



## Edgecombe County

County Administration Building  
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[www.edgecombcountync.gov](http://www.edgecombcountync.gov)

**Eric Evans**  
County Manager  
ericevans@edgecombeco.com

April 11, 2018

Ms. Karen Higgins  
NC DWR, 401 & Buffer Permitting Unit  
1650 Mail Service Center  
Raleigh, NC 27669-1650

RE: Updated Major Buffer Variance Request  
Project Diamond  
Tarboro, NC  
DWR Project Number 20180133

Dear Ms. Higgins,

Edgecombe County, with the assistance of the NC Department of Transportation (NCDOT), Appian Engineering, Wetherill Engineering, and Carolina Ecosystems, have prepared this request for a Major Variance from the Tar-Pamlico River Basin Protection and Maintenance of Riparian Areas Rule (Buffer Rule), 15A NCAC 02B.0259, for the above referenced project. Project Diamond involves the preparation of Pad B of the Kingsboro CSX Select Site for the Triangle Tyre Company, along with a new access road (NCDOT TIP R-5868). Triangle Tyre plans to subsequently construct four tire factory facilities on the site. This project would involve impacts to two separate riparian buffers for uses that are not allowable under the Buffer Rule, and therefore require a variance. Several other allowable or exempt riparian buffer impacts are addressed in a buffer authorization request submitted in conjunction with a Section 404/401 Individual Permit Application, currently under review.

NCDOT is working with the County to provide road access and oversee the contracting of the site pad grading. They are a co-applicant on the Clean Water Act Individual Permit (submitted on 2/9/18), and coordinating the permitting effort including this variance request.

The items below are numbered to correspond to items on the attached Variance Application Form, and additional supplemental information is attached to this letter.

**A.10 – List any permits/approvals that have been requested or obtained for this project in the past (including all prior phases).**

Individual Permit – Impacts: 9.12 acres wetland, 2,769 feet stream, 5.23 acres surface water (ponds). Applied: February 9, 2018.

Nationwide Permit 12 – Submitted by Wooten Company on behalf of the County.

Buffer Authorization Request – Submitted in conjunction with the Individual Permit.

### **B. 1a – *Project Description***

Project Diamond will entail construction of an approximate 400-acre site pad for the planned Triangle Tyre facility, and a 2-lane roadway (R-5868) accessing the site from Kingsboro Road to the west and US 64 Alternate to the north. The Triangle Tyre facility will consist of four separate factories, built in two phases, and associated supporting infrastructure including rail spurs, internal roadways and parking areas, raw material and finished product receiving and shipping areas, offices, and stormwater best management practices (BMPs).

#### **Triangle Tyre Site Pad**

Construction of Phase 1 of the project will begin in early March to meet the schedule required by Triangle Tyre. Phase 1 construction activities will be limited to upland areas until all appropriate permits are received. Construction duration on the Phase 1 site and pad preparation is limited to 5 months. The construction schedule of Phase 2 of the Triangle Tyre site has yet to be determined.

#### **Road & Rail**

Construction of the access roads will begin in Spring 2018 with priority placed upon sections needed for construction access to the site. Construction access is needed immediately to meet Triangle Tyre's required schedule but will not involve impacts to jurisdictional features until a permit has been issued. The rail construction will begin later in 2018 and be completed prior to the completion of the manufacturing facility. Final access road and rail construction is not on the critical path so a firm completion date has not yet been determined. The duration will depend upon the timeline of the facility construction.

#### **Utilities**

Water and sewer improvements are currently in the design and permitting phase contracted independently by the County to serve the Kingsboro CSX Select Site. Construction is anticipated to be complete no later than December 31, 2018. Other utility construction related to the site (including power, fiber optic, and natural gas) will be constructed prior to the completion of the manufacturing facility, but is not anticipated to involve any jurisdictional impacts.

#### **Purpose & Need for the Project**

The purpose of this project is for the County and NCDOT to provide site and transportation infrastructure capable of supporting the Triangle Tyre plant, and on a larger scale to bring economic benefit to Edgecombe County through a major industrial development.

Edgecombe County is considered the most economically depressed county in North Carolina in 2017 and 2018, according to NC Department of Commerce. Factors leading to this ranking include:

- Population (declined 3.3% from 2013 to 2016)
- Median income (\$32,500)
- Unemployment (8%)
- Poverty rate (26%)

Compared with the other 9 of the 10 lowest ranked counties for 2018, Edgecombe County is the only one to rank in the lowest 5 in all major categories (rankings in Table 1 are in reverse order – i.e. 1 is the lowest rank in the category):

**Table 1: Comparison of Top 10 Economically Disadvantaged Counties in NC**

<b>2018</b>	<b>Overall Rank</b>	<b>Property Tax Base</b>	<b>Pop. Growth</b>	<b>Median Income</b>	<b>Unemployment</b>	<b>Poverty Rate</b>
Bertie	4	16	2	2	18	22.3
Columbus	10	11	12	13	24	23.5
<b>Edgecombe</b>	<b>1</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>26.3</b>
Halifax	2	15	6	1	5	26.3
Hertford	9	7	19	12	20	25.6
Richmond	6	23	9	6	13	25.7
Robeson	3	1	20	3	7	31.6
Scotland	5	6	13	18	2	31.2
Vance	7	2	33	5	12	25.1
Washington	8	27	4	15	9	21.8

To address this issue, the County has been making significant efforts to attract major industrial companies to locate infrastructure and bring jobs to their jurisdiction. The tire manufacturing industry is one of the largest growth sectors in manufacturing that is currently locating facilities in the U.S. Since a downturn in production between 2008 and 2013 which included four plants closing, U.S. tire manufacturing is recovering. Since 2013, domestic tire production in the U.S. has increased from approximately 300 million tires per year to 325 million. This growth is expected to continue with a projection of another approximate 25 million tires per year increase by 2023.

The selection of the Kingsboro CSX Select Site by Triangle Tyre addresses the County's economic need with a projected economic impact of \$2.4 billion. This includes a commitment of 800 jobs averaging \$56,000 per year, 75% above the County median income. The 800 jobs alone could result in a 1.5% decrease in unemployment within the County.

R-5868 is proposed to provide access to the Kingsboro CSX Select Site, and specifically to Project Diamond as its initial user. The new roadway will enable the incoming raw material truck traffic to exit US 64 and immediately get to the facility. The access road will mitigate truck

traffic impacts on US 64 Alt by allowing the Triangle Tyre (and future Kingsboro Industrial Park companies) incoming truck traffic to stay internal to the site and reduce costs for existing adjacent transportation facility upgrades. The new roadway is the most direct access for incoming materials traffic, and eliminates a turning movement and conflict point at Kingsboro Road and US 64 Alt.

There are residential developments and farming communities to the east and west of the Industrial Park; many of which use US 64 Alt as access to both Tarboro and Rocky Mount. Keeping truck traffic internal as much as possible results in fewer conflict points between residential and slow moving agricultural equipment/farming community vehicles and industrial traffic. This design, as well as other proposed access/egress roads (all others are existing roads or in non-jurisdictional areas), optimizes material flow for Triangle Tyre - raw material comes in from the west by road and rail and final products exit the facility by road to the east.

***D. 1 – Provide a description of how diffuse flow will be maintained through the protected riparian buffers.***

Diffuse flow is maintained throughout the remaining buffers on the site. Stormwater control measures, proposed as wet detention ponds, are located along the perimeter of the site to collect and treat surface runoff from the proposed facility (Engineer Drawings Items 1 and 3). The proposed stormwater control measures provide stormwater runoff treatment to ensure that peak flow attenuation and nutrient removal requirements are met in compliance with the Tar-Pamlico Nutrient Strategy. In accordance with NCDEQ Stormwater Minimum Design Criteria, the wet ponds will discharge the runoff from the one year- 24-hour storm in a manner that minimizes hydrologic impacts to the receiving channel. The proposed stormwater control measures remove more than 30% TN outside the riparian buffer before being discharged through the buffer (Pond outlets for Ponds 2 and 3, for example, are located more than 100 to 200 feet away from the buffers). Preliminary grading plans for Phase 1 (Engineering Drawings Item 3) are attached. Phase 2 plans will be developed further and undergo the same review process

Along the access road, R-5868, avoiding the use of a curb and gutter typical section will aid in accomplishing diffuse flow. The proposed shoulder section typical will utilize 3:1 vegetated fill slopes. In areas where concentrated flow cannot be avoided, level spreaders and flow bypass structures may be required in order to maintain diffuse flow through the riparian buffers. If design discharges require excessive level spreader lengths dry detention may also be required. Where practical grass swale treatment will be maximized prior to the discharge of stormwater.

The final stormwater design will be developed by the site engineer for Triangle Tyre, and comply with the approach outlined above. A stormwater management plan (SMP) will then be reviewed by the County for compliance with the Rules under their delegated authority. The approved SMP will then be provided to NCDEQ for confirmation that it complies with the provisions of this variance request. At this time, the County stormwater staff have reviewed the conceptual plan submitted herein and do not have objections to the locations of the BMPs or proposed treatment.

A SMP will also be developed for R-5868 alongside the final design, and will be reviewed by NCDOT's hydraulics unit for compliance with their stormwater permit. The approved SMP will also be provided to NCDEQ.

***D. 1a – Show the location of diffuse flow measure(s) on your site plan.***

The locations of diffuse flow measures are not shown on the attached plans, as the work is in progress and the exact location has not been determined at this time. Diffuse flow measures could include level spreaders and pre-formed scour holes, if practical, and will be located outside the buffers. The final SMP will be provided with the locations of any diffuse flow measures required to comply with the Buffer Rule.

***D. 1b – Attach a completed Level Spreader Supplement Form or BMP Supplement Form with all required items for each proposed measure.***

Appropriate forms will be provided with the final SMP for the site and roadway, and will be forwarded to NCDEQ after approval by the County and/or NCDOT.

***D. 1c – Attach an Operation and Maintenance (O&M) Form for each proposed level spreader or BMP.***

O&M forms for each level spreader and BMP will be submitted as part of the Final SMP, and will be forwarded to NCDEQ after approval by the County and/or NCDOT.

***D. 2 – Provide a description of all BMPs that will be used to minimize disturbance and control the discharge of nutrients and sediments from stormwater.***

Eight BMPs are shown on the Overall Buffer Impact Map (Engineering Drawings Item 1). A more detailed exhibit is provided in the preliminary grading plans attached (Engineering Drawing Item 3). These are currently proposed as wet detention ponds, as discussed in Section D.1. As mentioned above, the Triangle Tyre site engineer will provide the final stormwater design for County review under their delegated authority. Some of the pond locations will also be used as sediment and erosion control basins for the initial construction of the site pad for Project Diamond, and will then be converted into BMPs described above.

The roadway design will incorporate grassed shoulders and side slopes (3:1) as well as grass swales and level spreaders or pre-formed scour holes where practical. Dry detention will be considered for areas where other treatment options are not practical.

***E.1 - Explain how complying with the provisions of the applicable rule would prevent you from securing a reasonable return from or make reasonable use of your property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. The Division will consider whether the variance is the minimum possible deviation from the terms of the applicable Buffer Rule that shall make reasonable use of the property possible.***

Without this variance, Project Diamond would not be able to be constructed and Triangle Tyre would revert to its second choice site in Georgia. This would result in a huge economic loss for the State and specifically the County. Pad B of the Kingsboro CSX Select Site is the largest area for industrial development in the County (see Section E.3 below) and specifically the largest pad on the industrial site. The unnamed tributary to Walnut Creek along the western portion of the site (Impact Site 10) is situated diagonally across the site, and impedes the use of Pad B from any large industry that is likely to select this sized site.

All Triangle Tyre facility layouts would result in significant impacts to the stream and its associated buffers. Adjusting the factory layout to a north-south orientation was considered, but the flow of raw materials and product would not be efficient, and additional room and buffer impacts would likely be required to site four factories.

Triangle Tyre had specific demands related to schedule of implementation and site layout. Tire manufacturing has very specific needs for the layout of their sites, and Triangle Tyre is no exception. Traffic must have a two-way flow with raw materials coming in from rail and road, and finished tires exiting the plant in a separate direction.

Within the Project Diamond site, several layouts were evaluated. This included shifting the factories further to the north and east. Siting the plants further north would impact the stream, wetland, pond, and riparian buffers along an unnamed tributary of Walnut Creek approximately 1 mile upstream of the Tar River, which was recently designated as critical habitat for the Atlantic Sturgeon. Due to the proximity to the River and the amount of impact associated with that location, Project Diamond was shifted south.

### **Proposed Impacts to Riparian Buffers**

The proposed plan avoids impacts, except road and utility crossings, to the three major tributaries and associated buffers on the Kingsboro CSX Select Site. The two impacts requiring this variance are limited to two lower quality streams affected by previous agricultural use of the site. These impacts shown in Figure 4 are described below. Mitigation is provided for the entire impact area, which consists of the site grading plus a 50-foot offset to allow for erosion control and construction access.

**Site 8:** Grading & Industry Construction – This is a newly determined buffer (February 2018) along a linear feature draining from the agricultural areas on the site into the wetland feature in the southeast corner of Project Diamond. Grading for the Triangle Tyre site pad will impact the entire buffered feature. The stream is an unnamed tributary to Penders Mill Run and received an overall NC Stream Assessment Method (NCSAM) quality rating of Medium. While this stream has been channelized, the rating is primarily due to the wooded buffer along the channel and good floodplain access along the downstream section.

**Site 10:** Grading & Industry Construction – This is the primary buffer impact associated with the site and requiring this variance request. The feature, an unnamed tributary to

Walnut Creek begins in the old agricultural fields and drains into the forested area west of Project Diamond, discharging into another unnamed tributary to Walnut Creek.

Two NCSAM forms were completed due to differences in stream type and stream side area along the proposed impacted reach. The upstream reach received an overall quality rating of Low, due to low hydrology and habitat functions and the absence of wooded buffer. The low hydrology function rating was primarily due to poor streamside area attenuation and stream stability of the reach. Its low habitat function rating was primarily due to lack of both in-stream habitat and stream-side habitat (no wooded riparian buffer).

The major difference between the upstream and downstream sections was the wooded riparian buffer exhibited in the downstream reach, which also received an overall quality rating of Low. This section is experiencing significant channel instability and downcutting, negatively effecting both hydrology and habitat functions.

***E.2 - Explain how the hardship results from application of the Buffer Rule to the property rather from other factors such as deed restrictions or other hardships (e.g. zoning setbacks, floodplains, etc).***

The buffer rule, along with associated Clean Water Act jurisdictional stream and wetland resources, are the primary factors restricting the use of the site. Zoning setbacks, floodplains, and other deed restrictions are either not present or do not affect the portion of the Kingsboro CSX Select Site containing Project Diamond. R-5868 crosses the upper backwater of Walnut Creek's 100-year floodplain, but a no-rise certification is anticipated as the crossing will have negligible effect on flood elevations.

***E.3 - Explain how the hardship results from physical nature of the property, such as its size, shape, or topography, which is different from that of neighboring property.***

Project Diamond is proposed on Pad B of the Kingsboro CSX Select Site. The size and particular characteristics of this site are rather unique compared with the adjacent pads as well as other sites within the County and State. This can be seen through the off-site alternatives evaluation that has been performed at multiple levels by multiple entities in the development of this project including:

- CSX's review and approval of the Kingsboro Select Site
- Triangle Tyre's national site selection process
- The County's analysis of multiple parcels meeting Triangle Tyre's criteria

The County chose to pursue approval of the Kingsboro site under the well-established CSX Select Site process. This selection process identifies rail-accessible sites that meet stringent criteria including:

- Buildable soils
- No zoning and entitlement restrictions
- Adequate utilities
- Proximity to highways
- Rail accessibility
- Environmental due diligence

The County chose to pursue the CSX Select Site designation to allow it to compete in a global marketplace with other states in the nation and specifically the southeast, as well as other counties in North Carolina. Tire plants have been located in several other southeast states in the last several years including Georgia, Mississippi, South Carolina, and Tennessee. Many of these facilities have been of equal or greater size than the proposed Triangle Tyre site. For example, tire plants in Mississippi (500 acres), South Carolina (1100 acres) and Tennessee (470 ac) are all of greater size than the proposed Triangle Tyre site. This intense competition between states for large scale projects was a driver for the County to pursue a nationally recognized site certification. In addition, the site is also a Certified Industrial Site by the NC Department of Commerce.

Grant funding for economically disadvantaged areas is being provided by the State and could be considered available to other similarly economically distressed counties. None of the other lowest ranked 10 counties in NC have a CSX Select Site. In addition, only Vance County (ranked 9<sup>th</sup> in 2018) has a rail accessible site identified by CSX. However, this 300 acre site has not undergone the rigorous CSX Select Site screening process.

Other appropriately sized industrial sites may be available in the state, but do not address the economic situation in Edgecombe County and therefore would not meet the purpose and need for this project. While similar sized sites in other regions of the state (mountain and piedmont) may have fewer jurisdictional wetland impacts, they would likely have much greater jurisdictional stream impacts. However, the majority (9 out of 10) of the most economically distressed counties are in the coastal plain region. Therefore, it is reasonably likely that sites of equal size found in these counties, or in Edgecombe County, would have similar levels of impacts due to the predominance of wetlands in this region.

Triangle Tyre has used the CSX Select Site process as general criteria for identifying adequate sites, then overlaid their own site-specific criteria for the final site selection. Their specific requirements include:

Primary Site Selection Criteria:

- Minimum 300 acres
- Site controlled by a single entity
- Regular/rectangular shape
- Core area of 120 acres with relatively flat topography
- Core area without immediate obstacles (utilities, buildings, jurisdictional areas)
- No more than 10 miles to an Interstate
- Served or easily accessed by rail
- Within 400 miles of a deep-sea port
- Within a county in attainment of air emission standards

Secondary Site Selection Criteria:

- Soil bearing capacity minimum of 150 KPa
- Site located outside the 100 and 500-year floodplain
- No negative sub-surface conditions
- Zoned for heavy manufacturing
- Proximity to electric utility with minimum available capacity of 21 MW
- Proximity to water line with an available capacity of 185,000 GPD
- Proximity to natural gas line with an available capacity of 0.71 MMSCF/day
- Proximity to wastewater line with an available capacity of 320,000 GPD
- Located in an economic empowerment, enterprise or other incentive zone
- Availability of property for sale

In pursuit of this facility’s infrastructure and economic development, the County performed their own County-specific search for sites that met the criteria specified above. The following sites were evaluated:

**Table 2: Alternative Sites within Edgecombe County**

Site Location	Size	Distance to Highway	Served by Rail	Owned/ Controlled by County
<b>Industry Requirement:</b>	<b>300 acres</b>	<b>10 miles</b>	<b>Yes</b>	<b>Yes</b>
Tarboro Commerce Center	96	0	No	Yes
Kingsboro CSX Select Site- Pad B	400	0	Yes	Yes
Kingsboro CSX Select Site- Pad C	300	0	Yes	Yes
June B Long Site (NW quadrant)	155	0	No	No
Carson Barnes Land	460	2	No	Yes
Long Site (SE quadrant)	154	0	Yes	Yes
Bulluck Property	577	4	No	No
Harell Site	500	8	Yes	No

Note: Shading indicates parameter met industry requirement.

As can be seen in the table above, only three sites met all the criteria established by the industry: the two Kingsboro CSX Select Site pads (B and C), and the Harell Site. However, the Harell Site is not owned or controlled by the County and therefore is not a practical option. The County owns or is under contract for the entire Project Diamond site.

The proposed Project Diamond site (Kingsboro CSX Select Site – Pad B) meets all of these criteria and was selected by Triangle Tyre after an intensive national site search that narrowed down to this and a site in Georgia. At this time, if the project delivery schedule can be met, Triangle Tyre has committed to locating their new facility on the proposed site and bringing significant economic development to the County. The Kingsboro CSX Select Site is therefore the most suitable site for the Triangle Tyre facility in Edgecombe County.

***E.4 - Explain whether the hardship was caused by the applicant knowingly or unknowingly violating the applicable Buffer Rule.***

The hardship requiring this variance request was not caused by the applicant violating the Buffer Rule, knowingly or unknowingly. The County developed the Kingsboro CSX Select Site prior to having specific industries interested in the individual site pads. When the opportunity arose for Triangle Tyre to select a NC location, the County proposed Project Diamond. The particular parameters detailed above were provided and the best site within the County was chosen. The particular buffer impacts requiring this variance were either unavoidable due to the nature of the proposed facility, or in the case of Site 8, were new buffers determined in a 2018 re-verification of the site after the selection of Project Diamond by Triangle Tyre.

***E.5 - For Neuse, Tar-Pamlico, Jordan Lake and Goose Creek only: Did the applicant purchase the property after the effective date of the applicable Buffer Rule and then request a variance?***

The County has, or will, purchase the properties within the Project Diamond footprint after the effective date of the Buffer Rule. However, the agreements put in place to develop the Kingsboro CSX Select site were not undertaken with knowledge that a variance would be required. This request is the direct result of the selection of Pad B by the Triangle Tyre company for their North American facility, and their specific site requirements (see Section E.3).

***E.6 - Explain how the hardship is rare or unique to the applicant's property, rather than the result of conditions that are widespread.***

Project Diamond is a unique project and site, and similar conditions are not widespread. The site selection process described in detail in section E.3 shows that this site is one of only a handful in the State to qualify for the CSX Select Site designation. This alone makes it very rare. Triangle Tyre has selected this site through a national search that resulted in two finalists, Project Diamond and a site in Georgia. This also makes the site rather unique.

Ms. Karen Higgins  
April 11, 2018

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The information above and attached Variance Application Form are provided for your review of this Major Variance Request. In addition, we have included Figures, Engineering Drawings, and Attachments (see Table of Contents) to supplement the information referenced in the application. We respectfully request your review of this information with the intention of receiving an Environmental Management Commission review in May 2018. Please let us know if you have any questions or require additional information.

Sincerely,

See Original Application for Signature

Eric Evans  
County Manager  
Edgecombe County

Cc: Tony Coggins, NCDOT Division 4  
Bob May, P.E., Wetherill Engineering, Inc.  
Bobby Joyner, P.E., Appian Consulting Engineers, PA  
Phil May, Carolina Ecosystems, Inc.

## **Project Diamond**

### **Major Variance Application**

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#### Engineering Drawings

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2	Phase 1 Grading Plan (Preliminary)



15A NCAC 02B .0233 (8)(b), .0243 (8)(b), .0250 (11)(b), .0259 (8)(b), .0267 (11)(c), .0607 (e)(2)  
Protection and Maintenance of Riparian Areas Rules - Variance Application  
FORM: VAR 10-2013

PLEASE IDENTIFY WHICH RIPARIAN AREA PROTECTION RULE APPLIES:

- Neuse River Basin (15A NCAC 02B.0233)
  - Major Variance                       Minor Variance
- Catawba River Basin (15A NCAC 02B.0243)
- Randleman Lake Water Supply Watershed (15A NCAC 02B.0250)
  - Major Variance                       Minor Variance
- Tar-Pamlico River Basin (15A NCAC 02B.0259)
  - Major Variance                       Minor Variance
- Jordan Lake Water Supply Nutrient Strategy (15A NCAC 02B.0267)
  - Major Variance                       Minor Variance
- Goose Creek Watershed (15A NCAC 02B.0606 & 15A NCAC 02B.0607)

**A. General Information**

1. Applicant's Information (*if other than the current property owner*):

Name: Edgecombe County – Eric Evans

Title: County Manager

Street Address: PO Box 10

City, State & Zip: Tarboro, NC 27886

Telephone: 252-641-7834

Email: ericevans@edgecombeco.com

2. Property Owner/Signing Official (*person legally responsible for the property and its compliance*):

Name: County to acquire all properties prior to construction

Title: \_\_\_\_\_

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

City, State & Zip: \_\_\_\_\_

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

Email: \_\_\_\_\_

3. Agent Information:

3a. Name: NCDOT – Tony C. Coggins  
Company Affiliation: Division 4 Environmental Officer  
Street Address: 509 Ward Blvd.  
City, State & Zip: Wilson, NC 27895  
Telephone: 252-640-6427  
E-mail: tccoggins@ncdot.gov

3b. Attach a signed and dated copy of the Agent Authorization letter if the Agent has signatory authority for the owner.

4. Project Name (*Subdivision, facility, or establishment name*):

Project Diamond

5. Project Location:

5a. Street Address: Harts Chapel Road  
City, State & Zip: Tarboro, NC 27886  
5b. County: Edgecombe County

5c. Site Coordinates (in decimal degrees): 35.9244 Latitude -77.6443 Longitude

5d. Attach an 8 ½ x 11 excerpt from the most recent version of the USGS topographic map indicating the location of the site.

5e. Attach an 8 ½ x 11 excerpt from the most recent version of the published County NRCS Soil Survey Map depicting the project site.

6. Property Information:

6a. Property identification number (parcel ID): 4709-23-2305

6b. Date property was purchased: 12/28/2012

6c. Deed book 1592 and page number 1022

6d. Map book \_\_\_\_\_ and page number \_\_\_\_\_

6e. Attach a copy of the recorded map that indicates when the lot was last platted.

7. Is your project in one of the 20 Coastal Counties covered under the Coastal Area Management Act (CAMA)?

YES  NO

7a. If you answered yes above, in which AEC do you fall (30 ft or 75 ft)? N/A

7b. If you answered yes above, what is the total percent of impervious cover that you have proposed within the AEC? N/A

8. Directions to site from nearest major intersection:

Take exit 478 from US 64 (Kingsboro Road). Follow Kingsboro Road north to the intersection with US 64 Alt. Turn right onto US 64 Alt, and follow for approximately 2 miles and turn right onto Harts Chapel Road. Site is located along both sides of Harts Chapel Road.

9. Stream associated with riparian buffer to be impacted by the proposed activity:

Name	Water Quality Classification
UT to Walnut Creek	WS-IV;NSW
UT to Penders Mill Run	WS-IV;NSW

9a. **For Goose Creek only:** Is the buffer in the 100-year floodplain?  YES  NO

10. List any permits/approvals that have been requested or obtained for this project in the past (including all prior phases).

Date Applied:	Date Received:	Permit Type:
<u>See attached cover letter</u>		
_____	_____	_____
_____	_____	_____
_____	_____	_____

**B. Proposed Activity**

1. Project Description

1a. Provide a detailed description of the proposed activity including its purpose:

\*\*See attached Variance application cover letter.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1b. Attach a site plan showing the following items as applicable to the project:

- ◇ Development/Project name
- ◇ Revision number & date
- ◇ North arrow
- ◇ Scale (1" = 50' is preferred)
- ◇ Property/project boundary with dimensions
- ◇ Adjacent streets and roads labeled with names and/or NC State Road numbers
- ◇ Original contours and proposed contours
- ◇ Perennial and intermittent streams, ponds, lakes, rivers and estuaries
- ◇ Mean high water line (if applicable)
- ◇ Wetlands delineated, or a note on plans that none exist
- ◇ Location of forest vegetation along the streams, ponds, lakes, rivers and estuaries
- ◇ Extent of riparian buffers on the land including Zone 1 and Zone where applicable
- ◇ Location and dimension of the proposed buffer impact (label the area of buffer impact in ft<sup>2</sup> on the plan)

- ◇ Details of roads, parking areas, cul-de-sacs, sidewalks, and curb and gutter systems
- ◇ Footprint of any proposed buildings or other structures
- ◇ Discharge points of gutters on existing structures and proposed buildings
- ◇ Existing drainage (including off-site), drainage easements, and pipe dimensions
- ◇ Drainage areas delineated

**C. Proposed Impacts and Mitigation**

1. Individually list the square footage of each proposed impact to the protected riparian buffers:

Buffer Impact Number <sup>1</sup> – Permanent (P) or Temporary (T)	Reason for Impact	Buffer Mitigation Required	Zone 1 Impact (square feet)	Zone 2 Impact (square feet)
Site 8 - <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Site Grading / Infrastructure	X Yes <input type="checkbox"/> No	19,377	24,330
Site 10 - <input checked="" type="checkbox"/> P <input type="checkbox"/> T	Site Grading / Infrastructure	X Yes <input type="checkbox"/> No	50,949	35,494
Total Buffer Impacts				130,150

<sup>1</sup>Label on site plan

2. Identify the square feet of impact to each zone of the riparian buffer that requires mitigation from the table above. Calculate the amount of mitigation required.

