

NORTHEAST CAPE FEAR RIVER –ROYAL TRACT

EASEMENT DOCUMENTATION REPORT

Ann Stapleton and Robert L. Bryden

Owners

**North Carolina Coastal Land Trust
Wilmington, North Carolina**

September 2003

INTRODUCTION

Ms. Ann Stapleton and Mr. Robert L. Bryden of Leland, North Carolina are fee title owners of approximately 287 acres of land in New Hanover County, North Carolina. The tract is subject to a conservation easement held by the North Carolina Coastal Land Trust. This Easement Documentation Report (Report) is an effort to establish the condition of the property at the time the conservation easement is completed. The text, photographs and maps herein document and reference the specific property conditions and features that are protected or affected by the easement terms. The Report serves as a summary and baseline documentation file for this conservation easement. As new material is included in the Report, it will be signed and dated to show its inclusion after the easement has been recorded.

The purpose of the Conservation Easement is to preserve and protect the conservation values of the property. Specifically, this Easement will maintain in perpetuity significant wildlife habitat and an important freshwater marsh and forested buffer along the Cape Fear River.

PURPOSE OF EASEMENT (reason for protection): The purpose of the Conservation Easement is to preserve and protect the water quality, ecological and open space values of the property. Specifically, the Conservation Easement will maintain in perpetuity a riparian buffer along a portion of the Cape Fear River and will protect the relatively natural habitats, i.e., estuarine marsh and bottomland hardwood forest along the Cape Fear, as important habitat for fish and wildlife.

PROPERTY BACKGROUND INFORMATION

Acreeage of the Property: The Northeast Cape Fear -Royal Tract is a total of 782.77 acres in 2 parcels (Tract I-303.9 acres along Northeast Cape Fear River and Tract II-478.87 acres along the Cape Fear River both in New Hanover County) which was donated to the North Carolina Coastal Land Trust in 2000 by Stephen Royal, et. al. The Coastal Land Trust sold a 287 acre portion of Tract II to Ms. Ann Stapleton and Robert Bryden in September 2003, and retained a conservation easement on it to forever protect its conservation values.

Acreeage of the Conservation Easement: The conservation easement consists of approximately 287 acres.

General Location of the Property: The property is located in northwestern New Hanover County; Tract II lies along U.S. 421 near the Northeast Cape Fear River Bridge and lies across from Eagle Island in the Cape Fear River (see attached Map 1).

General Location of the Conservation Easement: The conservation easement is located within Tract II and consists of the area along U.S. 421 to the Cape Fear River and just behind an industrial storage area and a tract owned by New Hanover County. The Atlantic Seacoast Railroad serves as the western boundary of the easement and a manmade canal serves as the eastern boundary (see attached Map 2, aerial photo).

USGS Quad: Wilmington, N.C. (see attached Map 3).

Date of Site Inspection: August 15, 2003

Landowner Information:

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4501 Mt. Misery Road
Leland, NC 28451
910/655-9919

LOCATION AND PHYSICAL SETTING:

The Northeast Cape Fear Royal Tract lies in the Coastal Plain physiographic province in North Carolina. The Coastal Plain Province includes all of North Carolina east and southeast of the fall line, which lies northeastward from Richmond County at the South Carolina border to Northampton County at the Virginia border. The fall line marks the boundary between the Piedmont and Coastal Plain provinces.

The Coastal Plain of North Carolina hosts 8 major river basins: Chowan, Pasquotank, Roanoke, Tar-Pamlico, Neuse, White Oak, Cape Fear and Lumber. A majority of these rivers flow eastward into large and shallow sounds. The rivers that originate in the Piedmont or Mountain Regions, such as the Cape Fear River, carry large loads of sediments and are known as “brownwater” rivers; the rivers which begin in the Coastal Plain drain from swamps and carry dark organic material and thus are called “blackwater” rivers (Roe, 1992). Blackwater rivers like many tributaries to the Cape Fear River (Northeast Cape Fear River) in New Hanover and Pender Counties are important and diverse aquatic habitats in the southeastern Coastal Plain. They generally flow through flat topography, mostly sandy soils and extensive and productive floodplain forests (Hackney, et al. 1992). The conservation easement is situated along a portion of the Cape Fear River, a brownwater system.

The conservation easement lies in New Hanover County just outside the Wilmington City limits. Approximately 50 percent of New Hanover County is in an urban or suburban area mostly centered in and around the City of Wilmington. New Hanover County, the second smallest county in North Carolina, is experiencing tremendous population growth. It is one of the fastest growing coastal counties with a population of 160,307 in the 2000 Census (U.S. Census Bureau Website). The County grew 33.3 % from 1990 to 2000 just behind Pender and Brunswick Counties at 41% and 43.5%, respectively. This population growth has resulted in increased residential, commercial and industrial developments throughout the county.

The Northeast Cape Fear Royal Tract II easement is located in an industrial region along the Cape Fear River and U.S. 421 corridor. The easement lies immediately adjacent to a lumber storage yard, and a truck service business, and lies across the street from a large convenience store/gas station. There are numerous industries including Progress Energy’s Coal Fired Plant, just to the west of the easement along U.S. 421. Eagle Island, a large island within the Cape Fear River, lies across from the easement. Eagle Island primarily consists of marsh interspersed with spoil islands. The New Hanover County Soil and Water Board is currently buying privately-owned tracts on Eagle Island, with the idea of creating a wildlife sanctuary.

