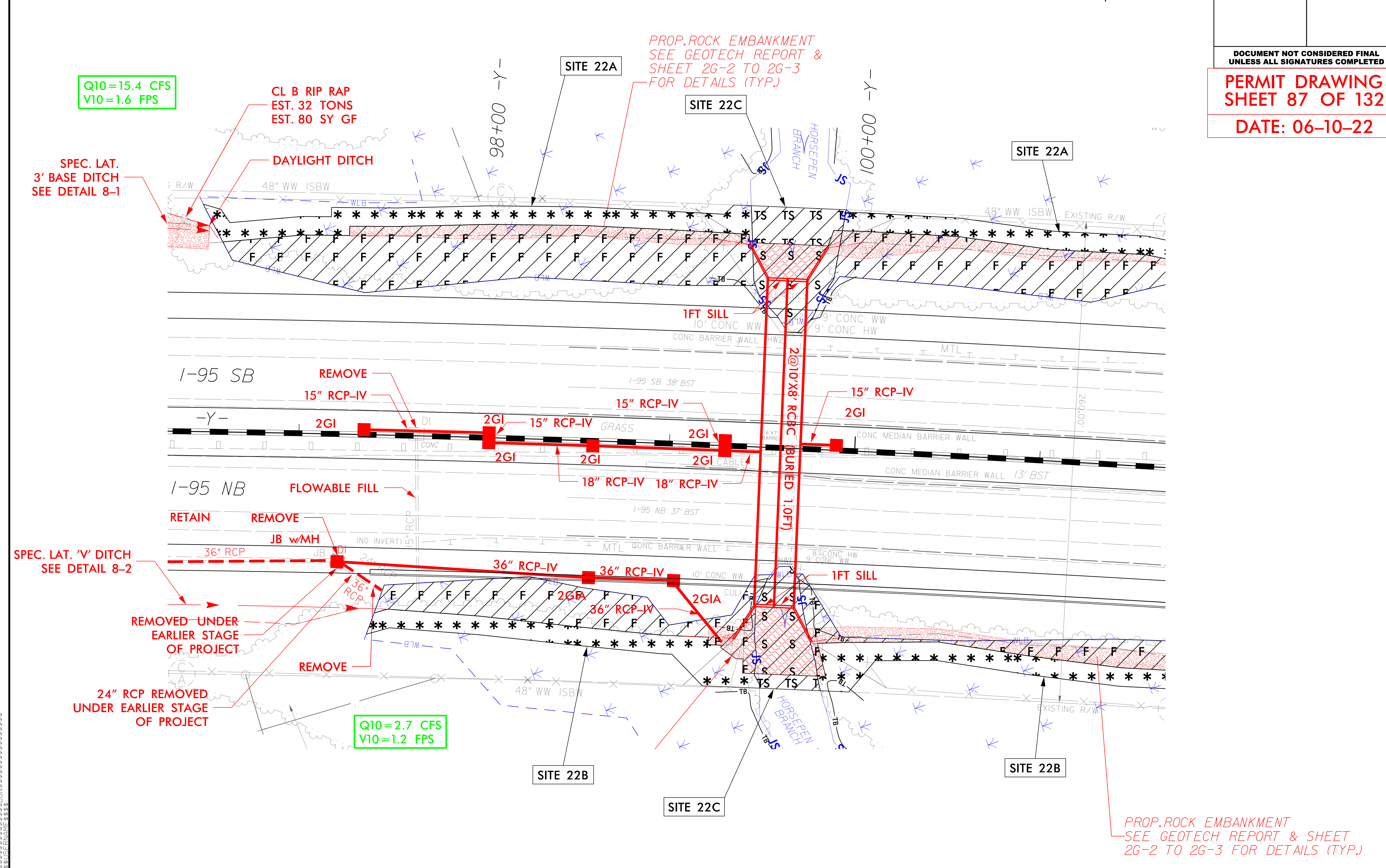
F F — DENOTES FILL IN WETLAND

S S — DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SCALE: 1" = 50'



25' 12.5' 0 25' 50'
NAD 83
Q10=15.4 CFS
V10=1.6 FPS
CL B RIP RAP
EST. 32 TONS
EST. 80 SY GF
SPEC. LAT.
3' BASE DITCH
SEE DETAIL 8-1
DAYLIGHT DITCH
-Y-
98+00
SITE 22A
PROP. ROCK EMBANKMENT
SEE GEOTECH REPORT &
SHEET 2G-2 TO 2G-3
FOR DETAILS (TYP.)
SITE 22C
HORSEPEN BRANCH
100+00
-Y-
SITE 22A
48" WW ISBW
EXISTING R/W
1FT SILL
10' CONC WW
9' CONC WW
9' CONC HW
CONC BARRIER WALL
MTL
I-95 SB
REMOVE
15" RCP-IV
I-95 SB 38' BST
15" RCP-IV
15" RCP-IV
2GI
2GI
15" RCP-IV
GRASS
2GI
2GI
2GI
2GI
2GI
2@10'X8' RCBC (BURIED 1.0FT)
CONC MEDIAN BARRIER WALL
CONC MEDIAN BARRIER WALL
13' BST
18" RCP-IV
18" RCP-IV
I-95 NB
FLOWABLE FILL
I-95 NB 37' BST
RETAIN
REMOVE
JB w/MH
SPEC. LAT. 'V' DITCH
SEE DETAIL 8-2
36" RCP
36" RCP-IV
36" RCP-IV
36" RCP
1FT SILL
2GIA
2GIA
36" RCP-IV
REMOVED UNDER
EARLIER STAGE
OF PROJECT
REMOVE
24" RCP REMOVED
UNDER EARLIER STAGE
OF PROJECT
48" WW ISBW
Q10=2.7 CFS
V10=1.2 FPS
EXISTING R/W
HORSEPEN BRANCH
SITE 22B
SITE 22C
SITE 22B
PROP. ROCK EMBANKMENT
SEE GEOTECH REPORT & SHEET
2G-2 TO 2G-3 FOR DETAILS (TYP.)

Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

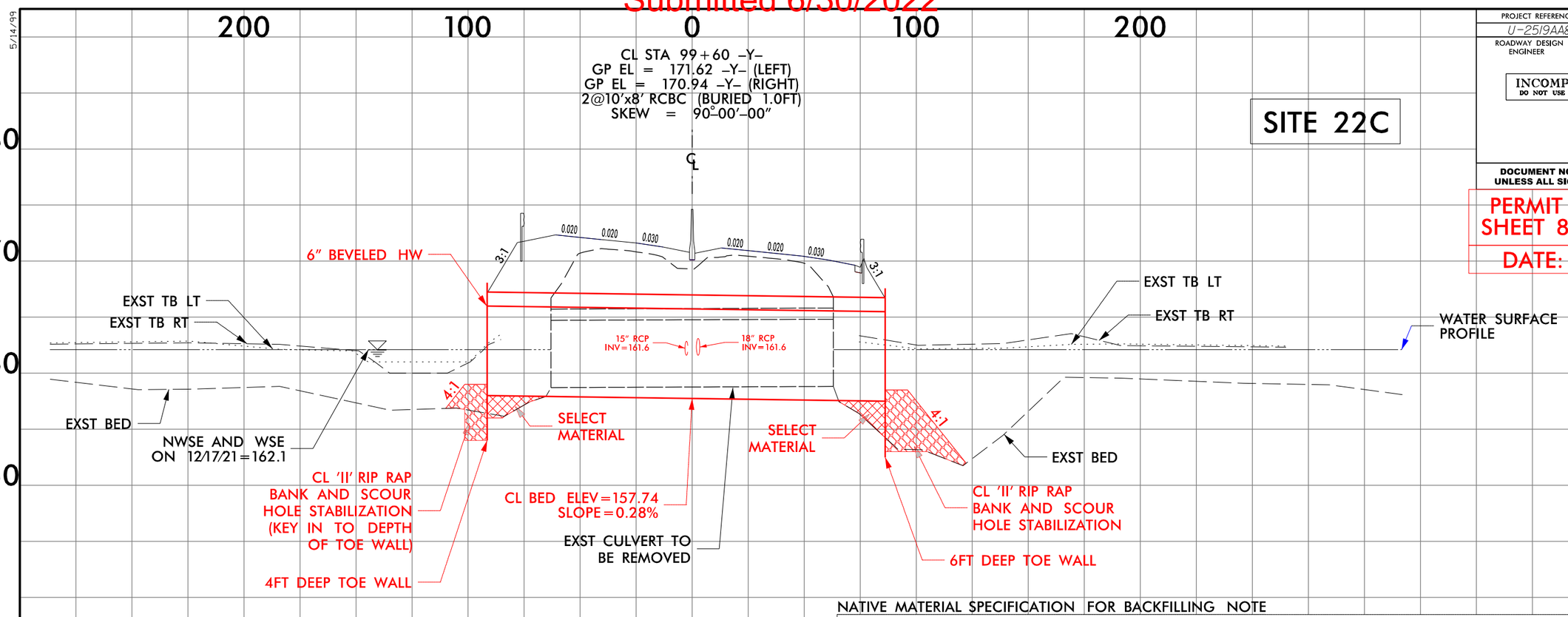
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 87A OF 132

