ANNUAL MONITORING REPORT
YEAR 2 (2011)

VICKI'S THICKET RIPARIAN BUFFER MITIGATION SITE
CRAVEN COUNTY, NORTH CAROLINA
(EEP Contract No. 002283)
[DWQ Reference No. 10-0652]

Prepared for:

NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
ECOSYSTEM ENHANCEMENT PROGRAM
RALEIGH, NORTH CAROLINA

Prepared by:

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October 2011

EXECUTIVE SUMMARY

Restoration Systems, LLC has completed riparian buffer restoration at the Vicki's Thicket Riparian Buffer Mitigation Site (hereafter referred to as the "Site") through the North Carolina Ecosystem Enhancement Program (NCEEP) Full Delivery Process (RFP 16-001383) to provide 28.38 Riparian Buffer Mitigation Units. The Site is located approximately 3.5 miles southeast of Dover in Craven County. The Site is located in United States Geological Survey Hydrologic Unit and Targeted Local Watershed 03020202080010 (North Carolina Division of Water Quality Subbasin 03-04-08) of the Neuse River Basin. Site streams drain to Core Creek (Stream Index 27-90), which is included on the draft 2008 303(d) list for impaired biological integrity and low dissolved oxygen resulting from agricultural crop production.

Prior to construction, the Site was characterized by ditched agricultural land used for row crop production. Land use practices including the maintenance and removal of vegetation, regular plowing, and use of agricultural chemicals had resulted in degraded water quality.

The goals and objectives of this project focused on improving local water quality, enhancing flood attenuation, and restoring aquatic and riparian habitat. These goals were accomplished by the following.

1. Removing nonpoint sources of pollution associated with agriculture production by a) ceasing the application of agricultural herbicides, pesticides, fertilizers, and other agricultural materials into and adjacent to Site ditches and open waterways and b) providing a vegetative buffer adjacent to ditches and waterways to treat surface runoff that may be laden with sediment and/or agricultural pollutants.
2. Reducing sedimentation/siltation within on-Site and downstream receiving waters by a) increasing retention time for surface waters entering and leaving the Site, b) reducing erosion associated with vegetation maintenance and agricultural plowing to Site ditches, and c) planting a forested vegetative buffer adjacent to Site ditches and waterways.
3. Promoting floodwater attenuation by ripping compacted soils and revegetating the Site to increase frictional resistance on floodwaters crossing the Site.
4. Providing terrestrial wildlife habitat including a forested riparian corridor within an area that was previously cleared and highly dissected by agricultural land use.

This project was constructed in late winter/early spring 2010. Site restoration resulted in 28.38 Riparian Buffer Mitigation Units. As a whole, the densities of vegetation plots across the Site were above the required 320 stems per acre with an average of 651 planted stems per acre in the Second Monitoring Year (2011). In addition, each individual plot met success criteria based on planted stems alone.

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APPENDICES

1.0 INTRODUCTION

1.1 Location and Setting

Restoration Systems, LLC has completed riparian buffer restoration at the Vicki's Thicket Riparian Buffer Mitigation Site (hereafter referred to as the "Site") through the North Carolina Ecosystem Enhancement Program (NCEEP) Full Delivery Process (RFP 16-001383) to provide 28.38 Riparian Buffer Mitigation Units. The Site is located approximately 3.5 miles southeast of Dover in Craven County (Figure 1, Appendix A). The Site is located in United States Geological Survey Hydrologic Unit and Targeted Local Watershed 03020202080010 (North Carolina Division of Water Quality Subbasin 03-04-08) of the Neuse River Basin (USGS 1974).

Directions to the Site from Kinston, North Carolina:

- Take 70 East for approximately 8 miles
- Take the Dover exit and follow Old 70/Wilson Street for approximately 4.3 miles east
- Turn right over the railroad tracks to wire gate.
- Site coordinates:
    - Latitude 35.18812ºN, Longitude 77.38613ºW (NAD83/WGS84)

1.2 Project Goals and Objectives

The goals and objectives of this project focused on improving local water quality, enhancing flood attenuation, and restoring aquatic and riparian habitat. These goals were accomplished by the following.

1. Removing nonpoint sources of pollution associated with agriculture production by a) ceasing the application of agricultural herbicides, pesticides, fertilizers, and other agricultural materials into and adjacent to Site ditches and open waterways and b) providing a vegetative buffer adjacent to ditches and waterways to treat surface runoff that may be laden with sediment and/or agricultural pollutants.
2. Reducing sedimentation/siltation within on-Site and downstream receiving waters by a) increasing retention time for surface waters entering and leaving the Site, b) reducing erosion associated with vegetation maintenance and agricultural plowing to Site ditches, and c) planting a forested vegetative buffer adjacent to Site ditches and waterways.
3. Promoting floodwater attenuation by ripping compacted soils and revegetating the Site to increase frictional resistance on floodwaters crossing the Site.
4. Providing terrestrial wildlife habitat including a forested riparian corridor within an area that was previously cleared and highly dissected by agricultural land use.