New Hanover County has adopted a Comprehensive Land Use Plan in 1999 as part of the community growth planning initiative. According to the New Hanover County Planning Department (www.nhcgov.com), the citizens of New Hanover County are concerned about water quality, open space preservation, protection of coastal environment, and managing

growth. Specifically, the County is tasked with ensuring the protection of water quality throughout the Cape Fear Basin by managing drainage and developing stormwater management programs. It is also charged with identifying and protecting adequate open space and wildlife corridors to create a greenway system in the County. The 1999 New Hanover County Land Use Plan states, “. . . greenways work to protect key natural features and functions, preserve essential water resources, act as natural filtration areas for runoff and pollutants, and to provide corridors for wildlife migration”.

LAND USE AND RESOURCE MANAGEMENT:

The Northeast Cape Fear Royal Tract II conservation easement area is located adjacent to the Coastal Land Trust’s 191 acre preserve and was actually part of the original 487.87 acre preserve that was donated to the Coastal Land Trust in 2000. The Northeast Cape Fear Royal Tract presently consists primarily of marshland (approximately 60 percent) and forested land (approximately 40 percent). A small portion of the easement area lies under a powerline corridor (less than 1 percent). Historically, the area was used as a rice plantation, and had a railroad running through it. The remnants of the rail line are evident on the tract.

The Northeast Cape Fear Royal Tract lies within a commercial/industrial corridor along U.S. 421. The Coastal Land Trust plans to conserve its 187 acre portion of Tract II as a nature preserve and a water quality buffer to the Cape Fear. Due to limited access, the Coastal Land Trust does not have any immediate plans to develop trails, interpretive signs and/or facilities at this preserve. There are no immediate habitat restoration plans for this tract; however, invasive plant species (e.g., *Phragmites*) control and mosquito ditch/canal plugging would be suggested.

HUMAN STRUCTURES AND IMPROVEMENTS:

The Northeast Cape Fear Royal Tract II easement has a large powerline corridor that runs through the property from north to south. There is one man-made canal that partially serves as the southernmost boundary of the property; there are numerous manmade mosquito ditches throughout the marsh system along the Cape Fear River. Presently, there are no roads on the property outside of small ORV paths or trails. The property is accessed from U.S. 421 by car or by the Cape Fear River by boat. There is an active railroad track, the Atlantic Seaboard Railroad that serves as the northernmost boundary of the property. There is an inactive, overgrown railroad bed that lies just south of U.S. 421. There is at least one abandoned hunt stand on the property. There is a billboard along Highway 421 in the easement area. Adjacent to the easement area is a lumber storage yard, and the south end is bordered by the New Hanover County Law Enforcement rifle range. There are no other known improvements within the easement.

NATURAL FEATURES:

Water Courses, Water Quality

The Northeast Cape Fear Royal Tract II easement lies along a portion of the Cape Fear River and buffers approximately 4,500 linear feet of the river. The easement is contiguous with the Coastal Land Trust’s preserve which extends beyond the Atlantic Seaboard Railroad and U.S. 421. This easement is approximately 7-8 miles from the Coastal Land Trust’s easements on the lower Cape Fear River (Old Town, Pleasant Oaks conservation easements)

and 6-7 miles from the Cape Fear River Dupont Brunswick County easement to the west. Protecting riparian buffers along the Cape Fear River and several of its tributaries is an important objective of the Coastal Land Trust.

The conservation easement lies within subbasin 03-06-17 of the Cape Fear River Basin according to the N.C. Division of Water Quality (NC Department of Environment and Natural Resources 2000). This section of the Cape Fear River is presently classified as partially supporting its uses. The Cape Fear River Basinwide Water Quality Management Plan cites nonpoint source pollution and the International Paper Company Mill discharge as possible causes of impairment to this stretch of the Cape Fear. (DENR 2000). This river reach has been recommended for inclusion on the Environmental Protection Agencies' 303(d) list. Strategies recommended to alleviate current water quality problems are to resample for biological and chemical data to determine potential problem water quality parameters associated with the pulp mill discharge and to place some limitations on other wastewater discharge limits. Conserving riparian buffers is a recommended solution for reducing nonpoint source pollution for all impaired waterways such as this reach of the Cape Fear River.

The conservation easement will restrict any activities within the estuarine marsh and will limit clearing/timbering and development on the tract. One cabin and an access road will be the only structures permitted in the easement.

Soils

The following predominant soil types were noted in the easement area: Doravan, Murville and Kureb (U.S. Department of Agriculture 1973). Doravan soils comprise the majority of the site while Murville and Kureb occupy approximately less than 5 acres according to a wetland evaluation and market analysis for the previous landowners. Doravan and Murville are hydric soils and Kureb is a non-hydric soil. Doravan soils are nearly level and very poorly drained soils usually found in stream or river floodplains. These soils have very high organic matter content and are frequently flooded for extended periods of time. Murville soils are nearly level, very poorly drained soils usually found in flat or slight depressional areas. These soils have moderate to low organic matter content are frequently flooded for brief periods of time. Kureb soils are nearly level to sloping soils that are excessively drained and are found on ridges. Map 4 illustrates the extent of the Doravan soils; the Murville and Kureb soil types do not show up on this map due to their extent.

