



## TRANSMITTAL

TO:

DATE:

REFERENCE:

PHONE:

PROJECT NO:

FROM:  
PHONE:

cc:

Transmitted By:

Mail/UPS     Overnight     Courier     Hand Deliver     Client Pickup   

Attached are the following items:

COPIES	DATE	DESCRIPTION

These items are transmitted as checked below:

For approval  
 For your use

As requested  
 Review & comment

Information returned after loan

**Additional Comments:**



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**Additional Comments:**

## EROSION and SEDIMENTATION CONTROL PLAN PRELIMINARY REVIEW CHECKLIST

The following items shall be incorporated with respect to specific site conditions, in an erosion & sedimentation control plan:

### NPDES Construction Stormwater General Permit NCG010000

- \_\_\_\_\_ Designation on the plans where the 7 or 14 day ground stabilization requirements apply per Part II.E.1 of the permit.
- \_\_\_\_\_ Design of basins with one acre or more of drainage area for surface withdrawal as per Part II.B.8 of the permit.

### LOCATION INFORMATION

- \_\_\_\_\_ Project location & labeled vicinity map (roads, streets, landmarks)
- \_\_\_\_\_ North arrow and scale
- \_\_\_\_\_ Identify River Basin.
- \_\_\_\_\_ Provide a copy of site located on applicable USGS quadrangle and NRCS Soils maps if it is in a River Basin with Riparian Buffer requirements.

### GENERAL SITE FEATURES (Plan elements)

- \_\_\_\_\_ Property lines & ownership ID for adjoining properties
- \_\_\_\_\_ Existing contours (topographic lines)
- \_\_\_\_\_ Proposed contours
- \_\_\_\_\_ Limits of disturbed area (provide acreage total, delineate limits, and label). Be sure to include all access to measures, lots that will be disturbed, and utilities that may extend offsite.
- \_\_\_\_\_ Planned and existing building locations and elevations
- \_\_\_\_\_ Planned & existing road locations & elevations, including temporary access roads
- \_\_\_\_\_ Lot and/or building numbers
- \_\_\_\_\_ Hydrogeologic features: rock outcrops, seeps, springs, wetland and their limits, streams, lakes, ponds, dams, etc. (include all required local or state buffer zones and any DWQ Riparian Buffer determinations)
- \_\_\_\_\_ Easements and drainageways, particularly required for offsite affected areas. Include copies of any recorded easements and/or agreements with adjoining property owners.
- \_\_\_\_\_ Profiles of streets, utilities, ditch lines, etc.
- \_\_\_\_\_ Stockpiled topsoil or subsoil locations
- \_\_\_\_\_ If the same person conducts the land-disturbing activity & any related borrow or waste activity, the related borrow or waste activity shall constitute part of the land-disturbing activity unless the borrow or waste activity is regulated under the Mining Act of 1971, or is a landfill regulated by the Division of Waste Management. If the land-disturbing activity and any related borrow or waste activity are not conducted by the same person, they shall be considered separate land-disturbing activities and must be permitted either through the Sedimentation Pollution Control Act as a one-use borrow site or through the Mining Act.
- \_\_\_\_\_ Location and details associated with any onsite stone crushing or other processing of material excavated. If the affected area associated with excavation, processing, stockpiles and transport of such materials will comprise 1 or more acres, and materials will be leaving the development tract, a mining permit will be required.
- \_\_\_\_\_ Required Army Corps 404 permit and Water Quality 401 certification (e.g. stream disturbances over 150 linear feet)

### EROSION & SEDIMENT CONTROL MEASURES (on plan)

- \_\_\_\_\_ Legend (provide appropriate symbols for all measures and reference them to the construction details)
- \_\_\_\_\_ Location of temporary measures
- \_\_\_\_\_ Location of permanent measures
- \_\_\_\_\_ Construction drawings and details for temporary and permanent measures. Show measures to scale on plan and include proposed contours where necessary. Ensure design storage requirements are maintained through all phases of construction.
- \_\_\_\_\_ Maintenance requirements for measures
- \_\_\_\_\_ Contact person responsible for maintenance

### SITE DRAINAGE FEATURES

- \_\_\_\_\_ Existing and planned drainage patterns (include off-site areas that drain through project and address temporary and permanent conveyance of stormwater over graded slopes)
- \_\_\_\_\_ Method used to determine acreage of land being disturbed and drainage areas to all proposed measures (e.g. delineation map)
- \_\_\_\_\_ Size, pipe material and location of culverts and sewers
- \_\_\_\_\_ Soil information: type, special characteristics
- \_\_\_\_\_ Soil information below culvert storm outlets

- \_\_\_\_\_ Name and classification of receiving water course or name of municipal operator (only where stormwater discharges are to occur)

### STORMWATER CALCULATIONS

- \_\_\_\_\_ Pre-construction runoff calculations for each outlet from the site (at peak discharge points). Be sure to provide all supporting data for the computation methods used (rainfall data for required storm events, time of concentration/storm duration, and runoff coefficients).
- \_\_\_\_\_ Design calculations for peak discharges of runoff (including the construction phase & the final runoff coefficients for the site)
- \_\_\_\_\_ Design calcs for culverts and storm sewers (include HW, TW and outlet velocities)
- \_\_\_\_\_ Discharge and velocity calculations for open channel and ditch flows (easement & rights-of-way)
- \_\_\_\_\_ Design calcs for cross sections and method of stabilization for existing and planned channels (include temporary linings). Include appropriate permissible velocity and/or shear stress data.
- \_\_\_\_\_ Design calcs and construction details for energy dissipaters below culvert and storm sewer outlets (include stone/material specs & apron dimensions). Avoid discharges on fill slopes.
- \_\_\_\_\_ Design calcs and dimension of sediment basins (note current surface area and dewatering standards as well as diversion of runoff to the basins). Be sure that all surface drains, including ditches and berms, will have positive drainage to the basins.