DATE: 06-10-22

SITE 22C



NATIVE MATERIAL SPECIFICATION FOR BACKFILLING NOTE

The Engineer, in consultation with DEO staff, shall review all material to be used as backfill prior to conducting the backfill activity. Backfill shall consist of native material only unless the Engineer, in consultation with DEO staff, determines that (1) the native material is unsuitable, or (2) additional material is required to supplement the native material. The chosen backfill material shall not have adverse effects to aquatic life, aquatic life passage, or water quality. Native material consists of material that is excavated from the stream bed or floodplain at the project site during culvert construction. Native material may also be subject to permit conditions.

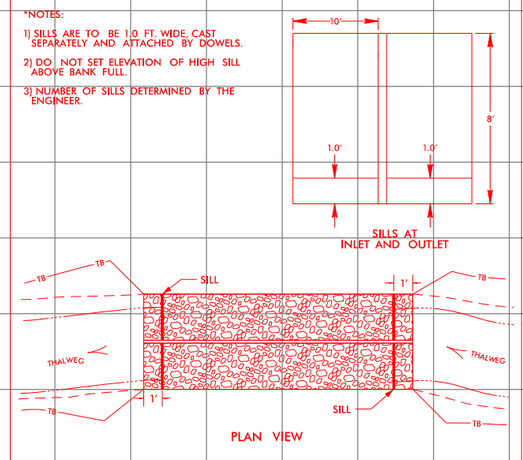
DETAIL
(NOT TO SCALE)
MULTI- BARREL CULVERT W/SILLS

*NOTES:

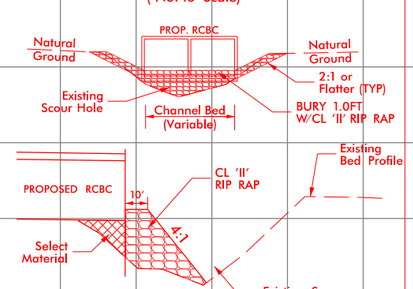
1) SILLS ARE TO BE 1.0 FT. WIDE, CAST SEPARATELY AND ATTACHED BY DOWELS.

2) DO NOT SET ELEVATION OF HIGH SILL ABOVE BANK FULL.

3) NUMBER OF SILLS DETERMINED BY THE ENGINEER.

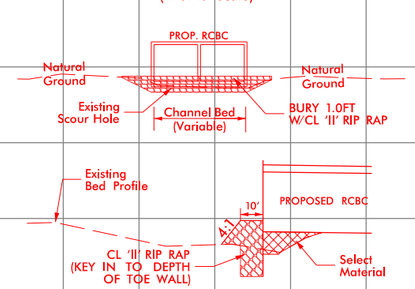


DETAIL
OUTLET BANK & SCOUR HOLE STABILIZATION
(Not to Scale)



Length = 36 Ft.
Type of Liner = Class 'II' Rip-Rap
Est. 125 Tons

DETAIL
INLET BANK & SCOUR HOLE STABILIZATION
(Not to Scale)



