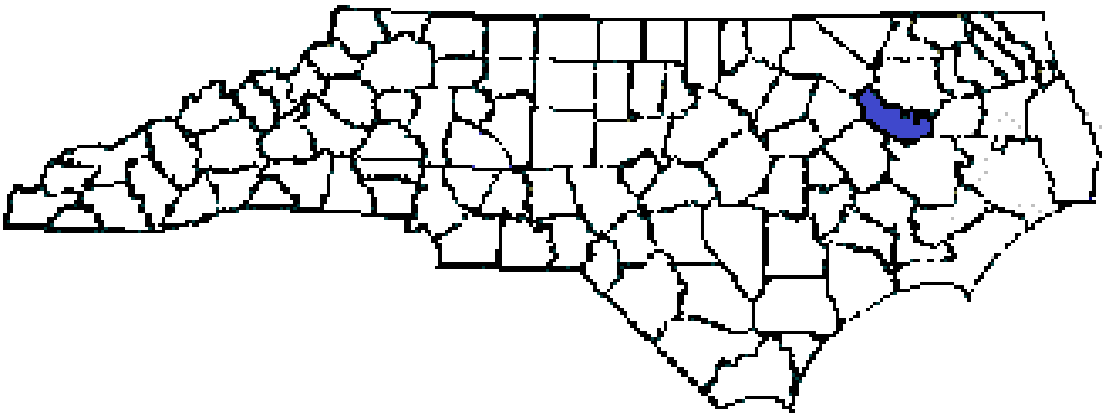
ANNUAL REPORT FOR 2016



Hardison Mill Creek Wetland Mitigation Site
Martin County
TIP No. B-4185
COE Action ID: SAW-2006-40479
NCDWR Project #: 20121133

Prepared By:
Natural Environment Section & Roadside Environmental Unit
North Carolina Department of Transportation
August 2016

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SUMMARY

The Hardison Mill Creek Mitigation Site is located in Martin County. The site was planted in December 2014 and was designed as wetland mitigation for impacts associated with TIP project B-4185.

According to the mitigation plan, construction activities involved pavement, causeway and bridge removal, site grading and planting. The fill material that was removed was approximately 8 feet in depth, approximately 22 feet in width at a maximum and approximately 457 feet paralleling the new approach and bridge. Once the pavement and causeway were excavated, the areas were graded to match existing adjacent reference wetland elevation as well as being ripped and disked, if necessary.

One vegetation monitoring plot was established in the 0.29 acre site. After the second 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 Hardison Mill Creek Mitigation Site in 2017.

1.0 INTRODUCTION

1.1 Project Description

The Hardison Mill Creek Mitigation Site is located at Bridge #16 over Hardison Mill Creek on NC Highway 171 in Martin County. The site consists of approximately 0.29 acres of Cypress Gum Swamp for wetland impacts associated with TIP project B-4185.

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 Hardison Mill Creek Mitigation Site. Hydrologic monitoring was not required for the site.

1.3 Project History

December 2014	Site Planted
June 2015	Vegetation Monitoring (Year 1)
January 2016	Supplemental Planting
August 2016	Vegetation Monitoring (Year 2)

1.4 Debit Ledger

The entire Hardison Mill Creek mitigation site was used for the B-4185 project to compensate for unavoidable wetland impacts at a 1:1 ratio.

