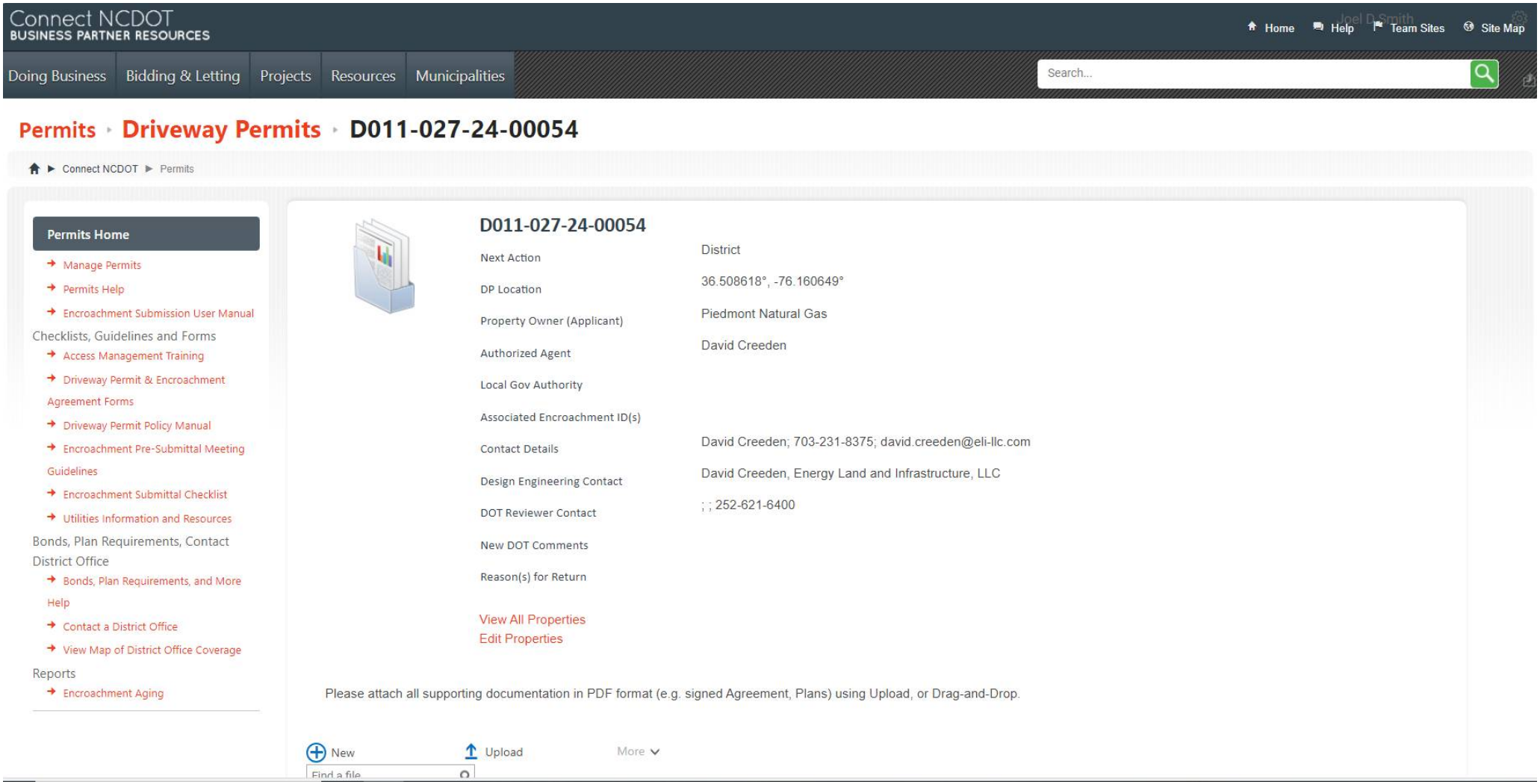


ENERGY LAND & INFRASTRUCTURE

February 20, 2024

Ms. Caitlin Spear
County Maintenance Engineer
North Carolina Department of Transportation
Highway Division 1 – District 1
1929 North Road St.
Elizabeth City, NC 27909

Re: Moyock City Gate Regulator Station
Currituck County, North Carolina
Commercial Driveway Application Permits

Dear Ms. Spear:

Energy Land & Infrastructure, LLC (ELI) has been hired by Piedmont Natural Gas Company (PNG) to provide design, permitting and construction administration services in support of the installation of a new receiver, and a new regulator station. Additional project tasks includes the abandonment of one existing regulator station. To facilitate access for the future regulator station, a permanent access drive is required at the locations below that connect to existing NCDOT roadways.

- Survey Road (SR 1215) at a location identified as Moyock City Gate RS Upgrade on the plans herein.

We are requesting approval for these permanent driveway connections to state-maintained roads, and as part of this request, we have enclosed the following:

- A completed *NC DOT Street and Driveway Access Permit Application (Form TEB-65-04)* for the one (1) permanent driveway connections
- A Completed Driveway Certification form for the one (1) permanent driveway.
- A $50 check made payable to NCDOT to cover the construction inspection fee for one permanent driveway installation to be mailed separately to your attention at the address above.
- Driveway Permit Plan for Survey Road.

Construction of the project is scheduled to start in September of 2024 and should be completed by December of 2024.

Should you have any questions, please feel free to contact me at (703) 994-0429. Please send the approved permit to Ms. Elizabeth Lemons with Piedmont Natural Gas with a copy to my attention.

Kevin Thomas
Piedmont Natural Gas Company
5607 Cannon Drive
Monroe, NC 28110

David Creeden
Energy Land & Infrastructure LLC
7850 Donegan Drive
Manassas, VA 20109

Sincerely,

Energy Land & Infrastructure, PLLC

David M. Creeden

David Creeden
Sr. Project Manager

Enclosures
Cc: Mr. Kevin Thomas – Piedmont Natural Gas

APPLICATION IDENTIFICATION		N.C. DEPARTMENT OF TRANSPORTATION STREET AND DRIVEWAY ACCESS PERMIT APPLICATION
Driveway Permit No.	Date of Application 2/20/2024	
County: Currituck		
Development Name: Piedmont Natural Gas - Moyock City Gate RS		

LOCATION OF PROPERTY:

Route/Road: SR-1215 Survey Road

Exact Distance 315 ☐ Miles ☒ Feet N ☒ S ☐ E ☐ W ☐

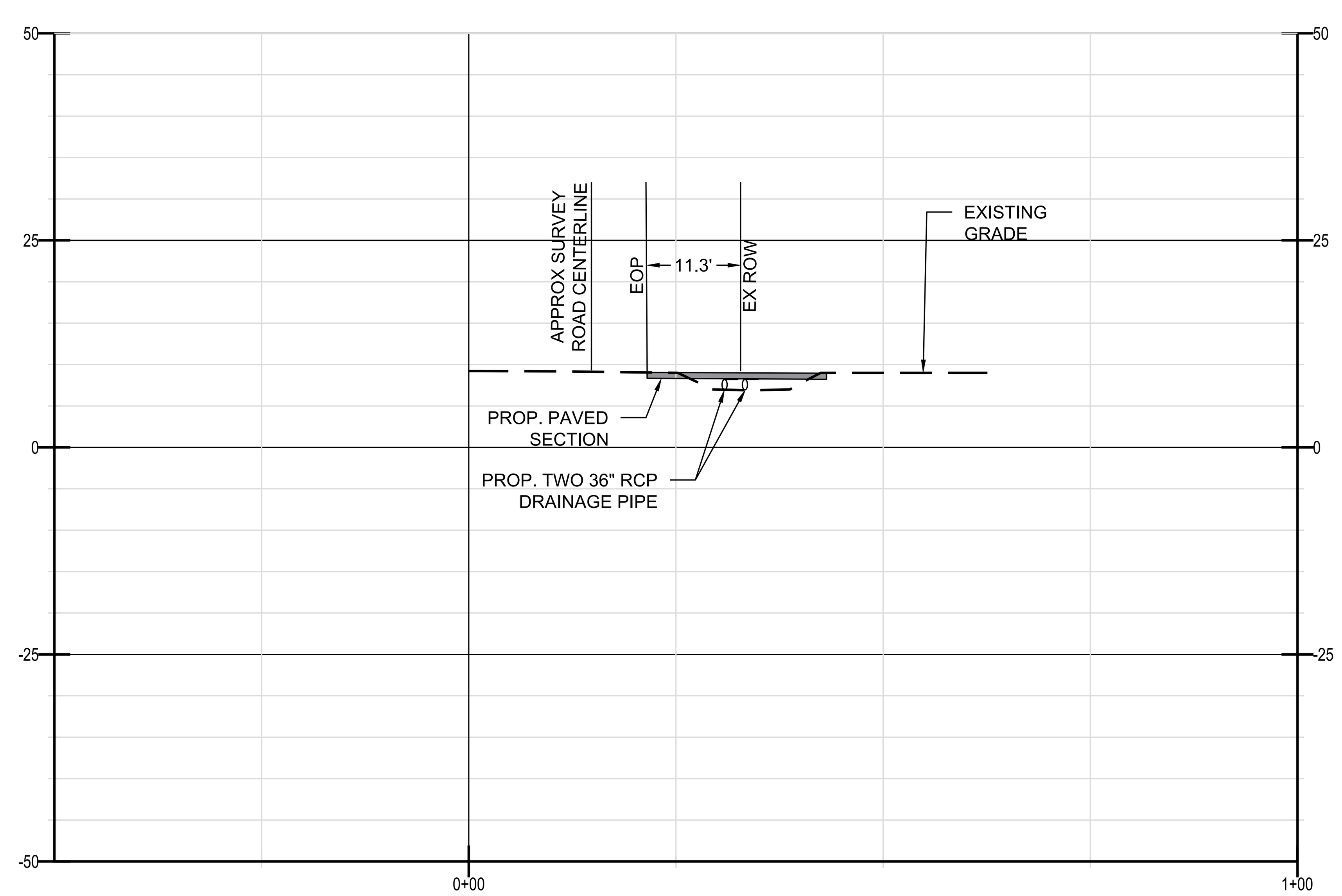
From the Intersection of Route No. SR-1215 and Route No. NC-168 Toward Caratoke HWY

Property Will Be Used For: ☐ Residential /Subdivision ☐ Commercial ☐ Educational Facilities ☐ TND ☐ Emergency Services ☒ Other

