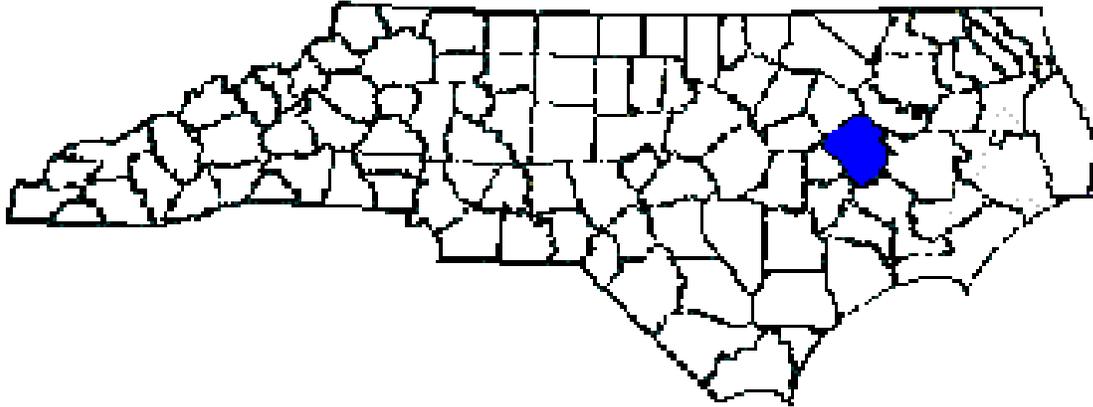


ANNUAL REPORT FOR 2013



Grimesland Bridge Road Wetland Mitigation Site

Pitt County

TIP No. B-3684

COE Action ID: SAW-2008-01011

DWQ Project #: 20080356



Prepared By:
Natural Environment Section & Roadside Environmental Unit
North Carolina Department of Transportation
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SUMMARY

The Grimesland Bridge Road Wetland Mitigation Site is located in Pitt County. The site was planted in January and February 2012 and was designed as wetland mitigation for impacts associated with bridge project B-3684.

The mitigation encompasses approximately 2.86 acres total of riverine swamp forest restoration and 0.27 acre of wetland enhancement by removing the existing causeway fill and two bridges on the –L- line and removing the existing causeway fill on the –Y- line at Seine Beach Road. Restoration involved connecting the road back to wetland elevations of the existing adjacent wetlands and planting the area. The enhancement consisted of planting the area where Bridge No. 127 was removed. Unavoidable wetland impacts due to the replacement of Bridge No. 129 over the Tar River and Bridge No. 127 over the Tar River Overflow are 1.44 acres. Therefore, the surplus of 1.42 acres of restoration will be available for future projects. Also, 3,500 sq. ft. of buffer will be restored along the south bank of the Tar River, all of which will be used to partially offset the unavoidable buffer impacts. The mitigation effort involved re-vegetating the area that was restored and enhanced. The area that was restored and enhanced is being monitored with vegetation plots and photo points for survival of planted seedlings. No hydrologic monitoring is required for this project; however, vegetation monitoring is required for five years.

There were three vegetation monitoring plots established throughout the 3.13 acre site. After the second year of monitoring, the 2013 vegetation monitoring of the site revealed an average tree density of 553 trees per acre.

NCDOT proposes to continue vegetation monitoring at the Grimesland Bridge Road Wetland Mitigation Site.

1.0 INTRODUCTION

1.1 Project Description

The Grimesland Bridge Road Wetland Mitigation Site is located at Bridge No. 129 over the Tar River and Bridge No. 127 over the Tar River Overflow on Grimesland Bridge Road in Pitt County, NC. The site consists of approximately 3.13 acres of riverine wetland mitigation for wetland impacts associated with bridge project B-3684.

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 2013 at the Grimesland Bridge Road Wetland Mitigation Site. Hydrologic monitoring was not required for the site.