Zone	Total Impact (square feet)	Multiplier	Required Mitigation (square feet)
Zone 1 <sup>1</sup>	70,326	3 (2 for Catawba only)	210,978
Zone 2	59,824	1.5	89,736
Total Buffer Mitigation Required:			300,714

<sup>1</sup>For projects in the Goose Creek Watershed, list all riparian buffer impacts as Zone 1 and use Zone 1 multiplier.

3. Provide a description of how mitigation will be achieved at your site pursuant to the mitigation requirements of the applicable river basin/watershed.

Buffer mitigation will be provided by the NC Division of Mitigation Services.

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3a. Is buffer restoration or enhancement proposed?  Yes  No

If yes, attach a **detailed planting plan** to include plant type, date of plantings, the date of the one-time fertilization in the protected riparian buffers, and a plan sheet showing the proposed location of the plantings.

3b. Is payment into a buffer restoration fund proposed?  Yes  No

If yes, attach an **acceptance letter** from the mitigation bank you propose to use or the NC Ecosystem Enhancement Program stating they have the mitigation credits available for the mitigation requested.

**D. Stormwater**

1. Provide a description of how diffuse flow will be maintained through the protected riparian buffers (e.g., re-planting vegetation or enhancement of existing vegetation, gutter splash pads, level spreader to control of runoff from impervious surfaces, etc.).

\*\*See attached Variance cover letter

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- 1a. Show the location of diffuse flow measure(s) on your site plan.
  - 1b. Attach a completed **Level Spreader Supplement Form** or **BMP Supplement Form** with all required items for each proposed measure.
  - 1c. Attach an **Operation and Maintenance (O&M) Form** for each proposed level spreader or BMP.
2. **For Major, Catawba, and Goose Creek variance requests**, provide a description of all best management practices (BMPs) that will be used to minimize disturbance and control the discharge of nutrients and sediments from stormwater.

\*\*See attached Variance cover letter

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- 2a. Show the location of BMPs on your site plan.
- 2b. Attach a **Supplement Form** for each structural BMP proposed.
- 2c. Attach an **Operation and Maintenance (O&M) Form** for each structural BMP proposed.

**E. Demonstration of Need for a Variance**

*The variance provision of the riparian buffer rules allows the Division or the Environmental Management Commission to grant a variance when there are practical difficulties or unnecessary hardships that prevent compliance with the strict letter of riparian buffer protection.*

1. Explain how complying with the provisions of the applicable rule would prevent you from securing a reasonable return from or make reasonable use of your property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. The Division will consider whether the variance is the minimum possible deviation from the terms of the applicable Buffer Rule that shall make reasonable use of the property possible.

\*\*See attached Variance cover letter

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2. Explain how the hardship results from application of the Buffer Rule to the property rather from other factors such as deed restrictions or other hardships (e.g. zoning setbacks, floodplains, etc).

\*\*See attached Variance cover letter.

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3. Explain how the hardship results from physical nature of the property, such as its size, shape, or topography, which is different from that of neighboring property.

\*\*See attached Variance cover letter.

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4. Explain whether the hardship was caused by the applicant knowingly or unknowingly violating the applicable Buffer Rule.

\*\*See attached Variance cover letter.

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5. **For Neuse, Tar-Pamlico, Jordan Lake and Goose Creek only:** Did the applicant purchase the property after the effective date of the applicable Buffer Rule and then request a variance?

No

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6. Explain how the hardship is rare or unique to the applicant's property, rather than the result of conditions that are widespread.

\*\*See attached Variance cover letter

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**F. Deed Restrictions**

By your signature in Section G of this application, you certify that all structural stormwater BMPs required by this variance shall be located in recorded drainage easements, that the easements will run with the land, that the easements cannot be changed or deleted without concurrence from the State, and that the easements will be recorded prior to the sale of any lot.

**G. Applicant's Certification**

I, \_\_\_\_\_ (print or type name of person listed in Section A, Item 2), certify that the information included on this permit application form is correct, that the project will be constructed in conformance with the approved plans and that the deed restrictions in accordance with Section F of this form will be recorded with all required permit conditions.

Signature: See Original Application for Signature

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

## Certificate Of Completion

Envelope Id: EC4FC105D1CF4294A3CAE0D0919E712E	Status: Completed
Subject: Please DocuSign: Kingsboro_Variance_Cover_Letter_022018.pdf, Variance-Application-Form.pdf	
Source Envelope:	
Document Pages: 17	Signatures: 3
Certificate Pages: 4	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelopeld Stamping: Disabled	Chad Coggins
Time Zone: (UTC-05:00) Eastern Time (US & Canada)	1020 Birch Ridge Dr
	Raleigh, NC 27610-4328
	tccoggins@ncdot.gov
	IP Address: 199.90.35.10

## Record Tracking

Status: Original	Holder: Chad Coggins	Location: DocuSign
2/22/2018 5:51:05 AM	tccoggins@ncdot.gov	

## Signer Events

Eric Evans  
 ericevans@edgecombeco.com  
 Security Level: Email, Account Authentication (None)

## Signature

DocuSigned by:  
  
 5D02065014D8453...

Using IP Address: 206.107.103.193

## Timestamp

Sent: 2/22/2018 5:54:48 AM  
 Viewed: 2/22/2018 8:16:45 AM  
 Signed: 2/22/2018 8:17:57 AM

## Electronic Record and Signature Disclosure:

Accepted: 2/22/2018 8:16:45 AM  
 ID: a6947fc4-b454-4c10-b46b-23f5eb1ebfab

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	2/22/2018 5:54:49 AM
Certified Delivered	Security Checked	2/22/2018 8:16:45 AM
Signing Complete	Security Checked	2/22/2018 8:17:57 AM
Completed	Security Checked	2/22/2018 8:17:57 AM
Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

## **CONSUMER DISCLOSURE**

From time to time, North Carolina Department of Transportation (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through your DocuSign, Inc. (DocuSign) Express user account. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to these terms and conditions, please confirm your agreement by clicking the "I agree" button at the bottom of this document.

### **Getting paper copies**

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. For such copies, as long as you are an authorized user of the DocuSign system you will have the ability to download and print any documents we send to you through your DocuSign user account for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a \$0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

### **Withdrawing your consent**

If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

### **Consequences of changing your mind**

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. To indicate to us that you are changing your mind, you must withdraw your consent using the DocuSign "Withdraw Consent" form on the signing page of your DocuSign account. This will indicate to us that you have withdrawn your consent to receive required notices and disclosures electronically from us and you will no longer be able to use your DocuSign Express user account to receive required notices and consents electronically from us or to sign electronically documents from us.

### **All notices and disclosures will be sent to you electronically**

Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through your DocuSign user account all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

**How to contact North Carolina Department of Transportation:**

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:

To contact us by email send messages to: [bledwards1@ncdot.gov](mailto:bledwards1@ncdot.gov)

**To advise North Carolina Department of Transportation of your new e-mail address**

To let us know of a change in your e-mail address where we should send notices and disclosures electronically to you, you must send an email message to us at [bledwards1@ncdot.gov](mailto:bledwards1@ncdot.gov) and in the body of such request you must state: your previous e-mail address, your new e-mail address. We do not require any other information from you to change your email address..

In addition, you must notify DocuSign, Inc to arrange for your new email address to be reflected in your DocuSign account by following the process for changing e-mail in DocuSign.

**To request paper copies from North Carolina Department of Transportation**

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an e-mail to [bledwards1@ncdot.gov](mailto:bledwards1@ncdot.gov) and in the body of such request you must state your e-mail address, full name, US Postal address, and telephone number. We will bill you for any fees at that time, if any.

**To withdraw your consent with North Carolina Department of Transportation**

To inform us that you no longer want to receive future notices and disclosures in electronic format you may:

- i. decline to sign a document from within your DocuSign account, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;
- ii. send us an e-mail to [bledwards1@ncdot.gov](mailto:bledwards1@ncdot.gov) and in the body of such request you must state your e-mail, full name, IS Postal Address, telephone number, and account number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

**Required hardware and software**

Operating Systems:	Windows2000↵ or WindowsXP↵
Browsers (for SENDERS):	Internet Explorer 6.0↵ or above
Browsers (for SIGNERS):	Internet Explorer 6.0↵, Mozilla FireFox 1.0, NetScape 7.2 (or above)
Email:	Access to a valid email account
Screen Resolution:	800 x 600 minimum
Enabled Security Settings:	<ul style="list-style-type: none"> <li>ò Allow per session cookies</li> <li>ò Users accessing the internet behind a Proxy Server must enable HTTP 1.1 settings via proxy connection</li> </ul>

\*\* These minimum requirements are subject to change. If these requirements change, we will provide you with an email message at the email address we have on file for you at that time providing you with the revised hardware and software requirements, at which time you will have the right to withdraw your consent.

**Acknowledging your access and consent to receive materials electronically**

To confirm to us that you can access this information electronically, which will be similar to

other electronic notices and disclosures that we will provide to you, please verify that you were able to read this electronic disclosure and that you also were able to print on paper or electronically save this page for your future reference and access or that you were able to e-mail this disclosure and consent to an address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format on the terms and conditions described above, please let us know by clicking the "I agree" button below.

By checking the "I Agree" box, I confirm that:

- I can access and read this Electronic CONSENT TO ELECTRONIC RECEIPT OF ELECTRONIC CONSUMER DISCLOSURES document; and
- I can print on paper the disclosure or save or send the disclosure to a place where I can print it, for future reference and access; and
- Until or unless I notify North Carolina Department of Transportation as described above, I consent to receive from exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to me by North Carolina Department of Transportation during the course of my relationship with you.



ROY COOPER  
*Governor*  
 MICHAEL S. REGAN  
*Secretary*  
 LINDA CULPEPPER  
*Interim Director*

February 15, 2018

Oppie Jordan  
 Carolinas Gateway Partnership  
 427 Falls Road  
 Rocky Mount, NC 27804

**Subject: Buffer Determination Letter**  
 TBRRO #18-005  
 Edgecombe County

Determination Type:	
Buffer	Intermittent/Perennial
<input type="checkbox"/> Neuse (15A NCAC 2B .0233) <input checked="" type="checkbox"/> Tar-Pamlico (15A NCAC 2B .0259) <input type="checkbox"/> Jordan (15A NCAC 2B .0267) (governmental and/or interjurisdictional projects)	<input type="checkbox"/> Intermittent/Perennial Determination (where local buffer ordinances apply)

Project Name: Kingsboro Road Tract

Address/Location: 1,205 acre tract situated between Old Hwy 64, Kingsboro Road, Harts Mill Run Rd., & Southern Coast Line Railroad

Stream(s): Walnut Creek & UTs of Walnut Creek and Pender's Mill Run

**Determination Date: 02/02/2018**

**Staff: Jeremiah Dow**

Stream Feature	E/I/P <sup>(1)</sup>	Not Subject <sup>(2)</sup>	Subject	Start@	Stop@	Soil Survey	USGS Topo
A	I/P		X	Throughout		X	X
B	I/P		X	Throughout		X	X
C	I/P		X	Throughout		X	X
D	Not Present	X		—	—	X	
E	I/P		X	Segment 1: 35.926897, -77.659916 Segment 2: DWR Flag	Segment 1: 35.927033, -77.659813 Segment 2: Conf. w/ Feature G	X	



Stream Feature	E/I/P <sup>(1)</sup>	Not Subject <sup>(2)</sup>	Subject	Start@	Stop@	Soil Survey	USGS Topo
F	I/P		X	Pond	Conf. w/ Feature G	X	X
G	I/P		X	Segment 1: South property boundary Segment 2: 35.918841, -77.652069	Segment 1: 35.917822, -77.652294 Segment 2: Conf. w/ Feature A	X	X
H	I/P		X	35.918922, -77.651727	Conf. w/ Feature G	X	X
I	I/P		X	35.923761, -77.649066	Conf. w/ Feature G	X	X
J	E	X		—	—	X	
K	I/P		X	DWR Flag	Pond 2	X	X
L	E	X		—	—	X	
M (Pond)	Not Present	X		—	—	X	
N	E	X		—	—	X	
O	E	X		—	—	X	
P	E	X		—	—	X	
Q	E	X		—	—	X	
R	E	X		—	—	X	
S	I/P		X	35.918702, -77.644236	35.918444, -77.643083	X	X
T	E	X		—	—		X
U	E	X		—	—		X
V	E	X		—	—		X
W	I/P		X	Throughout		X	X
X	I/P		X	Pond 3	Conf. w/ Feature A	X	X
Y	Not Present	X		—	—	X	
Pond 1	—		X	—	—	X	X
Pond 2	—		X	—	—	X	X
Pond 3	—		X	—	—	X	X
Pond 4	—		X	—	—	X	X

(1) E = Ephemeral, I = Intermittent, P = Perennial

(2) Refers to riparian buffer rules only. Stream or pond impacts are still subject to applicable water quality standards and permitting requirements.

Explanation: The stream(s)/pond(s) listed above has been located on the most recent published NRCS Soil Survey of Edgecombe County, North Carolina and/or the most recent copy of the USGS Topographic map at a 1:24,000 scale. Each feature that is checked "Not Subject" has been determined to not be an intermittent stream, perennial stream, a pond connected to a stream feature, or the feature is determined not to be present. Stream features that are checked "Subject" have been located on the property and possess characteristics that qualify it to be subject to the buffer rules. There may be other streams located on the property that do not show up on the maps referenced above and are therefore not subject to the buffer rules. However, if the stream features are present on the tract they are

Kingsboro Road Tract  
Edgecombe County  
02/15/2018  
Page 3 of 3

subject to all other applicable North Carolina stream standards and permitting requirements as outlined in 15A NCAC 02B, and may be considered jurisdictional according to the US Army Corps of Engineers.

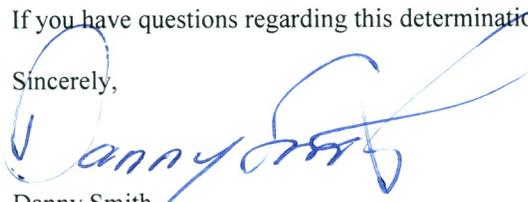
**This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the DWR may request a determination by the Director. An appeal request must be made within sixty (60) days of date of this letter. A request for a determination by the Director shall be referred to the Director in writing. *If sending via US Postal Service: c/o Karen Higgins; DWR – 401 & Buffer Permitting Unit; 1617 Mail Service Center; Raleigh, NC 27699-1617. If sending via delivery service (UPS, FedEx, etc.): Karen Higgins; DWR – 401 & Buffer Permitting Unit; 512 N. Salisbury Street; Raleigh, NC 27604.***

**This determination is final and binding unless, as detailed above, an appeal is requested within sixty (60) days.**

**This project may require a Section 404/401 Permit for the proposed activity. Any inquiries should be directed to the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-554-4884.**

If you have questions regarding this determination, please feel free to contact Jeremiah Dow at (919) 791-4248.

Sincerely,



Danny Smith  
Supervisor, Water Quality Regional Operations Center

cc: RRO DWR File Copy  
John Davis, Soil Horizons, Inc. (email: soilhorizons@gmail.com)



**Legend:**

- Approximate Site Boundary

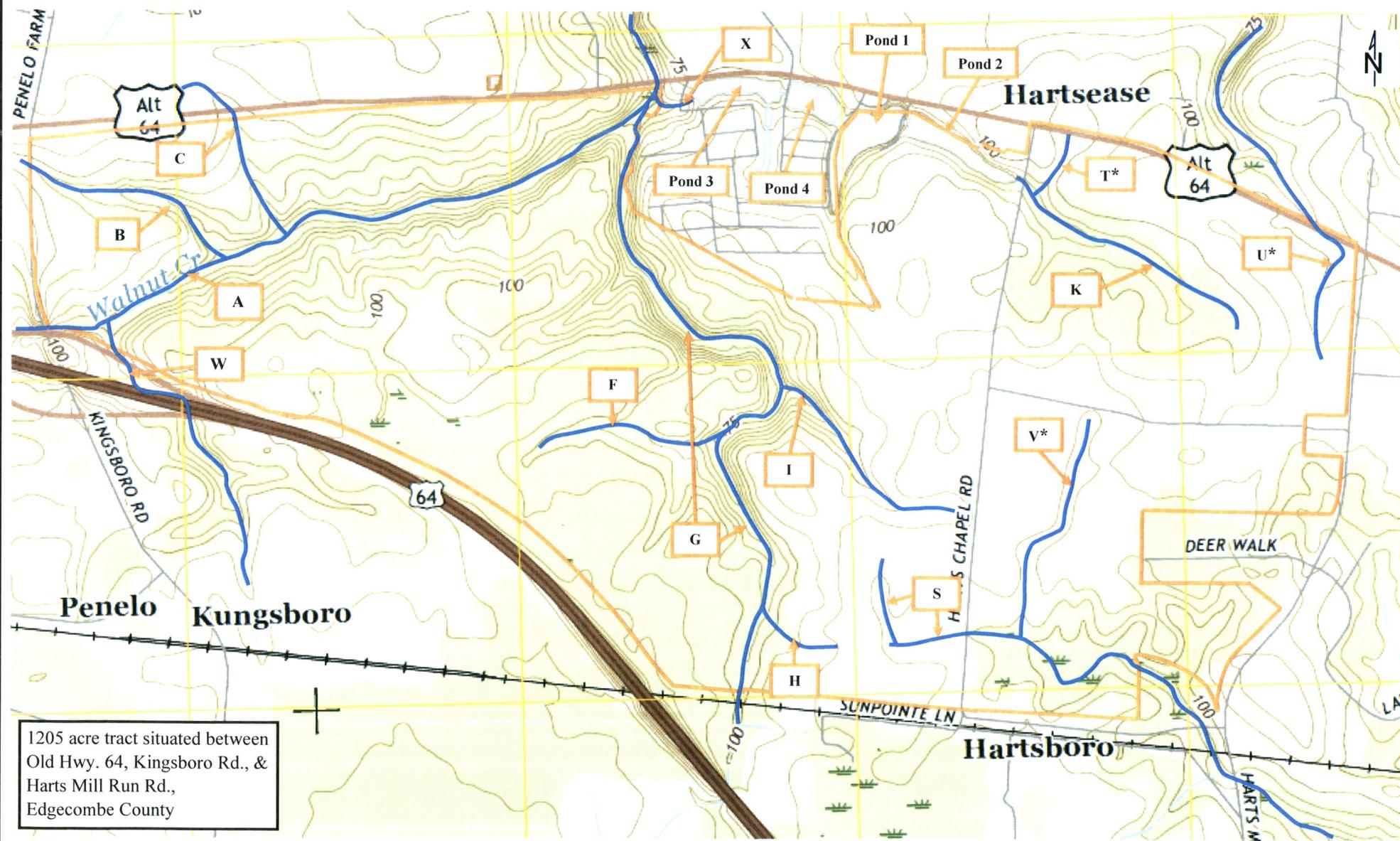


TBRRO #18-005



Map provided by NCDEQ Division of Water Resources

:: Locations are approximate and are provided for reference only ::



1205 acre tract situated between  
 Old Hwy. 64, Kingsboro Rd., &  
 Harts Mill Run Rd.,  
 Edgecombe County

\* Not shown on Soil Map



Michael F. Easley, Governor

William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, Director  
Division of Water Quality

**November 4, 2008**  
*REVISED February 9, 2009*

Soil Horizons, Inc.  
Attn: John Davis  
Post Office Box 1063  
Youngsville, NC 27596

TBRRO#08-206  
Edgecombe County

BASIN:		
Neuse River	Tar-Pamlico	<b>X</b>
(15A NCAC 2B .0233)	(15A NCAC 2B .0259)	

Project Name: **Kingsboro Road Tract**

Location/Directions: Subject property is a 1205 acre tract situated approximately between Old Hwy 64, Kingsboro Rd, Harts Mill Run Rd, and the Southern Coast Line Railroad, USGS Hartsease, NRCS Edgecombe County sheet 13 and 17.

Subject Stream: UT to and Walnut Creek, UT to Pender's Mill Run

**Date of Determination: September 19, 2008 and October 13, 2008**

Feature(s)	Not Subject	Subject	Start @	Stop@	Stream Form Pts.	Soil Survey	USGS Topo
<b>A: Walnut Creek</b>		<b>X</b>	<b>Throughout</b>			<b>X</b>	<b>X</b>
<b>B</b>		<b>X</b>	<b>Flag 1-1</b>			<b>X</b>	<b>X</b>
<b>C</b>		<b>X</b>	<b>Flag 1-17</b>			<b>X</b>	<b>X</b>
<b>D</b>	<b>X</b>					<b>X</b>	
<b>E</b>		<b>X</b>	<b>Flag 21-1</b>			<b>X</b>	
<b>F</b>		<b>X</b>	<b>Pond</b>			<b>X</b>	<b>X</b>
<b>G</b>		<b>X</b>	<b>SCL Culvert</b>	<b>Flag 15-17</b>		<b>X</b>	<b>X</b>
<b>G</b>		<b>X</b>	<b>Flag 15-48</b>	<b>Throughout</b>		<b>X</b>	<b>X</b>
<b>H</b>		<b>X</b>	<b>DWQ Flag 'Start TRB'</b>			<b>X</b>	<b>X</b>
<b>I</b>		<b>X</b>	<b>Flag 589</b>			<b>X</b>	<b>X</b>
<b>J</b>	<b>X</b>					<b>X</b>	
<b>K</b>		<b>X</b>	<b>Flag 37-61</b>			<b>X</b>	<b>X</b>
<b>Pond 1</b>		<b>X</b>				<b>X</b>	<b>X</b>
<b>Pond 2</b>		<b>X</b>				<b>X</b>	<b>X</b>

*Continued on next page*



Table of Features (Continued)

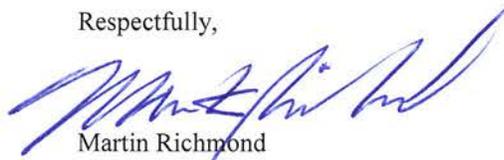
Feature(s)	Not Subject	Subject	Start @	Stop@	Stream Form Pts.	Soil Survey	USGS Topo
L	X					X	
M (Pond 3)	X					X	
N	X					X	
O	X					X	
P	X					X	
Q	X					X	
R	X					X	
S	X					X	X
T	X						X
U	X						X
V	X						X

Explanation: The feature(s) listed above has or have been located on the Soil Survey of Edgecombe County, North Carolina or the most recent copy of the USGS Topographic map at a 1:24,000 scale. Each feature that is checked "Not Subject" has been determined not to be a stream or is not present on the property. Features that are checked "Subject" have been located on the property and possess characteristics that qualify it to be a stream. There may be other streams located on your property that do not show up on the maps referenced above but, still may be considered jurisdictional according to the US Army Corps of Engineers and/or to the Division of Water Quality.

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 the DWQ or Delegated Local Authority that a surface water exists and that it is subject to the buffer rule may request a determination by the Director. A request for a determination by the Director shall be referred to the Director in writing c/o Cyndi Karoly, DWQ Wetlands/401 Unit, 2321 Crabtree Blvd., Raleigh, NC 27604-2260. Individuals that dispute a determination by the DWQ or Delegated Local Authority that "exempts" a surface water from the buffer rule may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. Applicants are hereby notified that the 60-day statutory appeal time does not start until the affected party (including downstream and adjacent landowners) is notified of this decision. DWQ recommends that the applicant conduct this notification in order to be certain that third party appeals are made in a timely manner. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This determination is final and binding unless you ask for a hearing within 60 days.

The (owner/future owners) should notify the Division of Water Quality (including any other Local, State, and Federal Agencies) of this decision concerning any future correspondences regarding the subject property (stated above). This project may require a Section 404/401 Permit for the proposed activity. Any inquiries should be directed to the Division of Water Quality (Central Office) at (919)-733-1786, and the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-876-8441.

Respectfully,



Martin Richmond  
 Environmental Specialist

CC: Wetlands/ Stormwater Branch, 2321 Crabtree Blvd, Suite 250, Raleigh, NC 27604  
 RRO/SWP File Copy





ROY COOPER  
Governor

February 9, 2018

Mr. Philip S. Harris, P.E., CPM  
Project Development and Environmental Analysis Unit  
North Carolina Department of Transportation  
1598 Mail Service Center  
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Subject: EEP Mitigation Acceptance Letter:

**R-5868**, Triangle Tyre Project Diamond, Edgecombe County

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the stream, wetland and buffer mitigation for the subject project. Based on the information supplied by you on February 7, 2018, the stream, wetland and buffer impacts are located in CU 03020101 of the Tar-Pamlico River basin in the Northern Inner Coastal Plain (NICP) Eco-Region, and are as follows:

Stream and Wetlands	River Basin	CU Location	Eco-Region	Stream			Wetlands		
				Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh
Impacts	Tar-Pamlico	03020101	NICP	0	0	2,134.0	8.56	0	0

\*Some of the stream and/or wetland impacts may be proposed to be mitigated at a 1:1 mitigation ratio. See permit application for details.

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWR's Buffer Authorization Certification, DMS will transfer funds from the NCDOT 2984 Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for TIP Number R-5868. Subsequently, DMS will conduct a review of current NCDOT ILF Program mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from NCDOT ILF Program.



