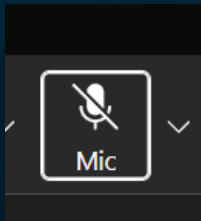




Webinar Begins at 12:30 PM

Please mute your
microphones to minimize
background noise.





NORTH CAROLINA
Department of Transportation

NCDOT Implementation of the FEMA Disaster Specific Guidance for Tropical Storm Helene Recovery

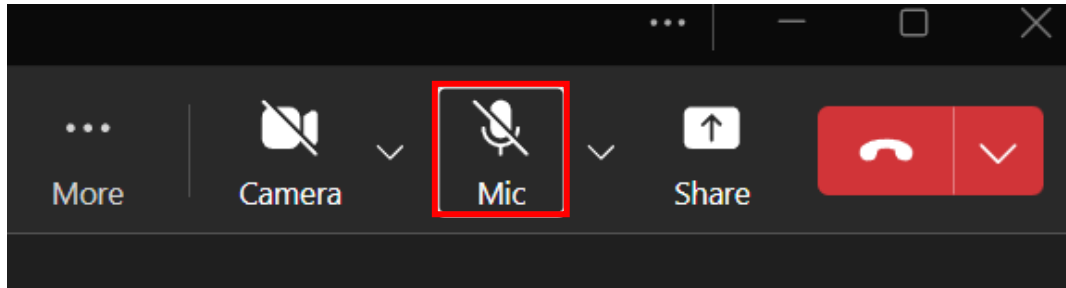
Brian Radakovic, PE, CFM

7/15/2025

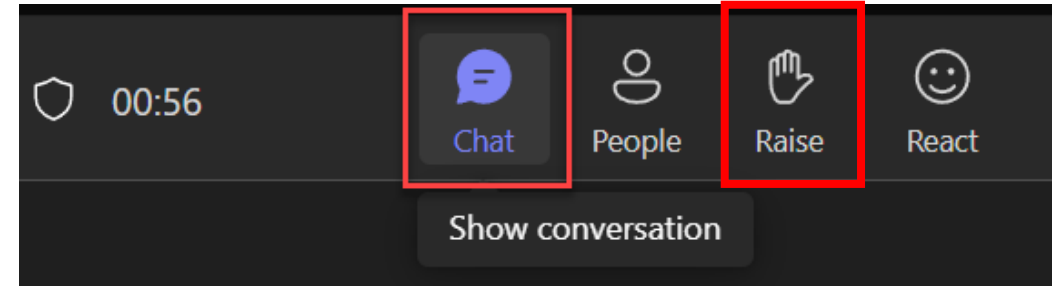
Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina

Meeting Housekeeping

Please mute your microphones to minimize background noise.



Use the chat function to submit your questions.



Or Raise your hand and wait to be called upon

Recording of the meeting and Slides will be available on Connect NCDOT Hydraulics Unit Highway Program Floodplain page.



Understanding FEMA Disaster Specific Guidance (DSG)



- FEMA can provide tailored guidance for a particular declared disaster
- Each disaster has unique response and recovery needs.
- Individuals and communities benefit from specific information.



FEMA Disaster Specific Guidance (DSG) Private and Public



Private Roads & Bridges

- Owned and maintained by individuals or organizations
- Access may be restricted
- Funded through private resources



Public Roads & Bridges

- Owned and maintained by local, state, or federal agencies
- Open to all members of the public
- Funded through taxes and public infrastructure programs



FEMA Disaster Specific Guidance (DSG) for Private Roads/Bridges

DR-4827-HELENE FLOODPLAIN MANAGEMENT RESOURCES - [more info](#)

DR-4827-Helene Floodplain Management Resources

General Floodplain Management

[REGION 4 BLUESHEET: Managing the Floodplain Post-Disaster](#)

Disaster Specific Guidance for the Replacement of Private Roads and Bridges in Special Flood Hazard Areas (SFHAs)

NCEM Memorandum - FEMA Disaster Specific Guidance for the Replacement of Private Roads and Bridges

[Guidelines for States and Communities on Emergency](#)

[Work for the Replacement of Private Roads and Bridges in Special Flood Hazard Areas \(SFHAs\) for FEMA-4827-DR-NC](#)

Addendum to Guidelines for States and Communities on Emergency Work for the Replacement of Private Roads and Bridges in Special Flood Hazard Areas (SFHAs) for FEMA-4827-DR-NC





FEMA Disaster Specific Guidance (DSG) for Public Roads/Bridges

Addresses the need to re-establish access on state and local community owned roads and bridges within Special Flood Hazard Areas (SFHAs).



