

# THE 411 ON 401s & Buffers

An introduction to 401 Water Quality Certification and buffer permitting requirements

Jennifer Burdette  
401/Buffer Coordinator  
401 & Buffer Permitting Unit  
Jennifer.Burdette@ncdenr.gov

Sue Homewood  
Environmental Specialist  
Winston Salem Regional Office  
Sue.Homewood@ncdenr.gov

## Section 401 – Clean Water Act

- A 401 Water Quality Certification (WQC) is required for any Federally permitted or licensed activity that may result in a discharge to waters of the U.S.
  - Most commonly associated with Section 404 or Section 10 Permits



Photos by NC-DWQ

## Section 401 – Clean Water Act



## Section 401 – Clean Water Act

- When the State issues a 401 WQC, this certifies that a given project will not degrade Waters of the State
  - This also certifies that it will not violate State water quality standards



Photos by NC-DWQ

## Waters of the State (G.S. 143-212(6))

- Any stream, river, brook, swamp, lake, sound, tidal estuary, bay, creek, reservoir, waterway or other body or accumulation of water
  - Surface/underground, public/private, natural/artificial
  - Contained in, flows through or borders upon any portion of this State

(includes any portion of the Atlantic Ocean over which the State has jurisdiction)



Photo by F. Parchaso

## Stream Terminology

Photos by NC-DWQ

### Ephemeral:

- Stormwater is the primary source of water
- Lacks biological, hydrological and physical features associated with continuous or intermittent conveyance of water



### Intermittent:

- Well-defined channel
- Contains water for part of the year
- Flow may be heavily supplemented with stormwater
- Often lacks biological, hydrological and physical features associated with continuous conveyance of water



### Perennial:

- Well-defined channel
- Contains water year round (normal rainfall year)
- Groundwater is primary source of water
- Exhibits biological, hydrological and physical features associated with continuous conveyance of water



## Stream Classifications

- Fresh Waters:
  - Class WS-I, -II, -III, -IV, -V: waters protected as water supplies
  - Class B: primary recreation and any other usage specified by "C";
  - Class C: aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture



## Stream Classifications

- Supplemental Classifications:
  - Tr: Trout
  - Sw: Swamp
  - NSW: Nutrient Sensitive
  - HQW: High Quality
  - ORW: Outstanding Resource
  - FWQ: Future Water Supply
  - CA: Critical Area\*



\* related to water supply watersheds

Photo by DWQ

## Stream Determinations

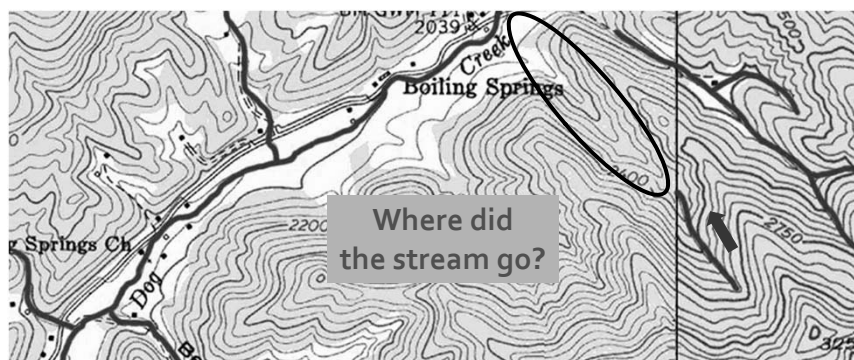
- Only the U.S. Army Corps of Engineers or Division of Water Resources (DWR) staff can legally determine if there is a stream present
  - <http://portal.ncdenr.org/web/wq/ws>
  - <http://www.saw.usace.army.mil/WETLANDS/where/imap2/imapatt.html>
- A qualified environmental consultant may be able to provide guidance  
(one who routinely identifies streams with the regulatory agencies)