### VEGETATIVE STABILIZATION

- \_\_\_\_\_ Area & acreage to be stabilized with vegetation
  - \_\_\_\_\_ Method of soil preparation
  - \_\_\_\_\_ Seed type & rates (temporary & permanent)
  - \_\_\_\_\_ Fertilizer type and rates
  - \_\_\_\_\_ Mulch type and rates (include mulch anchoring methods)
- NOTE: Plan should include provisions for groundcover in accordance with NPDES Construction Stormwater General Permit NCG010000.

### FINANCIAL RESPONSIBILITY/OWNERSHIP FORM

- \_\_\_\_\_ Completed, signed & notarized FR/O Form
- \_\_\_\_\_ Accurate application fee payable to NCDEQ (\$100.00 per acre rounded up the next acre with no ceiling amount)
- \_\_\_\_\_ Certificate of assumed name, if the owner is a partnership
- \_\_\_\_\_ Name of Registered Agent (if applicable)
- \_\_\_\_\_ Copy of the most current Deed for the site. Please make sure the deed(s) and ownership information are consistent between the plan sheets, local records and this form.
- \_\_\_\_\_ Provide latitude & longitude (in decimal degrees) at the project entrance.
- \_\_\_\_\_ Two hard-copies of the plans (some regional offices require additional plans or multiple sizes; please contact the regional coordinator prior to such submittal.)

- NOTE: For the Express Permitting Option, inquire at the local Regional Office for availability. Express Reviews are performed by appointment only.

### NARRATIVE AND CONSTRUCTION SEQUENCE

- \_\_\_\_\_ Narrative describing the nature & purpose of the construction activity.
- \_\_\_\_\_ Pre-construction conference, if requested.
- \_\_\_\_\_ Construction sequence related to erosion and sediment control (including installation of critical measures prior to the initiation of the land-disturbing activity & removal of measures after areas they serve are permanently stabilized). Address all phases of construction and necessary practices associated with temporary stream bypasses and/or crossings.
- \_\_\_\_\_ Bid specifications related only to erosion control rev. 1-18-22

## FINANCIAL RESPONSIBILITY/OWNERSHIP FORM SEDIMENTATION POLLUTION CONTROL ACT

No person may initiate any land-disturbing activity on one or more acres as covered by the Act, including any activity under a common plan of development of this size as covered by the NCG01 permit, before this form and an acceptable erosion and sedimentation control plan have been completed and approved by the Land Quality Section, N.C. Department of Environmental Quality. Submit the completed form to the appropriate Regional Office. (Please type or print and, if the question is not applicable or the e-mail address or phone number is unavailable, place N/A in the blank.)

### Part A.

1. Project Name \_\_\_\_\_

*\*If this project involves American Rescue Plan Act (ARPA) funds, list the Project Name below under which you applied for funding through the Division of Water Infrastructure (DWI).*

\_\_\_\_\_

2. Location of land-disturbing activity: County \_\_\_\_\_ City or Township \_\_\_\_\_

Highway/Street \_\_\_\_\_ Latitude (decimal degrees) \_\_\_\_\_ Longitude (decimal degrees) \_\_\_\_\_

3. Approximate date land-disturbing activity will commence: \_\_\_\_\_

4. Purpose of development (residential, commercial, industrial, institutional, etc.): \_\_\_\_\_

5. Total acreage disturbed or uncovered (including off-site borrow and waste areas): \_\_\_\_\_

6. Amount of fee enclosed: \$ \_\_\_\_\_. The application fee of \$100.00 per acre (rounded up to the next acre) is assessed without a ceiling amount (Example: 8.10-acre application fee is \$900). Checks should be addressed to NCDEQ.

7. Has an erosion and sediment control plan been filed? Yes  Enclosed  No

8. Person to contact should erosion and sediment control issues arise during land-disturbing activity:

Name \_\_\_\_\_ E-mail Address \_\_\_\_\_

Phone: Office # \_\_\_\_\_ Mobile # \_\_\_\_\_

9. Landowner(s) of Record (attach accompanied page to list additional owners):

\_\_\_\_\_  
Name Phone: Office # Mobile #

\_\_\_\_\_  
Current Mailing Address Current Street Address

\_\_\_\_\_  
City State Zip City State Zip

10. Deed Book No. \_\_\_\_\_ Page No. \_\_\_\_\_ Provide a copy of the most current deed.

**Part B.**

1. Company(ies) who are financially responsible for the land-disturbing activity (Provide a comprehensive list of all responsible parties on accompanied page.) *If the company is a sole proprietorship or if the landowner(s) is an individual(s), the name(s) of the owner(s) may be listed as the financially responsible party(ies).*

_____			_____		
Company Name			E-mail Address		
_____			_____		
Current Mailing Address			Current Street Address		
_____			_____		
City	State	Zip	City	State	Zip
Phone: Office #	_____		Mobile #	_____	

Note: If the Financially Responsible Party is not the owner of the land to be disturbed, include with this form the landowner's signed and dated written consent for the applicant to submit a draft erosion and sedimentation control plan and to conduct the anticipated land disturbing activity.