FEMA

FEMA Disaster Specific Guidance

Guidelines for National Flood Insurance Program Participating Communities on the Repair/Replacement of Publicly Owned Roads and Bridges in Special Flood Hazard Areas (SFHAs) for the Ongoing Tropical Storm Helene Recovery (FEMA Disaster Relief 4827).

Section 1: DATE OF ISSUANCE: May 9, 2025

Section 2: GUIDANCE STATEMENT:

This disaster specific guidance (DSG) addresses the need for North Carolina communities participating in the National Flood Insurance Program (NFIP) to re-establish access on publicly owned roads and bridges. If NFIP participating communities elect to follow this DSG, the state and local communities may begin work related to the repair or replacement of publicly owned roads and bridges without the requirement to obtain, review, or approve a "no-rise" certification prepared by a professional engineer with supporting hydraulic and hydrologic modeling before construction.

Section 3: OVERVIEW:

Title 44 of the Code of Federal Regulations (C.F.R.) Section 60.3(d)(3) states that a community shall "prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge."



FEMA



FEMA Disaster Specific Guidance (DSG) for Public Roads/Bridges

Public DSG can be found on the
Connect NCDOT Hydraulics Unit
Highway Floodplain Program webpage

Helene Floodplain Management Resources

The guidance listed below ensures compliance with the National Flood Insurance Program (NFIP) and streamlines the recovery process for the Repair/Replacement of NCDOT Roads and Bridges for the ongoing Tropical Storm Helene Recovery (FEMA Disaster Relief 4827).

- **FEMA Disaster Specific Guidance - Repair/Replacement of Publicly Owned Roads and Bridges**
- **NCDOT Memorandum - NCDOT implementation of the Disaster Specific Guidance**



