

11-0720 ✓ 3

THE JOHN R. McADAMS COMPANY, INC.

LETTER OF TRANSMITTAL

To: Ms. Katie Merritt
NCDENR-DWQ
512 N. Salisbury Street
Raleigh, NC 27603

Date: October 5, 2012**** FEDERAL EXPRESS ****

Re: Ezell

Job No.: EBX-12020

I am sending you the following item(s):

COPIES	DATE	NO.	DESCRIPTION
1			Revised Bank Parcel Development Package

These are transmitted as checked below:

☐ As requested☐ For your use☒ For approval☐ _____☐ For review and comment☐ _____

Remarks: On behalf of the Environmental Bank & Exchange, LLC (EBX), EcoEngineering is submitting
a revised Ezell Mitigation Site Bank Parcel Development Package

Copy to: _____

Signed: *Brandon R. Finch*
Brandon R. Finch, PE
Senior Project Manager

FOR INTERNAL USE ONLY

☒ Copy Letter of Transmittal Only to File☐ Copy Entire Document to File

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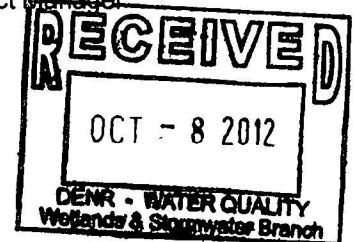


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1.0 Project Location and Description

Located at 1641 NC Highway 96 in the southeast section of Granville County, North Carolina, approximately 4.5 miles west of City of Franklinton (**Figure 1**), is the proposed Neuse Riparian Buffer Credit and Nutrient Offset Credit mitigation site currently known as the Ezell Bank Site (Site). The Site is located approximately 0.35 miles south of the intersection of NC Highway 96 and Suitts Store Road and approximately 0.7 miles north of the intersection NC Highway 96 and Pine Ridge Road.

The land containing the Site is comprised of 4 parcels (Granville County Tax Map Numbers 183500261043, 183500156027, 183500255145, and 183500166814) that total approximately 88.33 acres. A conservation easement will protect the Site and will be approximately 26.99 acres in size. Within the conservation easement, existing riparian areas will be restored to generate both Neuse Riparian Buffer and Nutrient Offset (nitrogen and phosphorus) Credits (**Figure 2**). Please refer to **Table 3**, below, for additional information regarding Neuse Riparian Buffer and Nutrient Offset Credits proposed within this Site.

The Site is located within the Lower Falls Lake watershed in the Neuse River Basin (8-digit USGS HUC 03020201, 14-digit USGS HUC 03020201060020), more specifically within Neuse Sub-basin 03-04-01. Stormwater runoff from this site drains into unnamed tributaries of Smith Creek (Stream Index #27-12-2-(1)). According to the N.C. Division of Water Quality Basinwide Information Management System (BIMS), Smith Creek is classified as Class C and NSW (Nutrient Sensitive Waters). Class C classification is for “waters protected for uses such as secondary recreation” while the NSW designation is for “waters needing additional nutrient management”. The purpose of this Site is to improve water quality within the Neuse River Basin, specifically the Falls Lake watershed, by providing off-site mitigation for development (both existing and proposed) requiring stream buffer mitigation and nutrient offset credits. The proposed Geographic Service Area is shown in **Figure 3**.

This Site will be established under the terms and conditions of the EBX Upper Neuse Riparian Buffer and Nutrient Offset Umbrella Mitigation Bank (Bank) made and entered into by Environmental Banc and Exchange, LLC (EBX), acting as the Bank Sponsor (Sponsor), and the North Carolina Department of Environment and Natural Resources - Division of Water Quality (DWQ). This document was signed on February 10, 2012.

2.0 Project Area - Existing Conditions

2.1 Geologic & Soil Characteristics

Based upon review of the United States Geological Survey (USGS) Grissom, North Carolina Quadrangle, the Site contains low to moderate relief with elevations ranging from \pm 430 feet to \pm 460 feet. The Site has a topographic gradient that generally slopes southwest towards unnamed tributaries to Smith Creek. Surface drainage is generally directed southwest into unnamed tributaries to Smith Creek (**Figure 4**).

The Site is located within the Piedmont Physiographic Province of North Carolina, and more specifically within the Northern Outer Piedmont Ecoregion. A review of “Ecoregions of North Carolina and South Carolina” (Griffith et al., 2002) shows the physiography in the area is comprised of dissected irregular plains, some low rounded hills and ridges, low to moderate gradient streams. The geology in the area is comprised of quaternary to tertiary sandy clay and sandy saprolite with rock outcrops and joint-block boulders, Cambrian gneiss, schist, metavolcanic rock, metamudstone, and some Pennsylvanian to Permian granite.



The Soil Survey of Granville County, North Carolina (Soil Conservation Service, 1997) lists the soils within the Site as from the Cecil Association. As stated in the soil survey, these soils can be generally classified as gently sloping or moderately sloping well drained soils that have a loamy surface layer and a clayey subsoil. As described by the online USDA NRCS Official Soil Series Descriptions (OSD), the specific soils within the Site are shown on **Figure 5** and are listed, below, in **Table 1**:

Table 1: Mapped Soils within the Site

Soil Type	Hydrologic Soil Group	General Description
Cecil sandy loam, 2 to 6% slopes (CaB)	HSG B	This well drained soil is on broad to narrow ridges within Piedmont uplands. The permeability is moderate, the available water capacity is high, and the shrink-swell potential is low.
Cecil clay loam, 6 to 10% slopes (CeC2)	HSG B	This well drained soil is located within Piedmont uplands along narrow hill slopes that are strongly sloping. The permeability is moderate, the available water capacity is high, and the shrink-swell potential is low.
Helena sandy loam, 2 to 8% slopes (HeB)	HSG C	This moderately well drained soil is on broad ridges. The permeability is slow, the available water capacity is low, and the shrink-swell potential is high. The seasonal high water table is below a depth of 60 inches, but because of the slow permeability, a perched water table is 12 to 30 inches below the soil surface during wet seasons.

2.2 Vegetative Communities

Distribution and composition of plant communities throughout the Site reflect landscape-level variations in topography, soils, hydrology, and past and present land use practices. Currently, the Site contains maintained fields comprised of grass species which are periodically mowed. Historically, the majority of the land within the Site has been in agricultural production yielding row crops such as soybean, corn, tobacco, and cotton and within livestock operations such as cattle. Natural forested areas are limited within Site. Therefore, the existing conditions of the Site can be characterized as a maintained/disturbed land.

