

Permit Class
MODIFICATION/MINOR

Permit Number
257

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
and
Coastal Resources Commission

Permit

for
____ Major Development in an Area of Environmental Concern
pursuant to NCGS 113A-118

Excavation and/or filling pursuant to NCGS 113-229

Issued to N.C. Department of Transportation, Ferry Operations, P.O. Box 57, Hatteras, NC 27943

Authorizing development in Craven County at Neuse River (S. side at Cherry Branch Ferry Terminal), as requested in the permittee's application letter dated 3/21/03 & 7/14/03, including the attached workplan drawings (5): 2 dated March 2003; and 3 dated February 2003.

This permit, issued on 7/25/03, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

Pile Clusters and Jetting Research Project

- 1) This minor modification authorizes the installation of four (4) clusters (3 piles each) to secure auxiliary equipment and vessels in the event of storms in the locations depicted on the attached workplan drawing. This minor modification also authorizes the jetting research project as described in the NCDOT letter dated 7/14/03, and as depicted on the attached workplan drawings.

NOTE: The research team will install and remove a total of 10 piles at this site. A 40' x 40' working platform will be installed at each pile location to monitor and collect data generated from the jetted pile installation. Each working platform will require the installation of four spud piles around the jetted pile installation site.

(See attached sheet for Additional Conditions)

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

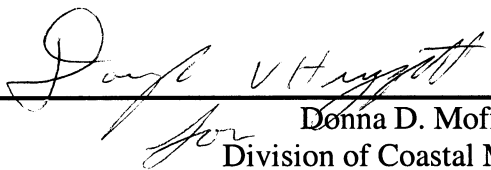
Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

June 30, 2005

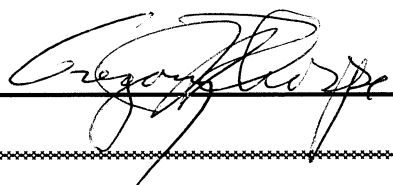
In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.



Donna D. Moffitt, Director
Division of Coastal Management

This permit and its conditions are hereby accepted.



Signature of Permittee

ADDITIONAL CONDITIONS

- 2) The permittee shall not attempt to clean the test locations of deleterious materials after testing because such cleaning could cause more habitat disturbance than the material itself.
- 3) The working platforms and the test piles shall be removed in their entirety immediately upon completion of the research project.
- 4) This minor modification does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.
- 5) This minor modification must be attached to the original of permit No. 257 as well as all subsequent modifications and renewals, and all documents must be readily available on site when a Division representative inspects the project for compliance.
- 6) All conditions and stipulations of the original permit and subsequent renewals remain in force under this minor modification unless altered herein.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

HATTERAS INLET FERRY OPERATIONS
PO BOX 57
HATTERAS, NC 27943

LYNDO TIPPETT
SECRETARY

March 21, 2003

Bill Arrington
Division of Coastal Management
151 B Highway 24
Hefron Plaza II
Morehead City, NC 28557

Ref: State Permit 257

Dear Sir:

We would like modification to the above reference permit to allow us to install 4 clusters of three piles at our ferry terminal at Cherry Branch, Craven County. The purpose of the pile clusters is to secure auxiliary equipment and vessels in the event of storms.