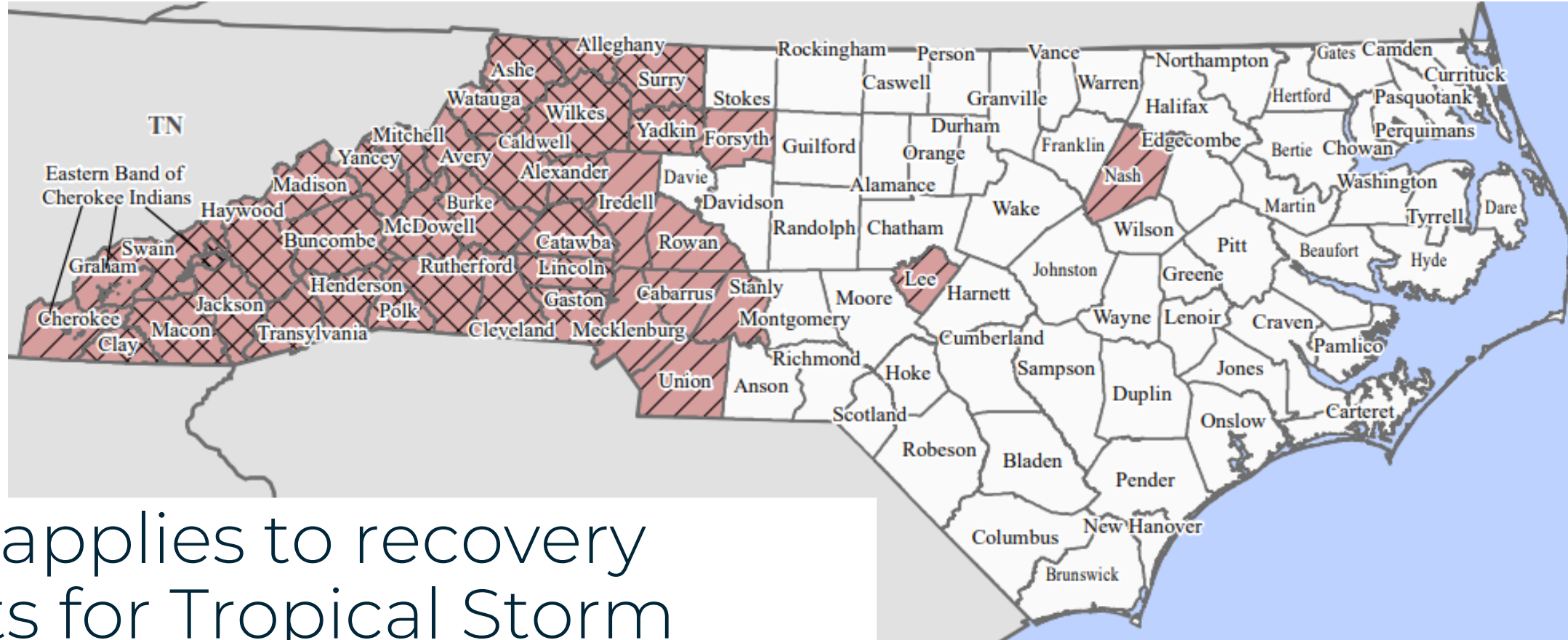
Guidance Statement and Overview



NCDOT may begin work related to the repair or replacement of publicly owned roads and bridges **without the requirement to obtain State Floodplain Compliance** before construction.



SCOPE and APPLICABILITY



Only applies to recovery efforts for Tropical Storm Helene (FEMA-4827-DR-NC)



SCOPE and APPLICABILITY

Shall not apply to new construction or site development unrelated to recovery efforts for Tropical Storm Helene (FEMA-4827-DR-NC)



Applicable projects will
have a Disaster Related
WBS number



DETAILS FOR REPLACEMENT OF ROADS AND BRIDGES

Utilizing this DSG allows NCDOT to repair or replace publicly owned roads or bridges without the requirement to obtain, review, or approve a hydrologic or hydraulic analysis demonstrating that the project will not cause a cumulative increase in water surface elevation beyond a designated height prior to construction.

No-Rise Certification is Not Required
but SFC approval is still required in SFHAs



Requirements

Repair and replacement of roads and bridges shall:

- Utilize the Memorandum of Agreement (MOA) between the NCDOT and NCEM to satisfy FEMA's National Flood Insurance Program requirements in lieu of floodplain community permits.
- Provide to NCEM post-construction hydrologic and hydraulic analyses and other data to facilitate the re-study and mapping of post-construction conditions.



Implementation of the Disaster Specific Guidance (DSG)



NCDOT Memo for the Implementation of the Public DSG

NCDOT Memorandum - NCDOT implementation of the Disaster Specific Guidance can be found on the Connect NCDOT Hydraulics Unit Highway Floodplain Program webpage

Helene Floodplain Management Resources

The guidance listed below ensures compliance with the National Flood Insurance Program (NFIP) and streamlines the recovery process for the Repair/Replacement of NCDOT Roads and Bridges for the ongoing Tropical Storm Helene Recovery (FEMA Disaster Relief 4827).

- **FEMA Disaster Specific Guidance - Repair/Replacement of Publicly Owned Roads and Bridges**
- **NCDOT Memorandum - NCDOT implementation of the Disaster Specific Guidance**



SCOPE and APPLICABILITY

The Public DSG applies to roads or facilities (e.g., bridges, culverts, etc.) that are constructed, modified, or removed within:

- Special Flood Hazard Areas or
- Floodplains outside of SFHA





Design Guidelines

- Designs
 - Follow Compliance and Coordination Plan (CCP)
 - Adhere to NCDOT Guidelines for Drainage Studies and Hydraulic Design
- NFIP Compliance for Culverts (excluding RCBCs)
 - Defined in Section 15.3.1 of NCDOT Guidelines
 - Post-construction hydrologic and hydraulic analyses in Section 15.7





Compliance

NFIP Compliance achieved by obtaining State Floodplain Compliance (SFC) in SFHAs

- Follow the Coordination and Compliance Plan (CCP) and
- Disaster Specific Guidance matrices in Memo
- Submit Post-Construction Analysis