Natural Vegetative Communities

The conservation easement area consists of mostly wetlands with a small amount of sandy upland ridge. Canopy vegetation noted along the upland ridge included primarily loblolly pine (*Pinus taeda*), water oak (*Quercus nigra*), sweet gum (*Liquidambar styraciflua*), sassafras (*Sassafras albidum*), red bay (*Persea borbonia*), bull bay (*Magnolia grandiflora*), laurel oak (*Quercus laurifolia*), and mockernut hickory (*Carya tomentosa*). The upland ridge grades into wet woods including bottomland hardwoods and small wet sloughs. Immediately along the Cape Fear River, there is an extensive tidal freshwater marsh community. Tidal flow is extensive along the Cape Fear River, with tidal influence extending up the Cape Fear River into Bladen County (LeBlond 1995). The wetland communities most fit the bottomland hardwood (brownwater subtype) and tidal freshwater marsh classifications per Schafale and Weakley 1990. These communities are briefly described below based upon the publication

Classification of the Natural Communities of North Carolina, Third Approximation (Schafale and Weakley 1990).

Coastal Plain Bottomland Hardwoods (Brownwater Subtype): This community occurs on abandoned levees and point bar ridges, terraces and other higher parts of the floodplain away from the active river channel. This community type is seasonally to intermittently flooded (brownwater rivers tend to have periods of sustained high flow usually in winter and spring). Predominant canopy species include laurel oak (*Quercus laurifolia*), swamp chestnut oak (*Q. michauxii*), water oak (*Q. nigra*), swamp red oak (*Q. shumardii*), sweetgum (*Liquidambar styraciflua*), green ash (*Fraxinus pennsylvanica*), shagbark hickory (*Carya ovata*), bitternut hickory (*Carya cordiformis*), water hickory (*Carya aquatica*), black walnut (*Juglans nigra*) and hackberry (*Celtis laevigata*). Understory species include ironwood (*Carpinus caroliniana*), possum haw (*Ilex decidua*), pawpaw (*Asimina triloba*) and American holly (*Ilex opaca*).

Tidal Freshwater Marsh: This community occurs along the edges of estuaries or drowned rivers and creeks that are regularly or irregularly flooded with freshwater tides. There is generally little or no salinity in the water. The community includes the following predominant vegetation: *Spartina cynosuroides*, sawgrass (*Cladium jamaicense*), cattail (*Typha latifolia*) narrowleaf cattail (*Typha angustifolia*), southern wild rice (*Zizaniopsis miliacea*), bulrush (*Scirpus americanus*), green arrow-arrum (*Peltandra virginica*), pickerelweed (*Pontederia cordata*), and royal fern (*Osmunda regalis* var. *spectabilis*). Scattered trees and shrubs, particularly wax myrtle (*Myrica cerifera*) and bald cypress (*Taxodium distichum*) sometimes occur in patches throughout the marsh. Common reed (*Phragmites australis*) is often a common exotic plant species that invades these communities (and does occur within the easement area, particularly along the manmade canals and ditches).

A small section of the easement area lies within a powerline right-of-way. The vegetation underneath the powerline consists of mostly small shrubs (e.g., wax myrtle, loblolly bay, and weedy herbaceous species).

Wildlife

A complete inventory of wildlife species on the Northeast Cape Fear River Royal Tract II is beyond the scope of this report. However, a variety of wildlife species are likely to occur within the conservation easement. Mammals include whitetail deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), Eastern gray squirrel (*Sciurus carolinensis*), swamp rabbit (*Sylvilagus aquaticus*), gray fox (*Urocyon cinereoargenteus*), river otter (*Lutra canadensis*) and opossum (*Didelphus marsupialis*). Birds species most likely to inhabit the easement area include Carolina wren (*Thryothorus ludovicianus*), tufted titmouse (*Parus bicolor*), Carolina chickadee (*Parus carolinensis*), pileated woodpecker (*Dryocopus pileatus*), common flicker (*Colaptes auratus*), yellow-bellied sapsucker (*Sphyrapicus varius*), turkey vulture (*Cathartes aura*), red-shouldered hawk (*Buteo lineatus*), red-bellied woodpecker (*Melanerpes carolinus*), white-breasted nuthatch (*Sitta carolinensis*), ruby-crowned kinglet (*Regulus calendula*), prothonotary warbler (*Protonotaria citrea*), northern parula warbler

(*Parula americana*), yellow-rumped warbler (*Dendroica coronata*), yellow-throated warbler (*Dendroica dominica*), great egret (*Casmerodius albus*), blue-winged teal (*Anas discors*), mallard (*Anas platyrhynchos*), fish crow (*Corvus ossifragus*), white-eyed vireo (*Vireo griseus*), and American goldfinch (*Carduelis psaltria*) (J. Allen, pers. com).

The following reptiles and amphibians likely occur on the Northeast Cape Fear Royal property: American alligator (*Alligator mississippiensis*), box turtle (*Terrapene carolina*), Eastern mud turtle (*Kinosternon subrubrum*), Carolina anole (*Anolis carolinensis*), Eastern fence lizard (*Sceloporus undulatus*), five-lined skink (*Eumeces fasciatus*), broadheaded skink (*Eumeces laticeps*), ground skink (*Scincella lateralis*), rat snake (*Elaphe obsoleta*), mud snake (*Farancia abacura*), redbelly water snake (*Nerodia erythrogaster*), Eastern garter snake (*Thamnophis sirtalis*), copperhead (*Agkistrodon contortrix*), cottonmouth (*Agkistrodon piscivorus*), Fowler's toad (*Bufo woodhousei*), spring peeper (*Hyla crucifer*), squirrel treefrog (*Hyla squirella*), southern leopard frog (*Rana sphenoccephala*), southern toad (*Bufo terrestris*), snapping turtle (*Chelydra serpentina*), river cooter (*Chrysemys concinna*), yellowbelly slider (*Chrysemys scripta*)

RARE, THREATENED AND ENDANGERED SPECIES:

The following federally listed endangered or threatened species or federal species of concern are known to occur in New Hanover County (U.S. Fish and Wildlife Service, 2003).