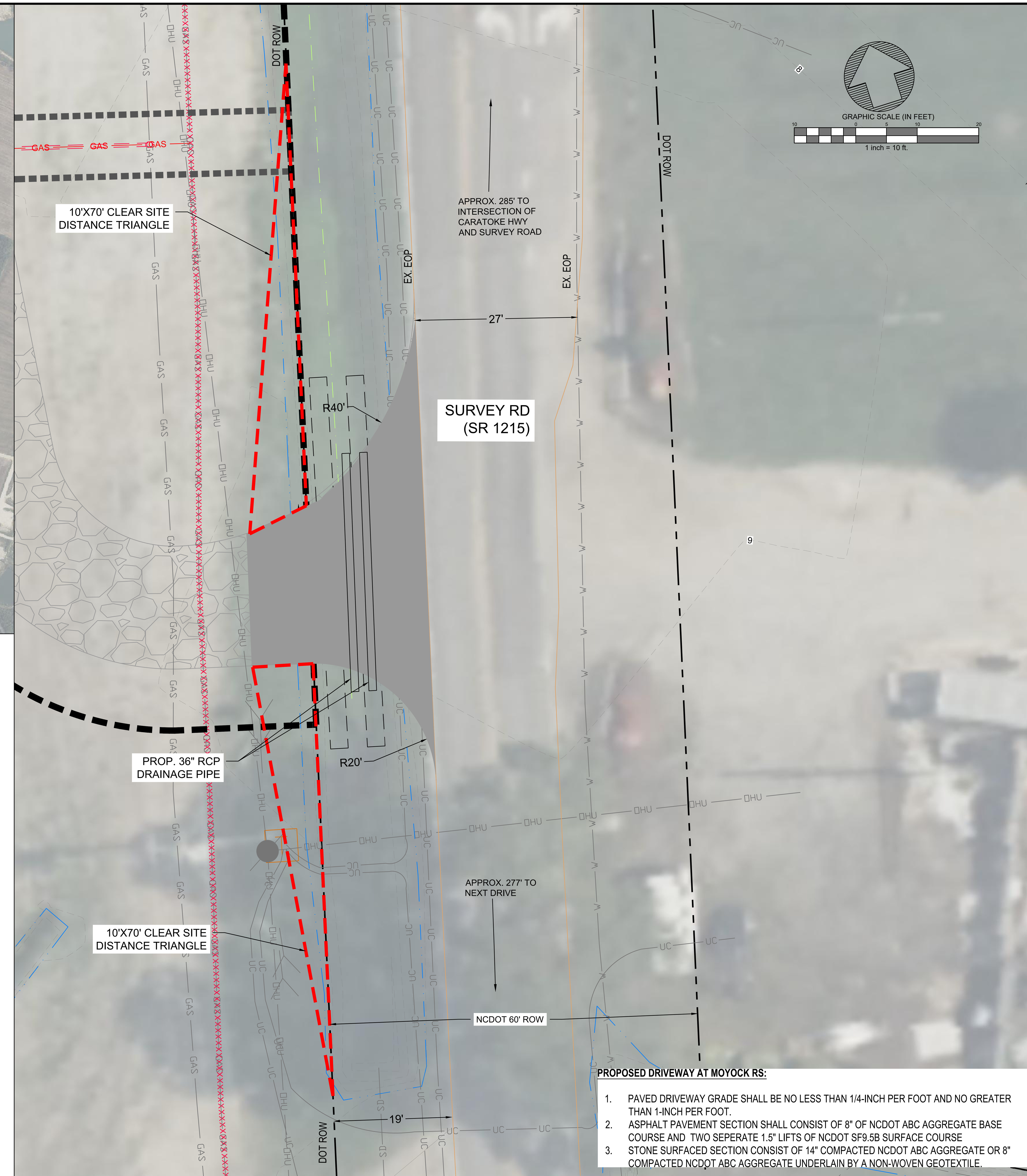
Property: ☐ is ☒ is not within Elizabeth City City Zoning Area.

AGREEMENT

- I, the undersigned property owner, request access and permission to construct driveway(s) or street(s) on public right-of-way at the above location.
- I agree to construct and maintain driveway(s) or street entrance(s) in absolute conformance with the current "Policy on Street and Driveway Access to North Carolina Highways" as adopted by the North Carolina Department of Transportation.
- I agree that no signs or objects will be placed on or over the public right-of-way other than those approved by NCDOT.
- I agree that the driveway(s) or street(s) will be constructed as shown on the attached plans.
- I agree that that driveway(s) or street(s) as used in this agreement include any approach tapers, storage lanes or speed change lanes as deemed necessary.
- I agree that if any future improvements to the roadway become necessary, the portion of driveway(s) or street(s) located on public right-of-way will be considered the property of the North Carolina Department of Transportation, and I will not be entitled to reimbursement or have any claim for present expenditures for driveway or street construction.
- I agree that this permit becomes void if construction of driveway(s) or street(s) is not completed within the time specified by the "Policy on Street and Driveway Access to North Carolina Highways".
- I agree to pay a $50 construction inspection fee. Make checks payable to NCDOT. This fee will be reimbursed if application is denied.
- I agree to construct and maintain the driveway(s) or street(s) in a safe manner so as not to interfere with or endanger the public travel.
- I agree to provide during and following construction proper signs, signal lights, flaggers and other warning devices for the protection of traffic in conformance with the current "Manual on Uniform Traffic Control Devices for Streets and Highways" and Amendments or Supplements thereto. Information as to the above rules and regulations may be obtained from the District Engineer.
- I agree to indemnify and save harmless the North Carolina Department of Transportation from all damages and claims for damage that may arise by reason of this construction.
- I agree that the North Carolina Department of Transportation will assume no responsibility for any damages that may be caused to such facilities, within the highway right-of-way limits, in carrying out its construction.
- I agree to provide a Performance and Indemnity Bond in the amount specified by the Division of Highways for any construction proposed on the State Highway system.
- The granting of this permit is subject to the regulatory powers of the NC Department of Transportation as provided by law and as set forth in the N.C. Policy on Driveways and shall not be construed as a contract access point.
- I agree that the entire cost of constructing and maintaining an approved private street or driveway access connection and conditions of this permit will be borne by the property owner, the applicant, and their grantees, successors, and assignees.
- **I AGREE TO NOTIFY THE DISTRICT ENGINEER WHEN THE PROPOSED WORK BEGINS AND WHEN IT IS COMPLETED.**



DRIVEWAY PROFILE
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 10'



PROPOSED DRIVEWAY AT MOYOCK RS:

1. PAVED DRIVEWAY GRADE SHALL BE NO LESS THAN 1/4-INCH PER FOOT AND NO GREATER THAN 1-INCH PER FOOT.
2. ASPHALT PAVEMENT SECTION SHALL CONSIST OF 8" OF NCDOT ABC AGGREGATE BASE COURSE AND TWO SEPERATE 1.5" LIFTS OF NCDOT SF9.5B SURFACE COURSE
3. STONE SURFACED SECTION CONSIST OF 14" COMPACTED NCDOT ABC AGGREGATE OR 8" COMPACTED NCDOT ABC AGGREGATE UNDERLAIN BY A NON-WOVEN GEOTEXTILE.

PRELIMINARY PLANS

NOT FOR CONSTRUCTION

ENERGY LAND & INFRASTRUCTURE PLLC
500 GREGSON DRIVE SUITE 180, NC 27511
NC LICENSE NO. P-1289

REF. DWG(S) PNG-G-031-0001077

NO.	DATE	REVISION(S) DESCRIPTION	BY	CHK	APPD	DESCRIPTION	
A	06/05/2023	30% PLAN SUBMISSION	MJG	DMC	WKG	AREA CODE	1910
B	07/10/2023	60% PLAN SUBMISSION	MJG	DMC	WKG	ACCOUNT NUMBER	023567
C	12/18/2023	90% PLAN SUBMISSION	MJG	DMC	WKG	PROJECT NUMBER	0235671
D	04/30/2024	ISSUED FOR BID	JEM	DMC	WKG	DRAWING BY	MJG
						STATION ID	7435
						CHECKER INITIALS	DMC

APPROVALS		
DATE	INITIALS	REGIONAL ENGINEER
DATE	INITIALS	MGR TECH REC & STD
DATE	INITIALS	PRINCIPAL ENGINEER

DUKE ENERGY. Piedmont Natural Gas

MOYOCK CITY GATE RS UPGRADE
DRIVEWAY PERMIT PLAN
MOYOCK, NC

Resource Center NEW BERN

SHEET(S) 15 OF 42 | DWG SCALE NOT TO SCALE
DWG DATE 12/13/2022 | SUPERSEDED —
DRAWING NUMBER PNG-C-031-0001113 | REVISION D
DISCIPLINE / RESOURCE CENTER / LINE NUMBER

NORTH CAROLINA CURRITUCK COUNTY	IN THE GENERAL COURT OF JUSTICE SUPERIOR COURT DIVISION BEFORE THE CLERK 23 SP 000089-260
PIEDMONT NATURAL GAS COMPANY, INC., Petitioner, vs. LINDSAY FARM HOLDINGS, LLC, Respondent.	**NOTICE OF DEPOSIT OF COMMISSIONERS' AWARD**

NOW COMES Petitioner Piedmont Natural Gas Company, Inc., by and through the undersigned counsel, and gives notice that it has deposited $650,000.00 with the Clerk. This sum represents the recommended compensation as determined by the Report of Commissioners filed in the Currituck County Clerk of Court's Office. The check for that sum was sent to the Clerk's office contemporaneous with this filing.

This the 24th day of May, 2024.

PARKER POE ADAMS & BERNSTEIN LLP

By: _____

Michael J. Crook
NC State Bar No. 44322
Alexandria G. Hill
NC State Bar No. 60283
Post Office Box 389
Raleigh, North Carolina 27602
Tel.: (919) 828-0564 | Fax: (919) 834-4564
michaelcrook@parkerpoe.com
alexandriahill@parkerpoe.com
Counsel for Petitioner

CERTIFICATE OF SERVICE

This is to certify that on this date, I served a copy of the foregoing **NOTICE OF DEPOSIT OF COMMISSIONERS' AWARD** via United States, first class mail, postage pre-paid, and addressed as follows:

William Brumsey, IV
BRUMSEY AND BRUMSEY, PLLC
Post Office Box 100
Currituck, North Carolina 27929
Counsel for Respondent

Currituck County Tax Department
2801 Caratoke Highway
Currituck, North Carolina 27929

Virginia Electric and Power Company
Attn: CT Corporation System
160 Mine Lake Court, Suite 200
Raleigh, North Carolina 27615

NC Department of Transportation
Attn: Registered Agent
1501 Mail Service Center
Raleigh, North Carolina 27599

This the 24th day of May, 2024.

By: 

Alexandria G. Hill
PARKER POE ADAMS & BERNSTEIN LLP
Post Office Box 389
Raleigh, North Carolina 27602
Counsel for Petitioner

Division of Energy, Mineral, and Land Resources

Financial Responsibility/Ownership Form

Application Details Application Permissions

Pending

Application Submitted

4 Completeness Review

5 Technical Review

Decision

Permit Application Number

PA-005312

Total Acreage Disturbed or Uncovered

2.34

Status

Completeness Review

Invoices

	Invoice	Invoice	Due Da	Invoice	Total Pa
	INV-002751	6/14/2024 11:33 AM	7/14/2024 11:33 AM	$300.00	$300.00
	INV-002750	6/14/2024 11:29 AM	7/14/2024 11:29 AM	$300.00	$300.00

1 100 items per page 1 - 2 of 2 items

Is This a New Plan Submission?

Yes

Original Application Approved?

Previous Project Not Found

Previous Project/Permit Number

Permit

Previous Application

Purpose of Development

Industrial

ARPA Funded

No

Approximate Date Land-Disturbing Activity Will Begin

09/02/2024

Individual to contact for erosion & sediment control issues

Lindsay Roth

Other (Describe)

ARPA Project Name

Engineering / Consulting Firm

Energy Land and Infrastructure, PLLC c/o Keith Gualtieri, PE

Project Information

Environmental Interest Name

PNG- Moyock City Gate RS Upgrade

Physical Address

Caratoke Hwy (NC-168)
Moyock, NC 27958

County

Currituck

River Basin

Pasquotank

Environmental Interest Type

Mailing Address

Stream Classification

C: Aquatic Life, Secondary Contact Recreation, Fresh water

Trout Stream Encroachment

No

Buffer Zone Acres Disturbed

Vegitation Trimming (ft)

Total Buffer Impact (ft)

Length of Stream on Tract

Channel Piping (ft)

Buffer Width Reduction (ft)

Channel Relocation (ft)

Primary Financially Responsible Party

Piedmont Natural Gas c/o Kevin Thomas

Additional Financially Responsible Parties

Name	Physical Street 1	Email Address
Piedmont Natural Gas c/o Kevin Thomas	5607 Cannon Drive	kevin.thomas@duke-energy.com

1 100 items per page

Registered Agent

CT Corporation System c/o Karen Rozar

Landowners

Name	Physical Street 1	Email Address
Piedmont Natural Gas	525 S Tryon St. DEP-19	kevin.thomas@duke-energy.com

1 100 items per page

North Carolina Agent

Will Hard Copies of Calculations be Delivered?

No

Will Hard Copies of E&SC Plans be Delivered?

