



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

October 22, 2024

MEMORANDUM TO: Division Environmental and Construction Units

FROM: Jason Dilday, ECAP Eastern Region Group Leader
Environmental Analysis Unit

SUBJECT: Environmental Permits for the Replacement of Bridge 29 on US17 Bus.
over Chainey Creek in Onslow County, Division 3, **TIP: BR-0194.**

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 #6	March 14, 2026
NC Division of Water Resources Section 401 Water Quality Certification	General Certification No. 4242 [NW6](non-written)	March 14, 2026

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/PermlIssued/_General_Conditions_and_Certifications/

**U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT**

Action Id. **SAW-2024-01778** County: **Onslow County** U.S.G.S. Quad: **Jacksonville North**

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Permittee: **Jason Dilday**
NCDOT

Address: **1000 Birch Ridge Drive**
Raleigh NC, 27610

Telephone Number: *********

Size (acres) **>1.0** Nearest Town Jacksonville

Nearest Waterway **Mill Creek** River Basin **Onslow Bay**
USGS HUC **03020302** Coordinates Latitude: **34.756384**; Longitude: **-77.421661**

Location description:

Description of projects area and activity: NW6 for bridge survey boring

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344);
 Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: Regional General Permit Number and/or Nationwide Permit Number: **NWP 6 Survey Activities**

SEE ATTACHED RGP or NWP GENERAL, REGIONAL AND/OR SPECIAL CONDITIONS

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted application and attached information dated September 17, 2024 Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order, a Class I administrative penalty, and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide and/or regional general permit authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide and/or regional general permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide and/or regional general permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide and/or regional general permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide and/or regional general permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Resources (telephone 919-807-6300) to determine Section 401 requirements.

SAW-2024-01778

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management in Morehead City, NC, at (252) 808-2808.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact **Thomas Steffens at (910) 251-4615 or Thomas.A.Steffens@usace.army.mil.**

Corps Regulatory Official: _____ Date: **October 16, 2024**
Expiration Date of Verification: **March 14, 2026**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at <https://regulatory.ops.usace.army.mil/customer-service-survey/>

Copy furnished:

U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action Id. SAW-2024-01778

County: Onslow County

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Applicant: NCDOT
Jason Dilday
Address: 1000 Birch Ridge Drive
Raleigh, NC, 27610
Telephone Number: **

Size (acres) <1.0 Nearest Town Jacksonville
Nearest Waterway Mill Creek River Basin Onslow Bay
USGS HUC 03020302 Coordinates Latitude: 34.756384; Longitude: -77.421661
Location description: Bridge 29 over Chaney Creek on US 17 Business

Indicate Which of the Following Apply:

A. Preliminary Determination

There appear to be waters, including wetlands, on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). The waters, including wetlands, have been delineated, and the delineation has been verified by the Corps to be sufficiently accurate and reliable. Therefore this preliminary jurisdiction determination may be used in the permit evaluation process, including determining compensatory mitigation. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction.

There appear to be waters, including wetlands, on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). The waters, including wetlands, have been delineated, and the delineation has been verified by the Corps to be sufficiently accurate and reliable. Therefore this preliminary jurisdiction determination may be used in the permit evaluation process, including determining compensatory mitigation. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a preliminary JD will treat all waters and wetlands that would be affected in any way by the permitted activity on the site as if they are jurisdictional waters of the U.S. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331). However, you may request an approved JD, which is an appealable action, by contacting the Corps district for further instruction.

- There appear to be waters, including wetlands, on the above described property, that may be subject to Section 404 of the Clean Water Act (CWA)(33 USC § 1344) and/or Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403). However, since the waters, including wetlands, have not been properly delineated, this preliminary jurisdiction determination may not be used in the permit evaluation process. Without a verified wetland delineation, this preliminary determination is merely an effective presumption of CWA/RHA jurisdiction over all of the waters, including wetlands, at the project area, which is not sufficiently accurate and reliable to support an enforceable permit decision. We recommend that you have the waters of the U.S., including wetlands, on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.

B. Approved Determination

- There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act (RHA) (33 USC § 403) and Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are waters of the U.S., including wetlands, on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA) (33 USC § 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
 - We recommend you have the waters of the U.S., including wetlands, on your property delineated. As the Corps may not be able to accomplish this wetland delineation in a timely manner, you may wish to obtain a consultant to conduct a delineation that can be verified by the Corps.
 - The waters of the U.S., including wetlands, on your property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, unless there is a change in law or our published regulations, may be relied upon for a period not to exceed five years from the date of this notification.
 - The waters of the U.S., including wetlands, have been delineated and surveyed and are accurately depicted on the plat signed by the Corps Regulatory Official identified below on _____ . Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- The property is located in one of the 20 Coastal Counties subject to regulation under the Coastal Area Management Act (CAMA). You should contact the Division of Coastal Management in Morehead City, NC, at (252) 808-2808 to determine their requirements.