Field investigations were conducted by EcoEngineering to assess vegetative assemblages within forested areas of adjacent properties located to the south, east, and north of the Site. This exercise was conducted to interpret potential vegetative conditions for the Site. According to the North Carolina Natural Heritage Program (NCNHP) classification system (Schafale and Weakley, 1990), the assessed forested areas would generally be characterized as a Dry Mesic Oak-Hickory Forest. Tree species on the adjacent property include various oak species (*Quercus* spp.), American beech (*Fagus grandifolia*), tulip poplar (*Liriodendron tulipifera*), various hickory species (*Carya* spp.), loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), and sweet gum (*Liquidambar styraciflua*). Groundcover and secondary canopy layer species consist of common greenbrier (*Smilax rotundifolia*), giant cane (*Arundinaria gigantea*), sweet pepperbush (*Clethra alnifolia*), Virginia creeper (*Parthenocissus quinquefolia*), American holly (*Ilex opaca*), red cedar (*Juniperus virginiana*), various viburnum species (*Viburnum* spp.), Christmas fern (*Polystichium acrostichoides*), New York fern (*Thelypteris noveboracensis*), and netted chain fern (*Woodwardia aerolata*).



2.3 Threatened and Endangered Species

Some populations of plants and animals are declining because of natural forces or their inability to coexist with human activity. Plants and animals with Threatened or Endangered status are protected under the Endangered Species Act (ESA) of 1973 (16 US 1531 et seq.). According to the U.S. Fish and Wildlife Service (USFWS) web page (<http://www.fws.gov/nc-es/es/countyfr.html>); accessed May 1, 2012) there are 3 endangered species (dwarf wedgemussel (*Alasmidonta varicosa*), Harperella (*Ptilimnium noidosum*), and smooth coneflower (*Echinacea laevigata*)) and 16 federal species of concern (American eel (*Anguilla rostrata*), Carolina darter (*Ethrostoma collis lepidinon*), Carolina madtom (*Noturus furiosus*), pinewoods shiner (*Lythrurus matutinus*), Roanoke bass (*Ambloplites cavifrons*), Atlantic pigtoe (*Fusconaia masoni*), brook floater (*Alasmidonta varicosa*), Chowanoke crayfish (*Orconectes virginienensis*), green floater (*Lasmigona subviridis*), yellow lampmussel (*Lampsilis cariosa*), yellow lance (*Elliptio lanceolata*), Butner's barbara's-buttons (*Marchallia* sp.), prairie birdsfoot-trefoil (*Lotus unifoliolatus* var. *helleri*), smooth-seeded hairy nutrush (*Scleria* sp. *l*), tall larkspur (*Delphinium exaltatum*), Torrey's mountain-mint (*Pycnanthemum torrei*). The bald eagle (*Haliaeetus leucocephalus*) is also listed as occurring in Granville County and is protected under the Bald and Golden Eagle Protection Act (BGPA) (16 US 668-668d).

EcoEngineering conducted field surveys on April 30, 2012 by walking transects within the proposed Site parcel area to determine the presence of federally Threatened or Endangered species. There were no federally Threatened or Endangered species observed during the field surveys and the work inherent in restoring stream and riparian buffers does not result in habitat destruction or modification for the above listed species. Therefore, it is reasonable to conclude the proposed work will have no effect on Threatened and Endangered species.

2.4 Cultural Resources

A review of the N.C. State Historic Preservation Office (SHPO) HPOWEB GIS Service database (<http://gis.ncdcr.gov/hpoweb/>; accessed May 1, 2012) was also conducted as part of site due diligence. According to the website, HPOWEB "has current location data for all National Register listings, most Study List entries and Determinations of Eligibility, and surveyed rural properties for many counties". Based on the review, no listings are located within the proposed Site parcel, nor are there properties within a one-mile radius. The Nationally Registered site known as the Brassfield Baptist Church (GV0501) is located approximately 1.4 miles northwest of the Site. The Nationally Registered site known as the John P. Lawrence Plantation (GV0503) is located approximately 2.2 miles northwest of the Site. Since there are no database entries on the Site, it is reasonable to conclude the proposed restoration project will not have an adverse impact with regards to this issue.

2.5 Environmental Issues

Preliminary data was obtained from Environmental Data Resources, Inc. (EDR) regarding the potential for on-site or nearby sources of contamination. EDR maintains an updated database of current and historical sources of contamination. All storage tanks, whether above-ground or underground are identified, as well as superfund sites, landfills, hazardous waste sites, and other potential hazards. According to EDR records, the Site is not listed in any of the databases searched by EDR. In addition, there are no federal or state records within the required search distances of the Site.



2.6 FEMA Floodplain / Floodway Mapping

As shown in **Figure 6**, the Site does not contain areas designated by the Federal Emergency Management Association (FEMA) as floodway or 100-year floodplain. Therefore, no floodplain/floodway impacts are anticipated to occur as part of the restoration effort.

3.0 Proposed Neuse Buffer & Nutrient Offset Restoration Plan

Maintained/disturbed lands located outside forested areas within the Site will be considered for Neuse Riparian Buffer restoration for areas less than or equal to 50 feet of the stream bank and Nutrient Offset restoration for areas located greater than 50 feet but less than or equal to 200 feet from the stream bank. These areas will be ripped and scarified prior to vegetation planting activities. The established microtopography on leveled surfaces will promote diffuse flow and surface water storage. In addition, subsurface hardpans will be eliminated to promote vegetation growth/survival and to increase groundwater recharge rates. Existing grasses may be treated with herbicide to reduce competition with planted species. Where necessary, invasive species will also be treated with herbicide to ensure they do not become dominant, or hinder the establishment, growth and survival of planted vegetation. It is important to note the Bank Sponsor may elect to use the initial 50 feet on each side of the stream bank as either Neuse Riparian Buffer or Nutrient Offset restoration, but not both.

As mentioned in Section 2.2, natural forested areas are limited within many areas of the Site. In addition to cleared or non-forested areas, Neuse Riparian Buffer restoration will also be considered for those forested areas that are within 50 feet of the streams (intermittent or perennial) and ponds, but lacking adequate stem counts. Neuse Riparian Buffer restoration is defined as the process of converting a sparsely woody vegetated area (less than 100 trees per acre that are greater than or equal to five inches diameter at breast height for trees (15A NCAC 02B .0233 (2)(m)) to a forested riparian buffer area (15A NCAC 02B .0242). Nuisance and exotic vegetation are not included in the stem count. The areas proposed for restoration are shown on **Figure 2**. The existing trees and shrubs within the proposed restoration areas within the Site have been surveyed by EcoEngineering and the tree locations are shown on **Figure 2**.