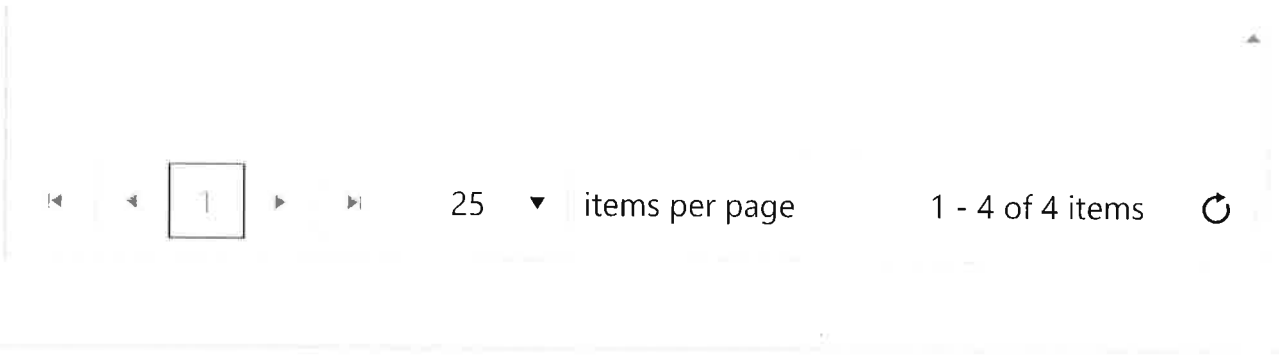
No

Calculations Not Applicable

Calculations Do Not Apply To My Project

Documents

Document Nan	Document Size	Created On	Modified On
user_deed_2024.05.24 FILED Notice of Deposit.pdf	118.09 KB	6/10/2024 8:42:03 AM	6/10/2024 8:42:03 AM
user_PNG_Moyock City Gate RS 10 Jun 24 FRO.pdf	16,966.14 KB	6/10/2024 8:42:38 AM	6/10/2024 8:42:47 AM
user_plans_PNG_Moyo... City Gate RS 10 Jun 24 Plans.pdf	8,982.22 KB	6/10/2024 8:41:29 AM	6/10/2024 8:41:29 AM
FRO Application Report - 06-13-2024 10_49_02.docx	47.23 KB	6/13/2024 9:49:03 AM	6/13/2024 9:49:06 AM


1
25
items per page
1 - 4 of 4 items

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.

OFFICIAL USE ONLY:
Permit Number: _____
Date Filed: _____
Date Approved: _____

Major Stormwater Plan
Form SW-002

Contact Information

APPLICANT:
Name: Piedmont Natural Gas Company, Inc.
Address: 5607 Cannon Drive
Monroe, NC 28210
Telephone: 704-557-6719
E-Mail Address: kevin.thomas@duke-energy.com

PROPERTY OWNER:
Name: (Same)
Address: _____
_____
Telephone: _____
E-Mail Address: _____

Property Information

Physical Street Address: Caratoke Highway
Parcel Identification Number(s): 001500000820000
FEMA Flood Zone Designation: X

Request

Project Description: New natural gas regulator station site, adjacent to existing station site.
Total land disturbance activity: 88,328 sf
Calculated volume of BMPs: N/A sf
Maximum lot coverage: N/A sf
Proposed lot coverage: 26,495 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

06/26/2024
Date

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: Moyock City Gate Regulator Station Site

Applicant/Property Owner: Piedmont Natural Gas Company, Inc.

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 (*Appendix F – Currituck County Stormwater Manual*).	
21	Detailed maintenance plan for all proposed BMPs.	

Certificate		
22	The major stormwater plan shall contain the following certificate: I, Joel Smith, 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 Moyock City Gate Regulator Station, 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: 05/23/2024 Owner/Agent: Joel Smith	✔

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: Moyock City Gate Regulator Station Site

Applicant/Property Owner: Piedmont Natural Gas Company, Inc.

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	**1 PDF digital copy of all plans AND documents (ex. Compact Disk – e-mail not acceptable)**	✔

Comments

_____

_____

_____

FOR AGENCY USE ONLY		
Date Received		
Year	Month	Day
Certificate of Coverage		
SWG04		
Check #	Amount	
Permit Assigned to		

N.C. DIVISION OF WATER QUALITY
SURFACE WATER PROTECTION SECTION

STATE STORMWATER NOTICE OF INTENT (NOI)

SWG040000 - GENERAL PERMIT TO CONSTRUCT A LINEAR UTILITY LINE AND ASSOCIATED INCIDENTAL BUILT-UPON AREA

State Stormwater Management Application Notice of Intent for coverage under the General Stormwater Management Permit to construct a utility line and incidental built-upon area associated with a linear utility project including water, sewer, gas, telephone, and electric.

For the construction, operation and maintenance of incidental impervious areas associated with the construction of a linear utility line. Incidental built-upon area associated with the utility project includes small, single pump stations, access roads which minimize their built-upon area, concrete pads, manhole covers, etc.

(Please print or type)

1. **Mailing address of owner/developer:** *(The address to which all permit correspondence will be mailed.)*

Owner/Developer Name: Piedmont Natural Gas Co, Inc.
Street Address: 5607 Cannon Drive
City: Monroe State: NC ZIP Code: 28110
Telephone No.: (704) 557-6719 Fax: ( )

2. **Proposed Project Information:**

Project Name: Moyock City Gate Regulator Station
Street Address of the Project: Caratoke Highway & Survey Road
City: Moyock State: NC ZIP Code: 27958
County: Currituck
Contact Person: Kevin Thomas
Mailing Address: 5607 Cannon Drive
City: Monroe State: NC ZIP Code: 28110
Telephone No.: (704) 557-6719 Fax: ( )

3. **Physical Location Information:**
Please provide the street address of the project and describe how to get to the project, using street names, state road numbers, and the distance and direction from the nearest major intersection:
Immediatley SW of the Caratoke Hwy/Survey Rd intersection and S of Sawyertown Rd

4. **What is the name of the receiving stream?** Roland Creek Canal

5. **River Basin** Pasquotank **Receiving Stream Classification** C;Sw

6. **This Certificate of Coverage is being submitted as a result of:**

☒ New or proposed project ☐ Modification to an existing project
Existing COC or Permit Number:
Date project is scheduled to begin construction September 2024

7. **What is the total project area above mean high water?** 88,328 ft^2

8. **What is the total amount of built-upon area proposed at this site?** 26,495 ft^2
(Please include all manhole covers, pump stations, concrete pads, and gravel access roads)

9. What type of utility project will be constructed?

☐ Water ☐ Sewer ☑ Gas ☐ Telephone ☐ Electric ☐ Other _____

10. Has the built-upon area been minimized to the extent practicable?

☑ YES ☐ NO

11. Is the runoff from the built-upon area outside the vegetative buffer directed away from surface waters, to the extent practicable?

☑ YES ☐ NO

12. Is the project within 575' of the Mean High Water line of class ORW waters?

☐ YES (Please show the 575' AEC line on plans) ☑ NO

(*If yes, total built-upon area must be less than or equal to 25% of the total project area within the AEC above mean high water.)*

13. Are there any wetlands on the site? ☐ YES (please delineate on the plans) ☑ NO

Name and affiliation of person making this determination: _____

14. Please list all Best Management Practices employed at this site:

None Proposed/Not Applicable. Plan to utilize existing agricultural field drianage swales as quantity/quality control.

15. Certification:

North Carolina General Statute 143-215.6B (i) provides that:

> Any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Article or a rule implementing this Article; or who knowingly makes a false statement of a material fact in a rulemaking proceeding or contested case under this Article; or who falsifies, tampers with, or knowingly renders inaccurate any recording or monitoring device or method required to be operated or maintained under this Article or rules of the Commission implementing this Article shall be guilty of a Class 2 misdemeanor which may include a fine not to exceed $10,000. (18 U.S.C. Section 1001 provides a punishment by a fine of not more than $10,000 or imprisonment of not more than 5 years, or both, for a similar offense.)

I hereby request coverage under the referenced General Permit. I understand that coverage under this permit will constitute the permit requirement for the project and is enforceable in the same manner as an individual permit.

I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete, and accurate.

Printed name of person signing: Kevin Thomas

Title: Lead Distribution Project Specialist - TFO

(Signature of Applicant)

07/01/24

(Date signed)

A check or money order must accompany this Notice of Intent for $505.00, made payable to: NCDENR.

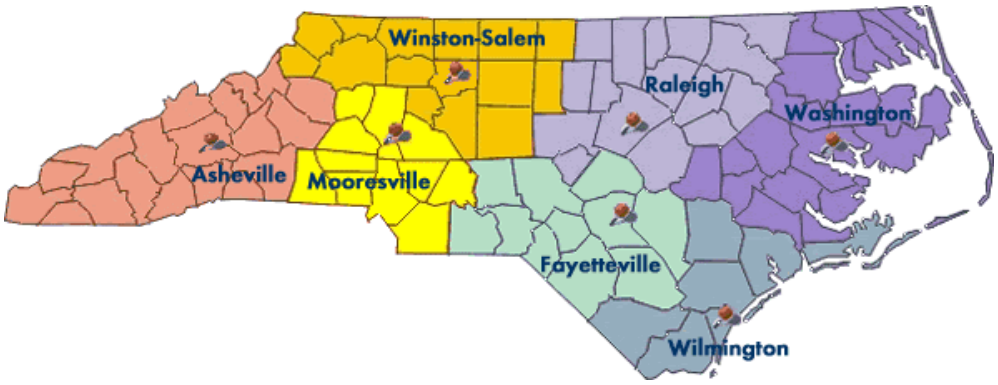
Your application will be returned unprocessed unless all of the following items are submitted:

☐ This completed form
☐ Two sets of site and grading plans
☐ A check for $505.00
☐ A USGS map with the project clearly located on it.

Mail the entire package to: NCDENR Division of Water Quality
Surface Water Protection Section – Stormwater
at the Appropriate Contact Address (*see the following page*)

Note: The submission of this document does not guarantee the issuance of a Certificate of Coverage under the General Permit.

For questions, please contact the DWQ Central Office or Regional Office for your area.



DWQ Regional Office Contact Information:

ASHEVILLE REGIONAL OFFICE 2090 US Highway 70 Swannanoa, NC 28778 (828) 296-4500 *HQW & ORW Projects in Counties Above*	**FAYETTEVILLE REGIONAL OFFICE** 225 Green Street Systel Building Suite 714 Fayetteville, NC 28301-5043 (910) 433-3300 *HQW & ORW Projects in Counties Above*	**MOORESVILLE REGIONAL OFFICE** 610 East Center Avenue/Suite 301 Mooresville, NC 28115 (704) 663-1699 *HQW & ORW Projects in Counties Above*
RALEIGH REGIONAL OFFICE 3800 Barrett Drive Raleigh, NC 27609 (919) 791-4200 *HQW & ORW Projects in Counties Above*	**WASHINGTON REGIONAL OFFICE** 943 Washington Square Mall Washington, NC 27889 (252) 946-6481 *Coastal Stormwater, HQW & ORW Projects in Counties Above*	**WILMINGTON REGIONAL OFFICE** 127 Cardinal Drive Extension Wilmington, NC 28405-2845 (910) 796-7215 *Coastal Stormwater, HQW & ORW Projects in Counties Above*
WINSTON-SALEM REGIONAL OFFICE 585 Waughtown Street Winston-Salem, NC 27107 (336) 771-5000 *HQW & ORW Projects in Counties Above*	**CENTRAL OFFICE** 1617 Mail Service Center Raleigh, NC 27699-1617 (919) 807-6300 *Phase 2 Post-Construction Projects not covered by local government*	DWQ *"To preserve, protect and enhance North Carolina's water..."*

May 23, 2024

Donna Voliva, CZO
Assistant Planning Director
Planning & Zoning Department
Currituck County
153 Courthouse Road, Suite 110
Currituck, NC 27929
252.232.6032
Donna.Voliva@CurrituckCountyNC.gov

RE: Piedmont Natural Gas
Moyock City Gate Regulator Station
Currituck County, NC

Ms. Voliva:

The Piedmont Natural Gas (PNG) existing natural gas system requires improvements to infrastructure to keep up with estimated customer growth. To meet customer demand, PNG will install a new regulator station and retire a regulator station in poor condition through removal and replacement of the REG Moyock City Gate near Moyock, NC.