**DWR**  
Division of Water Resources

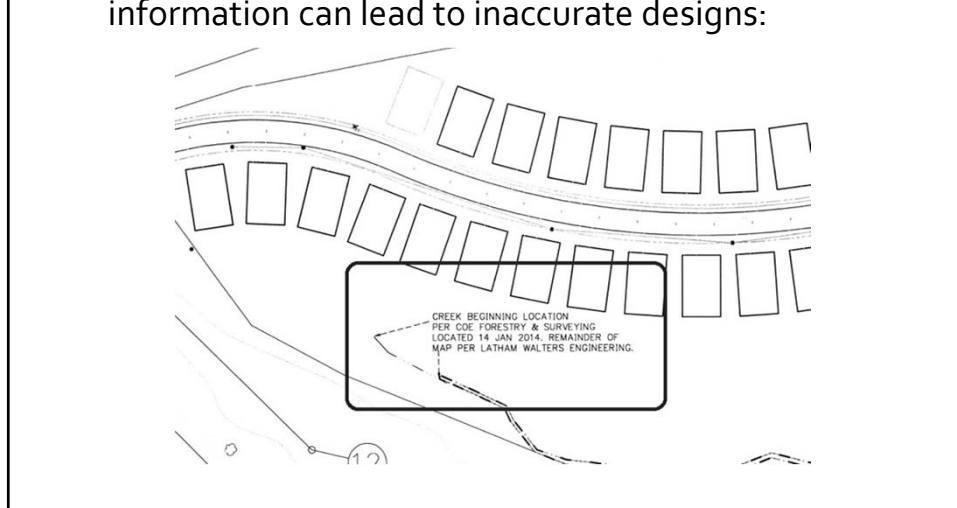
**Streams** – But no streams show up on the maps within the project area!

- Streams do **not** have to show up on area maps, soil surveys, or USGS topographic maps to be regulated.

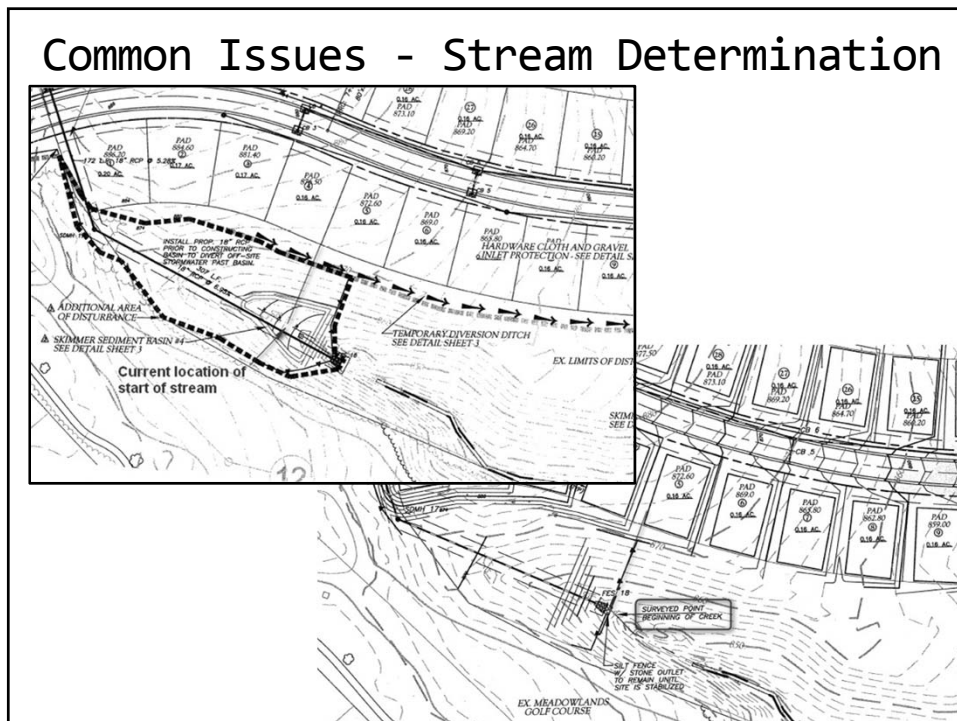


## Common Issues - Stream Determination

- Stream determinations issued by the USACE or DWR are valid for 5 years. The use of older information can lead to inaccurate designs:



## Common Issues - Stream Determination



## Wetland Types

- 404 Wetlands
  - Regulated under Section 404 of the federal Clean Water Act
- Isolated Wetlands
  - Wetlands not regulated under Section 404 of the Clean Water Act
- Coastal (CAMA) Wetlands
  - Regulated under the Coastal Area Management Act



