Wetland Mitigation

Feasibility Study Report

Moore Property in Johnston County

North Carolina

TIP Project No. R-2552WM

State Work Order No. 8.T311004

North Carolina Department of Transportation

Project Development and Environmental Analysis Branch

May 2003

Executive Summary

The NC Department of Transportation (NCDOT) has requested Kimley-Horn and Associates, Inc. (KHA) to conduct a wetland mitigation feasibility study and develop a conceptual wetland mitigation plan for the Moore Farm located in Johnston County, North Carolina. The 82-acre site is five miles southwest of Smithfield south of Swift Creek Road (SR 1501) and west of Swift Creek.

Mr. Todd Moore of Johnston County currently owns the site. Mr. Moore has used the site for agriculture since its purchase in 1996 with 19-acres in row crops and 58-acres in pasture. The site is relatively flat with little topographic relief. The surface topography has been altered with ditches and field crowns to facilitate drainage.

The site is located adjacent to the Johnston County Airport along the eastern property boundary. The Federal Aviation Administration (FAA) rules and recommendations govern the airport's operations and activities on and adjacent to the airport. The FAA recommends not placing wetland mitigation within 5,000 feet of an airport because of the potential hazardous wildlife attractant. The USDA conducted a wildlife hazard assessment of the property. The USDA Wildlife Service recommends the Johnston County Airport maintain a wildlife log. Also, the proposed mitigation site should be monitored to insure that no areas develop permanent standing water that could create a waterfowl attractant. The site also should be monitored for wildlife.

During the clearing of the land for agricultural use, the owner received a notice of violation from the US Army Corps of Engineers (USACE) (Jean Manual) for violation of Section 404 of the Clean Water Act. Discussions with the USACE have determined that the violation will be removed from the property pending its conversion back into a wetland area.

The site could be restored back to pre-agricultural conditions. Approximately 45-acres of wetlands could be restored on the site. A larger levee forest would be established along Swift Creek and on the higher portions of the site. The low areas would be reforested with bottomland hardwoods species. Three plant communities could be established based on topographic position. The better-drained areas would contain Piedmont levee forest and Piedmont alluvial forest with Piedmont bottomland forest and Piedmont swamp forest in the poorer drained areas.

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1.0 Introduction

The North Carolina Department of Transportation (NCDOT) has requested Kimley-Horn and Associates, Inc. (KHA) to conduct a wetland mitigation feasibility study and develop a conceptual wetland mitigation plan for the Moore Farm located in Johnston County, North Carolina. The 82-acre site is five miles southwest of Smithfield south of Swift Creek Road (SR 1501) and west of Swift Creek (Figure 1).

Mr. Todd Moore of Johnston County currently owns the site. Mr. Moore has used the site for agriculture since its purchase in 1996. The northwest portion of the site that was originally in pine forest was clear-cut and converted to pasture 3-5 years ago.

2.0 Methodology

KHA collected background data/information for the site and immediate surrounding area from readily available sources, which included, Johnston County, the Natural Resource Conservation Service (NRCS), and the regulatory/resource agencies. Information collected and utilized included:

- Aerial photographs – current and historical (Johnston County and NRCS).
- Road maps (NCDOT).
- Topographic maps including available county maps and US Geological Survey quadrangle maps.
- US Fish and Wildlife Service (USFWS) National Wetlands Inventory Maps (NWI).
- NRCS soils surveys and soils maps.
- Federal Emergency Management Agency (FEMA) floodplain and floodzone maps.
- USFWS list of federally protected species and NC list of state protected species for Johnston County.
- NC Natural Heritage Program database of rare species and habitat.
- Available property maps, tax maps, and other maps from Johnston County.
- State Historic Preservation Office databases and maps for known historical/archaeological sites.

KHA conducted a field reconnaissance of the site on September 11th and 17th, 2002. A visual inspection of the surrounding surface conditions (e.g. soils, drainage features and vegetation) was conducted. Site features that could affect the potential for restoration/mitigation efforts on the property (such as power lines, sewer lines, buildings, drainage alterations or easements, or other rights-of-way) were noted. The field reconnaissance consisted of cursory review of the entire site and general vicinity.

The field review evaluated habitat types, general soils information, existing structures, approximate wetlands extent, location and general characteristics of drainage features, potential evident hazardous materials concerns, potential protected species habitats, utility/easement locations, drainage structures and similar features important to determine the wetland mitigation potential for the site. Direction of flow in drainages, potential obstructions to drainages and potential effect on adjacent landowners due to flooding was qualitatively assessed in the field. No hydraulic/hydrology modeling was conducted as part of this study.

3.0 Results

3.1 Existing Conditions

The 82-acre site is located in the Swift Creek floodplain with Swift Creek forming the eastern property boundary (Figure 2). The site is currently used for agriculture with 19-acres in row crops and 58-acres in pasture. A levee has been constructed along the forest riparian area immediately adjacent to Swift Creek. During the site visit, corn had been recently harvested and the pasture area was maintained and appeared to have been recently cut.

3.2 Physiography and Land Use

The site is located in the Piedmont physiographic province. The site is relatively flat with little topographic relief. The elevations range from 110 to 120 feet above sea level. The surface topography has been altered with ditches and field crowns to facilitate drainage.

The property is currently used for agriculture. The surrounding land is forested with some agriculture. The property, as well as the adjoining properties, is zoned “agricultural / residential” by Johnston County. There is some low-density residential development located west of the

property. The Johnston County Airport is located immediately adjacent on the eastern boundary of the property.

3.3 Hydrology

The majority of the site has a seasonal high water table based on hydric soil indicators with brief periods of overland flow from Swift Creek (Personal communication with Mr. Todd Moore). The hydrology of the site has been altered. The site drains to the south through a series of ditches into a large main ditch that flows to the east into Swift Creek (Figure 2). The site has also been crowned, leveled and graded to facilitate surface drainage into the ditches.

The site is located within the Middle Neuse River watershed in the US Geological Survey hydrologic unit #03020201.

The site is located on Flood Insurance Rate Map (370138 0070 B September 30, 1983) in zone AE that is an area of 100-year flood with base flood elevations and flood hazard factors determined (Figure 3). The flood elevations on the site range from 135 feet at Swift Creek Road (SR 1501) to 133 feet at the southern end of the property.

*3.4 Soil*s

Soils on the site are typical of a fluvial floodplain. The topographic low areas of the site contain Wehadkee and Tomotley soils with Altavista, Dogue, State, and Nason soils in areas with higher topography (Figure 4). Wehadkee and Tomotley are hydric soils. Altavist, Dogue, State and Nason are non-hydric. Forty-seven sample points were taken with an auger to examine the hydric characteristics of the soils.

Tomotley is a very deep, poorly drained soil formed in loamy marine and fluvial sediments. Tomotley is in a fine-loamy family and is found on flats and in slight depressions. It is classified by the NRCS as a fine-loamy, mixed, semiactive, thermic Typic Endoaquults with seasonal high water table between 0 to 12 inches.

Wehadkee soils are very deep, poorly drained soil formed on floodplains along streams in loamy sediments. Wehadkee is classified by the NRCS as a fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts soils with a seasonal high water table 0 to 12 inches.

Altavista is a very deep, moderately well drained soil formed in loamy marine and fluvial sediments on stream terraces in the Piedmont and upper Coastal Plain. Altavista is classified by the NRCS as fine-loamy, mixed, semiactive, thermic Aquic Hapludults with seasonal high water table greater than 72 inches.

Dogue is moderately well drained soil formed in loamy marine and fluvial sediments on stream and marine terraces. Dogue is classified by the NRCS as a fine, mixed, semiactive, thermic Aquic Hapludults with a seasonal high water table between 18 to 30 inches.

State is a well drained soils formed in loamy fluvial and marine sediments. State is classified by the NRCS as a fine-loamy, mixed, semiactive, thermic Typic Hapludults with a seasonal high water table 48 to 72 inches.

Nason is a deep and well drained soil formed in material weathered from schist and other fine grained metamorphic rocks. Nason is classified by the NRCS as a fine, mixed, semiactive, thermic Typic Hapludults with seasonal high water table greater than 72 inches.

3.5 Plant Communities

The plant communities located on-site include a levee forest and agriculture with off-site adjacent Piedmont bottomland forest and Piedmont alluvial forest (Figure 7). Plant community classification was based on Schafale and Weakley *Classification of the Natural Communities of North Carolina*, third approximation. The piedmont levee forest is composed of *Celtis laevigata* (hackberry), *Fraxinus pennsylvanica* (green ash), *Quercus nigra* (water oak), *Quercus alba* (white oak), *Carya cordiformis* (bitternut hickory), *Liquidambar styraciflua* (sweetgum), *Betula nigra* (river birch), *Liriodendron tulipifera* (yellow popular), *Acer rubrum* (red maple), *Carpinus caroliniana* (muscle wood), *Ligustrum sinense* (Chinese privet), *Arundinaria gigantea* (giant cane), *Toxicodendron radicans* (poison ivy), *Vitis* sp. (grape), *Lonicera japonica* (Japanese honeysuckle), *Parthenocissus quinquefolia* (Virginia creeper), *Campsis radicans* (trumpet vine), *Smilax bona-nox* (green brier), *S. rotundafolia* (green brier), and *Phytolacca americana* (pokeberry). Forested area (not on-site) adjacent to site contains sweetgum, *Nyssa biflora*

(swamp blackgum), red maple, *Quercus phellos* (willow oak), *Pinus taeda* (loblolly pine), *Crategus* sp. (hawthorn), *Diospyros virginiana* (persimmon), Chinese privet, Japanese honeysuckle, giant cane, *Carex* sp., and green brier. The pasture areas contain a variety of grasses.

3.6 Wildlife

Wildlife observed during the site visit included a variety of birds. The agriculture fields contained *Branta canadensis* (Canada geese), *Agelaius phoeniceus* (red-winged black bird), *Zenaida macroura* (morning doves), *Sialia sialis* (blue birds), and *Sturnella magna* (meadowlarks). There were recent *Odocoileus virginianus* (whitetail deer) tracks in the field and along Swift Creek. A *Butorides striatus* (green heron) and *Ardea herodias* (great blue heron) were observed along Swift Creek.

3.7 Threatened and Endangered Species

According to mapping information from the NC Natural Heritage Program, there are four federally listed species occurring adjacent to the project area. These species are located up and down stream of the Swift Creek Road Bridge. There is one federally endangered species, *Alasmidonta heterodon* (dwarf wedgemussel) and three federal species of concern: *Lythrurs matutinus* (Pinewoods shiner), *Elliptio lanceolata* (yellow lance), and *Fusconaia masoni* (Atlantic pigtoe).

3.8 Jurisdictional Wetlands

The ditches contained hydric soils and hydrophytic vegetation. Ditching and land forming has altered the hydrology for a majority of the site rendering the site non-jurisdictional wetland.

3.9 Hazardous Materials

The Environmental Database Resource (EDR) did not identify any hazardous issues on, near, or adjacent to the property. The search area radii used ASTM Standard E1527 of the available databases and indicated no potential hazardous materials (Appendix A). A field review of the site revealed no evidence of any current or past hazardous material potential on the site. An

environmental site assessment questionnaire was complete via the telephone with the current property owner Mr. Todd Moore (Appendix B).