Mr. Harris  
February 9, 2018  
Page Two  
NCDOT TIP R-5868

Buffer	River Basin	CU	Eco-Region	Buffer Impacts		
				Zone 1	Zone 2	TOTAL
Impacts	Tar-Pamlico	03020101	NICP	64,363.0	40,956.0	105,319.0

The impacts and associated mitigation needs were not projected by the NCDOT in the 2018 impact data. DMS commits to implement sufficient compensatory stream, wetland and buffer mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,

James B. Stanfill  
DMS Credit Management Supervisor

Cc: Ms. Jean Gibby, USACE – Raleigh Regulatory Field Office  
Ms. Sue Homewood, NC Division of Water Resources  
File: R-5868



**NC SAM FIELD ASSESSMENT FORM**  
**Accompanies User Manual Version 2.1**

<b>USACE AID #:</b>	<b>NCDWR #:</b>
<p><b>INSTRUCTIONS:</b> Attach a sketch of the assessment area and photographs. Attach a copy of the USGS 7.5-minute topographic quadrangle, and circle the location of the stream reach under evaluation. If multiple stream reaches will be evaluated on the same property, identify and number all reaches on the attached map, and include a separate form for each reach. See the NC SAM User Manual for detailed descriptions and explanations of requested information. Record in the "Notes/Sketch" section if any supplementary measurements were performed. See the NC SAM User Manual for examples of additional measurements that may be relevant.</p> <p><b>NOTE EVIDENCE OF STRESSORS AFFECTING THE ASSESSMENT AREA (do not need to be within the assessment area).</b></p>	
<b>PROJECT / SITE INFORMATION:</b>	
1. Project name (if any): <u>Project Diamond - Kingsboro Site</u>	2. Date of evaluation: <u>February 15, 2018</u>
3. Applicant/owner name: <u>Edgecombe County</u>	4. Assessor name/organization: <u>G. Price, R. Crowther</u>
5. County: <u>Edgecombe County</u>	6. Nearest named water body
7. River Basin: <u>Tar-Pamlico</u>	on USGS 7.5-minute quad: <u>Penders Mill Run</u>
8. Site coordinates (decimal degrees, at lower end of assessment reach): <u>35.9186, -77.6437</u>	
<b>STREAM INFORMATION: (depth and width can be approximations)</b>	
9. Site number (show on attached map): <u>Buffer Site 8</u>	10. Length of assessment reach evaluated (feet): <u>360</u>
11. Channel depth from bed (in riffle, if present) to top of bank (feet): <u>2</u> <input type="checkbox"/> Unable to assess channel depth.	
12. Channel width at top of bank (feet): <u>3</u>	
13. Is assessment reach a swamp stream? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
14. Feature type: <input type="checkbox"/> Perennial flow <input checked="" type="checkbox"/> Intermittent flow <input type="checkbox"/> Tidal Marsh Stream	
<b>STREAM RATING INFORMATION:</b>	
15. NC SAM Zone: <input type="checkbox"/> Mountains (M) <input type="checkbox"/> Piedmont (P) <input checked="" type="checkbox"/> Inner Coastal Plain (I) <input type="checkbox"/> Outer Coastal Plain (O)	
16. Estimated geomorphic valley shape (skip for Tidal Marsh Stream): <input checked="" type="checkbox"/> a (more sinuous stream, flatter valley slope) <input type="checkbox"/> b (less sinuous stream, steeper valley slope)	
17. Watershed size: (skip for Tidal Marsh Stream) <input type="checkbox"/> Size 1 (< 0.1 mi <sup>2</sup> ) <input checked="" type="checkbox"/> Size 2 (0.1 to < 0.5 mi <sup>2</sup> ) <input type="checkbox"/> Size 3 (0.5 to < 5 mi <sup>2</sup> ) <input type="checkbox"/> Size 4 (≥ 5 mi <sup>2</sup> )	
<b>ADDITIONAL INFORMATION:</b>	
18. Were regulatory considerations evaluated? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, check all that apply to the assessment area.	
<input type="checkbox"/> Section 10 water <input type="checkbox"/> Classified Trout Waters <input type="checkbox"/> Water Supply Watershed ( <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V ) <input type="checkbox"/> Essential Fish Habitat <input type="checkbox"/> Primary Nursery Area <input type="checkbox"/> High Quality Waters/Outstanding Resource Waters <input type="checkbox"/> Publicly owned property <input type="checkbox"/> NCDWR riparian buffer rule in effect <input checked="" type="checkbox"/> Nutrient Sensitive Waters <input type="checkbox"/> Anadromous fish <input type="checkbox"/> 303(d) List <input type="checkbox"/> CAMA Area of Environmental Concern (AEC) <input type="checkbox"/> Documented presence of a federal and/or state listed protected species within the assessment area. List species: _____ <input type="checkbox"/> Designated Critical Habitat (list species): _____	
19. Are additional stream information/supplementary measurements included in "Notes/Sketch" section or attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

1. **Channel Water – assessment reach metric (skip for Size 1 streams and Tidal Marsh Streams)**
  - A Water throughout assessment reach.
  - B No flow, water in pools only.
  - C No water in assessment reach.
2. **Evidence of Flow Restriction – assessment reach metric**
  - A At least 10% of assessment reach in-stream habitat or riffle-pool sequence is adversely affected by a flow restriction or fill to the point of obstructing flow or a channel choked with aquatic macrophytes or ponded water or impounded on flood or ebb within the assessment reach (examples: undersized or perched culverts, causeways that constrict the channel, tidal gates).
  - B Not A
3. **Feature Pattern – assessment reach metric**
  - A A majority of the assessment reach has altered pattern (examples: straightening, modification above or below culvert).
  - B Not A.
4. **Feature Longitudinal Profile – assessment reach metric**
  - A Majority of assessment reach has a substantially altered stream profile (examples: channel down-cutting, existing damming, over widening, active aggradation, dredging, and excavation where appropriate channel profile has not reformed from any of these disturbances).
  - B Not A
5. **Signs of Active Instability – assessment reach metric**  
**Consider only current instability, not past events from which the stream has currently recovered.** Examples of instability include active bank failure, active channel down-cutting (head-cut), active widening, and artificial hardening (such as concrete, gabion, rip-rap).
  - A < 10% of channel unstable
  - B 10 to 25% of channel unstable
  - C > 25% of channel unstable
6. **Streamside Area Interaction – streamside area metric**  
**Consider for the Left Bank (LB) and the Right Bank (RB).**

LB	RB	
<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> A	Little or no evidence of conditions that adversely affect reference interaction
<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate evidence of conditions (examples: berms, levees, down-cutting, aggradation, dredging) that adversely affect reference interaction (examples: limited streamside area access, disruption of flood flows through streamside area, leaky or intermittent bulkheads, causeways with floodplain constriction, minor ditching [including mosquito ditching])
<input type="checkbox"/> C	<input type="checkbox"/> C	Extensive evidence of conditions that adversely affect reference interaction (little to no floodplain/intertidal zone access [examples: causeways with floodplain and channel constriction, bulkheads, retaining walls, fill, stream incision, disruption of flood flows through streamside area] <u>or</u> too much floodplain/intertidal zone access [examples: impoundments, intensive mosquito ditching]) <u>or</u> floodplain/intertidal zone unnaturally absent <u>or</u> assessment reach is a man-made feature on an interstream divide
7. **Water Quality Stressors – assessment reach/intertidal zone metric**  
**Check all that apply.**
  - A Discolored water in stream or intertidal zone (milky white, blue, unnatural water discoloration, oil sheen, stream foam)
  - B Excessive sedimentation (burying of stream features or intertidal zone)

- C Noticeable evidence of pollutant discharges entering the assessment reach and causing a water quality problem
- D Odor (not including natural sulfide odors)
- E Current published or collected data indicating degraded water quality in the assessment reach. Cite source in the "Notes/Sketch" section.
- F Livestock with access to stream or intertidal zone
- G Excessive algae in stream or intertidal zone
- H Degraded marsh vegetation in the intertidal zone (removal, burning, regular mowing, destruction, etc.)
- I Other: \_\_\_\_\_ (explain in "Notes/Sketch" section)
- J Little to no stressors

**8. Recent Weather – watershed metric**

For Size 1 or 2 streams, D1 drought or higher is considered a drought; for Size 3 or 4 streams, D2 drought or higher is considered a drought.

- A Drought conditions and no rainfall or rainfall not exceeding 1 inch within the last 48 hours
- B Drought conditions and rainfall exceeding 1 inch within the last 48 hours
- C No drought conditions

**9 Large or Dangerous Stream – assessment reach metric**

Yes  No Is stream is too large or dangerous to assess? **If Yes, skip to Metric 13 (Streamside Area Ground Surface Condition).**

**10. Natural In-stream Habitat Types – assessment reach metric**

10a.  Yes  No Degraded in-stream habitat over majority of the assessment reach (examples of stressors include excessive sedimentation, mining, excavation, in-stream hardening [for example, rip-rap], recent dredging, and snagging) **(evaluate for size 4 Coastal Plain streams only, then skip to Metric 12)**

10b. **Check all that occur** (occurs if > 5% coverage of assessment reach) **(skip for Size 4 Coastal Plain streams)**

- |  |                                    |   |
|--|------------------------------------|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> A Multiple aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats)</li> <li><input type="checkbox"/> B Multiple sticks and/or leaf packs and/or emergent vegetation</li> <li><input type="checkbox"/> C Multiple snags and logs (including lap trees)</li> <li><input type="checkbox"/> D 5% undercut banks and/or root mats and/or roots in banks extend to the normal wetted perimeter</li> <li><input checked="" type="checkbox"/> E Little or no habitat</li> </ul> | Check for Tidal Marsh Streams only | <ul style="list-style-type: none"> <li><input type="checkbox"/> F 5% oysters or other natural hard bottoms</li> <li><input type="checkbox"/> G Submerged aquatic vegetation</li> <li><input type="checkbox"/> H Low-tide refugia (pools)</li> <li><input type="checkbox"/> I Sand bottom</li> <li><input type="checkbox"/> J 5% vertical bank along the marsh</li> <li><input type="checkbox"/> K Little or no habitat</li> </ul> |
|--|------------------------------------|---|

\*\*\*\*\*REMAINING QUESTIONS ARE NOT APPLICABLE FOR TIDAL MARSH STREAMS\*\*\*\*\*

**11. Bedform and Substrate – assessment reach metric (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

11a.  Yes  No Is assessment reach in a natural sand-bed stream? **(skip for Coastal Plain streams)**

11b. Bedform evaluated. **Check the appropriate box(es).**

- A Riffle-run section (evaluate 11c)
- B Pool-glide section (evaluate 11d)
- C Natural bedform absent **(skip to Metric 12, Aquatic Life)**

11c. In riffles sections, check all that occur below the normal wetted perimeter of the assessment reach – whether or not submerged. **Check at least one box in each row (skip for Size 4 Coastal Plain Streams and Tidal Marsh Streams).** Not Present (NP) = absent, Rare (R) = present but ≤ 10%, Common (C) = > 10-40%, Abundant (A) = > 40-70%, Predominant (P) = > 70%. Cumulative percentages should not exceed 100% for each assessment reach.

NP	R	C	A	P	
<input type="checkbox"/>	Bedrock/saprolite				
<input type="checkbox"/>	Boulder (256 – 4096 mm)				
<input type="checkbox"/>	Cobble (64 – 256 mm)				
<input type="checkbox"/>	Gravel (2 – 64 mm)				
<input type="checkbox"/>	Sand (.062 – 2 mm)				
<input type="checkbox"/>	Silt/clay (< 0.062 mm)				
<input type="checkbox"/>	Detritus				
<input type="checkbox"/>	Artificial (rip-rap, concrete, etc.)				

11d.  Yes  No Are pools filled with sediment? **(skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

**12. Aquatic Life – assessment reach metric (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

12a.  Yes  No Was an in-stream aquatic life assessment performed as described in the User Manual?

If No, select one of the following reasons and skip to Metric 13.  No Water  Other: \_\_\_\_\_

12b.  Yes  No Are aquatic organisms present in the assessment reach (look in riffles, pools, then snags)? If Yes, check all that apply. If No, skip to Metric 13.

- 1 >1 Numbers over columns refer to "individuals" for size 1 and 2 streams and "taxa" for size 3 and 4 streams.
- Adult frogs
  - Aquatic reptiles
  - Aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats)
  - Beetles (including water pennies)
  - Caddisfly larvae (Trichoptera [T])
  - Asian clam (*Corbicula*)
  - Crustacean (isopod/amphipod/crayfish/shrimp)
  - Damselfly and dragonfly larvae
  - Dipterans (true flies)
  - Mayfly larvae (Ephemeroptera [E])
  - Megaloptera (alderfly, fishfly, dobsonfly larvae)
  - Midges/mosquito larvae
  - Mosquito fish (*Gambusia*) or mud minnows (*Umbra pygmaea*)
  - Mussels/Clams (not *Corbicula*)
  - Other fish
  - Salamanders/tadpoles
  - Snails
  - Stonefly larvae (Plecoptera [P])
  - Tipulid larvae

Worms/leeches

13. **Streamside Area Ground Surface Condition – streamside area metric (skip for Tidal Marsh Streams and B valley types)**  
Consider for the Left Bank (LB) and the Right Bank (RB). Consider storage capacity with regard to both overbank flow and upland runoff.

LB	RB	
<input type="radio"/> A	<input type="radio"/> A	Little or no alteration to water storage capacity over a majority of the streamside area
<input type="radio"/> B	<input type="radio"/> B	Moderate alteration to water storage capacity over a majority of the streamside area
<input type="radio"/> C	<input type="radio"/> C	Severe alteration to water storage capacity over a majority of the streamside area (examples include: ditches, fill, soil, compaction, livestock disturbance, buildings, man-made levees, drainage pipes)

14. **Streamside Area Water Storage – streamside area metric (skip for Size 1 streams, Tidal Marsh Streams, and B valley types)**  
Consider for the Left Bank (LB) and the Right Bank (RB) of the streamside area.

LB	RB	
<input type="radio"/> A	<input type="radio"/> A	Majority of streamside area with depressions able to pond water $\geq$ 6 inches deep
<input type="radio"/> B	<input type="radio"/> B	Majority of streamside area with depressions able to pond water 3 to 6 inches deep
<input type="radio"/> C	<input type="radio"/> C	Majority of streamside area with depressions able to pond water < 3 inches deep

15. **Wetland Presence – streamside area metric (skip for Tidal Marsh Streams)**

Consider for the Left Bank (LB) and the Right Bank (RB). Do not consider wetlands outside of the streamside area or within the normal wetted perimeter of assessment reach.

LB	RB	
<input type="radio"/> Y	<input type="radio"/> Y	Are wetlands present in the streamside area?
<input type="radio"/> N	<input type="radio"/> N	

16. **Baseflow Contributors – assessment reach metric (skip for size 4 streams and Tidal Marsh Streams)**

Check all contributors within the assessment reach or within view of and draining to the assessment reach.

A Streams and/or springs (jurisdictional discharges)  
 B Ponds (include wet detention basins; do not include sediment basins or dry detention basins)  
 C Obstruction that passes some flow during low-flow periods within assessment area (beaver dam, bottom-release dam)  
 D Evidence of bank seepage or sweating (iron oxidizing bacteria in water indicates seepage)  
 E Stream bed or bank soil reduced (dig through deposited sediment if present)  
 F None of the above

17. **Baseflow Detractors – assessment area metric (skip for Tidal Marsh Streams)**

Check all that apply.

A Evidence of substantial water withdrawals from the assessment reach (includes areas excavated for pump installation)  
 B Obstruction not passing flow during low flow periods affecting the assessment reach (ex: watertight dam, sediment deposit)  
 C Urban stream ( $\geq$  24% impervious surface for watershed)  
 D Evidence that the stream-side area has been modified resulting in accelerated drainage into the assessment reach  
 E Assessment reach relocated to valley edge  
 F None of the above

18. **Shading – assessment reach metric (skip for Tidal Marsh Streams)**

Consider aspect. Consider "leaf-on" condition.

A Stream shading is appropriate for stream category (may include gaps associated with natural processes)  
 B Degraded (example: scattered trees)  
 C Stream shading is gone or largely absent

19. **Buffer Width – streamside area metric (skip for Tidal Marsh Streams)**

Consider "vegetated buffer" and "wooded buffer" separately for left bank (LB) and right bank (RB) starting at the top of bank out to the first break.

Vegetated		Wooded		
LB	RB	LB	RB	
<input checked="" type="radio"/> A	$\geq$ 100-feet wide <u>or</u> extends to the edge of the watershed			
<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	From 50 to < 100-feet wide
<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	From 30 to < 50-feet wide
<input type="radio"/> D	<input type="radio"/> D	<input type="radio"/> D	<input type="radio"/> D	From 10 to < 30-feet wide
<input type="radio"/> E	<input type="radio"/> E	<input type="radio"/> E	<input type="radio"/> E	< 10-feet wide <u>or</u> no trees

20. **Buffer Structure – streamside area metric (skip for Tidal Marsh Streams)**

Consider for left bank (LB) and right bank (RB) for Metric 19 ("Vegetated" Buffer Width).

LB	RB	
<input checked="" type="radio"/> A	<input checked="" type="radio"/> A	Mature forest
<input type="radio"/> B	<input type="radio"/> B	Non-mature woody vegetation <u>or</u> modified vegetation structure
<input type="radio"/> C	<input type="radio"/> C	Herbaceous vegetation with or without a strip of trees < 10 feet wide
<input type="radio"/> D	<input type="radio"/> D	Maintained shrubs
<input type="radio"/> E	<input type="radio"/> E	Little or no vegetation

21. **Buffer Stressors – streamside area metric (skip for Tidal Marsh Streams)**

Check all appropriate boxes for left bank (LB) and right bank (RB). Indicate if listed stressor abuts stream (Abuts), does not abut but is within 30 feet of stream (< 30 feet), or is between 30 to 50 feet of stream (30-50 feet).

If none of the following stressors occurs on either bank, check here and skip to Metric 22:

Abuts		< 30 feet		30-50 feet		
LB	RB	LB	RB	LB	RB	
<input type="checkbox"/> A	Row crops					
<input type="checkbox"/> B	Maintained turf					
<input type="checkbox"/> C	Pasture (no livestock)/commercial horticulture					
<input type="checkbox"/> D	Pasture (active livestock use)					

22. **Stem Density – streamside area metric (skip for Tidal Marsh Streams)**

Consider for left bank (LB) and right bank (RB) for Metric 19 ("Wooded" Buffer Width).

LB	RB	
<input checked="" type="radio"/> A	<input checked="" type="radio"/> A	Medium to high stem density
<input type="radio"/> B	<input type="radio"/> B	Low stem density
<input type="radio"/> C	<input type="radio"/> C	No wooded riparian buffer <u>or</u> predominantly herbaceous species <u>or</u> bare ground

23. **Continuity of Vegetated Buffer – streamside area metric (skip for Tidal Marsh Streams)**

Consider whether vegetated buffer is continuous along stream (parallel). Breaks are areas lacking vegetation > 10-feet wide.

LB RB

- A A The total length of buffer breaks is < 25 percent.  
B B The total length of buffer breaks is between 25 and 50 percent.  
C C The total length of buffer breaks is > 50 percent.

**24. Vegetative Composition – First 100 feet of streamside area metric (skip for Tidal Marsh Streams)**

Evaluate the dominant vegetation within 100 feet of each bank or to the edge of the watershed (whichever comes first) as it contributes to assessment reach habitat.

LB RB

- A A Vegetation is close to undisturbed in species present and their proportions. Lower strata composed of native species, with non-native invasive species absent or sparse.  
B B Vegetation indicates disturbance in terms of species diversity or proportions, but is still largely composed of native species. This may include communities of weedy native species that develop after clear-cutting or clearing or communities with non-native invasive species present, but not dominant, over a large portion of the expected strata or communities missing understory but retaining canopy trees.  
C C Vegetation is severely disturbed in terms of species diversity or proportions. Mature canopy is absent or communities with non-native invasive species dominant over a large portion of expected strata or communities composed of planted stands of non-characteristic species or communities inappropriately composed of a single species or no vegetation.

**25. Conductivity – assessment reach metric (skip for all Coastal Plain streams)**

25a. Yes No Was a conductivity measurement recorded?

If No, select one of the following reasons. No Water Other: \_\_\_\_\_

25b. Check the box corresponding to the conductivity measurement (units of microsiemens per centimeter).

- A <46 B 46 to < 67 C 67 to < 79 D 79 to < 230 E ≥ 230

Notes/Sketch:

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**NC SAM Stream Rating Sheet**  
**Accompanies User Manual Version 2.1**

Stream Site Name Project Diamond - Kingsboro Site  
 Stream Category la2

Date of Evaluation February 15, 2018  
 Assessor Name/Organization G. Price, R. Crowther

Notes of Field Assessment Form (Y/N) NO  
 Presence of regulatory considerations (Y/N) YES  
 Additional stream information/supplementary measurements included (Y/N) NO  
 NC SAM feature type (perennial, intermittent, Tidal Marsh Stream) Intermittent

<b>Function Class Rating Summary</b>	<b>USACE/ All Streams</b>	<b>NCDWR Intermittent</b>
(1) Hydrology	<b>MEDIUM</b>	<b>MEDIUM</b>
(2) Baseflow	<b>MEDIUM</b>	<b>HIGH</b>
(2) Flood Flow	<b>MEDIUM</b>	<b>MEDIUM</b>
(3) Streamside Area Attenuation	<b>HIGH</b>	<b>HIGH</b>
(4) Floodplain Access	<b>MEDIUM</b>	<b>MEDIUM</b>
(4) Wooded Riparian Buffer	<b>HIGH</b>	<b>HIGH</b>
(4) Microtopography	<b>MEDIUM</b>	<b>MEDIUM</b>
(3) Stream Stability	<b>LOW</b>	<b>LOW</b>
(4) Channel Stability	<b>MEDIUM</b>	<b>MEDIUM</b>
(4) Sediment Transport	<b>LOW</b>	<b>LOW</b>
(4) Stream Geomorphology	<b>LOW</b>	<b>LOW</b>
(2) Stream/Intertidal Zone Interaction	NA	NA
(2) Longitudinal Tidal Flow	NA	NA
(2) Tidal Marsh Stream Stability	NA	NA
(3) Tidal Marsh Channel Stability	NA	NA
(3) Tidal Marsh Stream Geomorphology	NA	NA
(1) Water Quality	<b>MEDIUM</b>	<b>MEDIUM</b>
(2) Baseflow	<b>MEDIUM</b>	<b>HIGH</b>
(2) Streamside Area Vegetation	<b>HIGH</b>	<b>HIGH</b>
(3) Upland Pollutant Filtration	<b>HIGH</b>	<b>HIGH</b>
(3) Thermoregulation	<b>HIGH</b>	<b>HIGH</b>
(2) Indicators of Stressors	<b>NO</b>	<b>NO</b>
(2) Aquatic Life Tolerance	<b>LOW</b>	NA
(2) Intertidal Zone Filtration	NA	NA
(1) Habitat	<b>LOW</b>	<b>LOW</b>
(2) In-stream Habitat	<b>LOW</b>	<b>LOW</b>
(3) Baseflow	<b>MEDIUM</b>	<b>HIGH</b>
(3) Substrate	<b>LOW</b>	<b>LOW</b>
(3) Stream Stability	<b>MEDIUM</b>	<b>MEDIUM</b>
(3) In-stream Habitat	<b>LOW</b>	<b>LOW</b>
(2) Stream-side Habitat	<b>HIGH</b>	<b>HIGH</b>
(3) Stream-side Habitat	<b>HIGH</b>	<b>HIGH</b>
(3) Thermoregulation	<b>HIGH</b>	<b>HIGH</b>
(2) Tidal Marsh In-stream Habitat	NA	NA
(3) Flow Restriction	NA	NA
(3) Tidal Marsh Stream Stability	NA	NA
(4) Tidal Marsh Channel Stability	NA	NA
(4) Tidal Marsh Stream Geomorphology	NA	NA
(3) Tidal Marsh In-stream Habitat	NA	NA
(2) Intertidal Zone Habitat	NA	NA
<b>Overall</b>	<b>MEDIUM</b>	<b>MEDIUM</b>



Photo 1. UT to Penders Mill Run (Permit Site 8)



Photo 2. UT to Penders Mill Run (Permit Site 8)



Photo 3. UT to Penders Mill Run (Permit Site 8)



Photo 4. UT to Penders Mill Run (Permit Site 8)

**NC SAM FIELD ASSESSMENT FORM**  
**Accompanies User Manual Version 2.1**

<b>USACE AID #:</b>	<b>NCDWR #:</b>
<p><b>INSTRUCTIONS:</b> Attach a sketch of the assessment area and photographs. Attach a copy of the USGS 7.5-minute topographic quadrangle, and circle the location of the stream reach under evaluation. If multiple stream reaches will be evaluated on the same property, identify and number all reaches on the attached map, and include a separate form for each reach. See the NC SAM User Manual for detailed descriptions and explanations of requested information. Record in the "Notes/Sketch" section if any supplementary measurements were performed. See the NC SAM User Manual for examples of additional measurements that may be relevant.</p> <p><b>NOTE EVIDENCE OF STRESSORS AFFECTING THE ASSESSMENT AREA (do not need to be within the assessment area).</b></p>	
<b>PROJECT / SITE INFORMATION:</b>	
1. Project name (if any): <u>Project Diamond - Kingsboro Site</u>	2. Date of evaluation: <u>February 15, 2018</u>
3. Applicant/owner name: <u>Edgecombe County</u>	4. Assessor name/organization: <u>G. Price, R. Crowther</u>
5. County: <u>Edgecombe County</u>	6. Nearest named water body: _____
7. River Basin: <u>Tar-Pamlico</u>	on USGS 7.5-minute quad: <u>Walnut Creek</u>
8. Site coordinates (decimal degrees, at lower end of assessment reach): _____ <u>35.9239, -77.6492</u>	
<b>STREAM INFORMATION: (depth and width can be approximations)</b>	
9. Site number (show on attached map): <u>Buffer Site 10 UPS</u>	10. Length of assessment reach evaluated (feet): <u>140</u>
11. Channel depth from bed (in riffle, if present) to top of bank (feet): <u>1</u> <input type="checkbox"/> Unable to assess channel depth.	
12. Channel width at top of bank (feet): <u>2</u>	
13. Is assessment reach a swamp stream? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
14. Feature type: <input checked="" type="checkbox"/> Perennial flow <input type="checkbox"/> Intermittent flow <input type="checkbox"/> Tidal Marsh Stream	
<b>STREAM RATING INFORMATION:</b>	
15. NC SAM Zone: <input type="checkbox"/> Mountains (M) <input type="checkbox"/> Piedmont (P) <input checked="" type="checkbox"/> Inner Coastal Plain (I) <input type="checkbox"/> Outer Coastal Plain (O)	
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<b>ADDITIONAL INFORMATION:</b>	
18. Were regulatory considerations evaluated? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, check all that apply to the assessment area.	
<input type="checkbox"/> Section 10 water <input type="checkbox"/> Classified Trout Waters <input type="checkbox"/> Water Supply Watershed ( <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V ) <input type="checkbox"/> Essential Fish Habitat <input type="checkbox"/> Primary Nursery Area <input type="checkbox"/> High Quality Waters/Outstanding Resource Waters <input type="checkbox"/> Publicly owned property <input type="checkbox"/> NCDWR riparian buffer rule in effect <input checked="" type="checkbox"/> Nutrient Sensitive Waters <input type="checkbox"/> Anadromous fish <input type="checkbox"/> 303(d) List <input type="checkbox"/> CAMA Area of Environmental Concern (AEC) <input type="checkbox"/> Documented presence of a federal and/or state listed protected species within the assessment area. List species: _____ <input type="checkbox"/> Designated Critical Habitat (list species): _____	
19. Are additional stream information/supplementary measurements included in "Notes/Sketch" section or attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

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  - A Water throughout assessment reach.
  - B No flow, water in pools only.
  - C No water in assessment reach.
  
2. **Evidence of Flow Restriction – assessment reach metric**
  - A At least 10% of assessment reach in-stream habitat or riffle-pool sequence is adversely affected by a flow restriction or fill to the point of obstructing flow or a channel choked with aquatic macrophytes or ponded water or impounded on flood or ebb within the assessment reach (examples: undersized or perched culverts, causeways that constrict the channel, tidal gates).
  - B Not A
  
3. **Feature Pattern – assessment reach metric**
  - A A majority of the assessment reach has altered pattern (examples: straightening, modification above or below culvert).
  - B Not A.
  
4. **Feature Longitudinal Profile – assessment reach metric**
  - A Majority of assessment reach has a substantially altered stream profile (examples: channel down-cutting, existing damming, over widening, active aggradation, dredging, and excavation where appropriate channel profile has not reformed from any of these disturbances).
  - B Not A
  
5. **Signs of Active Instability – assessment reach metric**  
**Consider only current instability, not past events from which the stream has currently recovered.** Examples of instability include active bank failure, active channel down-cutting (head-cut), active widening, and artificial hardening (such as concrete, gabion, rip-rap).
  - A < 10% of channel unstable
  - B 10 to 25% of channel unstable
  - C > 25% of channel unstable
  
6. **Streamside Area Interaction – streamside area metric**  
**Consider for the Left Bank (LB) and the Right Bank (RB).**

LB	RB	
<input checked="" type="checkbox"/> A	<input checked="" type="checkbox"/> A	Little or no evidence of conditions that adversely affect reference interaction
<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate evidence of conditions (examples: berms, levees, down-cutting, aggradation, dredging) that adversely affect reference interaction (examples: limited streamside area access, disruption of flood flows through streamside area, leaky or intermittent bulkheads, causeways with floodplain constriction, minor ditching [including mosquito ditching])
<input type="checkbox"/> C	<input type="checkbox"/> C	Extensive evidence of conditions that adversely affect reference interaction (little to no floodplain/intertidal zone access [examples: causeways with floodplain and channel constriction, bulkheads, retaining walls, fill, stream incision, disruption of flood flows through streamside area] <u>or</u> too much floodplain/intertidal zone access [examples: impoundments, intensive mosquito ditching]) <u>or</u> floodplain/intertidal zone unnaturally absent <u>or</u> assessment reach is a man-made feature on an interstream divide
  
7. **Water Quality Stressors – assessment reach/intertidal zone metric**  
**Check all that apply.**
  - A Discolored water in stream or intertidal zone (milky white, blue, unnatural water discoloration, oil sheen, stream foam)
  - B Excessive sedimentation (burying of stream features or intertidal zone)

- C Noticeable evidence of pollutant discharges entering the assessment reach and causing a water quality problem
- D Odor (not including natural sulfide odors)
- E Current published or collected data indicating degraded water quality in the assessment reach. Cite source in the "Notes/Sketch" section.
- F Livestock with access to stream or intertidal zone
- G Excessive algae in stream or intertidal zone
- H Degraded marsh vegetation in the intertidal zone (removal, burning, regular mowing, destruction, etc.)
- I Other: \_\_\_\_\_ (explain in "Notes/Sketch" section)
- J Little to no stressors

**8. Recent Weather – watershed metric**

For Size 1 or 2 streams, D1 drought or higher is considered a drought; for Size 3 or 4 streams, D2 drought or higher is considered a drought.