Photos by NCDWQ

## Wetlands - 404

- The 3 parameter approach:



Wetland Hydrology



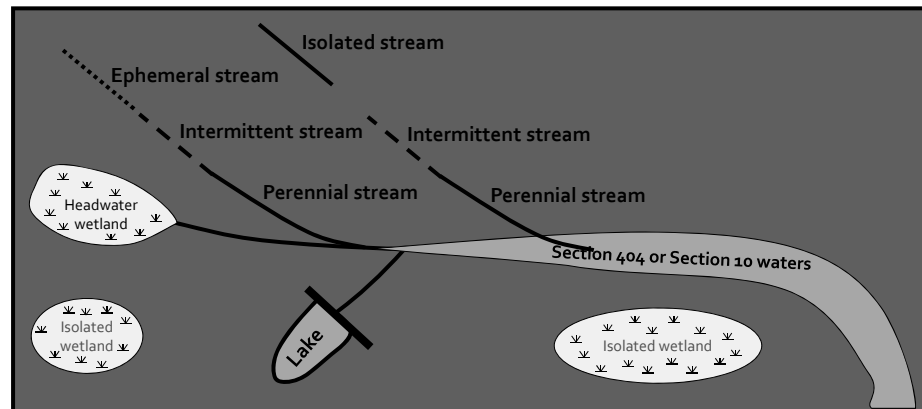
Hydric Soils



Hydrophytic Vegetation

Photos by USACE, USDA, USFWS

## Wetlands - Isolated



## Wetlands - Coastal (CAMA)

- Any marsh:
    - subject to regular or occasional flooding by wind or lunar tides
- AND-
- containing some, but not necessarily all, of 10 particular wetland plants

<i>Cladium jamaicense</i>	<i>Salicornia spp.</i>	<i>Spartina patens</i>
<i>Distichlis spicata</i>	<i>Scirpus spp.</i>	<i>Spartina cynosuroides</i>
<i>Juncus roemerianus</i>	<i>Typha spp.</i>	<i>Spartina alterniflora</i>
<i>Limonium spp.</i>		

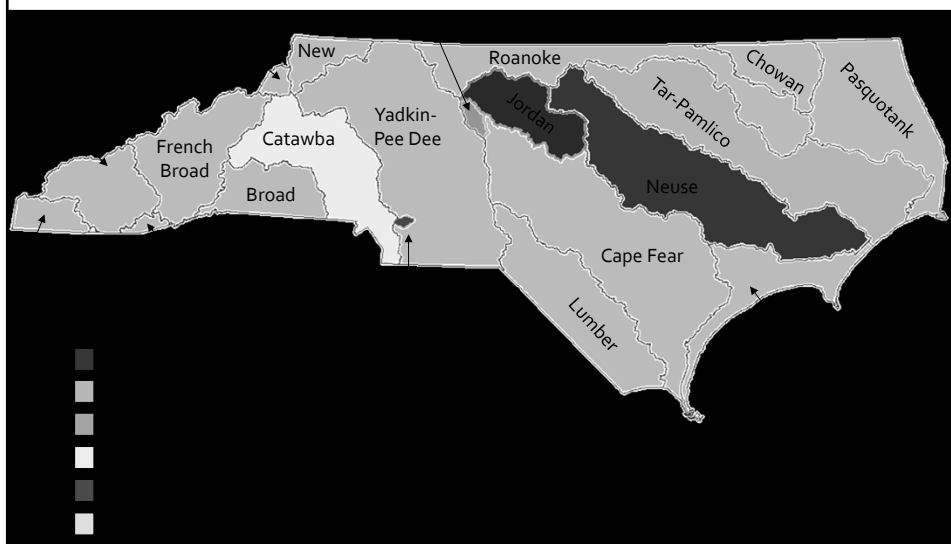


## Wetland Determinations

- Only the U.S. Army Corps of Engineers can legally determine if there is a wetland present
- Only the Division of Coastal Management can determine where coastal wetlands are
- The Division of Water Resources can determine where Isolated/Non-404 wetlands are
- A qualified environmental consultant may be able to provide guidance  
(one who routinely identifies wetlands with the regulatory agencies)