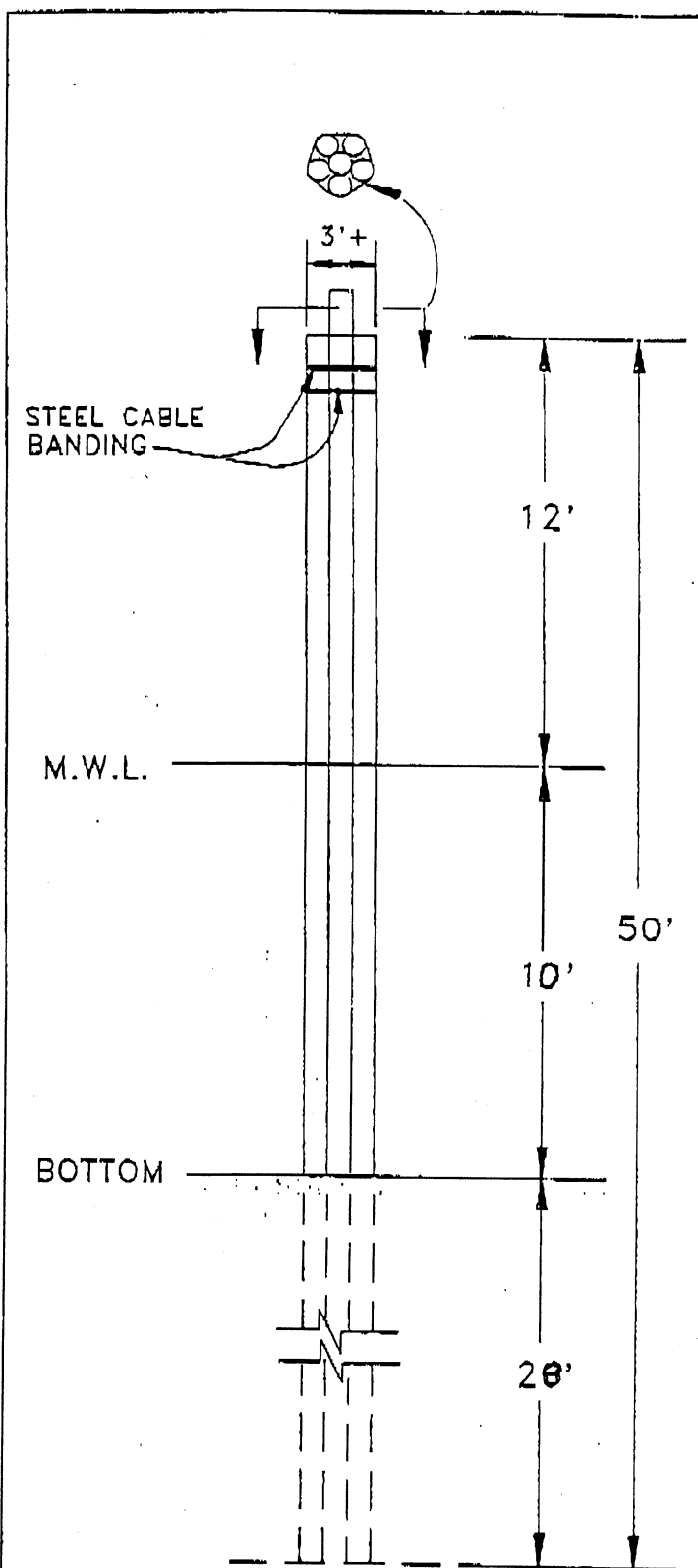
Please find enclosed a check in the amount of \$ 100.00. If you have any questions, please contact me at my office at Hatteras (252) 986-2136.

Thank you for your help and cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Morris J. Gray".

Morris J. Gray
Dredge Superintendent



NOTES:

1. PILE CLUSTERS CONSIST OF 3, 5 OR 7 12" PRESSURE TREATED PILES, 50' IN LGTH.
2. PILE DESIGNATION: 2.5 PCF CCA-C, SALT WATER MARINE EXPOSURE (AWPA C3 STDS)

TYP. PILE CLUSTER
(NTS)

N.C. DEPT. OF TRANSPORTATION
— FERRY DIVISION —

PILE CLUSTER INSTALLATION
CHERRY BRANCH-GRAVEN CO.

SCALE: NONE

SHEET
2 OF 2

DATE: MARCH 2003



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 14, 2003

Mr. Bill Arrington, NCDOT Project Manager
North Carolina Department of Environment
and Natural Resources
Division of Coastal Management
Morehead City District Office
Hestron Plaza II
151-B Highway 24
Morehead City, NC 28557

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DIV. OF COASTAL MANAGEMENT
RALEIGH

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DIV. OF COASTAL MANAGEMENT
RALEIGH

Dear Mr. Arrington:

SUBJECT: Minor Modification to CAMA Permit 257 for a Jetting Research Project, Cherry Branch Ferry Facility, Craven County. NCDOT Research Project 2003-15.

As you are aware, the NCDOT is sponsoring a research project to evaluate techniques to use jetting for pile installation. Jetting is an effective means of pile installation in many bridge construction projects and can have minimum environmental impact, if used properly. However, limited data are available on potential environmental impacts and no guidelines exist to minimize adverse effects on environmentally sensitive areas. It is urgent and important to develop jetting design guidelines and procedures acceptable to the regulatory agencies, while allowing the contractors to perform the required pile installations. Consequently, NCDOT has contracted with a research team from N.C. State University to investigate the effects of jetting techniques in the aquatic environment.