1.3 Project History

September 2009	Herbicide Application on Japanese Knotweed
May 2010	Herbicide Application on Japanese Knotweed
July 2010	Herbicide Application on Japanese Knotweed
August 2010	Herbicide Application on Japanese Knotweed
April 2011	Herbicide Application on Japanese Knotweed
January 2012	Restoration Area Planted
February 2012	Enhancement Area Planted
October 2012	Vegetation Monitoring (Year 1)
July 2013	Vegetation Monitoring (Year 2)

1.4 Debit Ledger

Site name	Site TIP	HUC	River Basin	Division	County	Mitigation Type	Notes	As Built Quantity	Available	Debit
Grimesland Bridge	B-3684	3020103	Tar-Pamlico	2	Pitt	Riverine		2.86	1.42	1.44

Note: Debit ledger information up to date as of August 14, 2013.

2.0 VEGETATION: GRIMESLAND BRIDGE ROAD WETLAND MITIGATION SITE (YEAR 2 MONITORING)

2.1 Success Criteria

Mitigation Plan States:

NCDOT shall monitor the mitigation site by visual observation and photo points for survival and aerial cover of vegetation. NCDOT shall monitor the site for a minimum of three years or until the site is deemed successful. Monitoring will be initiated upon completion of the site planting.

No specific hydrological monitoring is proposed for this mitigation 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 the hydrology and connectivity of the restored areas are similar to the hydrology in the reference areas.

Condition #6 of the DWQ Permit States:

For the wetland mitigation sites located along the –L- line and the –Y- line, the permittee shall plant 680 stems/acre. 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/acre after five years. A survey of vegetation during the growing season shall be conducted annually over the five year monitoring period and submitted to the NC Division of Water Quality. If the surviving vegetation densities are below the required thresholds after the five year monitoring period, the site may still be declared successful at the discretion of and with written approval from the NC Division of Water Quality.

2.2 Description of Species

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

Nyssa aquatica, Water Tupelo

Taxodium distichum, Baldcypress

Fraxinus pennsylvanica, Green Ash

2.3 Results of Vegetation Monitoring

Plot #	Water Tupelo	Baldcypress	Green Ash	Total (Year 2)	Total (at planting)	Density (Trees/Acre)
1	10	16	5	31	41	514
2	16	14	20	50	60	567
3	9	13	24	46	54	579
Average Density (Trees/Acre)						553

Site Notes: The mitigation area is re-attaining wetland jurisdictional status and the planted species are surviving. Other species noted onsite included red maple, fennel, *Juncus Sp.*, cattail, *Scirpus sp.*, sycamore, baccharis, black willow, woolgrass, and various grasses.

Japanese Knotweed was noted onsite prior to construction. DWQ requested NCDOT complete herbicide applications on the Japanese Knotweed prior to the roadway fill being removed due to the plants invasive nature. See Section 1.3 Project History for herbicide application dates. Japanese Knotweed was not noted onsite during the Year 2 monitoring evaluation.

2.4 Conclusions

There were 3 vegetation monitoring plots established throughout the 3.13 acre site. The 2013 vegetation monitoring of the site revealed an average density of 553 trees per acre for the second year of monitoring.

3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

The 2013 year represents the second year of monitoring activities that have occurred at the Grimesland Bridge 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 three vegetation monitoring plots established throughout the 3.13 acre site. The 2013 vegetation monitoring of the site revealed an average density of 553 trees per acre.

NCDOT will continue vegetation monitoring at the Grimesland Bridge Road Wetland Mitigation Site in 2014.