2. (a) If the Financially Responsible Party is a domestic company registered on the NC Secretary of State business registry, give name and street address of the Registered Agent:

_____			_____		
Name of Registered Agent			E-mail Address		
_____			_____		
Current Mailing Address			Current Street Address		
_____			_____		
City	State	Zip	City	State	Zip
Phone: Office #	_____		Mobile #	_____	

\_\_\_\_\_  
Name of Individual to Contact (if Registered Agent is a company)

- (b) If the Financially Responsible Party is not a resident of North Carolina, give name and street address of the designated North Carolina agent who is registered on the NC Secretary of State business registry:

_____			_____		
Name of Registered Agent			E-mail Address		
_____			_____		
Current Mailing Address			Current Street Address		
_____			_____		
City	State	Zip	City	State	Zip
Phone: Office #	_____		Mobile #	_____	

\_\_\_\_\_  
Name of Individual to Contact (if Registered Agent is a company)

(c) If the Financially Responsible Party is engaging in business under an assumed name, give name under which the company is Doing Business As. If the Financially Responsible Party is an individual, General Partnership, or other company not registered and doing business under an assumed name, **attach a copy of the Certificate of Assumed Name.**

\_\_\_\_\_  
Company DBA Name

The above information is true and correct to the best of my knowledge and belief and was provided by me under oath. (This form must be signed by the Financially Responsible Person if an individual(s) or his attorney-in-fact, or if not an individual, by an officer, director, partner, or registered agent with the authority to execute instruments for the Financially Responsible Party). I agree to provide corrected information should there be any change in the information provided herein.

\_\_\_\_\_  
Type or print name

\_\_\_\_\_  
Title or Authority

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

-----  
-----  
I, \_\_\_\_\_, a Notary Public of the County of \_\_\_\_\_

State of North Carolina, hereby certify that \_\_\_\_\_ appeared personally before me this day and being duly sworn acknowledged that the above form was executed by him/her.

Witness my hand and notarial seal, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

Seal

\_\_\_\_\_  
Notary

My commission expires \_\_\_\_\_

Continued from Items 9 & 10 in Part A of the Financial Responsibility/Ownership Form for multiple owners. Attach copies of this page as needed to list all landowners.

Landowner 2 of Record:

\_\_\_\_\_  
Name Phone: Office # Mobile #

\_\_\_\_\_  
Current Mailing Address Current Street Address

\_\_\_\_\_  
City State Zip City State Zip

Deed Book No. \_\_\_\_\_ Page No. \_\_\_\_\_ Provide a copy of the most current deed.

Landowner 3 of Record:

\_\_\_\_\_  
Name Phone: Office # Mobile #

\_\_\_\_\_  
Current Mailing Address Current Street Address

\_\_\_\_\_  
City State Zip City State Zip

Deed Book No. \_\_\_\_\_ Page No. \_\_\_\_\_ Provide a copy of the most current deed.

Landowner 4 of Record:

\_\_\_\_\_  
Name Phone: Office # Mobile #

\_\_\_\_\_  
Current Mailing Address Current Street Address

\_\_\_\_\_  
City State Zip City State Zip

Deed Book No. \_\_\_\_\_ Page No. \_\_\_\_\_ Provide a copy of the most current deed.

Landowner 5 of Record:

\_\_\_\_\_  
Name Phone: Office # Mobile #

\_\_\_\_\_  
Current Mailing Address Current Street Address

\_\_\_\_\_  
City State Zip City State Zip

Deed Book No. \_\_\_\_\_ Page No. \_\_\_\_\_ Provide a copy of the most current deed.

Continued from Item 1 in Part B of the Financial Responsibility/Ownership Form for multiple parties.  
Attach copies of this page as needed to list all financially responsible parties.

\_\_\_\_\_  
Company 2 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_

\_\_\_\_\_  
Company 3 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_

\_\_\_\_\_  
Company 4 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_

\_\_\_\_\_  
Company 5 Name

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Current Mailing Address

\_\_\_\_\_  
Current Street Address

\_\_\_\_\_  
City State Zip

\_\_\_\_\_  
City State Zip

Phone: Office # \_\_\_\_\_

Mobile # \_\_\_\_\_



# Major Stormwater Plan Form SW-002

## Review Process

### Contact Information

Currituck County  
Planning and Community Development  
153 Courthouse Road, Suite 110  
Currituck, NC 27929

Phone: 252.232.3055  
Fax: 252.232.3026

Website: <http://www.co.currituck.nc.us/planning-community-development.cfm>

Currituck County  
Engineering Department  
153 Courthouse Road, Suite 302  
Currituck, NC 27929

Phone: 252.232.6035

### General

Major stormwater plan approval is required for:

- Major subdivisions.
- Major site plans - development or expansion on a nonresidential, multi-family, or mixed use lot by 5,000 square feet or more of impervious coverage or resulting in 10% or more total impervious coverage.

### Step 1: Application Submittal

The applicant must submit a complete application packet consisting of the following:

- Completed Currituck County Minor Stormwater Plan Form SW-002 (unless submitting a major subdivision or major site plan).
- Completed Rational Method Form SW-003 or NRCS Method Form SW-004.
- Stormwater management plan drawn to scale. The plan shall include the items listed in the major stormwater plan design standards checklist.
- Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable.
- NCDENR permit applications, if applicable.
- Number of Copies Submitted:
  - 3 Copies of required plans
  - 3 Hard copies of ALL documents
  - 1 PDF digital copy (ex. Compact Disk – e-mail not acceptable) of all plans AND documents.

On receiving an application, staff shall determine whether the application is complete or incomplete. A complete application contains all the information and materials listed above, and is in sufficient detail to evaluate and determine whether it complies with appropriate review standards. An application for major stormwater plan must be submitted and approved prior altering an existing drainage system, performing any land disturbing activity or, before construction documents are approved.

### Step 2: Staff Review and Action

Once an application is determined complete staff shall approve, approve subject to conditions or disapprove the application.