The proposed riparian planting plan will be developed by integrating native plant species observed within the Site and adjacent property, in addition to selected species known to inhabit a Dry Mesic Oak-Hickory Forest community type as described in Classification of the Natural Communities of North Carolina (Schafale and Weakley, 1990) and procedures outlined in Guidelines for Riparian Buffer Restoration (NCEEP 2004) to institute species diversity. The restored and enhanced riparian zones will be planted with bare root seedlings or containerized material. Bare root seedlings, or containerized material, will be planted during the fall or early spring season. Supplemental planting will be utilized until the required densities have been achieved and maintained for five years.

The planting plan for Neuse Riparian Buffer and Nutrient Offset restoration areas will consist of individual tree species as listed in **Table 2**, below. Due to the presence of a variety of oak tree species present on the adjacent property, EBX will not plant more than 2 species of oak trees. For those areas, the goal is to plant 436 to 681 trees per acre, with an approximate 8-foot to 10-foot spacing. Plant composition will consist of, at a minimum, 6 of the tree species and is required such that a density sufficient to provide an average of 320 trees per acre following five years of successful monitoring at the Site.



Table 2. Plant List

Scientific Name	Common Name
Trees	
<i>Fraxinus pennsylvanica</i>	green ash
<i>Platanus occidentalis</i>	sycamore
<i>Quercus pagoda</i>	cherrybark oak
<i>Betula nigra</i>	river birch
<i>Quercus nigra</i>	water oak
<i>Quercus lyrata</i>	overcup oak
<i>Quercus michauxii</i>	swamp chestnut oak
<i>Quercus phellos</i>	willow oak
<i>Quercus laurifolia</i>	laurel oak
<i>Ulmus Americana</i>	American Elm
Small Trees	
<i>Cornus florida</i>	flowering dogwood
<i>Cercis Canadensis</i>	eastern redbud
<i>Asimina triloba</i>	pawpaw
<i>Symplocos tinctoria</i>	horse-sugar, sweetleaf
<i>Carpinus caroliniana</i>	ironwood
<i>Magnolia virginiana</i>	sweet bay
<i>Amelanchier arborea</i>	downy serviceberry, shadbush

* Species composition may be adjusted based on local availability.

Temporary and permanent native herbaceous seed will be applied simultaneously to existing grass areas located outside forested areas within the Site. Temporary seed will provide cover until the permanent seed becomes established. Temporary cover will consist of millet (*Echinochloa crusgalli*), annual rye grain (*Secale cereale*), and crimson clover (*Trifolium incarnatum*). Permanent ground cover will consist of switchgrass (*Panicum virgatum*), deertongue (*Panicum clandestinum*), black-eyed susan (*Rudbeckia hirta*), and riverbank wildrye (*Elymus riparius*).

4.0 Monitoring and Maintenance Plan

The Site will be monitored for 5 consecutive years or until the required success criteria has been met as determined by DWQ. Monitoring activities will begin immediately following the completion of planting in order to alleviate any potential problems as they occur. If necessary, supplemental planting and additional site modifications will be implemented. Planting of the Site is anticipated to occur in the Fall/early Winter of 2012. Therefore, the riparian restoration will be monitored the following growing season, projected to be in the late summer and early fall (August-October) of 2013. First monitoring data will not be measured less than 5 months after completion of initial planting. DWQ will be notified when planting is to occur within Site. A monitoring report will be submitted annually to DWQ no later than December 31 of each monitoring year describing the conditions of the Site and relating those conditions to the success criteria. Monitoring activities will follow the terms and conditions of the EBX Upper Neuse Riparian Buffer and Nutrient Offset Umbrella Mitigation Bank made and entered into by EBX, acting as the Bank Sponsor, and the DWQ.

The Site will contain 10 vegetative monitoring plots, which will be monitored in general accordance with the CVS-EEP Protocol for Recording Vegetation (CVS-EEP, v4.2). 10 by 10 meter square plots will be permanently established following completion of the planting phase and at least two opposing corners will be permanently installed and surveyed for future use. The plant species, density, survival rates, and the cause of mortality, if identifiable, will be recorded



within each plot. Vegetation plots will be sampled and reported annually. The primary focus of the vegetative monitoring will be solely on the tree stratum, although shrub and herbaceous species encountered may also be recorded.

Within Neuse Riparian Buffer and Nutrient Offset restoration areas, success criteria will be based on the survival of a minimum density of 320 planted trees per acre after five years of monitoring. Vegetation monitoring will occur between late summer and early fall (August-October). A determination will be made regarding the success of the project following the collection and evaluation of ecological and physical monitoring data, photographs, and site observations.

5.0 Financial Assurance

EBX agrees to provide financial assurances for this Site in accordance with the terms and conditions of the EBX Upper Neuse Riparian Buffer and Nutrient Offset Umbrella Mitigation Bank made and entered into by EBX, acting as the Bank Sponsor, and the DWQ.

Following approval of the Bank Parcel Development Package (BPDP), the Bank Sponsor will provide a Performance Bond from a surety company that is rated no less than an "A-" rated by A.M. Best. The Performance Bond amount will be 100% of the estimated cost for implementation of the buffer restoration project as described in the approved BPDP, but not less than \$150,000.00. Alternatively, in lieu of posting the Performance Bond, the Bank Sponsor may elect to construct the project prior to the first credit release. After completion of the restoration/construction, a separate Performance/Maintenance Bond will be secured for 100% of the estimated cost to implement the monitoring and maintenance plan not less than \$100,000.00. The Performance/Maintenance Bond will be in effect for a minimum of five years, and until DWQ has released all mitigation credits to the Bank Sponsor. Upon DWQ approval, this may be lowered each year based on the adjusted cost to complete the monitoring.

6.0 Neuse Riparian Buffer Credit & Nutrient Offset Credit Mitigation Potential

The Ezell Bank Site will provide Neuse Riparian Buffer Mitigation Credits for development impacts within the Neuse River Basin. Additionally, it will provide Nutrient Offset Mitigation Credits for development impacts within the Lower Falls Lake Watershed of the Neuse River Basin, HUC 03020201 (**Figure 3**). The 26.99 acres conservation easement (**Figure 2**), will be dedicated to Neuse Riparian Buffer restoration and Nutrient Offset restoration. A Neuse Riparian Buffer restoration area of 7.54 acres (328,337 sf) will be used to generate 7.54 acres (328,337 sf) of Neuse Riparian Buffer credits. The remaining 17.35 acres of riparian restoration area within the Site (i.e. areas outside of the Neuse Buffer) will provide Nutrient Offset Credits for nitrogen and phosphorus. The Site will provide 39,436.90 pounds of Nitrogen Nutrient Offset Credit and 2,540.04 pounds of Phosphorous Nutrient Offset Credit. The exact amount of nutrient offset mitigation potential (currently based on 2,273.02 lbs of nitrogen/ac and 146.4 lbs of phosphorous/ac of riparian restoration) will be included in the As-Built Report and on the corresponding Bank Ledger.