On October 19, 2023, we discussed the project with you as an introduction to the proposed layout during the Pre-Application Conference. Since that time, the project has continued through the design process and has the following characteristics:

- Land disturbance (new station) is 2.03 acres (88,328 sq. ft.)
- Land disturbance (existing station removal) is 0.31 acres (13,504 sq. ft.)
- Built-upon area (new station) is 0.61 acres (26,495 sq. ft.)
- Impervious coverage is 29.9%
- Subject parcel is currently zoned Agriculture (AG)
- Project is not positioned within a regulated floodplain
- No trees on the project; therefore, no conservation plan required
- No riparian buffers are required since the project area is less than 10 acres

Based on the current extents, we have determined the following project requirements under the Currituck County Unified Development Ordinance (UDO):

- Major Site Plan is required since the proposed impervious area is greater than 5,000 sq. ft.,
- Zoning Compliance Permit is required since minor utility facilities owned by a public utility are permissible in all zoning districts with a zoning compliance permit,
- Major Stormwater Plan is required since the proposed impervious area is greater than 5,000 sq. ft.

The Major Site Plan Application, Zoning Compliance Application, and Major Stormwater Plan Form SW-002 are submitted herein for review.

Thank you for your consideration of these applications. If you have questions or need additional information, please contact me at (615) 478-8657 or by email at john.farmer@eli-llc.com.

Sincerely,

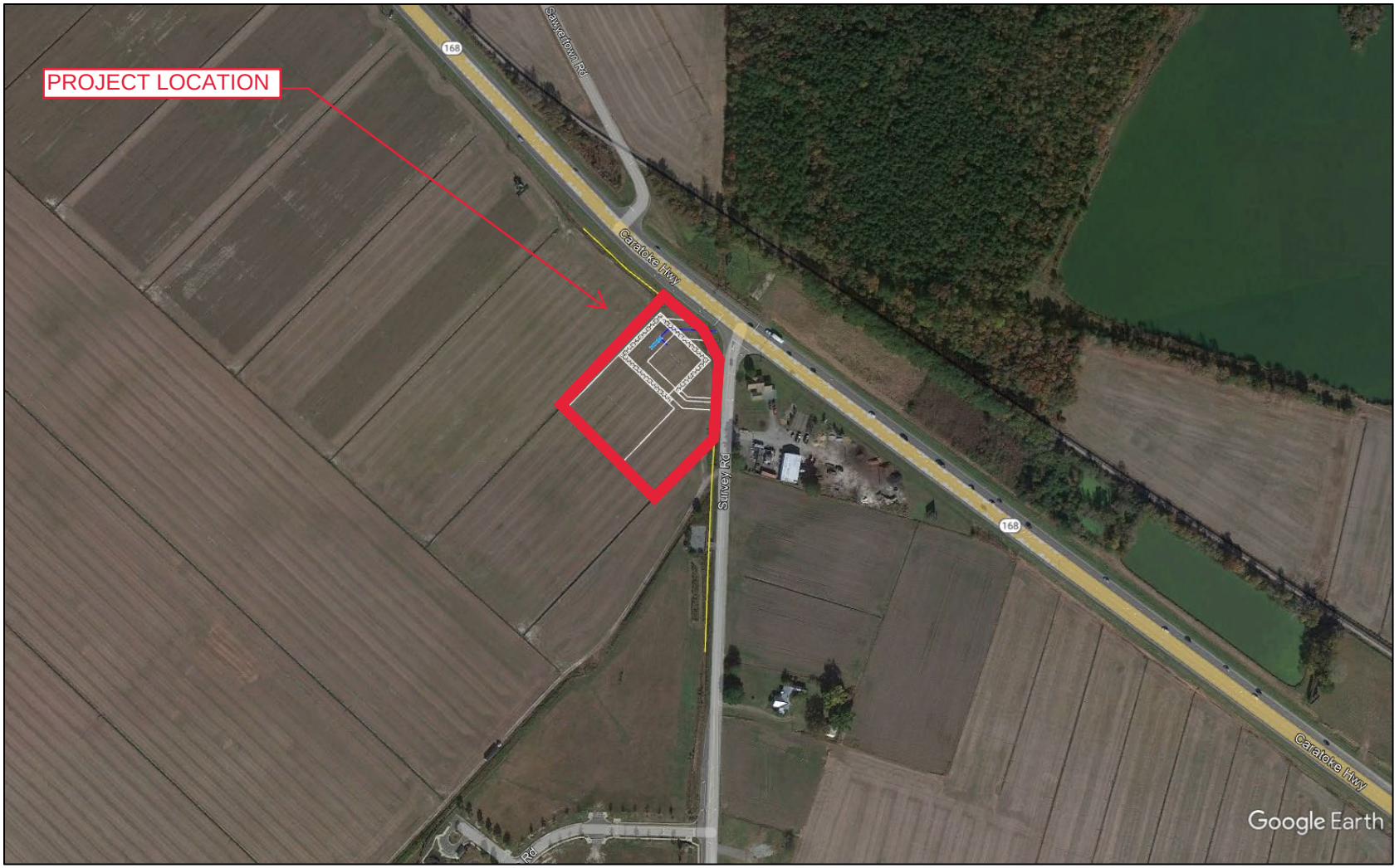
ENERGY LAND & INFRASTRUCTURE, PLLC

John L. Farmer, PE, CPESC, TN QHP
Environmental Practice Lead

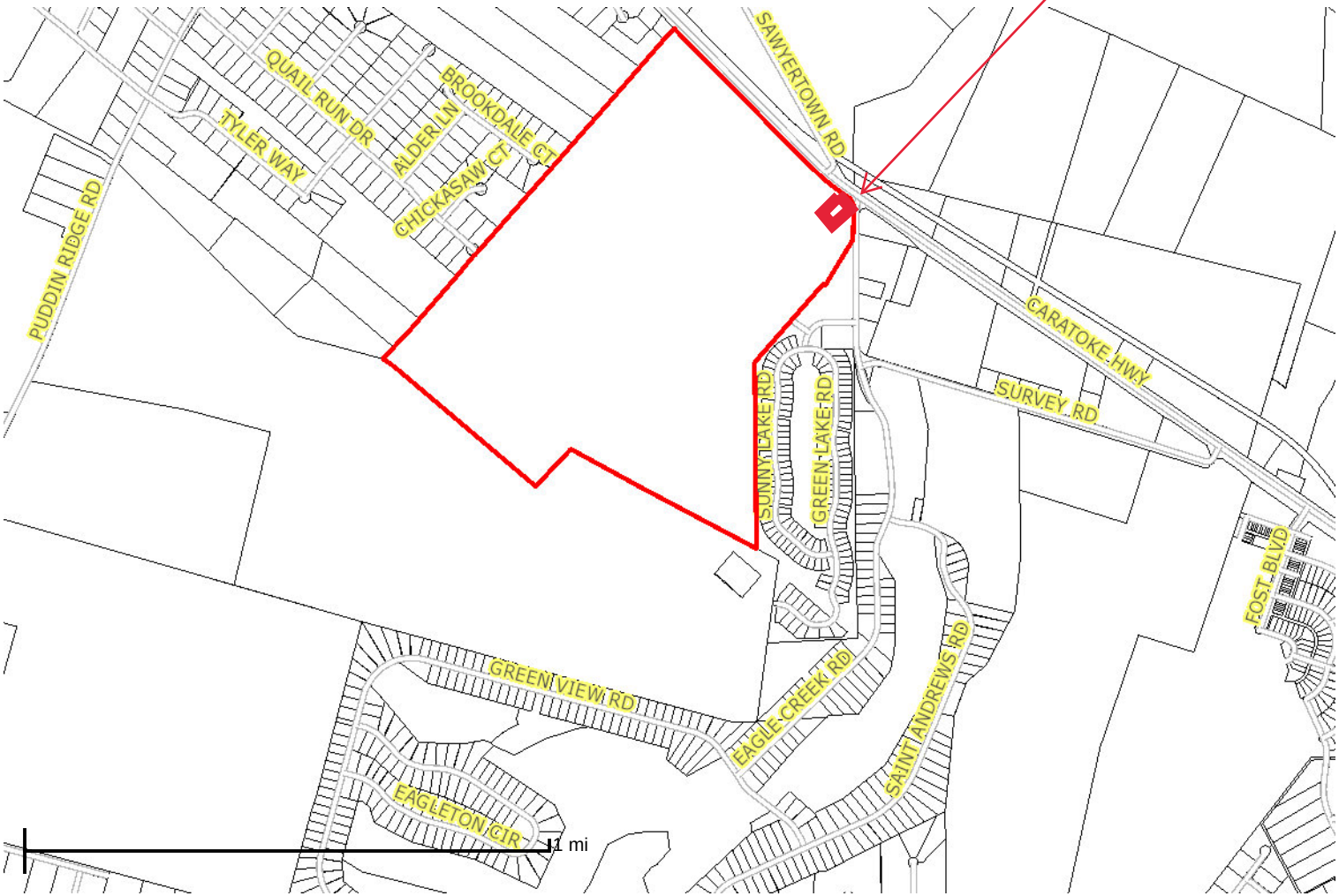
Attachments
- Project Location Maps
- Major Site Plan Application
- Zoning Compliance Permit Application
- Stormwater Documentation
- Project Plans

cc: Isaac Hinson
Kevin Thomas
David Creeden

PROJECT LOCATION MAPS


PROJECT LOCATION
168
Caratoke Hwy
Survey Rd
168
Caratoke Hwy
Google Earth

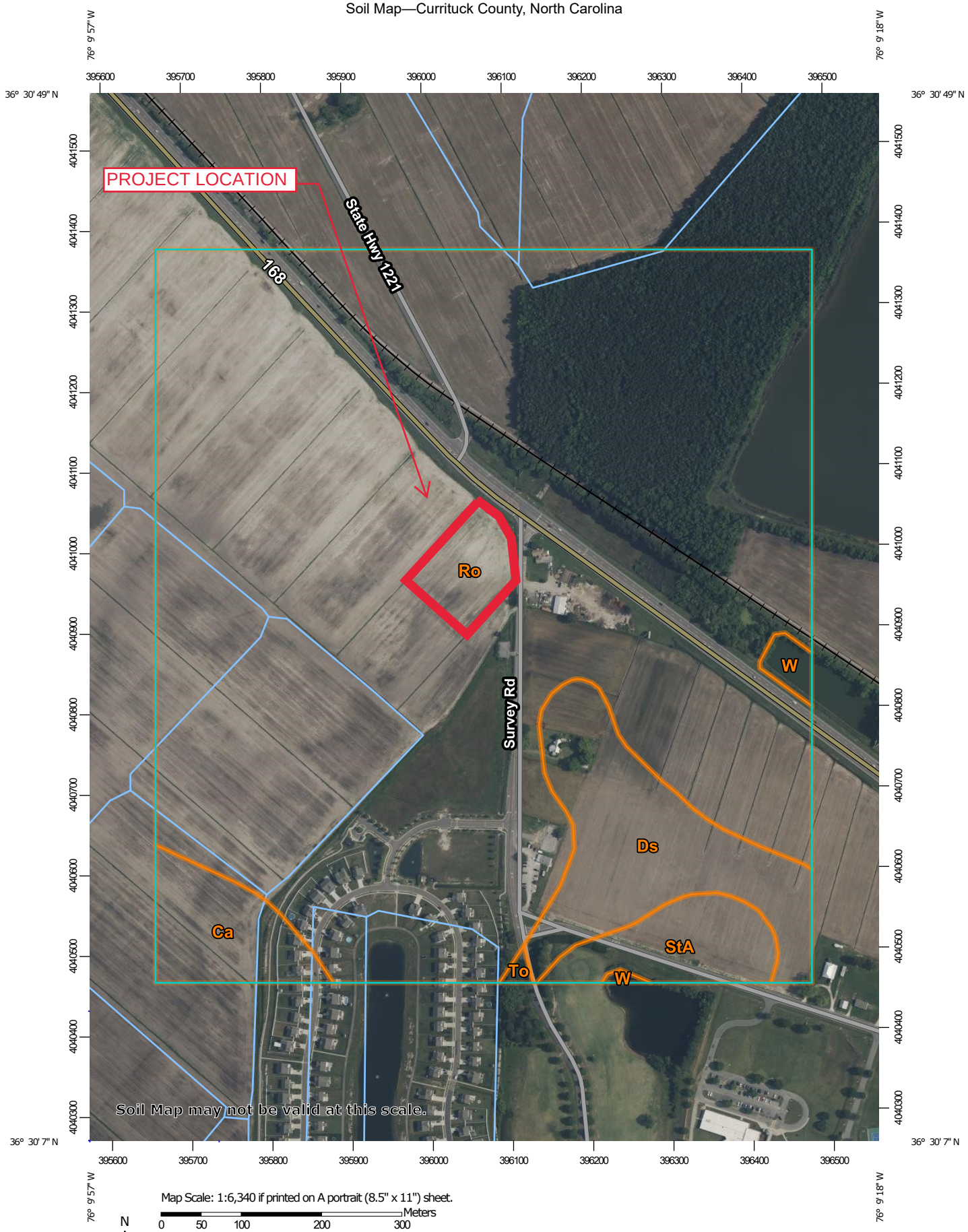
Currituck County GIS Data Viewer



Currituck County GIS

Phone: (252) 232-2034

E-mail: gis@currituckcountync.gov



Map Scale: 1:6,340 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Currituck County, North Carolina
Survey Area Data: Version 22, Sep 8, 2022