# Major Stormwater Plan Form SW-002

OFFICIAL USE ONLY:

Permit Number: \_\_\_\_\_

Date Filed: \_\_\_\_\_

Date Approved: \_\_\_\_\_

### Contact Information

APPLICANT:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

PROPERTY OWNER:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

### Property Information

Physical Street Address: \_\_\_\_\_

Parcel Identification Number(s): \_\_\_\_\_

FEMA Flood Zone Designation: \_\_\_\_\_

### Request

Project Description: \_\_\_\_\_

Total land disturbance activity: \_\_\_\_\_ sf      Calculated volume of BMPs: \_\_\_\_\_ sf

Maximum lot coverage: \_\_\_\_\_ sf      Proposed lot coverage: \_\_\_\_\_ sf

#### TYPE OF REQUEST

- Major subdivision (10-year, 24-hour rate)
- Major site plan (5-year, 24-hour rate)

#### METHOD USED TO CALCULATE PEAK DISCHARGE

- Rational Method
- NRCS Method (TR-55 and TR-20)
- Simple volume calculation for small sites (less than 10 acres)
- Alternative stormwater runoff storage analysis
- Downstream drainage capacity analysis

I hereby authorize county officials to enter my property for purposes of determining compliance. All information submitted and required as part of this process shall become public record.

\_\_\_\_\_  
Property Owner(s)/Applicant

\_\_\_\_\_  
Date

Major Stormwater Plan Design Standards Checklist

The table below depicts the design standards of the major stormwater plan application. Please make sure to include all applicable listed items to ensure all appropriate standards are reviewed.

# Major Stormwater Plan Design Standards Checklist

Date Received: \_\_\_\_\_

Project Name: \_\_\_\_\_

Applicant/Property Owner: \_\_\_\_\_

Minor Stormwater Plan Design Standards Checklist		
General		
1	Property owner name and address.	
2	Site address and parcel identification number.	
3	North arrow and scale to be 1" = 100' or larger.	
Site Features		
4	Scaled drawing showing existing and proposed site features: Property lines with dimensions, acreage, streets, easements, structures (dimensions and square footage), fences, bulkheads, septic area (active and repair), utilities, vehicular use areas, driveways, and sidewalks.	
5	Approximate location of all designated Areas of Environmental Concern (AEC) or other such areas which are environmentally sensitive on the property, such as Maritime Forest, CAMA, 404, or 401 wetlands as defined by the appropriate agency.	
6	Existing and proposed ground elevations shown in one foot intervals. All elevation changes within the past six months shall be shown on the plan.	
8	Limits of all proposed fill, including the toe of fill slope and purpose of fill.	
9	Square footage of all existing and proposed impervious areas (structures, sidewalks, walkways, vehicular use areas regardless of surface material), including a description of surface materials.	
10	Existing and proposed drainage patterns, including direction of flow.	
11	Location, capacity, design plans (detention, retention, infiltration), and design discharge of existing and proposed stormwater management features.	
12	Elevation of the seasonal high water level as determined by a licensed soil scientist.	
13	Plant selection.	
Permits and Other Documentation		
14	NCDENR stormwater permit application (if 10,000sf or more of built upon area).	
15	NCDENR erosion and sedimentation control permit application (if one acre or more of land disturbance).	
16	NCDENR coastal area management act permit application, if applicable.	
17	Stormwater management narrative with supporting calculations.	
18	Rational Method Form SW-003 or NRCS Method Form SW-004	
19	Alternative stormwater runoff storage analysis and/or downstream drainage capacity analysis, if applicable	
20	Design spreadsheets for all BMPs ( <i>Appendix F – Currituck County Stormwater Manual</i> ).	
21	Detailed maintenance plan for all proposed BMPs.	

**Certificate**

22 The major stormwater plan shall contain the following certificate:

I, \_\_\_\_\_, owner/agent hereby certify the information included on this and attached pages is true and correct to the best of my knowledge.

On the plan entitled \_\_\_\_\_, stormwater drainage improvements shall be installed according to these plans and specifications and approved by Currituck County. Yearly inspections are required as part of the stormwater plan. The owner is responsible for all maintenance required. Currituck County assumes no responsibility for the design, maintenance, or performance of the stormwater improvements.

Date: \_\_\_\_\_ Owner/Agent: \_\_\_\_\_

**Major Stormwater Plan Submittal Checklist**

Staff will use the following checklist to determine the completeness of your application. Please make sure all of the listed items are included. Staff shall not process an application for further review until it is determined to be complete.

## Major Stormwater Plan Form SW-002 Submittal Checklist

Date Received: \_\_\_\_\_

Project Name: \_\_\_\_\_

Applicant/Property Owner: \_\_\_\_\_

**Major Stormwater Plan Form SW-002 Submittal Checklist**

1	Completed Major Stormwater Plan Form SW-002	
2	Completed Rational Method Form SW-003 or NRCS Method Form SW-004	
3	Stormwater plan	
4	NCDENR permit applications, if applicable	
5	3 copies of plans	
6	3 hard copies of ALL documents	
7	<b>1 PDF digital copy of all plans AND documents (ex. Compact Disk – e-mail not acceptable)</b>	

**Comments**

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# Rational Method Peak Flow Form SW-003

## Project Information

Project Location: Moyock Commons Drive, Moyock, NC 27958

Parcel Identification Number(s): 015B00000140000

Drainage area: 1.421 ac

Average Slope: N/A %

Maximum Slope Length: N/A ft

## Calculations

\*The Rational Method may only be used where development will impact less than 10 acres

<b>Time of Concentration (Tc)</b> (Use additional sheets if necessary)			
	<b>Pre-</b>	<b>Post-</b>	
<u>Sheet Flow</u>			
Manning's roughness, n (Table 2-4)			
2-year, 24-hour Rainfall, P	4.0	6.0	in
Slope, S			ft/ft
Length of Sheet Flow, L (<=300 feet)			ft
<b>Total Time for Sheet Flow</b>			<b>min</b>
<u>Shallow Concentrated Flow</u>			
Surface Paved (P) or Unpaved (U)			
Length of flow, L			ft
Slope, S			ft/ft
Average Velocity, V (Table 2-3)			ft/min
<b>Total Time for Shallow Concentrated Flow</b>			<b>min</b>
<u>Channel Flow</u>			
Pipe (P) or Channel (C)			
If pipe: Diameter, D			in
If channel: Bottom Width, w			ft
If channel: side slope 1 (__:1)			
If channel: side slope 2 (__:1)			
Cross sectional flow area, A			sq ft
Wetted perimeter, Wp			ft
Hydraulic radius, R = A/Wp			ft

Assumed 5  
minute time of  
concentration.