The objective of this research project is to characterize and define disturbance due to jetting installation method as manifested by zone of influence and volume of debris area. This disturbance will be defined as a function of jetting pressure, flow rate, and site conditions including soil types. Second, specifications will be developed with recommendations regarding jetting parameters and possible modifications of the jetting procedure to minimize disturbance. The ecological impacts of jetting will be presented in terms of the jetting disturbance effect on hydric soils. This effort will require work at four sites, including in Areas of Environmental Concern as defined by the N.C. Coastal Area Management Act. This request pertains specifically to the Cherry Branch Ferry facility at Cherry Point in Craven County.

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RALEIGH

Cherry Branch Ferry Facility

The Cherry Branch Ferry site presents several positive attributes that will be beneficial to the pile jetting research project. The site is relatively large and has potential sites for jetting under open water that would simulate a large bridge construction project. A great advantage of this site is that the substrate in the basin is regularly disturbed by dredging and ferry traffic. Consequently, experimental jetting in the basin will not disturb natural substrate. In addition, the contained nature of the ferry basin will offer protection to the test setup and disturbed zone so data collection will be easier and more accurate, and help minimize adverse impacts to the Neuse River estuary.

The research team is proposing to install and remove a total of 8 piles at this site. All eight locations will be underwater in the ferry basin. Since a major component of the research is to measure the disturbance zone caused by jetted pile installation, a method of containment would be detrimental to the research. The disturbance zone must be allowed to fully develop so that accurate measurements can be obtained for the research. However, it is the intent of the researchers to cause minimal impact on the surrounding environment at the test locations by using innovative jetting techniques. Also, each test location will be thoroughly cleaned of any deleterious materials after testing. The displaced soil generated by installing the piles will be used to backfill the holes left after extraction.

Description for working platforms

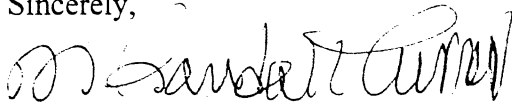
Working platforms will be needed for those piles that are installed in standing water. The platforms will require the installation of four spud piles around the jetted pile installation site. The working platform will be supported by the spud pile members. The spud installations will be vertical, and hammer driven, thereby causing minimal impact on the surrounding environment. The platforms will be used for monitoring and collecting data generated from the jetted pile installation. The platforms will be critical for delineating the disturbance zone, monitoring turbidity, and evaluating the impacts caused by the jetting installation.

The field-testing phase of this research project will aim at collecting data on the zone of debris as a function of jetting parameters and soil conditions. The purpose of this research is to quantify the zone of disturbance occurring from the jetting process and to monitor the hydrographic variables such as temperature, salinity, conductivity, pH, and dissolved oxygen. During this phase, an expert on wetlands will be consulted regarding the effect of debris zone on the surrounding ecological habitats. Information gathered from field research will be incorporated into an empirical model developed in the laboratory phase of the research project. This model will be available for the NCDOT to use in assessing future projects where pile jetting is an option. The model will supply predictions of the zone of disturbance from input variables such as grain size distribution, soil composition, jetting pressures, jetting flow rates, and pile diameter. With this model, the most effective means of pile installation can be determined while minimizing the impacts to the surrounding environment.

The research results will be presented to the regulatory agencies for their review and approval. Once approved, the jetting design guidelines and procedures will be used in projects where jetting is proposed. The results of this research are expected to have positive impact on operational efficiency, and facilitate conformance to environmental regulations.

The NCDOT hereby requests that Permit 257 be modified to include the proposed experimental jetting. Please find enclosed the appropriate permit drawings. This work is taking place entirely within a ferry basin owned and operated by NCDOT, consequently, we are the only affected riparian landowner. By copy of this letter, the NCDOT is also requesting authorization from the U.S. Army Corps of Engineers and the North Carolina Division of Water Quality under Nationwide Permit No. 25 for structural discharges. If you have any questions, please don't hesitate to call Mr. Lindsey Riddick of my staff at (919) 715-1459.

