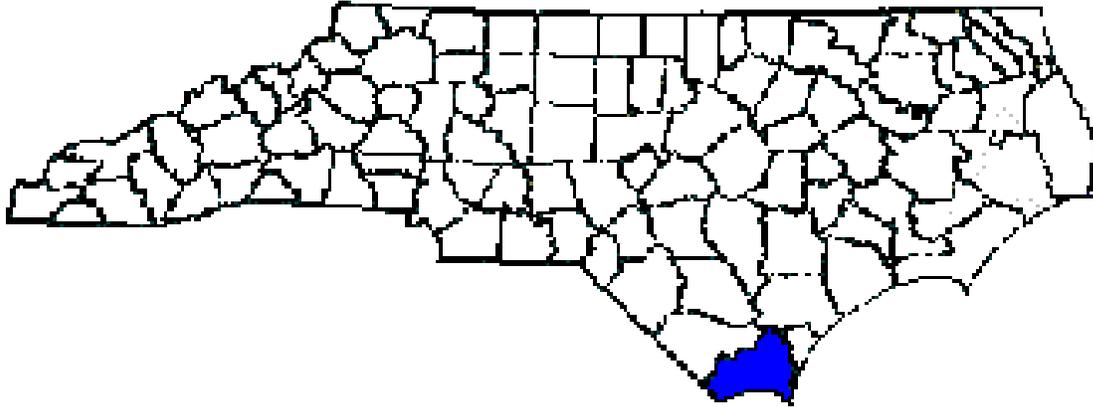


ANNUAL REPORT FOR 2013



**Bear Branch Mitigation Site
Brunswick County
TIP No. B-4030
COE Action ID: 2004422
DWQ Project #: 090072
CAMA Permit #: 68-09**



Prepared By:
Natural Environment Section & Roadside Environmental Unit
North Carolina Department of Transportation
July 2013

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Appendix A – Site Photos

SUMMARY

The Bear Branch Mitigation Site is located in Brunswick County. The site was planted in December 2010 and was restored due to temporary impacts associated with bridge project B-4030.

The mitigation encompasses approximately 0.41 acres total of wetland restoration. NCDOT will restore 0.41 acres of riparian wetlands by removal of fill material used for the temporary onsite detour in the existing wetlands. The restoration effort involved re-vegetating the area that was temporarily impacted. The area that was temporarily impacted is being monitored to ensure that it re-attains wetland jurisdictional status. No hydrologic monitoring is required for this project; however, vegetation monitoring is required for three years.

After the third year of monitoring, the Bear Branch Mitigation Site shows by visual/photograph observation that the restoration area is re-attaining wetland jurisdictional status and tree species planted in the wetland restoration area are surviving.

NCDOT proposes to discontinue vegetation monitoring at the Bear Branch Mitigation Site.

1.0 INTRODUCTION

1.1 Project Description

The Bear Branch Mitigation Site is located at Bridge No. 9 on NC 130 over Bear Branch (Figure 1). The site consists of approximately 0.41 acres of mitigation for temporary wetland impacts associated with project B-4030.

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 Bear Branch Mitigation Site. Hydrologic monitoring was not required for the site.

1.3 Project History

February 2011	Site Planted
July 2011	Vegetation Monitoring (Year 1)
Dec. 2011/Jan. 2012	Additional Planting in Re-disturbed Area
July 2012	Vegetation Monitoring (Year 2)
July 2013	Vegetation Monitoring (Year 3)

1.4 Debit Ledger

The restoration of the Bear Branch Temporary Impacts Site was used entirely to compensate for temporary wetland impacts on the B-4030 project. There were no wetland mitigation credits generated from the B-4030 project.

2.0 VEGETATION: BEAR BRANCH MITIGATION SITE (YEAR 3 MONITORING)

2.1 Success Criteria

NCDOT will monitor the restoration area by visual/photograph annual reporting for a minimum of three years following planting. Following the third year of monitoring, NCDOT, Regulatory, and Resource agencies will meet on-site to determine if the site temporarily impacted has re-attained wetland jurisdictional status with planted species present. If the site has not re-attained wetland jurisdictional status, NCDOT and the U.S. Army Corps of Engineers will determine whether compensatory wetland mitigation will be required.