Assumed 5  
minute time of  
concentration.

Assumed 5  
minute time of  
concentration.

Time of Concentration (Tc) (Use additional sheets if necessary)			
	Pre-	Post-	
Channel slope, S			ft/ft
Manning's roughness, n (Table 2-4)			
Channel velocity			ft/sec
Length of Flow, L			ft/sec
<b>Total Time for Channel Flow</b>			<b>min</b>
<b>Total Time of Concentration, Tc</b>	5		<b>min</b>

Assumed 5  
minute time of  
concentration.

Pre-development Conditions			
Land Use Description	C	Area (acres)	C*A
Woods	0.2	1.421	0.284
<b>Total</b>			<b>0.284</b>

Intensity for 2-year, 24-hour storm (Table 2-5)      0.156      in/hr

Pre-development peak flow, Q = CiA      0.044      cfs

Post-development Conditions			
Land Use Description	C	Area (acres)	C*A
Ditch Northeast	0.44	0.533	0.235
Ditch Southwest	0.53	0.863	0.457
3 (Parking Lot Area to Inlet)	0.90	0.025	0.023
<b>Totals</b>			

Area-weighted C:      0.503

Intensity for 10-year, 24-hour storm (Table 2-5)      0.239      in/hr

Post-development peak flow, Q = CiA      0.171      cfs

**Minimum Storage Volume Required – Refer to Section 2.4.4 for Volume Calculations**

Storage Volume, V<sub>s</sub>      N/A; existing      ft<sup>3</sup>  
detention basin

Applicant \_\_\_\_\_

Date \_\_\_\_\_

# Currituck County

Public Services Department

**Will Rumsey, Utilities Manager**



446 Maple Rd.  
Maple NC 27956  
Phone 252-232-6061  
Fax 252-453-3721

Email: [will.rumsey@CurrituckCountyNC.gov](mailto:will.rumsey@CurrituckCountyNC.gov)

April 3<sup>rd</sup>, 2023

Mr. Simon Mueller/Project Manager  
1703 North Parham Road, Suite 202  
Henrico, VA 23229

This letter serves as notice that Moyock Commons Wastewater Treatment Plant can serve your projected flow of 1,390 gpd and that you are allocated for that amount.

Moyock Commons NC WWTP Permit Number WQ0015053

Sincerely,

A handwritten signature in black ink, appearing to read "Will Rumsey".

Will Rumsey  
Utilities Manager  
Currituck County

KOONTZ BRYANT JOHNSON WILLIAMS INC • HENRICO, VIRGINIA 23229

34359

DATE	INVOICE NO.	COMMENT	AMOUNT	NET AMOUNT
04/06/2023	B7011.02	B7011.02 Bob's Gun Shop submittal		200.00
DATE 04/06/23		VENDOR North Carolina Dept of Environmental Qualit	TOTAL	200.00



**Koontz Bryant Johnson Williams Inc**

1703 N. PARHAM ROAD, #202  
HENRICO, VA 23229  
(804) 740-9200

SOUTH STATE BANK

67-98  
532

34359

Two Hundred and no/100

DATE	AMOUNT
04/06/23	34359 \$200.00

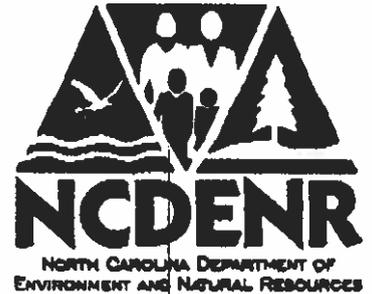
PAY TO THE ORDER OF NORTH CAROLINA DEPT OF ENVIRONMENTAL QUALITY

*Deary Z Bryant, III*  
 \_\_\_\_\_  
 AUTHORIZED SIGNATURE

⑈034359⑈ ⑆053200983⑆ 9800 85609⑈

State of North Carolina  
Department of Environment  
and Natural Resources  
Division of Water Quality

James B. Hunt, Jr., Governor  
Wayne McDevitt, Secretary  
A. Preston Howard, Jr., P.E., Director



DIVISION OF WATER QUALITY  
October 30, 1998

Currituck Commercial Center  
Attn: Mr. Russell E. Twiford  
2101 River Shore Drive  
Elizabeth City, NC 27909

Subject: Stormwater Permit No. SW7980513  
Currituck Commercial Center  
High Density Stormwater Project  
Currituck County

Dear Mr. Twiford:

The Washington Regional Office received the completed Stormwater Application for the subject project on October 28, 1998. Staff review of the plans and specifications has determined that the project, as proposed, will comply with the Stormwater Regulations set forth in Title 15A NCAC 2H.1000. We are forwarding Permit No. SW7980513 dated October 30, 1998 to Mr. Russell E. Twiford.

This permit shall be effective from the date of issuance until October 30, 2008 and shall be subject to the conditions and limitations as specified therein. Please pay special attention to the Operation and Maintenance requirements in this permit. Failure to establish an adequate system for operation and maintenance of the stormwater management system will result in future compliance problems.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, P.O. Drawer 27447, Raleigh, NC 27611-7447. Unless such demands are made this permit shall be final and binding.

Currituck Commercial Center  
Mr. Russell E. Twiford  
October 30, 1998  
Page Two

If you have any questions, or need additional information concerning this matter, please contact Bill Moore at (252) 946-6481, extension 264.

