



September 16, 2019

Steven Ball
Soil & Environmental Consultants
8412 Falls of Neuse Road, Suite 104
Raleigh, NC 27615

Project Name: Seaforth Estates Subdivision Parcel 91403

Location: Seaforth Road, Chatham County

Subject Features: One (1) ephemeral stream, three (3) intermittent streams, and one (1) perennial stream

Date of Determination: July 29, 2019

Explanation:

The site visit was completed on July 29, 2019 by Drew Blake with the Chatham County Watershed Protection Department and Steven Ball of Soil & Environmental Consultants (S&EC), on Parcel # 91403 that is located within the Jordan Lake watershed. S&EC personnel completed a previous site visit which resulted in the identification of four (4) ephemeral streams, three (3) intermittent streams, and one (1) perennial stream on the property. S&EC submitted a request for Chatham County to complete a formal review to determine if the features would be subject to riparian buffers according to Section 304 of the Chatham County Watershed Protection Ordinance. All points of origin and stream type transitions were reviewed in the field by all parties in attendance. Three ephemeral streams (E-1, E-2, and G-eph) were removed as these features didn't meet the requirements of an ephemeral stream in accordance with Section 109 of the Chatham County Watershed Protection Ordinance. Buffers for three (3) of the features (along drainage A) were previously reviewed and approved by the Chatham County Watershed Protection Department. An intermittent stream was also identified off-site by S&EC. The buffers for the stream may or may not encroach into the project.

Required Riparian Buffers:

Stream Feature G is the only new feature that was determined to be subject to intermittent riparian buffers of 50-ft from the top bank landward on both side of the feature. The previously determined riparian buffers for the previously reviewed features will remain the same and will apply to this portion of the project.

Proposed Buffer Impacts:

Submittal of a No Practical Alternatives Authorization Application, in accordance with Section 304 (I) of the Chatham County Watershed Protection Ordinance, must occur if this project results in impacts to riparian buffers. No Practical Alternatives Authorization Applications must be submitted prior to or at the same time as the projects Soil Erosion and Sedimentation Control Plans. All approvals for the No Practical Alternatives Authorization must be received prior to submitting the for Construction Plan approval from the Chatham County Planning Department.



Conclusion:

This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by Chatham County, on parcels outside of the Jordan Lake watershed, may submit a request for appeal in writing to the Watershed Review Board. A request for a determination by the Watershed Review Board shall be made in accordance with Section 304 of the Chatham County Watershed Protection Ordinance. Landowners or affected parties that dispute a determination made by Chatham County, on parcels inside the Jordan Lake watershed, shall submit a request for appeal in writing to NC DWR, 401 & Buffer Permitting Unit, 1650 Mail Service Center, Raleigh, NC 27669-1650 attention of the Director of the NC Division of Water Quality.

Should this project result in any direct impacts to surface water features (i.e., crossing and/or filling streams or wetlands) additional reviews may be necessary. Additionally, a Section 404/401 Permit may be required. Any inquiries regarding Section 404/401 permitting should be directed to the Division of Water Resources (Central Office) at (919)-807-6364 and the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-554-4884.