Projects in a floodplain not within SFHAs

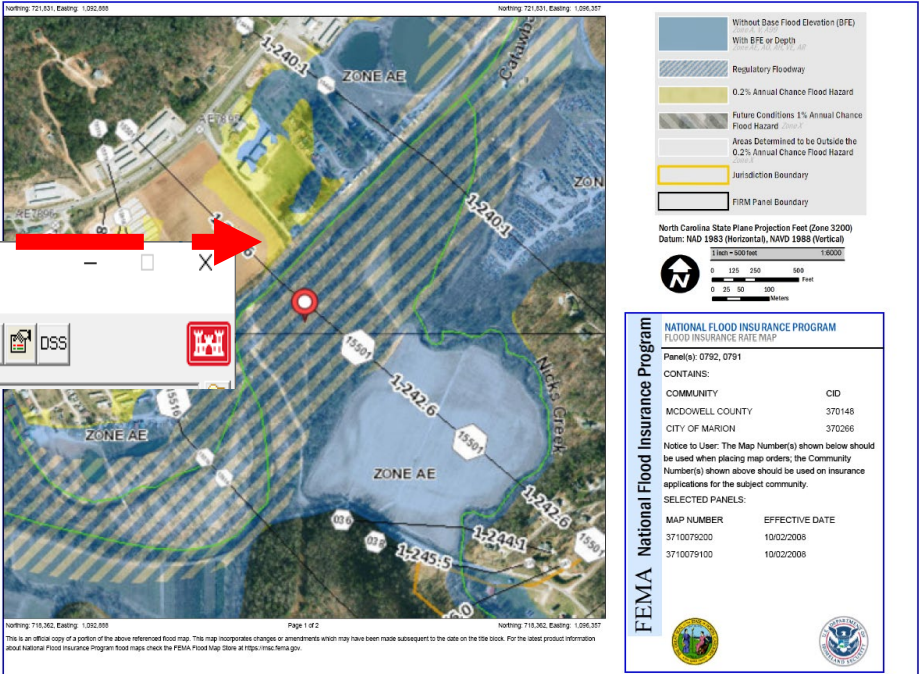
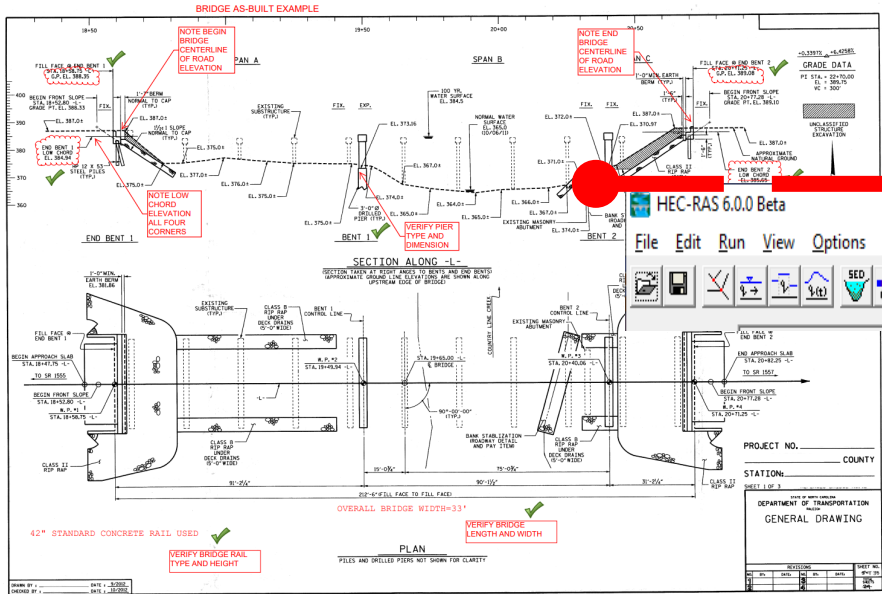
- Follow the NCDOT Guidelines for Drainage Studies and Hydraulic Design
- Disaster Specific Guidance matrix in Memo



Post-Construction Analysis

Highway Floodplain Program (HFP) will collaborate with North Carolina Emergency Management (NCEM) to provide a Post-construction hydrologic and hydraulic analyses.