## Riparian Buffer Protection Rules



## Where does the buffer apply?

Neuse, Tar-Pamlico, Jordan, Randleman, Goose Creek

### ▪ Applies to:

- Perennial streams
- Intermittent streams
- Lakes and reservoirs
- Ponds
- Estuaries
- Modified natural streams

### ▪ Does not apply to:

- Ditches & Manmade conveyances\*; unless constructed for navigation or boat access
- Ephemeral streams\*
- Manmade ponds & lakes outside natural drainage ways

\*Unless in Randleman

## Where does the buffer apply?

Neuse, Tar-Pamlico, Jordan, Randleman, Goose Creek

### ▪ Features "approximately shown" on

- USGS Topographic 1:24,000 scale

-OR-

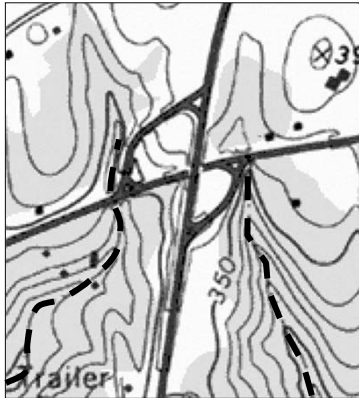
- Most Recent *Published* NRCS Soil Survey

### ▪ Randleman

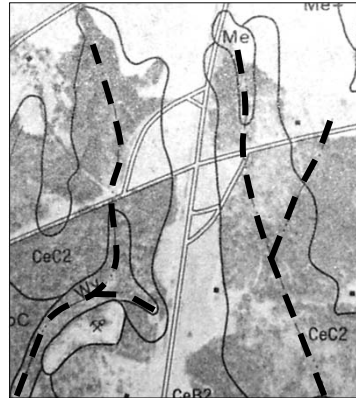
- Applies if other site specific evidence indicates the presence of waters not shown on either of the two maps

# “Approximately Shown”

Still need to field survey stream

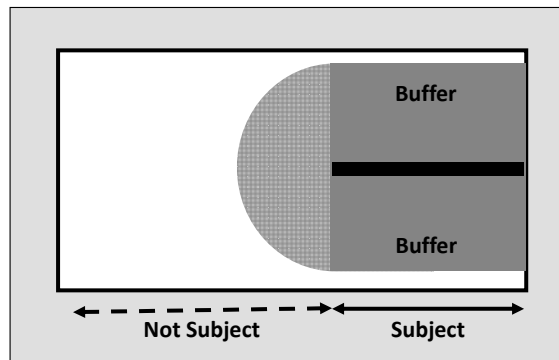


USGS Topo Courtesy of MapTech, Inc



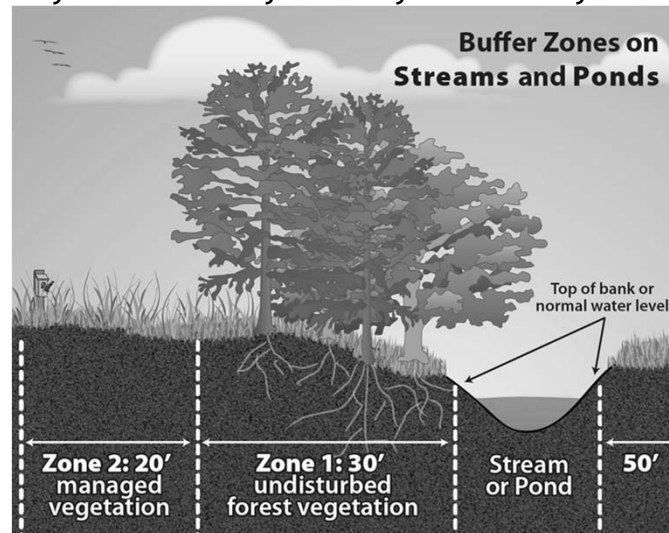
Soil Survey Courtesy of NRCS

# Stream Origins



## How wide is the buffer?

Neuse, Tar-Pamlico, Jordan, Randleman, Catawba



### Common Issues – Stream/Buffer Delineation

- Using GIS layer, or estimated “straight line” instead of survey to show the stream can inaccurately depict the buffer and result in buffer impacts
- Lot surveys that do not include buffer area of streams that are located on adjacent properties

## What requires a 404 permit & 401 WQC?

- A 404 & 401 are required when an activity will impact a stream or wetland whether the impact is permanent or temporary
- Common activities that may require permits:
  - Any disturbance to the bottom or sides of a stream
  - Any disturbance to the soil or hydrology of a wetland
  - Damming of a stream channel to create a pond/lake
  - Placement of any material within a stream or wetland - including temporary sediment/erosion control measures.