Length = 20 Ft.
Type of Liner = Class 'II' Rip-Rap
Est. 65 Tons

Submitted 6/30/2022

PROJ. REFERENCE NO.	SHEET NO.
U-2519AA&AB	Y-29

PERMIT DRAWING
SHEET 91 OF 132

DATE: 06-10-22

6/23/16

$$$$SYSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

Submitted 6/30/2022

6/23/16

0 10 20

PROJ. REFERENCE NO.	SHEET NO.
U-2519AA&AB	Y-30

PERMIT DRAWING
SHEET 92 OF 132
DATE: 06-10-22

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

SITE 22A

WETLAND

3:1

0.020 0.020 0.030 0.020 0.020 0.030

170.27

3:1

WETLAND

SITE 22B

ROW

160
140
120

101+00.00

SITE 22A

WETLAND

3:1

0.020 0.020 0.030 0.020 0.020 0.030

169.57

3:1

WETLAND

ROW

160
140
120

100+50.00

SITE 22A

WETLAND

3:1

0.020 0.020 0.030 0.020 0.020 0.030

170.11

3:1

WETLAND

ROW

160
140
120

100+00.00

SITE 22C

WETLAND

3:1

0.020 0.020 0.030 0.020 0.020 0.030

169.30

3:1

WETLAND

ROW

160
140
120

99+50.00

SITE 22A

WETLAND

3:1

0.020 0.020 0.030 0.020 0.020 0.030

168.80

3:1

WETLAND

SITE 22B

ROW

160
140
120

99+00.00

-Y-

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

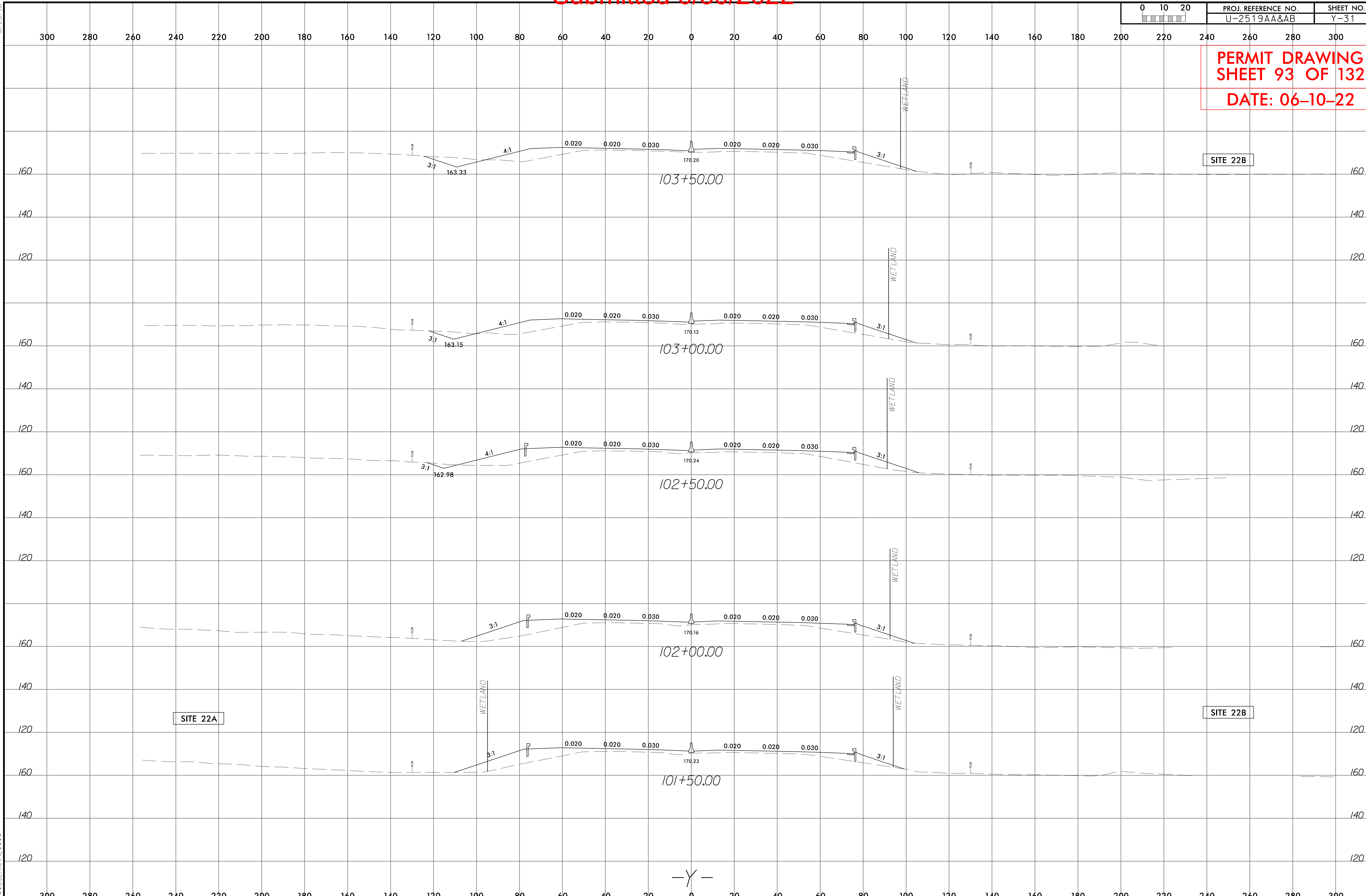
$$$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

Submitted 6/30/2022

PROJ. REFERENCE NO.	SHEET NO.
U-2519AA&AB	Y-31

PERMIT DRAWING
SHEET 93 OF 132

DATE: 06-10-22



Submitted 6/30/2022

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

50' 25' 0 50' 100'
SCALE: 1"=100'
NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	29A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130A OF 132
DATE: 06-23-22

MATCHLINE -Y- STA 106+50 SEE SHEET 29

MATCHLINE -Y- STA 120+00 SEE SHEET 29B

PROP. ROCK EMBANKMENT SEE GEOTECH REPORT & SHEET 2G-2 TO 2G-3 FOR DETAILS (TYP.)

S R GAINEY CONSTRUCTION INC

JAMES H. PARRISH, ET UX, REVOCABLE LIVING TRUST

KENNETH MCMILLAN

SITE 31

SITE 32

SITE 22B

CL 'II' RIP RAP SEE INLET BANK AND SCOUR HOLE STABILIZATION DETAIL 29A-3

CL I RIP RAP ROCK PLATING 2.5:1 FILL SLOPE FROM STA. 108+65 TO STA. 110+00 -Y- LT

Q10=38.5 CFS
V10=1.9 FPS

DAYLIGHT DITCH

CL B RIP RAP
EST. 28 TONS
EST. 73 SY GF

SPEC. LAT. 4' BASE DITCH SEE DETAIL 29A-2

SPEC. LAT. 6' BASE DITCH SEE DETAIL 29A-1

CL 'II' RIP RAP SEE OUTLET BANK AND SCOUR HOLE STABILIZATION DETAIL 29A-4

Q10=85.0 CFS
V10=2.0 FPS

CL B RIP RAP
EST. 86 TONS
EST. 89 SY GF

SEE PERMIT DRAWING SHEET 130C OF 132 FOR ENLARGEMENT

DETAIL 29A-1
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM STA. 110+00 TO STA. 120+00 -Y- RT

DETAIL 29A-2
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM STA. 112+00 TO STA. 120+00 -Y- LT

DETAIL 29A-3
INLET BANK & SCOUR HOLE STABILIZATION
(Not to Scale)

DETAIL 29A-4
OUTLET BANK & SCOUR HOLE STABILIZATION
(Not to Scale)

DETAIL 29A-5
MULTI- BARREL CULVERT W/SILLS
(NOT TO SCALE)

FOR -Y- PROFILE SEE SHEETS 77B & 77C

$$$$USERNAME$$$$ $$$$SYSTIME$$$$ $$$$DGN$$$$

Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	29A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130B OF 132

DATE: 06-23-22

S S — DENOTES IMPACTS IN SURFACE WATER

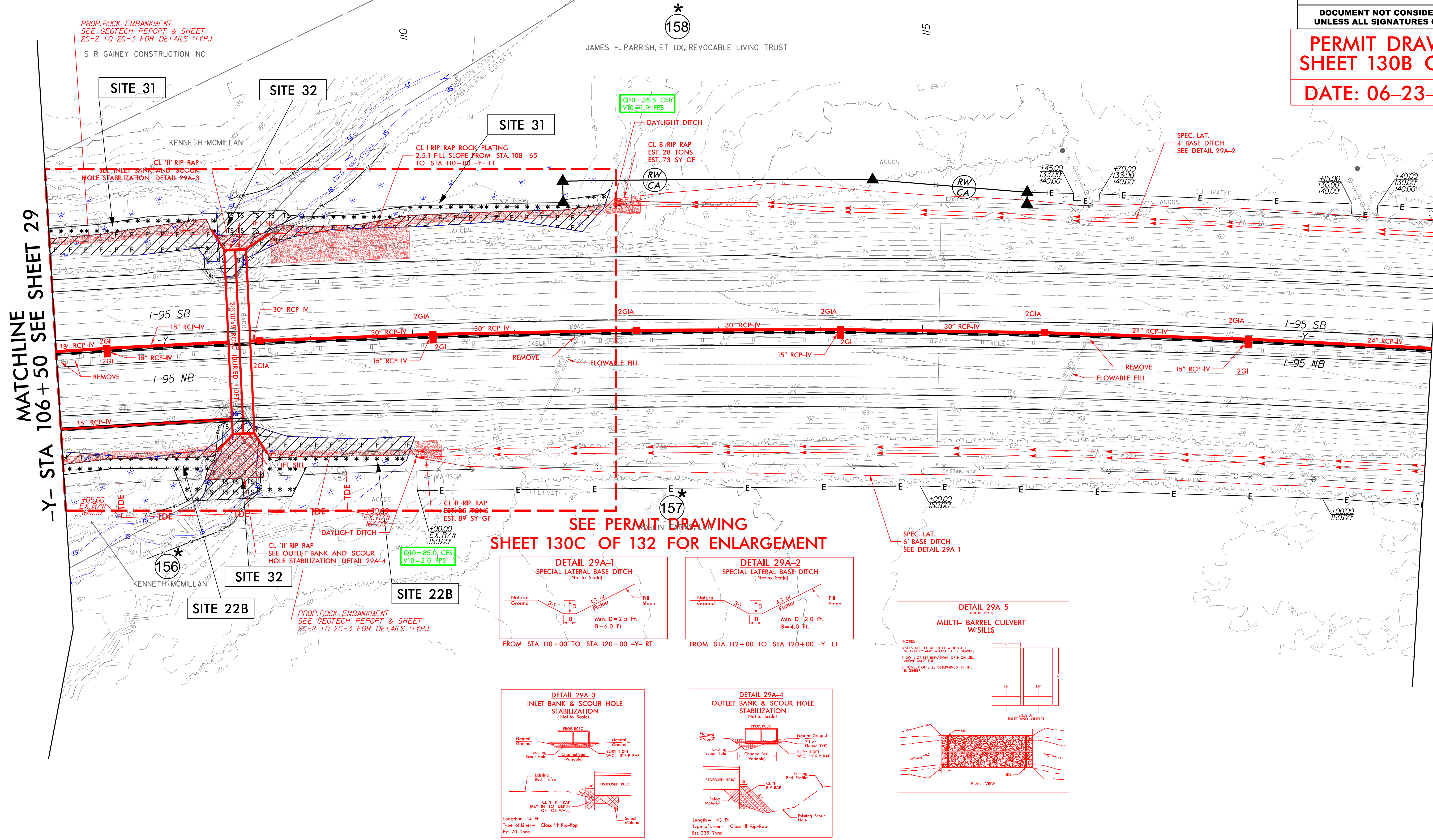
TS TS — DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F — DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