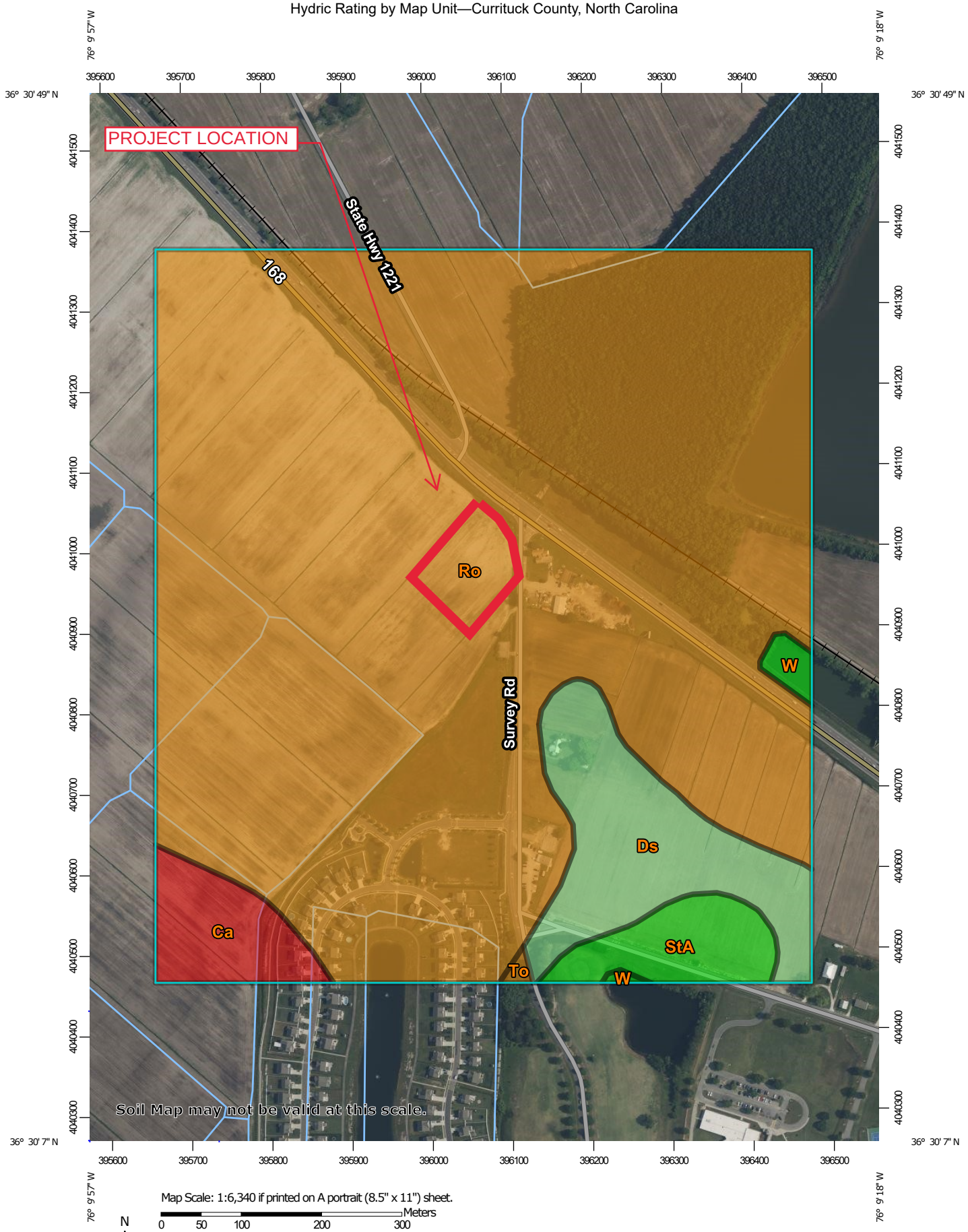
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2022—May 31, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ca	Cape Fear loam, 0 to 2 percent slopes, rarely flooded	5.9	3.2%
Ds	Dragston loamy fine sand	14.6	7.9%
Ro	Roanoke fine sandy loam	157.6	85.3%
StA	State fine sandy loam, 0 to 2 percent slopes	5.5	3.0%
To	Tomotley fine sandy loam	0.2	0.1%
W	Water	1.0	0.6%
Totals for Area of Interest		**184.9**	**100.0%**



Map Scale: 1:6,340 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Currituck County, North Carolina
Survey Area Data: Version 22, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 18, 2022—May 31, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ca	Cape Fear loam, 0 to 2 percent slopes, rarely flooded	100	5.9	3.2%
Ds	Dragston loamy fine sand	5	14.6	7.9%
Ro	Roanoke fine sandy loam	90	157.6	85.3%
StA	State fine sandy loam, 0 to 2 percent slopes	0	5.5	3.0%
To	Tomotley fine sandy loam	91	0.2	0.1%
W	Water	0	1.0	0.6%
Totals for Area of Interest			**184.9**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

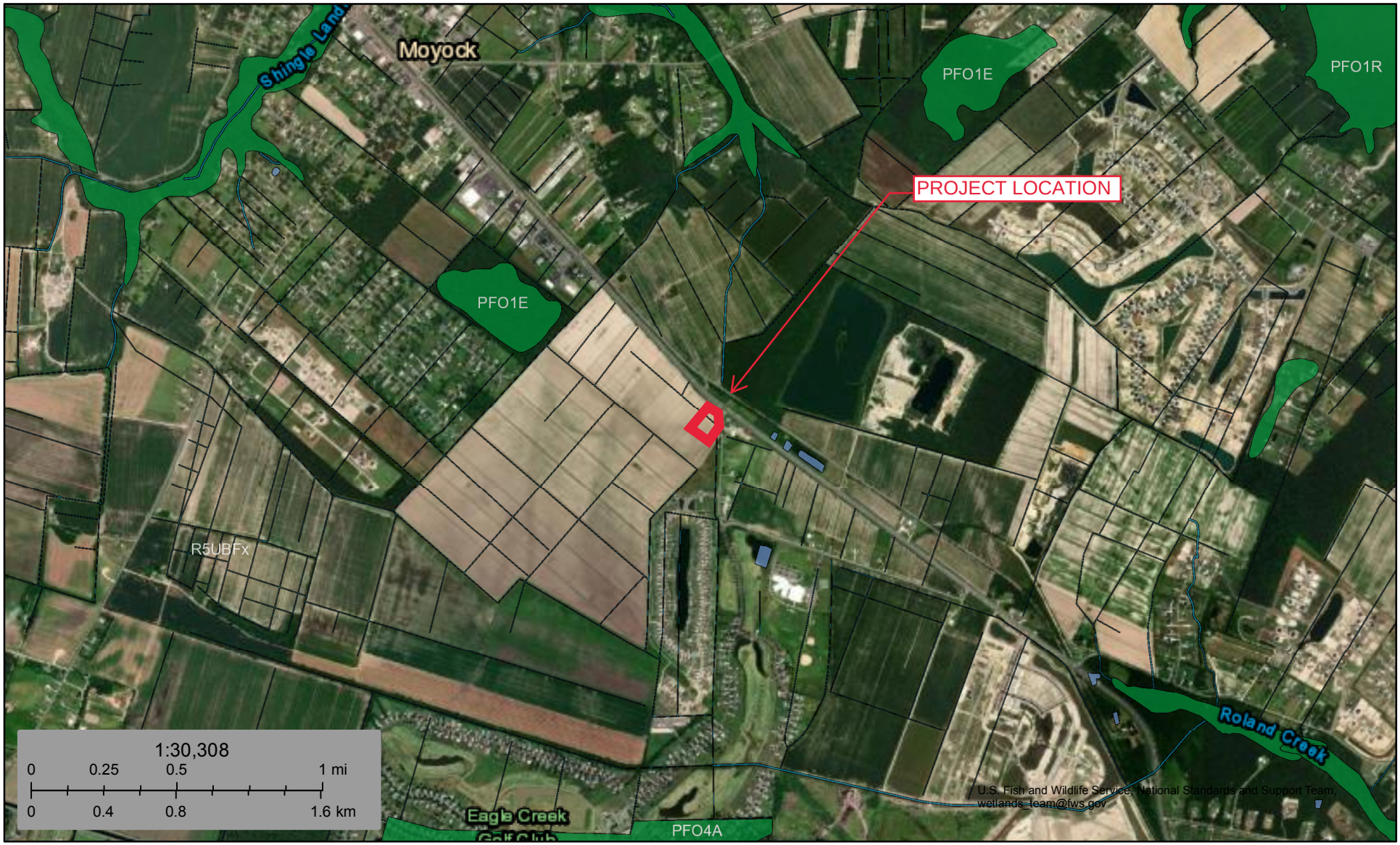
Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

U.S. Fish and Wildlife Service
National Wetlands Inventory

PNG Moyock City Gate Reg Station



March 30, 2023

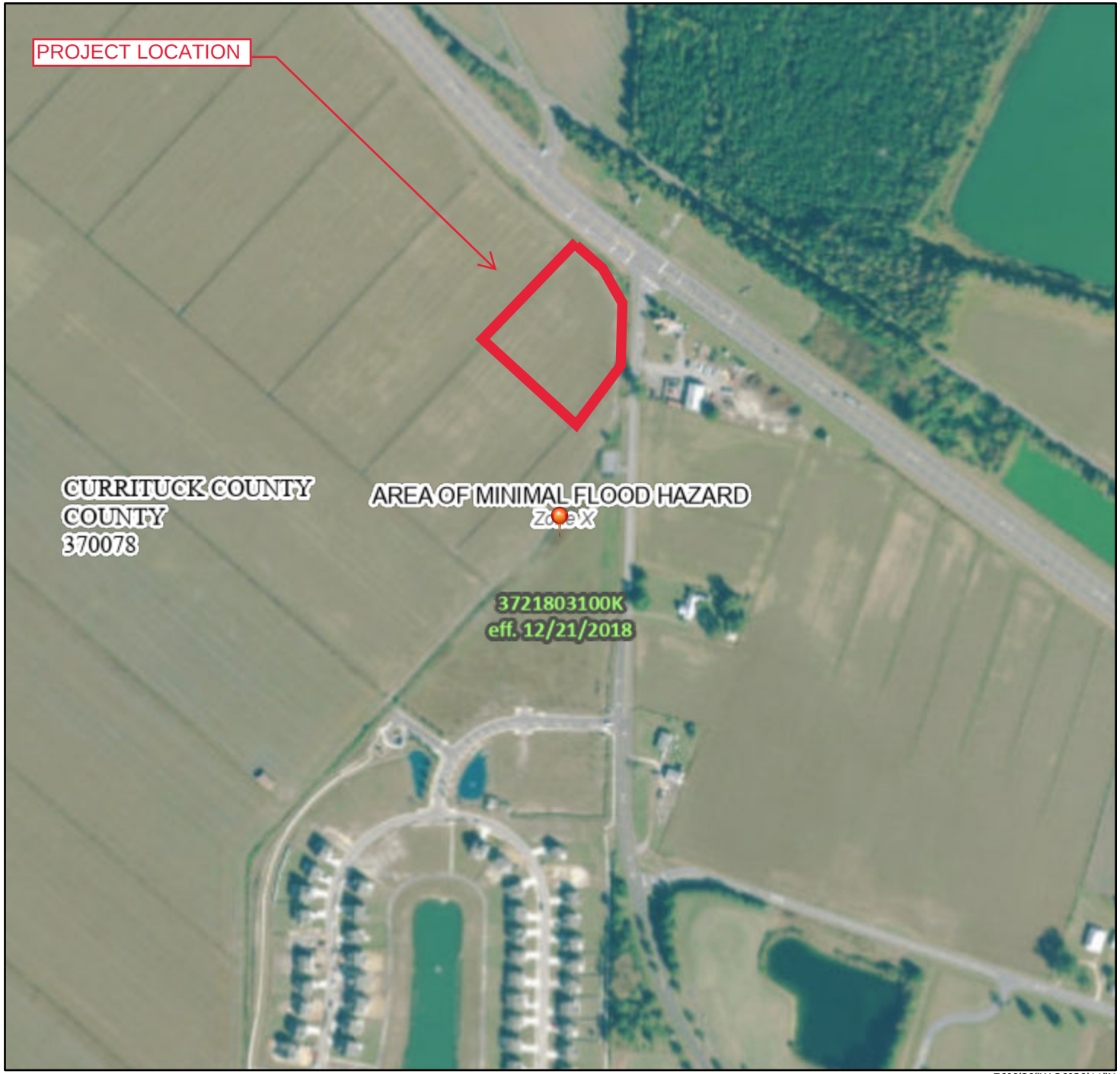
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