2.2 Description of Species

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

Nyssa sylvatica, Blackgum

Taxodium distichum, Baldcypress

Fraxinus pennsylvanica, Green Ash

Quercus laurifolia, Laurel Oak

2.3 Results of Vegetation Monitoring

The site was originally planted in February 2011. Some additional planting occurred in December 2011 to January 2012 in an area approximately 50ft. x 70ft. on the north side of Bear Branch. This area was re-disturbed because additional grading had to be performed to redirect water flow from the adjacent property owner. The restoration area is re-attaining wetland jurisdictional status and the planted species are surviving. Blackgum, baldcypress, and green ash were noted surviving on site. Other species noted surviving onsite included woolgrass, black willow, *Juncus* sp., cattail, red maple, lespedeza, sweetgum, fennel, wax myrtle, pine, and various grasses.

2.4 Conclusions

There were approximately 0.41 acres of riparian wetland restoration on site. There were no plots established on the site. By visual observation, the Bear Branch Mitigation Site shows that the planted species are surviving in the planted area and that the restoration area is re-attaining wetland jurisdictional status.

3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

NCDOT proposes to discontinue vegetation monitoring at the Bear Branch Mitigation Site.

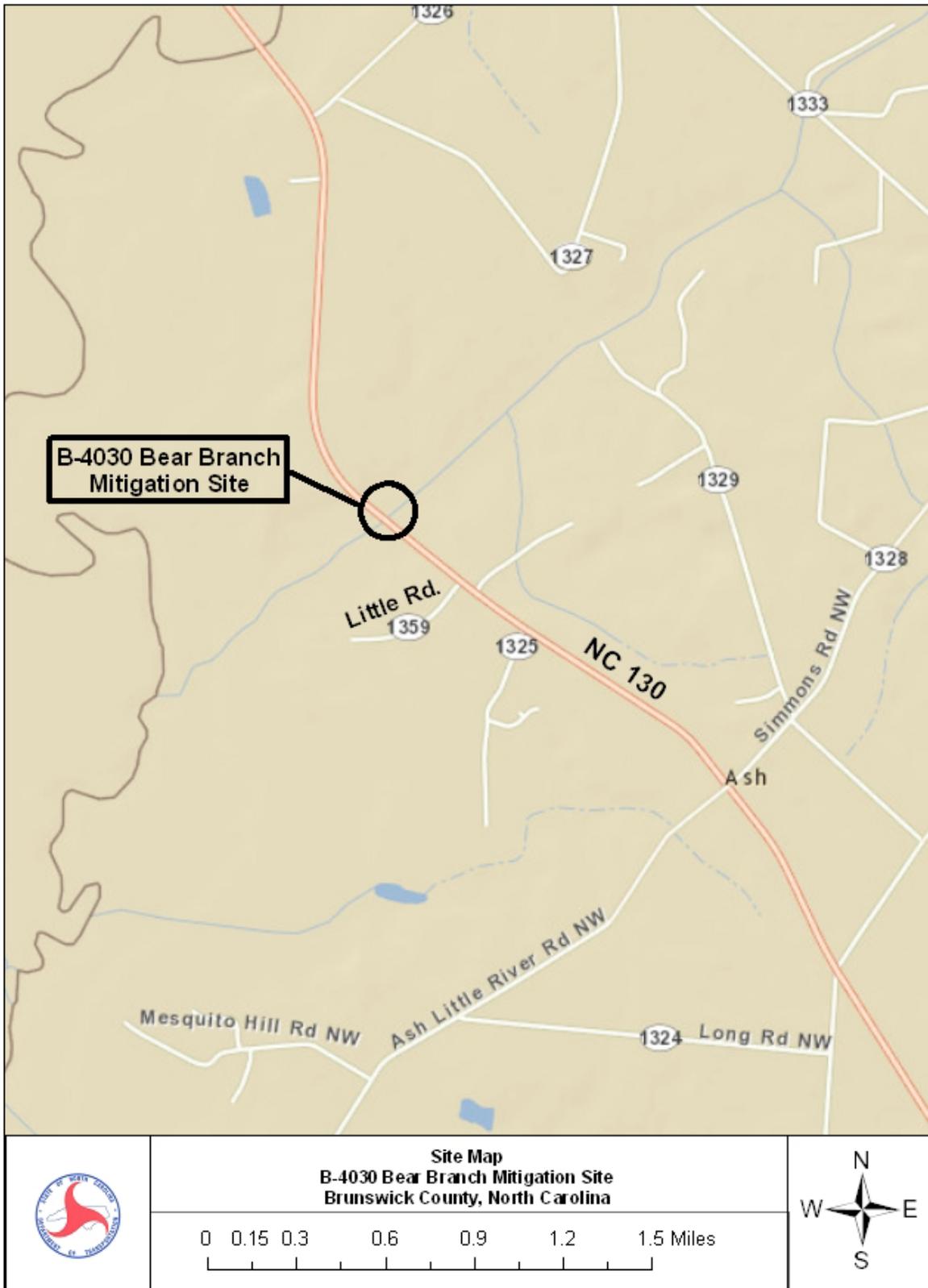


Figure 1. Site Location Map

APPENDIX A

SITE PHOTOS

Bear Branch



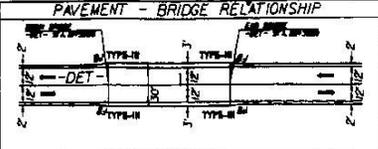
Photo 1



Photo 2

July 2013

-DET-		
PI Sta 12+87.66 Δ = 2° 30' 06.9" (LT) D = 237' 30.3" L = 95.3' T = 47.68' R = 2182.62' d(max) = EXISTING Ds = 50 MPH	PI Sta 15+14.00 Δ = 20° 39' 4.5" (LT) D = 617' 14.8" L = 333.93' T = 168.80' R = 926.00' d(max) = EXISTING Ds = 50 MPH	PI Sta 17+83.43 Δ = 12° 50' 23.2" (RT) D = 617' 14.8" L = 207.50' T = 104.29' R = 926.00' d(max) = D4 Ds = 50 MPH

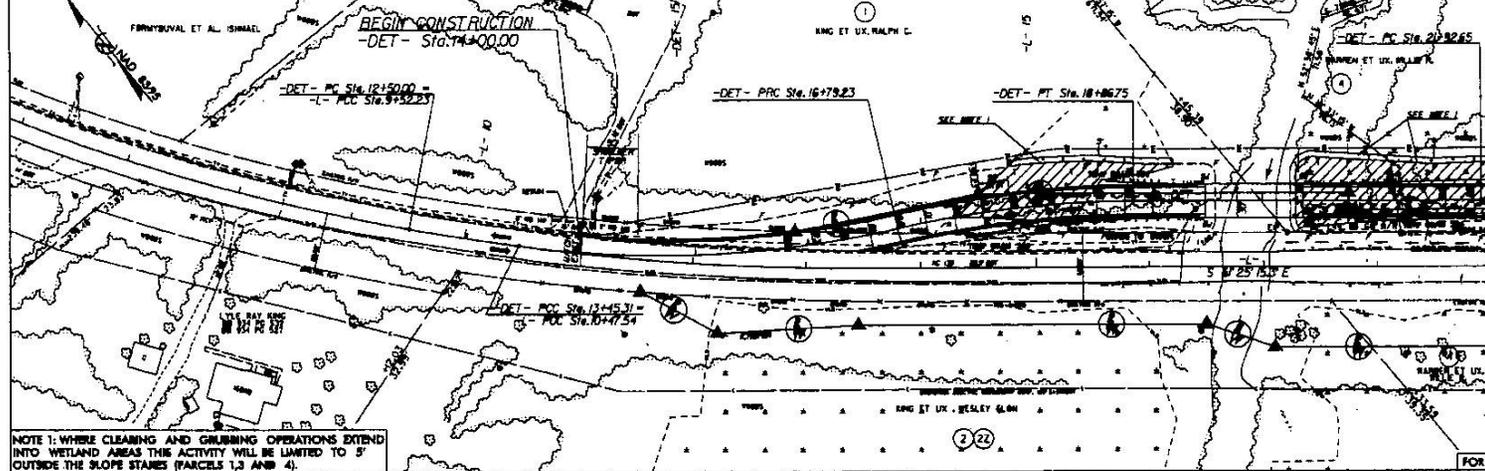


PROJECT NUMBER: 8-4030
SHEET NO.: 28

DESIGNED BY: [Signature]
CHECKED BY: [Signature]