50' 25' 0 50' 100'
SCALE: 1" = 100'

NAD 83/NA 2011



MATCHLINE -Y- STA 106+50 SEE SHEET 29
MATCHLINE -Y- STA 120+00 SEE SHEET 29B
SITE 31
SITE 32
SITE 31
SITE 32
SITE 22B
SITE 22B
158
157
156
JAMES H. PARRISH, ET UX, REVOCABLE LIVING TRUST
KENNETH MCMILLAN
S R GAINEY CONSTRUCTION INC
PROP. ROCK EMBANKMENT SEE GEOTECH REPORT & SHEET 2G-2 TO 2G-3 FOR DETAILS (TYP.)
CL 'II' RIP RAP SEE INLET BANK AND SCOUR HOLE STABILIZATION DETAIL 29A-3
CL I RIP RAP ROCK PLATING 2.5:1 FILL SLOPE FROM STA. 108+65 TO STA. 110+00 -Y- LT
Q10=38.5 CFS V10=1.9 FPS
DAYLIGHT DITCH
CL B RIP RAP EST. 28 TONS EST. 73 SY GF
SPEC. LAT. 4' BASE DITCH SEE DETAIL 29A-2
I-95 SB
I-95 NB
-Y-
2GIA
2GI
30" RCP-IV
18" RCP-IV
15" RCP-IV
24" RCP-IV
REMOVE
FLOWABLE FILL
CL 'II' RIP RAP SEE OUTLET BANK AND SCOUR HOLE STABILIZATION DETAIL 29A-4
DAYLIGHT DITCH
CL B RIP RAP EST. 36 TONS EST. 89 SY GF
Q10=85.0 CFS V10=2.0 FPS
SPEC. LAT. 6' BASE DITCH SEE DETAIL 29A-1
SEE PERMIT DRAWING SHEET 130C OF 132 FOR ENLARGEMENT
DETAIL 29A-1 SPECIAL LATERAL BASE DITCH (Not to Scale)
Min. D=2.5 Ft. B=6.0 Ft.
FROM STA. 110+00 TO STA. 120+00 -Y- RT
DETAIL 29A-2 SPECIAL LATERAL BASE DITCH (Not to Scale)
Min. D=2.0 Ft. B=4.0 Ft.
FROM STA. 112+00 TO STA. 120+00 -Y- LT
DETAIL 29A-3 INLET BANK & SCOUR HOLE STABILIZATION (Not to Scale)
Length = 14 Ft. Type of Liner = Class 'II' Rip-Rap Est. 70 Tons
DETAIL 29A-4 OUTLET BANK & SCOUR HOLE STABILIZATION (Not to Scale)
Length = 43 Ft. Type of Liner = Class 'II' Rip-Rap Est. 235 Tons
DETAIL 29A-5 MULTI-BARREL CULVERT W/SILLS
PLAN VIEW

FOR -Y- PROFILE SEE SHEETS 77B & 77C

Submitted 6/30/2022

8/17/99

F F DENOTES FILL IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

25' 12.5' 0 25' 50'
SCALE: 1" = 50'

NAD 83

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130C OF 132

DATE: 06-23-22

PROP. ROCK EMBANKMENT
SEE GEOTECH REPORT & SHEET
2G-2 TO 2G-3 FOR DETAILS (TYP.)

CL 'II' RIP RAP
SEE INLET BANK AND SCOUR
HOLE STABILIZATION DETAIL 9-3

CL I RIP RAP ROCK PLATING
2.5:1 FILL SLOPE FROM STA. 108+65
TO STA. 110+00 -Y- LT

Q10 = 38.5 CFS
V10 = 1.9 FPS

SITE 31

SITE 32

-Y- 108+00

-Y- 110+00

COLE CAMP CREEK

1FT SILL

48" WW ISBW

WOODS

SPEC. LAT.
4' BASE DITCH
SEE DETAIL 9-2

CL B RIP RAP
EST. 28 TONS
EST. 73 SY GF

DAYLIGHT DITCH

MTL

I-95 SB

I-95 NB

7'X9' BARREL

2@10'x9' RCBC (BURIED 1.0FT)

30" RCP-IV

18" RCP-IV

15" RCP-IV

2GI

2GIA

REMOVE

CABLE

CONC

DI

GRASS

18" RCP

FLOWABLE FILL

MATCHLINE -Y- STA 106+50
SEE SHEET 8

+05.00
EX. R/W
164.00'

SITE 22B

TDE

SITE 32

+30.00
EX. R/W
167.00'

+00.00

Q10 = 85.0 CFS
V10 = 2.0 FPS

CULTIVATED

SPEC. LAT.
6' BASE DITCH
SEE DETAIL 9-1

CL 'II' RIP RAP
SEE OUTLET BANK AND SCOUR
HOLE STABILIZATION DETAIL 9-4

PROP. ROCK EMBANKMENT
SEE GEOTECH REPORT & SHEET
2G-2 TO 2G-3 FOR DETAILS (TYP.)