Sincerely,


Gregory, J. Thorpe, PhD
Environmental Management Director, PDEA

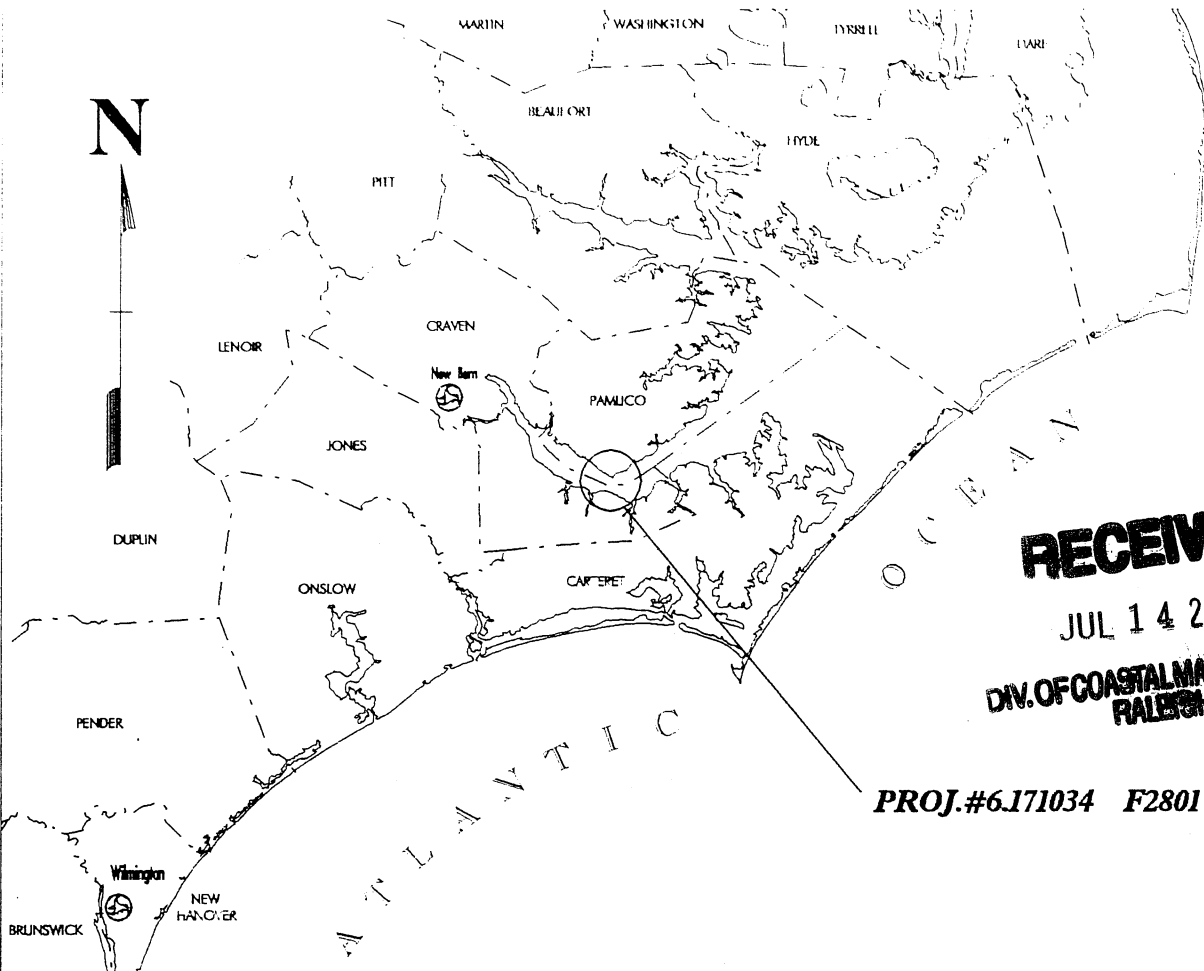
CC: w/attachment

Mr. David Franklin, USACE, Wilmington
Mr. Mike Bell, USACE, Washington
Mr. Doug Huggett, NCDOT, Raleigh
Mr. John Dorney, Division of Water Quality
Ms. Sara Winslow, Division of Marine Fisheries
Mr. Jerry Gaskill, Ferry Division
Mr. Mohammed Mulla, P.E., NCDOT Soils and Foundations
Mr. Roger Rochelle, P.E. NCDOT Research and Development