Table 3, below, provides a summary of mitigation credit for the Site.



Table 3: Mitigation Credit Summary

NEUSE RIPARIAN BUFFER RESTORATION/ENHANCEMENT CREDITS			
Conservation Area	Stem Counts (trees/acre)	Neuse River Buffer (Acres / sf)	
		Restoration	Enhancement
1	39 (22 trees/acre)	1.80 acres (78,478 sf)	0.00
2	10 (6 trees/acre)	1.72 acres (75,012 sf)	0.00
3	4 (8 trees/acre)	0.50 acres (21,685 sf)	0.00
4	0 (0 trees/acre)	0.04 acres (1,597 sf)	0.00
5	124 (40 trees/acre)	3.13 acres (136,162 sf)	0.00
6	22 (63 trees/acre)	0.35 acres (15,403 sf)	0.00
TOTAL ACREAGE		7.54 acres (328,337 sf)	0.00
RATIO		1:1	3:1
TOTAL CREDITS		7.54 acres (328,337 sf)	0.00
NUTRIENT OFFSET RESTORATION CREDITS			
Conservation Area	Nutrient Offset Restoration (Acres)	Nitrogen Credit (2,273.02 lbs/ac)	Phosphorus Credit (146.4 lbs/ac)
1	3.05	6,932.71	446.52
2	3.03	6,887.25	443.59
3	0.13	295.49	19.03
4	0.85	1,932.07	124.44
5	5.68	12,910.75	831.55
6	1.13	2,568.51	165.43
7	3.48	7,910.11	509.47
TOTAL	17.35	39,436.90	2,540.04



7.0 References

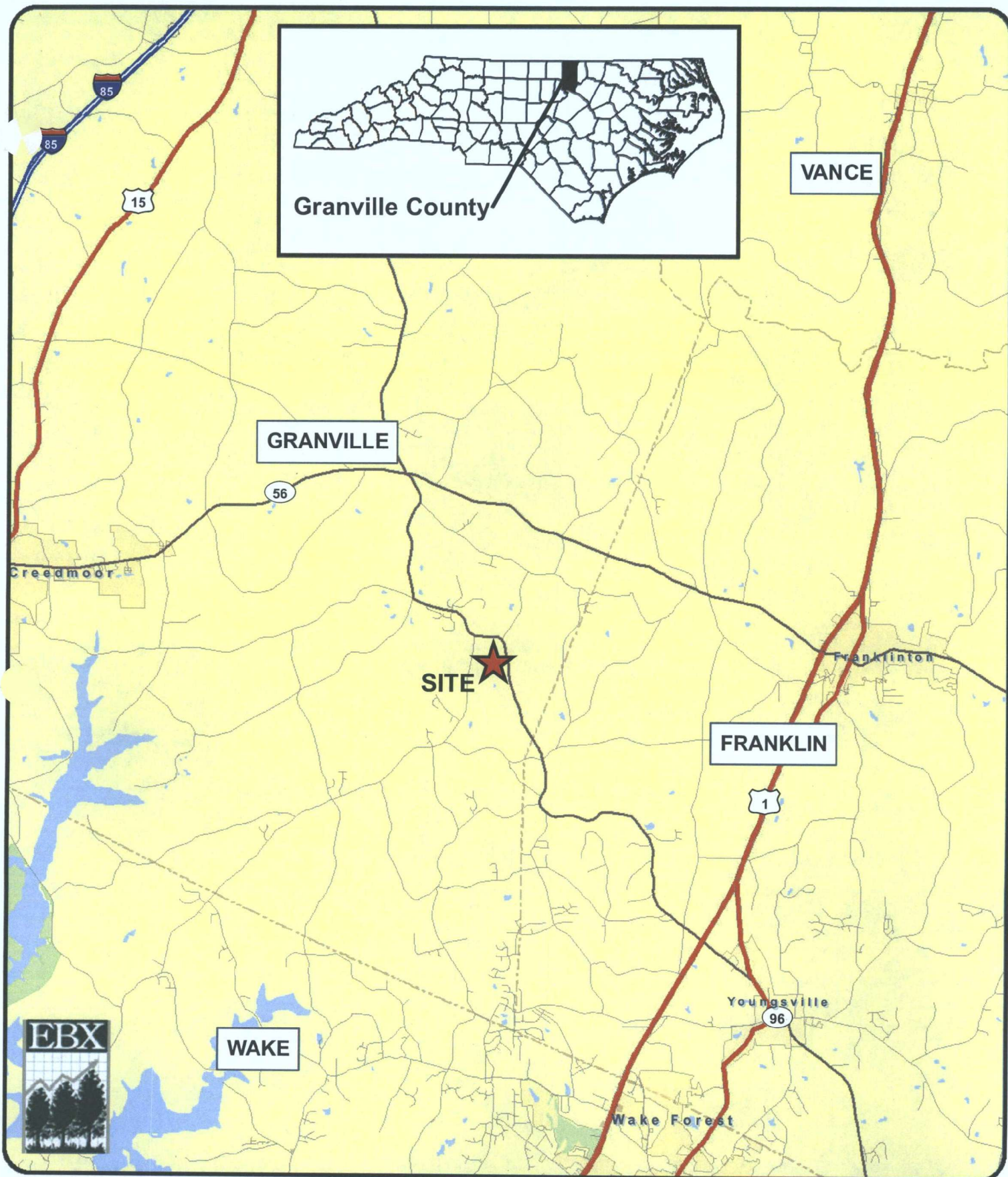
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- United States Department of Agriculture, Soil Conservation Service. Soil Survey of Granville County, North Carolina, 1997.
- United States Geological Survey, 7.5 Minute, Topographic Map of the Grissom, North Carolina Quadrangle, 1987.
- United States Fish and Wildlife Service, *Endangered Species, Threatened Species, Federal Species of Concern, and Candidate Species, Granville County, North Carolina*. Updated September 22, 2012. Available at internet site: <http://www.fws.gov/nc-es/es/countyfr.html>. Accessed May 1, 2012.