National Flood Hazard Layer FIRMette

FEMA

76°9'58"W 36°30'40"N



76°9'20"W 36°30'11"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

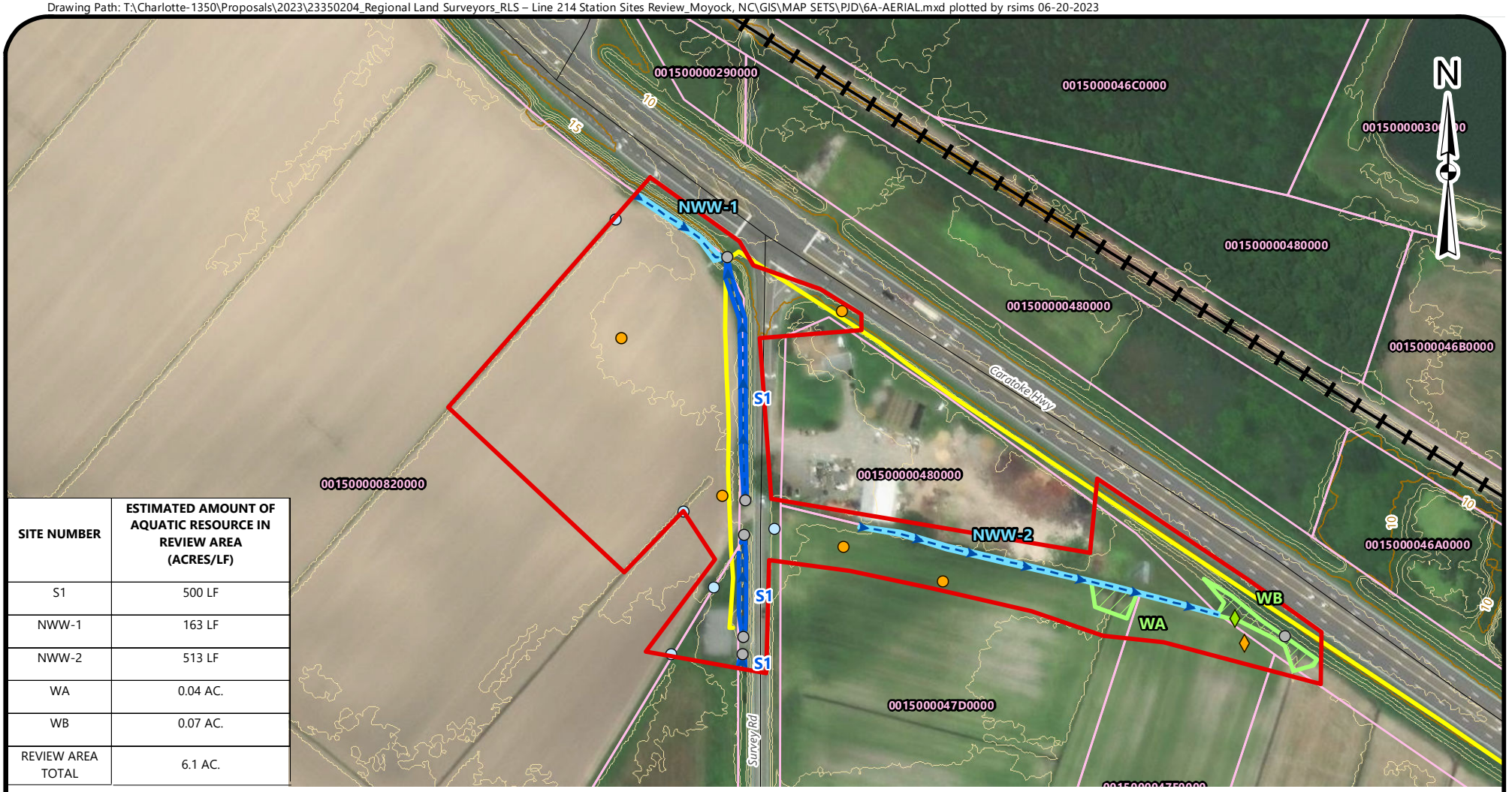
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/30/2023 at 5:11 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Drawing Path: T:\Charlotte-1350\Proposals\2023\23350204_Regional Land Surveyors_RLS – Line 214 Station Sites Review_Moyock, NC\GIS\MAP SETS\PJD\6A-AERIAL.mxd plotted by rsims 06-20-2023



SITE NUMBER	ESTIMATED AMOUNT OF AQUATIC RESOURCE IN REVIEW AREA (ACRES/LF)
S1	500 LF
NWW-1	163 LF
NWW-2	513 LF
WA	0.04 AC.
WB	0.07 AC.
REVIEW AREA TOTAL	6.1 AC.

0 200 400 (FEET)

REFERENCE:
GIS BASE LAYERS WERE OBTAINED FROM PUBLICLY AVAILABLE DATA SOURCES. THIS EXHIBIT IS FOR INFORMATIONAL PURPOSES ONLY. ALL FEATURE LOCATIONS DISPLAYED ARE APPROXIMATED. THEY ARE NOT BASED ON CIVIL SURVEY INFORMATION, UNLESS STATED OTHERWISE.

LEGEND

- RECEIVER SITE LOD
- ROADS
- RAILROADS
- UPLAND
- NON-JD DITCH
- CULVERT
- FLOWLINE
- POTENTIAL NON-WETLAND WATERS
- POTENTIAL STREAM
- UPLAND DATA POINT
- WETLAND DATA POINT
- POTENTIAL WETLANDS
- PARCELS
- LINE 214
- MAJOR CONTOURS
- MINOR CONTOURS

POTENTIAL WATERS OF THE U.S. EXHIBIT

RECEIVER SITE
LINE 214 STATION SITES ASSESSMENT
CURRITUCK COUNTY, NORTH CAROLINA

SCALE: 1 " = 200 '
DATE: 6-20-23
PROJECT NUMBER 23350204

FIGURE NO. 6A

ZONING COMPLIANCE PERMIT APPLICATION

Zoning Compliance Permit
Application

OFFICIAL USE ONLY:
Case Number: _____
Date Filed: _____
Gate Keeper: _____
Amount Paid: _____

Contact Information

APPLICANT:
Name: Piedmont Natural Gas (Kevin Thomas)
Address: 5607 Cannon Drive
Monroe, NC 28210
Telephone: 704.557.6719
E-Mail Address: kevin.thomas@duke-energy.com

PROPERTY OWNER:
Name: same
Address: _____
_____
Telephone: _____
E-Mail Address: _____

LEGAL RELATIONSHIP OF APPLICANT TO PROPERTY OWNER: same

Property Information

Physical Street Address: Caratoke Highway
Location: immediately SW of the Caratoke Hwy/Survey Rd intersection
Parcel Identification Number(s): 001500000820000
Total Parcel(s) Acreage: 299.5
Existing Land Use of Property: Agricultural

Request

Project Name: Moyock City Gate Regulator Station
Proposed Use of the Property: natural gas regulator station
Current Value of Existing Structure: $400,000 Proposed Costs of Improvements: $1,600,000
Percentage of Improvement Costs to Value of Structure: 125%
Narrative of request: Piedmont Natural Gas (PNG) exiting natural gas system requires improvements to infrastructure to keep up with estimated customer growth. To meet customer demand, PNG will install a new regulator station and retire a regulator station in poor condition through removal and replacement of the Moyock City Gate near Moyock, NC. The new regulator station will be positioned immediately southwest of the Caratoke Hwy/Survey Rd intersection and south of Sawyertown Rd.

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

Kevin R Thomas
Property Owner(s)/Applicant*

3/28/2024
Date

***NOTE: Form must be signed by the owner(s) of record, contract purchaser(s), or other person(s) having a recognized property interest. If there are multiple property owners/applicants a signature is required for each.**

Zoning Compliance Permit Design Standards Checklist

The table below depicts the design standards of the site plan for a zoning compliance application. Please make sure to include all applicable listed items to ensure all appropriate standards are reviewed.

Zoning Compliance Permit

Plan Design Standards Checklist

Date Received: _____

Project Name: Moyock City Gate Regulator Station

Applicant/Property Owner: Piedmont Natural Gas c/o Kevin Thomas

Site Plan Design Standards		
	General	
1	Property owner name, address, phone number, and e-mail address.	✓
2	Site address and parcel identification number.	✓
3	North arrow and scale to be 1" = 100' or larger.	✓
4	Existing zoning classification of the property.	✓
5	Scaled drawing showing property lines, existing and proposed development, vehicular use areas and landscaping.	✓
	Flood Damage Prevention, if Applicable	
6	Boundary of the Special Flood Hazard Area (SFHA), Floodway, Coastal Barrier Resource System (CBRS) Area, water course relocation, or a statement that the entire lot is within a specific SFHA.	
	Other	
7	Other documentation deemed necessary by the administrator.	

Zoning Compliance Permit 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.

Zoning Compliance Permit

Submittal Checklist

Date Received: _____

Project Name: Moyock City Gate Regulator Station

Applicant/Property Owner: Piedmont Natural Gas c/o Kevin Thomas

Zoning Compliance Permit Submittal Checklist		
1	Completed Zoning Compliance Permit application	
2	Site plan, if applicable	
3	Documentation deemed necessary by administrator	
4	1 hard copy of ALL documents	

For Staff Only

Pre-application Conference (Optional)

Pre-application Conference was held on _____ and the following people were present:

_____

_____

Comments

_____

_____

_____

STORMWATER DOCUMENTATION

Moyock City Gate Regulator Station – Stormwater Narrative 5/23/2024

By: Joel D Smith
Energy Land & Infrastructure, PLLC
500 Gregson Drive, Suite 180
Cary, NC 27511
(919)389-0980

Site Description:

This project will construct a new regulator station adjacent to an existing regulator station at the intersection of Caratoke Hwy and Survey Road near Moyock, NC. The site is bounded by Caratoke Hwy to the north, agricultural land to the west and south, and Survey Road to the east. The site is relatively flat with slopes ranging from 0.8% - 1.30%. The site elevation is around 9' above mean sea level.

The proposed project area is 2.03 acres in size. The proposed coverage area is 0.61 acres or about 30% of the total project area. The balance of the project area will be returned to a pervious condition after construction. See grading plan sheet for a better understanding.