Respectfully,

Drew Blake
Senior Watershed Specialist, CESSWI

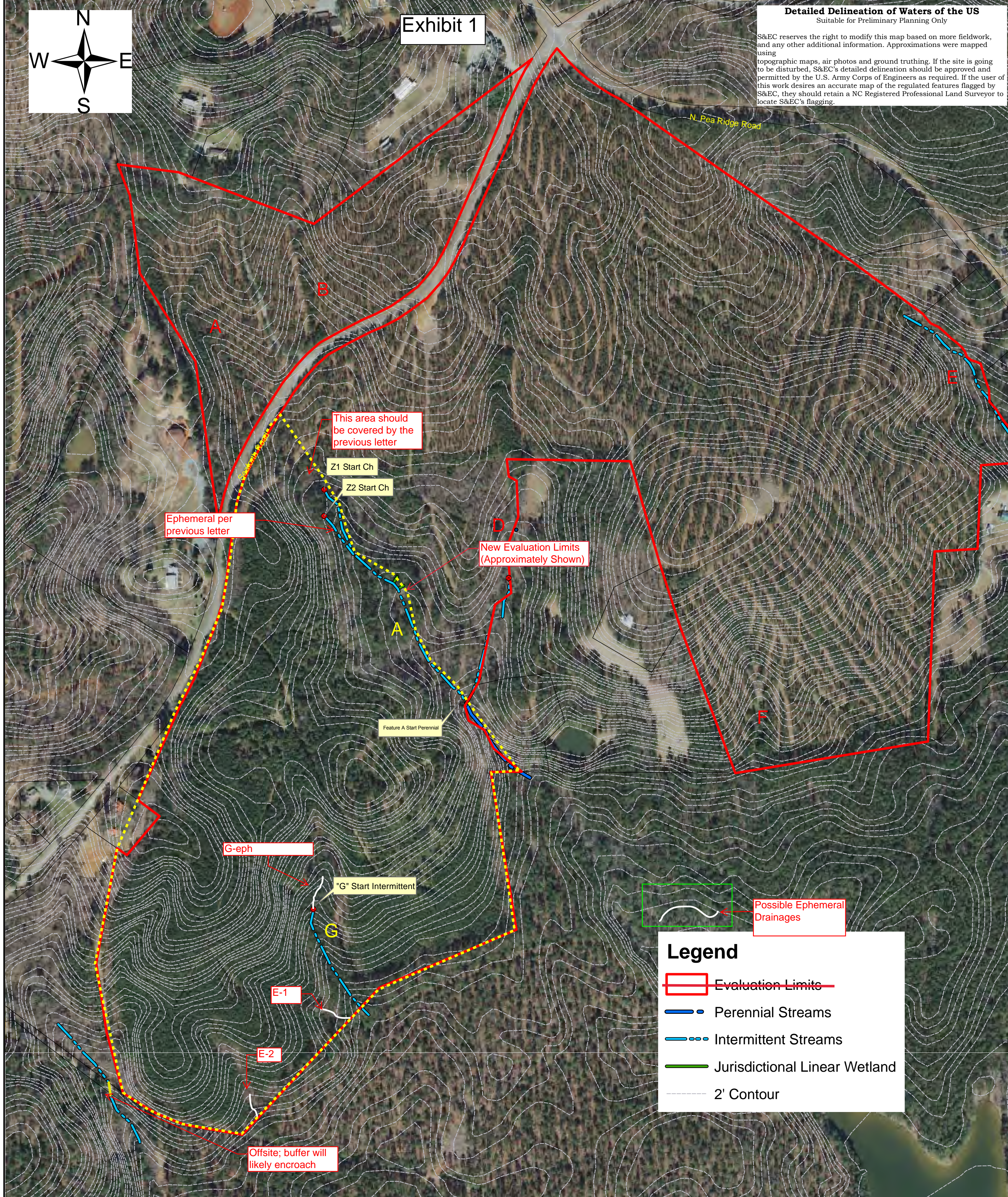
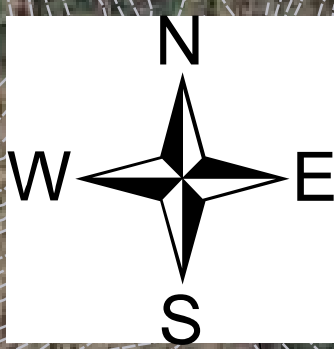
Enclosures: Exhibit 1 – Initial map submitted by S&EC
 Exhibit 2 – Post confirmation map submitted by S&EC
 S&EC Stream Determination Forms
 NRCS Soil Survey Map
 USGS Topographic Map
 Riparian Buffer Application
 Agent Authorization Form
 Authorization to Enter Property Form

cc: Rachael Thorn, Chatham County Watershed Protection Director
 Kimberly Tyson, Planner II/Subdivision Administrator
 Angela Birchett, Chatham County Zoning Administrator
 Jason Sullivan, Chatham County Director of Planning

Exhibit 1

Detailed Delineation of Waters of the US Suitable for Preliminary Planning Only

S&EC reserves the right to modify this map based on more fieldwork, and any other additional information. Approximations were mapped using topographic maps, air photos and ground truthing. If the site is going to be disturbed, S&EC's detailed delineation should be approved and permitted by the U.S. Army Corps of Engineers as required. If the user of this work desires an accurate map of the regulated features flagged by S&EC, they should retain a NC Registered Professional Land Surveyor to locate S&EC's flagging.



