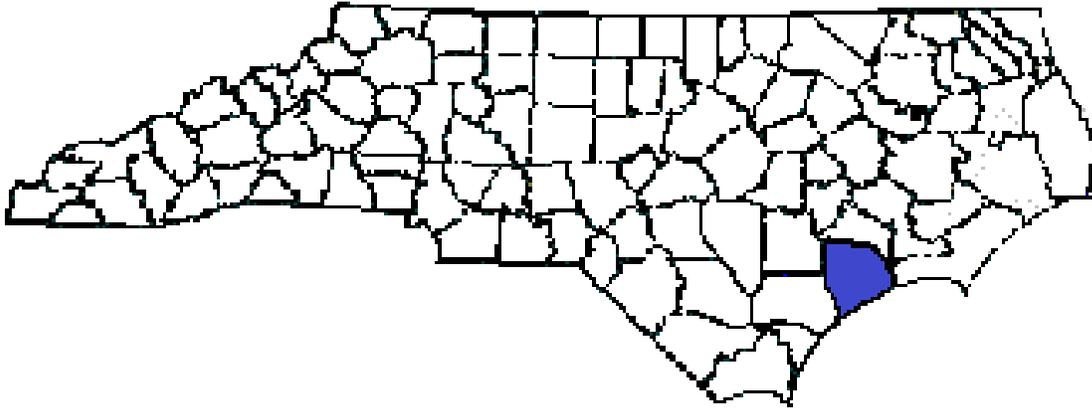


ANNUAL REPORT FOR 2016



Piney Green Road Wetland Mitigation Site

Onslow County

TIP No. U-3810

COE Action ID: 2005-9988695

DWQ Project #: 11-0931v.3

CAMA Permit #: 88-12



Prepared By:
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North Carolina Department of Transportation
September 2016

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APPENDICES

Appendix A – Site Photos and Site Maps

SUMMARY

The Piney Green Road Wetland Mitigation Site is located on SR 1406 Piney Green Road just south of SR 1465 Swains Loop Road in Jacksonville, NC. The site was planted in March 2015 and March 2016 and was designed as wetland mitigation for impacts associated with TIP project U-3810.

The mitigation encompasses approximately 1.05 acres of riparian wetland restoration (including 0.91 ac. of riverine swamp restoration and 0.14 of non-tidal freshwater marsh) and 7.87 acres of riparian wetland preservation. The restoration of the wetland area was accomplished via excavation of the fill material out to the bank of the tributary of the Little Northeast Creek. The site was graded to match target elevations in the adjacent wetland. Approximately 0.91 acres of the 1.05 acre restoration area will be reforested to match the existing species composition of the adjacent riverine swamp forest preservation area. The remaining 0.14 acres of the restoration area is within the DUE. This area was seeded using a native wetland seed mix typical of a non-tidal freshwater marsh. The area that was restored is being monitored by vegetation plots and photo point locations for survival of planted seedlings. No hydrologic monitoring is required for this project; however, vegetation monitoring is required for five years.

There were two vegetation monitoring plots established throughout the 0.91 acre reforested area. After the first year of monitoring, the 2016 vegetation monitoring of the site revealed an average tree density of 680 trees per acre.

NCDOT proposes to continue vegetation monitoring at the Piney Green Road Wetland Mitigation Site in 2017.

1.0 INTRODUCTION

1.1 Project Description

The Piney Green Road Wetland Mitigation Site is located on SR 1406 Piney Green Road just south of SR 1465 Swains Loop Road in Jacksonville, NC. The site consists of approximately 1.05 acres of riparian wetland restoration (including 0.91 ac. of riverine swamp restoration and 0.14 of non-tidal freshwater marsh) and 7.87 acres of riparian wetland preservation.

1.2 Purpose

In order for a mitigation site to be considered successful, the site must meet vegetation success criteria. This report details the vegetation monitoring in 2016 at the Piney Green Road Wetland Mitigation Site. Hydrologic monitoring was not required for the site.

