



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

July 25, 2024

MEMORANDUM TO: Division Environmental and Construction Units
FROM: *mat* Michael A. Turchy, ECAP Group Leader
Environmental Analysis Unit
SUBJECT: Environmental Permits for the Replacement of Bridge 36 on NC 561 over
Fishing Creek in Nash and Halifax Counties, Division 4, **TIP: BR-0090.**

Please find enclosed the following permits for this project:

Agency	Permit Type	Permit Expiration
US Army Corps of Engineers Section 404 Clean Water Act Permit	Nationwide Permit 14	March 14, 2026
NC Division of Water Resources Section 401 Water Quality Certification	Individual Water Quality Certification	March 14, 2026
NC Division of Water Resources Buffer Authorization	Tar-Pamlico Riparian Buffer Authorization	July 4, 2029

Work is authorized by the above referenced permit provided it is accomplished in strict accordance with the permitted plans.

The Environmental Coordination and Permitting Group or the Division Environmental Office must be consulted if any deviation from the permit(s) or accompanying drawings is required.

The General Conditions and Certifications for Nationwide and Regional Permits can be referenced at:
https://xfer.services.ncdot.gov/pdea/PermIssued/_General_Conditions_and_Certifications/

PROJECT COMMITMENTS

T.I.P. Project No BR-0090
Replacement of Bridge 630036 on NC 561 over Fishing Creek
Nash/Halifax Counties
W.B.S. No. 67090.1.1

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

NCDOT Biological Surveys Group – Threatened and Endangered Species

PBO payments have been made for: Dwarf wedgemussel, Tar River Spiny mussel, Neuse river waterdog, Atlantic pigtoe, Yellow lance, and Carolina madtom prior to initiating construction activities. All applicable conservation measures detailed within the Programmatic Agreement will be strictly adhered to.

NCDOT Environmental Policy Unit – Conservation Easements

Send signed MCDC documentation and ROW plansets to NAWCA grant administrator Nicole Virella (nicole_virella@fws.gov) to approve partial disposal of Tar River Land Conservancy parcels for easement acquisition.

Tar River Land Conservancy parcels are also partially funded by Land and Water Fund and a Dedicated Nature Preserve (DNP) boundary exists across both parcels. Consult with TRLC and NHP during ROW acquisition to amend DNP for ROW, easement acquisition, and approval of temporary bridge impacts.

Shocco Creek Game Land ROW acquisition must be approved by NHAC and State Property Office. Send signed MCDC documentation and ROW planset once completed and continue communicating with NHAC during acquisition process.

NCDOT Division 4 - Environmental

An inventory of preconstruction natural ground level elevations will be taken to ensure that the site is restored to natural ground level contours once the detour bridge and associated fill is removed. NCDOT will provide NHP and WRC an opportunity to review and comment on the reforestation plan prior to project letting.

NCDOT Division 4

In order to have time to adequately reroute school buses, Nash County and Halifax County Schools will be contacted at least one month prior to road closure. The contact person for Nash County Public Schools is Michael Baier – Public School Director of Transportation at (252) 462-2480. The contact person for Halifax County Schools is Tony Alston – Director of School Operations at (252) 583-2381.

Nash County and Halifax County Emergency Services will be contacted at least one month prior to road closure to make the necessary temporary reassignments to primary

response units. The contact person for Nash County is Tony Cameron – Emergency Services Director at (252) 459-9805. The contact person for Halifax County is James Ellen III - Emergency Services Director at (252) 583-2088.

NCDOT Hydraulics Unit

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT’S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

NCDOT Division 4 Construction, Resident Engineer’s Office

Any contractor working on-site should use highly protective sediment and erosion control BMPs and should address any potential impacts to off-site streams and waterways. Additionally, site grading, excavation, and construction plans should include implementable measures to prevent erosion and sediment runoff from the project site during and after construction.

The Catawba Indian Nation and the Haliwa-Saponi Indian Tribe shall be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of this project.

Construction in FEMA Coordination

This project involves construction activities on or adjacent to FEMA-regulated stream(s). Therefore, the Division shall: (1) construct all vertical and horizontal elements within the floodplain as designed; and (2) consult with the Hydraulics Unit of any planned deviation of these elements within the floodplain prior to commencing any such changes; and (3) submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction. The Hydraulics Unit will then verify either: (1) the drainage structure(s) and roadway embankment located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically; or (2) any changes made to the plans were reviewed and approved to meet FEMA SFHA compliance; or (3) appropriate mitigation measures will be achieved prior to project close out. certifying that the drainage structure(s) and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

NCDOT Division Hydraulics Unit– Buffer Rules

The Tar-Pamlico River Basin (Buffer) Rules apply to this project. Streamside riparian zones within the study area are protected under provisions of these Buffer Rules. Riparian buffer impacts shall be avoided and minimized.

COMMITMENTS FROM PERMITTING

NCDOT Division Construction, Roadside Environmental Unit, Division Environmental

USACE special condition #1: The U.S. Fish and Wildlife Service's (USFWS's) Programmatic Conference Opinion (PCO) titled "NCDOT Program Effects on the Tricolored Bat in Divisions 1-8", dated November 20, 2023, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the PCO.

USACE Special Condition #2: The U.S. Fish and Wildlife Service's (USFWS's) Programmatic Conference Opinion (PCO) titled "Bridge and Culvert Replacements/Repair/Rehabilitation Effects on Carolina Madtom and Neuse River Waterdog In NCDOT Divisions 2, 4, 5, and 7" dated May 7, 2020, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the PCO.

NCDWR Buffer Condition #1: Areas impacted by temporary detour bridge will be replaced in accordance with the Reforestation Planting Plan included in the application. DOT states that 3043 square feet in Zone 1 and 1715 square feet in Zone 2 will replanted between the Right-of-Way and the temporary easement at parcels 2 and 4.



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, WILMINGTON DISTRICT
WILMINGTON REGULATORY OFFICE
69 DARLINGTON AVENUE
WILMINGTON NORTH CAROLINA 28403

July 17, 2024

Regulatory Division
SAW-2024-01054

Sent Via email: jldilday1@ncdot.gov

Jason Dilday
NCDOT
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr./Ms. Dilday:

This letter is in response to the Pre-Construction Notification (PCN) you submitted to the Wilmington District, WRDA on May 31, 2024, for a Department of the Army Nationwide permit (NWP) verification. This project has been assigned the file number SAW-2024-01054 and is known as NCDOT/BR-0090/Br36/NC561/Nash & Halifax/Div.4. This file number should be referenced in all correspondence concerning this project.

A review of the information provided indicates that the proposed work would include the replacement of a five span, 200 linear foot (lf) by 31lf bridge with a three span, 210lf by 36lf bridge within the same alignment. The project will require an onsite detour. Impacts resulting from the onsite detour will be restored to original contours. The project area for this determination is located on NC 561 approximately 0.22 miles south of the intersection of Capps Road near the community of Holister, at Latitude 36.201070 and Longitude -78.003950; Halifax County, North Carolina.

We have determined that the proposed work is authorized by Nationwide Permit (NWP) 14 pursuant to authorities under Section 404 of the Clean Water Act (33 U.S.C § 1344). The proposed work must be accomplished in strict accordance with the general permit conditions, any regional conditions, the special conditions listed in this letter, the application materials, and the submitted plans. If the extent of the project area and/or nature of the authorized impacts to waters are modified, a revised PCN must be submitted to this office for written approval before work is initiated. Any violation of permit conditions or deviation from your submitted plans may subject the permittee to enforcement action.