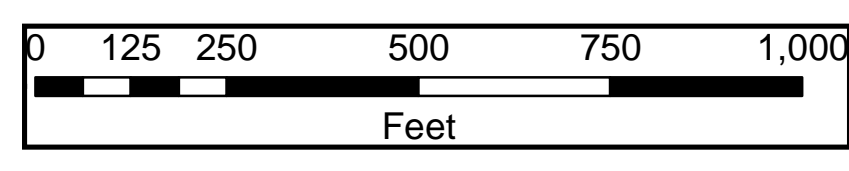
Legend

- Evaluation Limits
- Perennial Streams
- Intermittent Streams
- Jurisdictional Linear Wetland
- 2' Contour

Project Number:	10719.W1
Project Manager:	SB
Scale:	1" = 250'
Date:	4/9/15

Map Title:
**Wetland Sketch Map (Post USACE)
Seaforth Site
Chatham County, NC**

Source:
Chatham County GIS & nconemap.com

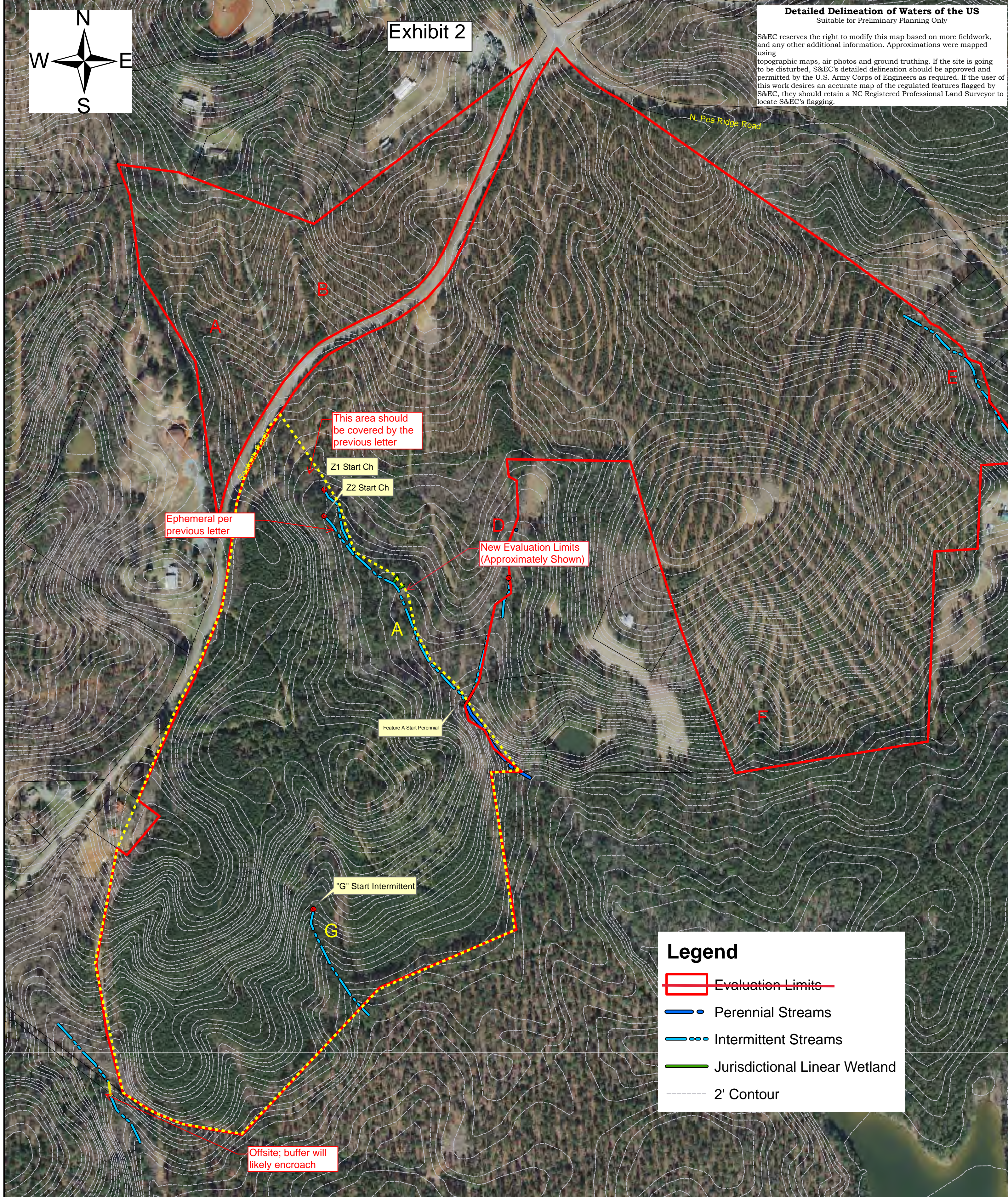
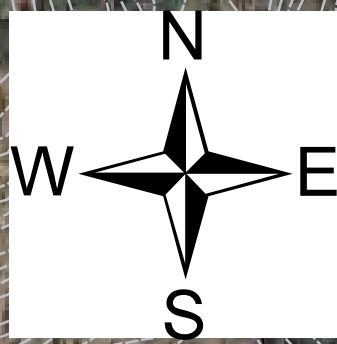


Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com

Exhibit 2

Detailed Delineation of Waters of the US
Suitable for Preliminary Planning Only

S&EC reserves the right to modify this map based on more fieldwork, and any other additional information. Approximations were mapped using topographic maps, air photos and ground truthing. If the site is going to be disturbed, S&EC's detailed delineation should be approved and permitted by the U.S. Army Corps of Engineers as required. If the user of this work desires an accurate map of the regulated features flagged by S&EC, they should retain a NC Registered Professional Land Surveyor to locate S&EC's flagging.



Ephemeral per previous letter

This area should be covered by the previous letter

Z1 Start Ch
Z2 Start Ch

New Evaluation Limits (Approximately Shown)

Feature A Start Perennial

"G" Start Intermittent

Offsite; buffer will likely encroach

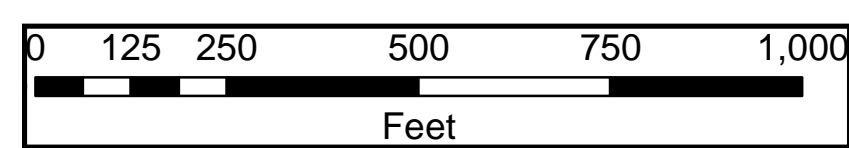
Legend

- Evaluation Limits
- Perennial Streams
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Project Number:	10719.W1
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E-2

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 6/12/19 7/12/19	Project/Site: <i>Seaforth</i>	Latitude:
Evaluator: <i>AB</i>	County: <i>Clayton</i>	Longitude:
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i> 7.5	Stream-Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 4.5)

	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0	3	2	3
2. Sinuosity of channel along thalweg	0	3	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	0	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	0	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6)

12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 2)

18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macroinvertebrates (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

E=1

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 7/12/19	Project/Site: Sca Fc W	Latitude:
Evaluator: SB	County: Johnston	Longitude:
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i>	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 4)

	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 2)

12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 2)

18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macroinvertebrates (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

G (EPN)

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: <u>7/12/19</u>	Project/Site: <u>Seuford</u>	Latitude:
Evaluator: <u>SD</u>	County: <u>Chatham</u>	Longitude:
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i> <u>8.5</u>	Stream Determination (circle one) <u>Ephemeral</u> Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 4.5)

	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0	<u>1</u>	2	3
2. Sinuosity of channel along thalweg	<u>1</u>	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	<u>0</u>	1	2	3
4. Particle size of stream substrate	0	<u>1</u>	2	3
5. Active/relict floodplain	<u>0</u>	1	2	3
6. Depositional bars or benches	<u>0</u>	1	2	3
7. Recent alluvial deposits	0	<u>1</u>	2	3
8. Headcuts	<u>0</u>	1	2	3
9. Grade control	0	<u>0.5</u>	1	1.5
10. Natural valley	0	0.5	<u>1</u>	1.5
11. Second or greater order channel	No = <u>0</u>		Yes = 3	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 2)

12. Presence of Baseflow	<u>0</u>	1	2	3
13. Iron oxidizing bacteria	<u>0</u>	1	2	3
14. Leaf litter	1.5	<u>1</u>	0.5	0
15. Sediment on plants or debris	0	<u>0.5</u>	1	1.5
16. Organic debris lines or piles	0	<u>0.5</u>	1	1.5
17. Soil-based evidence of high water table?	No = <u>0</u>		Yes = 3	

C. Biology (Subtotal = 2)

18. Fibrous roots in streambed	3	2	<u>1</u>	0
19. Rooted upland plants in streambed	3	2	<u>1</u>	0
20. Macroinvertebrates (note diversity and abundance)	<u>0</u>	1	2	3
21. Aquatic Mollusks	<u>0</u>	1	2	3
22. Fish	<u>0</u>	0.5	1	1.5
23. Crayfish	<u>0</u>	0.5	1	1.5
24. Amphibians	<u>0</u>	0.5	1	1.5
25. Algae	<u>0</u>	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = <u>0</u>			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

G (Int)