COMMON NAME	SCIENTIFIC NAME	FEDERAL DESIGNATION
Red-cockaded woodpecker	<i>Picoides borealis</i>	Endangered
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	Endangered
Manatee	<i>Trichechus manatus</i>	Endangered
American alligator	<i>Alligator mississippiensis</i>	T(S/A)
Mimic glass lizard	<i>Ophisaurus mimicus</i>	Special Concern
Southern hognose snake	<i>Heterodon simus</i>	Special Concern
Eastern painted bunting	<i>Passerina ciris ciris</i>	Special concern
Southeastern myotis	<i>Myotis austroriparius</i>	Special Concern
Piping plover	<i>Charadrius melodus</i>	Threatened
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened
Green sea turtle	<i>Chelonia mydas</i>	Threatened
Carolina gopher frog	<i>Rana capito capito</i>	Special Concern
Northern pine snake	<i>Pituophis melanoleucus melanoleucus</i>	Special concern
Buchholz's dart moth	<i>Agotis buchholzi</i>	Special Concern
Arogos skipper	<i>Atrytone arogos arogos</i>	Special Concern
Magnificent ramshorn	<i>Planorbella magnifica</i>	Special Concern
Rare skipper	<i>Problema bulenta</i>	Special Concern
Croatan crayfish	<i>Procambarus plumimanus</i>	Special Concern
Cape Fear threetooth	<i>Triodopsis soelneri</i>	Special Concern
Georgia indigobush	<i>Amorpha Georgiana var. Georgiana</i>	Special Concern
Croatan crayfish	<i>Procambarus plumimanus</i>	Special Concern
Seabeach amaranth	<i>Amaranthus pumilus</i>	Threatened
Savanna indigo-bush	<i>Amorpha Georgiana var. confuse</i>	Special Concern
Sandhills milkvetch	<i>Astragalus michauxii</i>	Special Concern
Bog St. John's-wort	<i>Hypericum adpressum</i>	Special Concern
Venus flytrap	<i>Dionaea muscipula</i>	Special Concern

Rough-leaved loosestrife	<i>Lysimachia asperulaefolia</i>	Endangered
Spring-flowering goldenrod	<i>Solidago verna</i>	Special Concern
Pondspice	<i>Litsea aestivalis</i>	Special Concern
Spiked medusa t	<i>Pteroglossaspis ecristata</i>	Special Concern
Carolina bishopweed	<i>Ptilimnium sp. 1</i>	Special Concern
Coastal beaksedge	<i>Rhynchospora pleiantha</i>	Special Concern
Tough bumelia	<i>Sideroxylon tenax</i>	Special Concern
Coastal goldenrod	<i>Solidago villosicarpa</i>	Special concern
Dune bluecurls	<i>Trichostema sp. 1</i>	Special concern
Pickering's dawnflower	<i>Stylisma pickeringii var. pickeringii</i>	Special Concern
Coastal goldenrod	<i>Solidago villosicarpa</i>	Special Concern
Cooley's meadowrue	<i>Thalictrum cooleyi</i>	Endangered

There are no federally threatened and endangered species known to occur within the conservation easement and there is no known suitable habitat for any of these species on this property. The manatee may occasionally frequent the Cape Fear adjacent to the tract during summer months and shortnose sturgeon may also, but sturgeon are believed all but extirpated from the Cape Fear system. The piping plover, seabeach amaranth and sea turtle species are strictly coastal and would not be found on or near this tract. The red-cockaded woodpecker prefers open mature pine stands of which there is very little habitat on this tract (however, there is considerable mature longleaf habitat along the U.S. 421 corridor further west, although it is fire suppressed). Cooley's meadowrue occurs on wet pine savannas and the rough-leaved loosestrife is an ecotonal plant species generally found between wet pine savannas and pocosin habitats. There has not been a thorough floral or faunal survey done on the Northeast Cape Fear Royal Tracts, and it is possible that there is habitat for some of the special concern species. The rare skipper butterfly is known from the Cape Fear River Marshes in Brunswick County and may be found on within the easement area.

NATURAL HERITAGE AREAS AND SPECIAL FEATURES

The North Carolina Natural Heritage Program is presently working on a natural areas inventory of New Hanover County. According to the Inventory of the Natural Areas and Rare Species of Brunswick County, the tidal freshwater marshes along the Cape Fear River from approximately the U.S. 74/76 bridge northward to 1.2 miles north of the Seaboard Coast Line Railroad are considered to be a state significant natural heritage area called "Brunswick River/Cape Fear River Marshes Natural Heritage Site (LeBlond 1995). This natural heritage area supports the only current occurrence of Carolina bishopweed (*Ptilimnium s. 1*) in North Carolina. It also is ecologically significant because it contains an extensive area of high quality tidal freshwater marsh (freshwater variant), the largest such area in North Carolina.