$$$$$$SYSTIME$$$$$
$$$$$$USERNAME$$$$$DGN$$$$$$$$$$$$$$$$$$$$

Submitted 6/30/2022

5/14/99

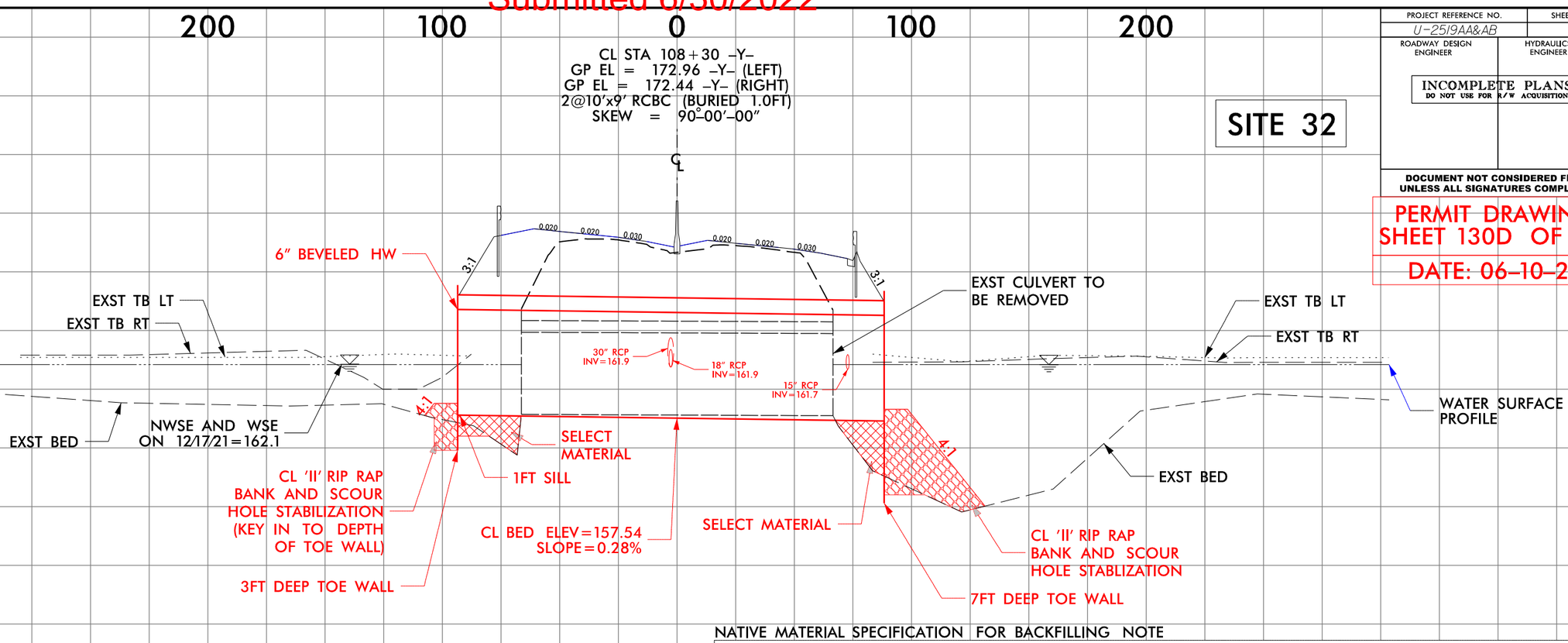
PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130D OF 132
DATE: 06-10-22

SITE 32



NATIVE MATERIAL SPECIFICATION FOR BACKFILLING NOTE

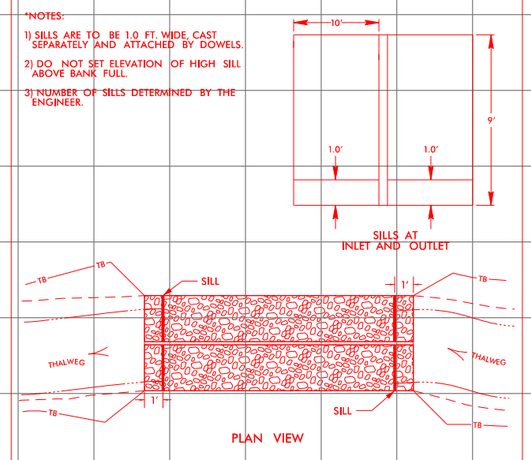
The Engineer, in consultation with DEO staff, shall review all material to be used as backfill prior to conducting the backfill activity. Backfill shall consist of native material only unless the Engineer, in consultation with DEO staff, determines that (1) the native material is unsuitable, or (2) additional material is required to supplement the native material. The chosen backfill material shall not have adverse effects to aquatic life, aquatic life passage, or water quality. Native material consists of material that is excavated from the stream bed or floodplain at the project site during culvert construction. Native material may also be subject to permit conditions.

DETAIL
(NOT TO SCALE)

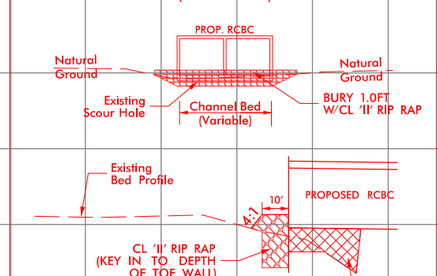
MULTI– BARREL CULVERT W/SILLS

*NOTES:

1) SILLS ARE TO BE 1.0 FT. WIDE, CAST SEPARATELY AND ATTACHED BY DOWELS.
2) DO NOT SET ELEVATION OF HIGH SILL ABOVE BANK FULL.
3) NUMBER OF SILLS DETERMINED BY THE ENGINEER.

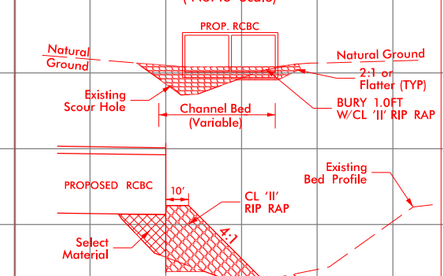


DETAIL
INLET BANK & SCOUR HOLE STABILIZATION
(Not to Scale)



Length= 14 Ft.
Type of Liner= Class 'II' Rip-Rap
Est. 70 Tons

DETAIL
OUTLET BANK & SCOUR HOLE STABILIZATION
(Not to Scale)