1.3 Project History

March 2015	Initial Planting
March 2016	Supplemental Planting
August 2016	Year 1 Monitoring

1.4 Debit Ledger

Site name	Site TIP	HUC	River Basin	Division	County	Mitigation Type	Notes	As Built Quantity	Available	Debit
Piney Green Road	U-3810	03030001	White Oak River	3	Onslow					U-3810
						Riverine Swamp Preservation		7.87 ac (10:1 ratio)	0	0.78 ac
						Riverine Swamp Restoration		0.91 ac (1:1 ratio)	0	0.91 ac
						Non Tidal Freshwater Marsh		0.14 ac (2:1 ratio)	0	0.07 ac

Note: Debit ledger information up to date as of September 28, 2016.

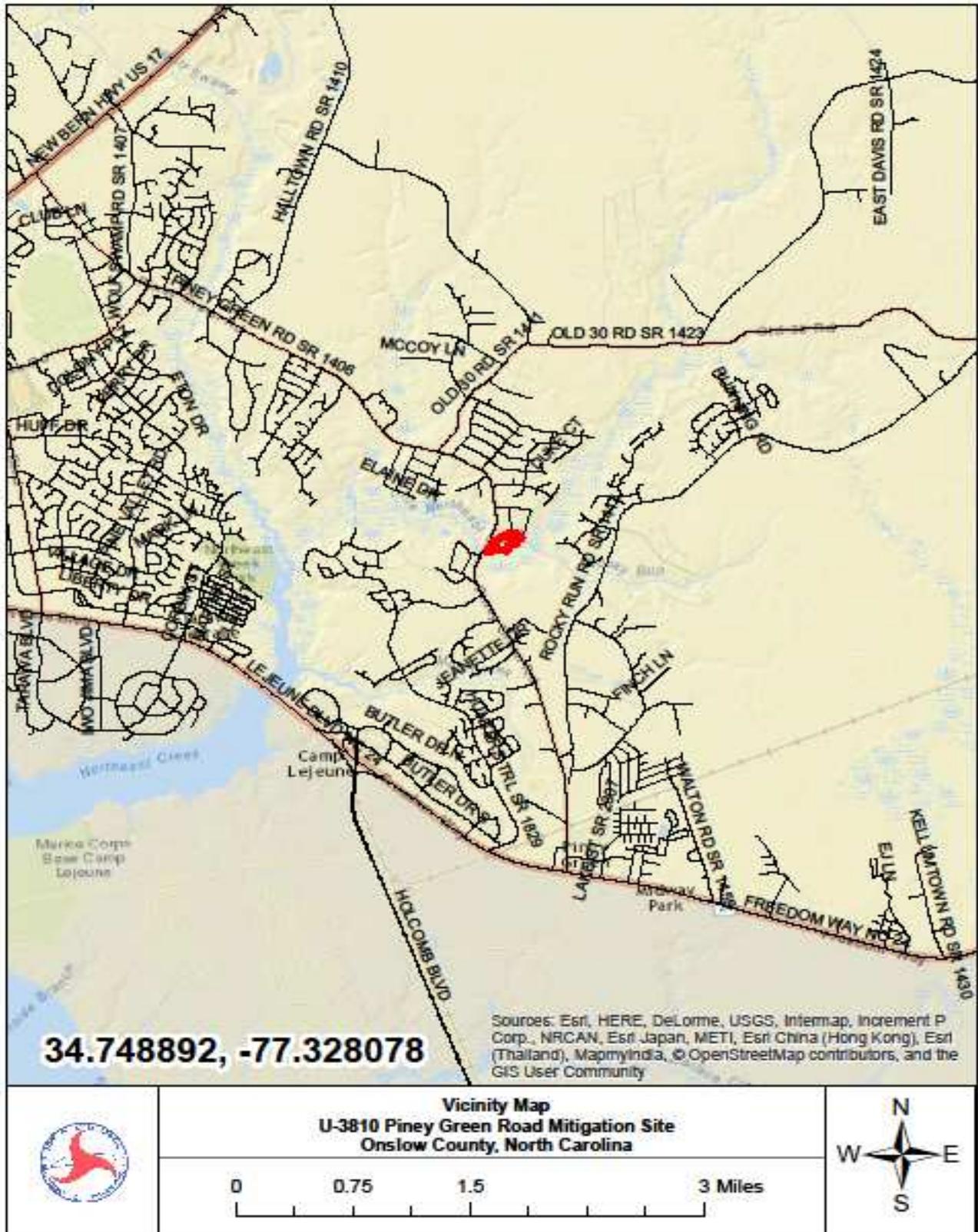


Figure 1. Vicinity Map

2.0 VEGETATION: PINEY GREEN ROAD WETLAND MITIGATION SITE (YEAR 1 MONITORING)

2.1 Success Criteria

Success for vegetation monitoring within the restoration area is based on the survival of the planted woody vegetation and coverage of seeded herbaceous vegetation.