Placement of dredged or fill material within waters of the US, including wetlands, without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). Placement of dredged or fill material, construction or placement of structures, or work within navigable waters of the United States without a Department of the Army permit may constitute a violation of Sections 9 and/or 10 of the Rivers and Harbors Act (33 USC § 401 and/or 403). If you have any questions regarding this determination and/or the Corps regulatory program, please contact **Thomas Steffens at (910) 251-4615 or Thomas.A.Steffens@usace.army.mil.**

C. Basis For Determination: N/A. An Approved JD has not been completed.

D. Remarks: PJD 17 October 2024

E. Attention USDA Program Participants

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

F. Appeals Information for Approved Jurisdiction Determinations (as indicated in Section B. above)

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

Administrative Appeal Review Officer
Attn: Krista Sabin
US Army Corps of Engineers, South Atlantic Division
60 Forsyth Street, Room 10M15
Atlanta, Georgia 30303-8801
krista.d.sabin@usace.army.mil
(904) 314-9631

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by ******.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.

Corps Regulatory Official: _____

SAW-2024-01778

Date of JD: **September 17, 2024**

Expiration Date: **N/A if PJD**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete our Customer Satisfaction Survey, located online at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Copy Furnished:

Action ID Number: SAW-2024-01778

County: Onslow County

Permittee: Jason Dilday
NCDOT

Project Name: NCDOT / BR-0194 / Br 29 / US-17 BUS / Chaney Creek

Date Verification Issued: October 7, 2024

Project Manager: Thomas Steffens

Upon 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:

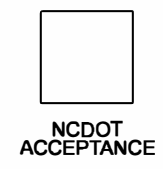
US ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT
Attn: Thomas Steffens
Thomas.a.steffens@usace.army.mil

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 authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date



BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
HYDRAULICS UNIT
RALEIGH, NC

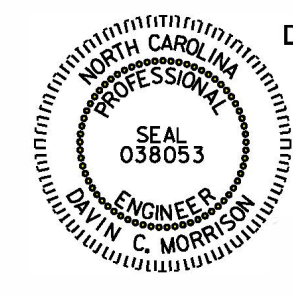
State Proj Reference No. BR-0194 WBS Proj No. 67194.1.1 Proj Station -L- 24+06
 County Onslow Bridge over Chaney Creek Bridge Inv No. 660029
 On Highway US 17 Business between Chaney Ave and Phillips Rd
 Recommended Structure Three Spans: 1@40.5', 1@59', 1@50.5 with 1'-8" Diameter Piers.
 36" Prestressed Concrete Girders, 4.0' Cap with Spill Through Abutments, and Rip Rap Slope Protection
 Recommended Width of Roadway Clear Roadway Width 78'-6" (Out to Out Width 86'-7") Skew 90°
 Recommended Location is (A) Upstream, Downstream of Existing Crossing
 Latitude 34.7564 Longitude -77.4218
 Statewide Tier Regional Tier Sub-Regional Tier
 Bench Mark is BM-2
 Northing 370179.1628 Easting 2474309.0606 Elevation 8.93' ft Datum NAVD 88
 Temporary Crossing N/A



Designed by Davin Morrison, PE
 Assisted by Natalia Womack
 Date 08/30/2024
 Reviewed by _____ Date _____



HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116



SITE DATA

Drainage Area 2.38 sq.mi. Source StreamStats, NCDOT Lidar
 River Basin White Oak Character Urban (City of Jacksonville)
 Stream Classification (e.g., Trout, High Quality Water) SC: NSW
 Data on Existing Structure Bridge with Reinforced Concrete Deck Girders on Reinforced Concrete Abutments
 with Prestressed Concrete Piles. 3 Spans @42.5' Total Waterway Opening 809 ft²
 Debris Potential: Low Moderate High Waterway Opening Below 100-yr WS Elev 602 ft²
 Data on Structures Up and Down Stream Upstream: Rails to Trails Greenway Pedestrian Bridge
 No structures downstream, Chaney Creek converges with New River
 Design Control Elev 4.20 (50-yr) ft

Gage Station No N/A Period of Records _____
 Max Discharge _____ cfs Date _____ Frequency _____
Historical Flood Information:
 Structure has not been Overtopped
 Date 07/22/2024 Elev 2.8 ft Est Freq _____ yr Source High WM Field Observ. Period of Knowledge _____ yrs
 Date _____ Elev _____ ft Est Freq _____ yr Source _____ Period of Knowledge _____ yrs
 Historical Scour Info: General N/A ft Contraction 4 ft Local 2 ft
 Channel Slope 0.0016 ft/ft Source HEC-RAS Model Normal Water Surface Elev 1.8 ft
 Manning's n: Left OB 0.03-0.12 Channel 0.045 Right OB 0.03-0.12 Source Field Recon 07/22/2024
 Flood Study / Status FEMA Redelineated Detailed Study Effective Date 06/19/2020
 Flood Study With _____ Without _____
 100-yr Discharge 1850 cfs WS Elev: Floodway 7.90 ft Floodway 7.02 ft River Station 5060