- A Drought conditions and no rainfall or rainfall not exceeding 1 inch within the last 48 hours
- B Drought conditions and rainfall exceeding 1 inch within the last 48 hours
- C No drought conditions

**9 Large or Dangerous Stream – assessment reach metric**

Yes  No Is stream is too large or dangerous to assess? **If Yes, skip to Metric 13 (Streamside Area Ground Surface Condition).**

**10. Natural In-stream Habitat Types – assessment reach metric**

10a.  Yes  No Degraded in-stream habitat over majority of the assessment reach (examples of stressors include excessive sedimentation, mining, excavation, in-stream hardening [for example, rip-rap], recent dredging, and snagging) **(evaluate for size 4 Coastal Plain streams only, then skip to Metric 12)**

10b. **Check all that occur** (occurs if > 5% coverage of assessment reach) **(skip for Size 4 Coastal Plain streams)**

- |  |                                    |   |
|--|------------------------------------|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> A Multiple aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats)</li> <li><input type="checkbox"/> B Multiple sticks and/or leaf packs and/or emergent vegetation</li> <li><input type="checkbox"/> C Multiple snags and logs (including lap trees)</li> <li><input checked="" type="checkbox"/> D 5% undercut banks and/or root mats and/or roots in banks extend to the normal wetted perimeter</li> <li><input type="checkbox"/> E Little or no habitat</li> </ul> | Check for Tidal Marsh Streams only | <ul style="list-style-type: none"> <li><input type="checkbox"/> F 5% oysters or other natural hard bottoms</li> <li><input type="checkbox"/> G Submerged aquatic vegetation</li> <li><input type="checkbox"/> H Low-tide refugia (pools)</li> <li><input type="checkbox"/> I Sand bottom</li> <li><input type="checkbox"/> J 5% vertical bank along the marsh</li> <li><input type="checkbox"/> K Little or no habitat</li> </ul> |
|--|------------------------------------|---|

\*\*\*\*\*REMAINING QUESTIONS ARE NOT APPLICABLE FOR TIDAL MARSH STREAMS\*\*\*\*\*

**11. Bedform and Substrate – assessment reach metric (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

11a.  Yes  No Is assessment reach in a natural sand-bed stream? **(skip for Coastal Plain streams)**

11b. Bedform evaluated. **Check the appropriate box(es).**

- A Riffle-run section (evaluate 11c)
- B Pool-glide section (evaluate 11d)
- C Natural bedform absent **(skip to Metric 12, Aquatic Life)**

11c. In riffles sections, check all that occur below the normal wetted perimeter of the assessment reach – whether or not submerged. **Check at least one box in each row (skip for Size 4 Coastal Plain Streams and Tidal Marsh Streams).** Not Present (NP) = absent, Rare (R) = present but ≤ 10%, Common (C) = > 10-40%, Abundant (A) = > 40-70%, Predominant (P) = > 70%. Cumulative percentages should not exceed 100% for each assessment reach.

NP	R	C	A	P	
<input type="checkbox"/>	Bedrock/saprolite				
<input type="checkbox"/>	Boulder (256 – 4096 mm)				
<input type="checkbox"/>	Cobble (64 – 256 mm)				
<input type="checkbox"/>	Gravel (2 – 64 mm)				
<input type="checkbox"/>	Sand (.062 – 2 mm)				
<input type="checkbox"/>	Silt/clay (< 0.062 mm)				
<input type="checkbox"/>	Detritus				
<input type="checkbox"/>	Artificial (rip-rap, concrete, etc.)				

11d.  Yes  No Are pools filled with sediment? **(skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

**12. Aquatic Life – assessment reach metric (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

12a.  Yes  No Was an in-stream aquatic life assessment performed as described in the User Manual?

If No, select one of the following reasons and skip to Metric 13.  No Water  Other: \_\_\_\_\_

12b.  Yes  No Are aquatic organisms present in the assessment reach (look in riffles, pools, then snags)? If Yes, check all that apply. If No, skip to Metric 13.

- 1 >1 Numbers over columns refer to "individuals" for size 1 and 2 streams and "taxa" for size 3 and 4 streams.
- Adult frogs
  - Aquatic reptiles
  - Aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats)
  - Beetles (including water pennies)
  - Caddisfly larvae (Trichoptera [T])
  - Asian clam (*Corbicula*)
  - Crustacean (isopod/amphipod/crayfish/shrimp)
  - Damselfly and dragonfly larvae
  - Dipterans (true flies)
  - Mayfly larvae (Ephemeroptera [E])
  - Megaloptera (alderfly, fishfly, dobsonfly larvae)
  - Midges/mosquito larvae
  - Mosquito fish (*Gambusia*) or mud minnows (*Umbra pygmaea*)
  - Mussels/Clams (not *Corbicula*)
  - Other fish
  - Salamanders/tadpoles
  - Snails
  - Stonefly larvae (Plecoptera [P])
  - Tipulid larvae

Worms/leeches

13. **Streamside Area Ground Surface Condition – streamside area metric (skip for Tidal Marsh Streams and B valley types)**  
Consider for the Left Bank (LB) and the Right Bank (RB). Consider storage capacity with regard to both overbank flow and upland runoff.

LB		RB		
<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	Little or no alteration to water storage capacity over a majority of the streamside area
<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	Moderate alteration to water storage capacity over a majority of the streamside area
<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	Severe alteration to water storage capacity over a majority of the streamside area (examples include: ditches, fill, soil, compaction, livestock disturbance, buildings, man-made levees, drainage pipes)

14. **Streamside Area Water Storage – streamside area metric (skip for Size 1 streams, Tidal Marsh Streams, and B valley types)**  
Consider for the Left Bank (LB) and the Right Bank (RB) of the streamside area.

LB		RB		
<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	Majority of streamside area with depressions able to pond water $\geq$ 6 inches deep
<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	Majority of streamside area with depressions able to pond water 3 to 6 inches deep
<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	Majority of streamside area with depressions able to pond water < 3 inches deep

15. **Wetland Presence – streamside area metric (skip for Tidal Marsh Streams)**  
Consider for the Left Bank (LB) and the Right Bank (RB). Do not consider wetlands outside of the streamside area or within the normal wetted perimeter of assessment reach.

LB		RB		
<input type="checkbox"/> Y	<input type="checkbox"/> Y	<input type="checkbox"/> Y	<input type="checkbox"/> Y	Are wetlands present in the streamside area?
<input type="checkbox"/> N	<input type="checkbox"/> N	<input type="checkbox"/> N	<input type="checkbox"/> N	

16. **Baseflow Contributors – assessment reach metric (skip for size 4 streams and Tidal Marsh Streams)**  
Check all contributors within the assessment reach or within view of and draining to the assessment reach.

A Streams and/or springs (jurisdictional discharges)  
 B Ponds (include wet detention basins; do not include sediment basins or dry detention basins)  
 C Obstruction that passes some flow during low-flow periods within assessment area (beaver dam, bottom-release dam)  
 D Evidence of bank seepage or sweating (iron oxidizing bacteria in water indicates seepage)  
 E Stream bed or bank soil reduced (dig through deposited sediment if present)  
 F None of the above

17. **Baseflow Detractors – assessment area metric (skip for Tidal Marsh Streams)**

Check all that apply.

A Evidence of substantial water withdrawals from the assessment reach (includes areas excavated for pump installation)  
 B Obstruction not passing flow during low flow periods affecting the assessment reach (ex: watertight dam, sediment deposit)  
 C Urban stream ( $\geq$  24% impervious surface for watershed)  
 D Evidence that the stream-side area has been modified resulting in accelerated drainage into the assessment reach  
 E Assessment reach relocated to valley edge  
 F None of the above

18. **Shading – assessment reach metric (skip for Tidal Marsh Streams)**

Consider aspect. Consider "leaf-on" condition.

A Stream shading is appropriate for stream category (may include gaps associated with natural processes)  
 B Degraded (example: scattered trees)  
 C Stream shading is gone or largely absent

19. **Buffer Width – streamside area metric (skip for Tidal Marsh Streams)**  
Consider "vegetated buffer" and "wooded buffer" separately for left bank (LB) and right bank (RB) starting at the top of bank out to the first break.

Vegetated		Wooded		
LB	RB	LB	RB	
<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	$\geq$ 100-foot wide <u>or</u> extends to the edge of the watershed
<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	From 50 to < 100-foot wide
<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	From 30 to < 50-foot wide
<input type="checkbox"/> D	<input type="checkbox"/> D	<input type="checkbox"/> D	<input type="checkbox"/> D	From 10 to < 30-foot wide
<input type="checkbox"/> E	<input type="checkbox"/> E	<input type="checkbox"/> E	<input type="checkbox"/> E	< 10-foot wide <u>or</u> no trees

20. **Buffer Structure – streamside area metric (skip for Tidal Marsh Streams)**  
Consider for left bank (LB) and right bank (RB) for Metric 19 ("Vegetated" Buffer Width).

LB		RB		
<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	Mature forest
<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	Non-mature woody vegetation <u>or</u> modified vegetation structure
<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	Herbaceous vegetation with or without a strip of trees < 10 feet wide
<input type="checkbox"/> D	<input type="checkbox"/> D	<input type="checkbox"/> D	<input type="checkbox"/> D	Maintained shrubs
<input type="checkbox"/> E	<input type="checkbox"/> E	<input type="checkbox"/> E	<input type="checkbox"/> E	Little or no vegetation

21. **Buffer Stressors – streamside area metric (skip for Tidal Marsh Streams)**  
Check all appropriate boxes for left bank (LB) and right bank (RB). Indicate if listed stressor abuts stream (Abuts), does not abut but is within 30 feet of stream (< 30 feet), or is between 30 to 50 feet of stream (30-50 feet).

If none of the following stressors occurs on either bank, check here and skip to Metric 22:

Abuts		< 30 feet		30-50 feet		
LB	RB	LB	RB	LB	RB	
<input type="checkbox"/> A	Row crops					
<input type="checkbox"/> B	Maintained turf					
<input type="checkbox"/> C	Pasture (no livestock)/commercial horticulture					
<input type="checkbox"/> D	Pasture (active livestock use)					

22. **Stem Density – streamside area metric (skip for Tidal Marsh Streams)**  
Consider for left bank (LB) and right bank (RB) for Metric 19 ("Wooded" Buffer Width).

LB		RB		
<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	<input type="checkbox"/> A	Medium to high stem density
<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	<input type="checkbox"/> B	Low stem density
<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	<input type="checkbox"/> C	No wooded riparian buffer <u>or</u> predominantly herbaceous species <u>or</u> bare ground

23. **Continuity of Vegetated Buffer – streamside area metric (skip for Tidal Marsh Streams)**

Consider whether vegetated buffer is continuous along stream (parallel). Breaks are areas lacking vegetation > 10-feet wide.

LB RB

- A A The total length of buffer breaks is < 25 percent.  
B B The total length of buffer breaks is between 25 and 50 percent.  
C C The total length of buffer breaks is > 50 percent.

**24. Vegetative Composition – First 100 feet of streamside area metric (skip for Tidal Marsh Streams)**

Evaluate the dominant vegetation within 100 feet of each bank or to the edge of the watershed (whichever comes first) as it contributes to assessment reach habitat.

LB RB

- A A Vegetation is close to undisturbed in species present and their proportions. Lower strata composed of native species, with non-native invasive species absent or sparse.  
B B Vegetation indicates disturbance in terms of species diversity or proportions, but is still largely composed of native species. This may include communities of weedy native species that develop after clear-cutting or clearing or communities with non-native invasive species present, but not dominant, over a large portion of the expected strata or communities missing understory but retaining canopy trees.  
C C Vegetation is severely disturbed in terms of species diversity or proportions. Mature canopy is absent or communities with non-native invasive species dominant over a large portion of expected strata or communities composed of planted stands of non-characteristic species or communities inappropriately composed of a single species or no vegetation.

**25. Conductivity – assessment reach metric (skip for all Coastal Plain streams)**

25a. Yes No Was a conductivity measurement recorded?

If No, select one of the following reasons.

No Water

Other: \_\_\_\_\_

25b. Check the box corresponding to the conductivity measurement (units of microsiemens per centimeter).

A <46

B 46 to < 67

C 67 to < 79

D 79 to < 230

E ≥ 230

Notes/Sketch:

\_\_\_\_\_

**NC SAM Stream Rating Sheet**  
**Accompanies User Manual Version 2.1**

Stream Site Name Project Diamond - Kingsboro Site  
 Stream Category la1

Date of Evaluation February 15, 2018  
 Assessor Name/Organization G. Price, R. Crowther

Notes of Field Assessment Form (Y/N) NO  
 Presence of regulatory considerations (Y/N) YES  
 Additional stream information/supplementary measurements included (Y/N) NO  
 NC SAM feature type (perennial, intermittent, Tidal Marsh Stream) Perennial

<b>Function Class Rating Summary</b>	<b>USACE/ All Streams</b>	<b>NCDWR Intermittent</b>
(1) Hydrology	<b>LOW</b>	
(2) Baseflow	<b>HIGH</b>	
(2) Flood Flow	<b>LOW</b>	
(3) Streamside Area Attenuation	<b>LOW</b>	
(4) Floodplain Access	<b>MEDIUM</b>	
(4) Wooded Riparian Buffer	<b>LOW</b>	
(4) Microtopography	<b>LOW</b>	
(3) Stream Stability	<b>LOW</b>	
(4) Channel Stability	<b>LOW</b>	
(4) Sediment Transport	<b>HIGH</b>	
(4) Stream Geomorphology	<b>LOW</b>	
(2) Stream/Intertidal Zone Interaction	NA	
(2) Longitudinal Tidal Flow	NA	
(2) Tidal Marsh Stream Stability	NA	
(3) Tidal Marsh Channel Stability	NA	
(3) Tidal Marsh Stream Geomorphology	NA	
(1) Water Quality	<b>MEDIUM</b>	
(2) Baseflow	<b>HIGH</b>	
(2) Streamside Area Vegetation	<b>LOW</b>	
(3) Upland Pollutant Filtration	<b>LOW</b>	
(3) Thermoregulation	<b>LOW</b>	
(2) Indicators of Stressors	<b>NO</b>	
(2) Aquatic Life Tolerance	<b>MEDIUM</b>	
(2) Intertidal Zone Filtration	NA	
(1) Habitat	<b>LOW</b>	
(2) In-stream Habitat	<b>LOW</b>	
(3) Baseflow	<b>HIGH</b>	
(3) Substrate	<b>HIGH</b>	
(3) Stream Stability	<b>LOW</b>	
(3) In-stream Habitat	<b>LOW</b>	
(2) Stream-side Habitat	<b>LOW</b>	
(3) Stream-side Habitat	<b>LOW</b>	
(3) Thermoregulation	<b>LOW</b>	
(2) Tidal Marsh In-stream Habitat	NA	
(3) Flow Restriction	NA	
(3) Tidal Marsh Stream Stability	NA	
(4) Tidal Marsh Channel Stability	NA	
(4) Tidal Marsh Stream Geomorphology	NA	
(3) Tidal Marsh In-stream Habitat	NA	
(2) Intertidal Zone Habitat	NA	
<b>Overall</b>	<b>LOW</b>	



Photo 5. UT to Walnut Creek (Permit Site 10 Upstream)



Photo 6. UT to Walnut Creek (Permit Site 10 Upstream)



Photo 7. UT to Walnut Creek (Permit Site 10 Upstream)



Photo 8. UT to Walnut Creek (Permit Site 10 Upstream)

**NC SAM FIELD ASSESSMENT FORM**  
**Accompanies User Manual Version 2.1**

<b>USACE AID #:</b>	<b>NCDWR #:</b>
<p><b>INSTRUCTIONS:</b> Attach a sketch of the assessment area and photographs. Attach a copy of the USGS 7.5-minute topographic quadrangle, and circle the location of the stream reach under evaluation. If multiple stream reaches will be evaluated on the same property, identify and number all reaches on the attached map, and include a separate form for each reach. See the NC SAM User Manual for detailed descriptions and explanations of requested information. Record in the "Notes/Sketch" section if any supplementary measurements were performed. See the NC SAM User Manual for examples of additional measurements that may be relevant.</p> <p><b>NOTE EVIDENCE OF STRESSORS AFFECTING THE ASSESSMENT AREA (do not need to be within the assessment area).</b></p>	
<b>PROJECT / SITE INFORMATION:</b>	
1. Project name (if any):	Project Diamond - Kingsboro Site
2. Date of evaluation:	February 15, 2018
3. Applicant/owner name:	Edgecombe County
4. Assessor name/organization:	G. Price, R. Crowther
5. County:	Edgecombe County
6. Nearest named water body	
7. River Basin:	Tar-Pamlico
8. Site coordinates (decimal degrees, at lower end of assessment reach):	on USGS 7.5-minute quad: Walnut Creek
	35.9245, -77.6498
<b>STREAM INFORMATION: (depth and width can be approximations)</b>	
9. Site number (show on attached map):	Buffer Site 10 DNS
10. Length of assessment reach evaluated (feet):	330
11. Channel depth from bed (in riffle, if present) to top of bank (feet):	4 <input type="checkbox"/> Unable to assess channel depth.
12. Channel width at top of bank (feet):	7
13. Is assessment reach a swamp stream?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
14. Feature type:	<input checked="" type="checkbox"/> Perennial flow <input type="checkbox"/> Intermittent flow <input type="checkbox"/> Tidal Marsh Stream
<b>STREAM RATING INFORMATION:</b>	
15. NC SAM Zone:	<input type="checkbox"/> Mountains (M) <input type="checkbox"/> Piedmont (P) <input checked="" type="checkbox"/> Inner Coastal Plain (I) <input type="checkbox"/> Outer Coastal Plain (O)
16. Estimated geomorphic valley shape (skip for Tidal Marsh Stream):	<input checked="" type="checkbox"/> a (more sinuous stream, flatter valley slope) <input type="checkbox"/> b (less sinuous stream, steeper valley slope)
17. Watershed size: (skip for Tidal Marsh Stream)	<input type="checkbox"/> Size 1 (< 0.1 mi <sup>2</sup> ) <input checked="" type="checkbox"/> Size 2 (0.1 to < 0.5 mi <sup>2</sup> ) <input type="checkbox"/> Size 3 (0.5 to < 5 mi <sup>2</sup> ) <input type="checkbox"/> Size 4 (≥ 5 mi <sup>2</sup> )
<b>ADDITIONAL INFORMATION:</b>	
18. Were regulatory considerations evaluated? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, check all that apply to the assessment area.	
<input type="checkbox"/> Section 10 water	<input type="checkbox"/> Classified Trout Waters
<input type="checkbox"/> Essential Fish Habitat	<input type="checkbox"/> Primary Nursery Area
<input type="checkbox"/> Publicly owned property	<input type="checkbox"/> NCDWR riparian buffer rule in effect
<input type="checkbox"/> Anadromous fish	<input type="checkbox"/> 303(d) List
<input type="checkbox"/> Documented presence of a federal and/or state listed protected species within the assessment area.	<input type="checkbox"/> Water Supply Watershed ( <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V)
<input type="checkbox"/> Nutrient Sensitive Waters	<input type="checkbox"/> High Quality Waters/Outstanding Resource Waters
<input type="checkbox"/> CAMA Area of Environmental Concern (AEC)	
List species: _____	
<input type="checkbox"/> Designated Critical Habitat (list species): _____	
19. Are additional stream information/supplementary measurements included in "Notes/Sketch" section or attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

1. **Channel Water – assessment reach metric (skip for Size 1 streams and Tidal Marsh Streams)**
  - A Water throughout assessment reach.
  - B No flow, water in pools only.
  - C No water in assessment reach.
  
2. **Evidence of Flow Restriction – assessment reach metric**
  - A At least 10% of assessment reach in-stream habitat or riffle-pool sequence is adversely affected by a flow restriction or fill to the point of obstructing flow or a channel choked with aquatic macrophytes or ponded water or impounded on flood or ebb within the assessment reach (examples: undersized or perched culverts, causeways that constrict the channel, tidal gates).
  - B Not A
  
3. **Feature Pattern – assessment reach metric**
  - A A majority of the assessment reach has altered pattern (examples: straightening, modification above or below culvert).
  - B Not A.
  
4. **Feature Longitudinal Profile – assessment reach metric**
  - A Majority of assessment reach has a substantially altered stream profile (examples: channel down-cutting, existing damming, over widening, active aggradation, dredging, and excavation where appropriate channel profile has not reformed from any of these disturbances).
  - B Not A
  
5. **Signs of Active Instability – assessment reach metric**  
**Consider only current instability, not past events from which the stream has currently recovered.** Examples of instability include active bank failure, active channel down-cutting (head-cut), active widening, and artificial hardening (such as concrete, gabion, rip-rap).
  - A < 10% of channel unstable
  - B 10 to 25% of channel unstable
  - C > 25% of channel unstable
  
6. **Streamside Area Interaction – streamside area metric**  
**Consider for the Left Bank (LB) and the Right Bank (RB).**

	LB	RB	
<input type="checkbox"/> A	<input type="checkbox"/> A		Little or no evidence of conditions that adversely affect reference interaction
<input type="checkbox"/> B	<input type="checkbox"/> B		Moderate evidence of conditions (examples: berms, levees, down-cutting, aggradation, dredging) that adversely affect reference interaction (examples: limited streamside area access, disruption of flood flows through streamside area, leaky or intermittent bulkheads, causeways with floodplain constriction, minor ditching [including mosquito ditching])
<input checked="" type="checkbox"/> C	<input checked="" type="checkbox"/> C		Extensive evidence of conditions that adversely affect reference interaction (little to no floodplain/intertidal zone access [examples: causeways with floodplain and channel constriction, bulkheads, retaining walls, fill, stream incision, disruption of flood flows through streamside area] <u>or</u> too much floodplain/intertidal zone access [examples: impoundments, intensive mosquito ditching]) <u>or</u> floodplain/intertidal zone unnaturally absent <u>or</u> assessment reach is a man-made feature on an interstream divide
  
7. **Water Quality Stressors – assessment reach/intertidal zone metric**  
**Check all that apply.**
  - A Discolored water in stream or intertidal zone (milky white, blue, unnatural water discoloration, oil sheen, stream foam)
  - B Excessive sedimentation (burying of stream features or intertidal zone)

- C Noticeable evidence of pollutant discharges entering the assessment reach and causing a water quality problem
- D Odor (not including natural sulfide odors)
- E Current published or collected data indicating degraded water quality in the assessment reach. Cite source in the "Notes/Sketch" section.
- F Livestock with access to stream or intertidal zone
- G Excessive algae in stream or intertidal zone
- H Degraded marsh vegetation in the intertidal zone (removal, burning, regular mowing, destruction, etc.)
- I Other: \_\_\_\_\_ (explain in "Notes/Sketch" section)
- J Little to no stressors

**8. Recent Weather – watershed metric**

For Size 1 or 2 streams, D1 drought or higher is considered a drought; for Size 3 or 4 streams, D2 drought or higher is considered a drought.

- A Drought conditions and no rainfall or rainfall not exceeding 1 inch within the last 48 hours
- B Drought conditions and rainfall exceeding 1 inch within the last 48 hours
- C No drought conditions

**9 Large or Dangerous Stream – assessment reach metric**

Yes  No Is stream is too large or dangerous to assess? **If Yes, skip to Metric 13 (Streamside Area Ground Surface Condition).**

**10. Natural In-stream Habitat Types – assessment reach metric**

10a.  Yes  No Degraded in-stream habitat over majority of the assessment reach (examples of stressors include excessive sedimentation, mining, excavation, in-stream hardening [for example, rip-rap], recent dredging, and snagging) **(evaluate for size 4 Coastal Plain streams only, then skip to Metric 12)**

10b. **Check all that occur** (occurs if > 5% coverage of assessment reach) **(skip for Size 4 Coastal Plain streams)**

- |  |                                    |   |
|--|------------------------------------|---|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> A Multiple aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats)</li> <li><input checked="" type="checkbox"/> B Multiple sticks and/or leaf packs and/or emergent vegetation</li> <li><input type="checkbox"/> C Multiple snags and logs (including lap trees)</li> <li><input type="checkbox"/> D 5% undercut banks and/or root mats and/or roots in banks extend to the normal wetted perimeter</li> <li><input type="checkbox"/> E Little or no habitat</li> </ul> | Check for Tidal Marsh Streams only | <ul style="list-style-type: none"> <li><input type="checkbox"/> F 5% oysters or other natural hard bottoms</li> <li><input type="checkbox"/> G Submerged aquatic vegetation</li> <li><input type="checkbox"/> H Low-tide refugia (pools)</li> <li><input type="checkbox"/> I Sand bottom</li> <li><input type="checkbox"/> J 5% vertical bank along the marsh</li> <li><input type="checkbox"/> K Little or no habitat</li> </ul> |
|--|------------------------------------|---|

\*\*\*\*\*REMAINING QUESTIONS ARE NOT APPLICABLE FOR TIDAL MARSH STREAMS\*\*\*\*\*

**11. Bedform and Substrate – assessment reach metric (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

11a.  Yes  No Is assessment reach in a natural sand-bed stream? **(skip for Coastal Plain streams)**

11b. Bedform evaluated. **Check the appropriate box(es).**

- A Riffle-run section (evaluate 11c)
- B Pool-glide section (evaluate 11d)
- C Natural bedform absent **(skip to Metric 12, Aquatic Life)**

11c. In riffles sections, check all that occur below the normal wetted perimeter of the assessment reach – whether or not submerged. **Check at least one box in each row (skip for Size 4 Coastal Plain Streams and Tidal Marsh Streams).** Not Present (NP) = absent, Rare (R) = present but ≤ 10%, Common (C) = > 10-40%, Abundant (A) = > 40-70%, Predominant (P) = > 70%. Cumulative percentages should not exceed 100% for each assessment reach.

NP	R	C	A	P	
<input type="checkbox"/>	Bedrock/saprolite				
<input type="checkbox"/>	Boulder (256 – 4096 mm)				
<input type="checkbox"/>	Cobble (64 – 256 mm)				
<input type="checkbox"/>	Gravel (2 – 64 mm)				
<input type="checkbox"/>	Sand (.062 – 2 mm)				
<input type="checkbox"/>	Silt/clay (< 0.062 mm)				
<input type="checkbox"/>	Detritus				
<input type="checkbox"/>	Artificial (rip-rap, concrete, etc.)				

11d.  Yes  No Are pools filled with sediment? **(skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

**12. Aquatic Life – assessment reach metric (skip for Size 4 Coastal Plain streams and Tidal Marsh Streams)**

12a.  Yes  No Was an in-stream aquatic life assessment performed as described in the User Manual?

If No, select one of the following reasons and skip to Metric 13.  No Water  Other: \_\_\_\_\_

12b.  Yes  No Are aquatic organisms present in the assessment reach (look in riffles, pools, then snags)? If Yes, check all that apply. If No, skip to Metric 13.

- 1 >1 Numbers over columns refer to "individuals" for size 1 and 2 streams and "taxa" for size 3 and 4 streams.
- Adult frogs
  - Aquatic reptiles
  - Aquatic macrophytes and aquatic mosses (include liverworts, lichens, and algal mats)
  - Beetles (including water pennies)
  - Caddisfly larvae (Trichoptera [T])
  - Asian clam (*Corbicula*)
  - Crustacean (isopod/amphipod/crayfish/shrimp)
  - Damselfly and dragonfly larvae
  - Dipterans (true flies)
  - Mayfly larvae (Ephemeroptera [E])
  - Megaloptera (alderfly, fishfly, dobsonfly larvae)
  - Midge/mosquito larvae
  - Mosquito fish (*Gambusia*) or mud minnows (*Umbra pygmaea*)
  - Mussels/Clams (not *Corbicula*)
  - Other fish
  - Salamanders/tadpoles
  - Snails
  - Stonefly larvae (Plecoptera [P])
  - Tipulid larvae

Worms/leeches

13. **Streamside Area Ground Surface Condition – streamside area metric (skip for Tidal Marsh Streams and B valley types)**  
Consider for the Left Bank (LB) and the Right Bank (RB). Consider storage capacity with regard to both overbank flow and upland runoff.

LB		RB		
<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	Little or no alteration to water storage capacity over a majority of the streamside area
<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	Moderate alteration to water storage capacity over a majority of the streamside area
<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	Severe alteration to water storage capacity over a majority of the streamside area (examples include: ditches, fill, soil, compaction, livestock disturbance, buildings, man-made levees, drainage pipes)

14. **Streamside Area Water Storage – streamside area metric (skip for Size 1 streams, Tidal Marsh Streams, and B valley types)**  
Consider for the Left Bank (LB) and the Right Bank (RB) of the streamside area.

LB		RB		
<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	Majority of streamside area with depressions able to pond water $\geq$ 6 inches deep
<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	Majority of streamside area with depressions able to pond water 3 to 6 inches deep
<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	Majority of streamside area with depressions able to pond water < 3 inches deep

15. **Wetland Presence – streamside area metric (skip for Tidal Marsh Streams)**

Consider for the Left Bank (LB) and the Right Bank (RB). Do not consider wetlands outside of the streamside area or within the normal wetted perimeter of assessment reach.