REFERENCES:

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**PHOTODOCUMENTATION OF
NORTHEAST CAPE FEAR ROYAL TRACT II
(SEE ALSO MAP 5 –PHOTOPOINTS)**



Photo 1 (P1 on Map 5). Standing at northeastern edge of property line near lumber yard looking north along powerline corridor.



Photo 2. Standing along northeastern property boundary looking east along boundary between lumber yard and easement.



Photo 3. Standing along northeastern property boundary looking south along powerline corridor on easement.



Photo 4. Standing at corner of lumber yard and northeastern property line looking north into easement.



Photo 5. View of sand ridge habitat looking west towards Cape Fear River.



Photo 6. Abandoned deer stand on easement.



Photo 7. Standing in between two rail lines looking west into Coastal Land Trust Cape Fear Royal Preserve Tract II (easement is to the left of southernmost rail line).



Photo 8. Standing on northeastern property boundary looking east towards U.S. 421 into lumber yard.



Photo 9 Standing along U.S. 421 right-of-way at corner of lumber yard and easement boundary looking west down property line.



Photo 10. Standing along U.S. 421 right-of-way at southern property corner looking west down a manmade canal that marks this property boundary.



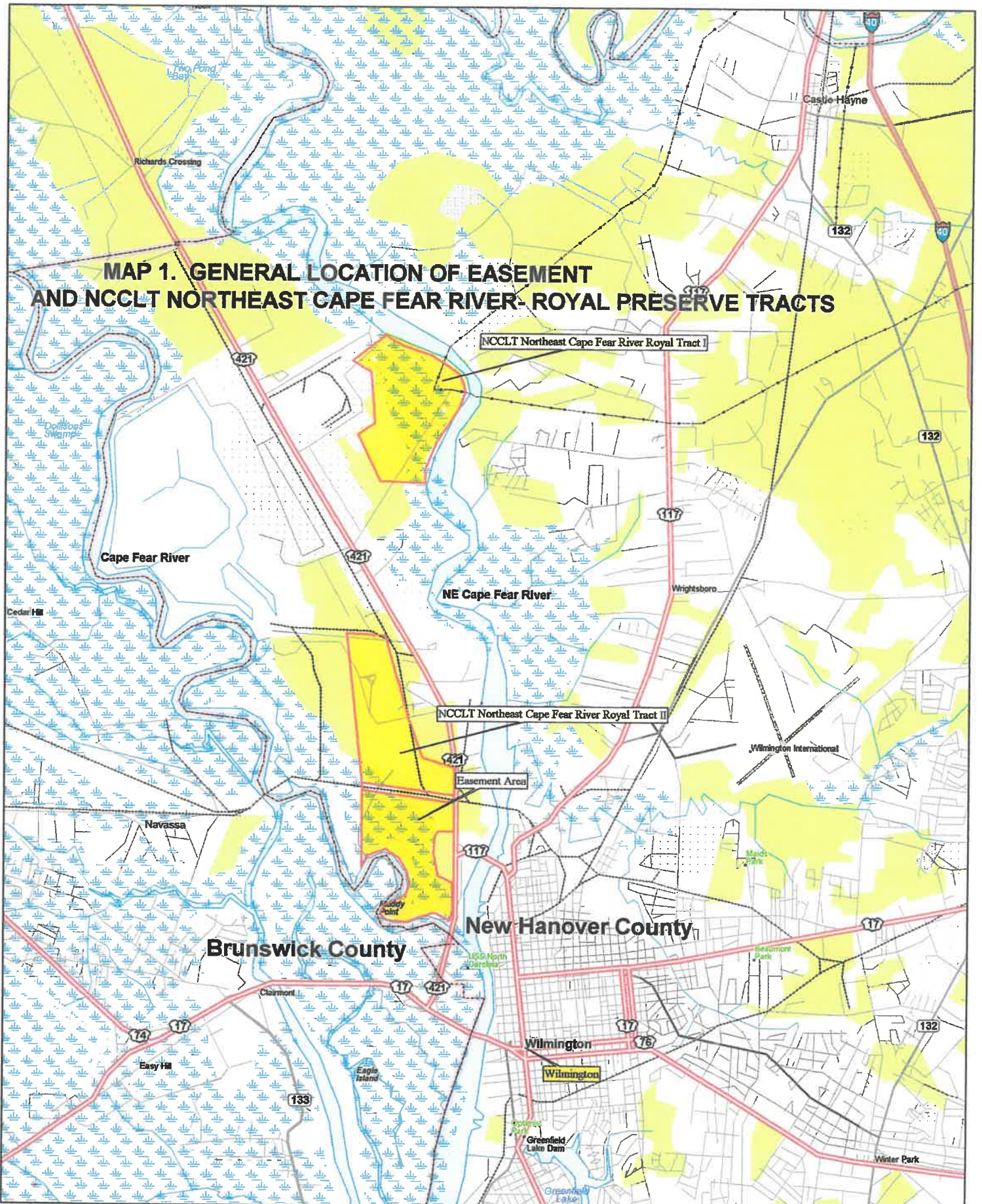
Photo 11. Standing along U.S. 421 right-of-way looking south. Easement area is to the right, shows billboard on property.



Photo 12. View from upland ridge looking west towards marsh along Cape Fear River.