Two questions on the environmental site assessment questionnaire were answered with a "yes". The first question related to any knowledge of environmental liens or governmental notification relating to past or recurrent violations of environmental laws. During the clearing of the land for agricultural use, the owner received a notice of violation from the US Army Corps of Engineers (USACE) (Jean Manual) for violation of Section 404 of the Clean Water Act. Discussions with the USACE have determined that the violation will be removed from the property pending the conversion of the site back to its original wetland condition.

The second positive response was regarding any knowledge of any pesticides or fertilizers that have been applied to the property. The property has been and is currently used for agriculture. Agricultural chemicals including pesticides and fertilizers have been applied to the site. It is assumed that these chemicals were used and applied according to the manufacture labels or based on the local agricultural extension agent recommendations. There was no evidence of any chemical transfer points, no storage facilities, or discarded agricultural chemical containers on site.

3.10 Chain of Title

A chain of title search was completed on October 23, 2002 at the Johnston County Courthouse in Smithfield. Records were obtained for three property transfers dated back to May 22, 1992. No further records were found. A search back to the 1800's for grantor and grantee was completed with no results. Below is a table of the property transfers.

Table 1. Chain of Title, Moore Property, Johnston County Courthouse, North Carolina.

Date	**Deed Book/ Page**	**Grantor**	**Grantee**
02/15/95	1428/100	James R. and Peggy Maynard	Tommy Stancil, Dianne J. Stancil, Kenneth L. Stancil, and Peggy Jo P. Stancil
01/31/96	1494/441	Tommy Stancil, Dianne J. Stancil, Kenneth L. Stancil, and Peggy Jo P. Stancil	Michael Todd Moore

3.11 Water Quality

Water Quality classification for Swift Creek, which is immediately adjacent to the site, is classified as class C water that is nutrient sensitive. The class C designation indicates freshwaters protected for secondary recreation, fishing, aquatic life including propagation and survival, and wildlife. Nutrient sensitive waters are waters subject to growths of microscopic or macroscopic vegetation requiring limitations of nutrient inputs.

3.12 State Historic Preservation Office

During the field visits, there were no structures or evidence of past structures observed on the property. A letter requesting information from the State Historic Preservation Office (SHPO) was submitted on October 28, 2002. A letter from SHPO dated December 2, 2002 was received. The letter stated that the proposed project has been reviewed and SHPO is not aware of any historic resources that would be affected by the project. Therefore, SHPO has no comment on the project. A copy of the SHPO letter is contained in .Appendix C.

3.13 Other Issues

The site is located adjacent to the Johnston County Airport. The Federal Aviation Administration (FAA) rules and recommendations govern the airport's operations and activities on and adjacent to the airport. The FAA recommends not placing wetland mitigation within 5,000 feet of an airport because of the potential hazardous wildlife attractant. KHA contacted Jackie Sweatt-Essick, environmental officer at the southern region of the FAA in Atlanta, Georgia. It was recommended that KHA contact Ed Clearly, wildlife biologist with the FAA in Washington, DC. The FAA recommends that for airports with turbine powered aircraft that no wildlife attractants be located from 10,000-feet to five miles for approach and departure airspace. After discussions with the Mr. Clearly, it was determined that a wildlife hazard assessment would be required for the property. He indicted that a biologist from the US Department of Agriculture (USDA) Wildlife Services would likely conduct the assessment. KHA contacted John Hesterberg, USDA Wildlife Services state director, to determine who would conduct a wildlife hazard assessment. Mr. Hesterberg indicated that Mike Begier at USDA Wildlife Services would be the biologist

who would conduct the assessment. KHA discussed the proposed wetland mitigation project with Mr. Begier.

On February 25, 2003, KHA conducted a site visit was conducted with Mr. Begier to review the current site conditions and discuss the proposed mitigation site. A copy of the letter report resulting from the visit in included in Appendix D.

4.0 Discussion

4.1 Existing Conditions and Land Use

The site is currently used for agriculture (crops and pasture) but the adjacent areas surrounding the site located within the 100-year floodplain are forested. Establishing a forested wetland on the site would add more natural area and would be compatible with adjacent uses. (Site photographs are contained in Appendix E.)

4.2 Hydrology

The hydrology of the site has been altered for agricultural use by leveling, grading, crowning, and ditching. Filling the ditches and re-establishing the microtopography of the site to reduce the crowns would likely raise the water table of the site. Some ditches convene drainage from the adjacent properties. These ditches along the property boundaries would have to be rerouted to prevent hydrologic trespass from occurring on the adjacent properties. Regrading of the site could increase the depressional storage to further enhance the rise in the water table. The hydrologic modifications would likely reestablish wetland hydrology on the site.

4.3 Soils

The 82-acre site currently contains approximately 50 acres of hydric soils. Re-establishing a higher water table will likely increase the area of hydric soils. Several areas where the hydric soil indicators are within 18 inches of the soil surface would likely be restored to hydric soil by raising the water table (Figure 5).

4.4 Plant communities

The site could be restored back to pre-agricultural conditions. A larger levee forest would be established along Swift Creek and on the higher portions of the site. The low areas would be reforested with bottomland hardwoods species typically of the area including willow and water oaks, hackberry, river birch, persimmon, and green ash. Adjacent forested areas would provide additional seed source. Flooding events from Swift Creek would carry additional seed from upstream sites. Three plant communities could be established based on topographic position. The better-drained areas would contain Piedmont levee forest and Piedmont alluvial forest with Piedmont bottomland forest and Piedmont swamp forest in the poorer drained areas (Figure 6).

4.5 Wildlife

Re-establishing forest cover would increase the use of the area by Neotropical migrant birds. Also, increasing in the depressional storage of the site, would create breeding and foraging areas for herptafauna.

4.6 Other issues

The Section 404 of the Clean Water Act violation will be resolved with the USACE. Jean Manual stated that the USACE would support the conversion of the agricultural areas back into forest which would resolve the notice of violation.

Based on the results of the site visit and proposed project, the USDA Wildlife recommends that during the initial stages of reforestation it will be important to monitior vegetation and wildlife. The Wildlife Services advocates that airport operations offices maintain a wildlife log and NCDOT monitor the area for wildlife use. Continuous communication between these groups concerning wildlife use will be key in preventing a wildlife hazard situation. Developing wildlife hazard situations will be better rendered if the airport operations department maintains a wildlife log and acts in a timely manner on the information in the log. Also, the site should be monitored for the first few years to insure that no permanent pools become established as a result of grading.

There appears to be no hazardous material issues associated with the site. There was some past use of agricultural chemicals including fertilizers and pesticides; however, it is assumed the

agricultural chemicals were applied based on the manufacture's recommendations. There was no evidence of chemical spills, stressed vegetation, or stained soil.

It is unlikely that there will be any issues associated with the State Historic Preservation Office. There were no structures or evidence of any structures on the site. The site is located within the 100-year floodplain and would not likely contain any prehistoric sites. There are adjacent upland ridges that would have likely been places for settlements.

5.0 Recommendations

The Moore property should be pursued for wetland mitigation. The hydrology and vegetation communities have been altered on the site. Restoring the seasonal high water table and reestablishing native vegetation could restore wetlands on the property.

The outstanding notice of violation from the USACE for a wetland violation is the only issue needed to be resolved. Discussions with the USACE have indicated that the notice of violation would be lifted. The current owner, Mr. Todd Moore, is waiting for a letter from the USACE.

6.0 References

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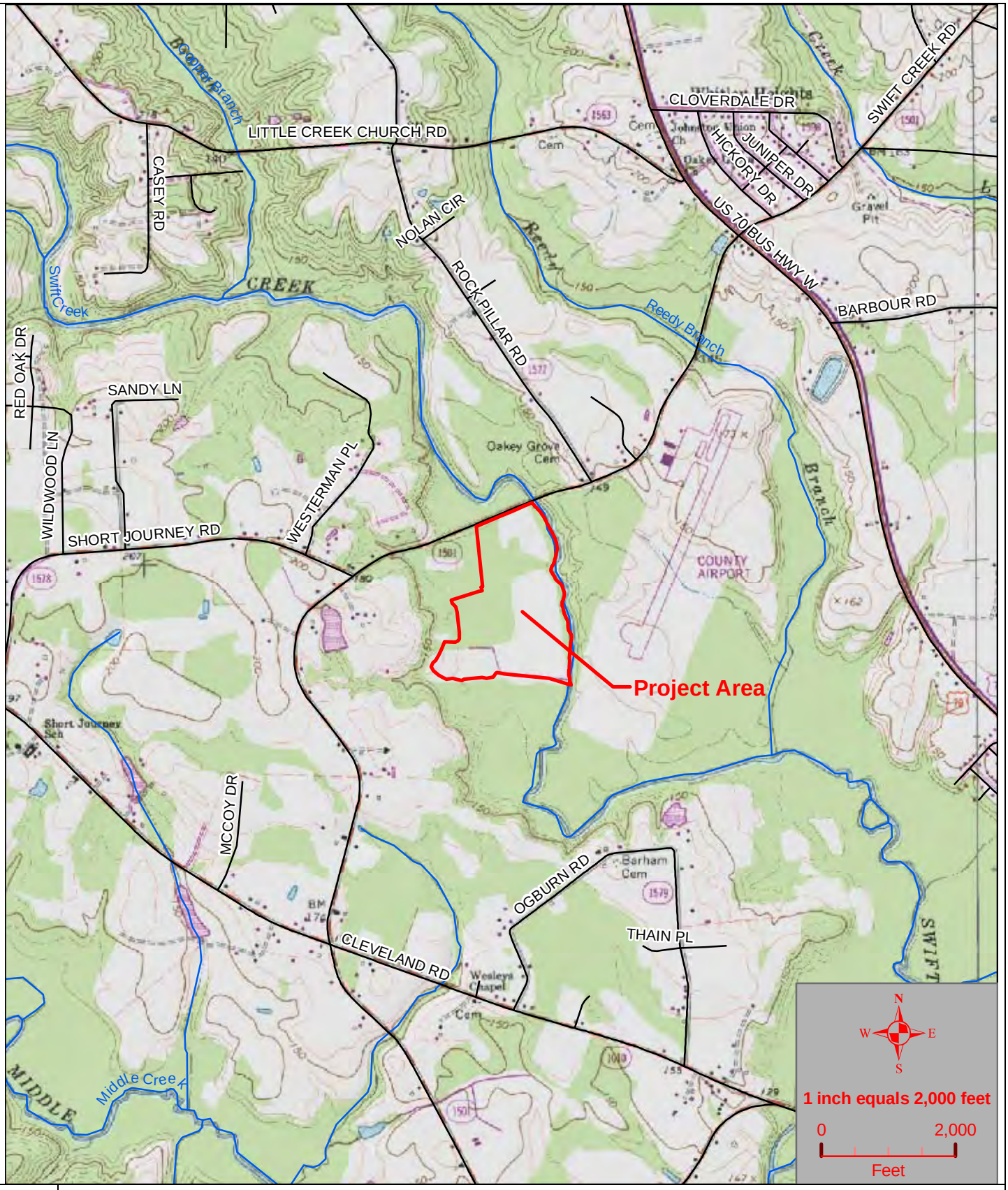
United States Geological Survey. Topographic map, Powhatan, NC Quadrangle, 1981.