LB		RB		
<input type="radio"/> Y	<input type="radio"/> Y	<input type="radio"/> Y	<input type="radio"/> Y	Are wetlands present in the streamside area?
<input type="radio"/> N	<input type="radio"/> N	<input type="radio"/> N	<input type="radio"/> N	

16. **Baseflow Contributors – assessment reach metric (skip for size 4 streams and Tidal Marsh Streams)**

Check all contributors within the assessment reach or within view of and draining to the assessment reach.

- A Streams and/or springs (jurisdictional discharges)
- B Ponds (include wet detention basins; do not include sediment basins or dry detention basins)
- C Obstruction that passes some flow during low-flow periods within assessment area (beaver dam, bottom-release dam)
- D Evidence of bank seepage or sweating (iron oxidizing bacteria in water indicates seepage)
- E Stream bed or bank soil reduced (dig through deposited sediment if present)
- F None of the above

17. **Baseflow Detractors – assessment area metric (skip for Tidal Marsh Streams)**

Check all that apply.

- A Evidence of substantial water withdrawals from the assessment reach (includes areas excavated for pump installation)
- B Obstruction not passing flow during low flow periods affecting the assessment reach (ex: watertight dam, sediment deposit)
- C Urban stream ( $\geq$  24% impervious surface for watershed)
- D Evidence that the stream-side area has been modified resulting in accelerated drainage into the assessment reach
- E Assessment reach relocated to valley edge
- F None of the above

18. **Shading – assessment reach metric (skip for Tidal Marsh Streams)**

Consider aspect. Consider "leaf-on" condition.

<input checked="" type="radio"/> A	Stream shading is appropriate for stream category (may include gaps associated with natural processes)
<input type="radio"/> B	Degraded (example: scattered trees)
<input type="radio"/> C	Stream shading is gone or largely absent

19. **Buffer Width – streamside area metric (skip for Tidal Marsh Streams)**

Consider "vegetated buffer" and "wooded buffer" separately for left bank (LB) and right bank (RB) starting at the top of bank out to the first break.

Vegetated		Wooded		
LB	RB	LB	RB	
<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	$\geq$ 100-feet wide <u>or</u> extends to the edge of the watershed
<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	From 50 to < 100-feet wide
<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	From 30 to < 50-feet wide
<input type="radio"/> D	<input type="radio"/> D	<input type="radio"/> D	<input type="radio"/> D	From 10 to < 30-feet wide
<input type="radio"/> E	<input type="radio"/> E	<input type="radio"/> E	<input type="radio"/> E	< 10-feet wide <u>or</u> no trees

20. **Buffer Structure – streamside area metric (skip for Tidal Marsh Streams)**

Consider for left bank (LB) and right bank (RB) for Metric 19 ("Vegetated" Buffer Width).

LB		RB		
<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	Mature forest
<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	Non-mature woody vegetation <u>or</u> modified vegetation structure
<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	Herbaceous vegetation with or without a strip of trees < 10 feet wide
<input type="radio"/> D	<input type="radio"/> D	<input type="radio"/> D	<input type="radio"/> D	Maintained shrubs
<input type="radio"/> E	<input type="radio"/> E	<input type="radio"/> E	<input type="radio"/> E	Little or no vegetation

21. **Buffer Stressors – streamside area metric (skip for Tidal Marsh Streams)**

Check all appropriate boxes for left bank (LB) and right bank (RB). Indicate if listed stressor abuts stream (Abuts), does not abut but is within 30 feet of stream (< 30 feet), or is between 30 to 50 feet of stream (30-50 feet).

If none of the following stressors occurs on either bank, check here and skip to Metric 22:

Abuts		< 30 feet		30-50 feet		
LB	RB	LB	RB	LB	RB	
<input type="radio"/> A	Row crops					
<input type="radio"/> B	Maintained turf					
<input type="radio"/> C	Pasture (no livestock)/commercial horticulture					
<input type="radio"/> D	Pasture (active livestock use)					

22. **Stem Density – streamside area metric (skip for Tidal Marsh Streams)**

Consider for left bank (LB) and right bank (RB) for Metric 19 ("Wooded" Buffer Width).

LB		RB		
<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A	Medium to high stem density
<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B	Low stem density
<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	No wooded riparian buffer <u>or</u> predominantly herbaceous species <u>or</u> bare ground

23. **Continuity of Vegetated Buffer – streamside area metric (skip for Tidal Marsh Streams)**

Consider whether vegetated buffer is continuous along stream (parallel). Breaks are areas lacking vegetation > 10-feet wide.

LB RB

- A A The total length of buffer breaks is < 25 percent.  
B B The total length of buffer breaks is between 25 and 50 percent.  
C C The total length of buffer breaks is > 50 percent.

**24. Vegetative Composition – First 100 feet of streamside area metric (skip for Tidal Marsh Streams)**

Evaluate the dominant vegetation within 100 feet of each bank or to the edge of the watershed (whichever comes first) as it contributes to assessment reach habitat.

LB RB

- A A Vegetation is close to undisturbed in species present and their proportions. Lower strata composed of native species, with non-native invasive species absent or sparse.  
B B Vegetation indicates disturbance in terms of species diversity or proportions, but is still largely composed of native species. This may include communities of weedy native species that develop after clear-cutting or clearing or communities with non-native invasive species present, but not dominant, over a large portion of the expected strata or communities missing understory but retaining canopy trees.  
C C Vegetation is severely disturbed in terms of species diversity or proportions. Mature canopy is absent or communities with non-native invasive species dominant over a large portion of expected strata or communities composed of planted stands of non-characteristic species or communities inappropriately composed of a single species or no vegetation.

**25. Conductivity – assessment reach metric (skip for all Coastal Plain streams)**

25a. Yes No Was a conductivity measurement recorded?

If No, select one of the following reasons.

No Water

Other: \_\_\_\_\_

25b. Check the box corresponding to the conductivity measurement (units of microsiemens per centimeter).

A <46

B 46 to < 67

C 67 to < 79

D 79 to < 230

E ≥ 230

Notes/Sketch:

\_\_\_\_\_

**NC SAM Stream Rating Sheet**  
**Accompanies User Manual Version 2.1**

Stream Site Name Project Diamond - Kingsboro Site  
 Stream Category lb2

Date of Evaluation February 15, 2018  
 Assessor Name/Organization G. Price, R. Crowther

Notes of Field Assessment Form (Y/N) NO  
 Presence of regulatory considerations (Y/N) YES  
 Additional stream information/supplementary measurements included (Y/N) NO  
 NC SAM feature type (perennial, intermittent, Tidal Marsh Stream) Perennial

<b>Function Class Rating Summary</b>	<b>USACE/ All Streams</b>	<b>NCDWR Intermittent</b>
(1) Hydrology	<b>LOW</b>	
(2) Baseflow	<b>HIGH</b>	
(2) Flood Flow	<b>LOW</b>	
(3) Streamside Area Attenuation	<b>LOW</b>	
(4) Floodplain Access	<b>LOW</b>	
(4) Wooded Riparian Buffer	<b>HIGH</b>	
(4) Microtopography	<b>NA</b>	
(3) Stream Stability	<b>MEDIUM</b>	
(4) Channel Stability	<b>LOW</b>	
(4) Sediment Transport	<b>HIGH</b>	
(4) Stream Geomorphology	<b>MEDIUM</b>	
(2) Stream/Intertidal Zone Interaction	<b>NA</b>	
(2) Longitudinal Tidal Flow	<b>NA</b>	
(2) Tidal Marsh Stream Stability	<b>NA</b>	
(3) Tidal Marsh Channel Stability	<b>NA</b>	
(3) Tidal Marsh Stream Geomorphology	<b>NA</b>	
(1) Water Quality	<b>MEDIUM</b>	
(2) Baseflow	<b>HIGH</b>	
(2) Streamside Area Vegetation	<b>HIGH</b>	
(3) Upland Pollutant Filtration	<b>HIGH</b>	
(3) Thermoregulation	<b>HIGH</b>	
(2) Indicators of Stressors	<b>NO</b>	
(2) Aquatic Life Tolerance	<b>LOW</b>	
(2) Intertidal Zone Filtration	<b>NA</b>	
(1) Habitat	<b>LOW</b>	
(2) In-stream Habitat	<b>LOW</b>	
(3) Baseflow	<b>HIGH</b>	
(3) Substrate	<b>HIGH</b>	
(3) Stream Stability	<b>LOW</b>	
(3) In-stream Habitat	<b>LOW</b>	
(2) Stream-side Habitat	<b>HIGH</b>	
(3) Stream-side Habitat	<b>MEDIUM</b>	
(3) Thermoregulation	<b>HIGH</b>	
(2) Tidal Marsh In-stream Habitat	<b>NA</b>	
(3) Flow Restriction	<b>NA</b>	
(3) Tidal Marsh Stream Stability	<b>NA</b>	
(4) Tidal Marsh Channel Stability	<b>NA</b>	
(4) Tidal Marsh Stream Geomorphology	<b>NA</b>	
(3) Tidal Marsh In-stream Habitat	<b>NA</b>	
(2) Intertidal Zone Habitat	<b>NA</b>	
<b>Overall</b>	<b>LOW</b>	



Photo 9. UT to Walnut Creek (Permit Site 10 Downstream)



Photo 10. UT to Walnut Creek (Permit Site 10 Downstream)



Photo 11. UT to Walnut Creek (Permit Site 10 Downstream)



Photo 12. UT to Walnut Creek (Permit Site 10 Downstream)



Doc ID: 002836600010 Type: CRP  
Recorded: 12/28/2012 at 11:11:35 AM  
Fee Amt: \$26.00 Page 1 of 10  
EDGECOMBE COUNTY, NORTH CAROLINA  
Robin W Carpenter Register of Deeds

BK 1592 PG 1022-1031

N/O  
R/S

KD

**NORTH CAROLINA GENERAL WARRANTY DEED**

Excise Tax: \_\_\_\_\_

Parcel Identifier No. \_\_\_\_\_ Verified by \_\_\_\_\_ County on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
By: \_\_\_\_\_

Mail/Box to: Pinna, Johnston & Burwell, P.A., P.O. Box 31788, Raleigh, NC 27622

This instrument was prepared by: Pinna, Johnston & Burwell, P.A. (without title search or opinion)

Brief description for the Index: Eason Farm, Speight Farm

THIS DEED made this 21 day of December, 2012, by and between

GRANTOR	GRANTEE
<b>C. Allen Rose and wife, Sherée B. Rose</b> 2718 Old Bailey Highway Nashville, NC 27856	<b>CARJR Limited Partnership</b> a 50% undivided 2718 Old Bailey Highway tenant in common Nashville, NC 27856 interest <b>and</b> <b>AVR Limited Partnership</b> a 50% undivided 2718 Old Bailey Highway tenant in common Nashville, NC 27856 interest

Enter in appropriate block for each Grantor and Grantee: name, mailing address, and, if appropriate, character of entity, e.g. corporation or partnership.

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple all of its right, title and interest (being a 50% tenants in common interest) in that certain lot or parcel of land situated in Edgecombe County, North Carolina and more particularly described as follows:

See Attached Exhibit A

The property hereinabove described was acquired by Grantor by instrument recorded in Book \_\_\_\_\_ Page \_\_\_\_\_.

All or a portion of the property herein conveyed \_\_\_ includes or X does not include the primary residence of a Grantor.

A map showing the above described property is recorded in Plat \_\_\_\_\_ page \_\_\_\_\_.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor covenants with the Grantee, that Grantor is seized of the premises in fee simple, has the right to convey the same in fee simple, that title is marketable and free and clear of all encumbrances, and that Grantor will warrant and defend the title against the lawful claims of all persons whomsoever, other than the following exceptions:

1. Taxes, dues and assessments for 2012 and subsequent years.
2. Easements of rights of way of record.

IN WITNESS WHEREOF, the Grantor has duly executed the foregoing as of the day and year first above written.

\_\_\_\_\_  
 (Entity Name) C. Allen Rose (SEAL)  
 Print/Type Name: C. Allen Rose

By: \_\_\_\_\_  
 \_\_\_\_\_ (SEAL)  
 Print/Type Name & Title: \_\_\_\_\_  
 Print/Type Name: Sheree B. Rose

State of North Carolina - County or City of Wake

I, the undersigned Notary Public of the County or City of Wake and State aforesaid, certify that C. Allen Rose personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed. Witness my hand and Notarial stamp or seal this 21 day of December, 2012.

My Commission Expires: 7-17-2013  
 (Affix Seal)

FRANK L. TORTORA, III  
 NOTARY PUBLIC  
 WAKE COUNTY, N.C.  
 My Commission Expires 7-17-2013

Frank L. Tortora III  
 Notary's Printed or Typed Name

State of North Carolina - County or City of Wake

I, the undersigned Notary Public of the County or City of Wake and State aforesaid, certify that Sheree B. Rose personally appeared before me this day and acknowledged the due execution of the foregoing instrument for the purposes therein expressed. Witness my hand and Notarial stamp or seal this 21 day of December, 2012.

My Commission Expires: 7-17-2013  
 (Affix Seal)

Frank L. Tortora III  
 Notary's Printed or Typed Name

FRANK L. TORTORA, III  
 NOTARY PUBLIC  
 WAKE COUNTY, N.C.  
 My Commission Expires 7-17-2013

**EXHIBIT A****I. All that property lying in Number 11 Township commonly referred to as the Eason Farm and more particularly described as:****FIRST TRACT:**

Beginning at a point on Walnut Creek, a corner of John Bailey, formerly Minnie F. Hart, thence S. 77° E. 57 and 85/100 chains to a stake; thence S. 3° and 10' W. 49 and 54/100 chains to a stake in the northern line of the Atlantic Coast Line Railroad right of way; thence in a westerly direction along and with the said right of way to Walnut Creek; thence down the various courses of said Walnut Creek to the beginning, containing 277 and  $\frac{3}{4}$  acres.

**SECOND TRACT:**

Beginning at the point where the southern line of the Atlantic Coast Line Railroad right of way crosses Walnut Creek; thence in an easterly direction along and with said right of way 12 and 27/100 chains to a stake; thence N. 88° W. 24 and 25/100 chains to a stake; thence N. 12° E. 50 chains to a stake in Walnut Creek; thence down Walnut Creek to the beginning, containing 146-1/2 acres.

**THIRD TRACT:**

Beginning at a stake in the back line of lot No. 8; thence along line of lot 8, S. 88° E. 66-3/4 poles to stake; thence S. 50-45 E. 21 poles to stake in field; S. 38° E. 109-1/5 poles to stake in railroad line; thence with railroad line to the run of Rooty Branch; thence up the run of said branch to a stake in the back line; thence along back line N. 3-10 E. 41 poles and 9 links to the first station, containing 99.1 acres.

**FOURTH TRACT:**

Lying and being situate in number 11 Township, the county of Edgecombe, and beginning at a stake on the Tarboro and Rocky Mount road, corner of lot Number 2, thence with the line of lot number 2 S. 15° and 15' E. 94 poles to a stake on the canal in Hatcher Run; thence down the said canal to a cypress stump; thence S. 83° E. to a white oak; thence N. 12° and 30' E. to a cypress in Hyman Phillips' line, below the swamp canal bridge; thence up said canal to the Tarboro and Rocky Mount road; thence along said road to the first station. Containing \_\_\_\_\_ acres, more or less. Said lot being the same lot known as lot number 1 in the division of certain lands in a proceeding entitled S. L. Hart, and wife, ex parte, as will be seen by the report of the commissioners as recorded in Book 86, Page 481, of the Edgecombe Registry said lot being allotted by said report to S. L. Hart.

**FIFTH TRACT:**

Beginning at a stake, Wiggins corner, near the Tarboro and Rocky Mount road, thence along Wiggins' line, N. 2° and 16' E. 84 poles and 11 links to a stake, Wiggins' corner; thence

continuing along Wiggin's line N. 79° and 36' E. 127 poles to a stake, formerly a pine, Mrs. Wimberley's corner, thence along her line S. 6° and 21' W. 90 poles to a stake on the south side of a small branch; thence S. 20° and 21' W. 34 poles to a pine on the Tarboro and Rocky Mount road; hence along said road to the first station, containing \_\_\_\_ acres.

**SIXTH TRACT:**

Beginning at a stake and small pine, R. G. Hart's corner, formerly a red oak; thence S. 30° W. 76 poles to a stake in the line of lot number 4; thence along the line of lot number 4 S. 87° E. 226 poles to a stake, on the canal in Hatcher's Run, corner of lot number 1; thence along line of lot number 1, N. 5° and 15' W. 94 poles to a stake on the Tarboro and Rocky Mount road; thence along said road to the first station, containing 116 acres, more or less.

**SEVENTH TRACT:**

Lot No. 3 of the R.G. Hart farm, map of which is recorded in Book 150, Page 263 of the Edgecombe Registry, and described as follows: Beginning where the Tarboro and Hartsease Roads intersect, corner of Lot No. 2; thence along the line of Lot No. 2 and the center of Hartsease Road in a southerly direction to a line ditch, corner of Lot No. 2; thence S. 76-30 East 1500 feet to an iron pin; thence N. 3-55 East 2624 feet to a stake, corner of Lot No. 4 of Tarboro Road; thence along said road in a westerly direction to the beginning, containing 78.5 acres, as surveyed October 1, 1913, by F.C. Smith. See map recorded in Plat Book 3, Page 263, Edgecombe County Registry.

**EIGHTH TRACT:**

Lot No. 4 of the R.G. Hart farm, map of which is recorded in Book 150, Page 263 of the Edgecombe Registry, and described as follows: Beginning at a stake on the Tarboro Road, corner of Lot No. 3, thence along the line of Lot No. 3 S. 3-55 West 2700 feet to a stake, corner of Lot No. 6, thence S. 86-15 East to a stake, corner of Lot No. 5; thence N. 3-45 East 2265 feet to an iron pin; thence N. 65-50 West 1277 feet to beginning, containing 65.5 acres as surveyed October 1, 1913, by F.C. Smith. See map recorded in Plat Book 3, Page 263, Edgecombe County Registry.

**NINTH TRACT:**

Lot No. 5 of the R.G. Hart farm, map of which is recorded in Book 150, Page 263 of the Edgecombe Registry, and described as follows: Beginning at an iron pin in the line of Lot No. 4, thence S. 3-45 West to a stake in the line of Lot No. 6; thence along the line of Lot No. 6 S. 86-15 East to Hatchett's Swamp canal; thence along said canal in a northerly direction to the northeast corner of Lot No. 5; thence N. 86-15 West 4155 feet to the beginning, containing 92 acres as surveyed October 1, 1913, by F.C. Smith. See map recorded in Plat Book 3, Page 263, Edgecombe County Registry.

**TENTH TRACT:**

Beginning at a point in the center of Hart's Mill Run (also known as Hatchers Swamp Canal) a corner with the above described tract of land and formerly a corner with the lands of D.R. Clark, Nan G. Clark and W.J. Eason, thence along the center of the run of said canal the following courses and distances: S. 35-30 E. 205 feet, S. 5-00 E. 218 feet S. 15-30 W. 619 feet to the line of W.S. Clark & Sons, thence N. 64-30 W. along the said Clark line 1910 feet to an iron stake, a corner, thence N. 22-40 E. 1010 feet to the line of the above described tract of land, a corner, thence S. 64-30 E. 1565 feet to the point of beginning, containing 39.4 acres, more or less, as shown on a map of same made by Cooper & Carlisle, Surveyors, January 25, 1940. Together with the right of ingress and egress on and over a farm or private road leading from the public road on the southern side of U.S. Highway #64 to the western side of the above described land.

**ELEVENTH TRACT:**

Beginning at a beech on the south side of Tar River, below Gaskin's old ford, Richard Harrison's old corner, thence along said old Harrison line, S. 30° W. 40 poles; thence S. 36° W. 39 poles; thence S. 27° W. 68 poles to a pine stump on a marsh; thence S. 44° W. 85 poles to a dead water oak; thence S. 30° W. 12 poles; thence S. 16° W. 34 poles; thence S. 10° W. 58 poles; thence S. 23° W. 22 poles to a pine stump thence S. 15° 21 poles to S.L. Hart's old corner; thence along Hart's old line S. 77-1/4° W. 127 poles to some small oaks, dogwood and sassafras; thence along a new line of marked trees S. 86-1/2 poles to a point formerly a pine tree on the old road from Rocky Mount to Tarboro; thence westerly along the said road 62-1/2 poles to a red oak in James S. Battle old line; thence along said line N. 67 poles to a stake in the field of James S. Battle's old corner, thence S. 77-1/4° W. 80 poles to Battle's other corner, formerly an oak; thence N. 11° E. 224 poles, crossing the marsh to the bank of Tar River; thence down the various courses of said river to the first station, containing 516 acres, more or less.

**Being the property described** in Deeds recorded in Book1206, Page 915, Page 1206, Page 897, Book1206, Page 906, Book 1206, Page 922, Book1210, Page 228 and Book1253, Page 925, Edgecombe County Registry.

Being all of that certain real property designated in the Edgecombe County Tax Office as Parcel #4709-35-0723-00.

**LESS AND ACCEPT:** The Eason Residence containing 6.57 acres, more or less, as described in Book 995, Page 215, Edgecombe County Registry;

**LESS AND ACCEPT:** 7.42 acres conveyed to Joe W. Hunter by Virginia Watson Eason, widow, recorded in Book 926, Page 525, Edgecombe County Registry. Subject to an easement described in Book 1003, Page 186, Edgecombe County Registry.

**LESS AND ACCEPT:** That property taken by the Department of Transportation for U.S. Highway 64 By-Pass.

**LESS AND ACCEPT:** Bounded on the South by U.S. Hwy. 64A; on the West by S.R. 1337; North by S.R. 1336 (Northwoods Country Road); and on the East by Harts Mill Run Creek; Beginning at the intersection of U.S. Hwy. 64A and the center line of the concrete bridge over Harts Mill Run; thence from the beginning point thus determined along the center line of U.S. Hwy. 64A in a westerly direction 3250 feet more or less to the intersection of U.S. Hwy. 64A with the center line of S.R. 1337, cornering; thence with the center line of S.R. 1337 in a northern direction 400 feet, more or less, to the intersection of center line of S.R. 1336 cornering; thence along the center line of S.R. 1336 in an easterly direction 6,154 feet, more or less to its intersection on a concrete bridge on Northwoods Country Road with the center line of Harts Mill Run, cornering; thence in a southerly direction up the center line of Harts Mill Run 4,900 feet, more or less to the center line of U.S. Hwy. 64A, the point of beginning, containing 130.8 acres, more or less.

Being the identical tract conveyed by David L. Rose et. al. to William J. Eason, Jr. by deed of record in Book 1253, Page 931, Edgecombe County Register of Deeds.

**LESS AND ACCEPT:** Being in #11, Township, Edgecombe County, North Carolina and more particularly described as follows:

Beginning at a point in the center of the Tarboro-Rocky Mount Highway (U.S. #64A) at a point in the center of the concrete bridge over the run of Hart's Mill Run, (also known as Hatchers Swamp Canal); thence up the center of the said Run or Canal the following courses and distances: S 22-10 W. 206 feet, S. 14-00 E. 228 feet, S. 35-30 E. 205 feet, S. 5-00 E. 218 feet, S. 15-30 W. 619 feet to the line of Sharon L. Horton, cornering; thence N. 84-30 W. along the said Horton line 1910 feet to an iron stake, a corner; thence N. 22-40 E. 1010 feet; thence continuing N. 22-40 E. 1010 feet to the center of said Highway 64A, thence along the center of said highway S. 60-50 E. 1353 feet to the point of beginning, containing 61.4 acres, more or less.

Being the identical tract conveyed by David L. Rose et. al. to Sharon Horton by deed of record in Book 1253, Page 937, Edgecombe County Register of Deeds.

**II. All that property lying in Number 1 Township commonly referred to as the Spight Farm and being more particularly described as:**

**PARCEL "A"**

First Tract:

That certain tract or parcel of land lying and being situate in No. 1 Township, Edgecombe County, North Carolina, lying north of the Atlantic Coast Line Railroad right of way, and adjoining the lands of J. W. Ashburn, Tar River Realty Company, the Royster Guano Company and others more particularly described as follows: Beginning at an iron stake in the northern line of the right of way of the A.C.L. Railroad running from Tarboro to Rocky Mount, corner with J. W. Ashburn, running thence along and with said right of way South 79 degrees 20 minutes East 2,492 feet to a stake, a corner with the Royster Guano Company, thence North 8 degrees 10 minutes East 1,312 feet to an iron stake, thence North 53 degrees 45 minutes West 459 feet to an

iron stake, thence North 50 degrees 35 minutes West 183 feet to an iron stake, thence North 5 degrees 25 minutes West 58.8 feet to an iron stake, thence North 54 degrees 45 minutes West along the Barlow line 1,460 feet to an iron stake, thence North 5 degrees 58 minutes East 1,589 feet along the King line to an oak in a branch, thence up said branch about 650 feet to a stake on said branch, said stake being South 76 degrees 5 minutes West 615 feet from said oak cornering with the Ashburn land in said branch, thence along said Ashburn line, the same being a ditch, South 1 degree 25 minutes West 810 feet, thence South 9 degrees 50 minutes West 2,789 feet to the point of beginning, containing 126 ½ acres, more or less. See deed recorded in Book 409, Page 482, Edgecombe County Public Registry.

Second Tract:

That certain tract or parcel of land lying and being situate in No. 1 Township, Edgecombe County, North Carolina, adjoining the lands of W. G. Clark, Jr., and the said Bingham M. Speight, and being a part of the King Farm, and more particularly described as follows: Beginning at a large water oak on the southern bank of Hendrick's Creek, Speight and Clark corner; thence along a newly made line between the said Clark and Speight South 9 degrees 30 minutes East 1957 feet to an iron stake, a corner with the lands of the Barlow heirs, the King Farm of W. G. Clark, Jr., and the said Speight, thence along and with the Speight line North 56 degrees 02 minutes West 559 feet to an iron stake, formerly Speight's corner in the King land, thence along and with the said Speight line North 4 degrees 40 minutes East 1,622 feet to the point of beginning, containing 8.82 acres, more or less, magnetic bearing for November, 1928. See deed recorded in Book 409, Page 482, Edgecombe County Public Registry.

**PARCEL "B"**

Beginning at a point in the western line of the property of Royster Guano Company, which said point is thirteen hundred and twelve (1,312) feet northwardly from an iron pin at the intersection of the western property of Royster Guano Company and the northern right of way line of the Atlantic Coastline Railroad; thence along a course South fifty-four degrees zero minutes (54° 0') East four hundred and eighteen (418) feet to a point; thence along a course marked by a fence South sixty-seven degrees thirty minutes (67° 30') East one thousand seven (1007) feet to an iron stake; thence along a course North forty-nine degrees fifteen minutes (49° 15') West seventy-four (74) feet to a point; thence along a course North forty-three degrees zero minutes (43° 0') West one hundred seventy-three (173) feet to a point; thence along a course North fifty-one degrees fifteen minutes (51° 15') West three hundred and six (306) feet to a point; thence along a course North fifty-five degrees forty five minutes (55° 45') West eight hundred ninety-one (891) feet to a point; thence along a course North fifty-four degrees fifteen minutes (54° 15') West ninety-nine (99) feet to a point in the western line of the property of Royster Guano Company; thence along said western line South nine degrees thirty minutes (9° 30') West three hundred thirty-eight (338) feet to the point of beginning.

The above described tract of land contained seven and five tenths (7.5) acres, more or less, and is described with reference to a plat made by L. B. Cooper, dated February, 1954, entitled "Property of F. S. Royster & Co." See deed recorded in Book 542, Page 137, Edgecombe County Public Registry.

**PARCEL "C"**

That certain tract or parcel of land adjoining the lands of the late C. H. King, the late C. J. Austin, the Lloyd heirs and the F. S. Royster lands, containing 60 acres, more or less, and known as the "Hall Tract". For the chain of title and further description reference is made to deed recorded in Book 632, Page 177, and deed recorded in Book 532, Page 280, Edgecombe County Public Registry.

AND BEING the identical property devised to Elizabeth W. Palmer, C. J. Weeks, Jr. and Frances W. Lancaster by Will of Elizabeth B. Weeks filed in Office of the Clerk of Superior Court of Edgecombe County in Estate file No. 82-E-259. C. J. Weeks, Jr. died on September 15, 1999, his Will being filed in the Office of the Clerk of Superior Court of Edgecombe County in Estate file No. 99-E-360. By Deed dated July 27, 2000 Ted B. Lanier, Executor of the Estate of Clifton J. Weeks, Jr. conveyed the 1/3 undivided interest of the estate of Ted B. Lanier, Trustee under the Last Will and Testament of Clifton J. Weeks, Jr. recorded in Book 1275, Page 318, Edgecombe County Public Registry. Elizabeth Weeks Palmer died on October 9, 2000, her Will being filed in the Office of the Clerk of Superior Court in File No. 00-E-406 and by said Will devised all property both real and personal to her daughter, Elizabeth Weeks (Beth) Palmer.