Sincerely,

  
\* Jim Mulligan  
Water Quality Regional Supervisor  
Washington Regional Office

cc: ~~Bissell Professional Group~~  
Currituck County Inspections  
Washington Regional Office  
Central Files

State Stormwater Management Systems  
Permit No. SW7980513

STATE OF NORTH CAROLINA  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF WATER QUALITY

STATE STORMWATER MANAGEMENT PERMIT

HIGH DENSITY DEVELOPMENT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

Mr. Russell E. Twiford

Currituck County

FOR THE

construction, operation and maintenance of stormwater management systems in compliance with the provisions of 15A NCAC 2H.1000 (hereafter referred to as the "stormwater rules") and the approved stormwater management plans and specifications and other supporting data as attached and on file with and approved by the Division of Water Quality and considered a part of this permit for a wet detention pond to serve Currituck Commercial Center located at Moyock, NC.

This permit shall be effective from the date of issuance until October 30, 2008 and shall be subject to the following specified conditions and limitations:

I. DESIGN STANDARDS

1. This permit is effective only with respect to the nature and volume of stormwater described in the application and other supporting data.
2. This stormwater system has been approved for the management of stormwater runoff as described on page 4 of this permit, the Project Data Sheet.
3. Approved plans and specifications for this project are incorporated by reference and are enforceable parts of the permit.

DIVISION OF WATER QUALITY  
PROJECT DATA

Project Name: Currituck Commercial Center  
Permit Number: SW7980513  
Location: Currituck County  
Applicant: Mr. Russell E. Twiford  
Mailing Address: 2101 River Shore Drive  
Elizabeth City, NC 27909  
Application Date: 5/06/98; original  
10/28/98; complete  
Water Body Receiving Stormwater  
Runoff: Northwest River  
Classification of Water Body: SC  
Total Site Area: 25.96 acres  
Total Imper. Surfaces Allowed: 16.40 acres  
Pond/Basin Depth: 4.0 feet  
Required Surface Area: 45,233 square feet  
Provided Surface Area: 46,728 square feet  
Required Storage Volume: 67,654 cubic feet  
Provided Storage Volume: 78,433 cubic feet  
Controlling Orifice: 3.0 inch orifice

63%

4. No homeowner/lot owner/developer shall be allowed to fill in, alter, or pipe any vegetative practices (such as swales) shown on the approved plans as part of the stormwater management system without submitting a revision to the permit and receiving approval from the Division.
5. The following items will require a modification to the permit:
  - a. Any revision to the approved plans, regardless of size
  - b. Project name change
  - c. Transfer of ownership
  - d. Redesign or addition to the approved amount of built-upon area
  - e. Further subdivision of the project area.

In addition, the Director may determine that other revisions to the project should require a modification to the permit.

6. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the Director that the changes have been made.

## II. SCHEDULE OF COMPLIANCE

1. The permittee will comply with the following schedule for construction and maintenance of the stormwater management system.
  - a. The stormwater management system shall be constructed in its entirety, vegetated and operational for its intended use prior to the construction of any built-upon surfaces except roads.
  - b. During construction, erosion shall be kept to a minimum and any eroded areas of the system will be repaired immediately.
2. The facilities must be properly maintained and operated at all times. The approved Operation and Maintenance Plan must be followed in its entirety and maintenance must occur at the scheduled intervals.
3. The permittee shall at all times provide the operation and maintenance necessary to assure the permitted stormwater system functions at optimum efficiency including, but not limited to:

- a. Semiannual scheduled inspections (every 6 months)
  - b. Sediment removal
  - c. Mowing and revegetation of side slopes
  - d. Immediate repair of eroded areas
  - e. Maintenance of side slopes in accordance with approved plans and specifications
  - f. Debris removal and unclogging of outlet structure, orifice device and catch basins and piping.
4. Records of maintenance activities must be kept and made available upon request to authorized personnel of DWQ. The records will indicate the date, activity, name of person performing the work and what actions were taken.
  5. This permit shall become voidable unless the facilities are constructed in accordance with the conditions of this permit, the approved plans and specifications, and other supporting data.
  6. Upon completion of construction and prior to operation of this permitted facility, a certification must be received from an appropriate designer for the system installed certifying that the permitted facility has been installed in accordance with this permit, the approved plans and specifications, and other supporting documentation. Mail the Certification to the Washington Regional Office, 943 Washington Square Mall, Washington, North Carolina, 27689, attention Division of Water Quality.
  7. A copy of the approved plans and specifications shall be maintained on file by the Permittee for a minimum of five years from the date of the completion of construction.

### III. GENERAL CONDITIONS

1. This permit is not transferable. In the event there is a desire for the facilities to change ownership, or there is a name change of the Permittee, a formal permit request must be submitted to the Division of Water Quality accompanied by an application fee, documentation from the parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits and may or may not be approved.
2. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to enforcement action by the Division of Water Quality, in accordance with North Carolina General Statute 143-215.6(a) to 143-215.6(c).
3. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state, and federal) which have jurisdiction.

4. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by this Division, such as the construction of additional or replacement stormwater management systems.
5. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and reissuance or termination does not stay any permit condition.

Permit issued this the 30 th day of October, 1998.

**NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION**

  
\_\_\_\_\_  
A. Preston Howard, Jr., P.E., Director  
Division of Water Quality  
By Authority of the Environmental Management Commission

Permit Number SW7980513

Currituck Commercial Center  
Mr. Russell E. Twiford  
Currituck County  
Stormwater Permit No. SW7980513

**Designer's Certification**

I, \_\_\_\_\_, as a duly  
registered Professional Engineer in the State of North Carolina,  
having been authorized to observe (periodically/weekly/full time)  
the construction of the project, \_\_\_\_\_  
\_\_\_\_\_(Project)

for \_\_\_\_\_ (Project Owner)

hereby state that to the best of my abilities, due care and  
diligence was used in the observation of the project construction  
such that the construction was observed to be built within  
substantial compliance and intent of the approved plans and  
specifications.