Calculations:

A stormwater analysis was performed using Hydraflow Hydrographs for AutoCAD Civil 3D to determine pre/post peak discharge for the predeveloped 2yr 24hr wooded condition and a post developed 5yr 24hr condition. Hydrologic soil group C was used in the calculations. The output from Hydraflow is included with this submittal.

The pre/post developed peak rate and runoff depth are shown below:

	2yr-24hr Type III	5yr-24hr Type III	Net Increase
Pre-Developed - Peak Rate	2.97 cfs	4.85 cfs	
Post-Developed - Peak Rate	3.82 cfs	5.59 cfs	2.62 cfs
Pre-Developed – Runoff Depth	1.25 in	1.98 in	
Post-Developed – Runoff Depth	1.56 in	2.38 in	1.13 in

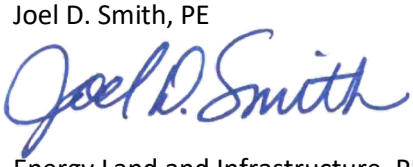
Summary:

The County requirements are to reduce the post-development peak discharge from the 24-hour storm event with a 5-year recurrence interval down to the predevelopment discharge rate from the 24-hour storm event with a 2-year recurrence interval based on pre-development condition of a wooded site (shown above). Given that surrounding site conditions are agricultural fields, it is our opinion that

runoff from the site will not create any adverse or damaging downstream flooding to adjacent landowners. Additionally, when equal pre/post storm events are compared there is no net increase in runoff rate when using a curve number for “row crops” land use.

I appreciate your time reviewing this project. Please let me know if you have any questions.

Joel D. Smith, PE



Energy Land and Infrastructure, PLLC
500 Gregson Drive, Suite 180
Cary, NC 27511
(919)389-0980

Hydraflow Table of Contents

Watershed Model Schematic..... 1

Hydrograph Return Period Recap..... 2

2 - Year

Hydrograph Reports..... 3

Hydrograph No. 1, SCS Runoff, Moyock City Gate Pre-Dev..... 3

Hydrograph No. 2, SCS Runoff, Moyock City Gate Post-Dev..... 4

5 - Year

Hydrograph Reports..... 5

Hydrograph No. 1, SCS Runoff, Moyock City Gate Pre-Dev..... 5

Hydrograph No. 2, SCS Runoff, Moyock City Gate Post-Dev..... 6

IDF Report..... 7

Watershed Model Schematic

Legend

Hyd.	Origin	Description
1	SCS Runoff	Moyock City Gate Pre-Dev
2	SCS Runoff	Moyock City Gate Post-Dev

Hydrograph Return Period Recap

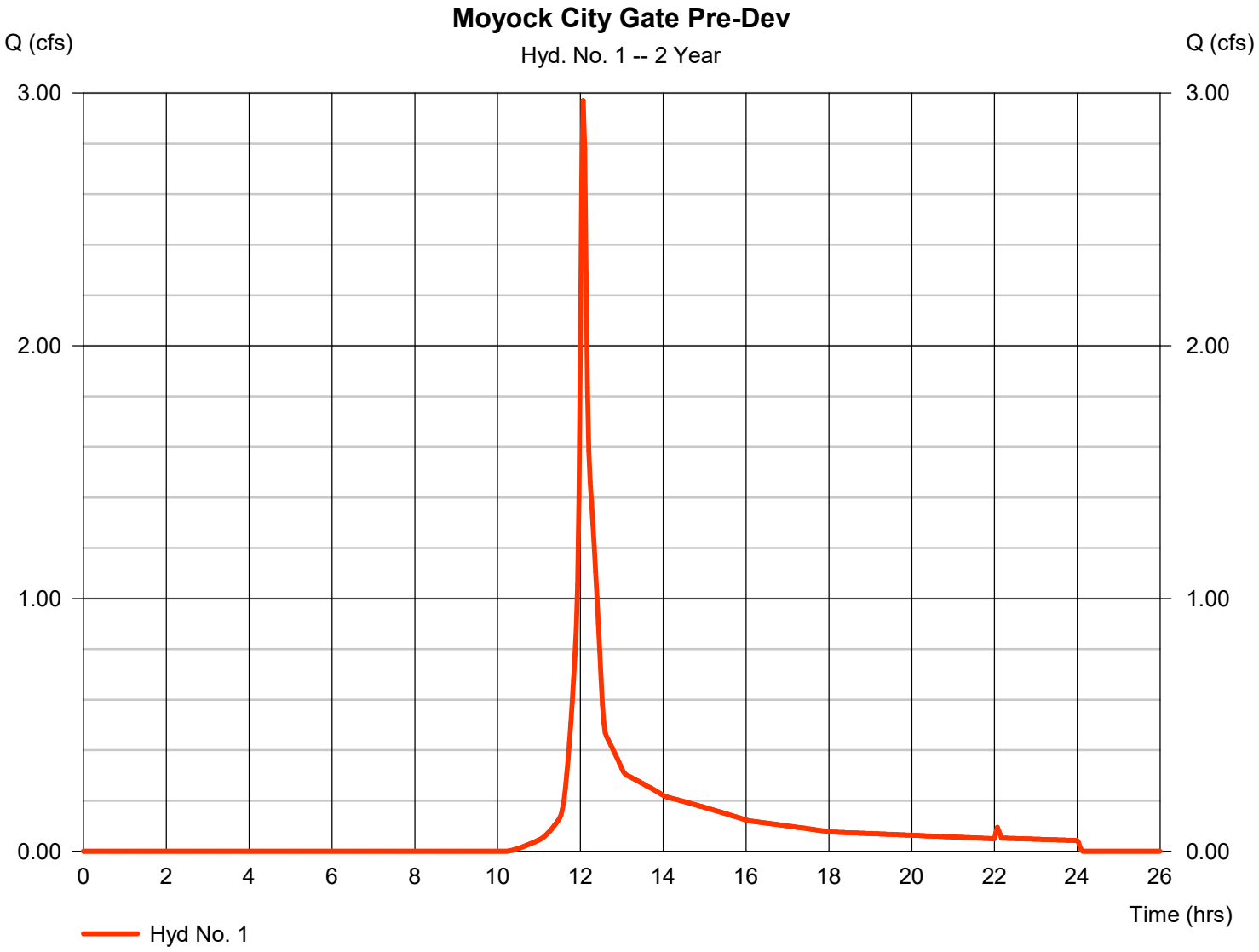
Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	1.900	2.970	-------	4.853	6.559	-------	-------	-------	Moyock City Gate Pre-Dev
2	SCS Runoff	------	2.627	3.824	-------	5.858	7.654	-------	-------	-------	Moyock City Gate Post-Dev

Hydrograph Report

Hyd. No. 1

Moyock City Gate Pre-Dev

Hydrograph type	= SCS Runoff	Peak discharge	= 2.970 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 9,187 cuft
Drainage area	= 2.030 ac	Curve number	= 73
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.72 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



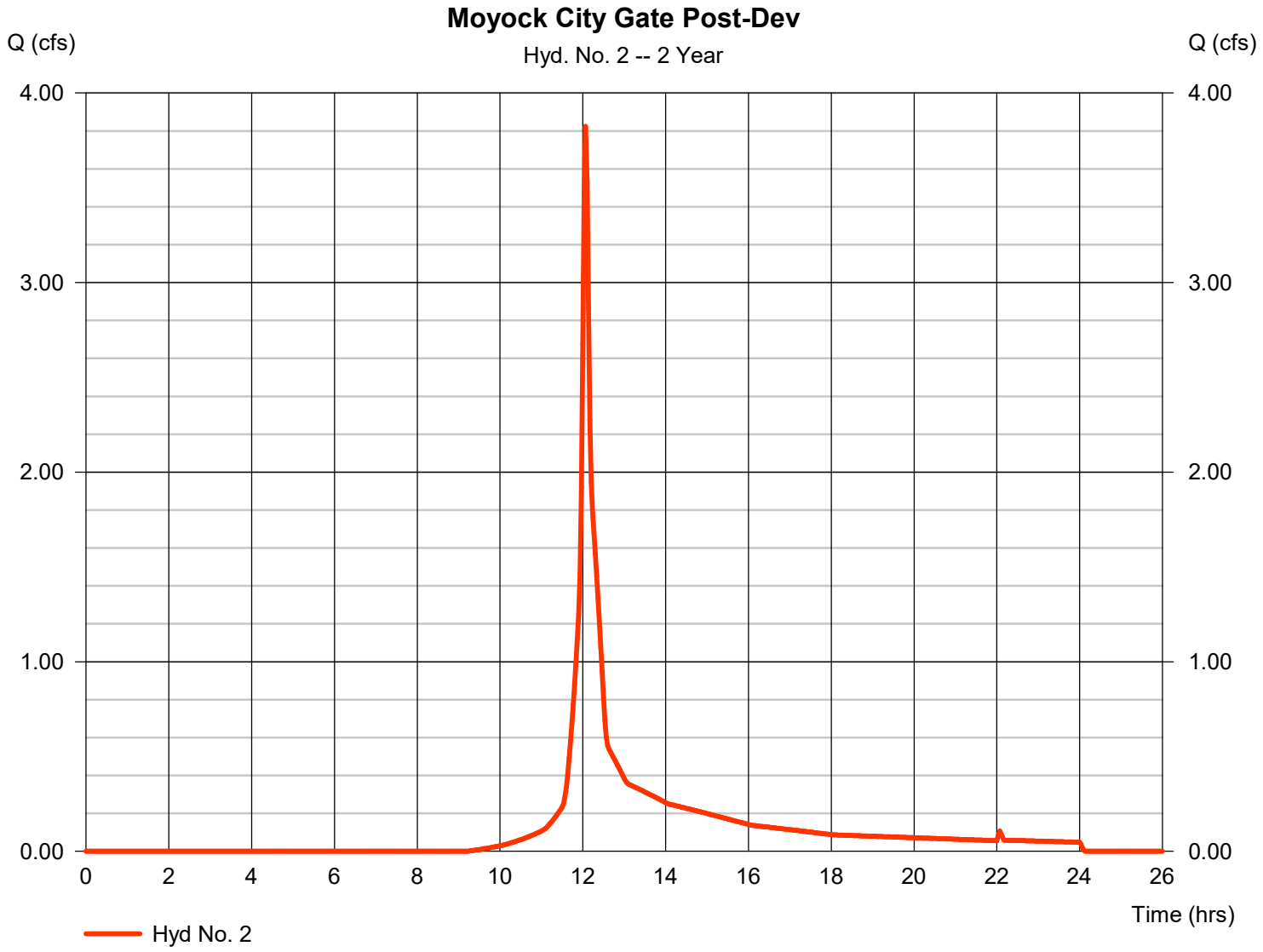
Hydrograph Report

Hyd. No. 2

Moyock City Gate Post-Dev

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.824 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	11,513 cuft
Drainage area	=	2.030 ac	Curve number	=	78*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.72 in	Distribution	=	Type III
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.420 x 73) + (0.610 x 89)] / 2.030