DESIGN DATA

Hydrological Method USGS SIR 2014-5030 Compared to FEMA FIS Discharges
 Hydraulic Design Method HEC-RAS V 6.5

Floods Evaluated	Frequency (year)	Discharge (cfs)	Elevation (ft)	Backwater (ft)	Bridge Opening Velocity (fps)
@ River Station 5062	10	800	3.2	0.1	1.8
	25	950	3.7	0.0	1.8
	50	1100	4.2	0.0	1.9
	100	1200	4.5	0.0	1.9
	500	1400	5.2	0.0	2.0

Waterway Opening Provided Below: Design WS Elev 6.03 sf 100-yr WS Elev 4.5 sf Total 1000 sf
 Average Channel Velocity (Design) 1.9 fps Average Overbank Velocity (Design) 0.8 fps
 Computed Scour: General N/A ft Contraction 3.63 ft Local 2.49 ft
 State Floodway Compliance Type SFC Type B (Max. Decrease is 0.10' @ RS 5062)

INFORMATION TO BE SHOWN ON PLANS

HYDRAULIC DATA	
DESIGN DISCHARGE	= 1100 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 4.2
DRAINAGE AREA	= 2.38 SQ. MI.
BASIC DISCHARGE (Q100)	= 1200 C.F.S.
BASIC HIGH WATER ELEVATION	= 4.5
OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= 5400 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= >500 YRS.
OVERTOPPING FLOOD ELEVATION	= 11.6
*NOTE: LOCATION OF OVERTOPPING @ -L- Sta 20+43	
WS EL. Taken @ River Station 5062	

ADDITIONAL INFORMATION AND COMPUTATIONS

USGS REGRESSION EQUATIONS Coastal Plain (Region 4) **FEMA DISCHARGES** SJR 2014-5030
 $Q_{10} = 51.8(2.38)^{0.6004} * 10^{(0.0101*30)} * 10^{(0.0666*9.78)} = 800$ CFS $Q_{10} = 969$
 $Q_{25} = 67.1(2.38)^{0.6067} * 10^{(0.0075*30)} * 10^{(0.0708*9.78)} = 950$ CFS $Q_{25} = 1383$
 $Q_{50} = 78.4(2.38)^{0.6111} * 10^{(0.0058*30)} * 10^{(0.0738*9.78)} = 1100$ CFS $Q_{50} = 1620$
 $Q_{100} = 90.5(2.38)^{0.6154} * 10^{(0.0043*30)} * 10^{(0.0762*9.78)} = 1200$ CFS $Q_{100} = 1850$
 $Q_{500} = 103(2.38)^{0.6201} * 10^{(0.0029*30)} * 10^{(0.0785*9.78)} = 1400$ CFS $Q_{500} = 2509$
 USGS Qs used for Design, FEMA Q100 used for SFC compliance
SCOUR ANALYSIS
 Non-Pressure Flow Live Bed Contraction Scour: $y_s = (y_c / [Q_1 / Q_2])^{0.67} [W_1 / W_2]^{0.69} - y_c$ *Y1, Q1, W1 from XS 5350
 *Y0, Q2, W2 from XS 5003.5 BR U
 100-yr Contraction Scour: $y_s = (7.90 / [1154 / 872])^{0.67} [98 / 91]^{0.69} - 6.06$ ys=3.63'
 500-yr Contraction Scour: $y_s = (8.39 / [1322 / 1007])^{0.67} [98 / 91]^{0.69} - 6.67$ ys=3.55'
 Pier Scour: $y_s = 2.0(K_1)(K_2)(K_3)(a) (Y_c) (Fr_c)^{0.85} - 0.35 - 0.41$ *Y1 from XS 5062
 100-yr Pier Scour $y_s = 2.0(1)(1)(1)(1.6^{0.65})(10.20^{0.35})(0.1048^{0.43})$ ys=2.49'
 500-yr Pier Scour $y_s = 2.0(1)(1)(1)(1.6^{0.65})(10.81^{0.35})(0.1018^{0.43})$ ys=2.51'
 100-yr Total Scour $y_s = 3.63' + 2.49' = 6.12'$
 500-yr Total Scour $y_s = 3.55' + 2.51' = 6.06'$
 -No significant scour was observed with the existing bridge. The stream appears to be stable with no evidence of channel migration.
 -No upstream or downstream structures that were in place at the time this report was designed will be adversely impacted by this project.
 -Bed material consists of sand and gravel.
 -FEMA 100yr backwater elevation is 6.3'