w/o attachment

Mr. C. E. Lassiter, P. E., Division 2 Engineer

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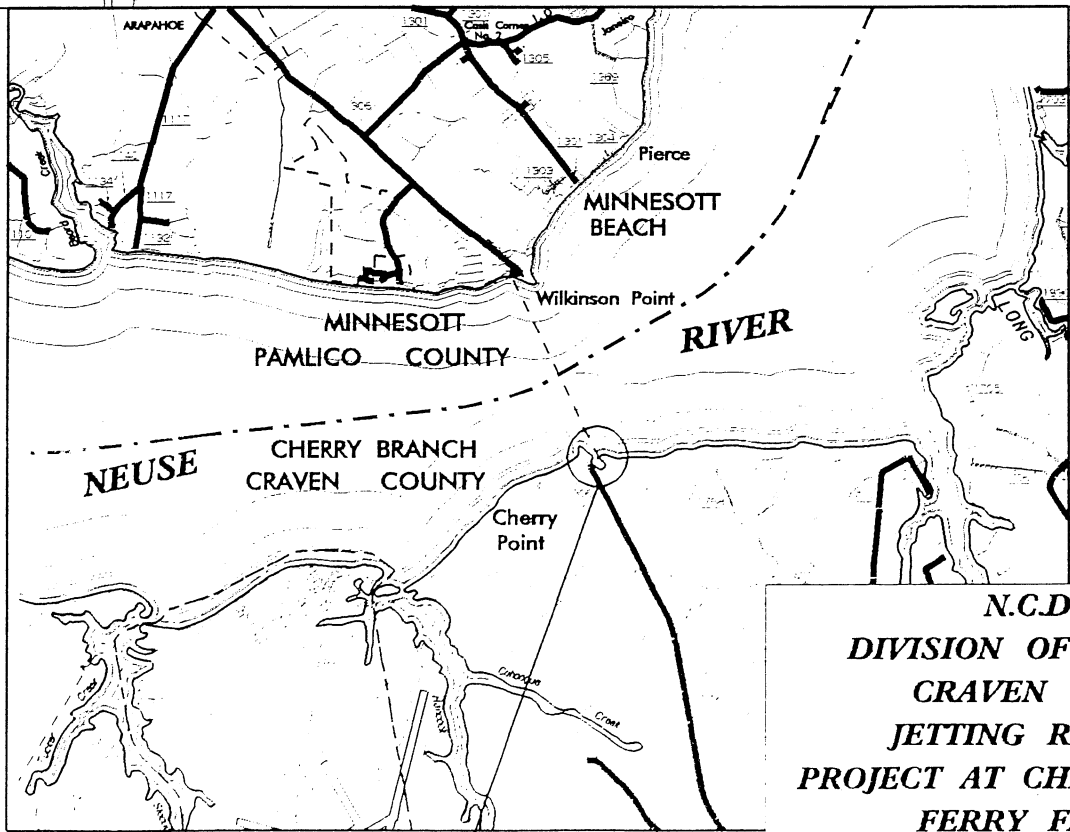


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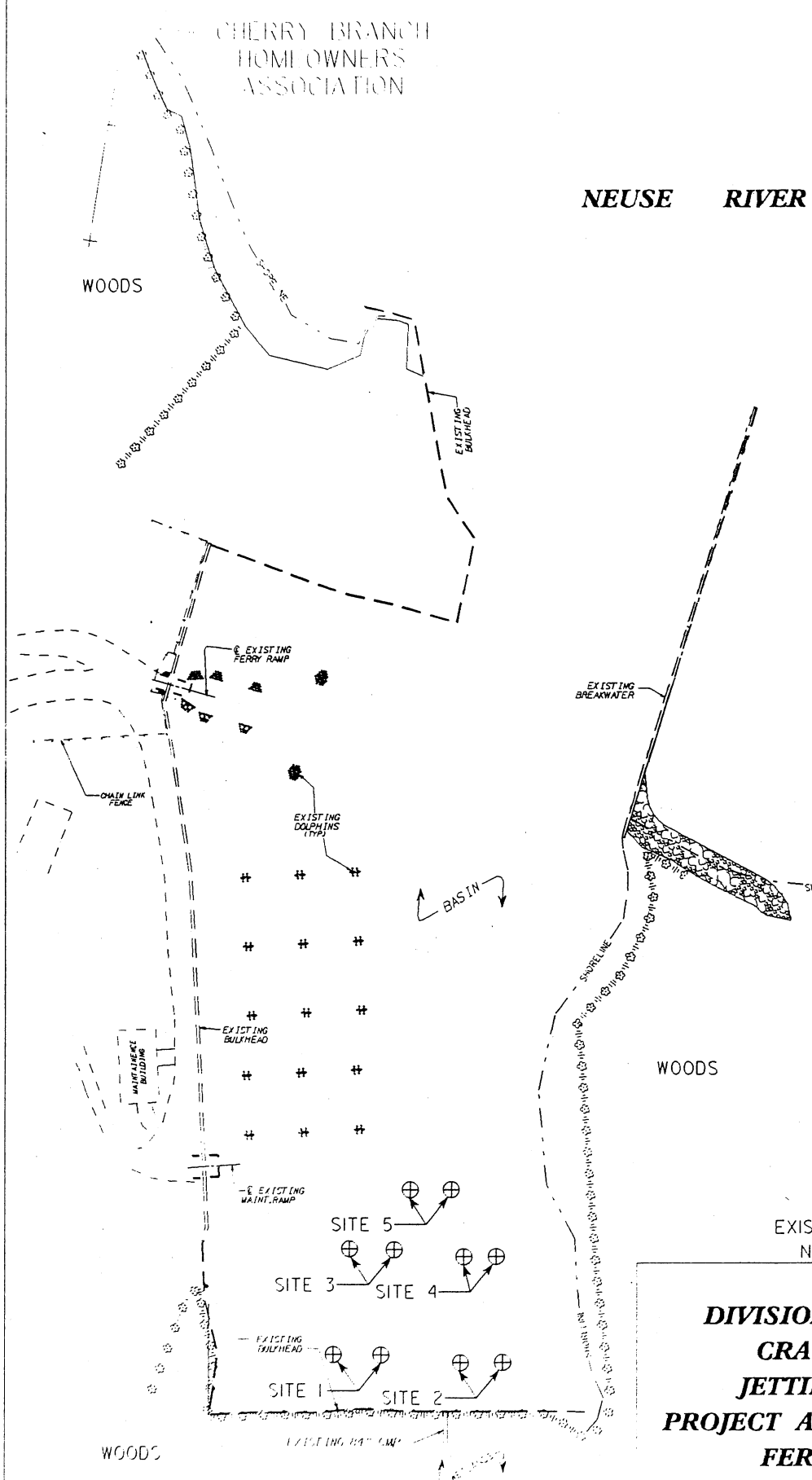
DIV. OF COASTAL MANAGEMENT
RALEIGH