This verification is valid until March 14, 2026, unless prior to this date the subject NWP(s) is suspended, revoked, or is modified such that the activity no longer complies with the terms and conditions of this NWP. If you commence or are under contract to commence this activity before the date that the relevant NWP is modified or revoked,

you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

Project Specific Special Conditions:

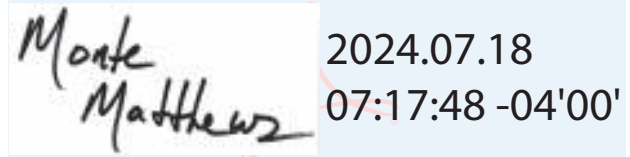
1. The U.S. Fish and Wildlife Service's (USFWS's) Programmatic Conference Opinion (PCO) titled "NCDOT Program Effects on the Tricolored Bat in Divisions 1-8", dated November 20, 2023, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the PCO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the PCO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the PCO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PCO, and with the ESA
2. The U.S. Fish and Wildlife Service's (USFWS's) Programmatic Conference Opinion (PCO) titled "Bridge and Culvert Replacements/Repair/Rehabilitation Effects on Carolina Madtom and Neuse River Waterdog In NCDOT Divisions 2, 4, 5, and 7" dated May 7, 2020, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that are specified in the PCO. The USFWS adopted the PCO as the Programmatic Biological Opinion (PBO) for the effects of this action on August 3, 2021. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the PBO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the PBO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its PBO, and with the ESA.

This NWP verification does not preclude the necessity to obtain any other Federal, State, or local permits, licenses, and/or certifications, which may be required.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Kyle Barnes, Transportation Project Manager of the WRDA at 910-251-4584, by mail at the above address, or by email at kyle.w.barnes@usace.army.mil. Please take a moment to complete our customer

satisfaction survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Sincerely,

A digital signature block containing a handwritten signature and a timestamp. The signature "Monte Matthews" is written in black ink on a white background. To the right, on a light blue background, is the timestamp "2024.07.18 07:17:48 -04'00'".

Monte
Matthews 2024.07.18
07:17:48 -04'00'

Monte Matthews
Branch Chief

Compliance Certification Form

File Number: SAW-2024-01054

County: Halifax

Permittee: NCDOT, Jason Dilday

Project Name: NCDOT/BR-0090/Br36/NC561/Nash & Halifax/Div.4

Date Verification Issued: 7/17/2024

Project Manager: Kyle Barnes

Upon completion OR 60 days of completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

**US ARMY CORPS OF ENGINEERS
Wilmington District
Attn: Kyle Barnes
WRDA
2407 West 5th Street
Washington, North Carolina 27889
or
kyle.w.barnes@usace.army.mil**

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. Failure to comply with any terms or conditions of this authorization may result in the Corps suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

I hereby certify that the work, and mitigation (if applicable), authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit including any general or specific conditions.

Date Authorized Work Started: _____ **Completed:** _____

Describe any deviations from permit (attach drawing(s) depicting the deviations):

***Note: The description of any deviations on this form does not constitute approval by the Corps.**

Signature of Permittee

Date



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

RICHARD E. ROGERS, JR.
Director

July 5, 2024

Mr. Jamie J. Lancaster, PE
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598
jlancaster@ncdot.gov

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with
ADDITIONAL CONDITIONS for Proposed Replacement of Bridge 36 on NC Hwy 561 at border of
Nash & Halifax Counties. NCDOT TIP # BR-0090.
NCDWR Project No. 20240749

Dear Mr. Lancaster:

Attached hereto is a copy of Certification No. 6898 issued to The North Carolina Department of Transportation (NCDOT) dated July 5, 2024.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

DocuSigned by:
Robert Ridings
80ECA32C7C38490...

Richard E. Rogers Jr, Director
Division of Water Resources

Attachments

Cc: Kyle Barnes, USACE Washington Regulatory Field Office (Kyle.W.Barnes@usace.army.mil)
Shane Tapper, NCDOT ECAP East Team (kstapper@ncdot.gov)
Jason Dilday, NCDOT ECAP East Team Lead (jldilday1@ncdot.gov)
Garry Wright, NCDOT Division 4 Environmental Officer (glwright@ncdot.gov)
File Copy



401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 0.05 acres of jurisdictional wetlands and 365 linear feet of jurisdictional streams in Nash and Halifax Counties. The project shall be constructed pursuant to the application received May 31, 2024. The authorized impacts are as described below:

Stream Impacts in the Tar-Pamlico River Basin

Site 1	Bank Stabilization to Perennial Stream (linear ft)	Temporary Impact to Perennial Stream (linear ft)	Total Stream Impact (linear ft)
Total	160	205	365

Total Stream Impact for Project: 365 linear feet

Wetland Impacts in the Tar-Pamlico River Basin

Site	Hand Clearing & Temporary Impact (ac)	Total Wetland Impact (ac)
1	0.01	0.01
2	0.04	0.04
Total	0.05	0.05

Total Wetland Impact for Project: 0.05 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the Tar-Pamlico River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received May 31, 2024. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7).

For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.



This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. Upon the presentation of proper credentials, the Division may inspect the property.

Conditions of Certification:

1. The post-construction removal of any temporary bridge structures or temporary detours must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species. [15A NCAC 02H .0506(b)(2)]
2. As a condition of this 401 Water Quality Certification, the bridge demolition and construction must be accomplished in strict compliance with the most recent version of NCDOT's Best Management Practices for Construction and Maintenance Activities. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
3. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. To meet the requirements of NCDOT's NPDES permit NCS0000250, please refer to the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Toolbox* manual for approved measures. [15A NCAC 02H .0507(d)(2) and 15A NCAC 02H .0506(b)(5)]
4. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly. [15A NCAC 02H .0506(b)(3)]
5. A turbidity curtain will be installed in the stream if filling, driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank; or during the removal of bents from an old bridge. This condition can be waived with prior approval from the NCDWR. [15A NCAC 02H .0506(b)(3)]
6. Wetland areas impacted by temporary clearing shall be stabilized and reseeded with native wetland seed. [15A NCAC 2H.0506(b)]
7. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]
8. For all streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species. [15A NCAC 02H.0506(b)(2)]
9. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
10. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
11. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
12. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]



13. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]
14. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
15. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
16. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
17. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
18. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
19. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]
20. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
21. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]
22. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
23. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]
24. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]
25. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]



26. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:

- a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

27. Sediment and erosion control measures shall not be placed in wetlands or surface waters, or within 5 feet of the top of bank, without prior approval from DWR. [15A NCAC 02H.0506(b)(3) and (c)(3)]

28. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506 {b)(3) and (c)(3) and 15A NCAC 02B .0200]

29. Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*. All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times. For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971. [15A NCAC 02H.0506(b)(3) and (c)(3)]

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.