Title	Site Map (Powhatan USGS Quad, created 1964, revised 1981)

Kimley-Horn and Associates, Inc.

Project	Moore Property North Carolina Department of Transportation Wetland Mitigation Study Johnston County, Smithfield, NC		
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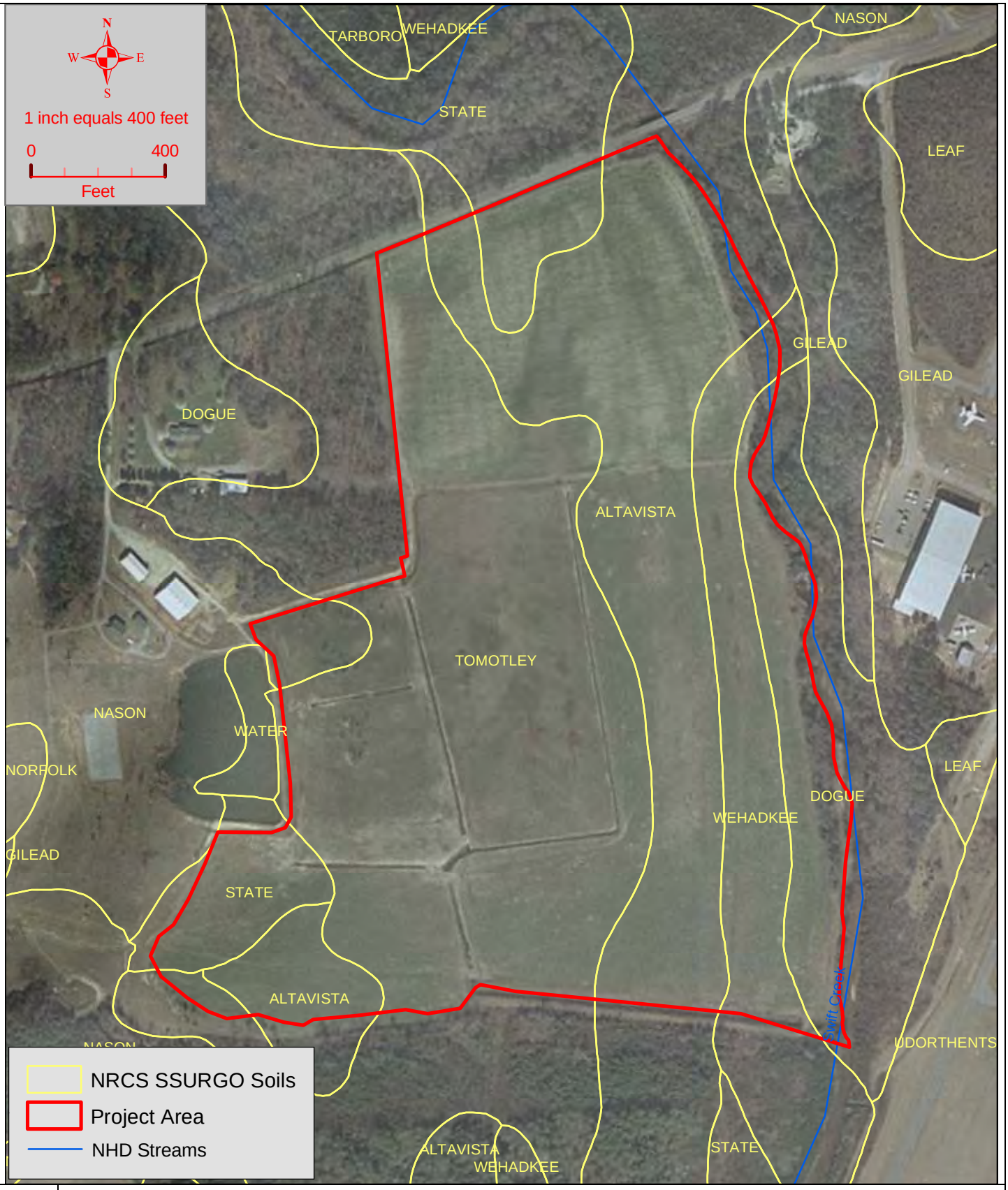

Title	NRCS SSURGO Soils			
Kimley-Horn and Associates, Inc.	Project	Moore Property North Carolina Department of Transportation Wetland Mitigation Study Johnston County, Smithfield, NC		
	Date:	Scale:	Project No.	Figure:
	Nov. 5, 02	1 in. = 400 ft	011700017	4

Title	Site Details with Aerial (Aerial flown in 1997 is provided by Johnston County GIS)

Kimley-Horn and Associates, Inc.

Project	Moore Property North Carolina Department of Transportation Wetland Mitigation Study Johnston County, Smithfield, NC		
Date:	**Scale:**	**Project No.**	**Figure:**
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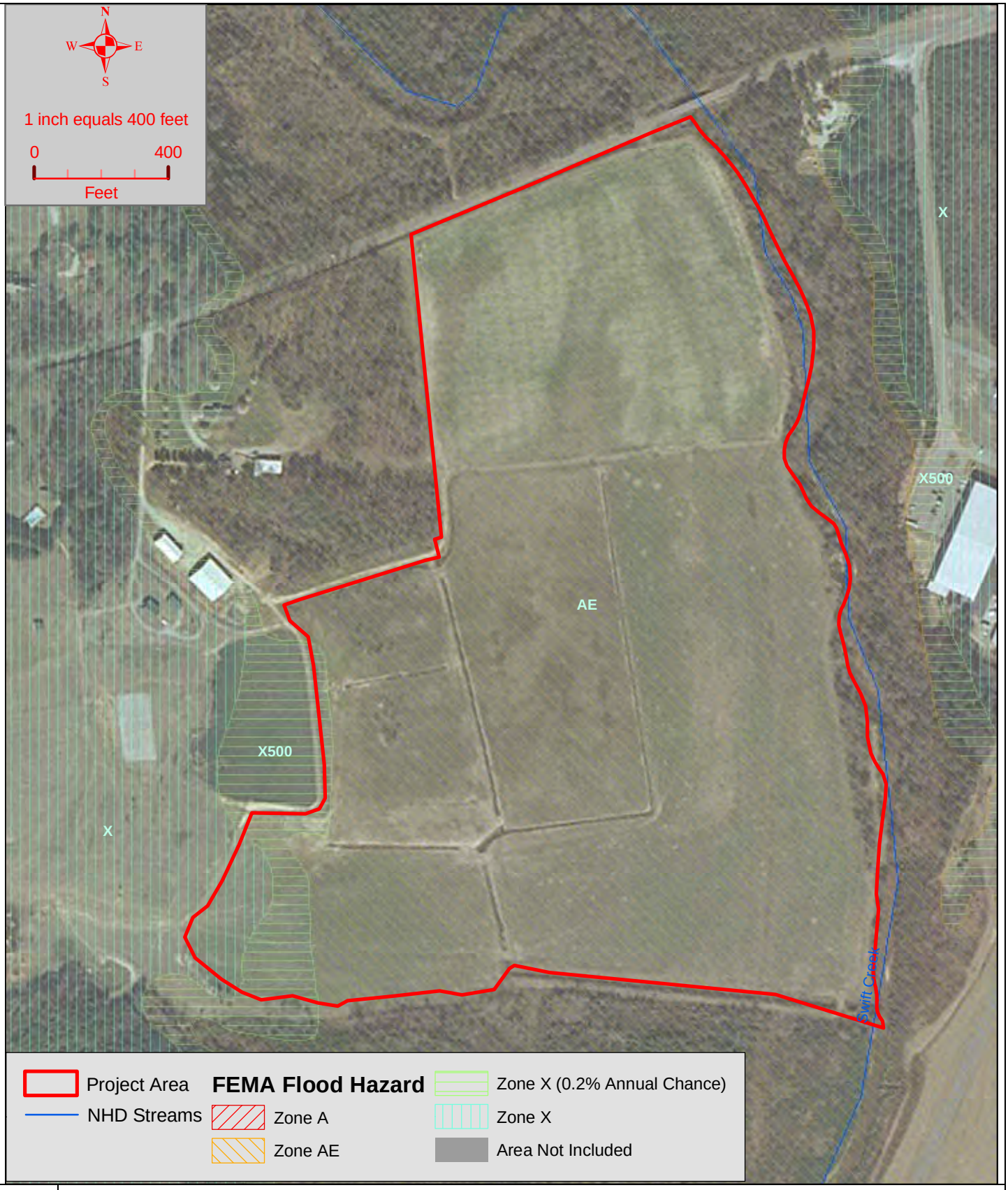

Title	FEMA Flood Data

Kimley-Horn and Associates, Inc.

Project	Moore Property North Carolina Department of Transportation Wetland Mitigation Study Johnston County, Smithfield, NC		
Date:	**Scale:**	**Project No.**	**Figure:**
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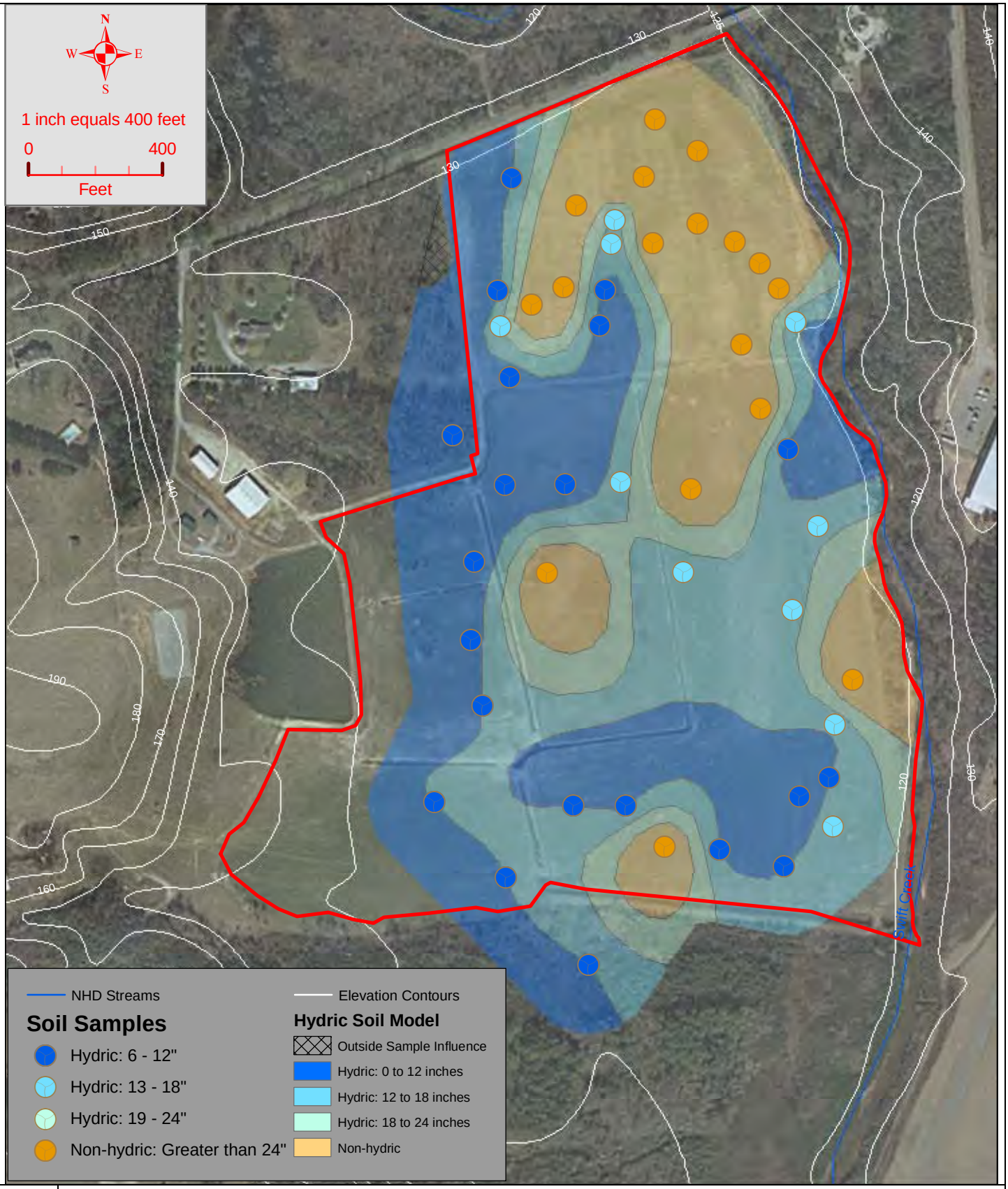

Title	Hydric Soil Model

Kimley-Horn and Associates, Inc.