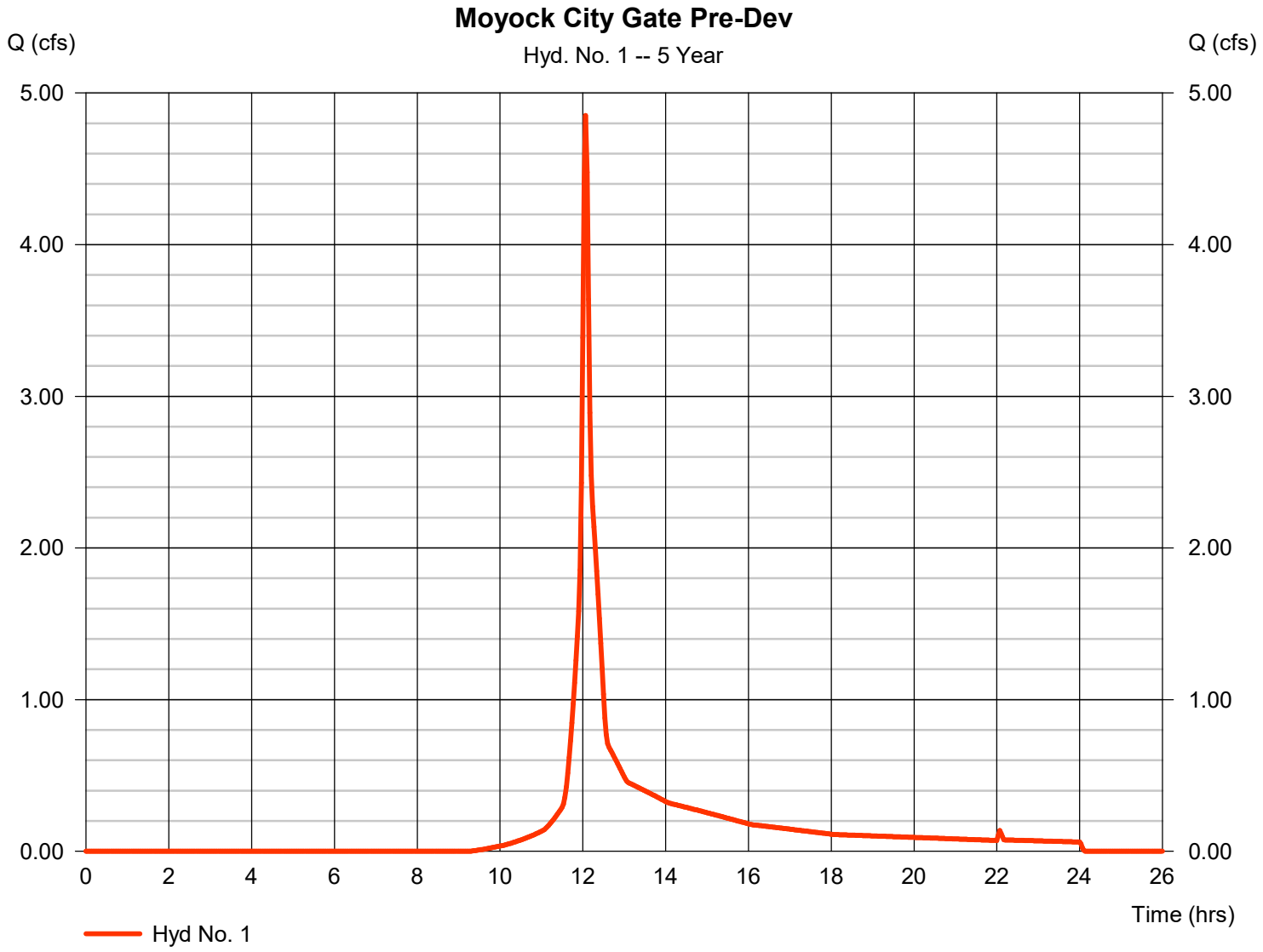


Hydrograph Report

Hyd. No. 1

Moyock City Gate Pre-Dev

Hydrograph type	= SCS Runoff	Peak discharge	= 4.853 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 14,625 cuft
Drainage area	= 2.030 ac	Curve number	= 73
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484



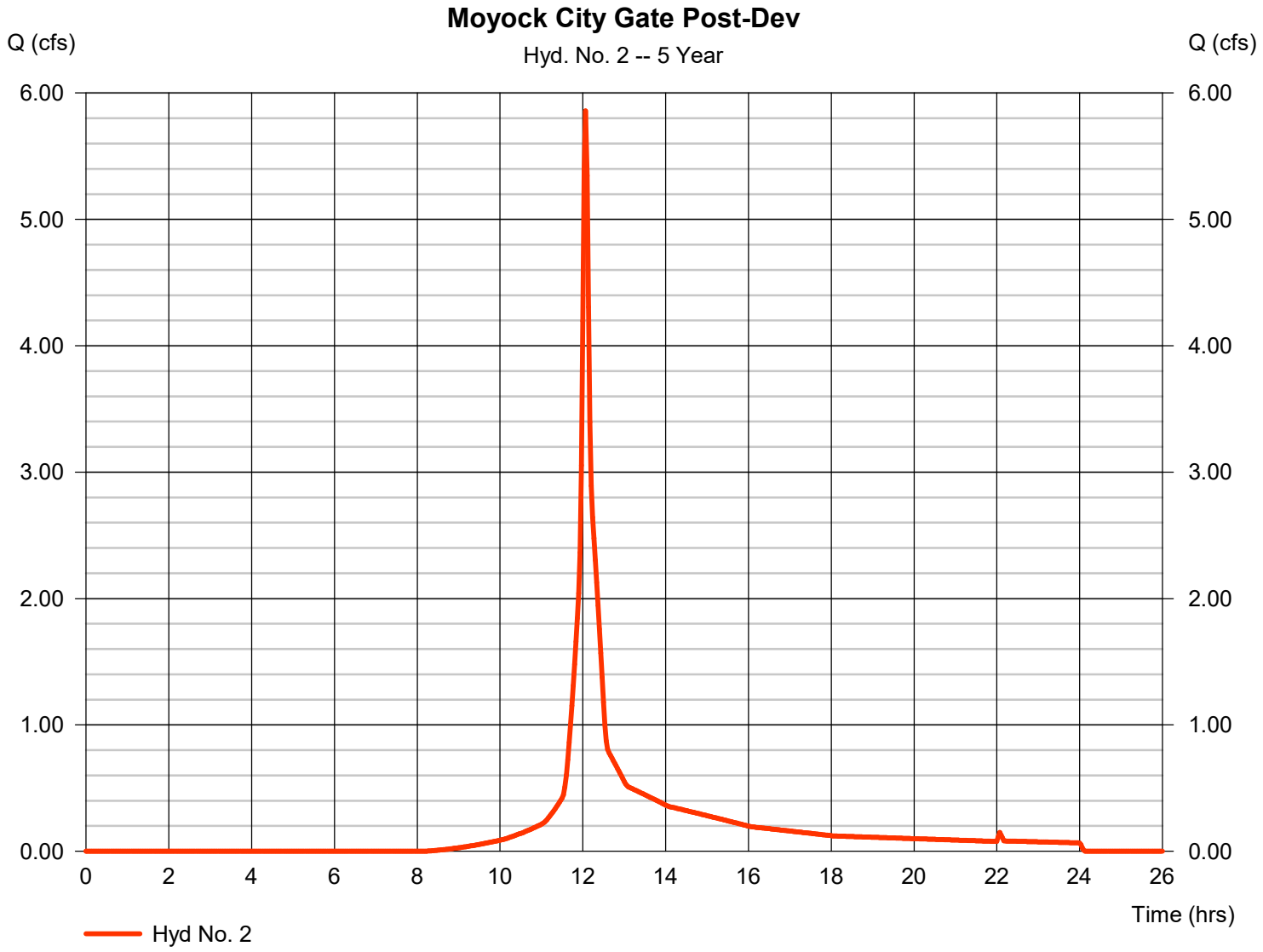
Hydrograph Report

Hyd. No. 2

Moyock City Gate Post-Dev

Hydrograph type	= SCS Runoff	Peak discharge	= 5.858 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 2 min	Hyd. volume	= 17,508 cuft
Drainage area	= 2.030 ac	Curve number	= 78*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.79 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.420 x 73) + (0.610 x 89)] / 2.030



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	64.4792	12.8000	0.8932	--------
2	66.1773	12.2000	0.8598	--------
3	0.0000	0.0000	0.0000	--------
5	75.3430	13.1000	0.8444	--------
10	74.0861	12.5000	0.8066	--------
25	0.0000	0.0000	0.0000	--------
50	0.0000	0.0000	0.0000	--------
100	0.0000	0.0000	0.0000	--------

File name: SampleFHA.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.93	3.95	3.31	2.85	2.51	2.25	2.04	1.87	1.72	1.60	1.49	1.40
2	5.73	4.60	3.87	3.34	2.95	2.65	2.41	2.21	2.04	1.90	1.78	1.67
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.53	5.32	4.51	3.92	3.48	3.14	2.86	2.63	2.44	2.28	2.13	2.01
10	7.36	6.01	5.11	4.47	3.98	3.60	3.29	3.04	2.82	2.64	2.48	2.34
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	3.05	3.72	0.00	4.79	5.70	5.77	6.80	7.95
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	5.38	6.50	8.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	5.25	6.00	7.10

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.

OFFICIAL USE ONLY:
Permit Number: _____
Date Filed: _____
Date Approved: _____

Major Stormwater Plan
Form SW-002

Contact Information

APPLICANT:
Name: Piedmont Natural Gas Company, Inc.
Address: 5607 Cannon Drive
Monroe, NC 28210
Telephone: 704-557-6719
E-Mail Address: kevin.thomas@duke-energy.com

PROPERTY OWNER:
Name: (Same)
Address: _____
_____
Telephone: _____
E-Mail Address: _____

Property Information

Physical Street Address: Caratoke Highway
Parcel Identification Number(s): 001500000820000
FEMA Flood Zone Designation: X

Request

Project Description: New natural gas regulator station site, adjacent to existing station site.
Total land disturbance activity: 88,328 sf
Calculated volume of BMPs: N/A sf
Maximum lot coverage: N/A sf
Proposed lot coverage: 26,495 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.

_____ 06/26/2024
Property Owner(s)/Applicant Date

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: Moyock City Gate Regulator Station Site

Applicant/Property Owner: Piedmont Natural Gas Company, Inc.

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 (*Appendix F – Currituck County Stormwater Manual*).	
21	Detailed maintenance plan for all proposed BMPs.	

Certificate		
22	The major stormwater plan shall contain the following certificate: I, Joel Smith, 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 Moyock City Gate Regulator Station, 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: 05/23/2024 Owner/Agent: Joel Smith	✔

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: Moyock City Gate Regulator Station Site

Applicant/Property Owner: Piedmont Natural Gas Company, Inc.

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	**1 PDF digital copy of all plans AND documents (ex. Compact Disk – e-mail not acceptable)**	✔

Comments

_____

_____

_____

SEE ATTACHED HYDRAFLOW REPORT FOR NRCS METHOD USED.

NRCS Method Peak Flow
Form SW-004

Project Information

Project Location: _____

Parcel Identification Number(s): _____

Check One: □ Pre-Development □ Post-Development

Calculations

Runoff Curve Number and Runoff

1. Runoff Curve Number (CN)

Soil Type	Cover Description	CN (Table 2-6)	Area (acres)	CN*A
		Totals		

$CN_{Weighted} = \frac{SCN*A}{SA} =$ _____ **Use CN =**

2. Runoff

	Storm #1	Storm #2	Storm #3
Frequency. . . . . Yr			
Rainfall, P (24-hour) (Use Table 2-7). . . . . In			
Runoff, Q. . . . . In			

Time of Concentration (Tc)

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments

Sheet flow	**(Applicable to T_c only)**							
	Segment ID		Pre			Post		
1.	Surface description							
2.	Manning's roughness coeff., n (Table 2-9)							
3.	Flow Length, L (total L<= 300 ft)	ft						
4.	24-hr rainfall, P	in	4.0			6.0		
5.	Land Slope, s	ft / ft						
6.	$T_t = 0.42(nL)^{0.8} / P_2^{0.5} s^{0.4}$	min		+			=	
Shallow concentrated flow								
	Segment ID							
7.	Surface Description: paved (P) or unpaved (U)?							
8.	Flow Length, L	ft						
9.	Watercourse slope, s	ft / ft						
10.	Average velocity, V (Table 2-8)	ft / sec						
11.	$T_t = L / V$	min		+			=	
Channel flow								
	Segment ID							
	Pipe (P) or Channel (C)?							
	If pipe, enter D (in):							
	If channel, enter bottom width:							
	If channel, enter side slopes (_:1):							
12.	Cross sectional flow area, a	sq ft						
13.	Wetted perimeter, w_p	ft						
14.	Hydraulic radius, $r = a / w_p$	ft						
15.	Channel slope, s	ft / ft						
16.	Manning's roughness coeff., n							
17.	$V = 1.49\ r^{0.67} s^{0.5} / n$	ft / sec						
18.	Flow length, L	ft						
19.	$T_t = L / 60V$	min		+			=	
20.	Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)						min	