This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) **within sixty (60) calendar days**. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:
William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This the 5th day of July 2024

DIVISION OF WATER RESOURCES

DocuSigned by:

80ECA32C7C38490...
Richard E. Rogers, Jr, Director

WQC No. 6898





NORTH CAROLINA
Environmental Quality

July 4, 2024

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

RICHARD E. ROGERS, JR.
Director

DWR # 20240749
Nash & Halifax Counties

Mr. Jamie J. Lancaster, PE
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598
jlancaster@ncdot.gov

Subject: APPROVAL of TAR-PAMLICO RIPARIAN BUFFER IMPACTS WITH ADDITIONAL CONDITIONS
NCDOT PROJECT: TIP #BR-0090: Bridge 36 on NC 561

Dear Mr. Lancaster:

You have our approval for the impacts listed below for the purpose described in your application received by the Division of Water Resources (Division) on May 31, 2024. These impacts are covered by the Tar-Pamlico Buffer Rules and the conditions listed below. Please note that you should get any other federal, state or local permits before proceeding with your project, including those required by (but not limited to) Sediment and Erosion Control, Non-Discharge, and Water Supply Watershed regulations. The following impacts are hereby approved, provided that all of the Conditions listed below and all of the conditions of the Tar-Pamlico Buffer Rules are met. No other impacts are approved, including incidental impacts. [15A NCAC 02B.0611(b)(2)]

Tar-Pamlico Riparian Buffer Impacts

Site	Zone 1 Impact (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)		Zone 2 Impact (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
Totals	10416	N/A		6800	N/A

* n/a = Impact type: Allowable; no mitigation required
Total Buffer Impact for Project: 17216 square feet.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Authorization Certificate. If you change your project, you must notify the Division and you may be required to submit a new application package. If the property is sold, the new owner must be given a copy of this Authorization Certificate and is responsible for complying with all conditions. [15A NCAC 02B.0611(b)(2)]



If you are unable to comply with any of the conditions below, you must notify the DWR Transportation Permitting Branch within 24 hours (or the next business day if a weekend or holiday) from the time the permittee becomes aware of the circumstances.

The permittee shall report to the NC Division of Water Resources any noncompliance with the conditions of this Authorization Certificate and/or any violation of state regulated riparian buffer rules [15A NCAC 2B.0734]. Information shall be provided orally within 24 hours (or the next business day if a weekend or holiday) from the time the applicant became aware of the circumstances.

Conditions of Approval:

1. As stated in your application, areas impacted by temporary detour bridge will be replanted in accordance with the Reforestation Planting Plan included in the application. DOT states that 3043 square feet in Zone 1 and 1715 square feet in Zone 2 will be replanted between the Right-of-Way and the temporary easement at parcels 2 and 4. [15A NCAC 02B.0611(b)(2)]
2. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. [15A NCAC 02B.0734]
3. Pursuant to 15A NCAC 2B.0734 sediment and erosion control devices shall not be placed in Zone 1 of any Tar-Pamlico Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.
4. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 02B.0734]
5. Native riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0734] & [15A NCAC 02B.0506(b)(2)]

This approval and its conditions are final and binding unless contested. [G.S. 143-215.5]

This Authorization Certificate can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) **within sixty (60) calendar days**. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000.



One (1) copy of the Petition must also be served to the North Carolina Department of Environmental Quality:

William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

This Authorization shall expire five (5) years from the date of this letter.

This letter completes the review of the Division under the Tar-Pamlico Riparian Buffer Rules as described in 15A NCAC 2B.0734.

Please contact Rob Ridings at rob.ridings@deq.nc.gov or 919-707-8786 if you have any questions or concerns.

Sincerely,

DocuSigned by:

80ECA32C7C38490...

Richard E. Rogers, Jr., Director
Division of Water Resources

cc:

Kyle Barnes, USACE Washington Regulatory Field Office (Kyle.W.Barnes@usace.army.mil)

Shane Tapper, NCDOT ECAP East Team (kstapper@ncdot.gov)

Jason Dilday, NCDOT ECAP East Team Lead (jldilday1@ncdot.gov)

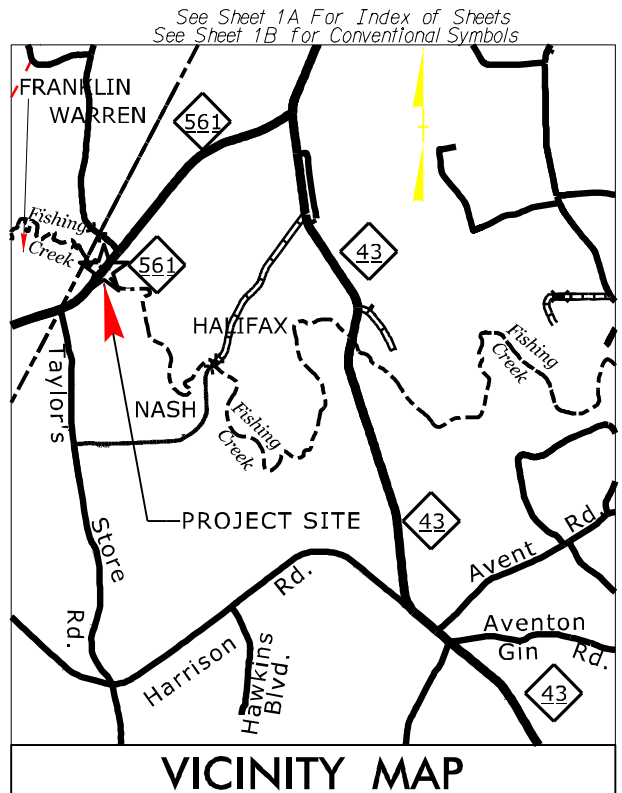
Garry Wright, NCDOT Division 4 Environmental Officer (glwright@ncdot.gov)

File Copy



09/08/19

TIP PROJECT: BR-0090



RAW PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HALIFAX & NASH COUNTIES

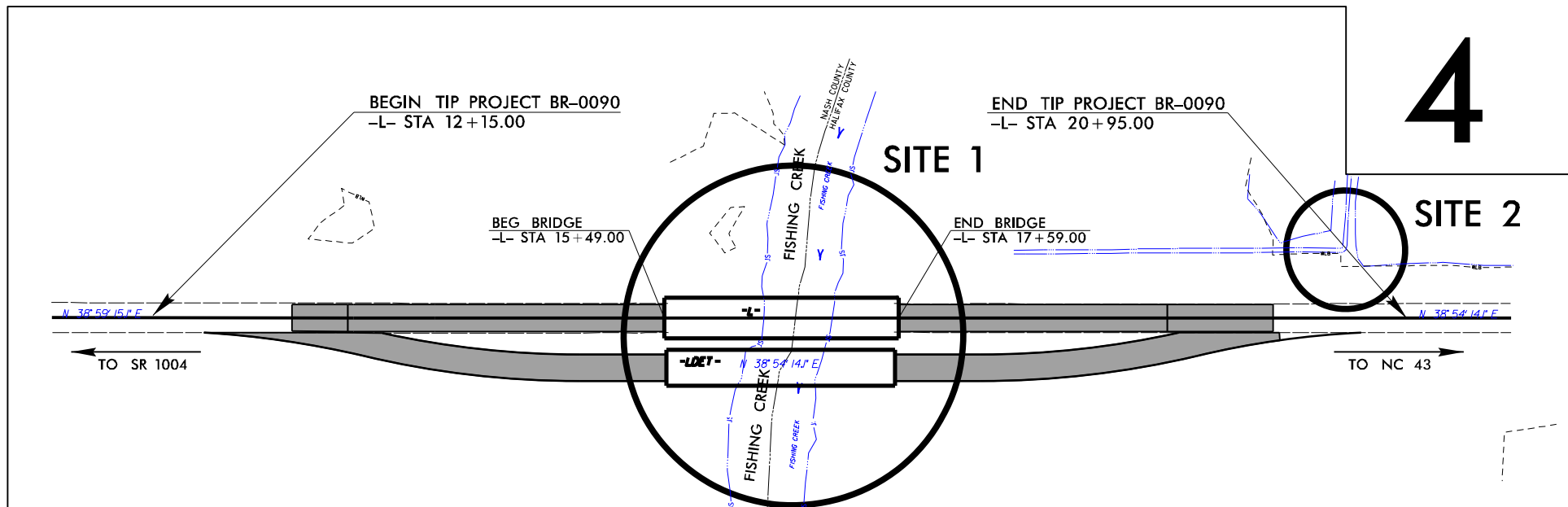
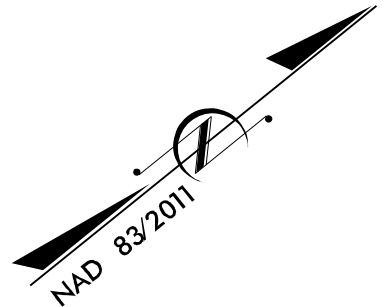
LOCATION: BRIDGE NO. 630036 OVER FISHING CREEK
ON NC 561

