



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

March 17, 2017

Scott Lanier  
Pea Island National Wildlife Refuge  
United States Fish and Wildlife Service  
P.O. Box 1969  
Manteo, NC 27954

Subject: Special Use Permit for Geotechnical Investigation  
NC-12 – Rodanthe Breach Long-Term Improvements, Bonner Bridge Replacement  
Project Phase IIb in Dare County, North Carolina; TIP Project B-2500B, Federal Aid  
Project No. BRNHF-0012(56); WBS Element 32635.3.FR7

The North Carolina Department of Transportation (NCDOT) Geotechnical Engineering Unit is proposing additional subsurface investigations for the foundation design for the NC-12 Rodanthe Bridge in the Pamlico Sound in Dare County, North Carolina. A completed Special Use Permit Application and appropriate site drawings are attached for your review. As portions of the Pea Island National Wildlife Refuge (Refuge) will be utilized during this work, approval is required.

A private engineering firm will conduct the investigation. There will be approximately 13 borings within the Refuge (Sheets 14 and 15). There will also be one boring in the shallow waters of Pamlico Sound (within the National Park Service boundary) (Sheets 12 and 13) which will be accessed along the same route as those in the Refuge. Of the 13 borings in the Refuge, only one is anticipated in wetlands, with the other 12 clustered in the uplands near the existing NC 12.

All equipment required to conduct the borings will be delivered to the site via a commercial haul truck. Equipment will be left staged along the shoulder within the existing NCDOT easement, but well off the roadway. Borings near the existing roadway will be advanced using a standard drill rig mounted on a vehicle with either rubber tires or low ground pressure tracks, depending on the boring location. These borings will be 3-8 inches in diameter. Any disturbance from the borings will be limited to within a 2-foot radius of the boring location.

All drilling fluids/mud will be contained in the subsurface and through the steel casing to the surface and in a steel “mud tub” on the drill rig. It will be recirculated as appropriate during drilling. Spoils from the drilling will be contained/collected in the “mud tub.”

*Mailing Address:*  
NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND  
ENVIRONMENTAL ANALYSIS  
1548 MAIL SERVICE CENTER  
RALEIGH, NC 27699-1548

*Telephone:* (919) 707-6000  
*Fax:* (919) 250-4224  
*Customer Service:* 1-877-368-4968

*Website:* [www.ncdot.gov](http://www.ncdot.gov)

*Location:*  
1000 BIRCH RIDGE DRIVE  
RALEIGH, NC 27610

The borings in the wetland and sound will be accessed as indicated on Sheet 13. This route was chosen as it minimizes impacts to vegetation and wetlands. Impacts to wetlands / surface waters (Sound) that cannot be avoided will consist of minimal hand clearing and will all also occur within the future bridge/roadway footprint. The borings in the wetland and Sound will be performed by a tracked ATV “swamp buggy” type carrier and drill rig designed specifically to access and drill in marshy, near shore, shallow water marine environments. Along with the “swamp buggy”, a smaller ATV tracked drill crew support vehicle will access the boring locations and provide safe transport of men, supplies, samples, etc. to and from the drill rig and staging area while the geotechnical borings are in progress. These borings will turn or drive a 4-inch diameter steel casing into the sound bottom, creating minimal disturbance. Other drilling tools will be used to sample the sediment and advance the hold within the steel casing. The steel casing will be removed upon completing the boring. Spoil from the drilling in the Sound and wetland will be placed back into the boring if practicable, or disposed at a upland location, the specifics of which can be designed by the USFWS if desired. If preferred, it can also be disposed of outside of the Refuge property. Drilling fluids will be contained and not discharged in the Refuge.

Once the “swamp buggy” is positioned at the proposed boring location(s), drilling will commence. The borings will be a Standard Penetration Test (SPT) with split barrel soil samples collected at approximately 5 foot intervals until the termination depth of 150 feet below ground surface. A 4-inch steel casing will be installed at the surface and advanced as needed to maintain bore-hole stability during drilling and will be removed upon boring termination. This methodology creates minimal disturbance beyond the bore hole. It is expected that drilling each boring will take up to a maximum of 7 days to complete.

Regulatory Approvals:

NCDOT has applied for Nationwide Permit No. 6 from the U.S. Army Corps of Engineers to authorize these activities on March 10, 2017. We are hereby requesting a Special Use Permit from USFWS for this activity. If you have any questions or would like additional information, please contact Michael Turchy at [maturchy@ncdot.gov](mailto:maturchy@ncdot.gov) or (919) 707-6157. A copy of this application will also be posted at <https://xfer.services.ncdot.gov/pdea/PermApps/>.

Sincerely,



for Philip S. Harris, III, P.E., Manager  
Natural Environment Section

cc: John Pilipchuk, State Engineering Geologist, P.E., Geotechnical Unit  
David Hering, Design Build Unit  
Clay Willis, Division Environmental Officer



# General Activities Special Use Permit Application

Refuge:

Address:

Attn: (Refuge Official)

E-Mail:

Phone #:

**For Official Use Only:**

Permit #:

Station #:

Permit Term: from  to

**Note: We do not require all information for each use. See instructions at the end of the notice and contact the refuge identified above to determine applicability of a particular item. Attach additional sheets to the application if the text spaces provided are inadequate.**

1) Identify the type of Permit you are applying for: New  Renewal  Modification  Other

## Applicant Information

2) Full Name:  3) Organization:

4) Street Address:

5) City/State/Zip:

6) Phone #:  7) Fax #:

8) E-mail:

9) List known assistants/subcontractors/subpermittees: (Only required if the assistants/subcontractors/subpermittees will be operating on the refuge without the permittee being present.)