## What Type of 401 WQC?

- The Corps determines what type of permit a project needs, then the applicant must also obtain a corresponding General Certification from DWR

Photos by NC-DWQ

## Which General Certification?

### The Corps decides!

Nationwide Permit	General Certification	Effective Date of General Certification	Description
NW 1	<u>see note A</u>	-	Aids to navigation
NW 2	<u>see note A</u>	-	Structures in artificial canals
NW 3	3883	03/19/2012	Maintenance
NW 4	3883	03/19/2012	Fish and Wildlife harvesting, enhancement and attraction devices and activities
NW 5	3883	03/19/2012	Scientific measurement devices
NW 6	3883	03/19/2012	Survey activities
NW 7	3883	03/19/2012	Outfall structures and associated intake structures
NW 8	<u>see note B</u>	-	Oil and gas structures on the outer continental shelf
NW 9	<u>see note A</u>	-	Structures in Fleeting and Anchorage areas
NW 10	<u>see note A</u>	-	Mooring buoys
NW 11	<u>see note A</u>	-	Temporary recreational structures
NW 12	3884	03/19/2012	Utility line activities
NW 13	3885	03/19/2012	Bank stabilization
NW 14	3886	03/19/2012	Linear transportation projects

## Example: GC 3890

- For:
  - Nationwide Permit 29  
(Residential Development)
  - Nationwide Permit 39  
(Commercial/Institutional Development)
  - Riparian Area Protection Rules (Buffer Rules)

Water Quality Certification No. 3890

**GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBERS 18 (MINOR DISCHARGES), 29 (RESIDENTIAL DEVELOPMENT), 39 (COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS), 41 (RESHAPING EXISTING DRAINAGE DITCHES), 42 (RECREATIONAL FACILITIES), 44 (MINING ACTIVITIES), AND 46 (DISCHARGES IN DITCHES), AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)**

## General Certifications (GC)

- Not all activities require written approval

If:

- written approval is not required
- and-
- the project meets all of the conditions of the GC

Then:

- the applicant does not need to submit a formal application to DWR
  - nor do they receive a signed 401 WQC from DWR

## Written Approval: Not Required

- ✓ The project still has a 401 WQC!
- ✓ The project must comply with all conditions of that certification!

# When does a project need written approval?

Water Quality Certification No. 3890

**GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBERS 18 (MINOR DISCHARGES), 29 (RESIDENTIAL DEVELOPMENT), 39 (COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS), 41 (RESHAPING EXISTING DRAINAGE FEATURES), 42 (RECREATIONAL FACILITIES), 44 (MINING ACTIVITIES), AND 46 (DISCHARGES IN DITCHES, AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES))**

Water Quality Certification Number 3890 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 Quality (DWQ) Regulations in 15A NCAC 02H .0500 and 15A NCAC 02H .0200 for the discharge of fill material to wetlands and adjacent wetland areas or to wetland areas that are not a part of the surface tributary system to interstate waters or navigable waters of the United States as described in 33 CFR 320 Appendix A (B) (18, 25, 39, 41, 42, 44, and 46) of the Corps of Engineers regulations and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 02H .0200.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Activities meeting any one (1) of the following thresholds or circumstances require written approval for a 401 Water Quality Certification from the Division of Water Quality (the "Division"):