PROJ.#6.171034 F2801



N.C.D.O.T.
DIVISION OF HIGHWAYS
CRAVEN COUNTY
JETTING RESEARCH
PROJECT AT CHERRY BRANCH
FERRY FACILITY
PROJ.#6.171034 F2801
SHEET OF
FEBRUARY, 2003

PROJ.#6.171034 F2801



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DIV. OF COASTAL MANAGEMENT
RALEIGH

CHERRY BRANCH
HOMEOWNERS
ASSOCIATION

EXISTING CONDITIONS
NOT TO SCALE

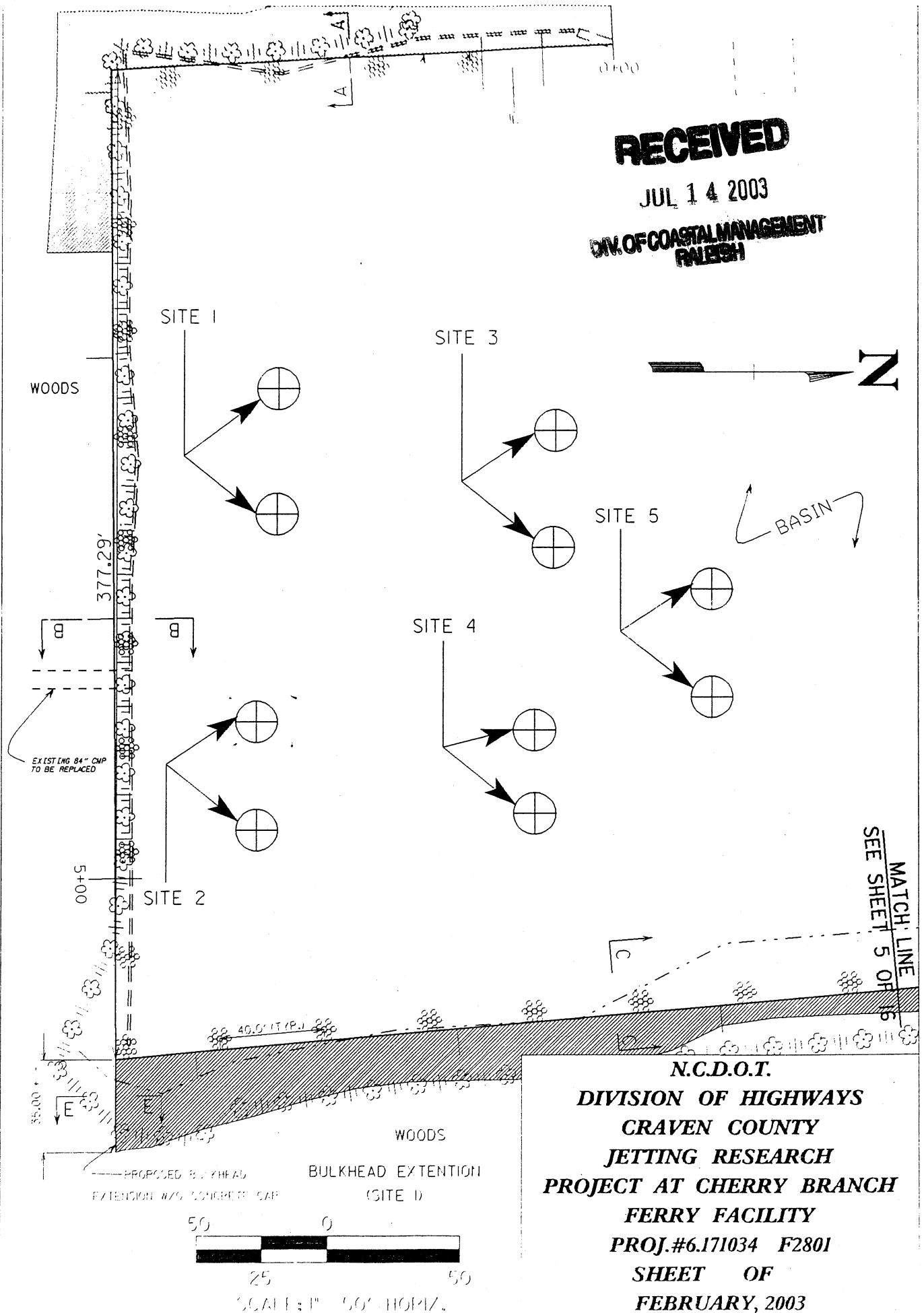
N.C.D.O.T.
DIVISION OF HIGHWAYS
GRAVEN COUNTY
JETTING RESEARCH
PROJECT AT CHERRY BRANCH
FERRY FACILITY
PROJ.#6.171034 F2801
SHEET OF
FEBRUARY, 2003