Length= 43 Ft.
Type of Liner= Class 'II' Rip-Rap
Est. 235 Tons

$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$USERNAME$$$$$$$$

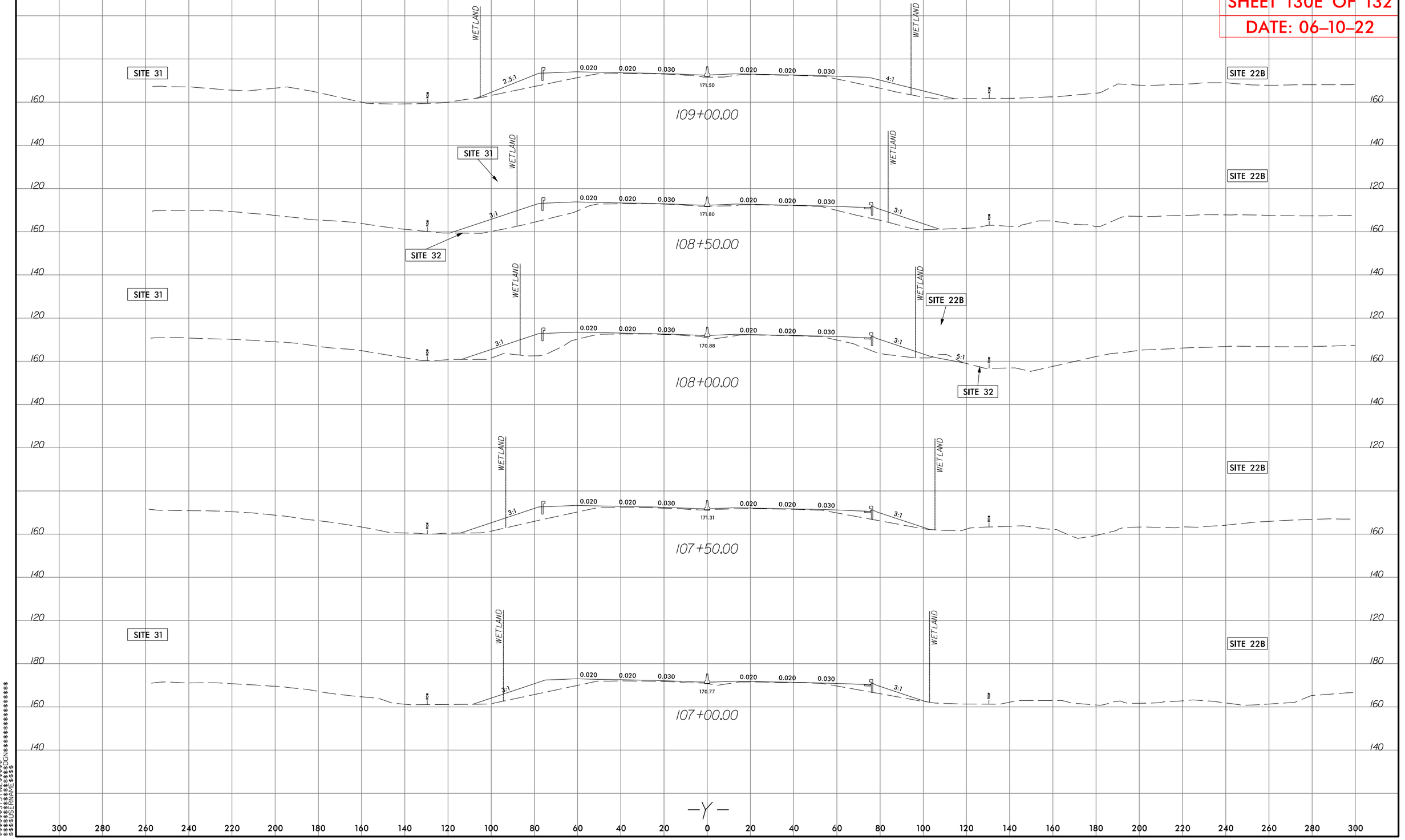
Submitted 6/30/2022

6/23/16

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	U-2519AA&AB	Y-33

PERMIT DRAWING
SHEET 130E OF 132
DATE: 06-10-22

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300



160 140 120 160 140 120 160 140 120 160 140 120 180 160 140

—Y—

$$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$USERNAME$$$$

Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	29H
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130F OF 132

DATE: 06-10-22

50' 25' 0 50' 100'
SCALE: 1" = 100'

NAD 83/NA 2011

FOR TEMPORARY ROADWAY ALIGNMENTS -YNBXOVER-4- & -YSBXOVER-4-, SEE SHEETS 2B-3 & 2B-4 FOR DETAILS

MATCHLINE -Y- STA 201+00.00 SEE SHEET 29G

MATCHLINE -Y- STA 214+00.00 SEE SHEET 291

GREGORY POOLE EQUIPMENT COMPANY

SITE 33

SEE PERMIT DRAWING SHEET 130H OF 132 FOR ENLARGEMENT

INLET CHANNEL IMPROVEMENTS w/BANK STABILIZATION
EST. 19 TONS CL II RIPRAP
EST. 20 SY GEOTEXTILE
SEE DETAIL 29H-5

FILL TO ELEVATION 171.0'

BURY INVERT 1.0'

FLOWABLE FILL

TRENCHLESS INSTALLATION 48" WELDED STEEL

FALSE SUMP SEE DETAIL 29H-4

REMOVE DI

TRENCHLESS INSTALLATION 24" WELDED STEEL

24" ELBOWS

18" ELBOWS

LATERAL 3' BASE DITCH SEE DETAIL 29H-1

CL B RIPRAP EST. 7 TONS EST. 15 SY GF

CL B RIPRAP EST. 3 TONS EST. 10 SY GF

CL I RIPRAP EST. 40 TONS EST. 75 SY GF

LATERAL 3' BASE DITCH SEE DETAIL 29H-2

LATERAL 6' BASE DITCH SEE DETAIL 29H-3

SEE PERMIT DRAWING SHEET 130L OF 132 FOR ENLARGEMENT

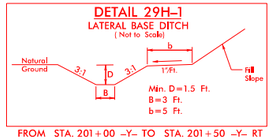
SITE 34

BRAXTON VILLAGE DEVELOPERS, LLC

S S DENOTES IMPACTS IN SURFACE WATER

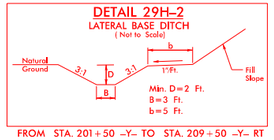
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL 29H-1
LATERAL BASE DITCH
(Not to Scale)



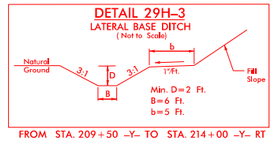
FROM STA. 201+00 -Y- TO STA. 201+50 -Y- RT

DETAIL 29H-2
LATERAL BASE DITCH
(Not to Scale)



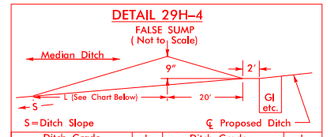
FROM STA. 201+50 -Y- TO STA. 209+50 -Y- RT

DETAIL 29H-3
LATERAL BASE DITCH
(Not to Scale)



FROM STA. 209+50 -Y- TO STA. 214+00 -Y- RT

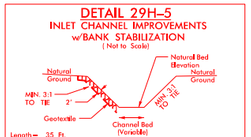
DETAIL 29H-4
FALSE SUMP
(Not to Scale)



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 201+61 -Y- MED STA. 204+61 -Y- MED
STA. 207+61 -Y- MED STA. 210+01 -Y- MED
STA. 212+11 -Y- MED

DETAIL 29H-5
INLET CHANNEL IMPROVEMENTS w/BANK STABILIZATION
(Not to Scale)



STA. 210+50 -Y- LT

FOR -Y- PROFILE SEE SHEETS 77I & 77J

$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$

Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 130G OF 132

DATE: 06-10-22

50' 25' 0 50' 100'
SCALE: 1"=100'

GREGORY POOLE EQUIPMENT COMPANY

SITE 33

SEE PERMIT DRAWING SHEET 130H OF 132 FOR ENLARGEMENT

INLET CHANNEL IMPROVEMENTS w/BANK STABILIZATION
EST. 19 TONS CL II RIPRAP
EST. 20 SY GEOTEXTILE
SEE DETAIL 29H-5

FILL TO ELEVATION 171.0'
BURY INVERT 1.0'
FLOWABLE FILL
TRENCHLESS INSTALLATION 24" WELDED STEEL
TRENCHLESS INSTALLATION 18" WELDED STEEL
24" ELBOWS
18" ELBOWS
REMOVE DI
FALSE SUMP SEE DETAIL 29H-4
18" RCP-III
15" RCP-III
24" CMP
18" RCP-IV
15" RCP-IV
LATERAL 3' BASE DITCH SEE DETAIL 29H-1
LATERAL 3' BASE DITCH SEE DETAIL 29H-2
LATERAL 6' BASE DITCH SEE DETAIL 29H-3
CL B RIPRAP EST. 7 TONS EST. 15 SY GF
CL B RIPRAP EST. 3 TONS EST. 10 SY GF
CL I RIPRAP EST. 40 TONS EST. 75 SY GF
+6253 EX.R/W
I-95 SB
I-95 NB
I-95 SB 38' BST
I-95 NB 38' BST
48" WW ISBW
24" CMP
R/W MON
EXISTING R/W
POND
RETENTION POND
WOODS
MTL
GR
CONC HW
CONC DI
205
210
161
BRAXTON VILLAGE DEVELOPERS, LLC

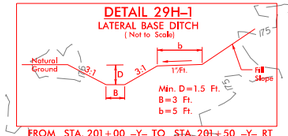
SITE 34

SEE PERMIT DRAWING SHEET 130L OF 132 FOR ENLARGEMENT

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DETAIL 29H-1
LATERAL BASE DITCH
(Not to Scale)

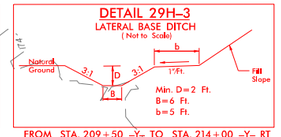


FROM STA. 201+00 -Y- TO STA. 201+50 -Y- RT

DETAIL 29H-2
LATERAL BASE DITCH
(Not to Scale)