- a. Any impacts to streams involving excavation or dredging; or
- b. Total stream impacts within the project boundaries equal to or greater than 150 linear feet of stream, including temporary and/or permanent impacts; or
- c. Any stream relocation; or
- d. Any impact associated with a high density project (as defined in Item (A)(v) of the 401 Stormwater Requirements) that is not subject to either a state stormwater program (such as, but not limited to, Coastal Counties HQW, ORW or state-implemented Phase II NPDES) or a certified community's stormwater program; or
- e. Temporary or permanent impacts equal to or greater than one-tenth (1/10) acre of wetlands or open waters; or
- f. Any impacts to wetlands adjacent to waters designated as ORW, SA, WS-I, WS-II, or Trout, or wetlands contiguous to waters designated as a North Carolina or National Wild and Scenic River; or
- g. Any impacts to coastal wetlands (15A NCAC 07H .0205), or Unique Wetlands (UWU) (15A NCAC 02H .0506); or
- h. Any impact associated with a Notice of Violation or an enforcement action for violation(s) of DWQ Wetland Rules (15A NCAC 02H .0500), Isolated Wetland Rules (15A NCAC 02H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 02H .0200); or
- i. Any impacts to streams and/or buffers in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman, Jordan or Goose Creek Watersheds (or any other basin or watershed with Riparian Area Protection Rules (Buffer Rules) in effect at the time of application) unless the activities are listed as "EXEMPT" from these rules or a Buffer Authorization Certificate is issued through N.C. Division of Coastal Management (DCM) delegation for "ALLOWABLE" activities.

In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. If a project also requires a CMAA Permit, then one payment to both agencies shall be submitted and will be the higher of the two fees.

- Depends on which General Certification

Water Quality Certification No. 3883

**GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBERS: 3 (MAINTENANCE), 4 (FISH AND WILDLIFE HARVESTING, ENHANCEMENT, AND ATTRACTION DEVICES AND ACTIVITIES), 5 (SCIENTIFIC MEASUREMENT DEVICES—25 CUBIC YARDS FOR WEIRS**

Activities meeting any one (1) of the following thresholds or circumstances require written approval for a 401 Water Quality Certification from the Division of Water Quality (the "Division"):

- a. Impacts equal to or greater than 40 linear feet of additional permanent stream impact (including stream relocations) at an existing stream impact location; or
- b. Temporary or permanent impacts equal to or greater than one-tenth (1/10) of an acre of wetlands; or
- c. Any impact associated with a Notice of Violation or an enforcement action for violation(s) of DWQ Wetland Rules (15A NCAC 02H .0500), Isolated Wetland Rules (15A NCAC 02H .1300), DWQ Surface Water or Wetland Standards, or Riparian Buffer Rules (15A NCAC 02H .0200); or
- d. Any impacts to streams and/or buffers in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman, Jordan or Goose Creek Watersheds (or any other basin or watershed with Riparian Area Protection Rules (Buffer Rules) in effect at the time of application) unless the activities are listed as "EXEMPT" from these rules or a Buffer Authorization Certificate is issued through N.C. Division of Coastal Management (DCM) delegation for "ALLOWABLE" activities.

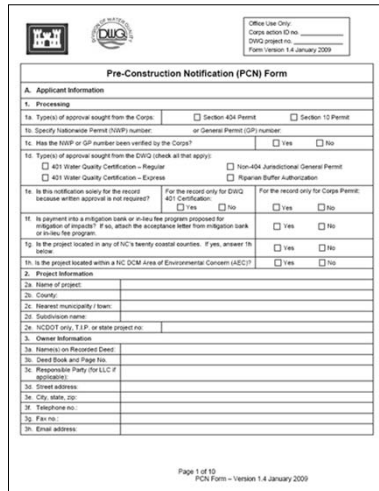
# What requires a buffer authorization?

- A buffer authorization (approval) is required when an activity will impact a buffer unless the activity is listed as "exempt" within the appropriate Table of Uses.

	Exempt	Allowable	Allowable with Mitigation	Prohibited
<b>Playground equipment:</b> <ul style="list-style-type: none"> <li>• Playground equipment on single family lots provided that installation and use does not result in removal of vegetation</li> <li>• Playground equipment installed on lands other than single-family lots or that requires removal of vegetation</li> </ul>	X	X		
<b>Ponds in natural drainage ways, excluding dry ponds:</b> <ul style="list-style-type: none"> <li>• New ponds provided that a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is established adjacent to the pond</li> <li>• New ponds where a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is NOT established adjacent to the pond</li> </ul>		X	X	
Protection of existing structures, facilities and streambanks when this requires additional disturbance of the riparian buffer or the stream channel		X		
Railroad impacts other than crossings of streams and other surface waters subject to this Rule			X	
Railroad crossings of streams and other surface waters				



## How does someone apply for a permit/certification or buffer authorization?



The image shows a 'Pre-Construction Notification (PCN) Form' with various sections for applicant information, processing, and project details. It includes checkboxes for different types of permits and certifications, and a section for project location and contact information.