Project	Moore Property North Carolina Department of Transportation Wetland Mitigation Study Johnston County, Smithfield, NC		
Date:	**Scale:**	**Project No.**	**Figure:**
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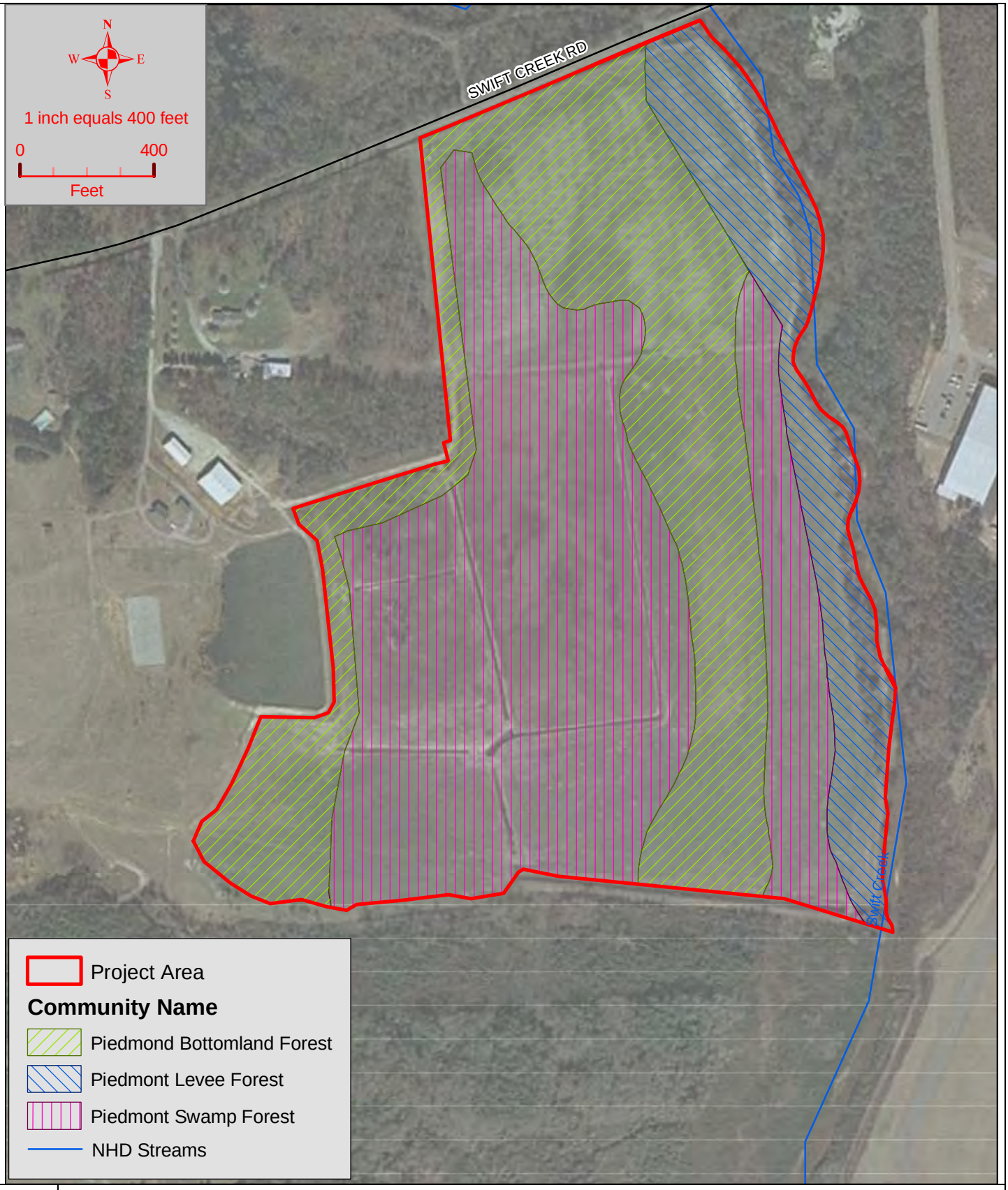

Title	Conceptual Mitigation Plan

Kimley-Horn and Associates, Inc.

Project	Moore Property North Carolina Department of Transportation Wetland Mitigation Study Johnston County, Smithfield, NC		
Date:	**Scale:**	**Project No.**	**Figure:**
Nov. 5, 02	1 in. = 400 ft.	011700017	6

The EDR Radius Map
with GeoCheck®

Moore Property
Swift Creek Rd
Smithfield, NC 27577

Inquiry Number: 844823.3s

September 10, 2002

Environmental Data Resources, Inc.

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06890

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

SWIFT CREEK RD
SMITHFIELD, NC 27577

COORDINATES

Latitude (North):	35.541400 - 35˚ 32' 29.0''
Longitude (West):	78.397600 - 78˚ 23' 51.4''
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	735930.6
UTM Y (Meters):	3936001.8

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	2435078-E4 POWHATAN, NC
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL ..... National Priority List
Proposed NPL ..... Proposed National Priority List Sites
CERCLIS ..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned
CORRACTS ..... Corrective Action Report
RCRIS-TSD ..... Resource Conservation and Recovery Information System
RCRIS-LQG ..... Resource Conservation and Recovery Information System
RCRIS-SQG ..... Resource Conservation and Recovery Information System
ERNS ..... Emergency Response Notification System

STATE ASTM STANDARD

SHWS ..... Inactive Hazardous Sites Inventory
SWF/LF ..... List of Solid Waste Facilities
LUST ..... Incidents Management Database
UST ..... Petroleum Underground Storage Tank Database

EXECUTIVE SUMMARY

AST ..... AST Database
OLI ..... Old Landfill Inventory

FEDERAL ASTM SUPPLEMENTAL

CONSENT ..... Superfund (CERCLA) Consent Decrees
ROD ..... Records Of Decision
Delisted NPL ..... National Priority List Deletions
FINDS ..... Facility Index System/Facility Identification Initiative Program Summary Report
HMIRS ..... Hazardous Materials Information Reporting System
MLTS ..... Material Licensing Tracking System
MINES ..... Mines Master Index File
NPL Liens ..... Federal Superfund Liens
PADS ..... PCB Activity Database System
RAATS ..... RCRA Administrative Action Tracking System
TRIS ..... Toxic Chemical Release Inventory System
TSCA ..... Toxic Substances Control Act
SSTS ..... Section 7 Tracking Systems
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

NC HSDS ..... Hazardous Substance Disposal Site
LUST TRUST ..... State Trust Fund Database
IMD ..... Incident Management Database

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas ..... Former Manufactured Gas (Coal Gas) Sites

SURROUNDING SITES: SEARCH RESULTS

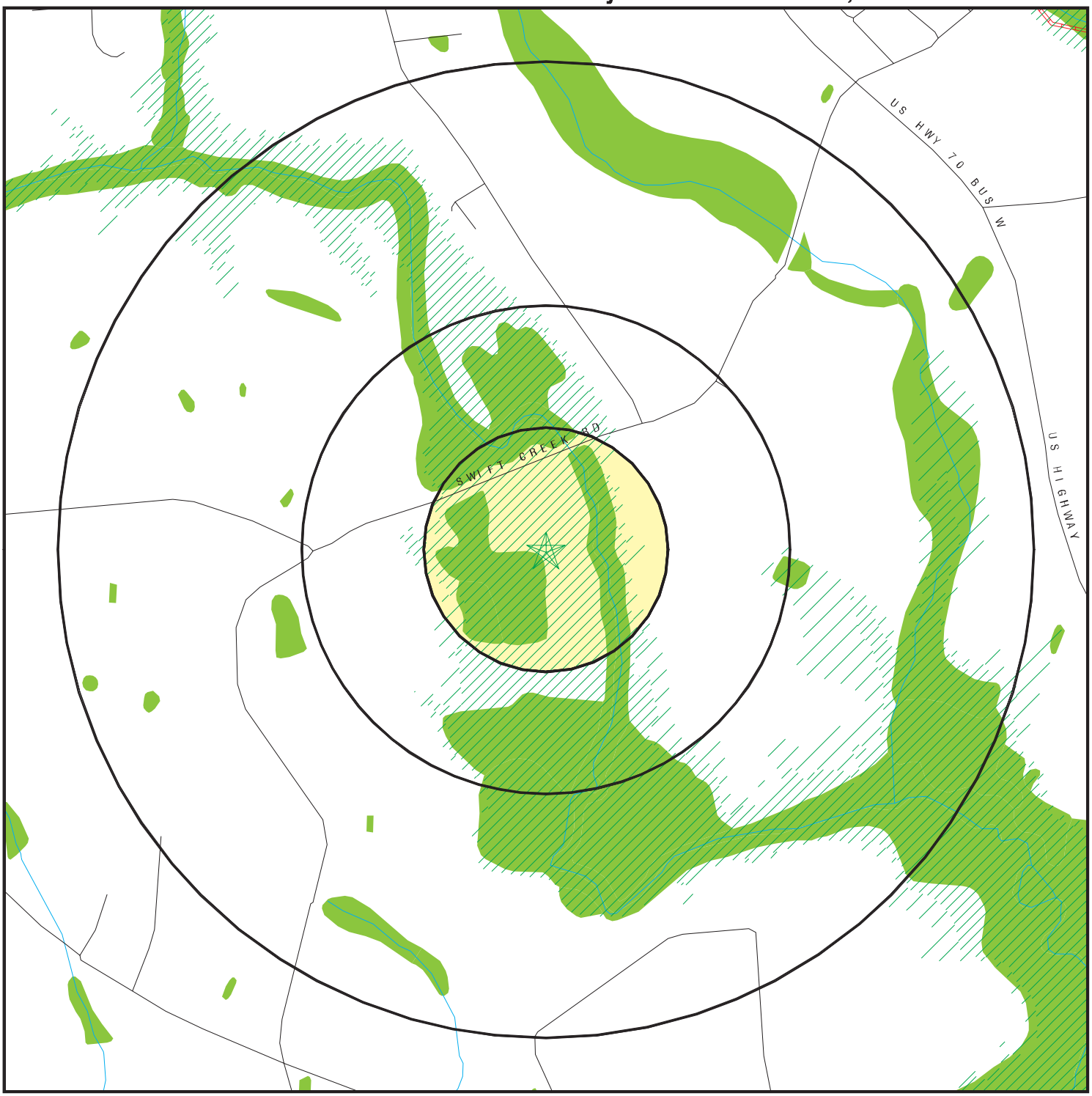
Surrounding sites were not identified.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CLAYTON BALL FIELD	SHWS
CLAY COUNTY LANDFILL	SWF/LF
JIMMY FLOWERS	SWF/LF
SHERRI BLACKMON	SWF/LF
T W SHIRLEY	SWF/LF
WALLACE DEMO LANDFILL	SWF/LF
JIM SMITH STORE	IMD, LUST
REGGIE'S SELF SERVE (FORMER)	IMD, LUST
SCOTCHMAN #24	UST, IMD, LUST
BUCK'S BP	UST, IMD, LUST
EASTERN WRECKER SALES	IMD, LUST
TOWN OF CLAYTON PUBLIC WORKS	IMD, LUST
JOHNSTON CO. SCH. BUS	IMD, LUST
ROGER'S KWIK STOP	LUST TRUST
BOBBY'S AMOCO	LUST TRUST
LEEWAY SERVICE CENTER	UST, LUST TRUST
B&S TEXACO	LUST TRUST
ROGERS KWIK STOP	UST
COUNTY WATER BOOSTER STATION	UST
BILLY KORNEGAY	UST
JOHNNY'S TIRE	UST
HANDI MART	UST
HOPKINS STATION	UST
EARL C HELMS CORP	UST
J.G. BARBOUR GROCERY	UST
BEST GAS & GROCERY	UST
PARRISH'S MOTOR SALES	UST
STEVENS SAUSAGE CO.	UST
OAK GROVE INN	UST
KENNEDY FREIGHT LINES. INC.	UST
TIMS ALIGNMENT & BRAKE SER	UST
CLAYTON CROSSING CLEANERS	RCRIS-SQG
SHIRLEY, T.W., PROPERTY	IMD
CLAYTON REFUSE DISPOSAL	OLI