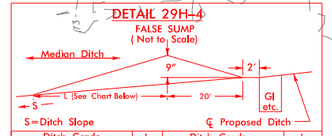
FROM STA. 201+50 -Y- TO STA. 209+50 -Y- RT

DETAIL 29H-3
LATERAL BASE DITCH
(Not to Scale)



FROM STA. 209+50 -Y- TO STA. 214+00 -Y- RT

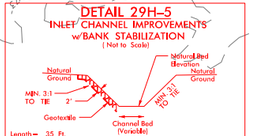
DETAIL 29H-4
FALSE SUMP
(Not to Scale)



Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 201+61 -Y- MED STA. 204+01 -Y- MED
STA. 207+61 -Y- MED STA. 210+01 -Y- MED
STA. 212+11 -Y- MED

DETAIL 29H-5
INLET CHANNEL IMPROVEMENTS w/BANK STABILIZATION
(Not to Scale)



STA. 210+50 -Y- LT

$$$$SYSTIME$$$$
$$$$USERNAME$$$$

Submitted 6/30/2022

FILL TO ELEVATION 171.0′

INLET CHANNEL IMPROVEMENTS
w/BANK STABILIZATION
EST. 19 TONS CL II RIPRAP
EST. 20 SY GEOTEXTILE
SEE DETAIL 16–5

BURY INVERT 1.0′

FLOWABLE FILL

TRENCHLESS INSTALLATION
60″ WELDED STEEL

PROJECT REFERENCE NO.	SHEET NO.
U–2519AA&AB	

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130H OF 21

DATE: 06–10–22

Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

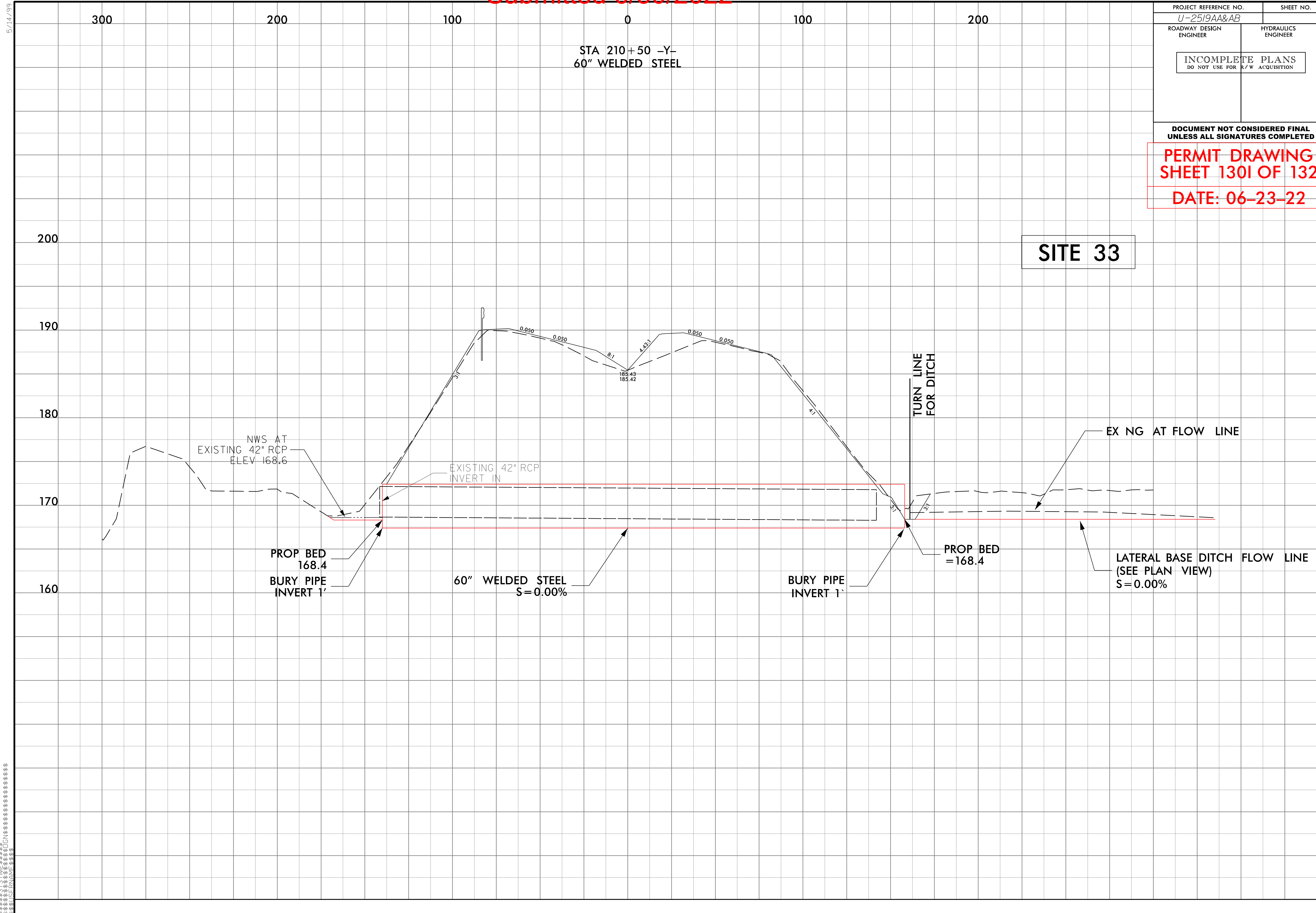
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130I OF 132

DATE: 06-23-22

SITE 33



Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	291
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130J OF 132

DATE: 06-10-22

50' 25' 0 50' 100'
SCALE: 1" = 100'

NAD 83-NA 2011

MATCHLINE -Y- STA 214+00.00
SEE SHEET 29H

MATCHLINE -Y-, -Y-LT2, -Y-RT2- STA 228+00.00
SEE SHEET 29J

GREGORY POOLE EQUIPMENT COMPANY

HOPE MILLS TOWN LIMITS

JOSEPH P. RIDDLE, III, ET UX

PELICAN PROPERTY HOLDINGS, LLC, ET AL

BRAXTON VILLAGE DEVELOPERS, LLC

CUTOVER

WOODS

48" WW ISBW

EXISTING R/W

R/W MON

I-95 SB

I-95 NB

-Y-LT2-

-Y-RT2-

-Y- 225

CL B RIPRAP
EST. 5 TONS
EST. 14 SY GF

TRENCHLESS INSTALLATION
24" WELDED STEEL

FLOWABLE FILL

REMOVE DI

FES

2GI

FALSE SUMP
SEE DETAIL 291-2

GRASS 15" RCP-III

15" RCP-III

CONC

DI

-Y- 15" RCP-III

I-95 SB 47' BST

I-95 NB 38' BST

S

TS

LATERAL 6' BASE DITCH
SEE DETAIL 291-1

SEE PERMIT DRAWING
SHEET 130L OF 132 FOR ENLARGEMENT

SITE 34

GRASS-SHEETS

JS

GR

F

C

G

6" STEEL

DETAIL 291-1
LATERAL BASE DITCH
(Not to Scale)

Natural Ground
3:1
D
B
b
1':Ft.
3:1
Fill Slope
Min. D=2 Ft.
B=6 Ft.
b=5 Ft.