APPENDIX A

Site Maps





EZELL BANK SITE VICINITY MAP

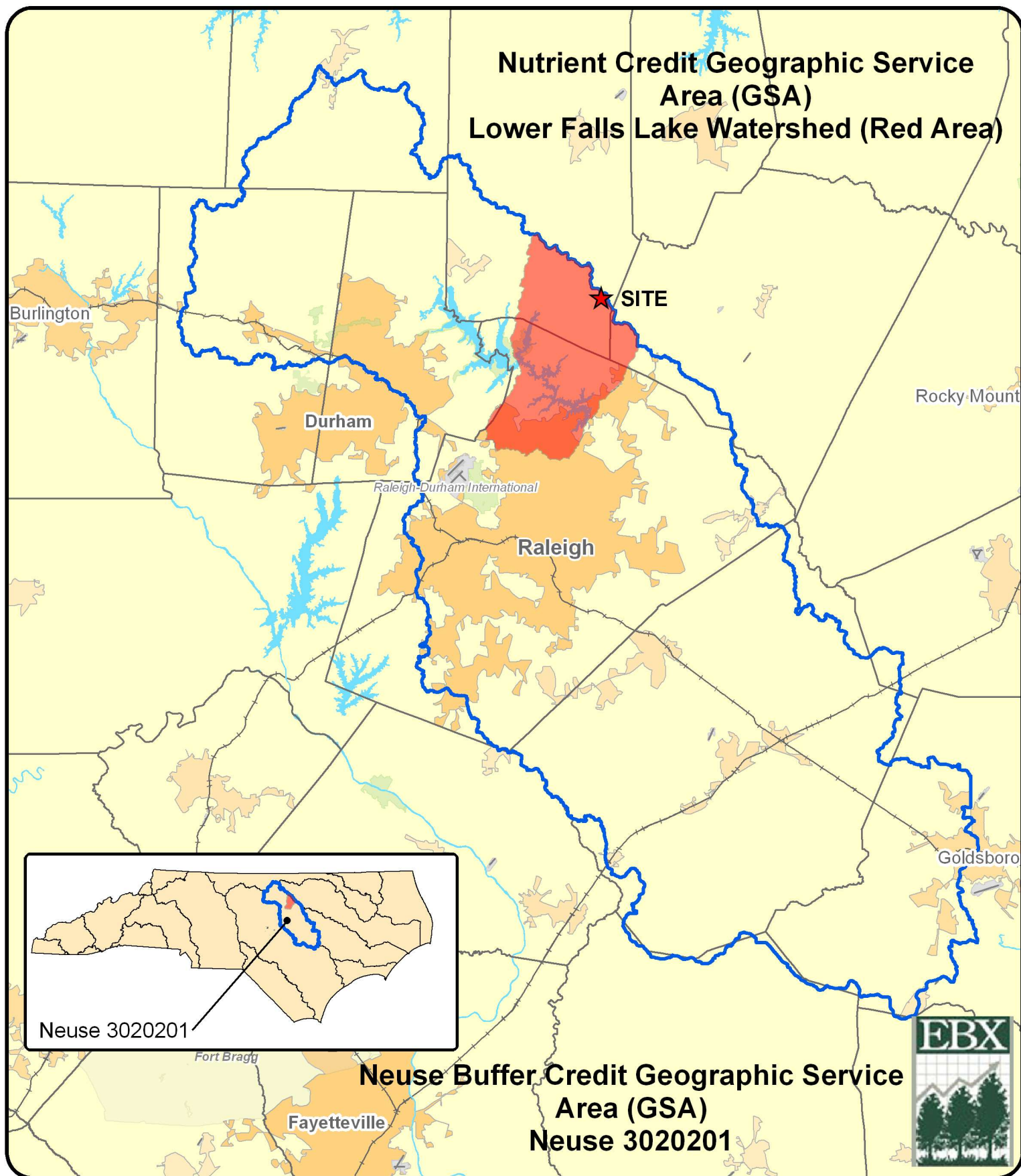
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Feet

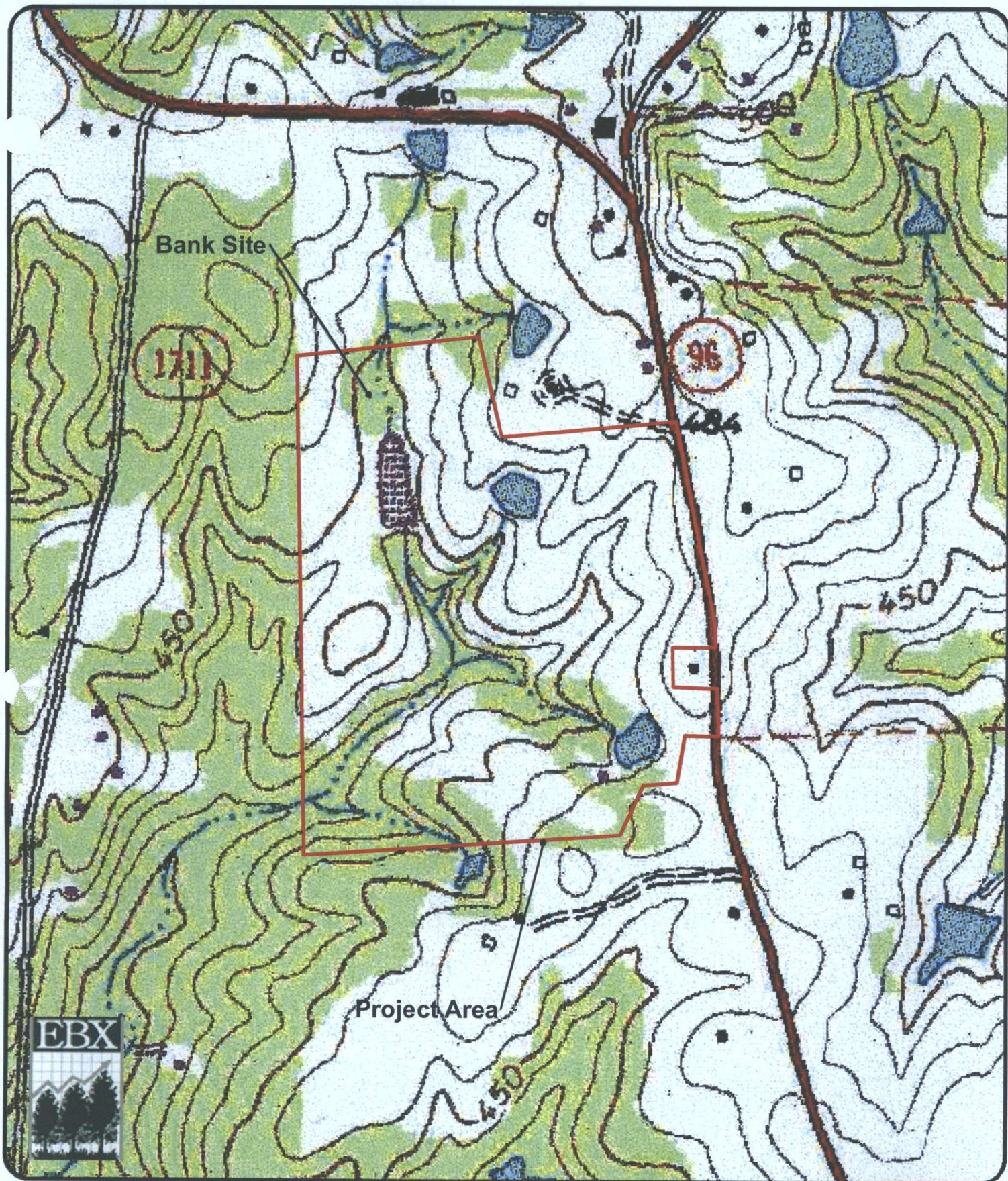
1 inch = 10,000 feet



EcoEngineering
A division of The John R. McAdams Company, Inc.