1.3 Project Structure, Restoration Type, and Approach

Prior to construction, the Site was characterized by ditched agricultural land used for row crop production. Land use practices including the maintenance and removal of vegetation, regular plowing, and use of agricultural chemicals had resulted in degraded water quality.

As constructed, Site activities restored historic riparian buffer functions by planting the entire 31.35-acre Site with native riparian vegetation. This resulted in 28.38 Riparian Buffer Mitigation Units (Table 1, Appendix B and Figure 2, Appendix A). Riparian Buffer Mitigation Units were verified by North Carolina Division of Water Quality (NCDWQ) representative Lia Myott Gilleski during a field visit conducted on June 17, 2010. A copy of the verification letter is included in Appendix D. Approximately 2.97 acres of the Site exist outside of the 200-foot buffer area. These areas were planted; however, the area is not eligible to provide credit. The target natural community consisted of a Coastal Plain Bottomland

Hardwood Forest (Schafale and Weakley 1990). Table 5 (Appendix C) outlines woody species planted within the Site. Completed project activities, reporting history, completion dates, project contacts, and background information are summarized in Tables 2-4 (Appendix B).

2.0 MONITORING PLAN

Monitoring of Site restoration efforts will be performed for vegetation components of the Site for five years or until success criteria are fulfilled. After planting was completed, an initial evaluation was performed to verify planting methods were successful and to determine initial species composition and density. Twenty-one sample vegetation plots (10-meter by 10-meter) were installed within the Site as per guidelines established in *CVS-EEP Protocol for Recording Vegetation, Version 4.0* (Lee et al. 2006). In each sample plot, vegetation parameters to be monitored include species composition and species density. Visual observations of the percent cover of shrub and herbaceous species will also be documented by photograph.

2.1 Vegetation Success Criteria

Characteristic Tree Species include woody tree and shrub species planted at the Site (Table 5, Appendix C) or outlined for the appropriate plant community in Schafale and Weakley (1990). An average density of 320 stems per acre of Characteristic Tree Species must be surviving after year 5 monitoring.

2.2 Maintenance and Contingency

In the event that success criteria are not fulfilled, a mechanism for contingency will be implemented. If vegetation success criteria are not achieved based on average density calculations from combined plots over the entire restoration area, supplemental planting may be performed with tree species approved by regulatory agencies. Supplemental planting will be performed as needed until achievement of vegetation success criteria.

2.3 Vegetation Sampling Results and Comparison to Success Criteria

Quantitative sampling of vegetation was conducted in July and August 2011. Results are provided in Appendix C. Vegetation success criteria for year 2 (320 stems per acre) were exceeded for the 2011 annual monitoring year with an average density of 651 planted stems per acre across the Site. In addition, each individual plot met success criteria based on planted stems alone. Average densities of planted stems went up in year 2 in several plots including Plots 1, 3-12, and 17. During year 1, browse by deer and rodents on young planted stems was abundant throughout the Site. Several stems within these plots were not counted, or counted as missing in year 1; however, many survived and were doing well in year 2. In addition, several stems that were thought to be dead during year 1 monitoring resprouted from the base and were counted during year 2 monitoring. Deer browse was prevalent again during year 2 monitoring.

3.0 CONCLUSIONS

As a whole, the densities of vegetation plots across the Site were above the required 320 stems per acre with an average of 651 planted stems per acre in the Second Monitoring Year (2011). In addition, each individual plot met success criteria based on planted stems alone. The following table summarized planted stem data throughout the monitoring period.

Summary of Planted Stem Vegetation Plot Results

Plot	Planted Stems/Acre				
	Year 1 (2010)	Year 2 (2011)	Year 3 (2012)	Year 4 (2013)	Year 5 (2014)
1	647	688			
2	728	607			
3	809	769			
4	809	810			
5	931	810			
6	890	810			
7	971	891			
8	526	445			
9	486	526			
10	769	688			
11	688	607			
12	971	1012			
13	850	769			
14	1093	810			
15	728	567			
16	526	486			
17	647	607			
18	445	324			
19	647	526			
20	526	405			
21	607	526			
Average Plots 1-21	**728**	**651**			

4.0 REFERENCES

Lee, M.T., R.K. Peet, S.D. Roberts, and T.R. Wentworth. 2006. CVS-EEP Protocol for Recording Vegetation. Version 4.0. North Carolina Department of Environment and Natural Resources, Ecosystem Enhancement Program. Raleigh, North Carolina.