Vegetation success shall be measured by survivability over a 5-year monitoring period. Survivability will be based on 320 stems/acre after three years and 260 stems after five years. If the surviving vegetation densities are below the required thresholds after the five-year monitoring period, the site may be declared successful at the discretion of and with written approval from the regulatory agencies.

Upon successful completion of construction, the following monitoring strategies are proposed for the mitigation site. NCDOT will document monitoring activities on the site in an annual report distributed to the regulatory agencies.

No specific hydrological monitoring is proposed for this restoration site. The target elevation will be based on the adjacent wetland elevation and verified during construction. Constructing the site at the adjacent wetland elevation will ensure that the hydrology in the restored area is similar to the hydrology in the reference area.

NCDOT shall monitor the restoration site by visual observation, vegetation plots, and photo points for vegetation survival. A survey of vegetation during the growing season shall be conducted annually over the five-year monitoring period and submitted to the regulatory agencies via the NCDOT website. Monitoring will be initiated upon successful completion of site grading and planting.

2.2 Description of Species

The following tree species were planted in the Wetland Reforestation area:

Nyssa sylvatica var. *biflora*, Swamp Blackgum

Taxodium distichum, Baldcypress

Fraxinus pennsylvanica, Green Ash

Nyssa aquatica, Water Tupelo

Liriodendron tulipifera, Tulip Poplar

2.3 Results of Vegetation Monitoring

Plot #	Swamp Blackgum	Baldcypress	Green Ash	Water Tupelo	Tulip Poplar	Total (Year 1)	Total (at planting)	Density (Trees/Acre)
1	3	6	16	5	3	33	33	680
2	7	2	15	18		42	42	680
Year 1 Average Density (Trees/Acre)								680

Site Notes: Standing water was noted across the entire site. Other species noted onsite included cattail, *Juncus* sp., *Scirpus* sp., *Sagittaria* sp., woolgrass, and various grasses.

2.4 Conclusions

There were 2 vegetation monitoring plots established throughout the 0.91 acre reforested area. The 2016 vegetation monitoring of the site revealed an average density of 680 trees per acre for the first year of monitoring.

3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

The 2016 year represents the first year of monitoring activities that have occurred at the Piney Green Road Wetland Mitigation Site. The site must demonstrate vegetation success for a minimum of five years or until the site is deemed successful.

There were two vegetation monitoring plots established throughout the 0.91 acre reforested area. The 2016 vegetation monitoring of the site revealed an average density of 680 trees per acre.

NCDOT proposes to continue vegetation monitoring at the Piney Green Road Wetland Mitigation Site in 2017.