Figure 1





**EZELL BANK SITE
USGS SITE MAP**

0 300 600 1,200
Feet

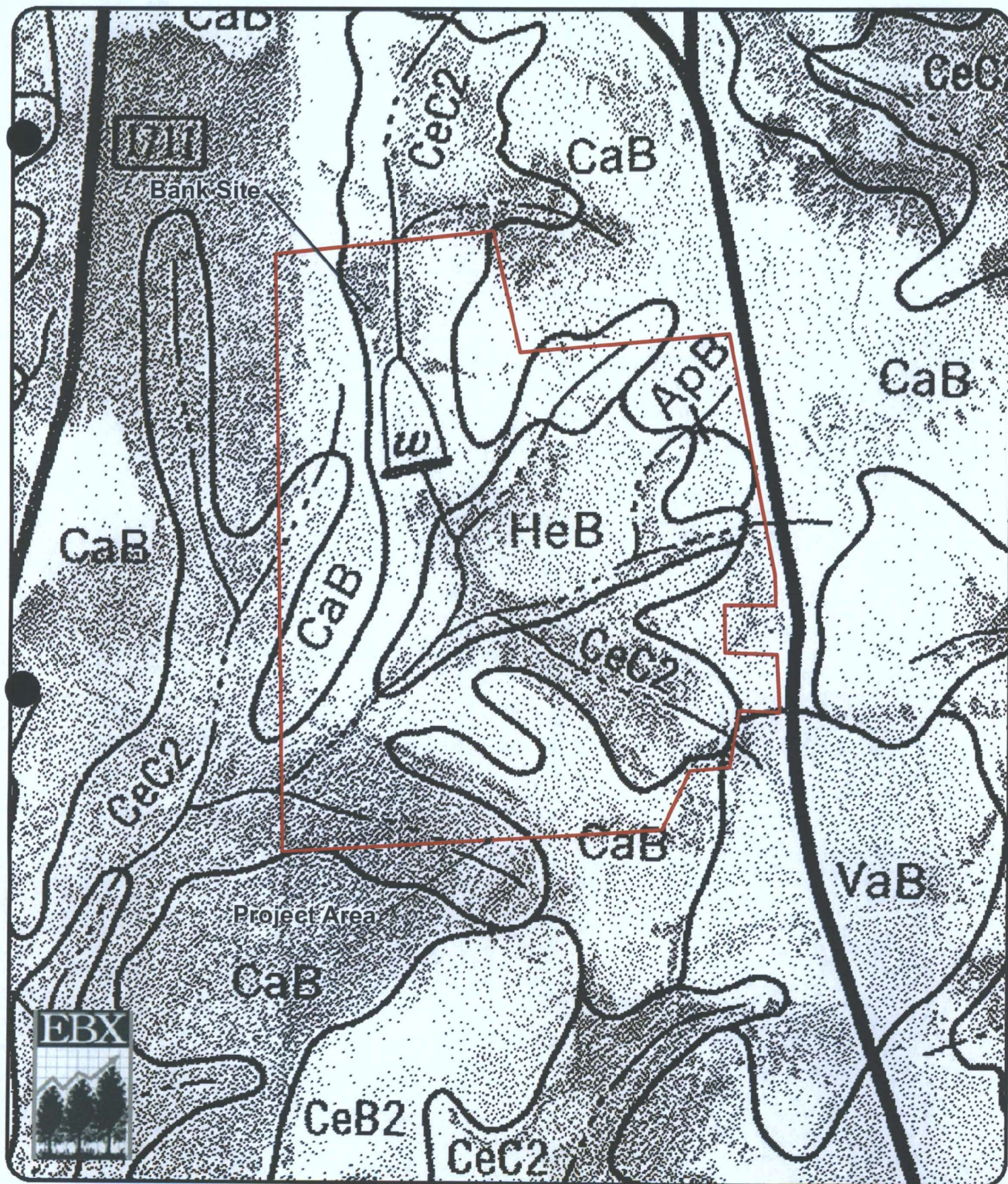
1 inch = 600 feet



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Figure 4



WINDS WAY

OLLOW DR

NC 86

UDY

reek

WAYSIDE FARM RD

ZONE X



Granville County
Unincorporated Areas
370325

IMAGE TAKEN FROM FIRM PANEL 1824

GRANVILLE CO



EZELL BANK SITE
FEMA FLOODPLAIN / FLOODWAY MAP



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0 500 1,000 2,000
Feet

1 inch = 1,000 feet

Figure 6

APPENDIX B
Site Photographs





Picture 1: Located in northeastern section of Bank Site facing south.



Picture 2: Located in central section of Bank Site facing south.



Picture 3: Located in southern section of Bank Site facing southwest.



Picture 4: Located in southeastern section of Bank Site facing east.

APPENDIX C

DWQ Buffer Determination Letter





**North Carolina Department of Environment and Natural Resources
Division of Water Quality**

Rey Eaves Perdue
Governor

Charles Wakild PE
Director

Dee Freeman
Secretary

June 15, 2012

Tommy Cousins
EBX
909 Capability Drive, Suite 3100
Raleigh, NC 27606

NBRRO#12-098
Granville County

Determination Type:	
Buffer Call	Isolated or EIP Call
<input checked="" type="checkbox"/> Neuse (15A NCAC 2B .0233) <input type="checkbox"/> Tar-Pamlico (15A NCAC 2B .0259) <input type="checkbox"/> Jordan (15A NCAC 2B .0267)	<input type="checkbox"/> Ephemeral/Intermittent/Perennial Determination <input type="checkbox"/> Isolated Wetland Determination