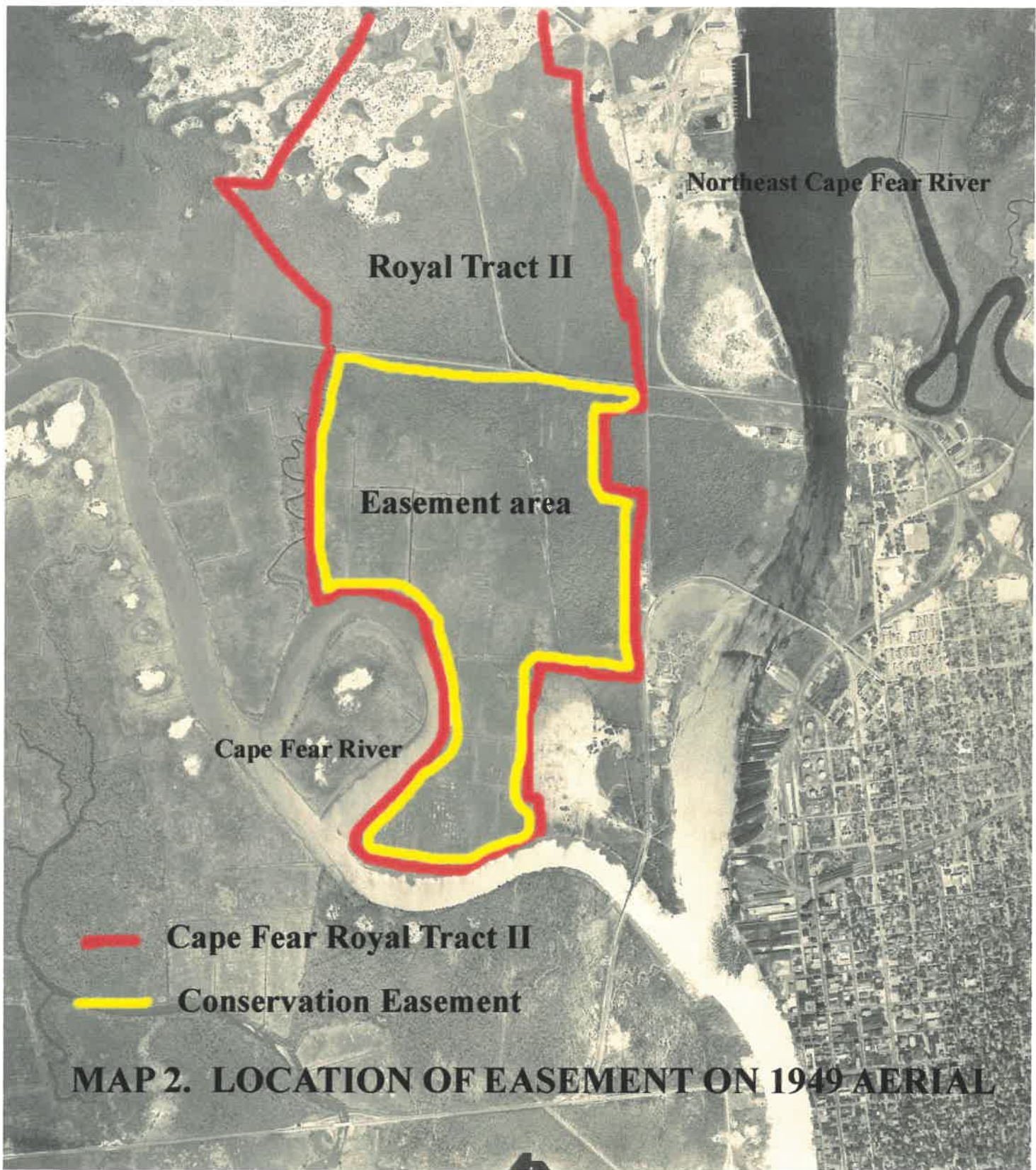


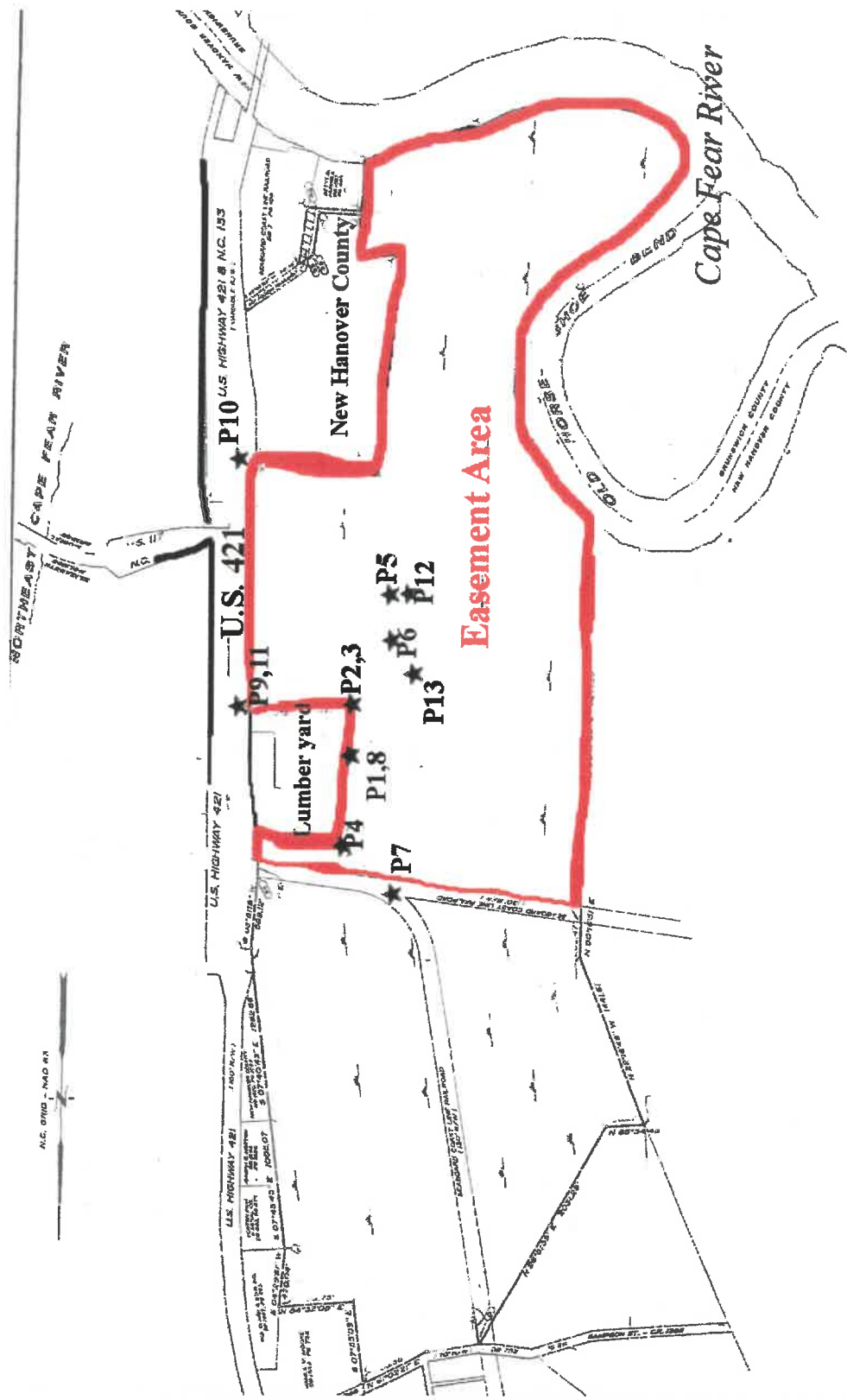
Photo 13. View of abandoned railroad bed within easement.