**Pre-Construction Notification (PCN) Form**

**A. Applicant Information**

1. Processing

1a. Types of approval sought from the Corps:  Section 404 Permit  Section 10 Permit

1b. Specify Subordinate Permit (SDP) number: \_\_\_\_\_ or General Permit (GP) number: \_\_\_\_\_

1c. Has the SDP or GP number been verified by the Corps?  Yes  No

1d. Types of approval sought from the DWR (check all that apply):

401 Water Quality Certification - Regular  Non-404 Jurisdictional General Permit

401 Water Quality Certification - Express  Riparian Buffer Authorization

1e. Is this notification solely for the record because written approval is not required?  Yes  No

For the record only for DWR 401 Certification:  Yes  No

For the record only for Corps Permit:  Yes  No

1f. Is payment into a mitigation bank or in-lieu fee program proposed for mitigation of impacts? If so, attach the acceptance letter from mitigation bank or in-lieu fee program.  Yes  No

1g. Is the project located in any of NC's highly coastal counties. If yes, answer 1h below.  Yes  No

1h. Is the project located within a NC DCM Area of Environmental Concern (AEC)?  Yes  No

**2. Project Information**

2a. Name of project: \_\_\_\_\_

2b. County: \_\_\_\_\_

2c. Nearest municipality / town: \_\_\_\_\_

2d. Subdivision name: \_\_\_\_\_

2e. NCDOT only, T.I.P. or state project no: \_\_\_\_\_

**3. Owner Information**

3a. Name(s) on Recorded Deed: \_\_\_\_\_

3b. Deed Book and Page No: \_\_\_\_\_

3c. Responsible Party (for L&F application): \_\_\_\_\_

3d. Street address: \_\_\_\_\_

3e. City, state, zip: \_\_\_\_\_

3f. Telephone no.: \_\_\_\_\_

3g. Fax no.: \_\_\_\_\_

3h. Email address: \_\_\_\_\_

Page 1 of 10  
PCN Form - Version 1.4 January 2009

- Use the Pre-Construction Notification (PCN) Form :
  - General 401 Water Quality Certifications
  - Isolated Wetlands/Waters Permits
  
- Different forms must be used to apply for Individual Permits

## Application Process: 401 WQC / Buffer Authorization

- All applications for certifications or authorizations shall be granted or denied within 60 days after receipt OR:
  
- DWR may request any additional information found necessary for the proper consideration of the application
  - Once DWR receives additional information they again have 60 days to take action on the application

## Application Process: 401 WQC

- The USACE and DWR require applicants to consider alternatives to impacting waters and wetlands during the design of their project:
  - **Avoidance:** has the project been designed to avoid impacts to wetlands, streams and other natural resources to the extent practicable?
    - *In-Stream S&EC measures – can they be avoided by using other protection methods?*
  - **Minimization:** where project impacts are unavoidable, is the project designed such that the impacts have been minimized to the maximum extent practicable?

## Application Process: 401 WQC

- Other factors to be considered in the application process:
  - **Mitigation (\$)** may be required for stream, wetland, and/or buffer impacts
  - **Post Construction Stormwater** management plan may be required for some projects – *Often S&EC measures are converted – timing can be an issue.*



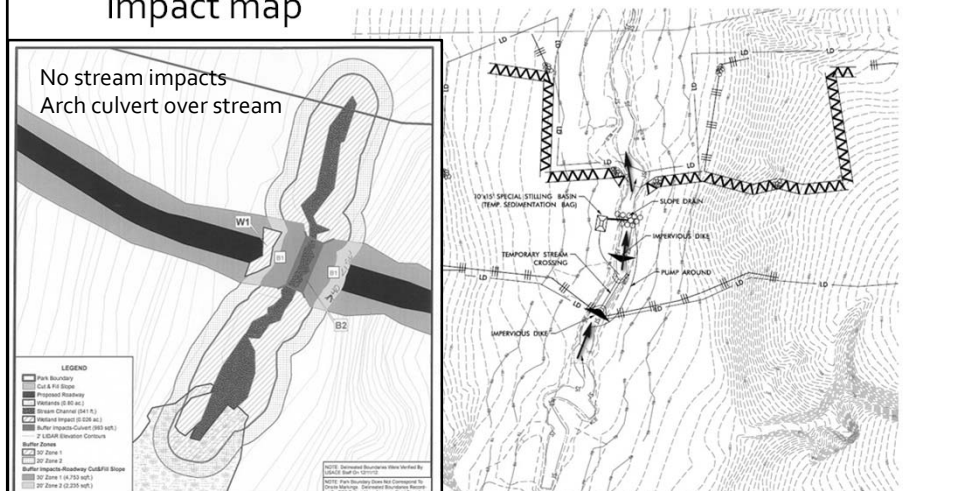
## Approval of 401 WQC with Additional Conditions