North Carolina Division of Water Quality (NCDWQ). 2007. Redbook, Surface Waters and Wetlands Standards. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Raleigh, North Carolina.

North Carolina Division of Water Quality (NCDWQ). 2008a. Draft North Carolina Water Quality Assessment and Impaired Waters List (2008 Integrated 305(b) and 303(d) Report) (online). Available: http://h2o.enr.state.nc.us/tmdl/documents/B.Draft2008303dList.pdf [November 10, 2008]. North Carolina Department of Environment and Natural Resources, Raleigh, North Carolina.

North Carolina Division of Water Quality (NCDWQ). 2008b. Draft Basinwide Planning Program: Neuse River Basinwide Water Quality Plan-June 2008. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Raleigh, North Carolina.

Schafale, M.P. and A.S. Weakley. 1990. Classification of the Natural Communities of North Carolina: Third Approximation. North Carolina Natural Heritage Program, Division of Parks and Recreation, North Carolina Department of Environment, Health, and Natural Resources. Raleigh, North Carolina.

United States Geological Survey (USGS). 1974. Hydrologic Unit Map - 1974. State of North Carolina.

Appendix A.
Figures

Figure 1. Site Location
Figure 2. Monitoring Plan View

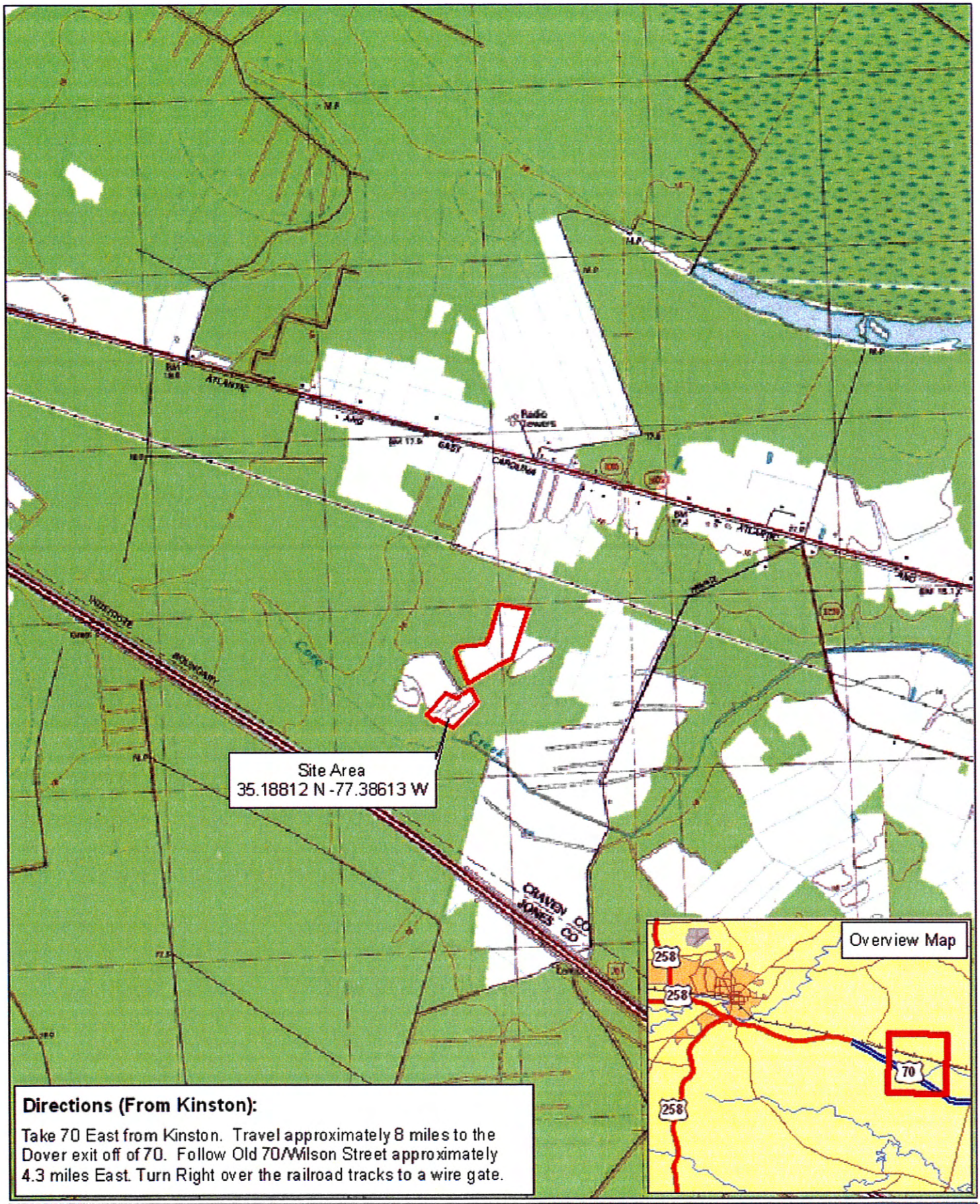

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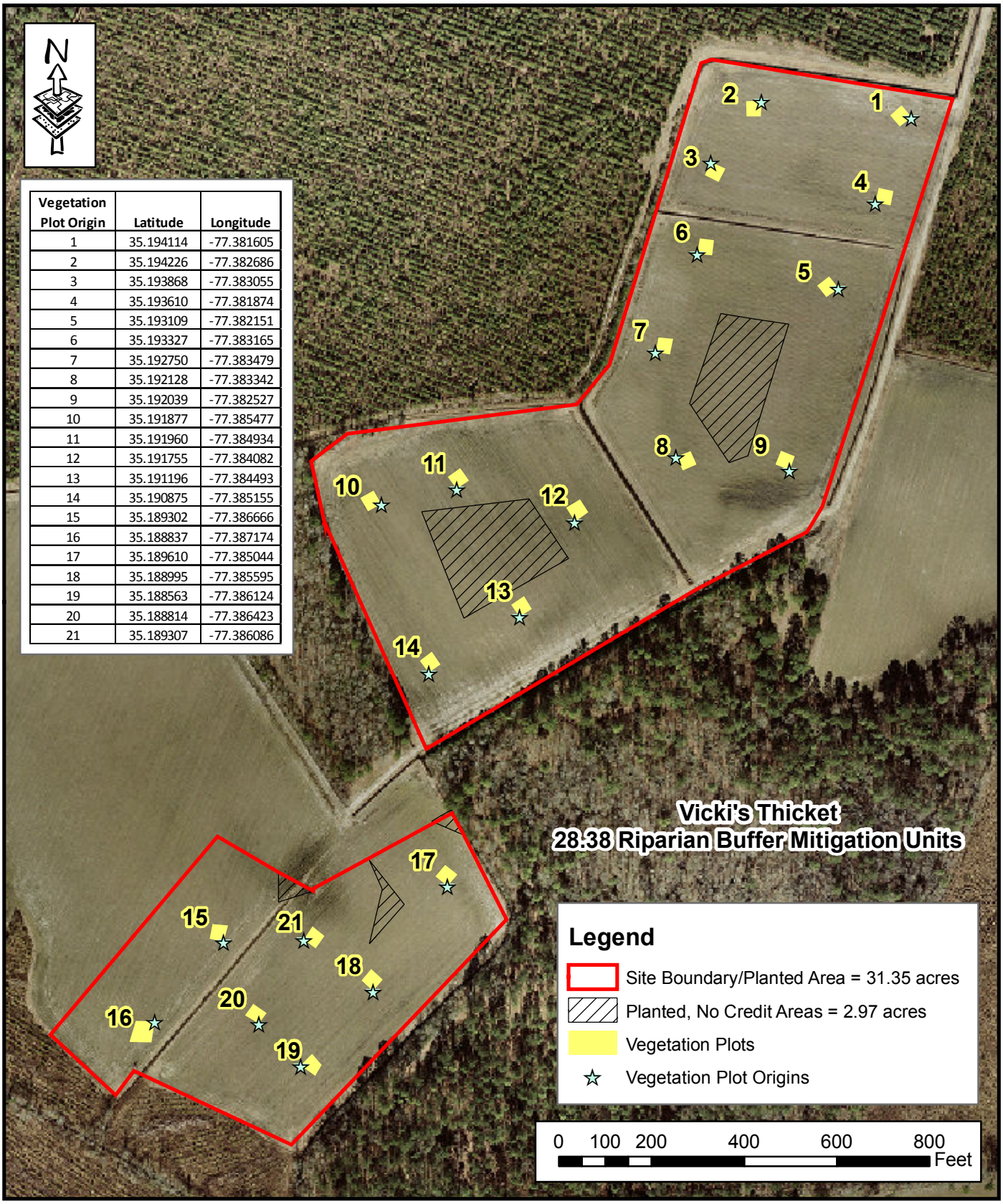
Figure 1: Site Location

Vicki's Thicket Riparian Buffer Mitigation Site
Craven County, NC

1:28,151

N

0 550 1,100 2,200 3,300 4,400
Feet



Vegetation Plot Origin	Latitude	Longitude
1	35.194114	-77.381605
2	35.194226	-77.382686
3	35.193868	-77.383055
4	35.193610	-77.381874
5	35.193109	-77.382151
6	35.193327	-77.383165
7	35.192750	-77.383479
8	35.192128	-77.383342
9	35.192039	-77.382527
10	35.191877	-77.385477
11	35.191960	-77.384934
12	35.191755	-77.384082
13	35.191196	-77.384493
14	35.190875	-77.385155
15	35.189302	-77.386666
16	35.188837	-77.387174
17	35.189610	-77.385044
18	35.188995	-77.385595
19	35.188563	-77.386124
20	35.188814	-77.386423
21	35.189307	-77.386086