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 7/12/19	Project/Site: Seaborn	Latitude:
Evaluator: GP	County: Chatham	Longitude:
Total Points: <i>Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*</i> <u>(23)</u>	Stream Determination (circle one) Ephemeral <u>(Intermittent)</u> Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 12.5)

	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0	1	<u>2</u>	3
2. Sinuosity of channel along thalweg	0	<u>1</u>	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	<u>1</u>	2	3
4. Particle size of stream substrate	0	<u>1</u>	2	3
5. Active/relict floodplain	0	<u>1</u>	2	3
6. Depositional bars or benches	0	1	<u>2</u>	3
7. Recent alluvial deposits	0	<u>1</u>	2	3
8. Headcuts	0	1	<u>2</u>	3
9. Grade control	0	<u>0.5</u>	1	1.5
10. Natural valley	0	0.5	<u>1</u>	1.5
11. Second or greater order channel	No = <u>0</u>		Yes = 3	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5.5)

12. Presence of Baseflow	<u>0</u>	1	2	3
13. Iron oxidizing bacteria	<u>0</u>	1	2	3
14. Leaf litter	1.5	<u>1</u>	0.5	0
15. Sediment on plants or debris	0	<u>0.5</u>	1	1.5
16. Organic debris lines or piles	0	0.5	<u>1</u>	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = <u>3</u>	

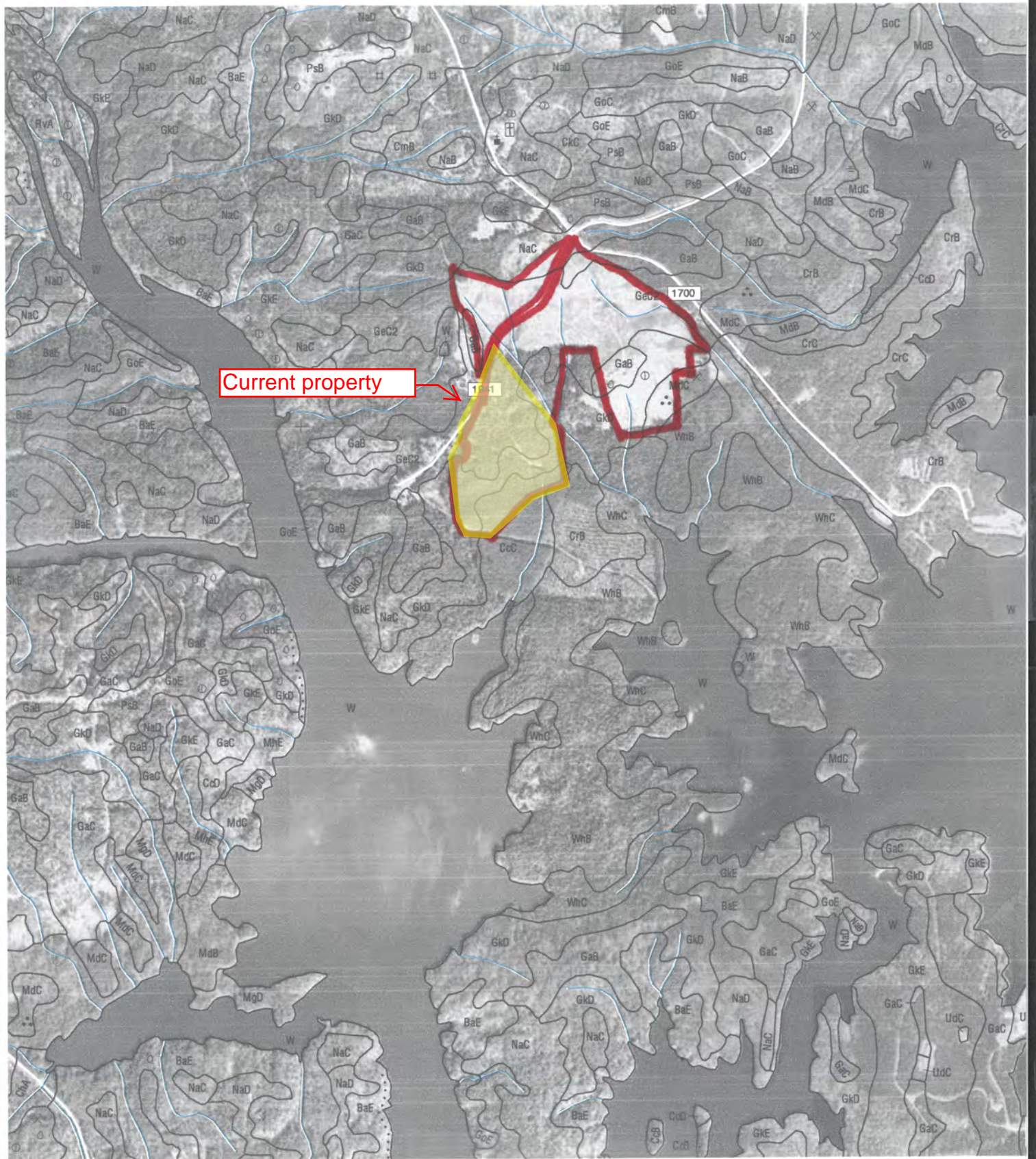
C. Biology (Subtotal = 5)