Project Name: Ezell Bank Site

Location/Directions: West of 96

Subject Stream: UT to Smith Creek

Date of Determination: 6/4/12

Feature	Not Subject	Subject	Start@	Stop@	Soil Survey	USGS Topo
A		X	Point A		X	
B		X	Point B		X (as stream)	
C		X	Point C			
D		X	Throughout			
F	X				X	
G (not evaluated)					X	
H (not evaluated)						X
Pond A	X				X (as stream)	X
Pond B		X				
Pond C		X			X (as stream)	X (as stream)
Pond D		X				X
Pond E	X				X (as stream)	X

*One North Carolina
Naturally*

North Carolina Division of Water Quality
Internet: www.ncwaterquality.org

Raleigh Regional Office
1628 Mail Service Center

Surface Water Protection
Raleigh, NC 27699-1628

Phone (919) 791-4200
FAX (919) 571-4718

Customer Service
1-877-623-6748

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

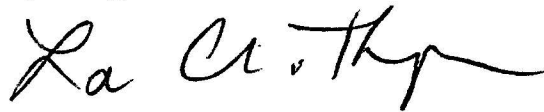
This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the DWQ or Delegated Local Authority may request a determination by the Director. An appeal request must be made within sixty (60) days of date of this letter or from the date the affected party (including downstream and/or adjacent owners) is notified of this letter. A request for a determination by the Director shall be referred to the Director in writing c/o Karen Higgins, DWQ WeBSCaPe Unit, 1650 Mail Service Center, Raleigh, NC 27699.

If you dispute the Director's determination you may file a petition for an administrative hearing. You must file the petition with the Office of Administrative Hearings within sixty (60) days of the receipt of this notice of decision. A petition is considered filed when it is received in the Office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00 am and 5:00 pm, except for official state holidays. To request a hearing, send the original and one (1) copy of the petition to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. The petition may also be faxed to the attention of the Office of Administrative Hearings at (919) 733-3478, provided the original and one (1) copy of the document is received by the Office of Administrative Hearings within five (5) days following the date of the fax transmission. A copy of the petition must also be served to the Department of Natural Resources, c/o Mary Penny Thompson, General Counsel, 1601 Mail Service Center, Raleigh, NC 27699-1601.

This determination is final and binding unless, as detailed above, you ask for a hearing or appeal within sixty (60) days.

The owner/future owners should notify the Division of Water Quality (including any other Local, State, and Federal Agencies) of this decision concerning any future correspondences regarding the subject property (stated above). This project may require a Section 404/401 Permit for the proposed activity. Any inquiries should be directed to the Division of Water Quality (Central Office) at (919)-733-1786, and the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-554-4884.

Respectfully,



Lauren Witherspoon
Environmental Senior Specialist

cc: WeBSCaPe – 1650 Mail Service Center
RRO/SWP File Copy



EZELL BANK SITE
OVERALL PROPOSED NEUSE BUFFER &
NUTRIENT OFFSET RESTORATION AREA



EcoEngineering
 A division of The John R. McAdams Company, Inc.