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

WETLAND AND SURFACE WATER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0090	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
67090.1.1	NA	P.E.	
67090.2.1	NA	RW & UTIL	
67090.3.1	NA	CONSTR	

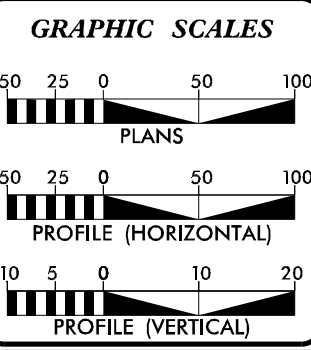
PERMIT DRAWING
SHEET 1 OF 8



- NOTES:
- CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III
 - THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
 - THIS PROJECT IS NOT A CONTROL ACCESS PROJECT

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA

ADT 2022 =	1615
ADT 2042 =	2188
K =	— %
D =	— %
T =	15 % *
V =	60 MPH
* TTST =	10 DUAL 5
FUNC CLASS =	MINOR ARTERIAL
REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0090 =	0.127 MILES
LENGTH STRUCTURE TIP PROJECT BR-0090 =	0.040 MILES
TOTAL LENGTH TIP PROJECT BR-0090 =	0.167 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

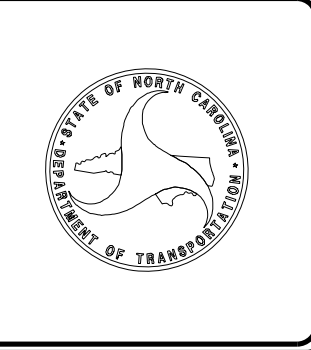
2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: AUGUST 17, 2022	KRISTY ALFORD, PE PROJECT MANAGER
LETTING DATE: JUNE 20, 2023	JORDAN WOODARD, PE PROJECT ENGINEER
	DOUG KRETCHMAN, PE PROJECT TEAM LEAD

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

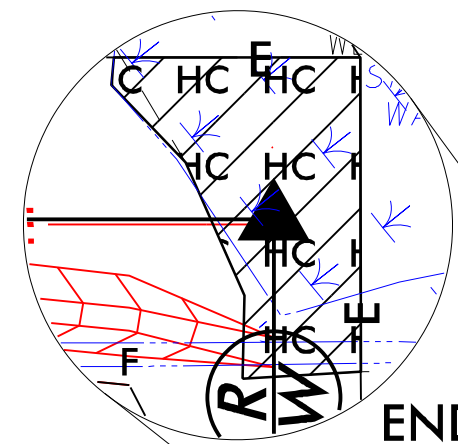


5/24/2024
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\$\$\$\$\$ SYSTEM TIME \$\$\$\$\$\$
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\$\$\$\$\$ USERNAME \$\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
BR-0090	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR L/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 2 OF 8

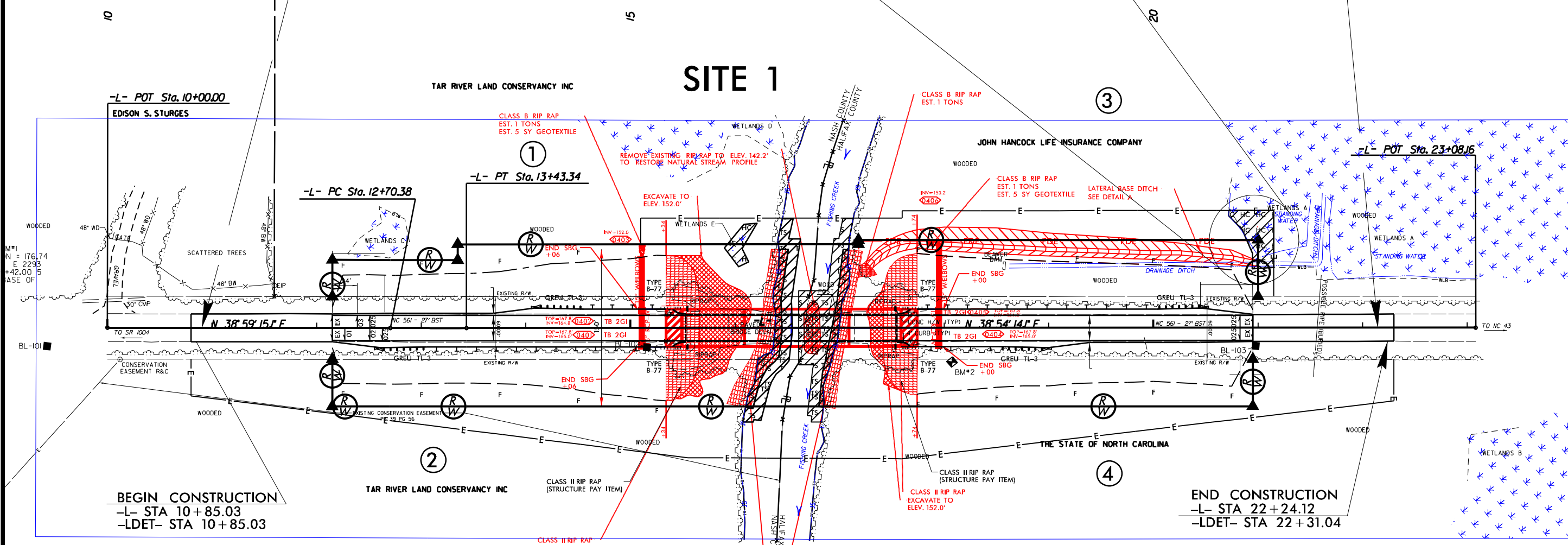
SITE 2



BEGIN TIP PROJECT BR-0090
-L- STA 10 + 90.30

END TIP PROJECT BR-0090
-L- POT STA 22 + 14.78

SITE 1



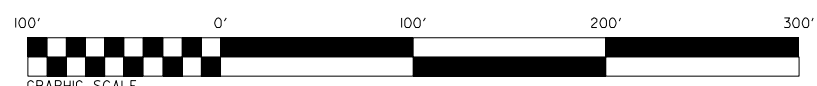
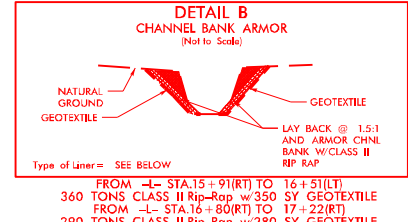
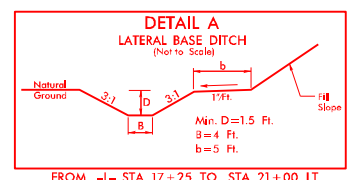
N = 176.74
E = 2293
+42.00 5
BASE OF

BEGIN CONSTRUCTION
-L- STA 10 + 85.03
-LDET- STA 10 + 85.03

END CONSTRUCTION
-L- STA 22 + 24.12
-LDET- STA 22 + 31.04

- S S SURFACE WATER IMPACTS
- TS TS TEMPORARY SURFACE WATER IMPACTS
- HC HC HAND CLEARING (NON-GRUBBING)