OVERVIEW MAP - 844823.3s - Kimley-Horn & Associates, Inc.



0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Wetlands
- Hazardous Substance Disposal Sites

N

TARGET PROPERTY:	Moore Property	CUSTOMER:	Kimley-Horn & Associates, Inc.
ADDRESS:	Swift Creek Rd	CONTACT:	Andrew Kiley
CITY/STATE/ZIP:	Smithfield NC 27577	INQUIRY #:	844823.3s
LAT/LONG:	35.5414 / 78.3976	DATE:	September 10, 2002 1:16 pm

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DETAIL MAP - 844823.3s - Kimley-Horn & Associates, Inc.

0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Wetlands
- Hazardous Substance Disposal Sites

TARGET PROPERTY:	Moore Property	CUSTOMER:	Kimley-Horn & Associates, Inc.
ADDRESS:	Swift Creek Rd	CONTACT:	Andrew Kiley
CITY/STATE/ZIP:	Smithfield NC 27577	INQUIRY #:	844823.3s
LAT/LONG:	35.5414 / 78.3976	DATE:	September 10, 2002 1:16 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AST		TP	NR	NR	NR	NR	NR	0
OLI		0.500	0	0	0	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
NC HSDS		1.000	0	0	0	0	NR	0
LUST TRUST		0.500	0	0	0	NR	NR	0
IMD		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.000	0	0	0	0	NR	0

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CLAY	S105163759	CLAY COUNTY LANDFILL	SR 1148	27520	SWF/LF
CLAYTON	S101714877	JIM SMITH STORE	SR 1010	27520	IMD, LUST
CLAYTON	S104547414	REGGIE'S SELF SERVE (FORMER)	SR 1533 AT BRIDGE 188	27520	IMD, LUST
CLAYTON	1002963485	CLAYTON BALL FIELD	SR 1709	27520	SHWS
CLAYTON	S105485754	CLAYTON REFUSE DISPOSAL	SR 1709 (NOW CALLED CITY RD);	27520	OLI
CLAYTON	U003145651	ROGERS KWIK STOP	ROUTE 3, BOX 600 (HWY 70&70A)	27520	UST
CLAYTON	1004746844	CLAYTON CROSSING CLEANERS	11465 HWY 70 W	27520	RCRIS-SQG
CLAYTON	S105218506	ROGER'S KWIK STOP	HWY 70 / 70-A	27520	LUST TRUST
CLAYTON	S105218554	BOBBY'S AMOCO	1012 HIGHWAY 70 EAST	27520	LUST TRUST
CLAYTON	U001434199	SCOTCHMAN #24	HWY 70 EAST	27520	UST, IMD, LUST
CLAYTON	U001436531	LEEWAY SERVICE CENTER	HWY 70 E.	27520	UST, LUST TRUST
CLAYTON	U001439553	COUNTY WATER BOOSTER STATION	HIGHWAY 70 EAST	27520	UST
CLAYTON	U001439573	BILLY KORNEGAY	13401 HWY 70 WEST	27520	UST
CLAYTON	U001958927	JOHNNY'S TIRE	11550 HWY 70 WEST	27520	UST
CLAYTON	U003135737	HANDI MART	10419 HIGHWAY 70 W	27520	UST
CLAYTON	U003142816	HOPKINS STATION	HWY 70 WEST	27520	UST
CLAYTON	U003562043	BUCK'S BP	HIGHWAY 70 EAST	27520	UST, IMD, LUST
CLAYTON	U001434050	EARL C HELMS CORP	2300 HWY 70-A EAST	27520	UST
CLAYTON	S101573712	EASTERN WRECKER SALES	13401 HWY 70W.	27520	IMD, LUST
CLAYTON	S103131520	TOWN OF CLAYTON PUBLIC WORKS	U.S. HIGHWAY 70 WEST	27520	IMD, LUST
SMITHFIELD	U001436643	J.G. BARBOUR GROCERY	RT 1 HWY 210	27577	UST
SMITHFIELD	S101523024	JOHNSTON CO. SCH. BUS	SR 1343	27577	IMD, LUST
SMITHFIELD	U001436642	BEST GAS & GROCERY	RT 2 BROGDEN ROAD	27577	UST
SMITHFIELD	U001436646	PARRISH'S MOTOR SALES	RT 2 BOX 434 W	27577	UST
SMITHFIELD	U001436314	STEVENS SAUSAGE CO.	RT. 3 BOX 388 BROGDEN ROAD	27577	UST
SMITHFIELD	U001438417	OAK GROVE INN	RT 3	27577	UST
SMITHFIELD	U003144606	KENNEDY FREIGHT LINES. INC.	ROUTE 4, BOX 17	27577	UST
SMITHFIELD	S105163890	JIMMY FLOWERS	US 70 WEST	27577	SWF/LF
SMITHFIELD	S105163998	SHERRI BLACKMON	US 70 BUSINESS	27577	SWF/LF
SMITHFIELD	S105164017	T W SHIRLEY	HWY 70	27577	SWF/LF
SMITHFIELD	S105164044	WALLACE DEMO LANDFILL	US 70	27577	SWF/LF
SMITHFIELD	S105218782	B&S TEXACO	HWY 70 / I-95	27577	LUST TRUST
SMITHFIELD	U001436378	TIMS ALIGNMENT & BRAKE SER	HWY 70 WEST	27577	UST
SMITHFIELD	S103131736	SHIRLEY, T.W., PROPERTY	250 W. MARKET ST. (US 70 BUS)	27577	IMD

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM STANDARD RECORDS

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/22/02
Date Made Active at EDR: 06/21/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 46
Date of Last EDR Contact: 08/01/02

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites
Source: EPA
Telephone: N/A

Date of Government Version: 02/26/02
Date Made Active at EDR: 06/21/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 46
Date of Last EDR Contact: 08/01/02

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 05/15/02
Date Made Active at EDR: 08/08/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 06/24/02
Elapsed ASTM days: 45
Date of Last EDR Contact: 06/24/02

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 05/15/02
Date Made Active at EDR: 08/08/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 06/24/02
Elapsed ASTM days: 45
Date of Last EDR Contact: 06/24/02

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 05/02/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/06/02
Elapsed ASTM days: 70
Date of Last EDR Contact: 06/10/02

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 06/10/02
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 06/20/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 06/20/02

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/01
Date Made Active at EDR: 07/15/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/02/02
Elapsed ASTM days: 13
Date of Last EDR Contact: 07/24/02

FEDERAL ASTM SUPPLEMENTAL RECORDS

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/99
Database Release Frequency: Biennially
Date of Last EDR Contact: 06/17/02
Date of Next Scheduled EDR Contact: 09/16/02

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: N/A
Database Release Frequency: Varies
Date of Last EDR Contact: N/A
Date of Next Scheduled EDR Contact: N/A

ROD: Records Of Decision
Source: EPA
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/21/01
Database Release Frequency: Annually
Date of Last EDR Contact: 07/09/02
Date of Next Scheduled EDR Contact: 10/07/02

DELISTED NPL: National Priority List Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/22/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 08/01/02
Date of Next Scheduled EDR Contact: 11/04/02

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/21/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 07/08/02
Date of Next Scheduled EDR Contact: 10/07/02

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/01
Database Release Frequency: Annually
Date of Last EDR Contact: 07/22/02
Date of Next Scheduled EDR Contact: 10/21/02

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/12/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 07/08/02
Date of Next Scheduled EDR Contact: 10/07/02

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 06/05/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 07/01/02
Date of Next Scheduled EDR Contact: 09/30/02

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/26/02
Date of Next Scheduled EDR Contact: 11/25/02

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-564-3887
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/01/02
Database Release Frequency: Annually
Date of Last EDR Contact: 08/02/02
Date of Next Scheduled EDR Contact: 11/11/02

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 06/10/02
Date of Next Scheduled EDR Contact: 09/09/02

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/99
Database Release Frequency: Annually
Date of Last EDR Contact: 06/24/02
Date of Next Scheduled EDR Contact: 09/23/02

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-5521
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/98
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 06/10/02
Date of Next Scheduled EDR Contact: 09/09/02

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA
Telephone: 202-564-2501

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 07/03/02
Date of Next Scheduled EDR Contact: 09/23/02

SSTS: Section 7 Tracking Systems
Source: EPA
Telephone: 202-564-5008
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/00
Database Release Frequency: Annually
Date of Last EDR Contact: 07/19/02
Date of Next Scheduled EDR Contact: 10/21/02

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-564-2501
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/25/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 07/03/02
Date of Next Scheduled EDR Contact: 09/23/02

STATE OF NORTH CAROLINA ASTM STANDARD RECORDS

SHWS: Inactive Hazardous Sites Inventory
Source: Department of Environment and Natural Resources
Telephone: 919-733-2801
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 07/09/02
Date Made Active at EDR: 08/09/02
Database Release Frequency: Annually
Date of Data Arrival at EDR: 07/15/02
Elapsed ASTM days: 25
Date of Last EDR Contact: 07/15/02

SWF/LF: List of Solid Waste Facilities
Source: Department of Environment and Natural Resources
Telephone: 919-733-0692
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/01/02
Date Made Active at EDR: 06/07/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 04/30/02
Elapsed ASTM days: 38
Date of Last EDR Contact: 08/20/02

LUST: Incidents Management Database
Source: Department of Environment and Natural Resources
Telephone: 919-733-1315
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 06/07/02
Date Made Active at EDR: 06/20/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 06/10/02
Elapsed ASTM days: 10
Date of Last EDR Contact: 06/10/02

UST: Petroleum Underground Storage Tank Database
Source: Department of Environment and Natural Resources
Telephone: 919-733-1308
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/03/02
Date Made Active at EDR: 07/19/02
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 06/10/02
Elapsed ASTM days: 39
Date of Last EDR Contact: 06/10/02

AST: AST Database
Source: Department of Environment and Natural Resources
Telephone: 919-715-6170
Facilities with aboveground storage tanks that have a capacity greater than 21,000 gallons.