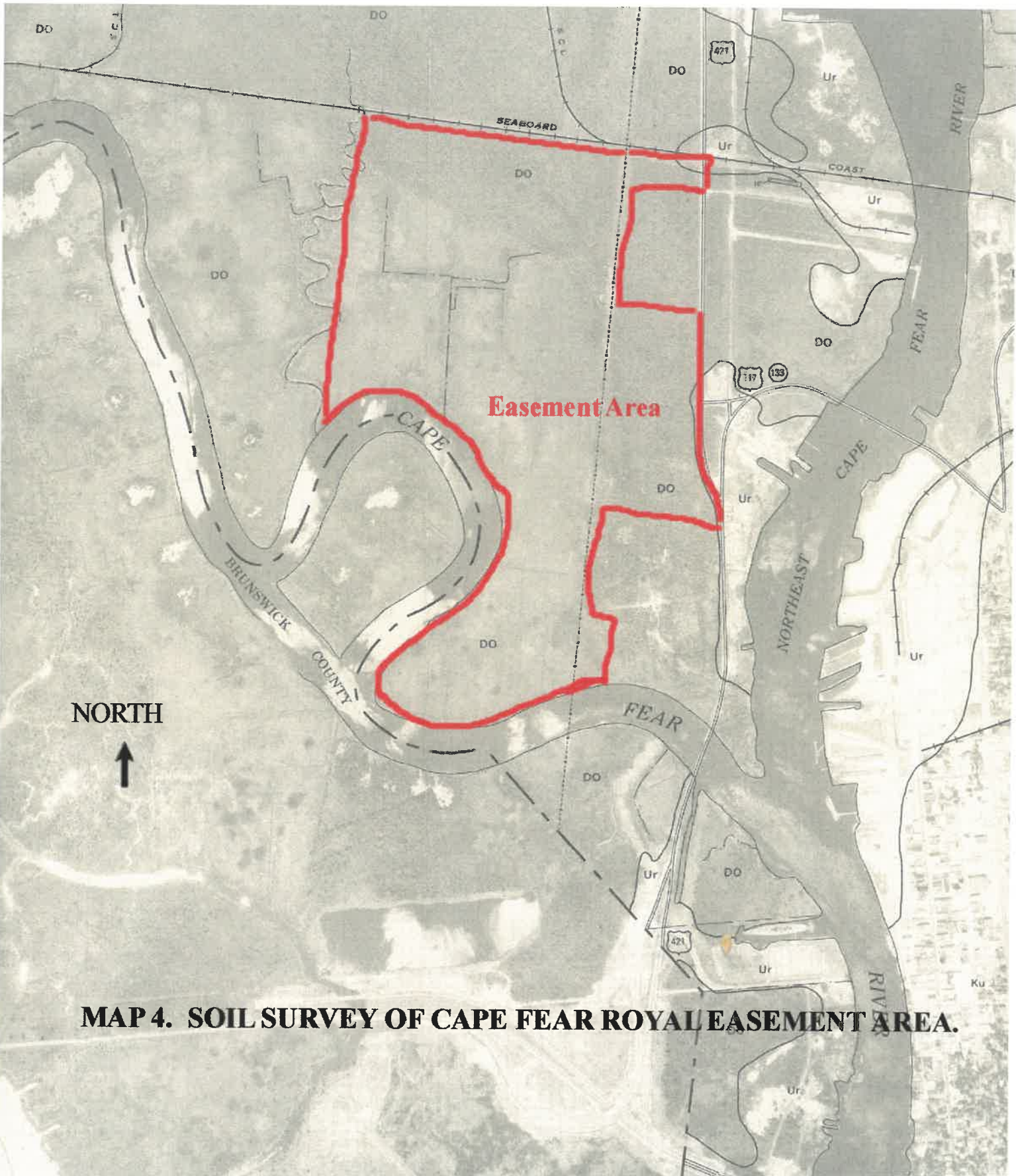
MAP 1. GENERAL LOCATION OF EASEMENT AND NCCLT NORTHEAST CAPE FEAR RIVER- ROYAL PRESERVE TRACTS