18. Fibrous roots in streambed	3	<u>2</u>	1	0
19. Rooted upland plants in streambed	3	<u>2</u>	1	0
20. Macroinvertebrates (note diversity and abundance)	<u>0</u>	1	2	3
21. Aquatic Mollusks	<u>0</u>	1	2	3
22. Fish	<u>0</u>	0.5	1	1.5
23. Crayfish	0	<u>0.5</u>	1	1.5
24. Amphibians	0	<u>0.5</u>	1	1.5
25. Algae	<u>0</u>	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other <u>0</u>			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:



Current property

Project Number:
10719.W1

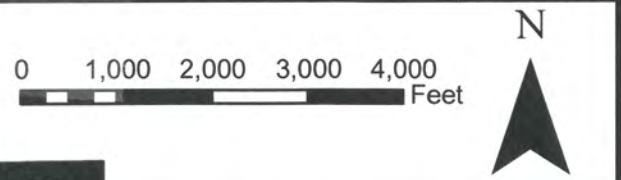
Project Manager:
SB

Scale:
1" = 2,000'

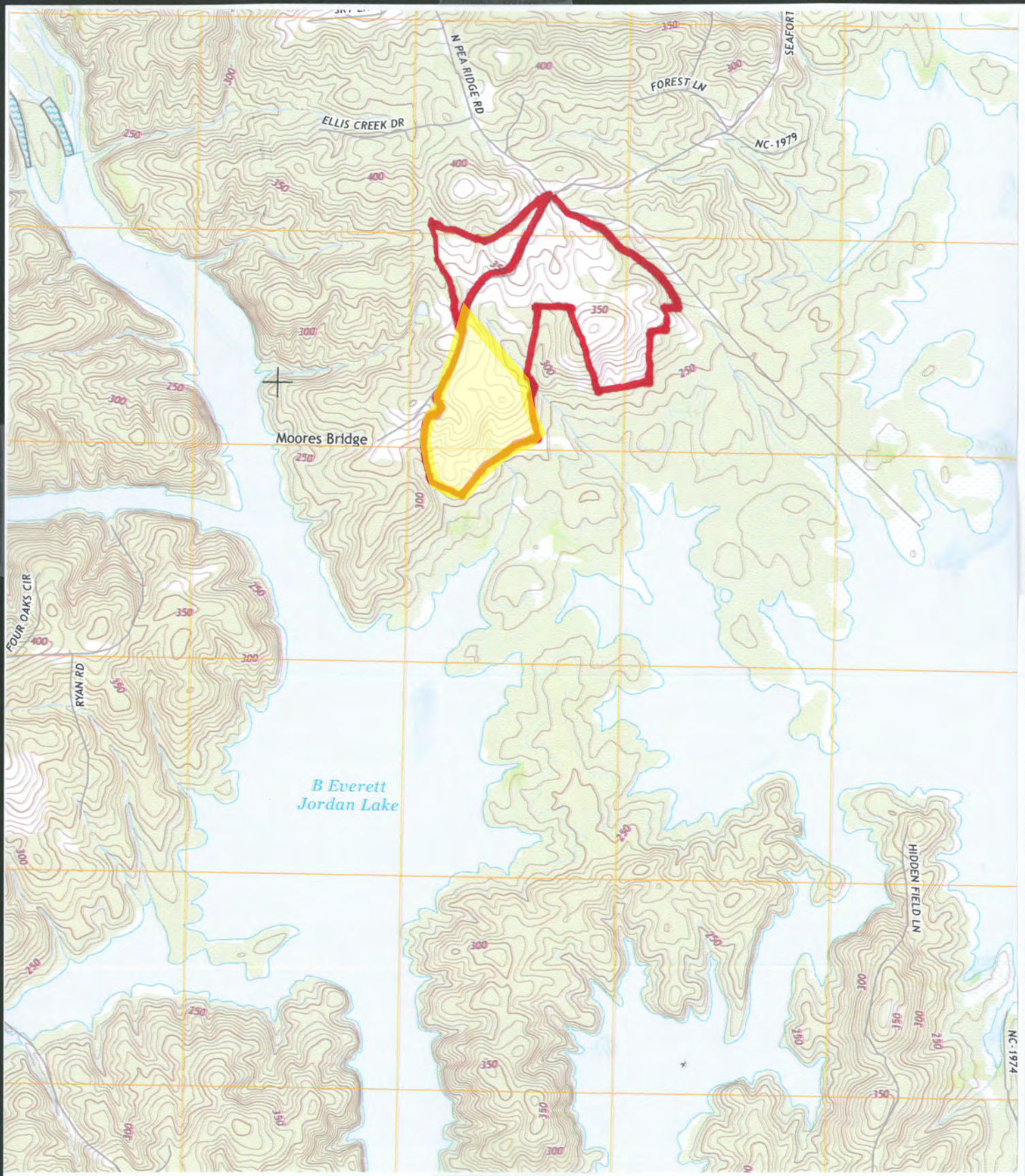
Date:
10/01/14

Map Title:
Soil Survey Map
Seaforth Site
Chatham County, NC

Source: Chatham County GIS #
Soil Survey



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 8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-9900 • Fax: (919) 846-9407
 sandec.com



Project Number:
10719.W1

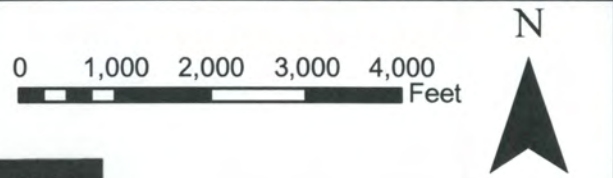
Project Manager:
SB

Scale:
1" = 2,000'

Date:
10/01/14

Map Title:
USGS Map
Seaforth Site
Chatham County, NC

Source: Chatham County GIS #
2013 Merry Oaks Quad.



S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sundecc.com



Date Received: **7/18/19** PL# **2019-1548**

Riparian Buffer Review Application
Surface Water Identification Request for
Major Subdivisions

Tract Information

Parcel #: **91403** Watershed District (and name of creek if known): **Jordan Lake**

Property Owner: **Swain Land and Timber LLC**

Location/Physical Address of Tract: **2543 Seaforth Road**

Driving Directions from Pittsboro: **Take hwy 64 toward Jordan Lake, Seaforth will be on your right just before bridge**

Subdivision Name (if applicable): _____

Owner's/Agent Contact Information (Agent: Consultant, Real Estate Agent, Surveyor, Other) Circle one

Name: **Steven Ball, S&EC**

Contact Phone Numbers: (h) _____ (w) _____ (c) **919-691-2114**

E-mail: **sball@sandec.com**