DATE: 2/17/09

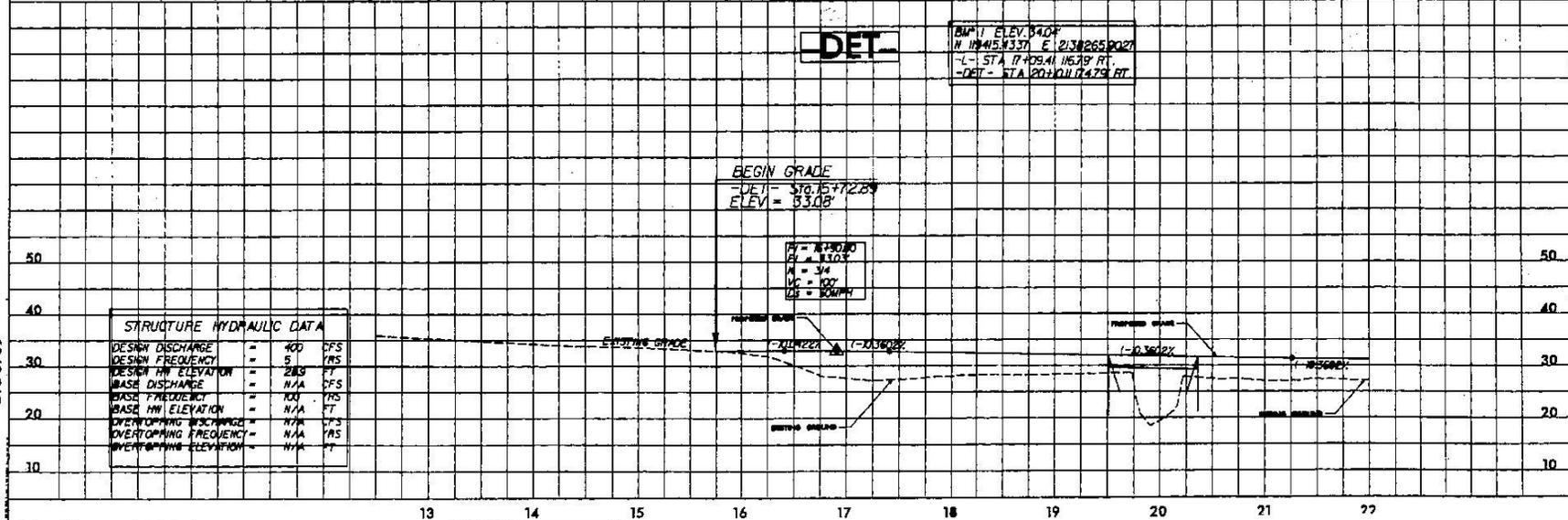
SCALE: 1" = 40'



NOTE 1: WHILE CLEARING AND GRUBBING OPERATIONS EXTEND INTO WETLAND AREAS THIS ACTIVITY WILL BE LIMITED TO 5' OUTSIDE THE SLOPE STAIRS (PARCELS 1,3 AND 4).

FOR -L- PLAN AND PROFILE, SEE SHEETS 4-5

PERMIT DRAWING
Sheet 5 of 14



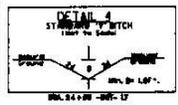
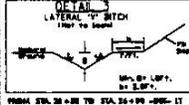
3/30/09

NOTE 1: WHERE CLEARING AND GRUBBING OPERATIONS EXTEND INTO WETLAND AREAS THIS ACTIVITY WILL BE LIMITED TO 5' OUTSIDE THE SLOPE STAKES (PARCELS 1,3 AND 4).

INDICATES MECHANIZED CLEARING
 INDICATES TEMPORARY FILL IN WETLAND

-DET-
 PI Sta 23+08.45
 $\Delta = 14' 22' 37.5" (RT)$
 $D = 6' 11" 14.8"$
 $L = 232.36'$
 $T = 162.79'$
 $R = 926.00'$
 $\alpha(max) = D4$
 $Ds = 50 MPH$

-DET-
 PI Sta 25+41.81
 $\Delta = 14' 22' 37.5" (LT)$
 $D = 6' 11" 14.8"$
 $L = 232.36'$
 $T = 162.79'$
 $R = 926.00'$
 $\alpha(max) = D4$
 $Ds = 50 MPH$



ENGLISH

PROJECT REFERENCE NO. 8-4030	SHEET NO. 20
DATE 08/11/09	
DESIGNED BY JAL	CHECKED BY JAL
DATE 08/11/09	

MATCH LINE -DET- STA. 22+00 SEE SHEET 20

END CONSTRUCTION
 -DET- POC Sta. 26+00.00

-DET- PT Sta. 26+57.37 =
 -L- POC Sta. 23+51.81

-DET- POC Sta. 27+58.86 =
 -L- POC Sta. 24+50.30

FOR -L- PLAN AND PROFILE SEE SHEETS 4-8

-DET-

DITCH LEGEND
 LEFT DITCH

END GRADE
 -DET- STA 24+93.10
 ELEV. = 33.58'

PI = 22+50.00
 $\Delta = 14' 22' 37.5" (RT)$
 $D = 6' 11" 14.8"$
 $L = 232.36'$
 $T = 162.79'$
 $R = 926.00'$
 $\alpha(max) = D4$
 $Ds = 50 MPH$

PI = 24+25.00
 $\Delta = 14' 22' 37.5" (LT)$
 $D = 6' 11" 14.8"$
 $L = 232.36'$
 $T = 162.79'$
 $R = 926.00'$
 $\alpha(max) = D4$
 $Ds = 50 MPH$

3/30/09