SAVE AND EXCEPT:

Exception #1: Being all of Phase One of "Foxhall Subdivision" located on the north side of Industrial Parkway described in metes and bounds as follows:

BEGINNING at an Iron Stake in the northern right of way line of Industrial Parkway (aka S.R. 1346) located the following courses and distances from Control Corner NCGS STATION "STEER", NC GRID COORDS, N=241,111.452M, E=739,376.049M: S. 89 deg. 57 min. 50 sec. W., 2209.73 feet to an Iron Stake in the northern right of way line of Industrial Parkway; thence along the northern right of way line of Industrial Parkway, S. 72 deg. 13 min. 33 sec. W., 51.76 feet to an Iron Stake in the northern right of way line of Industrial Parkway, the POINT AND PLACE OF BEGINNING, from said BEGINNING POINT along and with the northern right of way line of Industrial Parkway, S. 72 deg. 13 min. 33 sec. W., 143.25 feet to an Iron Stake in a Tie Line; thence with said Tie Line, S. 75 deg. 00 min. 35 sec. W. 60.00 feet to an Iron Stake; thence continuing with the northern right of way line of Industrial Parkway along a curve to the right having a radius of 1859.86 feet, a chord S. 78 deg. 13 min. 19 sec. W., 141.59 feet, cornering; thence along a new line with 3MR Limited Partnership and Charles Allen Rose, N. 14 deg. 44 min. 52 sec. W., 457.61 feet, to an Iron Stake, cornering; thence along a new line N. 75 deg. 15 min. 08 sec. E., 344.36 feet to an Iron Stake in the line of the Town of Tarboro, cornering; thence along and with the line of the Town of Tarboro S. 14 deg. 45 min. 36 sec. E., 146.95 feet to an Iron Stake in the line of 3MR Limited Partnership and Charles Allen Rose; thence along and with the line of 3MR Limited Partnership and Charles Allen Rose, S. 14 deg. 45 min. 36 sec. E., 310.17 feet to an Iron Stake in the northern right of way line of Industrial Parkway, the point and place of BEGINNING; said parcel containing 3.65 acres, and consisting of all of Lots 1 through 4 in Block A and all of Lots 1 through 4 in Blocks B as well as the right of way of Lansdowne Drive shown on "Final Plan, 'Foxhall Subdivision' Phase One, Property of

Four Seasons Properties, LLC" by Chamblee & Strickland, Land Surveying, dated June 14, 2001, as revised, to be filed for record in the Edgecombe County Public Registry; and being a part of that property conveyed by 3MR Limited Partnership and Charles Allen Rose to Four Seasons Properties, LLC by deed recorded in Book 1304, Page 104, Edgecombe County Public Registry.

Exception #2: Being a 50% undivided interest in that parcel described as follows:

BEGINNING at a point in the northerly right of way of Industrial Parkway (SR 1346), said point being the southeasterly corner of Lot 20 of Cambridge Commons, Phase One, of record in Plat Cabinet 7, Slide 257 & 258, Edgecombe County Registry; thence from said point of beginning N. 29 deg. 56' 11" W. 155.85 feet to a point, cornering; thence S., 51 deg. 54' 41" W. 10.97 feet to a point, cornering; thence N. 33 deg. 28' 42" W. 135.50 feet to a point; thence N. 63 deg. 06' 39" W. 66.09 feet to a point; thence N. 39 deg. 33' 25" W. 117.76 feet to a point; thence N. 02 deg. 18' 30" E. 55.33 feet to a point; thence N. 04 deg. 29' 16" E. 132.65 feet to a point; thence N. 20 deg. 47' 32" E. 132.65 feet to a point, thence N. 37 deg. 05' 48" E. 132.65 feet to a point; thence N. 53 deg. 24' 04" E. 132.65 feet to a point, thence N. 69 deg. 42' 20" E. 132.65 feet to a point; thence N. 86 deg. 00' 36" E. 132.65 feet to a point; thence N. 56 deg. 35' 24" E. 193.50 feet to a point, cornering; thence S. 33 deg. 24' 36" E. 720.93 feet to a point in the northerly right of way of SR 1346, cornering; thence with and along said right of way the following courses and distances: S. 66 deg. 18' 24" W. along the arc of curve having a radius of 1,482.39 feet a distance of 168.72 feet; thence S. 60 deg. 34' 27" W. 233.48 feet; thence S. 59 deg. 08' 36" W. 202.78 feet; thence S. 59 deg. 39' 21" W. 149.16 feet; thence S. 61 deg. 50' 47" W. along the arc of a curve having a radius of 2,814.79 feet a distance of 119.86 feet to the point of beginning, containing 13.38 acres and being that property conveyed by 3MR Limited Partnership and Charles Allen Rose and wife, Sheree B. Rose to Steve A. Newcombe by deed recorded in Book 1389, Page 504 Edgecombe County Registry.

Exception #3: Being all of Tract A containing 13.39 acres, bounded on south by Industrial Parkway (also known as S.R. 1346), on the west by Foxhall Subdivision, on the north by the Town of Tarboro, and on the east by First Original Free Will Baptist Church and Tract B of property of 3MR Limited Partnership and Charles Allen Rose, and being more particularly described as follows:

BEGINNING at an Iron Pipe Found in the northern right of way line of Industrial Parkway, the southeast corner of Foxhall Subdivision as shown on map recorded in Plat Cabinet 6, Slide 290, Edgecombe County Public Registry; from said BEGINNING POINT thus established, along and with the line of Foxhall Subdivision, N. 14° 45' 36" W., 310.17 feet to an Iron Pipe Found, a Control Corner, with Town of Tarboro, cornering; thence along and with the line of the Town of Tarboro, N. 43° 09' 24" E., 1,772.88 feet to an Iron Pipe Found, a Control Corner, cornering; thence along and with the line of the Town of Tarboro, S. 33° 26' 59" E., 15.94 feet to an Iron Pipe Found in the line of First Original Free Will Baptist Church; thence along and with the line of First Original Free Will Baptist Church, S. 33° 24' 36" E., 261.94 feet to a point in the line of Tract B of the property of 3MR Limited Partnership and Charles Allen Rose, cornering; thence along the following courses and distances making a new line separating Tracts A and B on map hereinafter referred to: S. 56° 35' 24" W., 193.50 feet; thence S. 86° 00' 36" W., 132.65 feet;

thence S. 69° 42' 20" W., 132.65 feet; thence S. 53° 24' 04" W., 132.65 feet; thence S. 37° 05' 48" W., 132.65 feet; thence S. 20° 47' 32" W., 132.65 feet; thence S. 04° 29' 16" W., 132.65 feet; thence S. 02° 18' 30" W., 55.33 feet; thence S. 39° 33' 25" E., 117.76 feet; thence S. 63° 06' 39" E., 66.09 feet; thence S. 33° 28' 42" E., 135.50 feet; thence N. 51° 54' 41" E., 10.97 feet; and S. 29° 56' 11" E., 155.85 feet to a point in the northern right of way line of Industrial Parkway; cornering; thence along and with the northern right of way line of Industrial Parkway the following courses and distances: S. 66° 25' 57" W., 330.56 feet along a curve to the right having a radius of 2,814.79 feet, to an Iron Pipe Found; thence S. 70° 48' 27" W., 148.96 feet to an Iron Pipe Found; thence S. 71° 14' 21" W. 448.12 feet to an Iron Pipe Found; and S. 72° 13' 33" W., 51.76 feet to an Iron Pipe Found in the line of Foxhall Subdivision, the point and place of BEGINNING; and being all of Tract A containing 13.39 acres as shown on map entitled "Property of 3MR Limited Partnership and Charles Allen Rose" dated October 8, 2002, by Chamblee & Strickland, Land Surveying, to which reference is hereby made; and being a part of that property conveyed by 3MR Limited Partnership and Charles Allen Rose to Four Seasons Properties, LLC by deed recorded in Book 1365, Page 396, Edgecombe County Public Registry, shown on map recorded in Plat Cabinet 6, Slide 262, Edgecombe County Public Registry.

This certifies that there are no delinquent ad valorem real estate taxes, which The Edgecombe County Tax Collector is charged with collecting, that are a lien on:  
 Pin No. ~~3798-87-9901, 3499-90-2049, 4709-23-2305~~  
~~4309-48-9235, 4719-30-4442, 4729-22-6179~~  
 This is not a certification that this Edgecombe County Tax Department Pin No. matches this Deed description.

ABS Mitchell Date: 12/28/12  
 Tax Collector, Tax Assistant

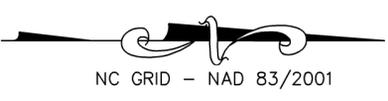
(10) \$ 26.<sup>00</sup> Plu-Allen ROSE

N.C.G.S. MONUMENT "BARBARA"  
 Northing: 797,191.55 usft  
 Easting: 2,395,920.40 usft  
 NC Grid NAD 83/2001  
 Combined Grid Factor:  
 0.99994317

S30°52'35"E  
 6771.93' (Grid Distance)  
 "BARBARA" TO "A"  
 6772.31' (Horizontal Ground Mon.  
 The From NCGS Mon.)

FORMERLY  
 3MR LIMITED PARTNERSHIP  
 TRACT "A"  
 DB 1542, Pg. 938  
 DB 1542, Pg. 946  
 TRACT 3  
 480.11 Acres NET  
 7.75 Acres S.R. 1217 R/W  
 487.86 Acres TOTAL

IPS "A"  
 Northing: 791,379.37 usft  
 Easting: 2,399,395.68 usft  
 NC Grid NAD 83/2001



HARTS CHAPEL ROAD  
 PUBLIC 60' R/W  
 (TO BE ABANDONED)

PROFESSIONAL LAND SURVEYOR NUMBER L-3335

EDGECOMBE COUNTY, NORTH CAROLINA  
 I, MICHAEL L. KEENEY, certify that this plat was drawn under my supervision from an actual survey made under my supervision (detailed description recorded in DB AS, PG SHOWN, etc.) (other) that the boundaries not surveyed are clearly indicated as drawn from information found in Book AS, Page SHOWN, that the ratio of precision as calculated is 1:10,000, that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my Original Signature, License Number and Seal this \_\_\_\_ Day of \_\_\_\_ 2018.

Seal or Stamp: Surveyor: \_\_\_\_\_ License Number: L-3335

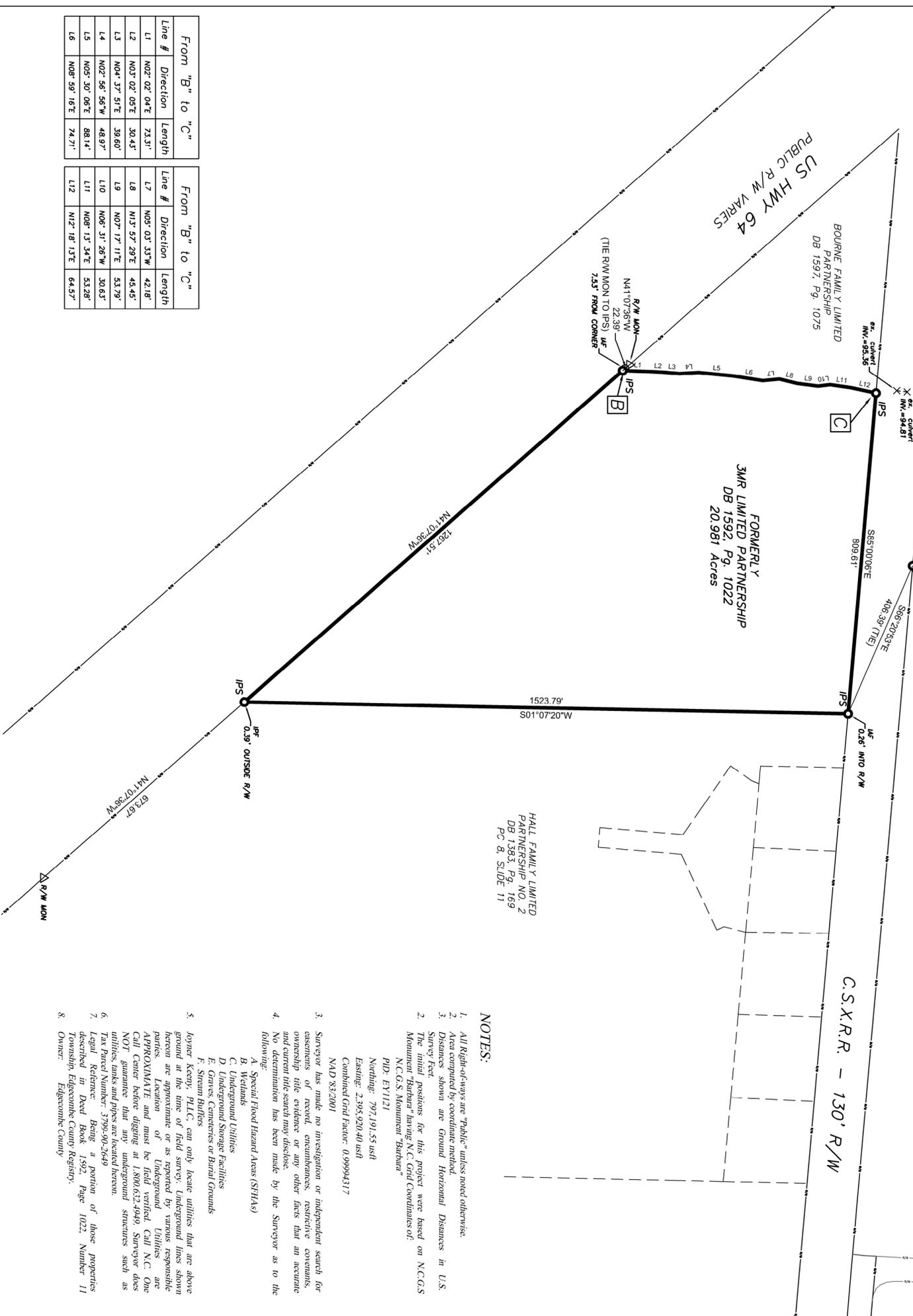
I, MICHAEL L. KEENEY, Professional Land Surveyor Number L-3335 certify:  
 THAT THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL(S) OF LAND.

PRELIMINARY  
 Not for Recordation

**LEGEND**

- Lines Surveyed
- Lines Not Surveyed
- Right-of-Way Line
- Edge of Water
- Existing Overhead Electric
- Computed Point - No Iron Found or Set
- Iron Property Corner (set unless noted otherwise)
- Concrete Monument Found
- Iron Pipe Set
- Iron Stake Found
- Iron Axle Found
- No Iron Set or Found
- Dead Book
- Map Book
- Plot Cabinet
- Page Number
- Right-of-Way
- Existing
- Proposed
- Permanent
- PROX.
- PERM.
- Typical
- APPROX.
- Approximate Intermediate Distance

**VICINITY MAP (NTS)**



From "B" to "C"			From "B" to "C"		
Line #	Direction	Length	Line #	Direction	Length
L1	N02° 02' 04"E	73.31'	L7	N05° 03' 33"W	42.18'
L2	N03° 02' 05"E	30.43'	L8	N13° 57' 29"E	45.45'
L3	N04° 37' 51"E	39.60'	L9	N07° 17' 11"E	53.79'
L4	N02° 56' 56"W	48.97'	L10	N06° 31' 28"W	30.63'
L5	N05° 30' 06"E	88.14'	L11	N08° 13' 34"E	53.28'
L6	N08° 58' 16"E	74.71'	L12	N12° 18' 13"E	64.57'

HALL FAMILY LIMITED PARTNERSHIP NO. 2 DB 1383, Pg. 169 PC 8, SLIDE 11

**NOTES:**

- All Right-of-ways are "Public" unless noted otherwise.
- Also computed by coordinate method.
- Distances shown are Ground Horizontal Distances in U.S. Survey Feet.
- The initial positions for this project were based on N.C.G.S. Monument "Barbara" having N.C. Grid Coordinates of:  
 N.C.G.S. Monument "Barbara"  
 PID: EY1121  
 Northing: 797,191.55 usft  
 Easting: 2,395,920.40 usft  
 Combined Grid Factor: 0.99994317  
 NAD 83/2001
- Surveyor has made no investigation or independent search for easements of record, encroachments, restrictive covenants, and ownership title evidence or any other facts that an accurate and current title search may disclose.
- No determination has been made by the Surveyor as to the following:  
 A. Special Flood Hazard Areas (SFHAS)  
 B. Wetlands  
 C. Underground Utilities  
 D. Underground Storage Facilities  
 E. Graves, Cemeteries or Burial Grounds  
 F. Stream Buffers
- Joynr Keeny, PLLC, can only locate utilities that are above ground at the time of field survey. Underground lines shown herein are approximate or as reported by various responsible parties. Location of Underground Utilities are APPROXIMATE and must be field verified. Call N.C. One Call Center before digging at 1.800.632.4949. Surveyor does NOT guarantee that any underground structures such as utilities, tanks and pipes are located herein.
- Tax Parcel Number: 3795-90-2549
- Legal Reference: Being a portion of those properties described in Deed Book 1292, Page 1022, Number 11 Township, Edgecombe County Registry.
- Owner: Edgecombe County

**JOYNER KEENEY & LAND SURVEYING PLLC**

1051 North Winstead Avenue - P.O. Box 7533  
 Roeky Mount, North Carolina 27804  
 North Carolina Firm Number P-0551  
 Office: 252.977.3124 Fax: 252.985.6026  
 www.joynrkeeny.com

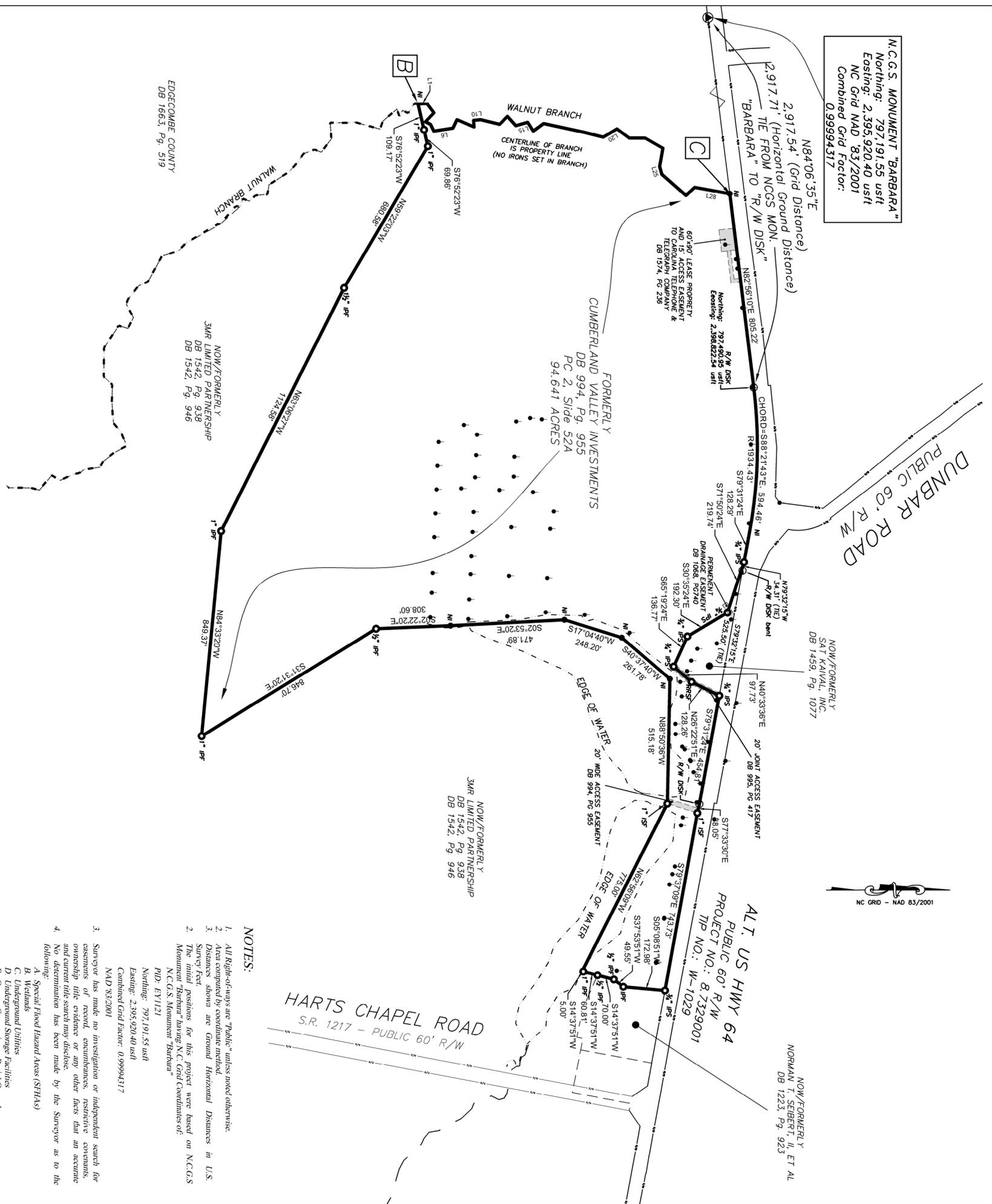
**BOUNDARY MAP OF PROPERTY FOR:**

**PARCEL 1**  
**EDGECOMBE**  
**COUNTY**



Drawn By: JSK	Checked By: MLK	Date: 1/30/18
DWG: 170196A Parcel 1 Boundary_180130.dwg	ViewPort: MAP	
JOB NO: 170196A	Sheet No: 1 of 1	

N.C.G.S. MONUMENT "BARBARA"  
 Northing: 797,191.55 usft  
 Easting: 2,395,920.40 usft  
 NC Grid NAD 83/2001  
 Combined Grid Factor:  
 0.99994317



Line #	Direction	Length
L1	N00° 54' 42" W	371.4'
L2	N52° 43' 40" E	47.07'
L3	S45° 49' 21" E	90.90'
L4	N27° 16' 15" E	23.93'
L5	N63° 58' 50" E	30.68'
L6	N08° 43' 08" W	79.66'
L7	N63° 28' 52" W	39.05'
L8	N23° 11' 20" E	76.48'
L9	S66° 02' 51" W	27.24'
L10	N05° 51' 02" W	29.20'

Line #	Direction	Length
L11	N16° 08' 32" E	8.36'
L12	N13° 16' 54" E	72.88'
L13	N45° 33' 15" W	45.06'
L14	N47° 32' 15" E	52.11'
L15	N16° 12' 19" W	51.01'
L16	N57° 51' 11" E	42.90'
L17	N35° 35' 09" W	53.35'
L18	N12° 04' 08" E	171.89'
L19	N13° 53' 20" E	80.33'
L20	N30° 12' 40" W	66.23'

Line #	Direction	Length
L21	N36° 23' 49" E	63.21'
L22	N00° 08' 15" W	65.36'
L23	N29° 37' 01" E	84.96'
L24	S79° 49' 31" E	77.47'
L25	N74° 43' 02" E	33.45'
L26	N41° 08' 22" E	132.88'
L27	N42° 40' 30" W	49.17'
L28	N10° 15' 03" E	147.65'

**NOTES:**

- All Right-of-Ways are "Public" unless noted otherwise.
- Also computed by coordinate method.
- Distances shown are Ground Horizontal Distances in U.S. Survey Feet.
- The initial positions for this project were based on N.C.G.S. Monument "Barbara" having N.C. Grid Coordinates of:  
 PID: EY1121  
 Northing: 797,191.55 usft  
 Easting: 2,395,920.40 usft  
 Combined Grid Factor: 0.99994317  
 NAD 83/2001
- Surveyor has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, and current title search may disclose.
- No determination has been made by the Surveyor as to the following:  
 A. Special Flood Hazard Areas (SFHAS)  
 B. Wetlands  
 C. Underground Utilities  
 D. Underground Storage Facilities  
 E. Graves, Cemeteries or Burial Grounds  
 F. Stream Buffers
- Joynker Kenney, PLLC, can only locate utilities that are above ground at the time of field survey. Underground lines shown herein are approximate or as reported by various responsible parties. Location of Underground Utilities are APPROXIMATE and must be field verified. Call N.C. One Call Center before digging at 1.800.652.4949. Surveyor does NOT guarantee that any underground structures such as utilities, tanks and pipes are located herein.
- Tax Parcel Number: 37986859300
- Legal Reference: Being a portion of that property described in Edgcombe County Register, Page 955, Number 11 Township, Owners:  
 1024 Laurelch Drive  
 Chambersburg, PA 17702



I, MICHAEL L. KENNEY, certify that this plat was drawn under my supervision from an actual survey made under my supervision (detailed description recorded in DB AS, PG SHOWN, etc.) (other) that the boundaries not surveyed are clearly indicated as drawn from information found in Book AS, Page SHOWN, that the ratio of precision as calculated is 1:10,000, that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my Original Signature, License Number and Seal this \_\_\_\_\_ Day of \_\_\_\_\_, 2018.

Surveyor: \_\_\_\_\_  
 License Number: L-3335

I, MICHAEL L. KENNEY, Professional Land Surveyor Number L-3335 certify:  
 THAT THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL(S) OF LAND.  
 PROFESSIONAL LAND SURVEYOR NUMBER L-3335

**LEGEND**

- Lines Surveyed
- Lines Not Surveyed
- Right-of-Way Line
- Edge of Water
- Existing Overhead Electric
- Existing Utility Pole
- Computed Point - (No Iron Found or Set)
- Iron Property Corner (set unless noted otherwise)
- Concrete Monument Found
- Iron Pipe Set
- Iron Stake Found
- Iron Stake Found
- No Iron Set or Found
- Dead Book
- Map Book
- Plat Cabinet
- Page Number
- Right-of-Way
- Existing
- Proposed
- Permanent
- Typical
- APPROX.
- INTERMEDIATE DISTANCE (100.00')

**VICINITY MAP (NTS)**

**JOYNER KENNEY PLLC**  
 PLANNING & LAND SURVEYING

1051 North Winstead Avenue - P.O. Box 7533  
 Rocky Mount, North Carolina 27804  
 North Carolina Firm Number P-0551  
 Office: 252.977.3124 Fax: 252.985.6026  
 www.joynkerkenney.com

**BOUNDARY MAP OF PROPERTY FOR:**  
**PARCEL 2**  
**EDGECOMBE**  
**COUNTY**



TWSP: NO. 11 TOWNSHIP	COUNTY: EDGECOMBE
DRAWN BY: JSK	CHECKED BY: MLK
DWG: 170196A, Parcel 2, Boundary, 180130.dwg	DATE: 1/30/18
JOB NO: 170196A	VIEWPORT: MAP
SHEET NO: 1 of 1	

I, MICHAEL L. KEENEY, certify that this plat was drawn under my supervision from an actual survey made under my supervision (detailed description recorded in DB AS, PG SHOWN, etc.) (other) that the boundaries not surveyed are clearly indicated as drawn from information found in Book AS, Page SHOWN, that the ratio of precision as calculated is 1:10,000, that this plat was prepared in accordance with G.S. 47-30 as amended and was reported as 150 feet to 175 feet wide per Dominion Power.)  
 Witness my Original Signature, License Number and Seal this \_\_\_\_\_ Day of \_\_\_\_\_, 2018.

Seal or Stamp: Surveyor: \_\_\_\_\_ License Number: L-3335



I, MICHAEL L. KEENEY, Professional Land Surveyor Number L-3335 certify:  
 THIS SURVEY IS OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT ORDERED SURVEY OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION.