-L-
PI Sta 13+06.86
Δ = 0°05'01.0" (LT)
D = 0°06'52.5"
L = 72.96'
T = 36.48'
R = 50,000.00'
SE = NC



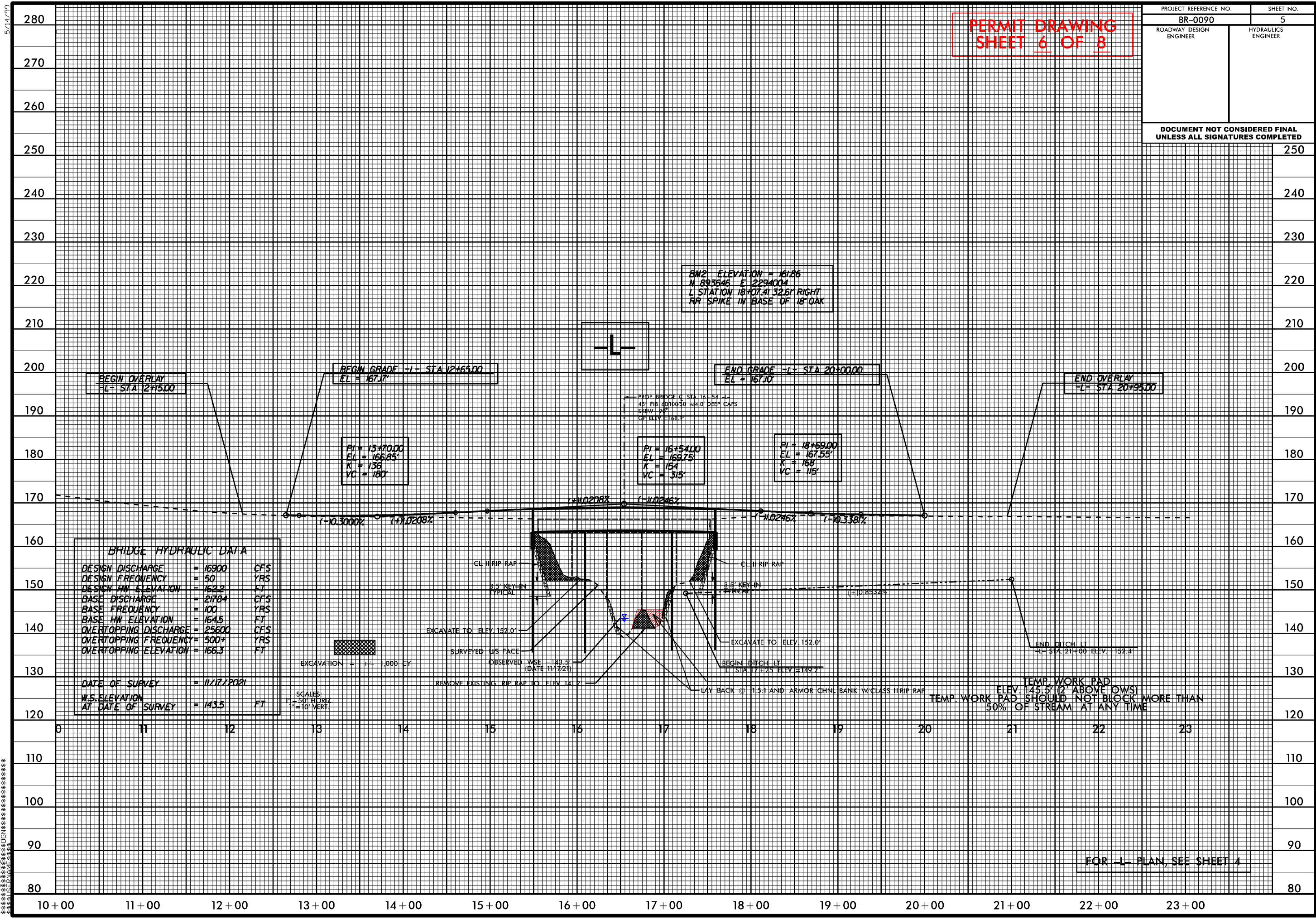
NOTE:
FOR -L- PROFILE, SEE SHEET 5
FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-?

5/24/2024
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**PERMIT DRAWING
SHEET 6 OF 8**

PROJECT REFERENCE NO. BR-0090	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	= 16900	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 162.2	FT
BASE DISCHARGE	= 21784	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 164.5	FT
OVERTOPPING DISCHARGE	= 25600	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 166.3	FT
DATE OF SURVEY = 11/17/2021		
W.S. ELEVATION AT DATE OF SURVEY = 143.5 FT		

EXCAVATION = 1" = 1,000' EX

SCALES:
1" = 50' HORIZ
1" = 10' VERT

BW2 ELEVATION = 161.86
N 89°54' E 229.00'
L STATION 18+07.41 32.6' RIGHT
RR SPIRE IN BASE OF 18' OAK

TEMP. WORK PAD
ELEV. 145.5' (2' ABOVE OWS)
TEMP. WORK PAD SHOULD NOT BLOCK MORE THAN
50% OF STREAM AT ANY TIME

FOR -L- PLAN, SEE SHEET 4

5242024
ejahn
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5/14/99

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER 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)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L-15+90 TO 16+21(LT)	HAND CLEARING					0.01					
1	-L-16+07 TO 17+13	RIPRAP EMBANKMENT						0.10	0.10	160	205	
1	-L-16+61 TO 16+89	RIPRAP REMOVAL							0.03			
2	-L-20+74 TO 21+15 (LT)	HAND CLEARING					0.04					
TOTALS*:							0.05	0.10	0.13	160	205	0

*Rounded totals are sum of actual impacts

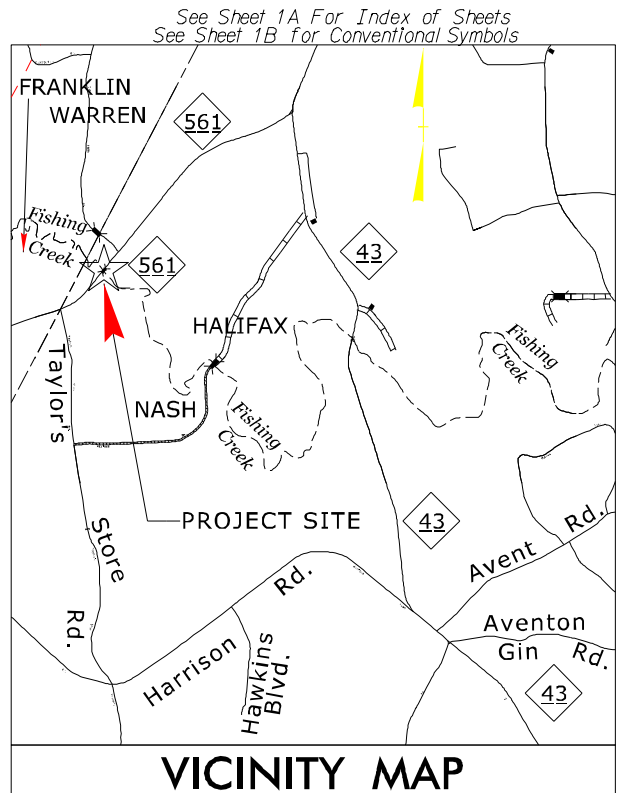
NOTES:

<0.015 acre of Temp Fill in wetlands in the hand clearing areas for EC measures.