Mailing Address: **8412 Falls of Neuse Road, Suite 104, Raleigh NC 27615**

Do you wish to be contacted prior to Chatham County staff visiting the property? Yes No

How much notice is required prior to arrival onsite? _____

How would you like to receive the completed review letter? (Please check one of the following)

- I would like to pick up the completed Riparian Buffer Review at the County Office
- I would like the completed Riparian Buffer Review mailed to me
- I would like the completed Riparian Buffer Review e-mailed to me

Please include the following items with this request

- Completed consultant findings report including the following:
 - GIS generated or hand drawn sketch of surface water features found onsite (Buffer Plan Sheet)
No smaller than 1"=60' and paper size 11"x17" or larger
 - NCDWQ Stream Identification Forms, Version 4.11, Wetland Determination Data Form –



Riparian Buffer Review Application
Surface Water Identification Request

Eastern Mountains and Piedmont Region, digital photographs, notes, sketches, etc.

- NRCS map with property boundary depicted
- USGS map with property boundary depicted
- Statement of Credentials (Training Certificate for NCDWQ/NC State University Surface Waters Classification course, 2 years of jurisdictional wetland delineation according to the Eastern Mountains and Piedmont Regional Supplement to the 1987 US Corps of Engineers Wetland Delineation Manual)
- Signed Right to Enter Property Form
- Signed Owner's Agent Designation Form
- Fee (make checks payable to Chatham County) **\$100 per feature confirmed onsite**

Feature is defined as any surface water that is subject to Chatham County Riparian Buffers (streams, wetlands, ponds)

Total Number of Features: 4 Total Paid: \$ 400

I have read and understand the regulations of the Watershed Protection Ordinance, Section 304, and I agree to adhere to these associated policies and guidelines herein.