PROFESSIONAL LAND SURVEYOR NUMBER L-3335

**LEGEND**

- Lines Surveyed
- Lines Not Surveyed
- Right-of-Way Line
- Edge of Water
- Existing Overhead Electric
- Computed Point - No Iron Found or Set (set unless noted otherwise)
- Iron Property Corner
- Concrete Monument Found
- Iron Pipe Found
- Iron Stake Found
- Iron Axle Found
- No Iron Set or Found
- Dead Book
- Map Book
- Plot Cabinet
- Page Number
- Right-of-Way
- Existing
- Proposed
- Permanent
- Typical
- APPROX. (100.00')
- Intermediate Distance

**VICINITY MAP (NTS)**

**JOYNER KEENEY & LAND SURVEYING PLLC**

1051 North Winstead Avenue - P.O. Box 7533  
 Rocky Mount, North Carolina 27804  
 North Carolina Firm Number P-0551  
 Office: 252.977.3124 Fax: 252.985.6026  
 www.joynerkeeney.com

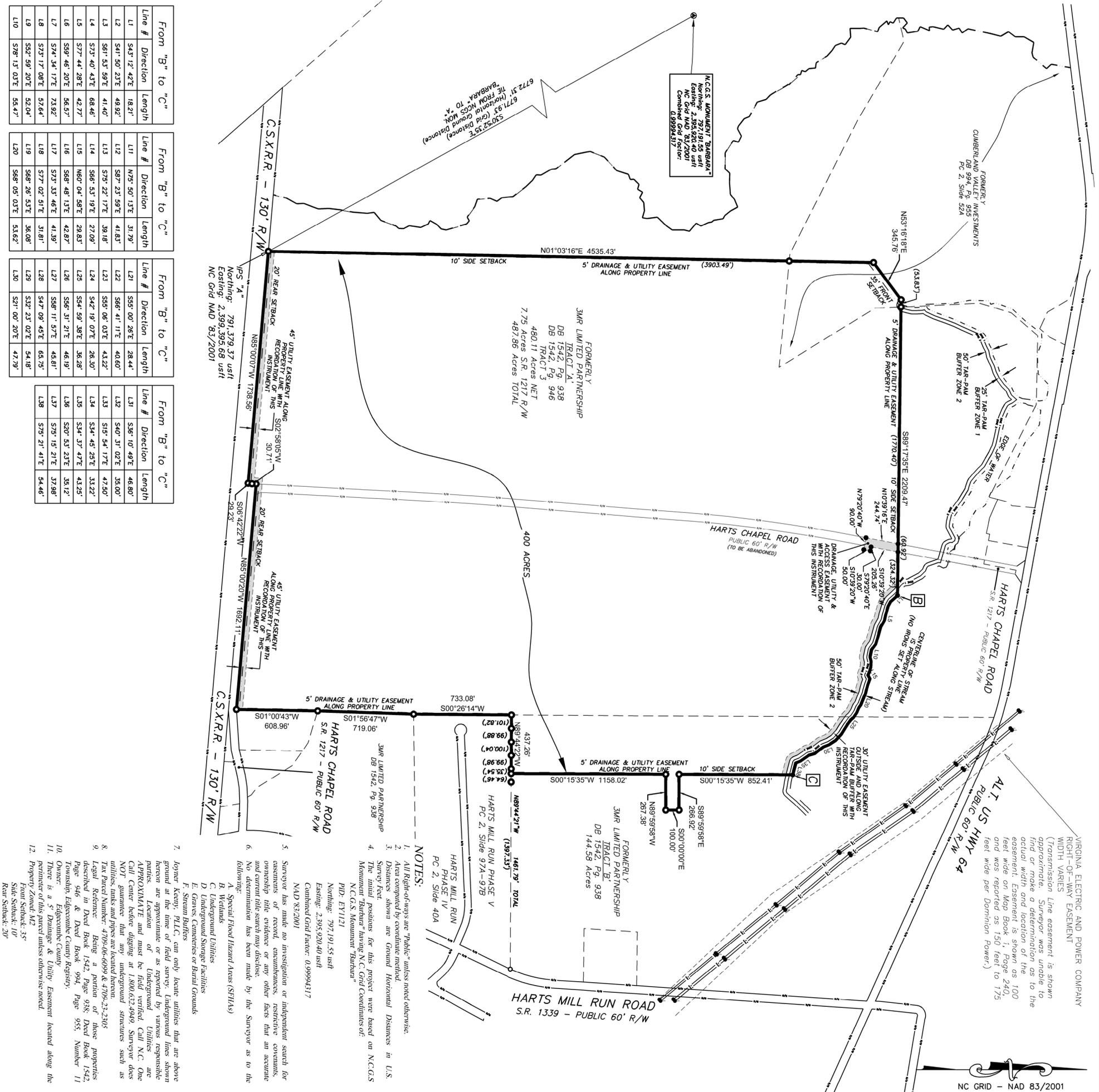
**BOUNDARY MAP OF PROPERTY FOR:**

**PARCEL 3**

**EDGECOMBE COUNTY**



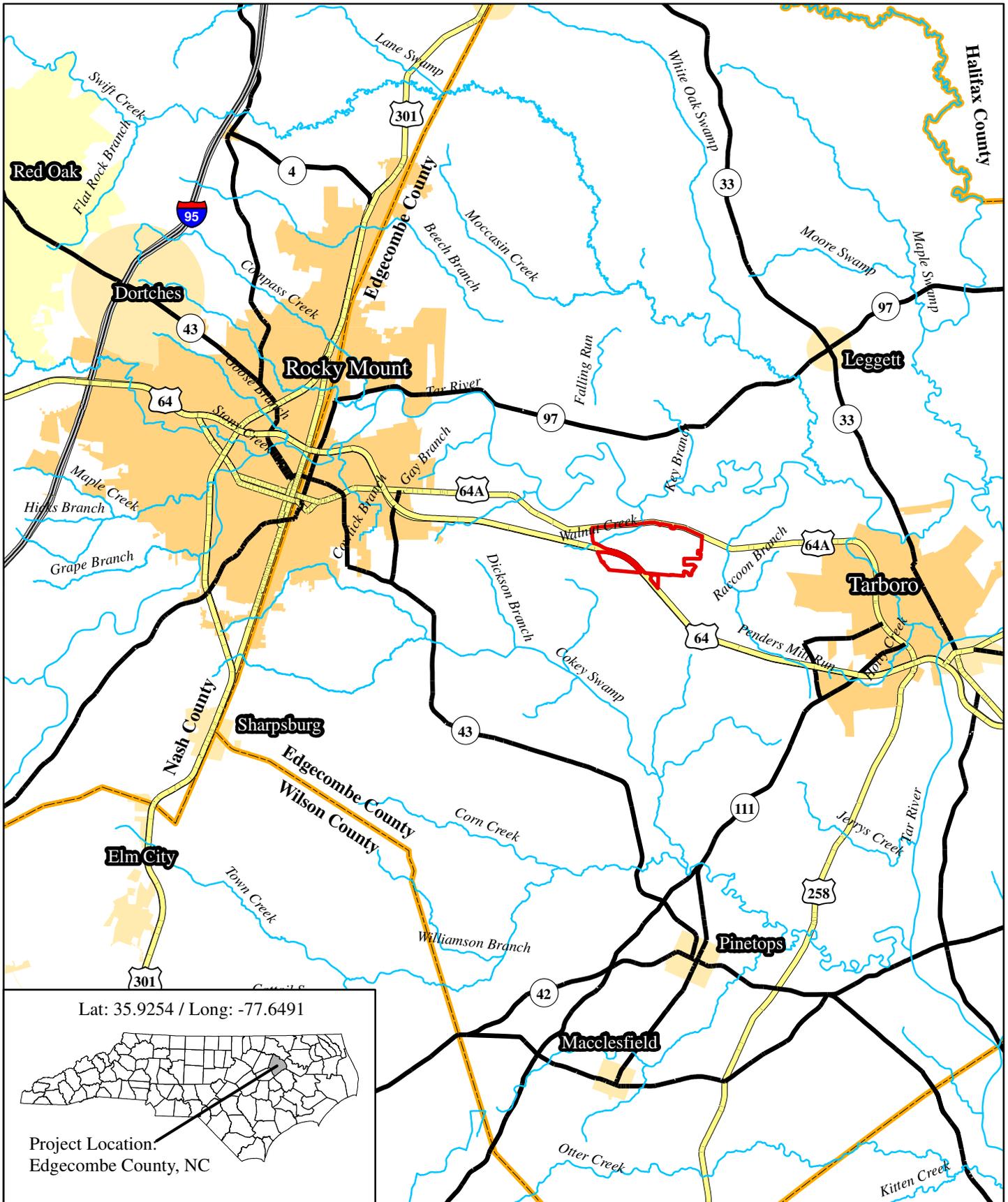
TWP: NO. 11 TOWNSHIP COUNTY: EDGECOMBE  
 DRAWN BY: JSK CHECKED BY: MLK DATE: 1/30/18  
 DWG: 170196A Parcel 3 Boundary\_180130.dwg VIEWPORT: MAP  
 JOB NO.: 170196A SHEET NO.: 1 of 1



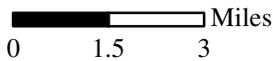
From "B" to "C"			From "B" to "C"			From "B" to "C"		
Line #	Direction	Length	Line #	Direction	Length	Line #	Direction	Length
L1	S43°12'42"E	18.21'	L11	N25°50'13"E	31.79'	L21	S55°00'26"E	28.44'
L2	S41°50'23"E	48.92'	L12	S87°23'59"E	41.83'	L22	S66°41'11"E	40.60'
L3	S61°53'59"E	41.40'	L13	S75°22'17"E	39.18'	L23	S55°06'03"E	43.22'
L4	S73°40'43"E	68.46'	L14	S66°53'19"E	27.09'	L24	S42°19'07"E	26.30'
L5	S77°44'28"E	42.77'	L15	N60°04'28"E	29.83'	L25	S54°59'38"E	36.28'
L6	S59°46'20"E	56.57'	L16	S68°48'13"E	42.87'	L26	S56°31'21"E	46.19'
L7	S74°34'17"E	73.92'	L17	S73°33'46"E	41.39'	L27	S56°11'57"E	45.61'
L8	S73°17'08"E	57.64'	L18	S77°02'51"E	31.81'	L28	S47°09'45"E	65.25'
L9	S52°59'20"E	52.04'	L19	S68°09'03"E	36.08'	L29	S37°23'02"E	54.18'
L10	S78°13'03"E	55.47'	L20	S68°09'03"E	53.62'	L30	S21°00'20"E	47.79'

From "B" to "C"			From "B" to "C"			From "B" to "C"		
Line #	Direction	Length	Line #	Direction	Length	Line #	Direction	Length
L31	S56°10'49"E	46.80'	L41	S50°00'00"E	100.00'	L51	S89°59'58"E	266.92'
L32	S40°31'02"E	35.00'	L42	S00°15'35"W	1158.02'	L52	N89°59'58"W	267.38'
L33	S15°54'17"E	47.90'	L43	S00°15'35"W	852.41'	L53	N89°59'58"W	100.00'
L34	S34°45'29"E	33.22'	L44	S00°00'00"E	100.00'	L54	S00°00'00"E	100.00'
L35	S34°37'47"E	43.25'	L45	S00°00'00"E	100.00'	L55	S00°00'00"E	100.00'
L36	S20°53'23"E	35.12'	L46	S00°00'00"E	100.00'	L56	S00°00'00"E	100.00'
L37	S75°15'21"E	37.98'	L47	S00°00'00"E	100.00'	L57	S00°00'00"E	100.00'
L38	S75°21'41"E	54.46'	L48	S00°00'00"E	100.00'	L58	S00°00'00"E	100.00'

IPS "A" 791,379.37 usft  
 Eosling: 2,399,395.68 usft  
 NC Grid NAD 83/2001



Lat: 35.9254 / Long: -77.6491

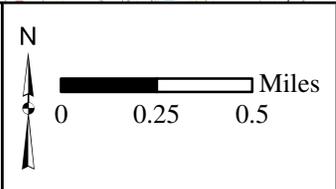
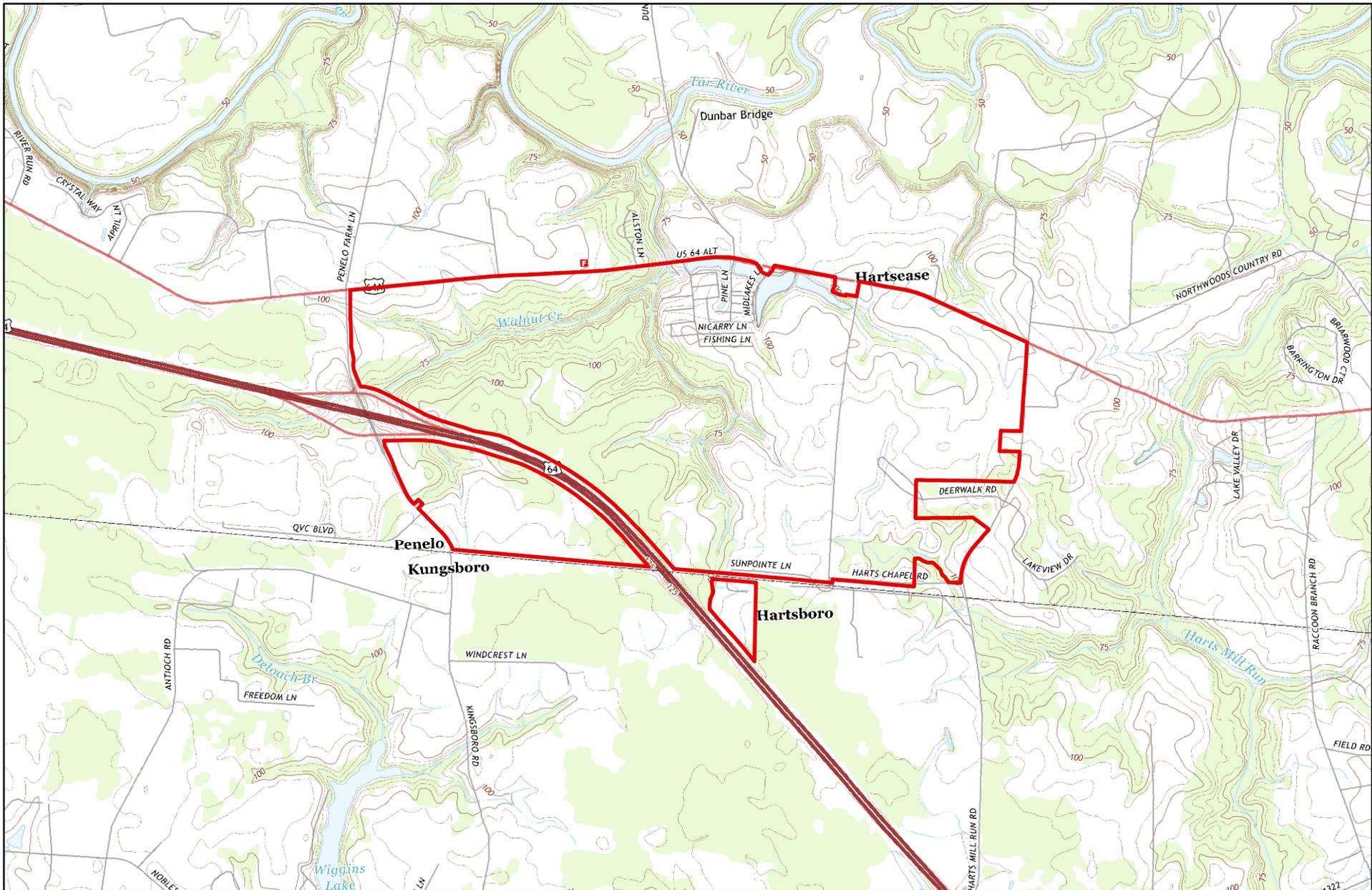


- Project Boundary
- ~ Named USGS Streams

**Project Diamond  
Edgecombe County, NC**

**Figure 1: Vicinity Map**

February 2018

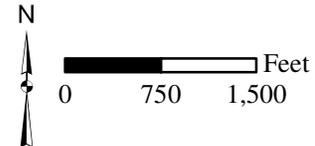


 Project Boundary  
 Hartsease and Tarboro (2013) USGS 1:24,000 Quad Maps

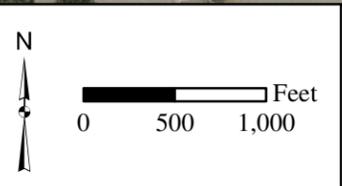
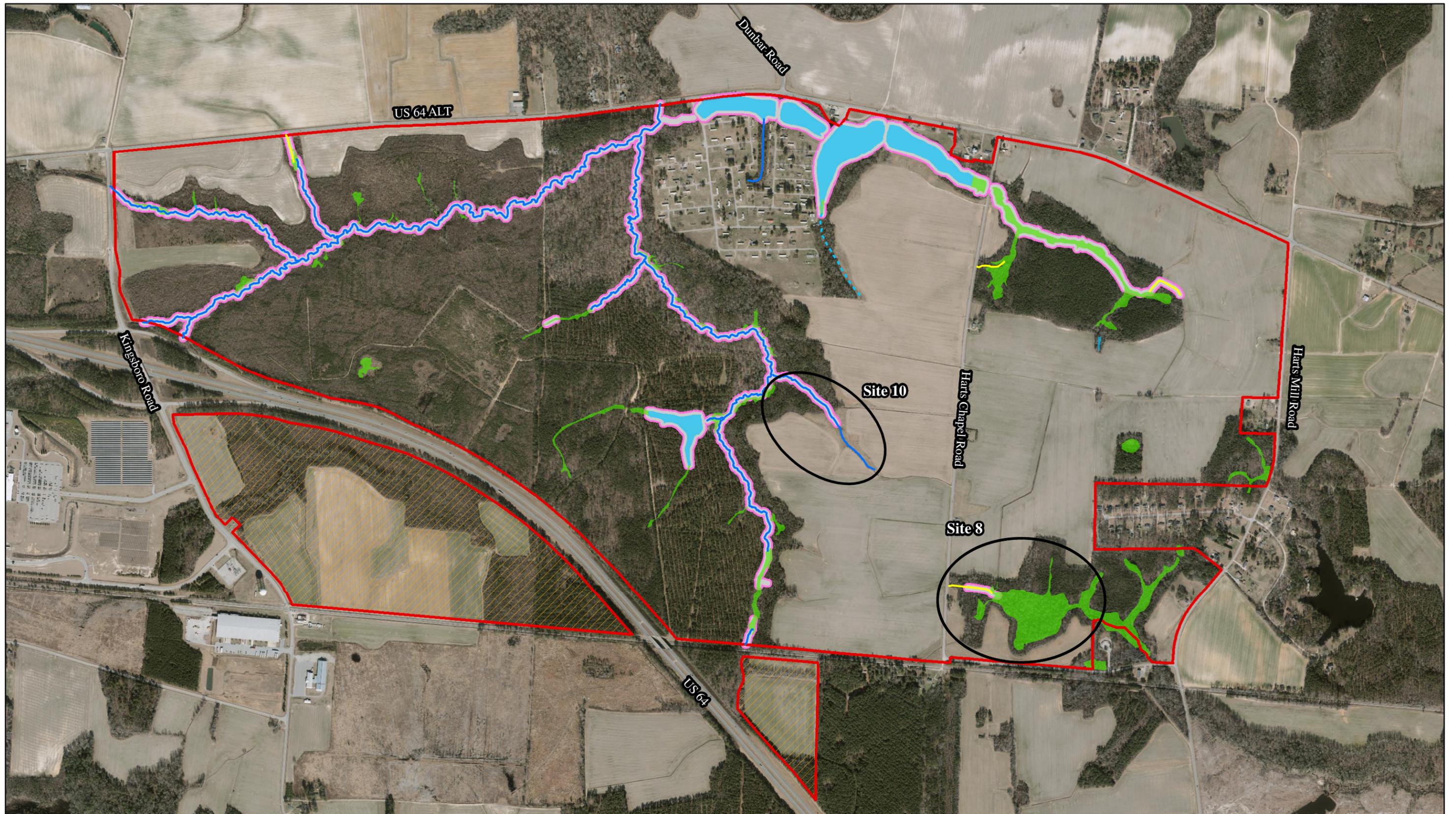
Map Date: April 2018  
 Revised:  
 Revised:  
 Revised:

**Project Diamond**  
**Edgecombe County, NC**  
**Figure 2: USGS Map**



		 Project Boundary	Map Date: April 2018	<b>Project Diamond</b> <b>Edgemcombe County, NC</b>
			Revised:	
			Revised:	<b>Figure 3: NRCS Map</b>
			Revised:	

Edgemcombe County NRCS Soil Survey Sheets 13 and 17



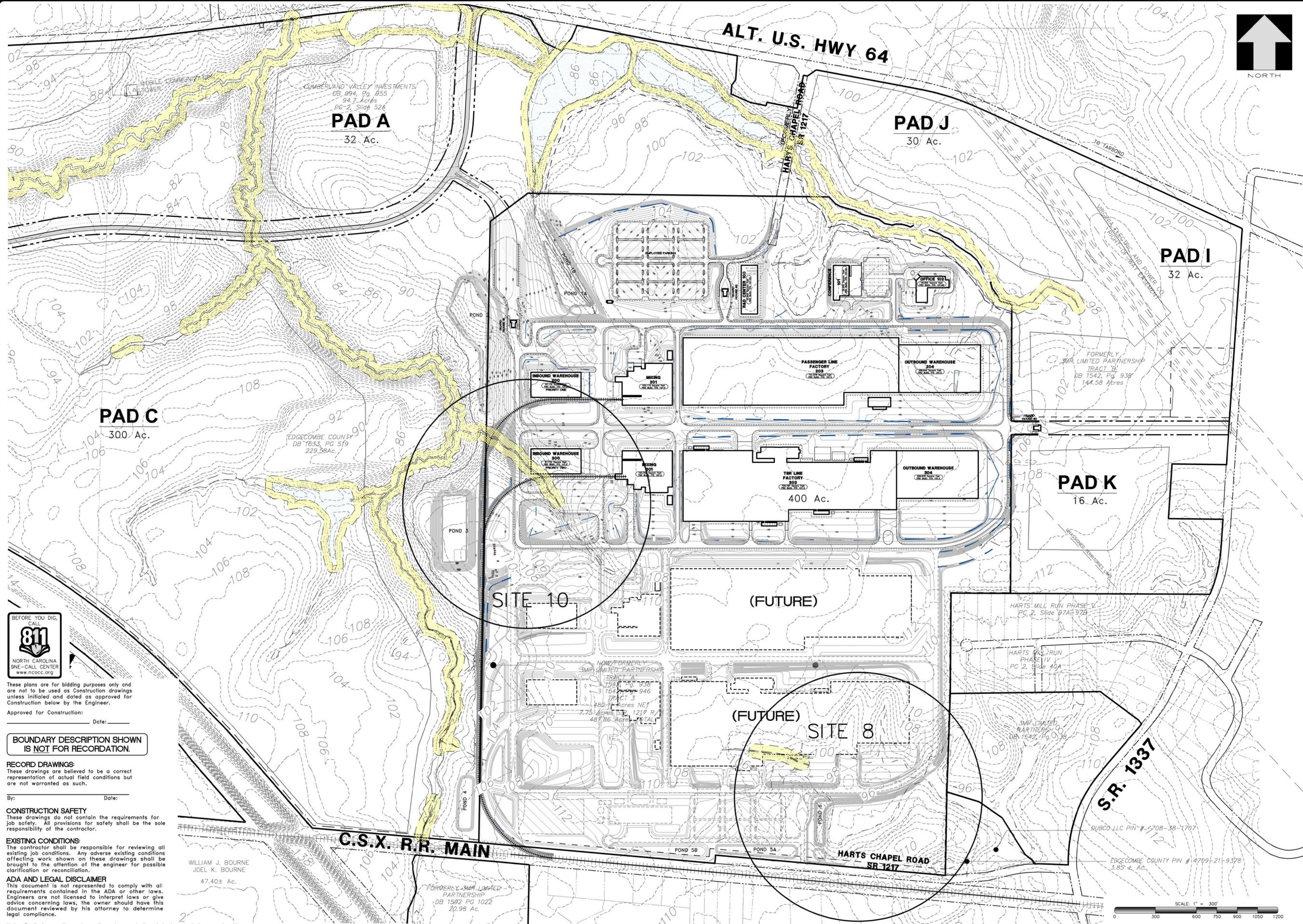
Project Boundary	Intermittent Stream	Pond
Areas not in AJD	Perennial Stream	Zone 1 (30' Buffer)
Wetland	Tributary	Zone 2 (20' Buffer)

2017 NC Statewide Aerial Photography

Map Date: April 2018
Revised:
Revised:
Revised:

**Project Diamond**  
Edgecombe County, NC

**Figure 4: Jurisdictional Areas**



DATE:	FEBRUARY 14, 2018	ISSUE:	David Revor
BY:	Kelly Williams	CHK:	
NO.:		REV:	
DATE:		DESCRIPTION:	



CONSULTING ENGINEERS, P.A.  
 CIVIL, MUNICIPAL &  
 STRUCTURAL ENGINEERS  
 BLN = 00562  
 220 Bryant St.  
 Rocky Mount, N.C. 27804  
 Phone: (252) 972-7703  
 www.applanengineers.com  
 admin@applanengineers.com

Final Drawings  
 Review Purposes ONLY



NOT FOR CONSTRUCTION

**OVERALL BUFFER IMPACT MAP**  
**PROJECT DIAMOND**  
**EDGECOMBE COUNTY, N.C.**



BEFORE YOU DIG,  
 CALL  
**811**  
 NORTH CAROLINA  
 SNE-CALL CENTER  
 www.ncocc.org

These plans are for bidding purposes only and are not to be used as Construction drawings unless initialed and dated as approved for Construction below by the Engineer.

Approved for Construction: \_\_\_\_\_ Date: \_\_\_\_\_

**BOUNDARY DESCRIPTION SHOWN IS NOT FOR RECORDATION.**

**RECORD DRAWINGS:**  
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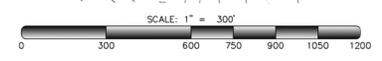
By: \_\_\_\_\_ Date: \_\_\_\_\_

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**ADA AND LEGAL DISCLAIMER**  
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Note: Preliminary site and grading shown shall not to be used for construction.



17-029  
 D-0000  
**B1**



**CONSULTING ENGINEERS, P.A.**  
 P.O. Box 7966  
 Rocky Mount, N.C. 27804  
 Phone: (252) 972-7703  
 Fax: (252) 972-7638  
 www.appianengineers.com

PROJECT:

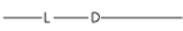
**SITE 8**  
**BUFFER IMPACT**  
 PROJECT DIAMOND  
 EDGECOMBE COUNTY, NC

JOB # 17-029

DATE: 2/14/2018

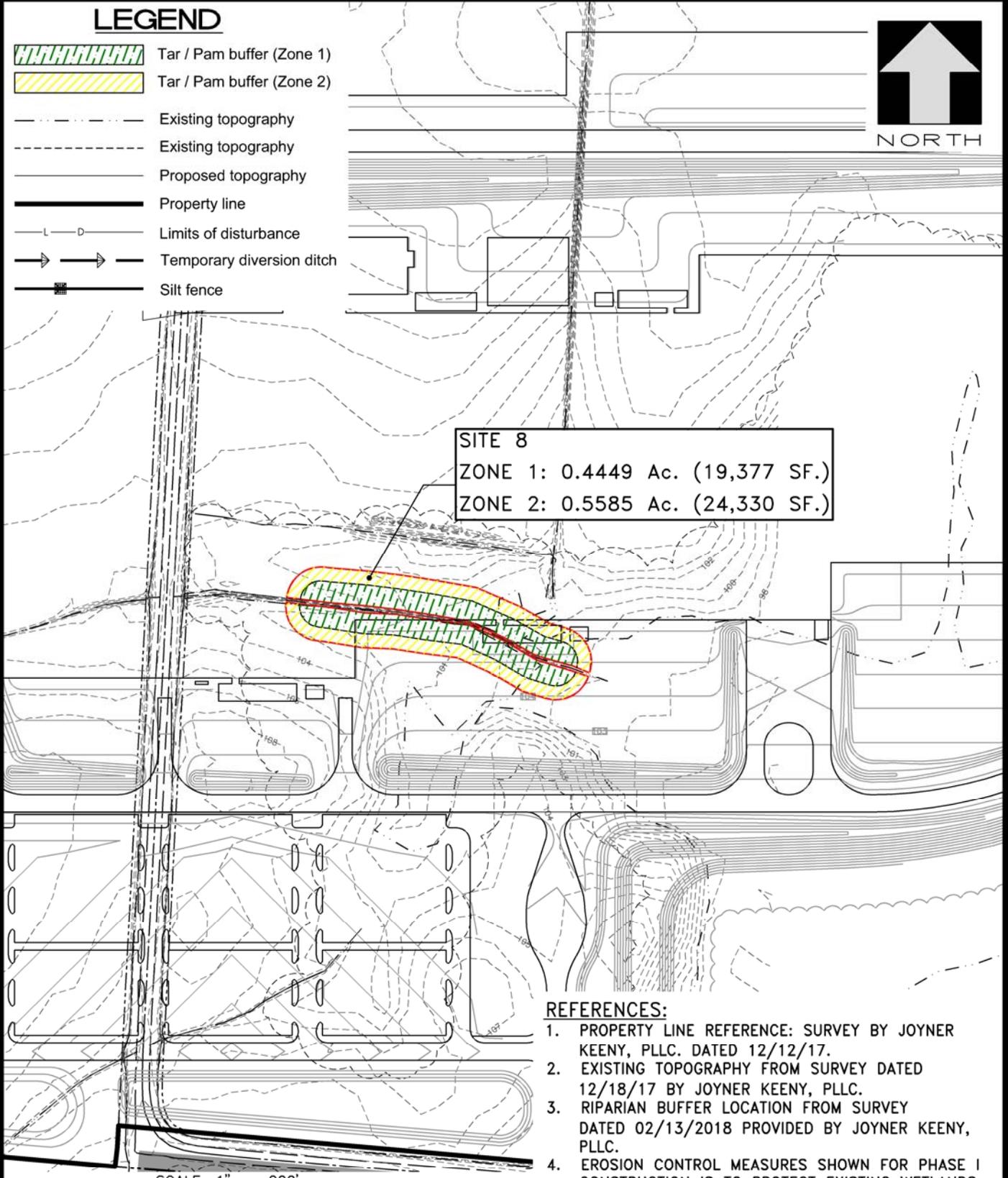
SHEET #: 1 OF .