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MONITORING PLAN VIEW
VICKI'S THICKET
RIPARIAN BUFFER MITIGATION SITE
Craven County, North Carolina

Dwn. by: CLF
Date: Aug 2010
Project: 10-001

FIGURE 2

Appendix B.
General Tables

Table 1. Site Restoration Structures and Objectives
Table 2. Project Activity and Reporting History
Table 3. Project Contacts Table
Table 4. Project Attributes Table

Table 1. Site Restoration Structures and Objectives

Component Summation	
Restoration Level	Riparian buffer mitigation was completed by planting the entire 31.35-acre Site with native forest vegetation; credit was received for 28.38 acres of the Site.
Riparian Buffer Restoration	
28.38 Buffer Mitigation Units	

Table 2. Project Activity and Reporting History

Activity or Report	Data Collection Complete	Completion or Delivery
Final Restoration Plan	--	July 2010
Site Planting	--	Late winter/early spring 2010
Mitigation Plan	April 2010	August 2010
Year 1 Monitoring	September 2010	October 2010
Year 2 Monitoring	August 2011	August 2011

Table 3. Project Contacts Table

Designer	Restoration Systems, LLC 1101 Haynes Street, Suite 211 Raleigh, North Carolina 27604 (919) 755-9490
Planting Contractor	Carolina Silvics 908 Indian Trail Road Edenton, North Carolina 27932 Dwight McKinney (252) 482-8491
Monitoring Performer	Axiom Environmental, Inc. 218 Snow Avenue Raleigh, North Carolina 27603 Grant Lewis (919) 215-1693

Table 4. Project Attribute Table

Project County	Craven County, North Carolina
Physiographic Region	Coastal Plain
Ecoregion	Carolina Flatwoods and Mid-Atlantic Floodplains/Low Terrace
Project River Basin	Neuse
USGS 14-digit HUC	03020202080010
NCDWQ Subbasin	03-04-08
Within EEP Watershed Plan Extent?	Yes-Targeted Local Watershed
WRC Class	Warm
% of project easement fenced	0 %
Beaver activity observed during design phase	No

Appendix C.
Vegetation Data

Table 5. Planted Woody Species
Vegetation Survey Data Tables
Vegetation Monitoring Plot Photographs

Table 5. Planted Woody Vegetation

Species	Quantity
American elm (*Ulmus americana*)	4500
Black gum (*Nyssa sylvatica*)	1500
Elderberry (*Sambucus canadensis*)	1500
Loblolly pine (*Pinus taeda*)	4500
Northern red oak (*Quercus rubra*)	3000
River birch (*Betula nigra*)	1500
Sugarberry (*Celtis laevigata*)	1500
Swamp chestnut oak (*Quercus michauxii*)	4500
Sycamore (*Platanus occidentalis*)	3000
Willow oak (*Quercus phellos*)	4500
TOTAL	**30,000**

CVS Database Output

Living planted stems, excluding live stakes, per acre: Negative (red) numbers indicate the project failed to reach requirements in a particular year.

Project Code	Project Name	River Basin	Year 1	Year 2
VT	Vickies Thicket	Neuse	728.43	790.10

Total stems, including planted stems of all kinds (including live stakes) and natural/volunteer stems:

Project Code	Project Name	River Basin	Year 1	Year 2
VT	Vickies Thicket	Neuse	1111.921981	2133.271461

Vigor

Vigor	Count	Percent
0	15	3.4
1	0	0
2	22	5
3	145	32.9
4	243	55.1
Missing	16	3.6

Damage

Damage	Count	Percent Of Stems
(no damage)	382	86.6
Deer	29	6.6
Insects	11	2.5
Unknown	9	2
(other damage)	4	0.9
Rodents	2	0.5
Human Trampled	2	0.5
Diseased	1	0.2
Cut	1	0.2

Vigor by Species

Species	CommonName	4	3	2	1	0	Missing	Unknown
Betula nigra	river birch	21	11				1	
Celtis laevigata	sugarberry	1	6				2	
Nyssa sylvatica	blackgum	5	14	2		1	1	
Pinus taeda	loblolly pine	43	8				2	
Quercus michauxii	swamp chestnut oak	33	16	4			2	
Quercus nigra	water oak		1					
Quercus phellos	willow oak	33	34	1		2		
Sambucus canadensis	Common Elderberry	8	6	7		8	2	
Quercus	oak		3			1	1	
Quercus rubra	northern red oak	8	16	7		2	1	
Magnolia virginiana	sweetbay	3	1					
Nyssa	tupelo	1	1			1		
Platanus occidentalis	American sycamore	38	6					
Ulmus americana	American elm	49	22	1			3	
Unknown							1	
15	**14**	**243**	**145**	**22**		**15**	**16**	