Owner/Agent Signature: Steven Ball Digitally signed by Steven Ball
DN: cn=Steven Ball, o, ou=S&EC,
email=sball@sandec.com, c=US
Date: 2019.07.18 08:04:58 -04'00' Date: 7/16/19



CHATHAM COUNTY

AUTHORIZED AGENT FOR FORM

PROPERTY LEGAL DESCRIPTION:

LOT NO. _____ PARCEL ID (PIN) 91403 PARCEL SIZE 64

STREET ADDRESS: 2543 Seaforth Road

Please print:

Property Owner: Swain Land and Timber

Property Owner: _____

The undersigned owner(s) of the above described property, do hereby authorize

Steven Ball, of S&EC
(Contractor / Agent) (Name of consulting firm if applicable)

to act on my/our behalf and take all actions, I/we could have taken if present, necessary for the processing, issuance and acceptance of reviews, inspections, or permits and any and all standard and special conditions attached to these approvals. The activities authorized include the following (**Check all that apply**):

Check here for all of the below options.

- Building Permit
- Zoning Compliance Permits
- Floodplain Determination
- Soil Erosion & Sedimentation Control Permit
- Permits to install, repair, evaluate, or expand onsite wastewater system(s)
- Evaluation/inspection/permitting of a private drinking water well(s).
- Riparian Buffer Review pursuant to §304 of the Chatham Co. Watershed Protection Ordinance.
- Other: _____

Property Owner's Address (if different than property above):

117 Edinburgh Drive S, Suite 101 Cary, NC 27511

Telephone: _____ E-mail: _____

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.

Owner Authorized Signature _____

Date: _____

Steven Ball

Agent Authorized Signature _____

Date: 7/16/19

Digitally signed by Steven Ball
DN: cn=Steven Ball, o=S&EC, email=sball@sandec.com, c=US
Date: 2019.07.18 08:07:02 -0400



Authorization to Enter Property Form

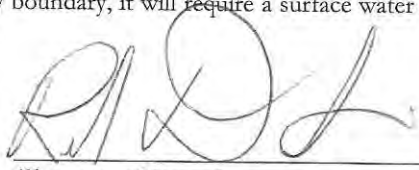
Date: 07/11/2019

PARCEL No. (AKPAR) 91403

I, (print name) Robert Swain, as owner of the property described above, or as a representative of the owner(s) do hereby convey permission to Chatham County staff to enter the property at their convenience to conduct a surface water identification (SWID) necessary to determine whether or not water features on my property are subject to the riparian buffer regulations described in Section 304 of the Chatham County Watershed Protection Ordinance. The SWID will be public record and on file at the Planning and Watershed Protection Departments, and may be requested in the future for review by interested parties.

I understand that stream delineations for the property listed above will be made by County staff only once and that if future subdivisions are proposed within this property boundary, it will require a surface water identification by a private consultant at the property owner's expense.

Robert Swain
(Print Owner's Name)


(Signature of Owner)
(Date)

(Print Authorized Agent Name)

Steven Ball Digitally signed by Steven Ball
DN: cn=Steven Ball, o=ou=SWEC, email=sball@sandec.com,
c=US
Date: 2019.07.18 08:09:03 -0400
(Signature of Authorized Agent)
(Date)



Chatham County

RECEIPT OF PAYMENT

Receipt Number: 20198246
Receipt Date: 09/16/2019
Date Paid: 09/16/2019
Full Amount: \$400.00

Payment Details:	Payment Method	Amount Tendered	Check Number
	Check	\$400.00	1115

Amount Tendered: \$400.00
Change / Overage: \$0.00
Contact: SWAIN LAND & TIMBER LLC | CHATHAM PARTNERS LLC, Address: 117 EDINBURG DR SOUTH, STE 101
Parcel #:

FEE DETAILS:

Fee Description	Reference Number	Amount Owing	Amount Paid
Riparian Buffer Fee	PL20191548	\$400.00	\$400.00

Payment Received By: Drew Blake

If you have any questions please contact the appropriate department at the number listed below:

Central Permitting 919-542-8230

Planning Department 919-542-8204

Environmental Health 919-542-8208

Environmental Quality 919-545-8343