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 May 22, 2024
 NASH COUNTY
 BR-0090
 WBS#: 67090.1.1
 SHEET 8 OF 8

09/08/19

TIP PROJECT: BR-0090



R/W PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HALIFAX & NASH COUNTIES

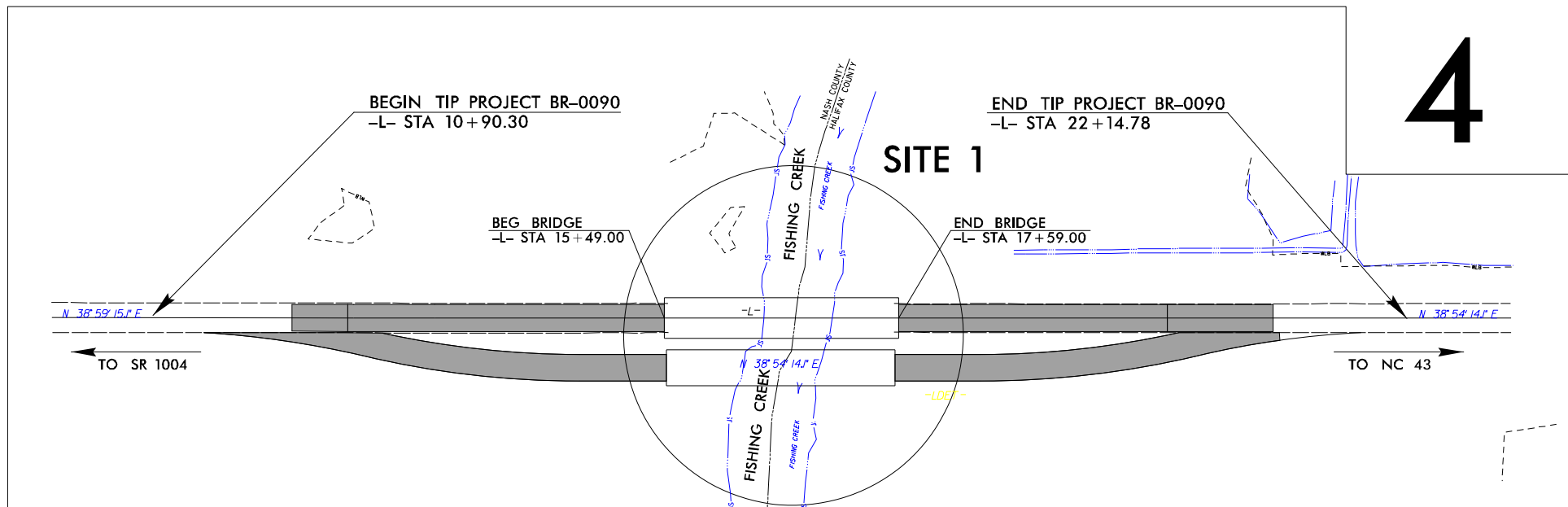
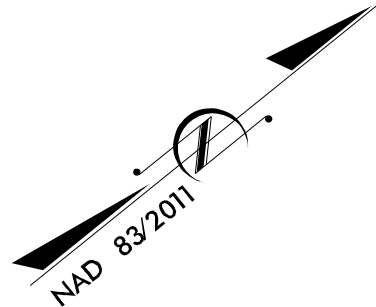
**LOCATION: BRIDGE NO. 630036 OVER FISHING CREEK
ON NC 561**

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

BUFFER IMPACTS PERMIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0090	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
67090.1.1	NA	P.E.	
67090.2.1	NA	RW & UTIL	
67090.3.1	NA	CONSTR	

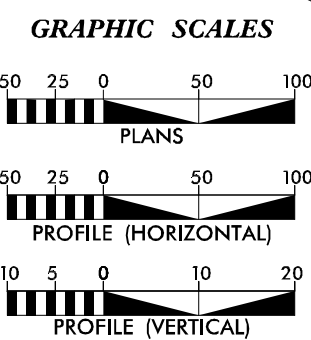
**BUFFER DRAWING
SHEET 1 OF 3**



- NOTES:
- CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III
 - THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
 - THIS PROJECT IS NOT A CONTROL ACCESS PROJECT

**INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

CONTRACT:



DESIGN DATA

ADT 2022 =	1615
ADT 2042 =	2188
K =	— %
D =	— %
T =	15 % *
V =	60 MPH
* TTST =	10 DUAL 5
FUNC CLASS =	MINOR ARTERIAL
REGIONAL TIER	

PROJECT LENGTH

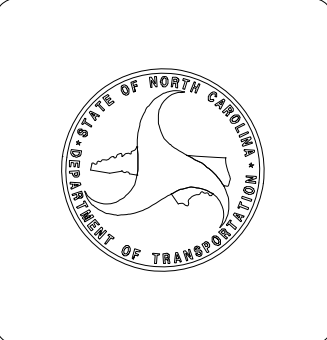
LENGTH ROADWAY TIP PROJECT BR-0090 =	0.127 MILES
LENGTH STRUCTURE TIP PROJECT BR-0090 =	0.040 MILES
TOTAL LENGTH TIP PROJECT BR-0090 =	0.167 MILES

Prepared in the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: AUGUST 17, 2022	KRISTY ALFORD, PE PROJECT MANAGER
LETTING DATE: JUNE 20, 2023	JORDAN WOODARD, PE PROJECT ENGINEER
	DOUG KRETCHMAN, PE PROJECT TEAM LEAD

HYDRAULICS ENGINEER	
SIGNATURE: _____	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE: _____	P.E.



5/24/2024
 ejhahn
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 \$\$\$\$\$\$ DONOR \$\$\$\$\$\$
 \$\$\$\$\$\$ USERNAME \$\$\$\$\$\$

8/17/09

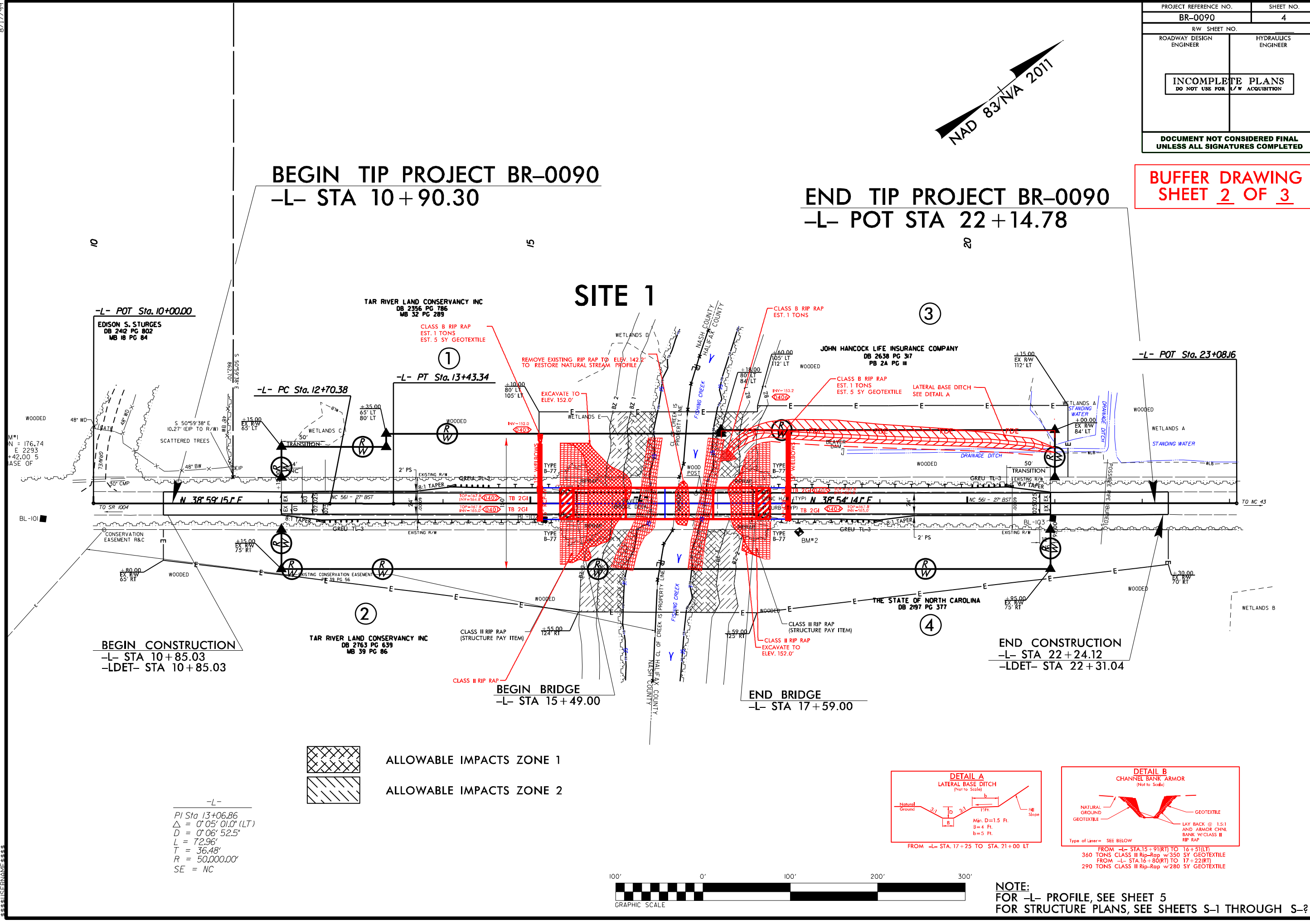
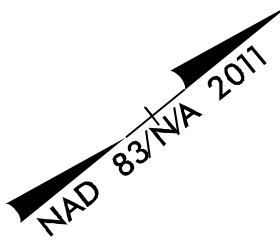
5/24/2024
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PROJECT REFERENCE NO. BR-0090	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BEGIN TIP PROJECT BR-0090
-L- STA 10 + 90.30