Date of Government Version: 07/01/02
Date Made Active at EDR: 08/01/02
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 07/22/02
Elapsed ASTM days: 10
Date of Last EDR Contact: 07/22/02

OLI: Old Landfill Inventory
Source: Department of Environment & Natural Resources
Telephone: 919-733-4996

Date of Government Version: 07/10/02
Date Made Active at EDR: 08/01/02
Database Release Frequency: Varies
Date of Data Arrival at EDR: 07/12/02
Elapsed ASTM days: 20
Date of Last EDR Contact: 07/12/02

STATE OF NORTH CAROLINA ASTM SUPPLEMENTAL RECORDS

HSDS: Hazardous Substance Disposal Site
Source: North Carolina Center for Geographic Information and Analysis
Telephone: 919-733-2090
Locations of uncontrolled and unregulated hazardous waste sites. The file includes sites on the National Priority List as well as those on the state priority list.

Date of Government Version: 06/21/95
Database Release Frequency: Biennially
Date of Last EDR Contact: 06/03/02
Date of Next Scheduled EDR Contact: 09/02/02

LUST TRUST: State Trust Fund Database
Source: Department of Environment and Natural Resources
Telephone: 919-733-1315
This database contains information about claims against the State Trust Funds for reimbursements for expenses incurred while remediating Leaking USTs.

Date of Government Version: 05/10/02
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 08/02/02
Date of Next Scheduled EDR Contact: 11/11/02

IMD: Incident Management Database
Source: Department of Environment and Natural Resources
Telephone: 919-733-1315
Groundwater and/or soil contamination incidents

Date of Government Version: 04/26/02
Database Release Frequency: Quarterly
Date of Last EDR Contact: 07/29/02
Date of Next Scheduled EDR Contact: 10/28/02

EDR PROPRIETARY HISTORICAL DATABASES

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

MOORE PROPERTY
SWIFT CREEK RD
SMITHFIELD, NC 27577

TARGET PROPERTY COORDINATES

Latitude (North):	35.541401 - 35˚ 32’ 29.0’’
Longitude (West):	78.397598 - 78˚ 23’ 51.4’’
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	735930.6
UTM Y (Meters):	3936001.8

EDR’s GeoCheck Physical Setting Source Addendum has been developed to assist the environmental professional with the collection of physical setting source information in accordance with ASTM 1527-00, Section 7.2.3. Section 7.2.3 requires that a current USGS 7.5 Minute Topographic Map (or equivalent, such as the USGS Digital Elevation Model) be reviewed. It also requires that one or more additional physical setting sources be sought when (1) conditions have been identified in which hazardous substances or petroleum products are likely to migrate to or from the property, and (2) more information than is provided in the current USGS 7.5 Minute Topographic Map (or equivalent) is generally obtained, pursuant to local good commercial or customary practice, to assess the impact of migration of recognized environmental conditions in connection with the property. Such additional physical setting sources generally include information about the topographic, hydrologic, hydrogeologic, and geologic characteristics of a site, and wells in the area.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata. EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property: 2435078-E4 POWHATAN, NC
Source: USGS 7.5 min quad index

GENERAL TOPOGRAPHIC GRADIENT AT TARGET PROPERTY

Target Property: General SSE

Source: General Topographic Gradient has been determined from the USGS 1 Degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
JOHNSTON, NC	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 3701380070B / CBPP

Additional Panels in search area: 3701380075B / CBPP
3701380100C / CBPP

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
POWHATAN	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

AQUIFLOW®

Search Radius: 2.000 Miles.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Cambrian
Series:	Cambrian
Code:	Ce *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	NORFOLK
Soil Surface Texture:	loamy sand
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	14 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 6.00 Min: 3.60
2	14 inches	38 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 3.60
3	38 inches	70 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COURSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 3.60
4	70 inches	99 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: loam
sandy loam
mucky - loam

Surficial Soil Types: loam
sandy loam
mucky - loam

Shallow Soil Types: fine sandy loam
sandy clay loam
clay loam

Deeper Soil Types: sandy clay loam
stratified
sandy clay

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

OTHER STATE DATABASE INFORMATION

NORTH CAROLINA LOCATIONS OF NATURAL HERITAGE DATABASE

ID	Class
0012142	Plants

GEOCHECK - PHYSICAL SETTING SOURCE SUMMARY

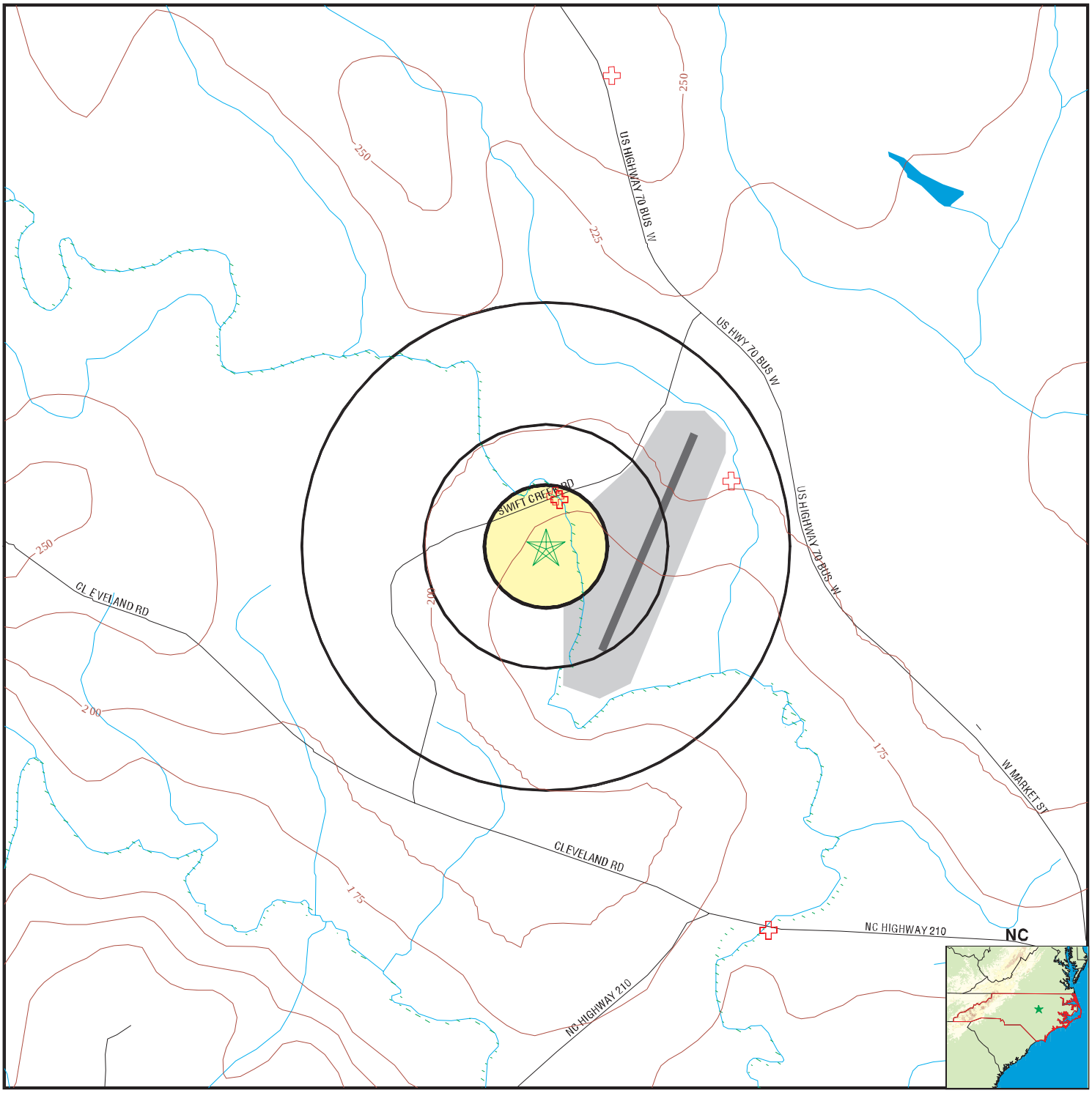
NORTH CAROLINA LOCATIONS OF NATURAL HERITAGE DATABASE

ID	Class
0022081	Animal
0081996	Plants
0052099	Invertebrate
0042430	Invertebrate
0232546	Invertebrate
0042430	Invertebrate
0111638	Invertebrate
0052099	Invertebrate
0241431	Invertebrate
0241431	Invertebrate

NORTH CAROLINA NATURAL AREAS DATABASE:

ID	Name
260	Swift Creek (Wake/Johnson) Aquatic Habitat
272	Middle Creek (Wake/Johnson) Aquatic Habitat

PHYSICAL SETTING SOURCE MAP - 844823.3s



Major Roads
Contour Lines
Airports
Water Wells
Public Water Supply Wells
Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Cluster of Multiple Icons

0 1/2 1 2 Miles

Earthquake epicenter, Richter 5 or greater
Wildlife Areas
Natural Areas
Rare & Endangered Species

N

TARGET PROPERTY:	Moore Property	CUSTOMER:	Kimley-Horn & Associates, Inc.
ADDRESS:	Swift Creek Rd	CONTACT:	Andrew Kiley
CITY/STATE/ZIP:	Smithfield NC 27577	INQUIRY #:	844823.3s
LAT/LONG:	35.5414 / 78.3976	DATE:	September 10, 2002 1:16 pm

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Direction Distance	Database	EDR ID Number

NC_NHEO **0012142**

Site ID:	0012142
Latitude / Longitude:	35.5694 / -78.3931
Classification by Type:	Plants
Degree of Accuracy associated with coordinate:	General
Occurrence Status:	Historic, no evidence of destruction
State Status:	Significantly Rare