Damage by Species

Species	CommonName	Count of Damage Categories	(no damage)	Cut	Deer	Diseased	Human Trampled	Insects	Rodents	Unknown	(other damage)
Betula nigra	river birch	8	25		8						
Celtis laevigata	sugarberry	3	6		2				1		
Magnolia virginiana	sweetbay	0	4								
Nyssa	tupelo	0	3								
Nyssa sylvatica	blackgum	3	20				1	1			1
Pinus taeda	loblolly pine	0	53								
Platanus occidentalis	American sycamore	4	40					4			
Quercus	oak	1	4		1						
Quercus michauxii	swamp chestnut oak	7	48		2			2		3	
Quercus nigra	water oak	1					1				
Quercus phellos	willow oak	9	61		8			1			
Quercus rubra	northern red oak	11	23		3	1		2		4	1
Sambucus canadensis	Common Elderberry	8	23	1	2			1	1	2	1
Ulmus americana	American elm	4	71		3						1
Unknown		0	1								
15	**14**	**59**	**382**	**1**	**29**	**1**	**2**	**11**	**2**	**9**	**4**

Damage by Plot

plot	Count of Damage Categories	(no damage)	Cut	Deer	Diseased	Human Trampled	Insects	Rodents	Unknown	(other damage)
1	3	24		2			1			
2	2	19				1				1
3	3	21		2		1				
4	2	26								2
5	1	27								1
6	0	26								
7	4	22		2			2			
8	5	13		3			1		1	
9	1	17		1						
10	2	19		1			1			
11	3	16		2			1			
12	3	28		2	1					
13	4	17					1		3	
14	2	25							2	
15	3	16		3						
16	3	10	1	2						
17	5	13		3			1	1		
18	1	11		1						
19	3	13		2			1			
20	3	10		1					2	
21	6	9		2			2	1	1	
21	**59**	**382**	**1**	**29**	**1**	**2**	**11**	**2**	**9**	**4**

Plot Information

Plot	Plot Level	Year	Planted Living Stems	Planted Living Stems EXCLUDING Live Stakes	Dead/Missing Stems	Natural (Volunteer) Stems	Total Living Stems	Total Living Stems EXCLUDING Live Stakes	Planted Living Stems per ACRE	Planted Living Stems EXCLUDING Live Stakes PER ACRE	Natural (Volunteer) Stems PER ACRE	Total Living Stems PER ACRE	Total Living Stems EXCLUDING Live Stakes PER ACRE	# species
1	2	2	23	23	4	5	28	28	931	931	202	1133	1133	7
2	2	2	18	18	3	5	23	23	728	728	202	931	931	6
3	2	2	23	23	1	3	26	26	931	931	121	1052	1052	6
4	2	2	22	22	6	7	29	29	890	890	283	1174	1174	7
5	2	2	28	28	0	11	39	39	1133	1133	445	1578	1578	8
6	2	2	26	26	0	7	33	33	1052	1052	283	1335	1335	7
7	2	2	26	26	0	17	43	43	1052	1052	688	1740	1740	7
8	2	2	16	16	2	30	46	46	647	647	1214	1862	1862	6
9	2	2	16	16	2	9	25	25	647	647	364	1012	1012	7
10	2	2	20	20	1	190	210	210	809	809	7689	8498	8498	9
11	2	2	19	19	0	104	123	123	769	769	4209	4978	4978	7
12	2	2	30	30	1	39	69	69	1214	1214	1578	2792	2792	9
13	2	2	20	20	1	15	35	35	809	809	607	1416	1416	7
14	2	2	26	26	1	99	125	125	1052	1052	4006	5059	5059	9
15	2	2	16	16	3	13	29	29	647	647	526	1174	1174	5
16	2	2	13	13	0	6	19	19	526	526	243	769	769	5
17	2	2	17	17	1	44	61	61	688	688	1781	2469	2469	6
18	2	2	9	9	3	40	49	49	364	364	1619	1983	1983	6
19	2	2	14	14	2	32	46	46	567	567	1295	1862	1862	5
20	2	2	13	13	0	18	31	31	526	526	728	1255	1255	5
21	2	2	15	15	0	3	18	18	607	607	121	728	728	6