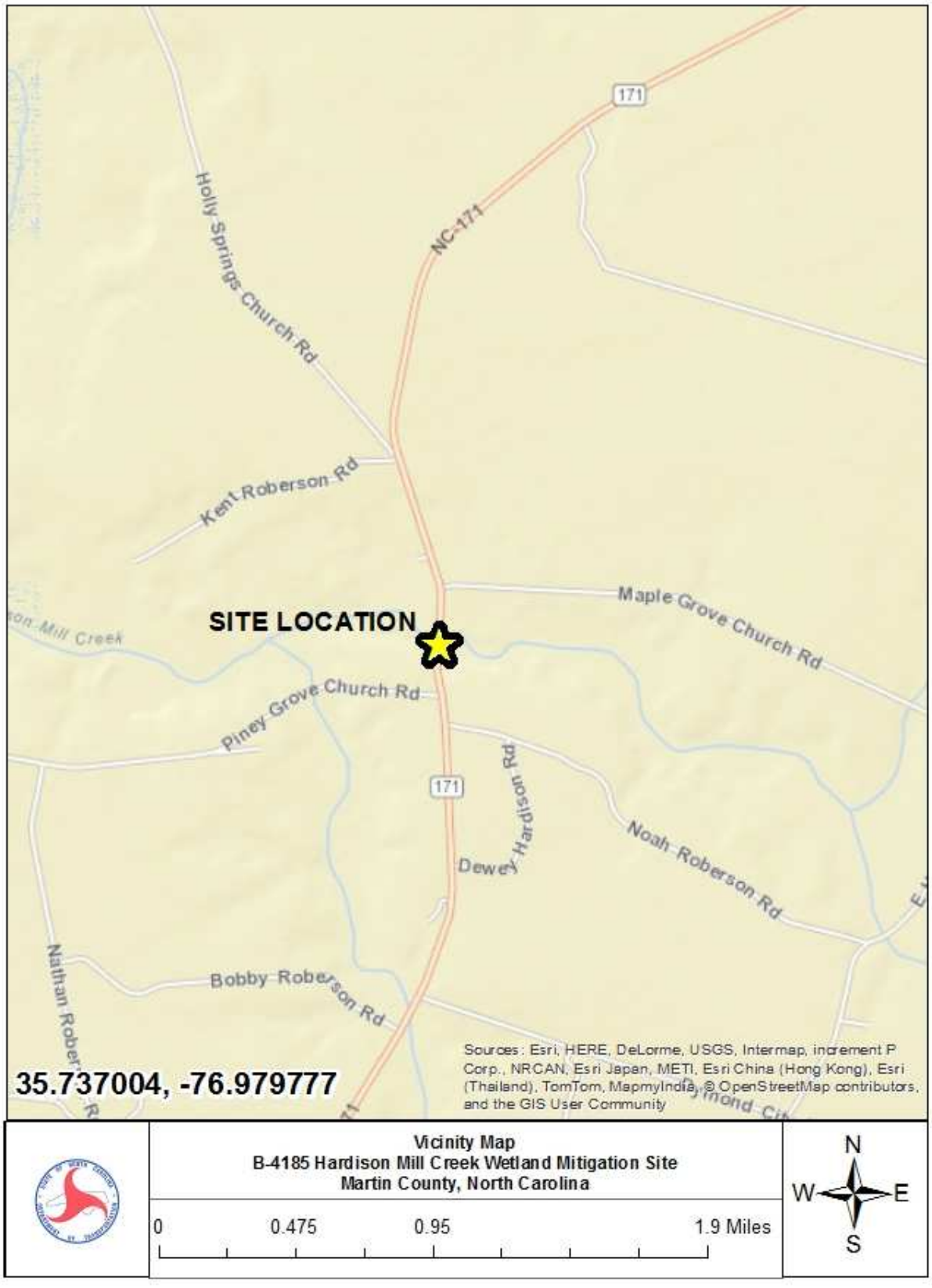


Figure 1. Vicinity Map

2.0 VEGETATION: HARDISON MILL CREEK MITIGATION SITE (YEAR 2 MONITORING)

2.1 Success Criteria

Mitigation Plan States:

Success for vegetation monitoring within the mitigation site is based on the survival of at least 260 stems of five year old trees at year five. Hydrologic success is based on grading the restoration area to the target elevation. The target elevation is based on the adjacent reference wetland areas and will be verified during construction. Constructing the site to the adjacent wetland elevation will ensure the hydrology in the restored area is comparable to the hydrology in the reference area.

Upon successful completion of construction, vegetation monitoring is proposed for the 0.29 acre wetland restoration. This will consist of counts of planted stems within vegetation plots established within the wetland areas. No specific hydrological monitoring is proposed. These monitoring activities will be conducted annually for a five year period and documented in an annual report distributed to the regulatory agencies.

2.2 Description of Species

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

Nyssa aquatica, Water Tupelo

Taxodium distichum, Baldcypress

Fraxinus pennsylvanica, Green Ash

Quercus michauxii, Swamp Chestnut Oak

2.3 Results of Vegetation Monitoring

Plot #	Water Tupelo	Baldcypress	Green Ash	Swamp Chestnut Oak	Total (Year 2)	Total (at planting)	Density (Trees/Acre)
1	3	7	13	7	30	30	680
Year 2 Average Density (Trees/Acre)							**680**
Year 1 Average Density (Trees/Acre)							657

Site Notes: A supplemental planting was completed in January 2016 due to some tree mortality noted on the south side of Hardison Mill Creek and some mowing around the bridge that encroached into the planted area in 2015. NCDOT installed additional signs and contacted division forces to make them aware of the mitigation site. Other species noted onsite included sweetgum, sycamore, tulip poplar, soft rush, woolgrass, fennel, cattail, and various grasses.