NC_NHEO **0022081**

Site ID:	0022081
Latitude / Longitude:	35.5444 / -78.3972
Classification by Type:	Animal
Degree of Accuracy associated with coordinate:	Minutes
Occurrence Status:	Extant
State Status:	Special Concern

NC_NHEO **0081996**

Site ID:	0081996
Latitude / Longitude:	35.5453 / -78.3844
Classification by Type:	Plants
Degree of Accuracy associated with coordinate:	Seconds
Occurrence Status:	Extant
State Status:	Endangered

NC_NHEO **0052099**

Site ID:	0052099
Latitude / Longitude:	35.5744 / -78.4983
Classification by Type:	Invertebrate
Degree of Accuracy associated with coordinate:	Seconds
Occurrence Status:	Extant
State Status:	Special Concern

NC_NHEO **0042430**

Site ID:	0042430
Latitude / Longitude:	35.5744 / -78.4983
Classification by Type:	Invertebrate
Degree of Accuracy associated with coordinate:	Seconds
Occurrence Status:	Extant
State Status:	Threatened

Direction Distance	Database	EDR ID Number

NC_NHEO **0232546**

Site ID: 0232546
Latitude / Longitude: 35.5744 / -78.4983
Classification by Type: Invertebrate
Degree of Accuracy associated with coordinate: Seconds
Occurrence Status: Extant
State Status: Threatened

NC_NHEO **0042430**

Site ID: 0042430
Latitude / Longitude: 35.5744 / -78.4983
Classification by Type: Invertebrate
Degree of Accuracy associated with coordinate: Seconds
Occurrence Status: Extant
State Status: Threatened

NC_NHEO **0111638**

Site ID: 0111638
Latitude / Longitude: 35.5744 / -78.4983
Classification by Type: Invertebrate
Degree of Accuracy associated with coordinate: Seconds
Occurrence Status: Extant
State Status: Endangered

NC_NHEO **0052099**

Site ID: 0052099
Latitude / Longitude: 35.5744 / -78.4983
Classification by Type: Invertebrate
Degree of Accuracy associated with coordinate: Seconds
Occurrence Status: Extant
State Status: Special Concern

NC_NHEO **0241431**

Site ID: 0241431
Latitude / Longitude: 35.5994 / -78.5356
Classification by Type: Invertebrate
Degree of Accuracy associated with coordinate: Seconds
Occurrence Status: Extant
State Status: Threatened

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Direction Distance	Database	EDR ID Number

NC_NHEO 0241431

Site ID:	0241431
Latitude / Longitude:	35.5994 / -78.5356
Classification by Type:	Invertebrate
Degree of Accuracy associated with coordinate:	Seconds
Occurrence Status:	Extant
State Status:	Threatened

NC_NATURE 260

Site ID:	260
Site Name:	Swift Creek (Wake/Johnson) Aquatic Habitat
NHP Site Number:	S.USNCHP*2441
Cartographic Specifications:	Natural Area
Acres per Polygon:	223.019

NC_NATURE 272

Site ID:	272
Site Name:	Middle Creek (Wake/Johnson) Aquatic Habitat
NHP Site Number:	S.USNCHP*1209
Cartographic Specifications:	Natural Area
Acres per Polygon:	187.806

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for JOHNSTON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 27577

Number of sites tested: 3

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.500 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the national Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-260-2805

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STATE RECORDS

North Carolina Wildlife Resources/Game Lands
Source: Center for Geographic Information and Analysis
Telephone: 919-733-2090
All publicly owned game lands managed by the North Carolina Wildlife Resources Commission and as listed in Hunting and Fishing Maps for North Carolina Game Lands, 1989-90.

North Carolina Rare/Endangered Species and Natural Areas
Source: Natural Heritage Occurrence Sites Center for Geographic Information and Analysis
Telephone: 919-733-2090

North Carolina Public Water Supply Wells
Source: Department of Environmental Health
Telephone: 919-715-3243

RADON

Area Radon Information
Source: EPA
Telephone: 303-236-1525
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 202-564-9370
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Fax To: Kimley-Horn & Associates, Inc.
Contact: Andrew Kiley
Fax : 919-677-2050
Date: 09/10/2002

Fax From: E.J. Howard
EDR
Phone: 1-800-352-0050

EDR PUR-IQ® Report

"the intelligent way to conduct historical research"

for
Moore Property
Swift Creek Rd
Smithfield, NC 27577
Lat./Long. 35.54140 / 78.39760
EDR Inquiry # 844823.3s

The EDR PUR-IQ report facilitates historical research planning required to complete the Phase I ESA process. The report identifies the *likelihood* of prior use coverage by searching EDR's proprietary historical source(s) database comprising nationwide information on: city directories, fire insurance maps, aerial photographs, historical topographic maps, flood maps and National Wetland Inventory maps.

Potential for EDR Historical (Prior Use) Coverage - Coverage in the following historical information sources may be used as a guide to develop your historical research strategy:

1. City Directory: Coverage exists for portions of SMITHFIELD, NC for 1963, 65, 69, 71, 72, 74-77, 79-81, 83-89, 93-1997

2. Fire Insurance Map: When you order online any ASTM 2000 Package, or an EDR Radius Map with a Sanborn Map Search/Print, you receive site specific Sanborn Map coverage information at no charge.

3. Aerial Photograph: Coverage exists for portions of Johnston County

For information about the following photos, please contact your EDR Account Executive:

Oldest Photo in Public Collections: 1937 Scale: 1"=1667' Shipping Time: 3-4 Weeks +/-

Oldest Photo in Private Collections: 1978 Scale: 1"=1320' Shipping Time: 2 Weeks +/-

4. Topographic Map: The USGS 7.5 min. quad topo sheet(s) associated with this site:

Historical: Coverage exists for Johnston County

Current: Target Property: 2435078-E4 Powhatan, NC

EDR's network of professional researchers, located throughout the United States, accesses the most extensive national collections of city directory, fire insurance maps, aerial photographs and historical topographic map resources available for Smithfield, NC. These collections may be located in multiple libraries throughout the country. To ensure maximum coverage, EDR will often assign researchers at these multiple locations on your behalf. Please call or fax your EDR representative to authorize a search.

Environmental Data Resources, Inc.

EDR - HISTORICAL SOURCE(S) ORDER FORM

Kimley-Horn & Associates, Inc.
Andrew Kiley
Account # 1035062

Moore Property
Swift Creek Rd
Smithfield, NC 27577
Johnston County
Lat./Long. 35.54140 / 78.39760
EDR Inquiry # 844823.3s

Should you wish to change or add to your order, fax this form to your EDR account executive:

E.J. Howard
Ph: 1-800-352-0050 Fax: 1-800-231-6802

Product	Standard Price**	Standard Turnaround time
___ **Historical** Topographic Map(s)	ALL AVAIL. YRS $45/95	3 - 5 BUSINESS DAYS
___ **Current** Topographic Map(s)*	$30 EACH	3 - 5 BUSINESS DAYS
___ City Directory Abstract	SEARCH/ABSTRACT $45/95	3 - 5 BUSINESS DAYS
___ Fire Insurance Map Search/Abstract	SEARCH/ABSTRACT $45/95	3 - 5 BUSINESS DAYS
Sanborn Map Search/Print		
___ with Radius Map	SEARCH/PRINT $15/75	2 - 3 BUSINESS DAYS
___ a la carte	SEARCH/PRINT $45/125	2 - 3 BUSINESS DAYS
___ Aerial Photograph Search Summary	$49	48 HOURS
Aerial Photograph Prints (1 photo per decade, where available)		
___ Digital Copies	CA,MI $145, OTHER $95	3 - 5 BUSINESS DAYS
(AL,AZ,CA,CO,CT,DC,DE,FL,GA,IL,IN,KS,MA,MD,MI,MN,MO)		
(NC,NJ,NY,OH,OK,OR,PA,SC,TN,TX,UT,VA,WA,WI)		
___ Telephone Interviews	$95	3 - 5 BUSINESS DAYS
___ Expanded Telephone Interviews	$145	5 BUSINESS DAYS
Historical Shopping Center Occupant Report		
___ with Radius Map	$245	5 - 7 BUSINESS DAYS
___ a la carte	$295	5 - 7 BUSINESS DAYS
___ Flood Insurance Maps (FEMA)	$95	3 - 5 BUSINESS DAYS
___ Flood Prone Maps	$95	3 - 5 BUSINESS DAYS
___ Chain of Title Search		CALL EDR
___ NJ MacRae's Industrial Directory Search (New Jersey)		CALL EDR
___ with Radius Map	$150	
___ a la carte	$195	

Shipping:

___ Email (Text Reports/Abstracts)	No charge	
___ Express, Next Day Delivery	$15	RUSH SERVICE IS AVAILABLE
___ Express, Second Day Delivery	$10	
___ Express, Next day Delivery	Customer Account	Acct # _____
___ Express, Second Day Delivery	Customer Account	Acct # _____
___ U.S. Mail	$5	

***May be ordered directly from FASTMAPS at 1-800-426-8676. The cost is $5.50 each map, plus shipping, plus $5 handling for orders less than 5 maps.**
****Special pricing, depending on volume, may exist for your account.**

Thank you

Phone Interview w/ Todd Moore
(919) 989-4938 (H)

ENVIRONMENTAL SITE ASSESSMENT QUESTIONNAIRE

Description of Site:

Instructions: Please the answer each question to the best of your knowledge and return to the questionnaire in the enclosed self-addressed envelope before Thank you for your review and response to the questions.

Question	*Owner Answers*		
1a. Is the *property* used for an industrial use?	Yes	No	Unknown
1b. Is any *adjoining property* used for an industrial use? Airport	Yes	No	Unknown
2a. Did you observe evidence or do you have any prior knowledge that the *property* has been used for an industrial use in the past?	Yes	No	Unknown
2b. Did you observe evidence or do you have any prior knowledge that any *adjoining property* has been used for an industrial use in the past?	Yes	No	Unknown
3a. Is the *property* used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	Yes	No	Unknown
3b. Is any *adjoining property* used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	Yes	No	Unknown
4a. Did you observe evidence or do you have any prior knowledge that the *property* has been used as a gasolme station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	Yes	No	Unknown
4b. Did you observe evidence or do you have any prior knowledge that any *adjoining property* has been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?	Yes	No	Unknown
5a. Are there currently any damaged or discarded automotive or industrial batteries, pesticides, paints, or other chemicals in individual containers of > 5 gal (19 L) in volume of 50 gal (190 L) in the aggregate, stored on or used at the *property* or at the facility?	Yes	No	Unknown
5b. Did you observe evidence, or do you have any prior knowledge that there have been previously any damaged or discarded automotive or industrial batteries, or pesticides, paints, or other chemicals in individual containers of > 5 gal (19 L) in volume or 50 gal (190 L) in the aggregate, stored on or used at the *property* or at the facility?	Yes	No	Unknown
6a. Are there currently any industrial drums (typically 55 gal (208 L)) or sacks of chemicals located on the *property* or at the facility?	Yes	No	Unknown

6b. Did you observe evidence or do you have any prior knowledge that there have been previously any industrial *drums* (typically 55 gal (208 L)) or sacks of chemicals located on the property or at the facility? Yes (No) Unknown