Name/Business	Address	Phone #

## Activity Information

10) Activity type:  Event  Wood Cutting  Group Visit  Educational Activity  
 Cabin/Subsistence Cabin  Other

**Note: Depending on the activity for which you are requesting a permit, we may ask you for the following activity information. Please contact the specific refuge where the activity is being conducted to determine what information is required.**

11) Specifically identify timing, frequency, and how the activity is expected to proceed:

12) Activity/site occupancy timeline: (Specifically identify beginning and ending dates, site occupation timeline, hours, clean-up, and other major events.)

13) Expected number of participants, if applicable: Children (1-18 )  Adults  Total

14) Grade level of educational group, if applicable: Grade

15a) Will staff time/assistance be required for group activities? Yes  No  N/A

15b) If yes, what's the anticipated time frame?

16a) Plan of Operation required? Yes  No  N/A  16b) Plan of Operation attached? Yes  No

17) Specifically identify location(s): (GPS location(s) preferred)

18a) Is map of location(s) required? Yes  No  N/A

18b) Is map of location(s) attached? Yes  No

### Insurance Coverage/License/Certifications/Permits

**Note: Contact the specific refuge headquarters office where the activity is going to be conducted to determine if any type of insurance, certification(s), or permit(s) will be required. We may process this Special Use Permit while the applicant obtains them.**

19) List any **insurance coverage** you have such as general liability, aviation, grounding liability, contaminants applicator, medical evacuation, or others, if required:

Insurance Type	Carrier Name	Policy Number	Copy Attached? Yes or No

20) Identify licenses, certifications, and permits, if required:

License/Certification/Permit Type	Number (if applicable)	Issued to:	Copy Attached? Yes or No

## Logistics and Transportation

**Note: Not all information is required for each use. Please contact the specific refuge where the activity is being conducted to determine what information is required. Attach additional sheets to the application if the text spaces provided are inadequate.**

21) Does activity require personnel to stay overnight onsite? Yes  No

22) List names of personnel involved:

List Names	List Names	List Names

23) Specifically describe all major equipment/gear and materials used, if required:

24a) Provide detailed information on the logistics for onsite, intersite, and/or ship-to-shore transportation to or on the refuge, if required:

24b) Provide descriptions, license plate, or I.D. numbers of vehicles used for onsite, intersite, and/or ship-to-shore transportation, if required:

Type of transportation (onsite, intersite, or ship-to-shore)	Equipment Type	License/I.D./Registration Numbers

25) Specifically describe onsite work and/or living accommodations:

26) Specifically describe onsite hazardous material storage or other onsite material storage space:

Sign, date, and print this form and return it to the refuge for processing.

30) Signature of Applicant: \_\_\_\_\_ Date of Application: \_\_\_\_\_

### Notice

In accordance with the Privacy Act (5 U.S.C. 552a) and the Paperwork Reduction Act (44 U.S.C. 3501), please note the following information:

The issuance of a permit and collection of fees on lands of the National Wildlife Refuge System are authorized by the National Wildlife Refuge System Administration Act (16 U.S.C. 668dd-ee) as amended, and the Refuge Recreation Act (16 U.S.C. 460k-460k-4).

The information that you provide is voluntary; however, we require submission of requested information to evaluate the qualifications, determine eligibility, and document permit applicants under the above Acts. It is our policy not to use your name for any other purpose. We maintain the information in accordance with the Privacy Act. We will consider all information you provide in reviewing this application. False, fictitious, or fraudulent statements or representations made in the application may be grounds for revocation of the Special Use Permit and may be punishable by fine or imprisonment (18 U.S.C. 1001). Failure to provide all required information is sufficient cause for the U.S. Fish and Wildlife Service to deny a permit.

No Members of Congress or Resident Commissioner shall participate in any part of this contract or to any benefit that may arise from it, but this provision shall not pertain to this contract if made with a corporation for its general benefit.

The Permittee agrees to be bound by the equal opportunity "nondiscrimination in employment" clause of Executive Order 11246.

Routine use disclosures may also be made: (a) to the U.S. Department of Justice when related to litigation or anticipated litigation; (b) of information indicating a violation or potential violation of a statute, rule, order, or license to appropriate Federal, State, local, or foreign agencies responsible for investigating or prosecuting the violation or for enforcing or implementing the statute, rule, regulations, order, or license; (c) from the record of the individual in response to an inquiry from a Congressional office made at the request of the individual (42 FR 19083; April 11, 1977); and (d) to provide addresses obtained from the Internal Revenue Service to debt collection agencies for purposes of locating a debtor to collect or compromise a Federal Claim against the debtor, or to consumer reporting agencies to prepare a commercial credit report for use by the Department of Justice (48 FR 54716; December 6, 1983).

An agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. OMB has approved this information collection and assigned control number 1018-0102. The public reporting burden for this information collection varies based on the requested specific refuge use. We estimate the relevant public reporting burden for the General Activity Special Use Permit Application form to average 0.5 hours per response, including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Mail comments on this form to the Information Collection Clearance Officer, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS BPHC, 5275 Leesburg Pike, Falls Church, VA 22041-3803.

### General Conditions and Requirements

- 1) Responsibility of Permittee: We shall consider the permittee, by operating on the premises, to have accepted these premises with all facilities, fixtures, or improvements in their existing condition as of the date of this permit. At the end of the period specified or upon earlier termination, the permittee shall give up the premises in as good order and condition as when received except for reasonable wear, tear, or damage occurring without fault or negligence. The permittee will fully repay the Service for any and all damage directly or indirectly resulting from negligence or failure on his/her part, and/or the part of anyone of his/her associates, to use reasonable care.
- 2) Operating Rules and Laws: The permittee shall keep the premises in a neat and orderly condition at all times, and shall comply with all municipal, county, and State laws applicable to the operations under the permit as well as all Federal laws, rules, and regulations governing national wildlife refuges and the area described in this permit. The permittee shall comply with all instructions applicable to this permit issued by the refuge official in charge. The permittee shall take all reasonable precautions to prevent the escape of fires and to suppress fires and shall render all reasonable assistance in the suppression of refuge fires.
- 3) Use Limitations: The permittee's use of the described premises is limited to the purposes herein specified and does not, unless provided for in this permit, allow him/her to restrict other authorized entry onto his/her area; and allows the U.S. Fish and Wildlife Service to carry on whatever activities are necessary for: (1) protection and maintenance of the premises and adjacent lands administered by the U.S. Fish and Wildlife Service; and (2) the management of wildlife and fish using the premises and other U.S. Fish and Wildlife Service lands.
- 4) Transfer of Privileges: This permit is not transferable, and no privileges herein mentioned may be sublet or made available to any person or interest not mentioned in this permit. No interest hereunder may accrue through lien or be transferred to a third party without the approval of the Regional Director of the U.S. Fish and Wildlife Service and the permit shall not be used for speculative purposes.
- 5) Compliance: The U.S. Fish and Wildlife Service's failure to require strict compliance with any of this permit's terms, conditions, and requirements shall not constitute a waiver or be considered as a giving up of the U.S. Fish and Wildlife Service's right to thereafter enforce any of the permit's terms or conditions.
- 6) Conditions of Permit not Fulfilled: If the permittee fails to fulfill any of the conditions and requirements set forth herein, the U.S. Fish and Wildlife Service shall retain all money paid under this permit to be used to satisfy as much of the permittee's obligation as possible.
- 7) Payments: All payment shall be made on or before the due date to the local representative of the U.S. Fish and Wildlife Service by a postal money order or check made payable to the U.S. Fish and Wildlife Service.
- 8) Termination Policy: At the termination of this permit the permittee shall immediately give up possession to the U.S. Fish and Wildlife Service representative, reserving, however, the rights specified in paragraph 11 below. If he/she fails to do so, he/she will pay the U.S. Fish and Wildlife Service, as liquidated damages, an amount double the rate specified in this permit for the entire time possession is withheld. Upon yielding

possession, we will still allow the permittee to reenter as needed to remove his/her property as stated in paragraph 11 below. The acceptance of any fee for the liquidated damages or any other act of administration relating to the continued tenancy is not to be considered as an affirmation of the permittee's action nor shall it operate as a waiver of the U.S. Fish and Wildlife Service's right to terminate or cancel the permit for the breach of any specified condition or requirement.

9) Revocation Policy: The Regional Director of the U.S. Fish and Wildlife Service may revoke this permit without notice for noncompliance with the terms hereof, or for violation of general and/or specific laws or regulations governing national wildlife refuges, or for nonuse. It is at all times subject to discretionary revocation by the Director of the Service. Upon such revocation the U.S. Fish and Wildlife Service, by and through any authorized representative, may take possession of said premises for its own and sole use, and/or may enter and possess the premises as the agent of the permittee and for his/her account.

10) Damages: The U.S. Fish and Wildlife Service shall not be responsible for: any loss or damage to property including but not limited to crops, animals, and machinery; injury to the permittee or his/her relatives, or to the officers, agents, employees, or any other(s) who are instructed to be on the premises; the suffering from wildlife or employees or representatives of the U.S. Fish and Wildlife Service carrying out their official responsibilities. The permittee agrees to hold the U.S. Fish and Wildlife Service harmless from any and all claims for damages or losses that may arise to be incident to the flooding of the premises resulting from any associated government river and harbor, flood control, reclamation, or Tennessee Valley Authority activity.

11) Removal of Permittee's Property: Upon the expiration or termination of this permit, if all rental charges and/or damage claims due to the U.S. Fish and Wildlife Service have been paid, the permittee may, within a reasonable period as stated in the permit or as determined by the U.S. Fish and Wildlife Service official in charge, but not to exceed 60 days, remove all structures, machinery, and/or equipment, etc., from the premises for which he/she is responsible. Within this period the permittee also must remove any other of his/her property including his/her acknowledged share of products or crops grown, cut, harvested, stored, or stacked on the premises. Upon failure to remove any of the above items within the aforesaid period, they shall become the property of the U.S. Fish and Wildlife Service.