Signature \_\_\_\_\_

Registration Number \_\_\_\_\_

Date \_\_\_\_\_



State of North Carolina  
Department of Environment and Natural Resources  
Washington Regional Office

James B. Hunt, Jr., Governor

Wayne McDevitt, Secretary

DIVISION OF LAND RESOURCES  
LAND QUALITY SECTION  
June 5, 1998

**LETTER OF APPROVAL WITH MODIFICATION**

Mr. Russell E. Twiford  
2101 River Shore Road  
Elizabeth City, North Carolina 27909

RE: Erosion and Sedimentation Control Plan  
Currituck Commercial Center  
US 168 - Currituck County  
Drainage Basin: Pasquotank  
Date Received: May 13, 1998  
Responsible Party: Russell E. Twiford

Dear Mr Twiford:

This office has completed its review of the erosion and sedimentation control plan for the referenced 4.7 acre disturbance. We have determined the submitted plan for the construction of roads, drainage and an infiltration pond (as shown on the revised project drawing dated 6/3/98), if properly implemented, will meet the minimum requirements of the Act and hereby issue this **LETTER OF APPROVAL WITH** the following **MODIFICATION**.

An appropriate and properly installed sediment control measure must be provided at the discharge of the new "ditch" at the northeast corner of the tract.

In 1973, the Sedimentation Pollution Control Act (copy available upon request) was enacted. It established a performance oriented program requiring a project owner or developer to protect adjoining natural resources and properties, both during and after construction, from the effects of accelerated erosion. It is YOUR RESPONSIBILITY to understand and comply with the requirements of the Act.

In addition to any above listed modifications or conditions, the following also apply to the approved plan:

*an erosion and sedimentation control plan is only valid for 3 years following the date of initial approval, if no land-disturbing activity has been undertaken;*

Mr. Russell E. Twiford  
June 5, 1998  
Page 2

- *a copy of the latest approved soil erosion and control plan must be on file at the job site;*
- *a buffer zone, sufficient to restrain visible sedimentation, must be provided and maintained between the land-disturbing activity and any adjacent property or watercourse;*
- *new or affected slopes must be at an angle that can be retained by vegetative cover;*
- *barren slopes must be provided with a ground cover sufficient to restrain erosion within 30 working days of completion of any phase (rough or final) of grading (RYE GRASS IS NOT in the approved seeding specifications nor is it an ACCEPTABLE substitute for the providing of a ground cover);*
- *unless a temporary, manufactured, lining material has been specified, a clean straw mulch must be applied, at the minimum rate of 2 tons/acre, to all seeded areas. The mulch must cover at least 75% of the seeded area after it is either tacked, with an acceptable tacking material, or crimped in place;*
- *in order to meet the intent of the Act, the scheduling of the land-disturbing activities is to be such that both the area of exposure and the time between the land disturbance and the providing of a ground is minimized;*
- *a permanent ground cover, sufficient to restrain erosion, must be provided within the shorter of 30 working or 120 calendar days after completion of construction or development, and,*
- *this approval and the financial responsibility/liability cited in it does not automatically transfer with a change in project ownership.*

Be advised that to ensure compliance with the approved plan and the program requirements, unannounced periodic inspections will be made. If the implemented plan is determined to be inadequate, this office may require that it be revised to comply with state law. Failure to comply with any part of the approved plan or with any requirements of this program, could result in the taking of appropriate legal action against the financially responsible party (Russell E. Twiford). One option is the assessing of a civil penalty of up to \$500 per day for each day the site is out of compliance.

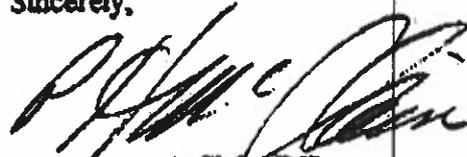
In recognizing the desirability of early coordination of sedimentation control, we believe it would be beneficial for you and your contractor to arrange a preconstruction conference to

Mr. Russell E. Twiford  
June 5, 1998  
Page 3

discuss the requirements of the approved erosion and sedimentation control plan. It would be appreciated if you would contact this office to advise Bill Crew (252-946-6481, ext. 374) of the construction start-up date, contractor and an on-site contact person or, please, complete and return the attached Project Information sheet to the above named.

The land-disturbing activity described in this plan may require approval or permitting from other Federal, State or local agencies. These could include the U.S. Army Corps of Engineers under Article 404 jurisdiction, the Division of Water Quality - Surface Water Section under stormwater regulations (contact Bill Moore, 252-946-6481, ext. 264), county, city or town agencies under other local ordinances, or other approvals that may be required. This approval does not supercede any other approval or permit.

Sincerely,



Patrick H. McClain, P.E.  
Assistant Regional Engineer

PHM:pm

Enclosures

cc: David Ryan, Bissell Professional Group

JUNE 6, 1998

# CERTIFICATE OF PLAN APPROVAL



The posting of this certificate certifies that an erosion and sedimentation control plan has been approved for this project by the North Carolina Department of Environment, Health, and Natural Resources in accordance with North Carolina General Statute 113A - 57 (4) and 113A - 54 (d) (4) and North Carolina Administrative Code, Title 15A, Chapter 4B.0007 (c). This certificate must be posted at the primary entrance of the job site before construction begins and until establishment of permanent groundcover as required by North Carolina Administrative Code, Title 15A, Chapter 4B.0027(b). *CARRIWAY COMMERCIAL CTR*

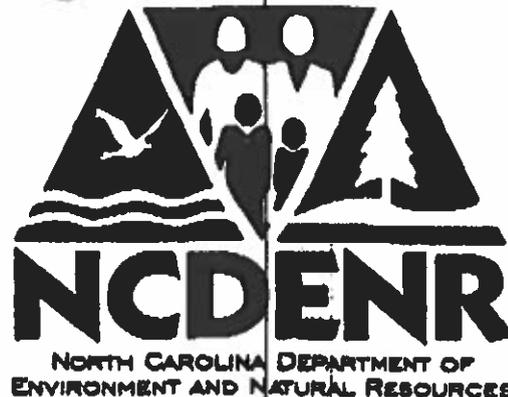
*45168 - Carrick County*  
Project Name and Location