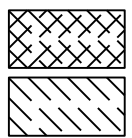
END TIP PROJECT BR-0090
-L- POT STA 22 + 14.78

BUFFER DRAWING
SHEET 2 OF 3



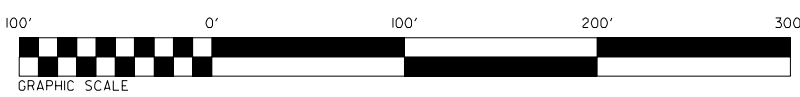
BEGIN CONSTRUCTION
-L- STA 10 + 85.03
-LDET- STA 10 + 85.03

END CONSTRUCTION
-L- STA 22 + 24.12
-LDET- STA 22 + 31.04

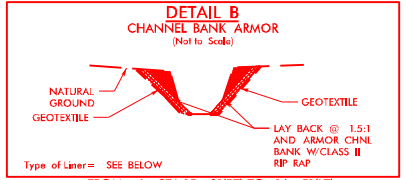
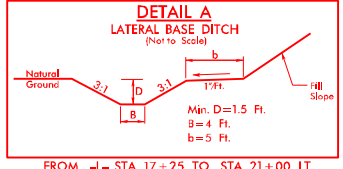


ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2

-L-
PI Sta 13+06.86
 $\Delta = 0^\circ 05' 01.0''$ (LT)
 $D = 0^\circ 06' 52.5''$
 $L = 72.96'$
 $T = 36.48'$
 $R = 50,000.00'$
SE = NC



NOTE:
FOR -L- PROFILE, SEE SHEET 5
FOR STRUCTURE PLANS, SEE SHEETS S-1 THROUGH S-?



RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	-15+57 (RT) TO 17+68 (L)	BRIDGE		X		10416	6800	17215					
TOTALS*:						10416	6800	17215	0	0	0	0	0

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
12.8.22
NASH COUNTY
BR-0090
67090.1.1

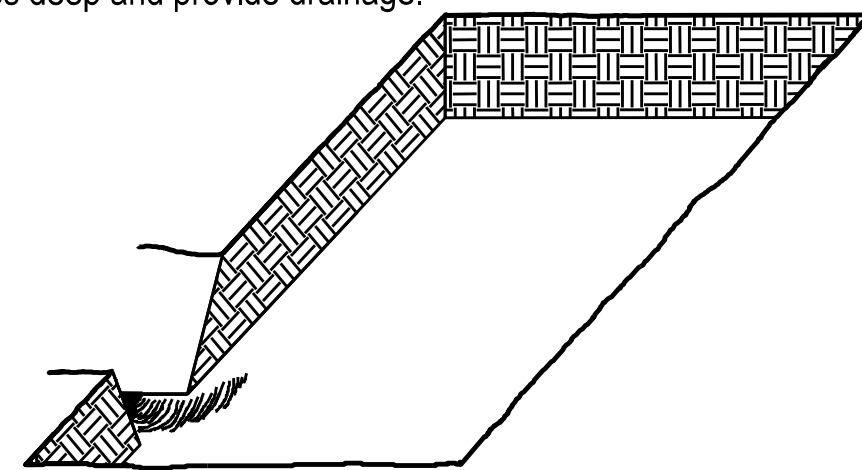
SHEET 3 OF 3

PLANTING DETAILS

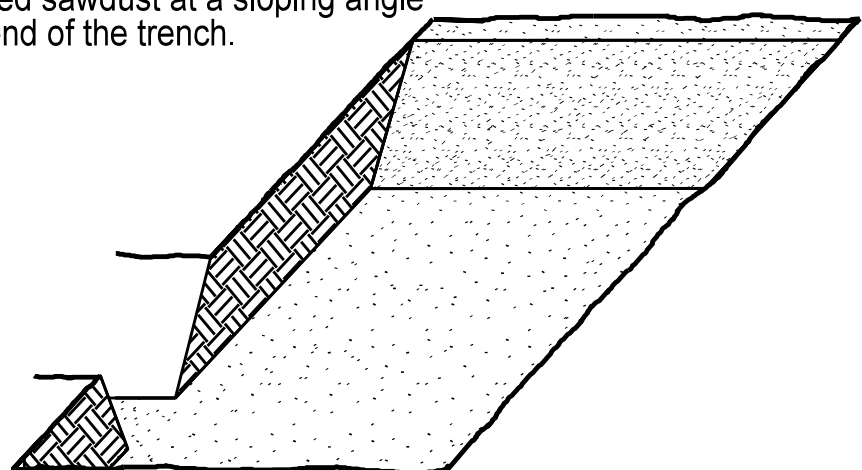
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

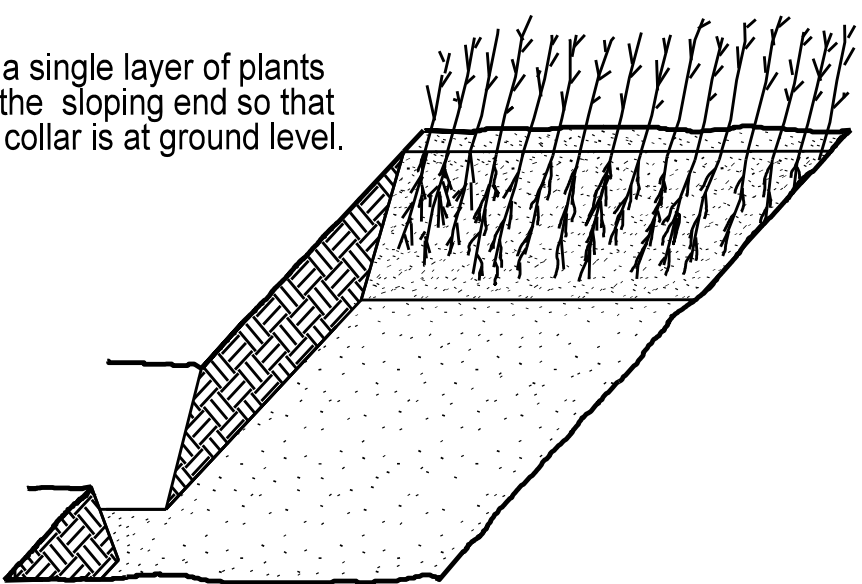
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