⊕ PROPOSED TEST
PILE LOCATION

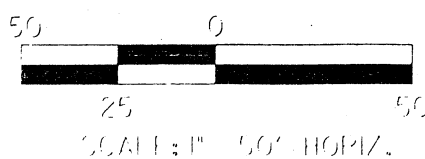
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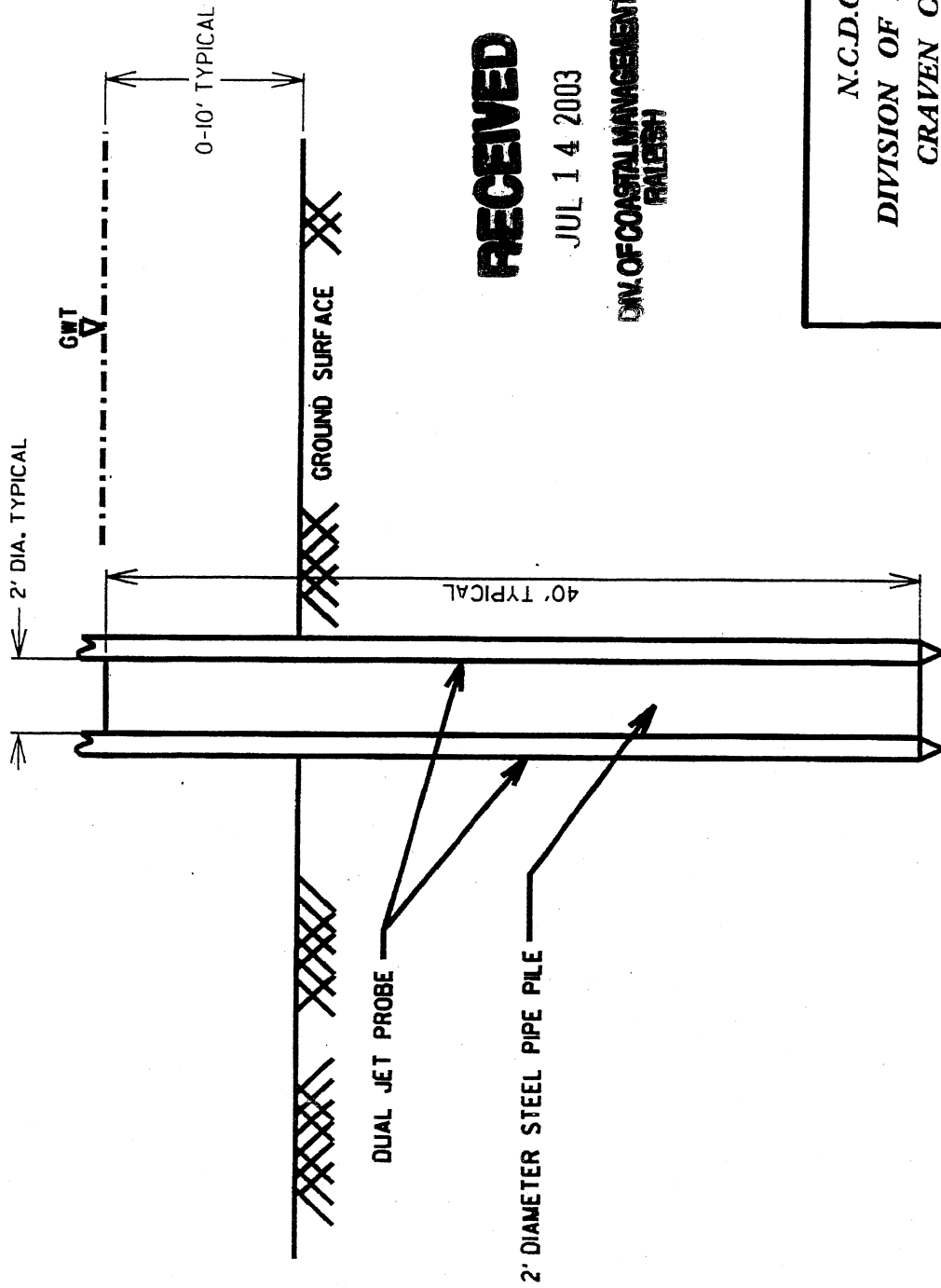
DIV. OF COASTAL MANAGEMENT
RALEIGH