2.4 Conclusions

There is one vegetation monitoring plot established throughout the 0.29 acre site. The 2016 vegetation monitoring of the site revealed an average density of 680 trees per acre for the second year of monitoring.

3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

The 2016 year represents the second year of monitoring activities that have occurred at the Hardison Mill Creek Mitigation Site. The site must demonstrate vegetation success for a minimum of five years or until the site is deemed successful.

There is one vegetation monitoring plot established throughout the 0.29 acre site. The 2016 vegetation monitoring of the site revealed an average density of 680 trees per acre.

NCDOT will continue vegetation monitoring at the Hardison Mill Creek Mitigation Site in 2017.

APPENDIX A

SITE PHOTOS and SITE MAP

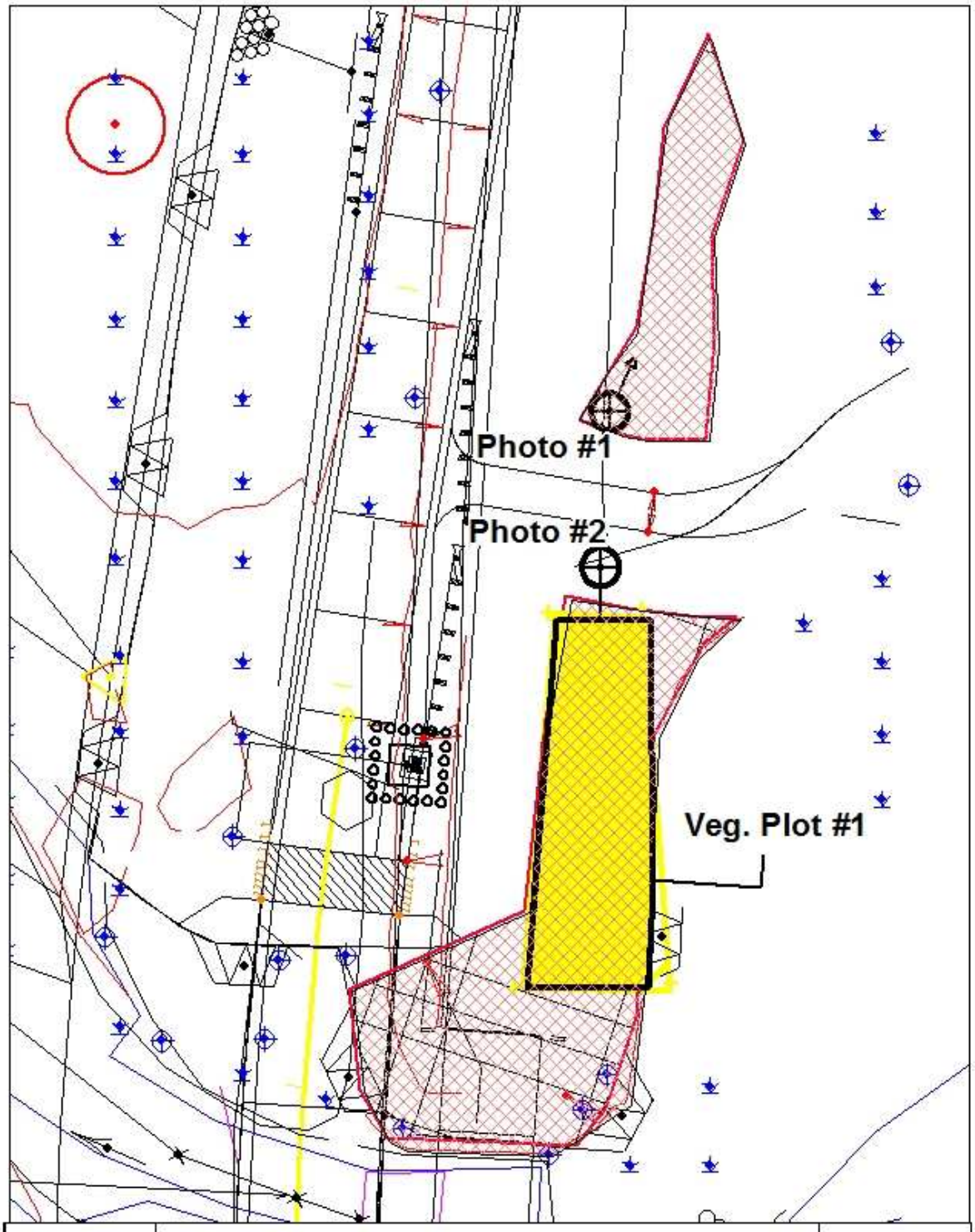
Hardison Mill Creek Mitigation Site

Photo 1

Photo 2

Photo 3

August 2016



Site Map
Wetland Reforestation Area, Vegetation Plot, & Photo Point Locations
B-4185 Hardison Mill Creek
Martin County, North Carolina