**LEGEND**

-  Tar / Pam buffer (Zone 1)
-  Tar / Pam buffer (Zone 2)
-  Existing topography
-  Existing topography
-  Proposed topography
-  Property line
-  Limits of disturbance
-  Temporary diversion ditch
-  Silt fence



**SITE 8**  
 ZONE 1: 0.4449 Ac. (19,377 SF.)  
 ZONE 2: 0.5585 Ac. (24,330 SF.)



- REFERENCES:**
1. PROPERTY LINE REFERENCE: SURVEY BY JOYNER KEENEY, PLLC. DATED 12/12/17.
  2. EXISTING TOPOGRAPHY FROM SURVEY DATED 12/18/17 BY JOYNER KEENEY, PLLC.
  3. RIPARIAN BUFFER LOCATION FROM SURVEY DATED 02/13/2018 PROVIDED BY JOYNER KEENEY, PLLC.
  4. EROSION CONTROL MEASURES SHOWN FOR PHASE I CONSTRUCTION IS TO PROTECT EXISTING WETLANDS.
  5. PROPOSED CONTOURS SHOWN HEREON ARE NOT FOR CONSTRUCTION AND ARE SUBJECT TO CHANGE.

SCALE: 1" = 200'





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 P.O. Box 7966  
 Rocky Mount, N.C. 27804  
 Phone: (252) 972-7703  
 Fax: (252) 972-7638  
 www.appianengineers.com

**PROJECT:**

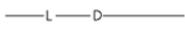
**SITE 10**  
**BUFFER IMPACT**  
 PROJECT DIAMOND  
 EDGEcombe COUNTY, NC

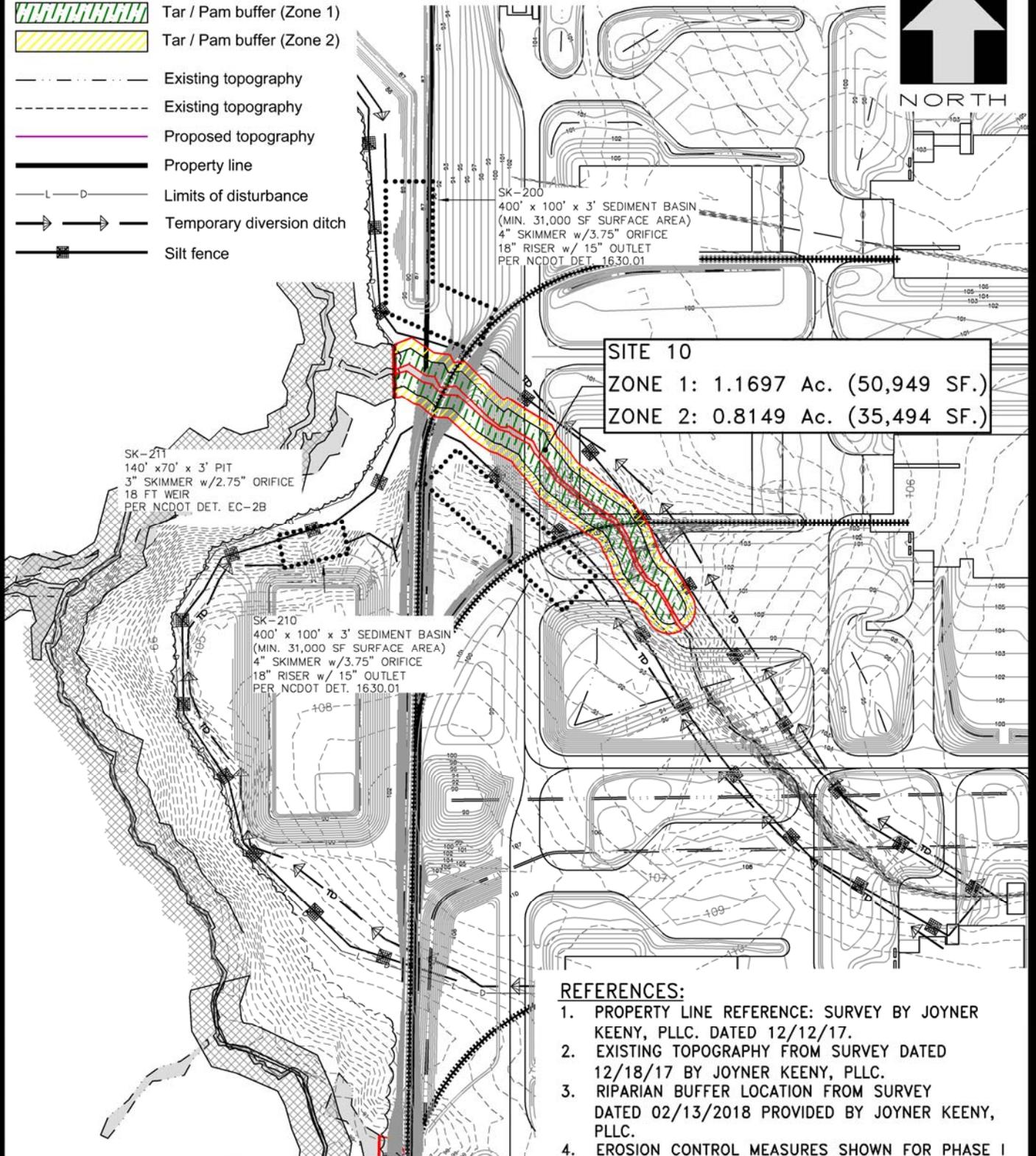
**JOB #** 17-029

**DATE:** 2/14/2018

**SHEET #:** 1 OF .

**LEGEND**

-  Tar / Pam buffer (Zone 1)
-  Tar / Pam buffer (Zone 2)
-  Existing topography
-  Existing topography
-  Proposed topography
-  Property line
-  Limits of disturbance
-  Temporary diversion ditch
-  Silt fence



**SITE 10**  
 ZONE 1: 1.1697 Ac. (50,949 SF.)  
 ZONE 2: 0.8149 Ac. (35,494 SF.)

SK-211  
 140' x 70' x 3' PIT  
 3" SKIMMER w/2.75" ORIFICE  
 18 FT WEIR  
 PER NCDOT DET. EC-2B

SK-210  
 400' x 100' x 3' SEDIMENT BASIN  
 (MIN. 31,000 SF SURFACE AREA)  
 4" SKIMMER w/3.75" ORIFICE  
 18" RISER w/ 15" OUTLET  
 PER NCDOT DET. 1630.01

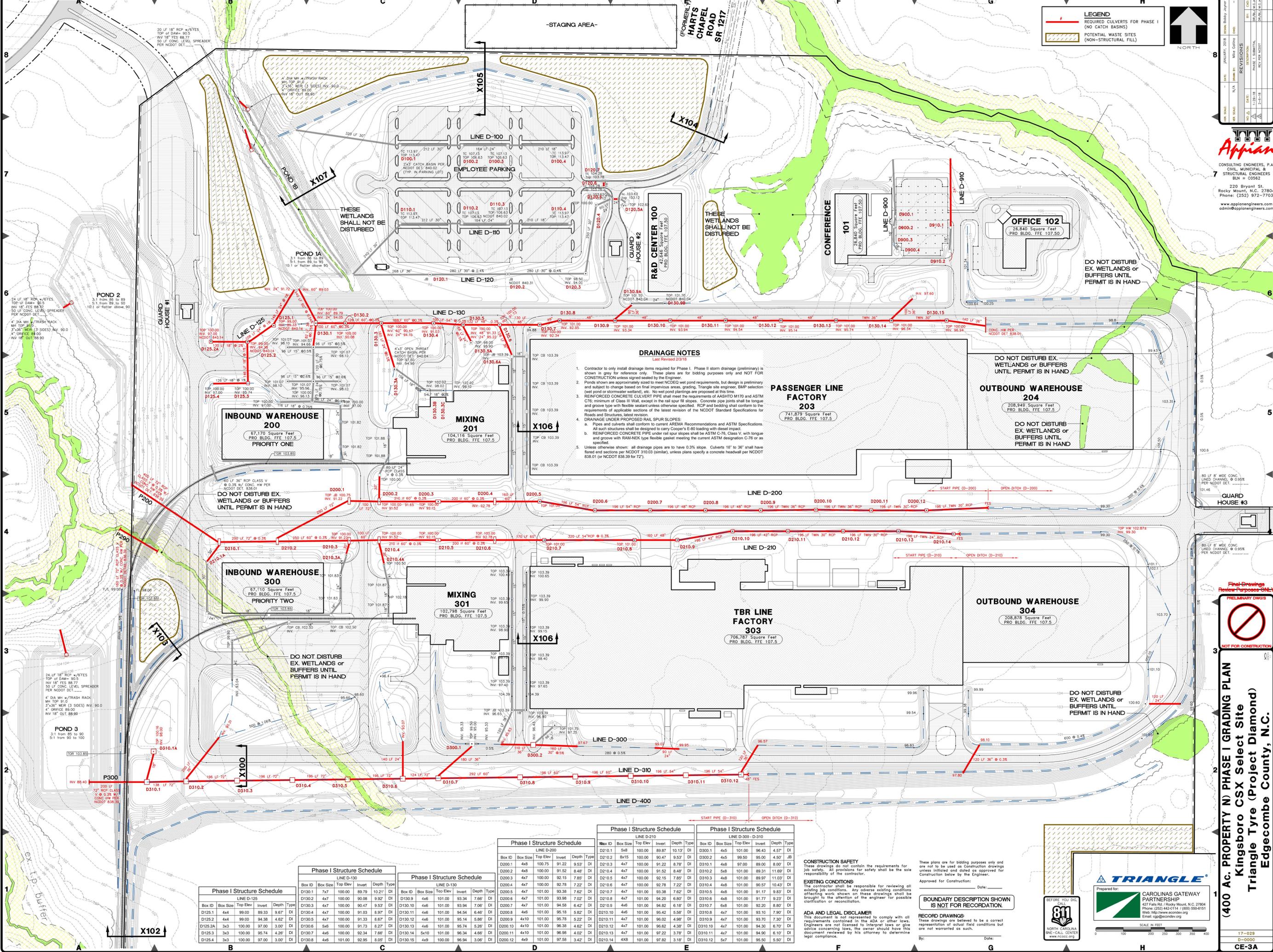
SK-200  
 400' x 100' x 3' SEDIMENT BASIN  
 (MIN. 31,000 SF SURFACE AREA)  
 4" SKIMMER w/3.75" ORIFICE  
 18" RISER w/ 15" OUTLET  
 PER NCDOT DET. 1630.01

**REFERENCES:**

1. PROPERTY LINE REFERENCE: SURVEY BY JOYNER KEENEY, PLLC. DATED 12/12/17.
2. EXISTING TOPOGRAPHY FROM SURVEY DATED 12/18/17 BY JOYNER KEENEY, PLLC.
3. RIPARIAN BUFFER LOCATION FROM SURVEY DATED 02/13/2018 PROVIDED BY JOYNER KEENEY, PLLC.
4. EROSION CONTROL MEASURES SHOWN FOR PHASE I CONSTRUCTION IS TO PROTECT EXISTING WETLANDS.
5. PROPOSED CONTOURS SHOWN HEREON ARE NOT FOR CONSTRUCTION AND ARE SUBJECT TO CHANGE.

SCALE: 1" = 300'





**LEGEND**  
 REQUIRED CULVERTS FOR PHASE I (NO CATCH BASINS)  
 POTENTIAL WASTE SITES (NON-STRUCTURAL FILL)

**REVISIONS**

NO.	DATE	BY	CHK	REV. PER
1	1-23-18	MM	MM	1
2	2-6-18	MM	MM	2

**APPLAN**  
 CONSULTING ENGINEERS, P.A.  
 CIVIL, MUNICIPAL, &  
 STRUCTURAL ENGINEERS  
 BLN = C0562  
 220 Bryant St.  
 Rocky Mount, N.C. 27804  
 Phone: (252) 972-7703  
 www.applanengineers.com  
 admin@applanengineers.com

**DRAINAGE NOTES**  
 Last Revised 2/23/18

- Contractor to only install drainage items required for Phase I. Phase II storm drainage (preliminary) is shown in grey for reference only. These plans are for bidding purposes only and NOT FOR CONSTRUCTION unless signed sealed by the Engineer.
- Ponds shown are approximately sized to meet NCDOT wet pond requirements, but design is preliminary and subject to change based on final impervious areas, grading, Triangle site engineer, BMP selection (wet pond or stormwater wetland), etc. No wet pond plantings are proposed at this time.
- REINFORCED CONCRETE CULVERT PIPE shall meet the requirements of AASHTO M170 and ASTM C76; minimum of Class III Wall, except in the rail spur fill slopes. Concrete pipe joints shall be tongue and groove type with flexible sealant unless otherwise specified. RCP and bedding shall conform to the requirements of applicable sections of the latest revision of the NCDOT Standard Specifications for Roads and Structures, latest revision.
- DRAINAGE UNDER PROPOSED RAIL SPUR SLOPES:  
 a. Pipes and culverts shall conform to current AREMA Recommendations and ASTM Specifications. All such structures shall be designed to carry Cooper's E-80 loading with diesel impact.  
 b. REINFORCED CONCRETE PIPE under rail spur slopes shall be ASTM C76, Class V, with tongue and groove with RAM-NEK type flexible gasket meeting the current ASTM designation C-76 or as specified.  
 c. Unless otherwise shown, all drainage pipes are to have 0.3% slope. Culverts 18" to 36" shall have flared end sections per NCDOT 310.03 (similar), unless plans specify a concrete headwall per NCDOT 838.01 (or NCDOT 838.39 for T2).

Phase I Structure Schedule					Phase I Structure Schedule				
LINE D-200					LINE D-300-D-310				
Box ID	Box Size	Top Elev	Invert	Depth	Box ID	Box Size	Top Elev	Invert	Depth
D200.1	4x6	100.75	91.22	9.53	D300.1	4x5	101.00	96.43	4.57
D200.2	4x6	100.00	91.52	8.48	D300.2	4x5	99.50	95.00	4.50
D200.3	4x7	100.00	92.15	7.85	D300.3	4x6	97.00	89.31	7.69
D200.4	4x7	100.00	92.78	7.22	D300.4	4x6	101.00	91.17	9.83
D200.5	4x7	100.00	93.38	6.62	D300.5	4x6	101.00	91.77	9.23
D200.6	4x7	100.00	94.58	5.42	D300.6	4x6	101.00	92.20	8.80
D200.7	4x7	100.00	95.18	4.82	D300.7	4x7	101.00	93.10	7.90
D200.8	4x7	100.00	95.78	4.22	D300.8	4x7	101.00	93.70	7.30
D200.9	4x10	101.00	96.38	4.62	D300.9	4x7	101.00	94.30	6.70
D200.10	4x10	101.00	96.98	4.02	D300.10	4x7	101.00	94.90	6.10
D200.11	4x10	101.00	97.58	3.42	D300.11	4x7	101.00	95.50	5.50
D200.12	4x9	101.00	97.58	3.42	D300.12	5x7	101.00	95.50	5.50

**CONSTRUCTION SAFETY**  
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Approved for Construction: \_\_\_\_\_ Date: \_\_\_\_\_

**BOUNDARY DESCRIPTION SHOWN IS NOT FOR RECORDATION.**

**RECORD DRAWINGS:**  
 These drawings are believed to be a correct representation of actual field conditions but are not warranted as such.

**TRIANGLE**

Prepared for:  
**CAROLINAS GATEWAY PARTNERSHIP**  
 427 Falls Rd / Rocky Mount, N.C. 27804  
 Phone: (252) 445-0114 / (800) 550-6151  
 Web: http://www.ecovest.org  
 Email: cgp@ecovest.org

**811**  
 NORTH CAROLINA ONE-CALL CENTER  
 www.ncocsc.org

SCALE IN FEET  
 0 100 200 250 300 400

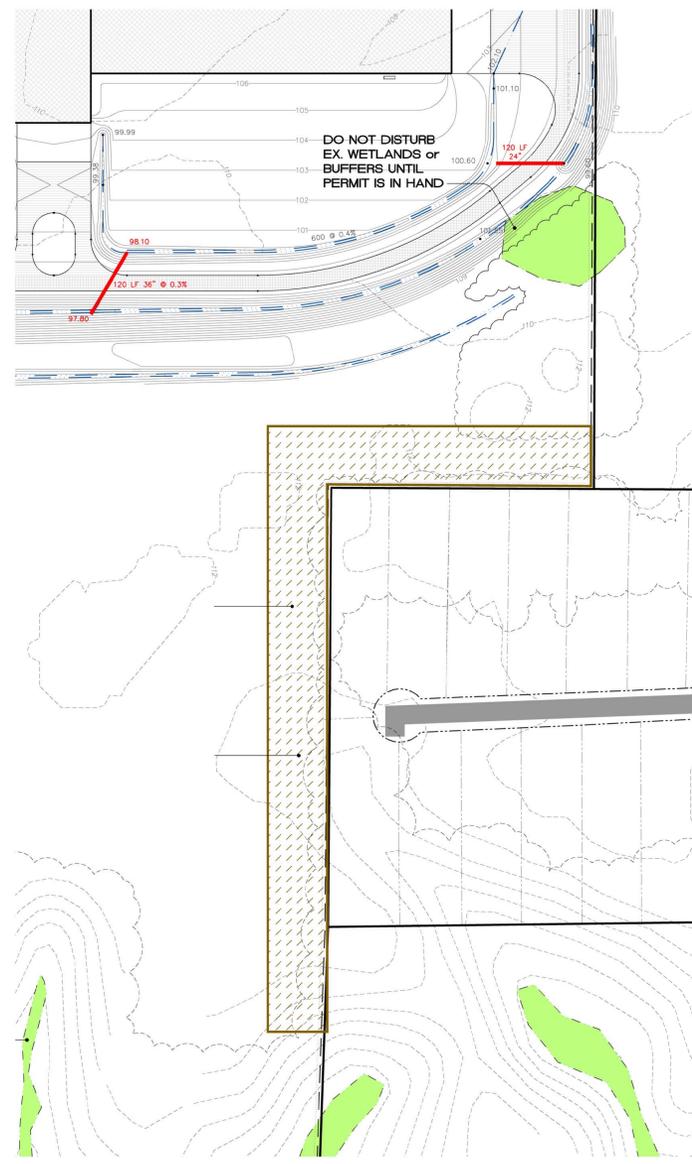
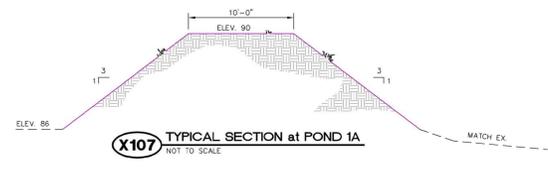
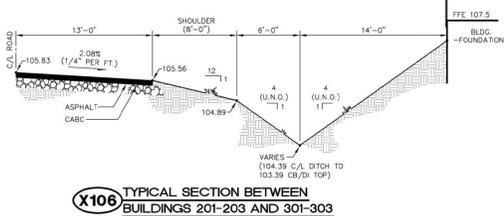
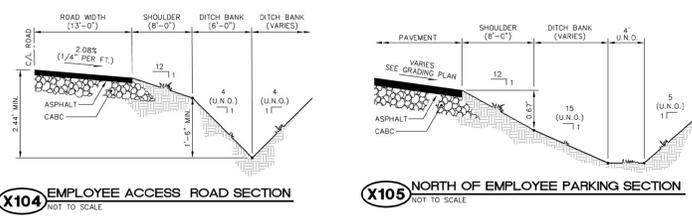
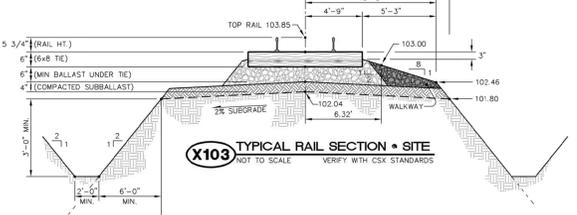
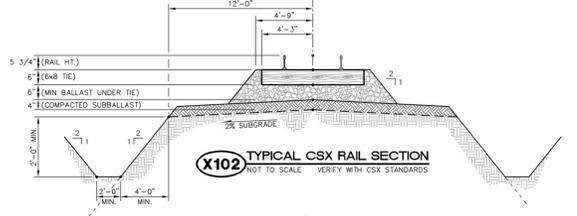
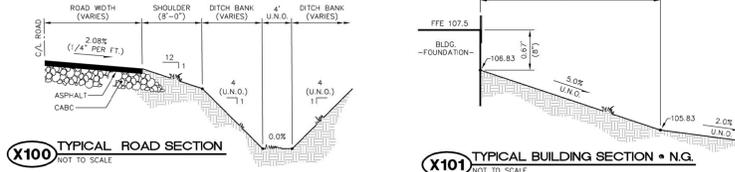
17-029  
 D-0000  
 CE-3A

**(400 AC. PROPERTY N) PHASE I GRADING PLAN**  
 Kingsboro CSX Select Site  
 Triangle Tyre (Project Diamond)  
 Edgecombe County, N.C.

**Final Drawings**  
 Review Purpose Only  
 PRELIMINARY DRAWING  
 NOT FOR CONSTRUCTION

### GRADING SECTIONS

- NOTES**
- SEE GEOTECHNICAL REPORT AND SITE PLAN FOR ROAD AND SUBGRADE SECTION.
  - U.N.O. = UNLESS NOTED OTHERWISE ON GRADING PLAN



### DRAINAGE NOTES

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- Ponds shown are approximately sized to meet NCDCEQ wet pond requirements, but design is preliminary and subject to change based on final impervious areas, grading, Triangle site engineer, BMP selection (wet pond or stormwater wetland), etc. No wet pond plantings are proposed at this time.
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  - Pipes and culverts shall conform to current AREMA Recommendations and ASTM Specifications. All such structures shall be designed to carry Cooper's E-80 loading with diesel impact.
  - REINFORCED CONCRETE PIPE under rail spur slopes shall be ASTM C-76, Class V, with tongue and groove with RAM-NEX type flexible gasket meeting the current ASTM designation C-76 or as specified.
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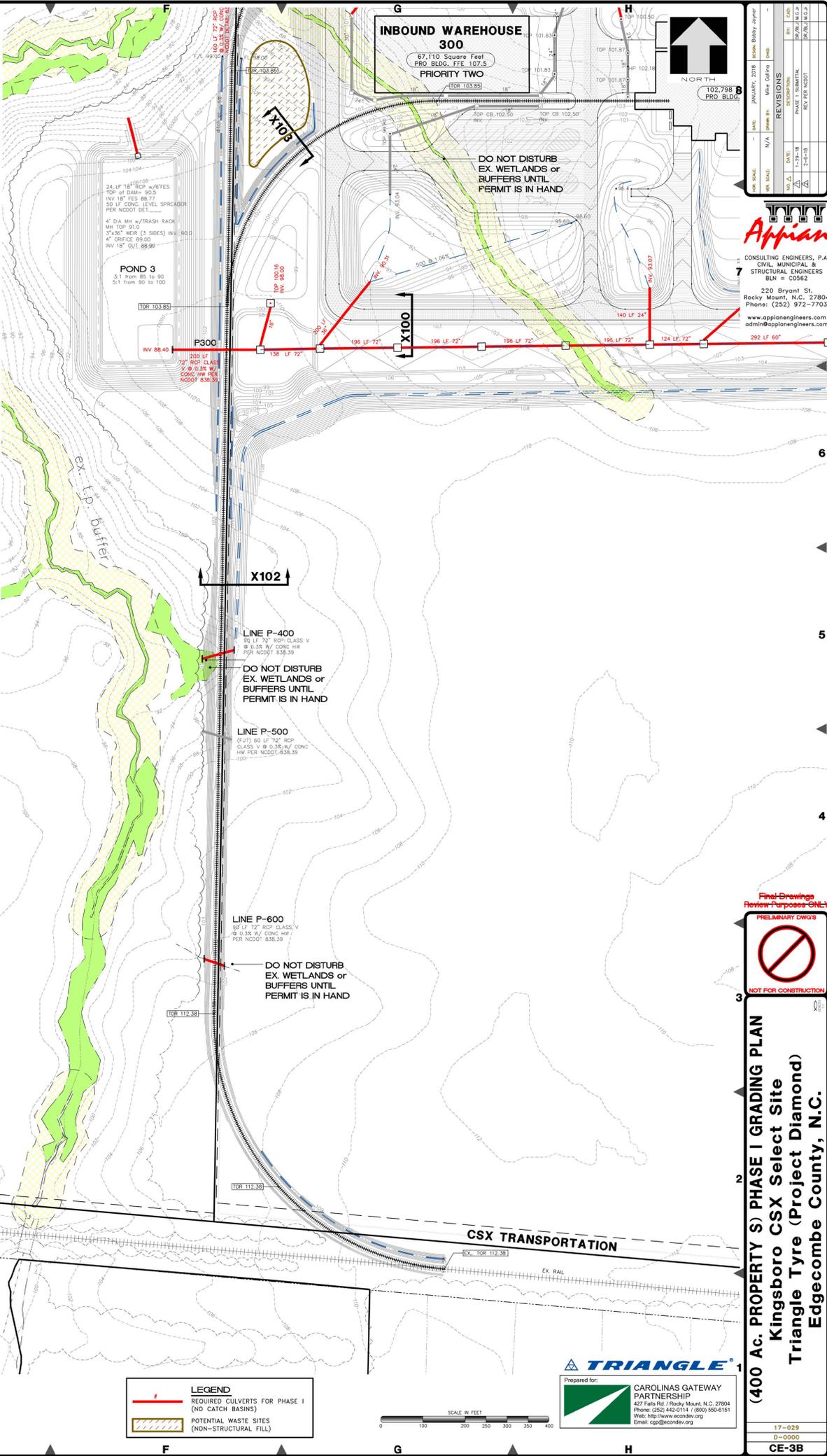
Approved for Construction: \_\_\_\_\_ Date: \_\_\_\_\_

**BOUNDARY DESCRIPTION SHOWN IS NOT FOR RECORDATION.**



**LEGEND**

- REQUIRED CULVERTS FOR PHASE I (NO CATCH BASINS)
- POTENTIAL WASTE SITES (NON-STRUCTURAL FILL)



DATE:	JANUARY 2018	DESIGNER:	BOBBY JOYNER
SCALE:	1/4" = 1'-0"	DATE:	1-23-18
NO.:	1	DATE:	2-6-18
NO.:	2	DATE:	2-6-18
NO.:	3	DATE:	2-6-18
NO.:	4	DATE:	2-6-18
NO.:	5	DATE:	2-6-18
NO.:	6	DATE:	2-6-18
NO.:	7	DATE:	2-6-18
NO.:	8	DATE:	2-6-18
NO.:	9	DATE:	2-6-18
NO.:	10	DATE:	2-6-18

**Applan**  
CONSULTING ENGINEERS, P.A.  
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Final Drawings  
Review Purpose Only  
PRELIMINARY DRAWING



**(400 AC. PROPERTY S) PHASE I GRADING PLAN**  
Kingsboro CSX Select Site  
Triangle Tyre (Project Diamond)  
Edgecombe County, N.C.