7a. Did you observe evidence or do you have any prior knowledge that *fill dirt* has been brought onto the property that originated from a contaminated site? Yes (No) Unknown

7b. Did you observe evidence or do you have any prior knowledge that *fill dirt* has been brought onto the property that is of an unknown origin? Yes (No) Unknown

8a. Are there currently any *pits*, *ponds*, or *lagoons* located on the *property* in connection with waste treatment or waste disposal? Yes (No) Unknown

8b. Did you observe evidence or do you have any prior knowledge that there have been previously, any *pits*, *ponds*, or *lagoons* located on the *property* in connection with waste treatment or waste disposal? Yes (No) Unknown

9a. Is there currently any stained soil on the *property*? Yes (No) Unknown

9b. Did you observe evidence or do you have any prior knowledge that there has been previously, any stained soil on the *property*? Yes (No) Unknown

10a. Are there currently any registered or unregistered storage tanks (above or underground) located on the *property*? Yes (No) Unknown

10b. Did you observe evidence or do you have any prior knowledge that there have been previously, any registered or unregistered storage tanks (above or underground) located on the *property*? Yes (No) Unknown

11a. Are there currently any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the *property* or adjacent to any structure located on the *property*? Yes (No) Unknown

11b. Did you observe evidence or do you have any prior knowledge that there have been previously, any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the *property* or adjacent to any structure located on the *property*? Yes (No) Unknown

12a. Is there currently evidence of leaks, spills or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on this *property*? Yes (No) Unknown

12b. Did you observe evidence or do you have any prior knowledge that there have been previously any leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the *property*? Yes (No) Unknown

13a. If the *property* is served by a private well or non-public water system, is there evidence or do you have prior knowledge that contaminants have been identified in the well or system that exceed guidelines applicable to the water system? Yes (No) Unknown

13b. If the *property* is served by a private well or non-public water system, is there evidence or do you have prior knowledge that the well has been designated as contaminated by any government environmental/health agency? Yes (No) Unknown

14. Does the *owner* or *occupant* of the *property* have any knowledge of *environmental liens* or governmental notification relating to past or recurrent violations of environmental laws with respect to the *property* or any facility located on the *property*? US Army Corps of Engineer (Yes) No Unknown

15a. Has the *owner* or *occupant* of the *property* been informed of the past existence of *hazardous substances* or *petroleum products* with respect to the *property* or any facility located on the *property*? Yes (No) Unknown

15b. Has the *owner* or *occupant* of the property been informed of the current existence of *hazardous substances* or *petroleum products* with respect to the *property* or any facility located on the *property*? Yes (No) Unknown

15c. Has the *owner* or *occupant* of the *property* been informed of the past existence of environmental violations with respect to the *property* or any facility located on the *property*? Yes (No) Unknown

15d. Has the *owner* or *occupant* of the *property* been informed of the current existence of environmental violations with respect to the *property* or any facility located on the *property*? Yes (No) Unknown

16. Does the *owner* or *occupant* of the *property* have any knowledge of any *environmental site assessment* of the *property* or facility that indicated the presence of *hazardous substance* or *petroleum products* on, or contamination of, the *property* or recommended for further assessment of the *property*? Yes (No) Unknown

17. Does the *owner* or *occupant* of the *property* know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any *hazardous substance* or *petroleum products* involving the *property* by any owner or occupant of the *property*? Yes (No) Unknown

18a. Does the *property* discharge waste water (not including sanitary waste or storm water) onto or adjacent to the *property* and/or into a storm water system? Yes (No) Unknown

18b. Does the *property* discharge waste water (not including sanitary waste or storm water) onto or adjacent to the *property* and/or into a sanitary sewer system? Yes (No) Unknown

19. Did you observe evidence or do you have any prior knowledge that any *hazardous substances* or *petroleum products*, unidentified waste materials, tires, automotive or industrial batteries, or any other waste materials have been dumped above grade, buried and/or burned on the *property*? Yes (No) Unknown

20. Is there a transformer, capacitor, or any hydraulic equipment for which there are any records indicating the presence of PCBs? Yes (No) Unknown

21. Does the *owner* or *occupant* of the property have knowledge of any pesticides or fertilizers that have been applied to the property? If so, please identify which products agricultural use. (Yes) No Unknown

This *owner* questionnaire was completed by:

Name: Todd Moore

Mailing Address: 4301 Swift Creek Road

City, State, Zipcode: Smithfield, NC 27577

(H) 919-989-4938

(C) 919-631-1087

United States Department of Agriculture

Animal and Plant Health Inspection Service

Wildlife Services

EAD (USDA WS)
PSC Box 8006
BLDG 4223 Rifle Range RD
MCAS Cherry Point, NC
28533-0006

(252) 466-4964 telephone
(252) 466-2000 fax

DSN extension: 582

begiermj@cherrypoint.usmc.mil

FOR OFFICIAL USE ONLY **28 March 2003**

Norton Webster, Environmental Scientist
Kimley-Horn and Associates, Inc.
PO Box 33068
Raleigh, North Carolina 27636-3068

Greetings Norton:

This correspondence is in reference to the Wetland Mitigation Study project that your firm is handling at the behest of the North Carolina Dept. of Transportation (NC DOT). Specifically, this letter report serves as USDA Wildlife Services, North Carolina Program's assessment and comments related to our site visit on 25 February 2003, at the Moore property which lies to the west, southwest of the Johnston County Airport. The area is in close proximity to the approach airspace of the facility runway. The purpose of this visit was your firms desire to consult with Wildlife Services regarding the potential impacts of the proposed creation of a wetland mitigation bank at the site and how this may or may not serve as a wildlife attractant related to aviation safety.

The ability of Wildlife Services to render a professional opinion in this matter stems from our relationship with the Federal Aviation Administration as defined by the memorandum of understanding between our two agencies. The biological opinions and comments related to this project are in part guided by information contained in FAA Advisory Circular 150/5200-33, "Hazardous Wildlife Attractants On or Near Airports" and my training as a professional wildlife biologist trained in assessing wildlife damage management situations.

During our site visit, we traversed the site which is currently in agriculture and pasture. No standing agricultural crops were present during the visit. Currently, the property is graded (i.e., crowned) and ditched such that it drains to the Swift Creek. There also is an earthen berm between the creek and the property. Historically, the property was part of a bottomland hardwood stand that was periodically inundated when the Swift Creek was at flood stage. The surrounding properties that directly border the Moore property are currently forested.

While at the site we did not make any wildlife observations of notice except the calls of a flock of Canada geese. The geese were flying north of our location but remained unseen. During this event, we discussed anecdotal stories of Canada geese using the property at various times over the last year. You also made mention of large numbers of mourning doves being present in the autumn.

The current plan is to convert the property to a wetland mitigation bank to be

administered by the NC DOT. This will involve the removal of the current grading scheme and the filling of the drainage ditches. Holes also will be pushed through the earthen berm to re-establish the site as part of the Swift Creek flood plain. As per our discussion the site will be reforested with typical bottom land hardwood species suitable to the area. The target stem density is 500 stems per acre.

The guidance concerning wetlands and their siting in FAA Advisory Circular 150/5200-33 does not specifically address this type of wetland situation (i.e., bottom land hardwood/"green timber impoundment"). Generally, the creation of wetlands, close to an airport, where significant amounts of open water would be present would not be conducive to safe airport operations. However, the current agricultural and pasture use of the land lends itself to use by flocking birds as was evidenced during our discussion. In this situation, the reforestation of the land thereby eliminating the open field would be beneficial to aviation safety.

During the early stages of reforestation, (i.e., seedling through sapling stage) the area may become used more by white-tailed deer as a foraging area. Currently, white-tailed deer are the number one threat to aviation safety in the U.S., particularly the eastern U.S. Although the Swift Creek somewhat segregates the Moore property from the airport the creek itself is not an effective barrier to deer movements.

The re-establishment of the original grading scheme (i.e., removal of the crown) may allow water to pool on the land during rainy times. During the initial stages of reforestation (i.e., seedling stage) it will be important monitor the site in order to make sure temporary or ephemeral pools or water are not allowed to become permanently established. This type of situation may lead to "dead spots" in the reforested area. These areas may be suitable for waterfowl use which would constitute a wildlife hazard to aviation. The current stem density we discussed should provide enough of a "natural barrier" or impediment to Canada goose use of the area during the seedling stage. However, some use of the area by Canada geese may occur. Use of the area should be monitored for this situation and action taken without delay to mitigate the situation. The site will most likely become dominated by other herbaceous and shrub vegetation type that should preclude its use by Canada geese.

At all times, WS advocates that airport operations offices maintain a wildlife log. This log, similar to other general aviation type logs, should be used to document wildlife activities that are observed on the airport property. It is recommended that the airport operations department and the NC DOT monitor the area for wildlife use. These groups should routinely communicate with each other concerning wildlife use of the area especially the potential types of use previously mentioned. Monitoring will not only serve to note when but how the area may be used by wildlife. These observations and the ability of the airport to act upon them will be a key in preventing a wildlife hazard situation.

Although this project is not specifically covered the guidance provided in FAA Advisory Circular 150/5200-33 should be noted in this instance. Section 2-4 (Wetlands), subsection b (Wetland mitigation), part 3 mentions that a wildlife damage management plan be developed

to reduce wildlife hazards during wetland mitigation projects. If the area in question should become attractive to wildlife and thereby pose a hazard to aviation an airport site visit should be conducted and an operational plan to remedy the situation enacted without delay. Guidance, advice and service to assist in the event that a wildlife hazard situation develops can be better rendered if the airport operations department maintains a wildlife log (as discussed previously) and acts in a timely manner on the information recorded in the log.

Wildlife populations can be very unpredictable in their movements and habits. However, their activities and populations as they relate to habitat can oftentimes be effectively managed resulting in a safe airport environment. USDA Wildlife Services is very proud of the assistance our agency provides nationally to the aviation community. If you desire further information or assistance with wildlife and airport safety topics please contact us.

If you have any specific questions, please use my contact information on this correspondence.

Sincerely,

Michael J. Begier
Wildlife Biologist
mjbegier@cherrypoint.usmc.mil

cc: Johnston County Airport
Mr. Jack McSwain, FAA, Atlanta
Mr. Edward Cleary, FAA, Washington D.C.
Mr. E. C. Hunicutt, FAA, Atlanta
Mr. Rick Barkes, NC Division of Aviation
Mr. Todd Menke, USDA Wildlife Services, North Carolina
Mr. Rick Owens, USDA Wildlife Services, Eastern Regional Office

enc. FAA Advisory Circular 150/5200-33, “Hazardous Wildlife Attractants On or Near Airports”
Memorandum of Understanding between US DOT, FAA and USDA APHIS (ADC) Wildlife Services

Photo 1: Looking Northeast across harvested corn field toward Swift Creek Road Bridge.

Photo 2: Looking Southeast across pasture. Note ditch in the background.

Photo 3: Looking west at isolated forest stand on Tmotley soils.

Photo 4: Looking southwest at pasture with remnant *Nyssa Biflora* (black gum) in pasture

Photo 5: Looking from edge of pond dam southeast across the pasture.

Photo 6: Looking south downstream of Swift Creek from Swift Creek Road (SR1501) Bridge.