- These As-Built models will facilitate the re-study and mapping of post-Helene conditions





Matrices

- NFIP/Floodplain Requirements – Spot and localized damaged locations.
- NFIP/Floodplain Requirements – Bridges* and River & Road Corridors
- CCP Amendments
- Non-SFHA Floodplains - Bridges* and River & Road Corridors.

*Includes culverts that have a hydraulically effective total waterway opening of thirty square feet or more, excluding any area of the culvert that is buried below the streambed.



NFIP/Floodplain Requirements Spot and localized damaged locations

Disaster Specific Guidance - NCDOT Highway NFIP/Floodplain Requirements – Spot and localized damaged locations.	
Modeling Approach	NCDOT Highway Floodplain Program (HFP) will coordinate with NCEM on Hydrologic and Hydraulic Modeling Requirements
Compliance Approval	Provide HFP with images and boundary maps
After Construction	Provide HFP with Certified As-Built plans



NFIP/Floodplain Requirements – Bridges* and River and Road Corridors

Disaster Specific Guidance - NCDOT Highway NFIP/Floodplain Requirements – Bridges* and River and Road Corridors

Modeling Approach	Create a Duplicate Effective, Corrected Effective (and Pre/Post-Storm Existing Condition if warranted) plans. Use the best available data when modeling topography, bridges, culverts and roadways for the Pre-Storm Condition. Create a Revised plan based on updated/proposed topography and proposed design.
Compliance Approval	Follow CCP except as noted in the amendment table below and obtain SFC type DSG.



NFIP/Floodplain Requirements – Bridges* and River and Road Corridors, continued

Disaster Specific Guidance - NCDOT Highway NFIP/Floodplain Requirements – Bridges* and River and Road Corridors	
After Construction	Within six months of construction completion, provide NCDOT Highway Floodplain Program group: •Certified As-Built plans that follow the Guide for Preparing As-Built Plans for FEMA Compliance. •A post-construction SFC package to facilitate the re-study and mapping of post-construction conditions unless waived by Highway Floodplain Program.



CCP Amendments

Section	
3.2	SFC Type DSG classification applies to repair/replacement work related to Tropical Storm Helene Recovery (FEMA Disaster Relief 4827)
3.3 Item 1	The initial SFC submittal <u>is not required</u> prior to commencement of project construction.



CCP Amendments

Section	
3.3 Item 3	Plan Types <u>Existing Conditions</u> will be based on Pre-Storm Existing Condition. Note: Such changes may be included in the Corrected Effective model without the need for a Pre-Storm Existing Condition plan. However, some situations may warrant the inclusion of a Pre-Storm Existing Conditions model for clarity.
3.3 Item 8	The Area of Influence (Upstream and Downstream Tie-Ins) shall not be extended past the limits of the post-disaster survey.**



- In addition to the four cross-sections required to correctly model a bridge or culvert there must be a minimum of two additional cross-sections, at least one upstream of the approach cross-section and one downstream of the exit cross-section.
- The location of the downstream boundary cross-section should be far enough downstream of the study reach to allow the computed water surface profile to converge to a consistent answer
- Additional sections may be needed depending on site-specific hydraulic controls and constraints upstream and downstream of the study reach.



CCP Amendments

Section	
3.3 Item 10	"No Impacts to Structures" criteria shall account for structures impacted by the disaster unless it is documented that the structures will not be repaired/replaced or demonstrated that BFE increases on structures are due to floodplain changes made by Tropical Storm Helene.
3.3 Item 11	<u>Do not highlight</u> maximum increase or decrease in base flood elevation.



CCP Amendments

Section	
3.6	SFC package deliverable modifications: • Include design plan sheets within SFHA, certified (sealed, signed, and dated) by a Professional Engineer licensed in the State of North Carolina as required. • On the BSR/CSR modifications: ◦ In the State Floodplain Compliance Type Field specify that this design is subject to FEMA’s DSG Publicly Owned Roads and Bridges. ◦ Do not include the FEMA Performance table



Non-SFHA Floodplains– Bridges* and River and Road Corridors

Disaster Specific Guidance - NCDOT Highway Non-SFHA Floodplains - Bridges* and River and Road Corridors.