APPENDIX A

SITE PHOTOS AND SITE MAPS

Piney Green Road Wetland Site



Photo 1



Photo 2



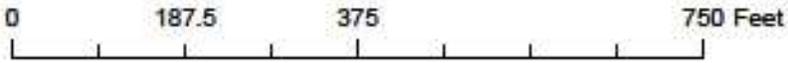
Photo 3



Photo 4

August 2016



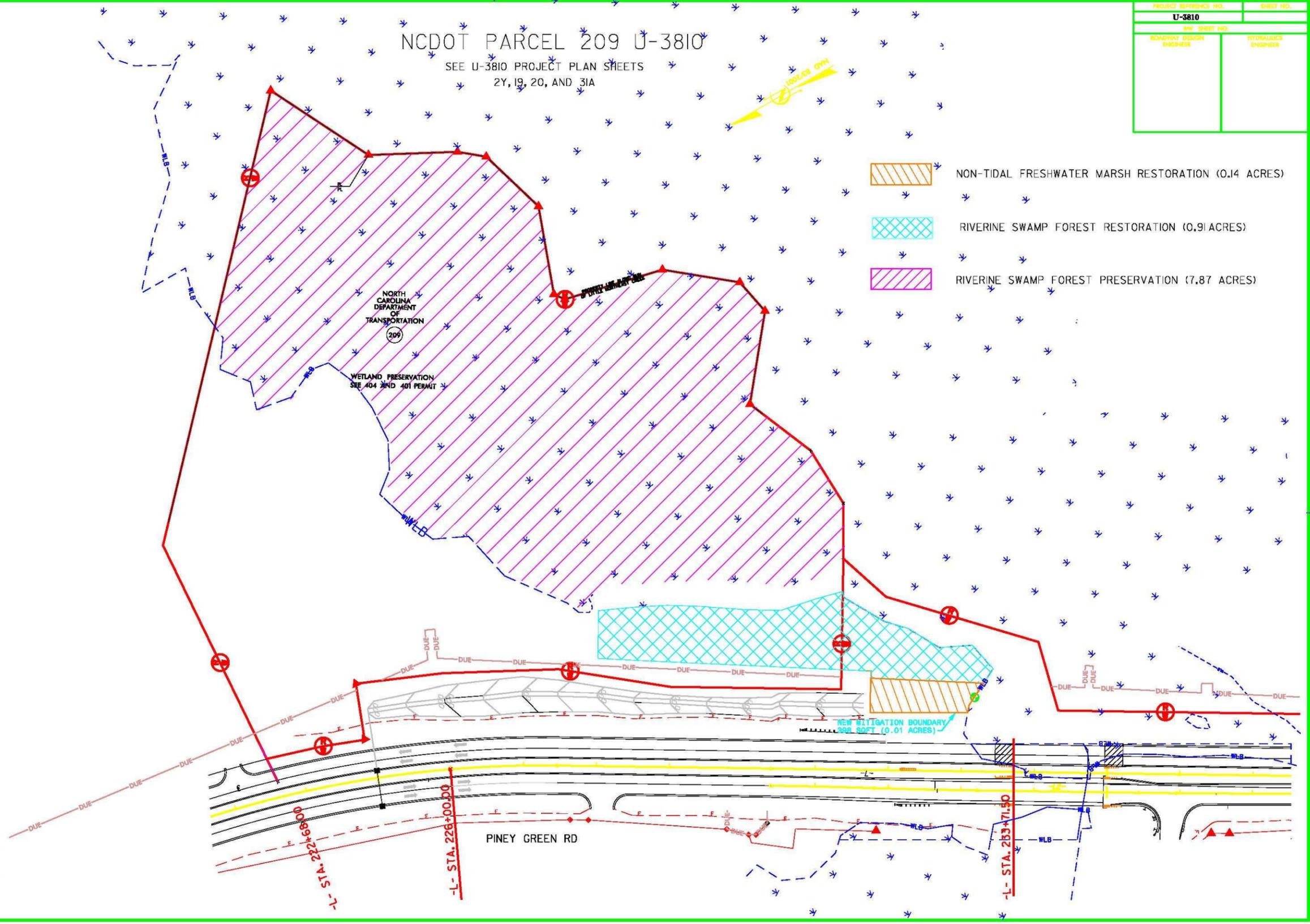
	Site Map (Photo Point and Vegetation Plot Locations) U-3810 Piney Green Road Mitigation Site Onslow County, North Carolina		
			

5/14/99

NCDOT PARCEL 209 U-3810

SEE U-3810 PROJECT PLAN SHEETS
2Y, 19, 20, AND 31A

PROJECT NUMBER NO.	SHEET NO.
U-3810	
ROW SHEET NO.	MITIGATION SHEET NO.
ROADWAY DESIGN NUMBER	MITIGATION NUMBER



-  NON-TIDAL FRESHWATER MARSH RESTORATION (0.14 ACRES)
-  RIVERINE SWAMP FOREST RESTORATION (0.91 ACRES)
-  RIVERINE SWAMP FOREST PRESERVATION (7.87 ACRES)

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Project: F:\Projects\U-3810\Parcel 209\U3810_rdy.mxd, NEU.L26.dgn
Job: U-3810-28028