FROM STA. 214+00 -Y- TO STA. 214+37 -Y- RT

DETAIL 291-2
FALSE SUMP
(Not to Scale)

Median Ditch
9"
2'
L (See Chart Below)
20'
GI etc.
S
S= Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

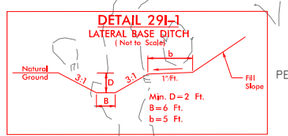
STA. 215+61 -Y- MED
STA. 219+11 -Y- MED
STA. 222+61 -Y- MED
STA. 227+61 -Y- MED

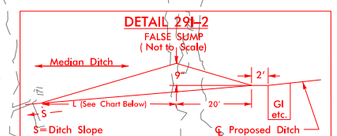
S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR -Y- PROFILE SEE SHEETS 77J & 77K
FOR -Y-LT2- PROFILE SEE SHEET 77L
FOR -Y-RT2- PROFILE SEE SHEET 77L

$$$$$SYSTIME$$$$
$$$$$SITE_RNAME_$$$
$$$$$DGN$$$$$$$$$$





Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	29I
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130K OF 132

DATE: 06-10-22

DETAIL 29I-1
LATERAL BASE DITCH
(Not to Scale)

Min. D = 2 Ft.
B = 6 Ft.
b = 5 Ft.

FROM STA. 214+00 -Y- TO STA. 214+37 -Y- RT

DETAIL 29I-2
FALSE SUMP
(Not to Scale)

S = Ditch Slope
℄ Proposed Ditch

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 215+61 -Y- MED
STA. 219+11 -Y- MED
STA. 222+61 -Y- MED
STA. 227+61 -Y- MED

▨ S S	DENOTES IMPACTS IN SURFACE WATER
▨ TS TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR -Y- PROFILE SEE SHEETS 77J & 77K
FOR -Y-LT2- PROFILE SEE SHEET 77L
FOR -Y-RT2- PROFILE SEE SHEET 77L

Submitted 6/30/2022

PROJECT REFERENCE NO.	SHEET NO.
U-2519AA&AB	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 130L OF 132

DATE: 06-10-22

8/17/99

$$$$SYSTIME$$$$ $$$$USERNAME$$$$ $$$$DGN$$$$

Submitted 6/30/2022

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-FLYBD- 20+10 to 23+24	ROADWAY FILL	0.57			0.04						
2	-Y4- 24+18 to 26+65	ROADWAY FILL	0.03			0.06						
3	-L- 30+88 to 31+69	54" RCP - IV	< 0.01				0.02	0.03	< 0.01	300	43	
4	-L- 36+56 to 37+03	36" RCP - III						< 0.01	< 0.01	78	35	
5	-L- 38+17 to 38+93	60" CMP PIPE REMOVAL					0.01		< 0.01		31	
6	-L- 37+55 to 44+55	ROADWAY FILL	2.20			0.28						
8	-L- 75+02 to 79+96	2 @ 8' x 7' RCBC	1.93		0.03	0.11	0.11	0.08	0.01	518	85	
		BANK STABILIZATION						< 0.01		35		
9	-L- 85+99 to 89+87	30" RCP - III						0.08	0.02	525	101	
10	-L- 97+22 to 99+80	ROADWAY FILL						0.05	0.01	445	110	
12	-L- 115+50 to 123+12	ROADWAY FILL						0.10	0.04	522	232	
13	-L- 123+72 to 123+74	ROADWAY FILL						0.06	< 0.01	736	19	
		BANK STABILIZATION						< 0.01		44		
14	-L- 168+35 to 173+74	72" RCP						0.11	< 0.01	515	42	
		BANK STABILIZATION						0.03		125		
15	-L- 248+32 to 248+51	DITCH RIP RAP	< 0.01				< 0.01	< 0.01		35		
		BRIDGE					0.05					
		WORKBRIDGE							0.01		30	
16	-L- 256+22 to 256+64 LT	ROADWAY FILL	0.06		0.01	0.01						
17	-L- 257+79 to 258+87	ROADWAY FILL	0.15			0.02						
18	-L- 261+09 to 262+60	8'x6' RCBC	0.50			0.09						
19	-L- 263+85 to 267+61	ROADWAY FILL	1.55		0.14	0.17						
20	-Y1- 31+39 to 31+80	ROADWAY FILL	0.06			0.03						
21	-Y1- 65+90 to 67+57	ROADWAY FILL	0.20			0.07						
TOTALS*:			7.27	0	0.18	0.89	0.20	0.51	0.12	3674	728	0

*Rounded totals are sum of actual impacts

NOTES:
Bank stabilization impacts not included in totals (Site 8, Site 13, Site 14)
Site 7: Eliminated; No Impacts
Site 11: Eliminated; No Impacts
Site 16: Wetlands will be total take of .0891 AC
Site 19: Wetlands in this area will add an additional area of .5189 AC (as noted on plans)

Submitted 6/30/2022

WETLAND AND SURACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
22A	96+52 to 101+94 -Y-LT	ROADWAY FILL	0.29			0.12						
22B	97+39 to109+99 -Y-RT	ROADWAY FILL	0.40			0.33						
22C	99+42 to 99+87 -Y-	2 at 10' x 8' RCBC						0.03		50		
	99+42 to 99+85 -Y-LT	INLET CHANNEL						0.01	0.02	19	20	
	99+50 to 99+87-Y-RT	OUTLET CHANNEL						0.02	< 0.01	36	8	
23	-Y2- 15+90 to 19+16	2 @ 8' x 6' RCBC	0.17			0.17		0.03	< 0.01	78	18	
24	-Y4- 36+27 to 41+34	2 @ 9' X 6' RCBC	0.34	0.41	0.01		0.20	< 0.01	0.03	24	98	
		BANK STABILIZATION						0.03		93		
25	-Y5- 93+83 to 94+10	RCP					0.01					
26	-Y5- 88+85 to 89+44	ROADWAY FILL	0.01			0.02						
27	-Y7- 66+35 to 66+64	8' x 7' RCBC						0.02	0.02	90	87	
		BANK STABILIZATION						0.01		69		
28	-Y7- 84+38 to 87+88	2 @ 10' x 7'						0.07		416		
29	-Y10- 58+94 to 61+31	BRIDGE			0.02		0.34		0.02		83	
		WORKBRIDGE					0.11		< 0.01		31	
30	-Y10- 87+68 to 88+37	2@36" RCP	0.06			0.03		< 0.01		90		
31	105+12 to 111+91 -Y-LT	ROADWAY FILL	0.21			0.13						
32	107+90 to 108+78 -Y-	2 at 10' x 9' RCBC						0.03		48		
	108+13 to 108+57 -Y-LT	INLET CHANNEL						0.01	0.03	20	24	
	107+93 to 108+78 -Y RT	OUTLET CHANNEL						0.04	0.02	44	23	
33	210+22 to 210+73 -Y-LT	INLET CHANNEL						< 0.01	< 0.01			
34	213+76 to 214+45 -Y-RT	DRAINAGE DITCH						< 0.01	< 0.01	70	10	
											0	
TOTALS*:			1.48	0.41	0.04	0.80	0.66	0.29	0.17	985	402	0
PROJECT TOTALS*:			8.75	0.41	0.22	1.69	0.86	0.80	0.29	4659	1130	0

*Rounded totals are sum of actual impacts

NOTES:
Wetland and stream impacts at Site 22 were previously permitted under the U-2519AA & AB project. Since receiving approval of that this site has been redelineated under the I-5987 project. The impacts shown above for Site 22A-C utilitze the newest wetland and survey file to calculate impact totals. The impact totals which were previously permitted at Site 22 using the U-2519AA & AB wetland as follows: Permanent Fill in Wetlands: 0.17 ac, Temp. Fill in Wetlands: 0.06 ac, Hand Clearing in Wetlands: 0.14 AC
Bank stabilization impacts not included in totals (Site 24, Site 27)
Site 33 is JS-Non Mitigable

Revised 2018 Feb

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
06/10/2022
CUMBERLAND & ROBESON COUNTIES
U-2519AA & AB
34817.3.4