- The approval is for the purpose and design described in the application
- If there are changes to the project, even temporary impacts, DWR must be notified
  - *S&EC plan often designed after 404/401/buffer approvals have been secured. Modifications to the project during S&EC plan review may cause a site to be out of compliance with the 404/401/buffer approvals.*

Photo by NC DWQ

## Changes to Project Plans

- Construction drawings need to match 401 impact map



## Approval of 401 WQC with Additional Conditions

- Any certification issued requires the applicant to follow all conditions in the certification
  - If written authorization was required, any additional conditions listed in the approval letter must be followed

## 401 Conditions Related to Sediment & Erosion Control

### 3. No Sediment and Erosion Control Measures in Wetlands or Waters

Sediment and erosion control measures shall not be placed in wetlands or waters. Exceptions to this condition require application submittal to and written approval by the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands, stream beds, or banks, adjacent to or upstream and downstream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources (DLR) or locally delegated program has released the specific area within the project.

6. All wetlands, streams, surface waters, and riparian buffers located within 50 feet of the construction area on the project site shall be clearly marked (example- orange fabric fencing) prior to any land disturbing activities and must be maintained on the property until the project phase is completed.

## 401 Conditions Related to Sediment & Erosion Control

### 6. Work in the Dry

All work in or adjacent to stream waters shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC DOT Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application submittal to and written approval by the Division.

14. All temporary fill and culverts shall be removed and the impacted area returned to natural conditions within 60 days of the determination that the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, plan form pattern, and longitudinal bed and bed profile, and the various sites shall be stabilized with natural woody vegetation (except for the approved maintenance areas) and restored to prevent erosion.

## 401 Conditions Related to Sediment & Erosion Control

15. All temporary pipes/ culverts/ riprap pads etc, shall be installed in all streams as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* so as not to restrict stream flow or cause dis-equilibrium during use of this General Certification.

16. Any riprap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be buried and/or "keyed in" such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area.

## 401 Conditions Related to Sediment & Erosion Control

17. Any rip-rap used for stream stabilization shall be of a size and density so as not to be able to be carried off by wave, current action, or stream flows and consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures.
- c) The approved SMP shall be constructed and operational before any permanent building or other structure is occupied at the site.

## Summary – Key Questions

- Are there any surface waters (features) on the site?
  - What kind? (wetland, stream, isolated, buffer...)
  - Does the project have a JD from the USACE or letter from DWR?
- Will any of these features be impacted?
  - Does the project have approvals from USACE/DWR to impact these areas? Do the approval plans match up with the S&EC design?

## Regional Office Contacts

Region	Contact	Telephone
Asheville	Kevin Barnett	828-296-4657
	Tim Fox	828-296-4500
Fayetteville	Chad Turlington	910-433-3320
Mooreville	Alan Johnson	704-663-1699
Raleigh	Cherri Smith	919-791-4251
Washington	Anthony Scarbraugh	252-948-3924
	Roberto Scheller	252-948-3940
Wilmington	Chad Coburn	910-796-7379
	Joanne Steenhuis	910-796-7306
Winston Salem	Sue Homewood	336-771-4964

<http://portal.ncdenr.org/web/wq/swp/ws/webscape/contacts>

## For more information:

- 401 & Buffer Permitting Unit
  - (919) 807-6300
  - <http://portal.ncdenr.org/web/wq>

Mailing Address:

1650 Mail Service Center  
Raleigh, NC 27699-1650

Physical Address:

512 N. Salisbury Street  
Raleigh, NC 27604

[www.ncwaterquality.org](http://www.ncwaterquality.org)