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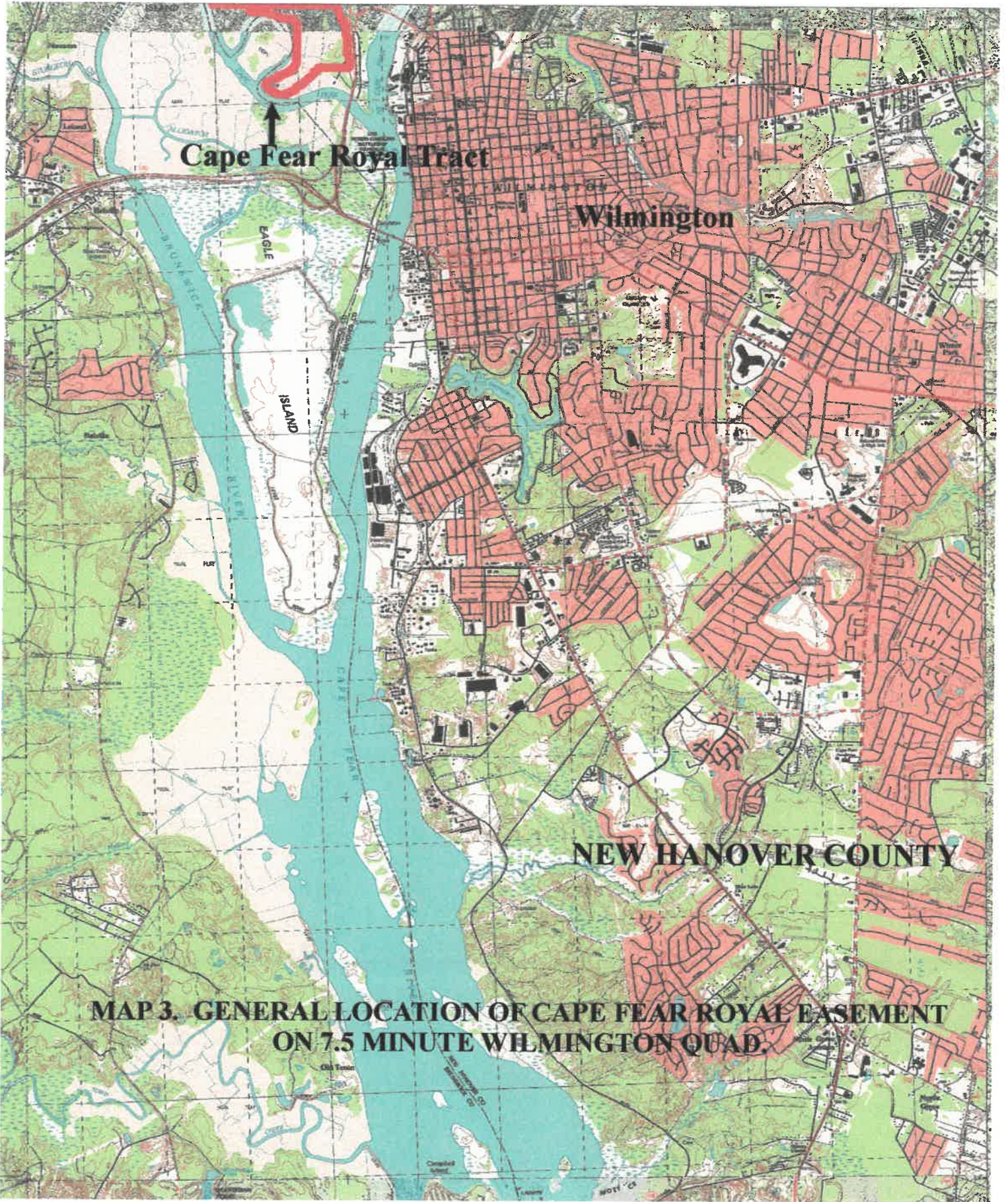




MAP 5. Photopoints on the Cape Fear Royal Easement in New Hanover County.



MAP 4. SOIL SURVEY OF CAPE FEAR ROYAL EASEMENT AREA.



Cape Fear Royal Tract

Wilmington

NEW HANOVER COUNTY

MAP 3. GENERAL LOCATION OF CAPE FEAR ROYAL EASEMENT ON 7.5 MINUTE WILMINGTON QUAD.