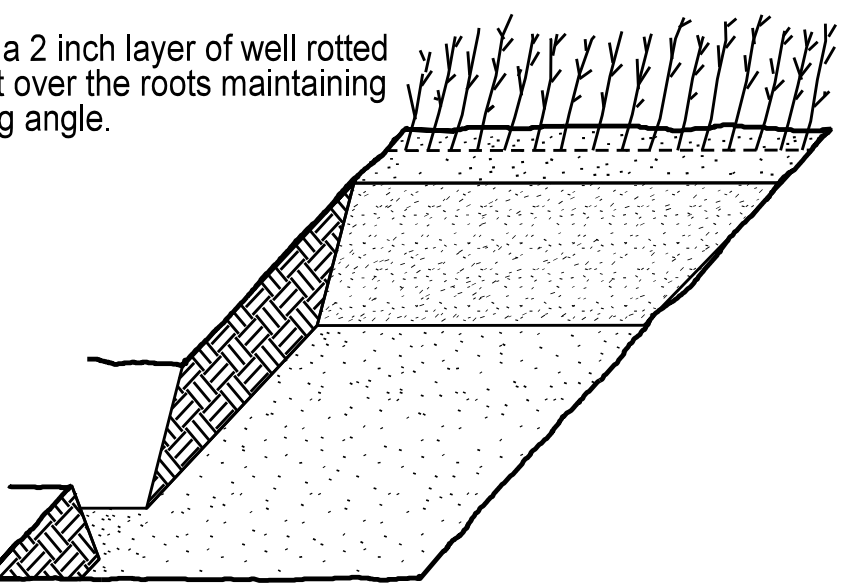
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

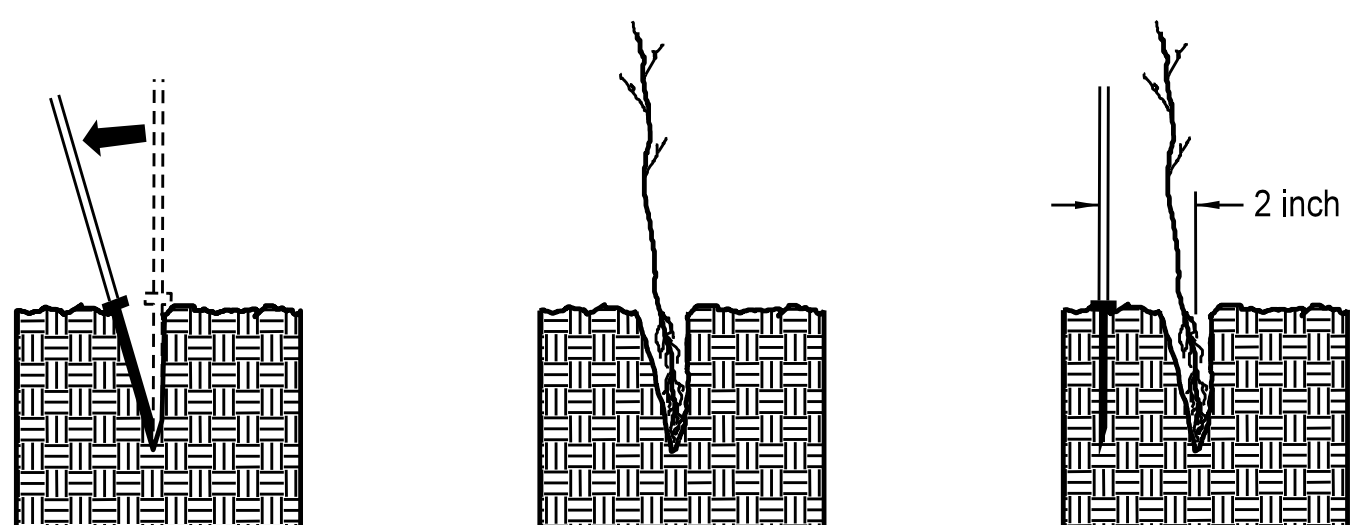


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.



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

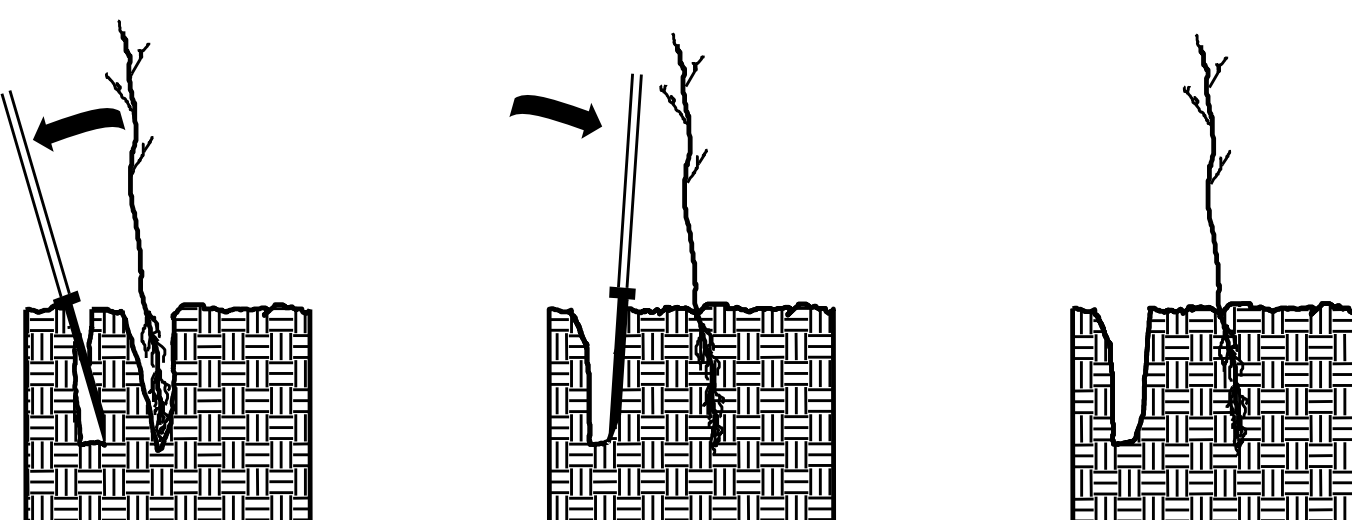
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



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

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

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



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

5. Push handle forward firming soil at top.

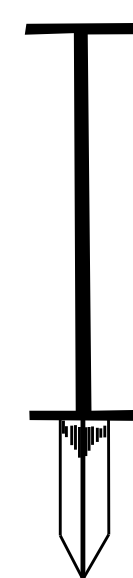
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

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



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



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

REFORESTATION

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

REFORESTATION

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

20% LIRIODENDRON TULIPIFERA	YELLOW POPLAR	12 in - 18 in BR
20% QUERCUS MICHAUXII	SWAMP CHESTNUT OAK	12 in - 18 in BR
20% QUERCUS PHELLOS	WILLOW OAK	12 in - 18 in BR
20% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in - 18 in BR

Must meet a min. of 2 of the following size criteria:

10% FAGUS GRANDIFLORIA	AMERICAN BEECH	#3 CONT. OR LARGER, >= 3 ft ht, >1 in CALIPER
10% ILEX OPACA	AMERICAN HOLLY	#3 CONT. OR LARGER, >= 3 ft ht, >1 in CALIPER

REFORESTATION DETAIL SHEET

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