Modeling Approach	Create an Existing** plan based on Pre-storm conditions, using the best available data when modeling topography, bridges, culverts and roadways. Create a Post-Storm Existing Condition if warranted. Create a Revised plan based on updated/ proposed topography and proposed design
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Non-SFHA Floodplains– Bridges* and River and Road Corridors, continued

Disaster Specific Guidance - NCDOT Highway Non-SFHA Floodplains - Bridges* and River and Road Corridors.

Compliance Approval

- Follow the NCDOT Guidelines for Drainage Studies and Hydraulic Design except as noted below
- On the BSR/CSR: In the State Floodplain Compliance Type Field specify that this **design is subject to FEMA’s DSG Publicly Owned Roads and Bridges.**
 - "No Impacts to Structures" criteria shall account for structures impacted by the disaster unless it is documented that the structures will not be repaired/replaced or demonstrated that BFE increases on structures are due to floodplain changes made by Tropical Storm Helene.



Post-Construction Requirements

- Submission of Certified As-Built Plans
[Guide for Preparing As-Built Plans for FEMA Compliance](#)
- Post-Construction SFC Package
 - may be waived by Highway Floodplain Program

Thank you!



Questions?



Stay in the Flow

Keep up-to-date on the Hydraulics Unit policies, procedures, innovations, updates, advertisements, etc.... by signing up to receive the **Hydraulics Unit Newsletter**.

To sign up, just complete the simple form on the Connect Website or this link <https://forms.office.com/g/AM0eYLkQxT>

Hydraulics

The Hydraulics Unit provides technical expertise, guidance, design and quality assurance to manage stormwater, riverine and coastal impacts in and around roadways for the protection of the public, the environment and NCDOT assets.

Home > Connect NCDOT > Resources > Hydraulics

Guidelines

Drainage Studies Guidelines

Guidance in the methods, procedures, policies, and criteria for Drainage Studies and Hydraulic Design.

[Read More](#) →

Programs

Highway Floodplain Program

Floodplain guidance, FEMA coordination, forms, submittals, requests and other resources.

[Read More](#) →

Highway Stormwater Program

Highway Stormwater Program products and useful links

[Read More](#) →

General Resources

Consultant Resources for Hydraulics

[Read More](#) →

NCDOT Pipe Material Selection Guide

[Read More](#) →

Resources for Geopak Drainage

 **Employee Directory**
Staff contacts for Hydraulics Unit.

 **Contact Form**
For questions & feedback about this area of Connect NCDOT, contact Hydraulics Unit.

Organization

[Hydraulics Organization Chart](#)
[Hydraulics Unit Overview Handout](#)
[Hydraulics Unit Video](#)
[Questions for the Hydraulics Unit](#)
[Contact Hydraulics Unit](#)

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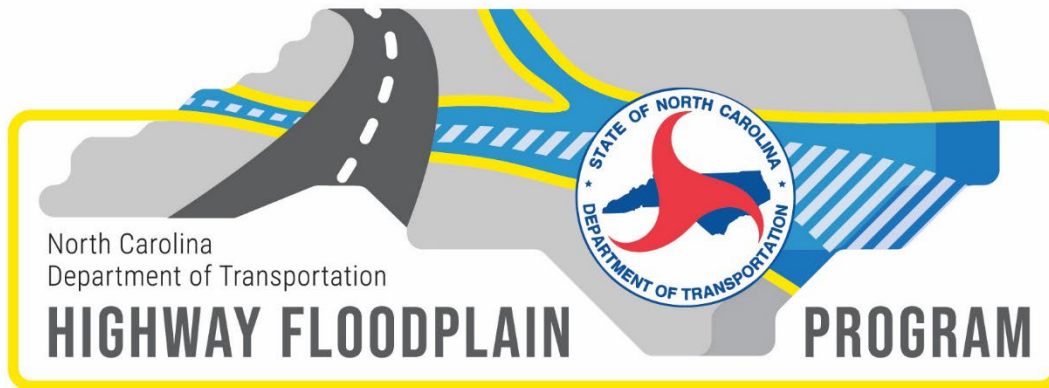
[View Current and Past Newsletters](#)

Contact

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919-707-6747



 <https://connect.ncdot.gov/resources/hydro/Pages/FEMA-Interagency-Design.aspx>