Planted Stems by Plot

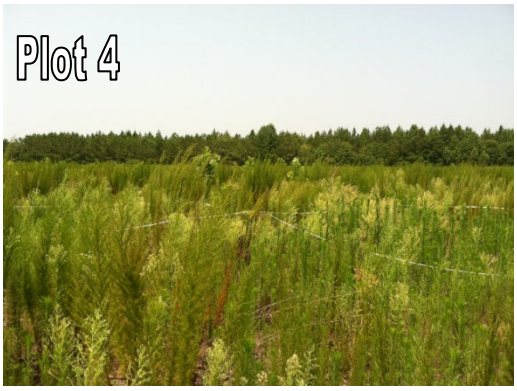
Species	Common Name	Total Planted Stems	# plots	avg# stems	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Betula nigra	river birch	32	13	2.46			4	1	1	1	5		2	1				3	4	3			2	2	3
Celtis laevigata	sugarberry	7	5	1.4												1					1	1	1		3
Magnolia virginiana	sweetbay	4	4	1							1			1	1	1									
Nyssa	tupelo	2	2	1														1			1				
Nyssa sylvatica	blackgum	21	13	1.62	1	1		3	1			1	1	3	2	2	1	2			2	1			
Pinus taeda	loblolly pine	51	18	2.83	1	1	4	1	7	5	4	4	1	3	4	5	1	6				1	1	1	1
Platanus occidentalis	American sycamore	44	15	2.93		1				5	3			2	1	4	2	1	3	4	2	2	7	1	6
Quercus	oak	3	2	1.5										1	2										
Quercus michauxii	swamp chestnut oak	53	13	4.08	3	3	3	5	5		5	4	1	1	7	6	7	3							
Quercus nigra	water oak	1	1	1			1																		
Quercus phellos	willow oak	68	15	4.53	3				4	6		4	4	6		1	4	5	6	3	9	3	3	7	
Quercus rubra	northern red oak	31	14	2.21	2		2	2	1	1	2				2	7	4	3	1	2		1			1
Sambucus canadensis	Common Elderberry	21	12	1.75	5	2		1	1	1		1	2						2	1	2			2	1
Ulmus americana	American elm	72	13	5.54	8	10	9	9	8	7	6	2	5	2		3	1	2							
14	**14**	**410**	**14**		**23**	**18**	**23**	**22**	**28**	**26**	**26**	**16**	**16**	**20**	**19**	**30**	**20**	**26**	**16**	**13**	**17**	**9**	**14**	**13**	**15**

All Stems by Plot (Planted & Natural Recruits)

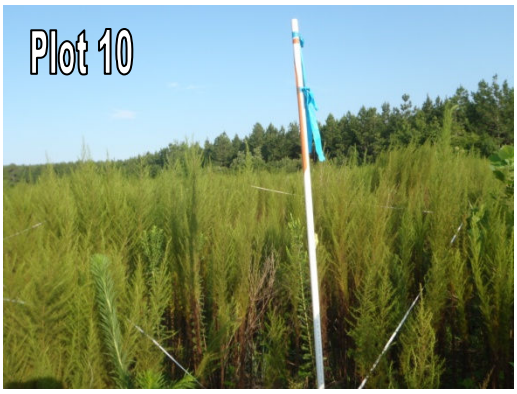
Species*	Common Name*	Total Planted Stems	# plots	avg# stems	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Baccharis halimifolia	eastern baccharis	59	16	3.69				2	1	3	5	4	1	4	2		2	1	11	2	2	1	9	9	
Betula nigra	**river birch**	32	13	2.46			4	1	1	1	5		2	1				3	4	3			2	2	3
Celtis laevigata	**sugarberry**	7	5	1.4												1					1	1	1		3
Ilex opaca	American holly	29	7	4.14					1		1		1						2			21		1	2
Liquidambar styraciflua	sweetgum	326	18	18.11		1		1	1	3	2	8	2	130	92	22	1	45		3	4	5	2	3	1
Magnolia virginiana	**sweetbay**	9	7	1.29		2	1				1			1	2	1		1							
Nyssa	**tupelo**	3	3	1														1			1		1		
Nyssa sylvatica	**blackgum**	22	13	1.69	1	1		3	1			1	1	3	2	2	1	3			2	1			
Pinus taeda	**loblolly pine**	315	20	15.75	2	1	6	2	12	6	11	22	6	59	13	22	13	58		1	38	14	22	6	1
Platanus occidentalis	**American sycamore**	44	15	2.93		1				5	3			2	1	4	2	1	3	4	2	2	7	1	6
Quercus	**oak**	4	3	1.33										1	2	1									
Quercus michauxii	**swamp chestnut oak**	53	13	4.08	3	3	3	5	5		5	4	1	1	7	6	7	3							
Quercus nigra	**water oak**	1	1	1			1																		
Quercus phellos	**willow oak**	70	15	4.67	3				4	6		4	4	6		1	4	5	8	3	9	3	3	7	
Quercus rubra	**northern red oak**	33	15	2.2	2		2	3	1	1	2	1			2	7	4	3	1	2		1			1
Rhus copallinum	flameleaf sumac	14	5	2.8	4	2		3	3		2														
Sambucus canadensis	**Common Elderberry**	29	13	2.23	7	5		1	1	1		1	2						3	1	3	1		2	1
Ulmus americana	**American elm**	72	13	5.54	8	10	9	9	8	7	6	2	5	2		3	1	2							
18	**18**	**1122**	**18**		**30**	**26**	**26**	**30**	**39**	**33**	**43**	**47**	**25**	**210**	**123**	**70**	**35**	**126**	**32**	**19**	**62**	**50**	**47**	**31**	**18**