#### **Instructions for Completing Application**

You may complete the application portion verbally, in person, or electronically and submit to the refuge for review. Note: Please read instructions carefully as not all information is required for each activity. Contact the specific refuge headquarters office where the activity is going to be conducted to determine applicability of a particular item. We may add special conditions or permit stipulations to permit prior to approval.

1) Identify if permit application is for new, renewal, or modification of an existing permit. Permit renewals may not need all information requested. Contact the specific refuge headquarters office where the activity is going to be conducted if you have questions regarding the applicability of a particular item.

2-8) Provide full name, organization (if applicable), address, phone, fax, and e-mail.

9) Provide known names and addresses of assistants, subcontractors or subpermittees. Names and address are only required if the assistants, subcontractors or subpermittees will be operating on the refuge without the permittee being present. Volunteers, assistants, subcontractors or subpermittees that are accompanied by the permittee need not be identified.

10) Activity type: check one of the following categories:

- Event;
- Wood cutting;
- Group visit;
- Cabin/Subsistence cabin (subsistence cabins are only allowed on Alaska Refuges);
- Educational activity; or
- Other—any other activity(s) not mentioned above. Please describe "other" activity.

11) Provide detailed information on the activity, including times, frequency, and how the activity is expected to proceed, etc. Permit renewals may not need activity description if the activity is unchanged from previous permit. Most repetitive activities, such as group visits, do not require an activity description for each visit. Contact the specific refuge headquarters office where the activity is going to be conducted to determine if we require an activity description.

12) Identify beginning and ending dates, site occupation timeline, hours, clean-up, and other major events. Permit renewals may not need an activity/site occupancy timeline, if the activity is unchanged from previous permit. Most repetitive activities, such as group visits, do not require an activity/site occupancy timeline for each visit. Contact the specific refuge headquarters office where the activity is going to be conducted to determine if we require an activity/site occupancy timeline.

13-14) Provide an estimate of the number of adults, and children and grade level of group, if applicable.

15a-15b) Identify if group activities will require onsite refuge staff and the anticipated time frame, if applicable.

16a-16b) Identify and attach a Plan of Operation, if required. Most repetitive activities, such as group visits, do not require a Plan of Operation for each visit. In addition, permit renewals may not require a Plan of Operation if the activity is essentially unchanged from the previous permit. Contact the specific refuge headquarters office where the activity is going to be conducted to determine if a Plan of Operation is required.

17) Identify specific location (GPS coordinates preferred), if not a named facility. Most repetitive activities, such as group visits, do not require a location. In addition, permit renewals may not require a location if the activity is essentially unchanged from the previous permit. Contact the specific refuge headquarters office where the activity is going to be conducted to determine if we require a location.

18a-18b) Attach a map of location, if required, and if the activity is not conducted at a named facility. Most repetitive activities, such as group visits, do not require a map. In addition, permit renewals may not require a map if the activity is essentially unchanged from the previous permit. Contact the specific refuge headquarters office where the activity is going to be conducted to determine if we require a map.

19) Provide name, type, and carrier of insurance, if required. Contact the specific refuge headquarters office where the activity is going to be conducted to determine if we require insurance and type of insurance.

20) Specifically identify type(s) and number(s) of other licenses, certifications or permits, if required. Contact the specific refuge headquarters office where the activity is going to be conducted to determine the type(s) of licenses, certifications or permits required, and to coordinate the simultaneous application of several types of licenses, certifications or permits. We may or may not issue this Special Use Permit (SUP) while the permittee obtains other licenses, certifications, and/or permits.

21-22) Provide name(s) of any personnel required to stay overnight, if applicable.

23) Identify all equipment and materials that will be used, if required. Most repetitive events, such as group visits, do not require a list of equipment. In addition, permit renewals may not require a list of equipment if the event is essentially unchanged from the previous permit. Contact the specific refuge headquarters office where the activity is going to be conducted to determine if we require a list of equipment.

24a-24b) Provide vehicle descriptions and license plate or identification numbers of all vehicles, including boats and airplanes, if required. We only require motor vehicle descriptions for permittee vehicle, and/or if the vehicle will be operated on the refuge without the permittee being present. Motor vehicles accompanied by the permittee as part of a group (convoy) activity need not be identified if cleared in advance by the refuge supervisor. Specifically describe ship-to-shore, intersite (between islands, camps, or other sites) and onsite transportation mechanisms, and license plate or identification numbers, if required.

25) Specifically describe onsite work and/or living accommodations, if applicable.

26) Specifically describe onsite hazardous material storage, or other onsite material storage space (including on and offsite fuel caches).

27) Sign, date, and print the application. Click on the Print button to print the application (if using the fillable version). The refuge official will review and, if approved, fill out the remaining information, sign, and return a copy to you for signature and acceptance.