N.C.D.O.T.
DIVISION OF HIGHWAYS
CRAVEN COUNTY
JETTING RESEARCH
PROJECT AT CHERRY BRANCH
FERRY FACILITY
PROJ.#6.171034 F2801
SHEET OF
FEBRUARY, 2003



TYPICAL JETTED PILE INSTALLATION SITE



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**DIV. OF COASTAL MANAGEMENT
RALEIGH**

SECTION VIEW

N.C.D.O.T.
DIVISION OF HIGHWAYS
CRAVEN COUNTY
JETTING RESEARCH
PROJECT AT CHERRY BRANCH
FERRY FACILITY
PROJ.#6.171034 F2801
SHEET OF
FEBRUARY, 2003



North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Michael F. Easley, Governor

Donna D. Moffitt, Director

William G. Ross Jr., Secretary

July 29, 2003

N.C. Department of Transportation
Ferry Operations
P.O. Box 57
Hatteras, NC 27943

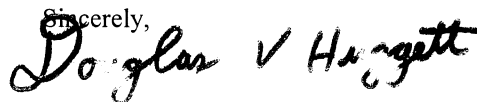
Dear Sir or Madam:

The enclosed permit constitutes authorization under the Coastal Area Management Act, and where applicable, the State Dredge and Fill Law, for you to proceed with your project proposal. The original (buff-colored form) is retained by you and it must be available on site when the project is inspected for compliance. Please sign both the original and the copy and return the copy to this office in the enclosed envelope. Signing the permit and proceeding means you have waived your right of appeal described below.

If you object to the permit or any of the conditions, you may request a hearing pursuant to NCGS 113A-121.1 or 113-229. Your petition for a hearing must be filed in accordance with NCGS Chapter 150B with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27611-6714, (919) 733-2698 within twenty (20) days of this decision on your permit. You should also be aware that if another qualified party submits a valid objection to the issuance of this permit within twenty (20) days, the matter must be resolved prior to work initiation. The Coastal Resources Commission makes the final decision on any appeal.

The project plan is subject to those conditions appearing on the permit form. Otherwise, all work must be carried out in accordance with your application. Modifications, time extensions, and future maintenance require additional approval. Please read your permit carefully prior to starting work and review all project plans, as approved. If you are having the work done by a contractor, it would be to your benefit to be sure that he fully understands all permit requirements.

From time to time, Department personnel will visit the project site. To facilitate this review, we request that you complete and mail the enclosed Notice Card just prior to work initiation. However, if questions arise concerning permit conditions, environmental safeguards, or problem areas, you may contact Department personnel at any time for assistance. By working in accordance with the permit, you will be helping to protect our vitally important coastal resources.

Sincerely,


Douglas V. Huggett
Major Permits and Consistency Manager

Enclosure

1638 Mail Service Center, Raleigh, North Carolina 27699-1638
Phone: 919-733-2293 \ FAX: 919-733-1495 \ Internet: <http://dcm2.enr.state.nc.us>

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