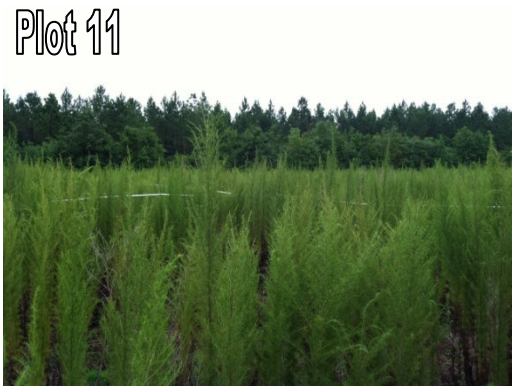
***Bolded** species were planted

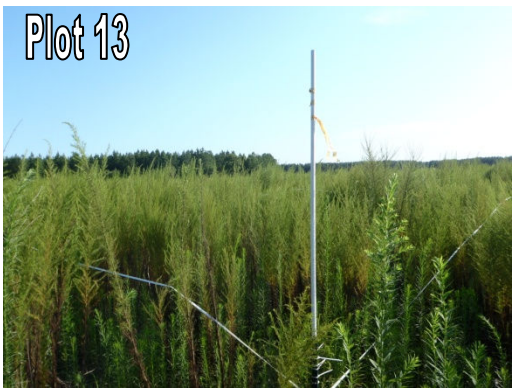
Vickies Thicket
Year 2 (2011)
Vegetation Monitoring Plot Photos
Taken July and August 2011

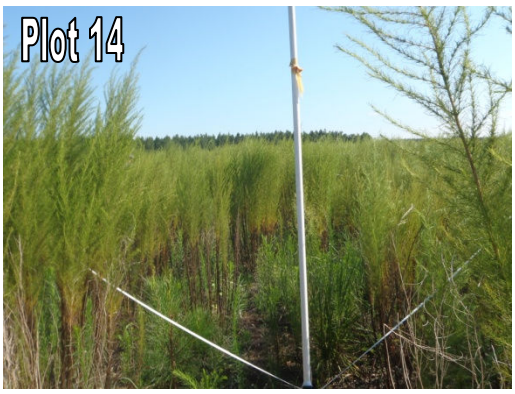


Vickies Thicket
Year 2 (2011)
Vegetation Monitoring Plot Photos
Taken July and August 2011
(continued)









Vickies Thicket
Year 2 (2011)
Vegetation Monitoring Plot Photos
Taken July and August 2011
(continued)

Appendix D.
NCDWQ Verification Letter

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

August 13, 2010

Craven County
DWQ #: 10-0652

Mr. Tim Baumgartner
EEP Full Delivery Section
1652 Mail Service Center
Raleigh, NC 27604

Re: Vicki's Thicket Preliminary Restoration Approval

Dear Mr. Baumgartner:

The Division of Water Quality received a final restoration plan for the Vicki's Thicket Riparian Buffer Mitigation Site on August 10, 2010. On June 17, 2010, Lia Myott Gilleski conducted a site visit to the above referenced site. By copy of this correspondence, DWQ approves the concept presented in the restoration plan and that it is expected to produce 28.38 acres of nutrient offset credit for Neuse 03020202. The As-built report will provide a more accurate credit accounting.

Please copy DWQ with the As-built report and yearly monitoring reports, referencing the EEP Contract number (and DWQ number if applicable).

Please feel free to contact Lia Myott Gilleski at (919) 733-1786 if you have any questions regarding this correspondence.

Sincerely,

Ian McMillan, Acting Supervisor
401 Oversight/Express Review Program

Cc (w/out encl.) File Copy (Lia M. Gilleski)
Chris Pullinger – DWQ WaRO
John Huisman – DWQ Nonpoint Source Planning Unit
Cyndi Karoly – DWQ Wetlands and Stormwater Branch

401 Oversight/Express Review Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
Location: 2321 Crabtree Blvd., Raleigh, North Carolina 27604
Phone: 919-733-1786 \ FAX: 919-733-6893
Internet: http://h2o.enr.state.nc.us/ncwetlands/