**This application form is not valid as a permit  
but may be used as a reference document attached to the official permit.  
Only official refuge personnel may assign a valid permit number and permit term  
to this application form after the permit has been approved.**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2500B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32635.3.FR7	BRNH-0012(56)		



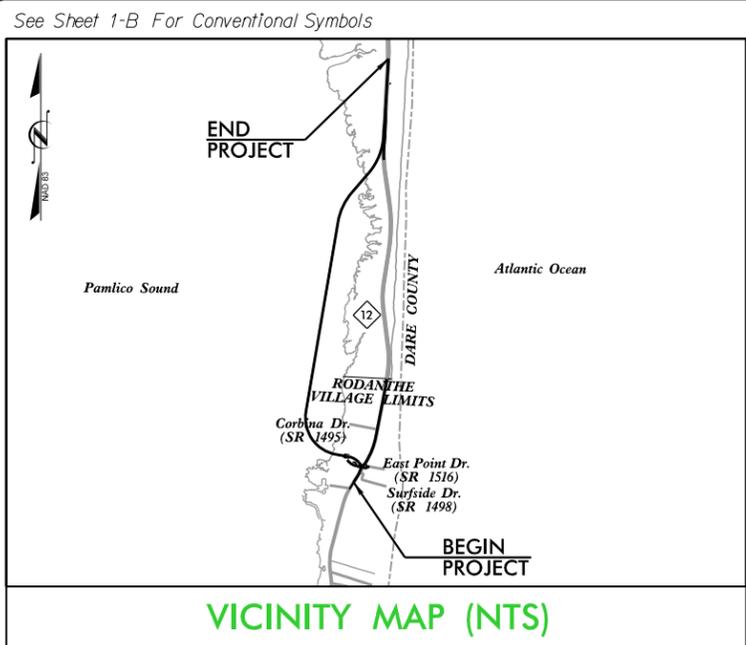
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# DARE COUNTY

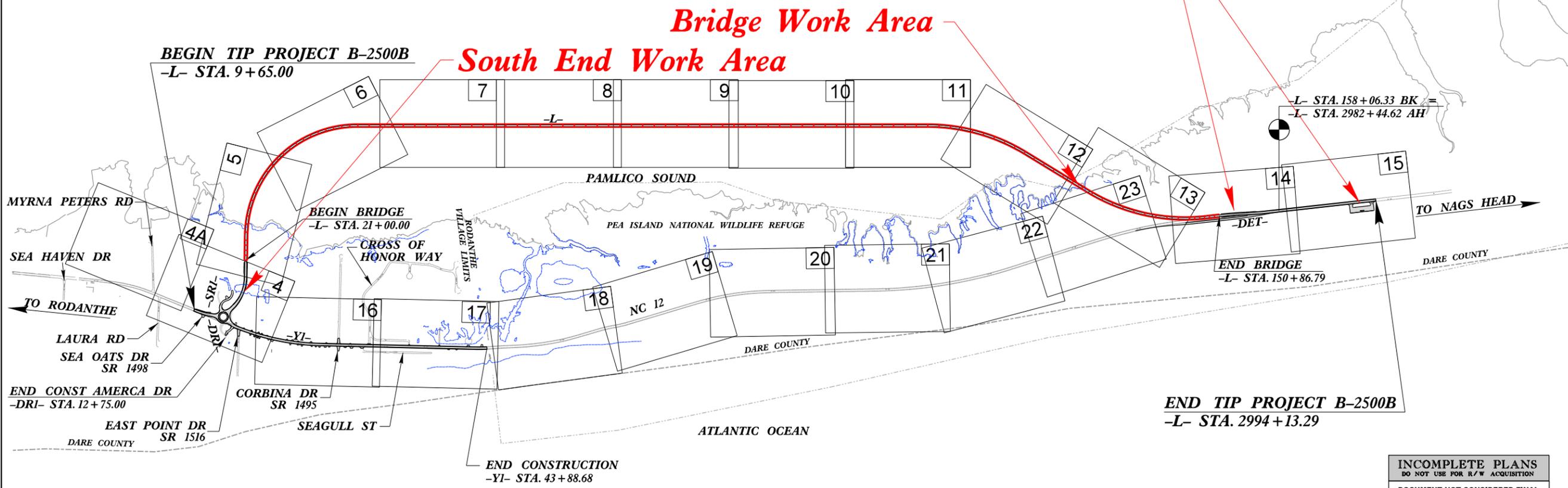
LOCATION: NC 12 - RODANTHE BREACH LONG TERM IMPROVEMENTS (PHASE IIB)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNING & STRUCTURES

## Geotechnical Boring Work Areas

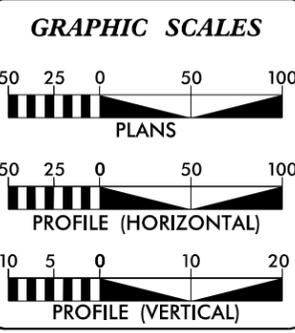


VICINITY MAP (NTS)



**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.



**DESIGN DATA**  
ADT 2017 = 9,800  
ADT 2037 = 14,200  
V = 40 /60 MPH  
FUNC. CLASSIFICATION = RURAL COLLECTOR

**PROJECT LENGTH**  
LENGTH ROADWAY TIP PROJECT B-2500B.....0.572 mi  
LENGTH STRUCTURE TIP PROJECT B-2500B.....2.460 mi  
TOTAL LENGTH TIP PROJECT B-2500B.....3.032 mi

**NC DOT CONTACT**  
K. Zak Hamidi, P.E.  
PROJECT ENGINEER - DESIGN-BUILD GROUP

**PLANS PREPARED BY:**  
**RK&K** RUMMEL, KLEPPER & KAHL, LLP  
900 RIDGEFIELD DRIVE, SUITE 350  
RALEIGH, NORTH CAROLINA 27609  
NC LICENSE NO. F-0112

**FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**

2012 STANDARD SPECIFICATIONS

**FLATIRON**

LETTING DATE:  
JANUARY 25, 2017

B. Keith Skinner, P.E.  
PROJECT ENGINEER

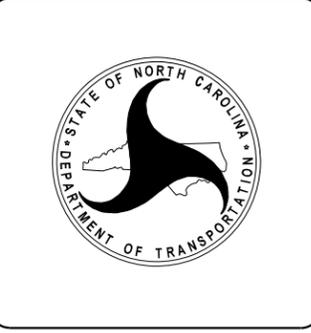
Brandon J. McInnis, P.E.  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

**ROADWAY DESIGN ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.



CONTRACT: C203474 TIP PROJECT: B-2500B

3/9/2017 R:\Hydraulics\PERMITS\_Environmental\Drawings\NationWide\B2500B-Hyd.-fsh.dgn fkeys

8/17/99

PROJECT REFERENCE NO. <i>B-2500B</i>	SHEET NO. <i>12</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



**GEOTECHNICAL BORING WORK AREA** 

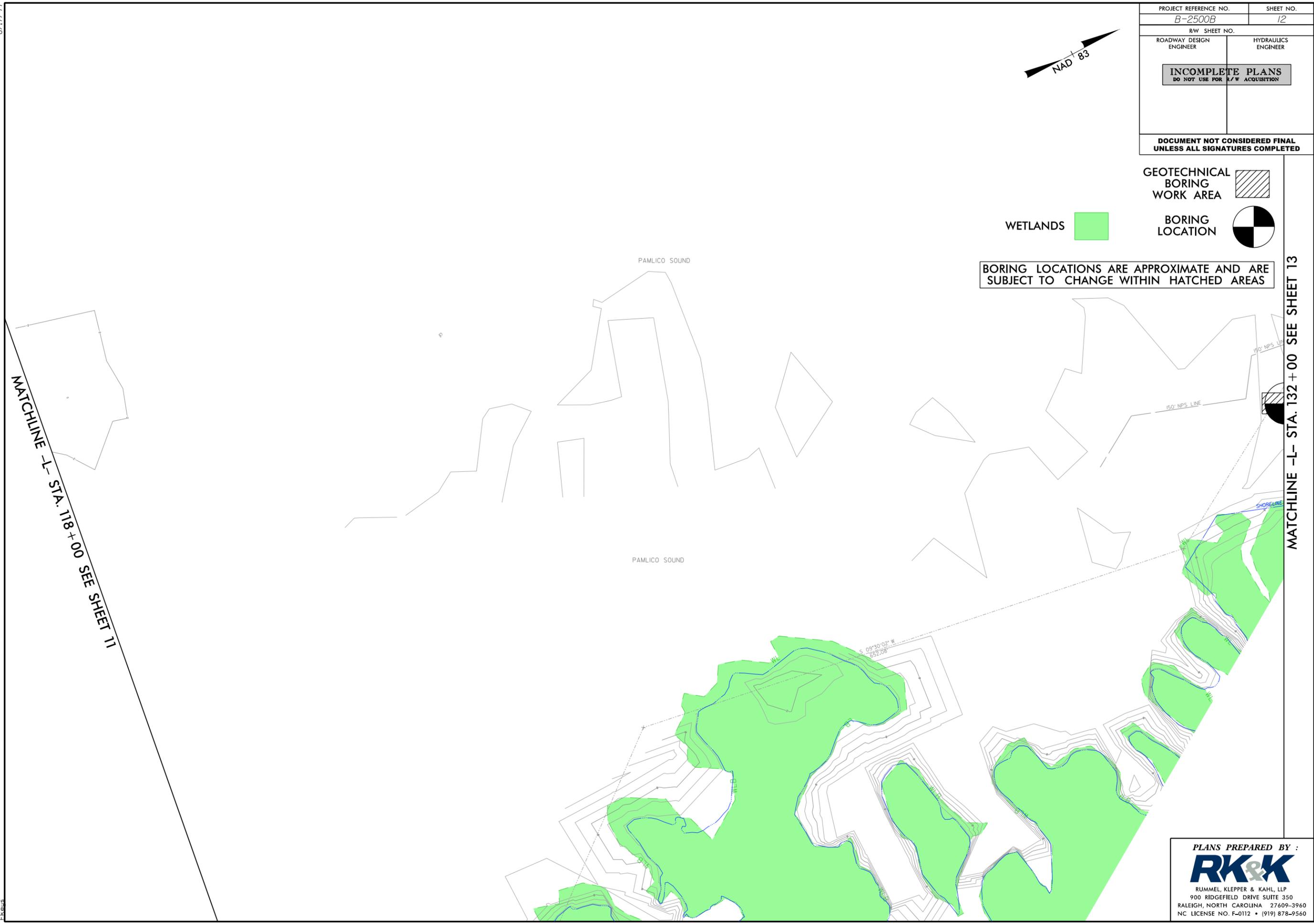
**WETLANDS** 

**BORING LOCATION** 

**BORING LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO CHANGE WITHIN HATCHED AREAS**

MATCHLINE -L- STA. 118 + 00 SEE SHEET 11

MATCHLINE -L- STA. 132 + 00 SEE SHEET 13



3/9/2017  
R:\Hydro\lics\PERMITS\_Environmental\Drawings\NetonWide\B2500B\_Hyd\_psh12.dgn  
E.L.S.