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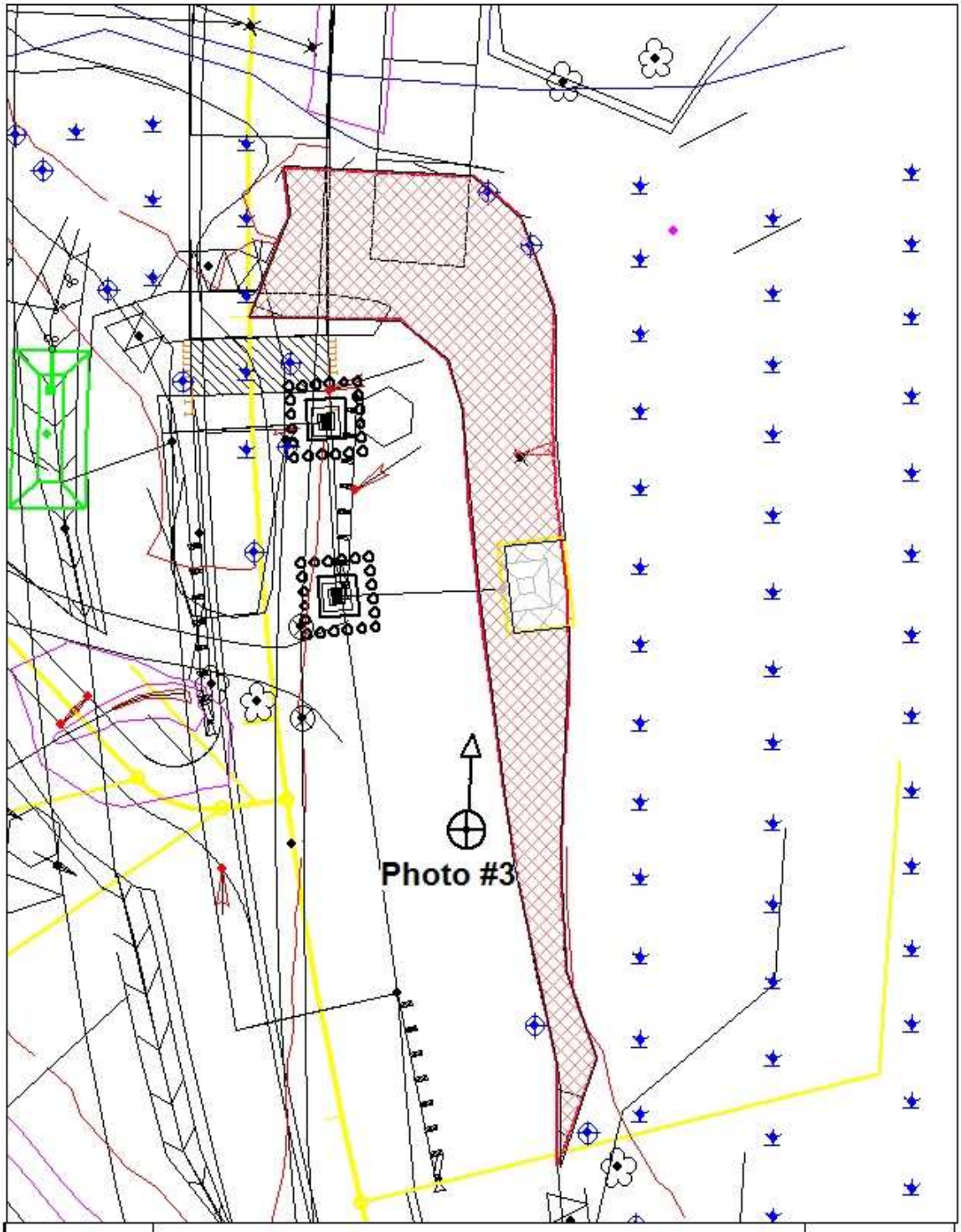

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