*6-5-98*  
Date of Plan Approval

*Kayd Williams*  
Regional Engineer

State of North Carolina  
Department of Environment  
and Natural Resources  
Division of Water Quality

James B. Hunt, Jr., Governor  
Wayne McDevitt, Secretary  
A. Preston Howard, Jr., P.E., Director



June 18, 1998

C. Brantley Tillman, President  
Commercial Properties, Inc.  
1648-F North Market Drive  
Raleigh, North Carolina 27609

Subject: Permit No. WQ0015053  
Commercial Properties, Inc.  
Moyock Commons Shopping Center and  
Currituck Commercial Center  
Wastewater Treatment and  
Low-Rate Wastewater Disposal Facilities  
Currituck County

Dear Mr. Tillman:

In accordance with your application received March 4, 1998, we are forwarding herewith Permit No. WQ0015053, dated June 18, 1998, to Commercial Properties, Inc. for the construction and operation of the subject wastewater treatment system and low-rate infiltration wastewater disposal facilities.

This permit shall be effective from the date of issuance until May 31, 2003, and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements in this permit. Failure to establish an adequate system for collecting and maintaining the required operational information will result in future compliance problems.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, P.O. Drawer 27447, Raleigh, NC 27611-7447. Unless such demands are made this permit shall be final and binding.

One set of approved plans and specifications is being forwarded to you. If you need additional information concerning this matter, please contact Mr. Randy Kepler at (919) 733-5083 extension 544.

Sincerely,

A. Preston Howard, Jr., P.E.

cc: Currituck County Health Department  
Bissell Professional Group  
Washington Regional Office, Water Quality Section  
Washington Regional Office, Groundwater Section  
Bob Cheek, Groundwater Section, Central Office  
Technical Assistance and Certification Unit  
Non-Discharge Compliance/Enforcement Unit  
PO Box 29535, Raleigh, North Carolina 27626-0535  
An Equal Opportunity Affirmative Action Employer

Telephone (919) 733-5083 Fax (919) 733-0719  
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**NORTH CAROLINA**  
**ENVIRONMENTAL MANAGEMENT COMMISSION**  
**DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**  
**RALEIGH**  
**LOW RATE WASTEWATER INFILTRATION SYSTEM PERMIT**

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO  
**Commercial Properties, Inc.**  
Currituck County  
FOR THE

construction and operation of a 40,000 wastewater collection, treatment and disposal system.

The wastewater collection system shall consist of approximately 2,625 linear feet of 8-inch gravity sewer and an 80 GPM pump station with dual pumps, high water alarms, and approximately 815 linear feet of 4-inch force main.

The 40,000 GPD extended aeration wastewater treatment plant shall consist of a continuous monitoring flow recorder, a 10,000 gallon equalization basin with two 28 GPM pumps, a manually cleaned bar screen, flow splitter box, two 20,029 gallon coarse bubble aeration basins, two 8,390 gallon clarifiers, a 3,938 gallon aerated sludge holding tank, two 206 CFM blowers, dual bed tertiary filters (each filter measuring fourteen square feet), a tablet chlorinator with an 1,111 gallon chlorine contact chamber, a 2,500 gallon effluent dosing tank with two 90 GPM pumps and high water alarms, and a stand-by generator with automatic transfer switch to serve the WWTP and collection system pump station.

The low-rate wastewater disposal system shall consist of two 27,500 square foot infiltration basin which are fed by constructed wetlands for nitrogen removal

The collection, treatment and disposal system will serve approximately 233,000 square foot of retail space and one 200-seat restaurant in the Moyock Commons Shopping Center and Currituck Commercial Center, with no discharge of wastes to the surface waters, pursuant to the application received March 4, 1998, and in conformity with the project plan, specifications, and other supporting data subsequently filed and approved by the Department of Environment and Natural Resources and considered a part of this permit.

This permit shall be effective from the date of issuance until May 31, 2003, and shall be subject to the following specified conditions and limitations:

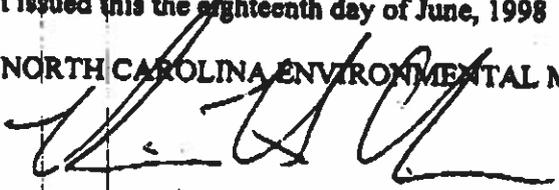
**I. PERFORMANCE STANDARDS**

1. Upon completion of construction and prior to operation of this permitted facility, a certification must be received from a professional engineer certifying that the permitted facility has been installed in accordance with this permit, the approved plans and specifications, and other supporting materials. If this project is to be completed in phases and partially certified, you shall retain the responsibility to track further construction approved under the same permit, and shall provide a final certificate of completion once the entire project has been completed. Mail the Certification to the Non-Discharge Permitting Unit, P.O. Box 29535, Raleigh, NC 27626-0535.

9. The Permittee, at least six (6) months prior to the expiration of this permit, shall request its extension. Upon receipt of the request, the Commission will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate.
10. The Operational Agreement between the Permittee and the Environmental Management Commission is incorporated herein by reference and is a condition of this Permit. Noncompliance with the terms of the Operational Agreement shall subject the Permittee to all sanctions provided by North Carolina General Statute 143-215.6A to 143-215.6C for violation of or failure to act in accordance with the terms and conditions of this Permit.

Permit issued this the eighteenth day of June, 1998

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



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A. Preston Howard, Jr., P.E., Director  
Division of Water Quality  
By Authority of the Environmental Management Commission

Permit Number WQ001S053