**PLANS PREPARED BY :**  
  
 RUMMEL, KLEPPER & KAHL, LLP  
 900 RIDGEFIELD DRIVE SUITE 350  
 RALEIGH, NORTH CAROLINA 27609-3960  
 NC LICENSE NO. F-0112 • (919) 878-9560

8/17/99

BORING LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO CHANGE WITHIN HATCHED AREAS

PROJECT REFERENCE NO. B-2500B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	

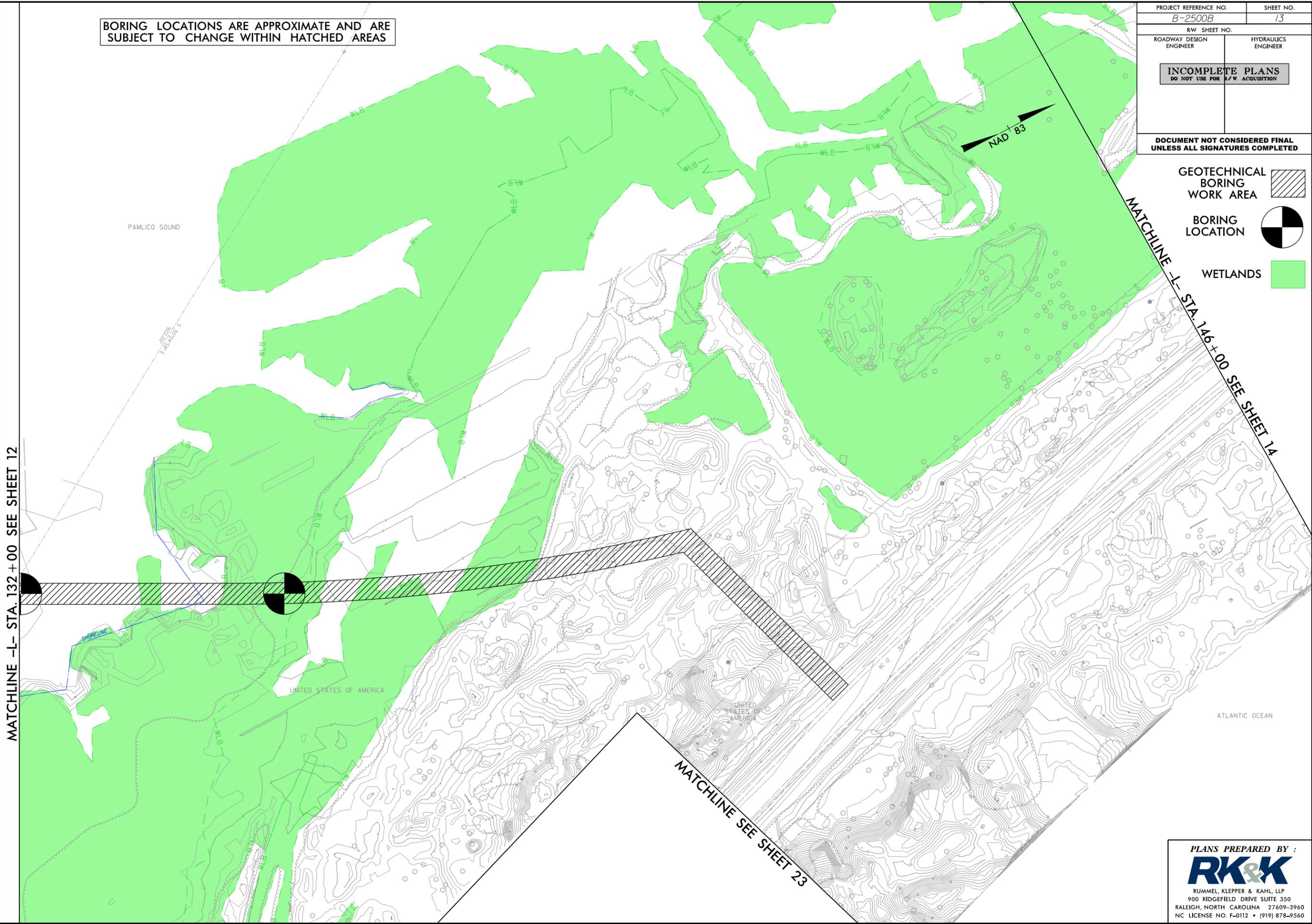
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

- GEOTECHNICAL BORING WORK AREA 
- BORING LOCATION 
- WETLANDS 

MATCHLINE -L- STA. 132 + 00 SEE SHEET 12

MATCHLINE -L- STA. 146 + 00 SEE SHEET 14

MATCHLINE SEE SHEET 23



3/9/2017 R:\Hydro\lics\PERMITS\_Environmental\Drawings\NetonWide\B2500B\_Hyd\_psh13.dgn

PLANS PREPARED BY :