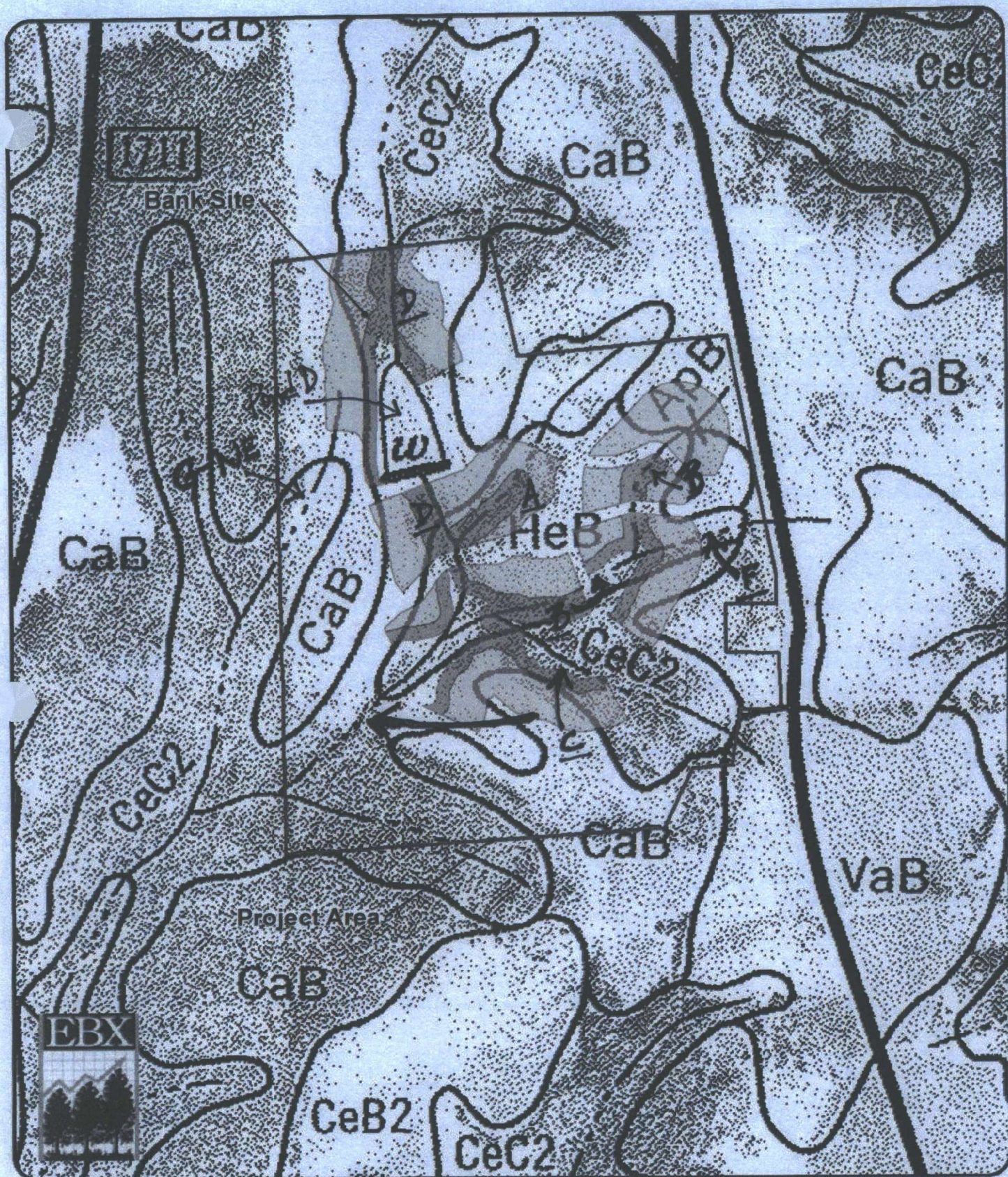
0 200 400 800
 Feet

1 inch = 400 feet

NBRRO 12-098

LCW 6-4-12

Figure 2A



N

EZELL BANK SITE SOIL SURVEY MAP

0 250 500 1,000
Feet

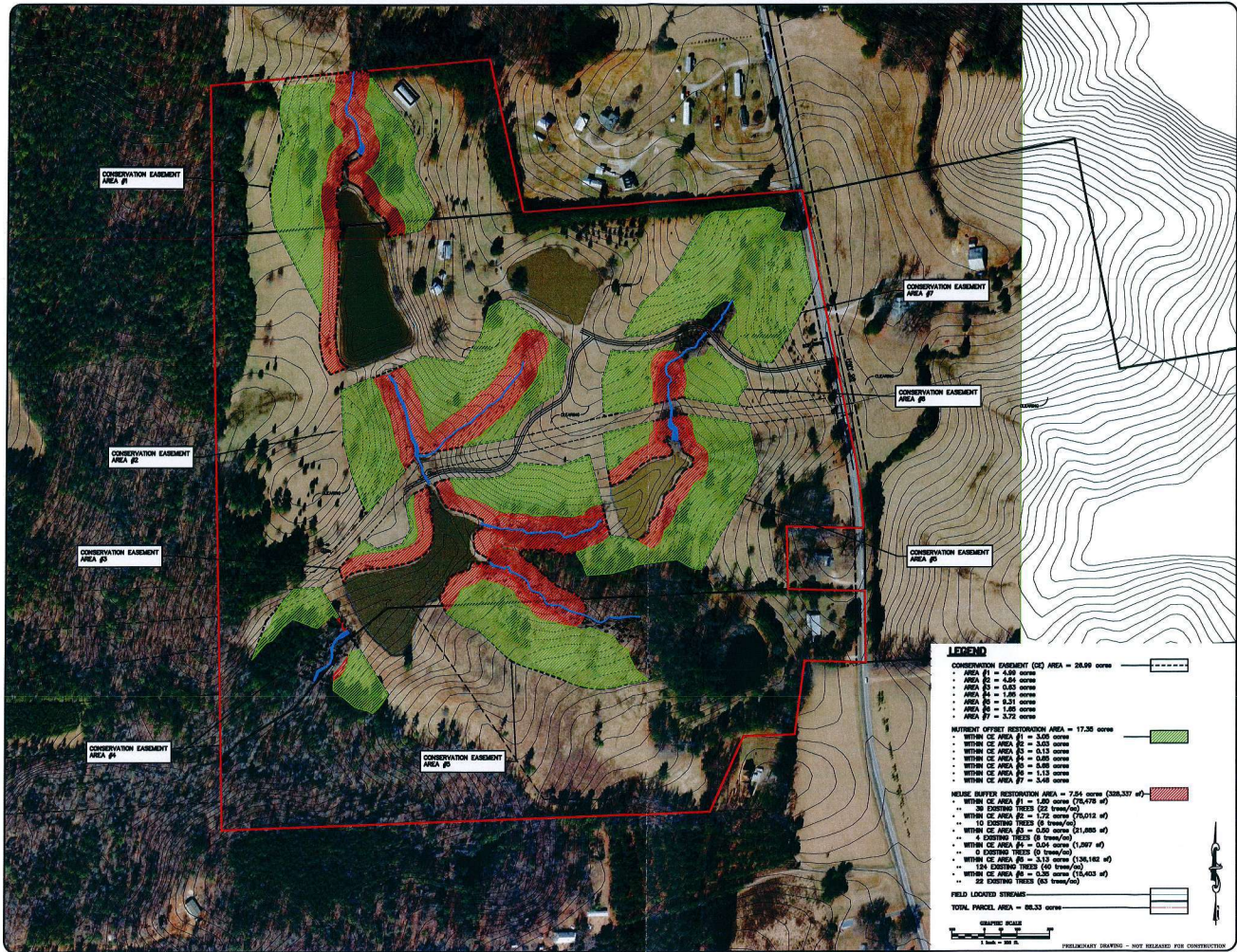
1 inch = 500 feet



EcoEngineering

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Figure 5



LEGEND

- CONSERVATION EASEMENT (CE) AREA = 38.99 acres
- AREA #1 = 4.56 acres
- AREA #2 = 1.54 acres
- AREA #3 = 0.83 acres
- AREA #4 = 1.85 acres
- AREA #5 = 0.31 acres
- AREA #6 = 1.85 acres
- AREA #7 = 3.72 acres
- WETLAND BUFFER RESTORATION AREA = 17.36 acres
- WETLAND CE AREA #1 = 3.05 acres
- WETLAND CE AREA #2 = 3.03 acres
- WETLAND CE AREA #3 = 0.12 acres
- WETLAND CE AREA #4 = 0.85 acres
- WETLAND CE AREA #5 = 1.12 acres
- WETLAND CE AREA #6 = 3.45 acres
- WETLAND BUFFER RESTORATION AREA = 7.54 acres (308,327 sq ft)
- WETLAND CE AREA #1 = 1.20 acres (516,478 sq ft)
- 30 EXISTING TREES (22 trees/ac)
- WETLAND CE AREA #2 = 1.72 acres (75,012 sq ft)
- 10 EXISTING TREES (6 trees/ac)
- WETLAND CE AREA #3 = 0.85 acres (37,885 sq ft)
- 4 EXISTING TREES (5 trees/ac)
- WETLAND CE AREA #4 = 0.85 acres (37,885 sq ft)
- 0 EXISTING TREES (0 trees/ac)
- WETLAND CE AREA #5 = 0.31 acres (13,612 sq ft)
- 124 EXISTING TREES (40 trees/ac)
- WETLAND CE AREA #6 = 0.35 acres (15,453 sq ft)
- 22 EXISTING TREES (63 trees/ac)
- WETLAND BUFFER RESTORATION AREA = 17.36 acres
- WETLAND BUFFER RESTORATION AREA = 17.36 acres



EcoEngineering
 2100 North Main Street, Suite 100
 Raleigh, NC 27601
 Phone: 919.876.1111
 Fax: 919.876.1112
 Email: info@ecoengineering.com

Environmental Base & Exchange
 1000 North Main Street, Suite 100
 Raleigh, NC 27601
 Phone: 919.876.1111
 Fax: 919.876.1112
 Email: info@environmentalbase.com

Ezell Riparian Buffer & Nutrient Offset Mitigation Site
 GRANVILLE COUNTY, NORTH CAROLINA

OVERALL PROPOSED WETLAND BUFFER & NUTRIENT OFFSET RESTORATION AREAS

DATE: 10-03-2013

SCALE: 1" = 100'

PROJECT NO: 13-03-001

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MoADAMS