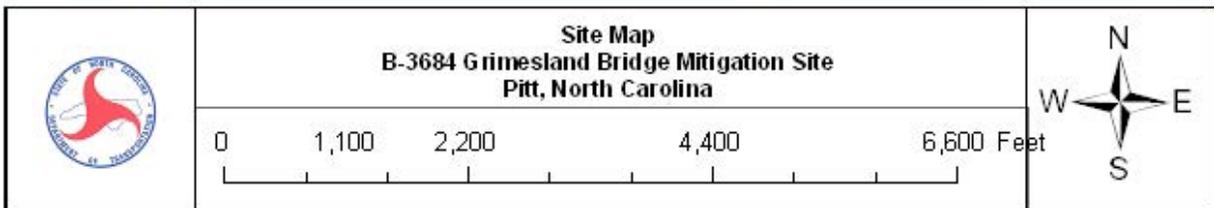


Figure 1. Site Location Map

APPENDIX A

SITE PHOTOS

Grimesland Bridge Road



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6

Grimesland Bridge Road



Overview Photo of Site

July 2013

B-3684 Grimesland Bridge Wetland Mitigation Site

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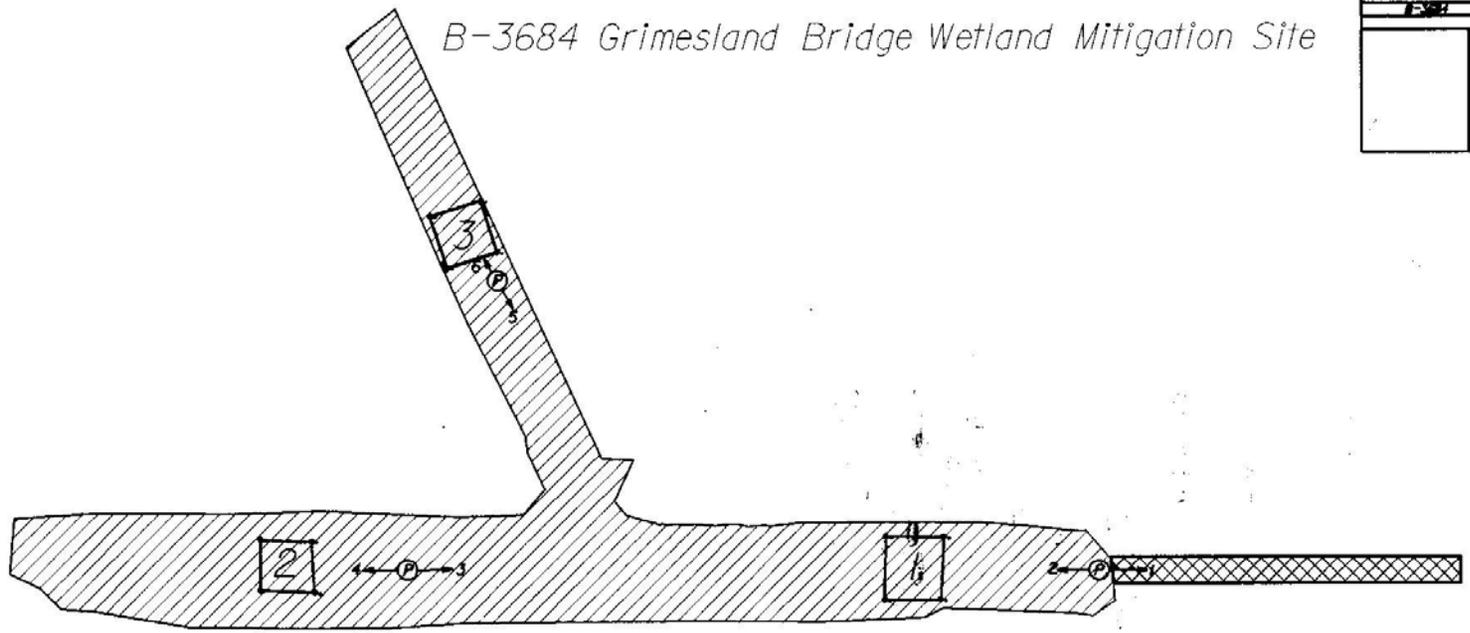
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-  Restoration Area 2.86 Acres
-  Vegetation Plots
-  Enhancement Area (0.27 Acres Total)
-  Photo Point Locations