**RK&K**

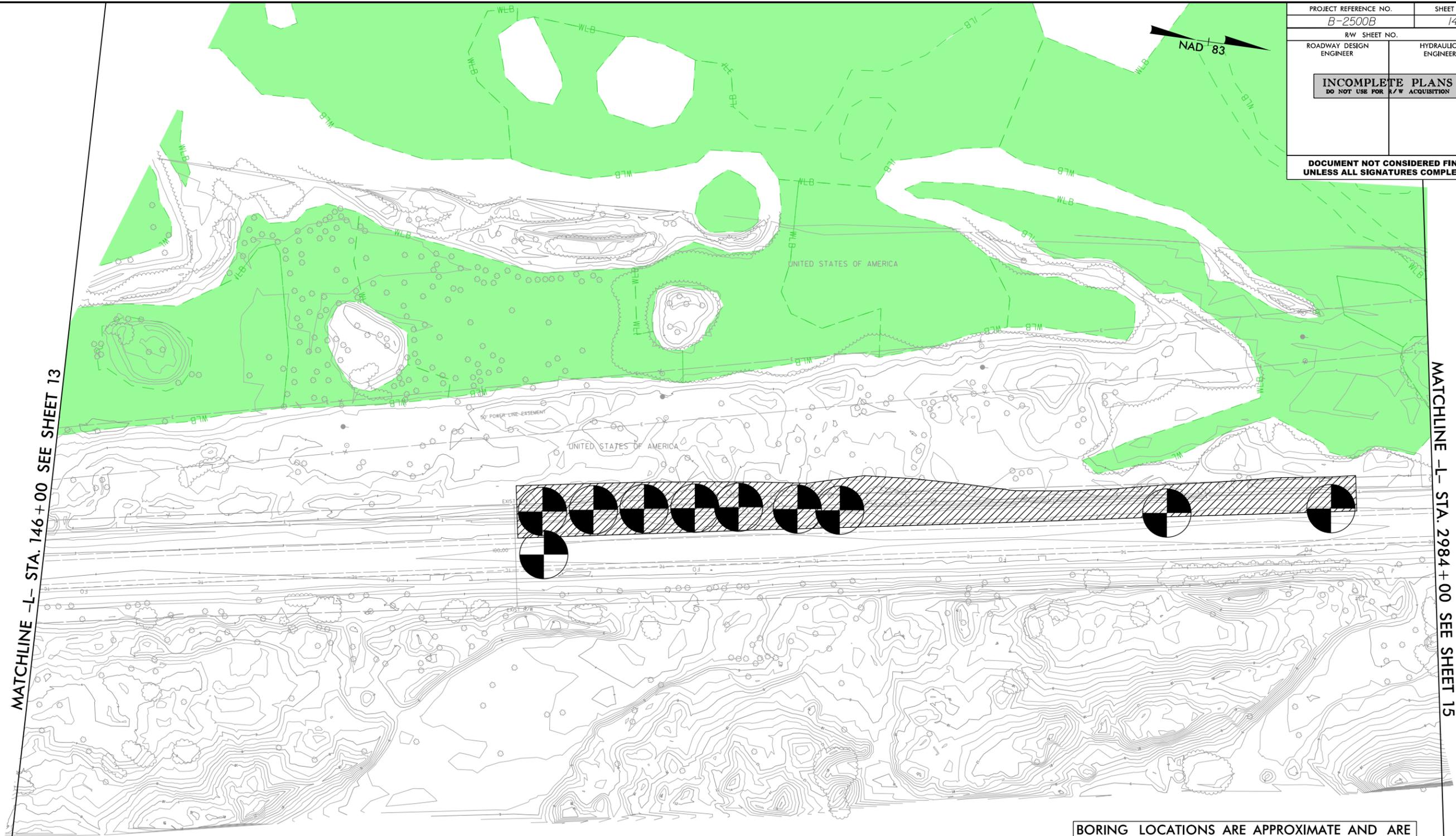
RUMMEL, KLEPPER & KAHL, LLP  
 900 RIDGEFIELD DRIVE SUITE 350  
 RALEIGH, NORTH CAROLINA 27609-3960  
 NC LICENSE NO. F-0112 • (919) 878-9560

8/17/99

REVISIONS

3/9/2017  
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E.L.S.

MATCHLINE -L- STA. 146+00 SEE SHEET 13



PROJECT REFERENCE NO. B-2500B	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 2984+00 SEE SHEET 15

BORING LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO CHANGE WITHIN HATCHED AREAS

- WETLANDS
- GEOTECHNICAL BORING WORK AREA
- BORING LOCATION

**PLANS PREPARED BY :**  
  
 RUMMEL, KLEPPER & KAHL, LLP  
 900 RIDGEFIELD DRIVE SUITE 350  
 RALEIGH, NORTH CAROLINA 27609-3960  
 NC LICENSE NO. F-0112 • (919) 878-9560

8/17/99

PROJECT REFERENCE NO. B-2500B	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

**GEOTECHNICAL BORING WORK AREA** 

**BORING LOCATION** 

**WETLANDS** 



MATCHLINE -L- STA. 2984 + 00 SEE SHEET 14

REVISIONS

BORING LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO CHANGE WITHIN HATCHED AREAS

**PLANS PREPARED BY :**  
  
 RUMMEL, KLEPPER & KAHL, LLP  
 900 RIDGEFIELD DRIVE SUITE 350  
 RALEIGH, NORTH CAROLINA 27609-3960  
 NC LICENSE NO. F-0112 • (919) 878-9560

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E.L.S.