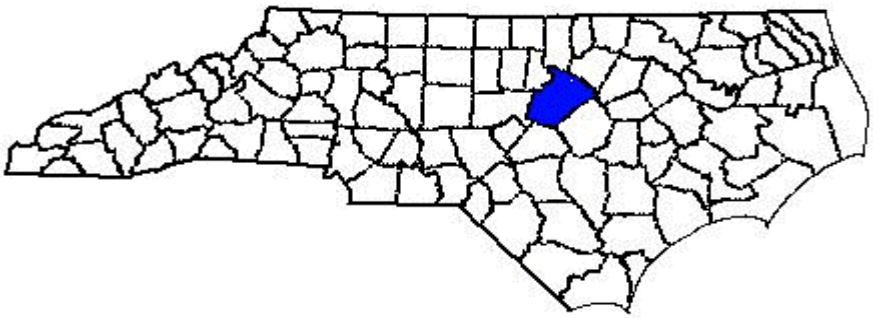
ANNUAL REPORT FOR 2002



Speight Branch Mitigation Site
Wake County
Project No. 8.1402601
TIP No. R-2541 WM

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SUMMARY

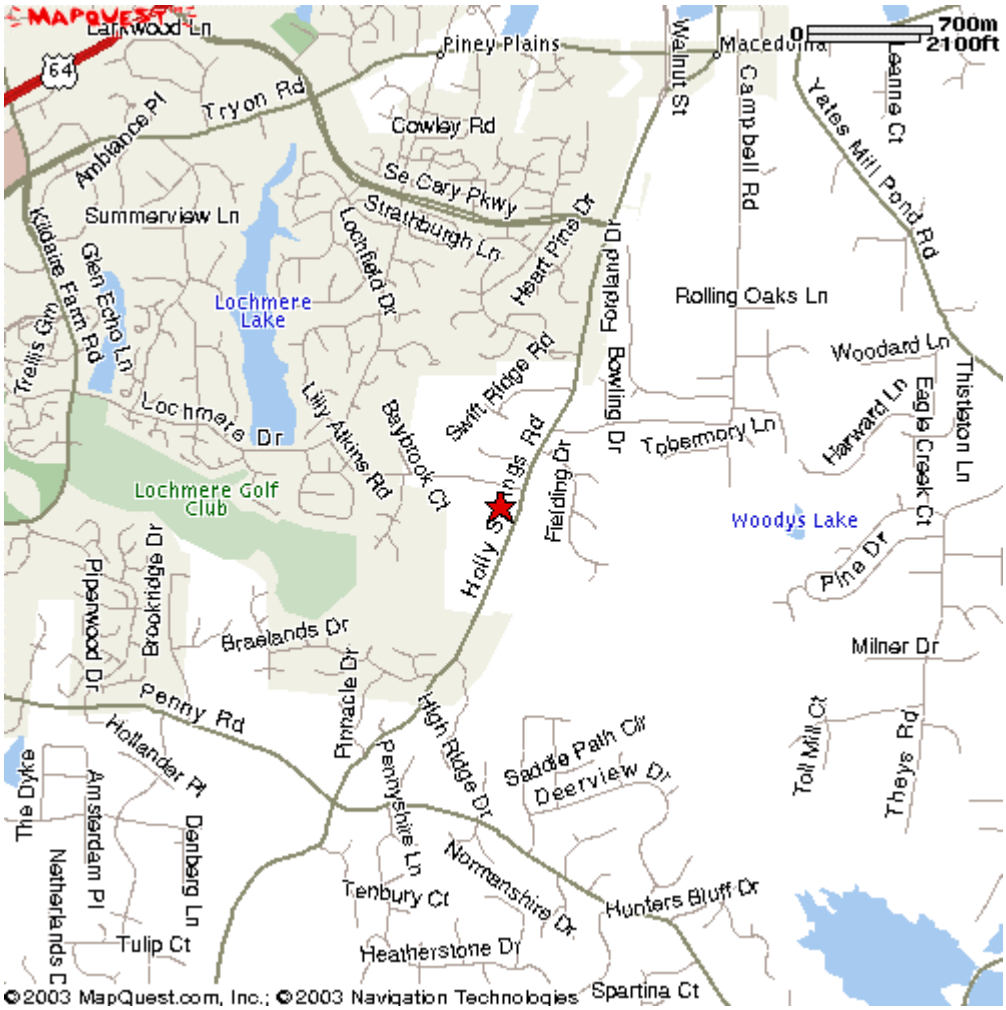
The following report summarizes the monitoring activities that have occurred in the past year at the Speight Branch Stream Mitigation Site. The site consists of approximately 28 acres, however only 9.3 acres of this site were planted for wetland enhancement. The purpose of the site is compensatory mitigation requirements for wetland and stream impacts associated with Holly Springs Bypass (TIP Project No. R-2541).

No hydrologic monitoring is required for this project; however, vegetation monitoring is required for five years. The 2002 vegetation monitoring revealed an average density of 438 trees per acre, which is well above the 320 trees per acre minimum requirement.

The stream channel was visually monitored as purposed in the mitigation plan. The channel indicated heavy herbaceous vegetation and showed stabilization throughout the length of the channel. The stream channel monitoring is being documented in quarterly reports and is sent to Regulatory agencies.

The year 2002 represents the first year of vegetation monitoring for Speight Branch. NCDOT will continue vegetation monitoring at the Speight Branch Mitigation Site.

Figure 1: Site Vicinity Map



1.0 INTRODUCTION: SPEIGHT BRANCH MITIGATION SITE

1.1 Project Description

The Speight Branch Stream Mitigation Site is located in the northwestern quadrant of the intersection of SR 1152 and Swift Creek in central Wake County. The site consists of approximately 28 acres and provides for 9.3 acres of wetland enhancement and 1470 LF of stream restoration.

1.2 Purpose

The purpose of this report is to detail the vegetation monitoring in 2002 at the Speight Branch Mitigation Site. No hydrologic monitoring is required for this particular site.

1.3 Debit Ledger

Speight Branch	Mit. Plan			Ratios	TIP DEBIT
Wake Co.					R-2541
Habitat	Acres at Start:	Acres Remaining			
Enhancement	8.3	1.22	14.70		7.08
Preservation	19	19	100.00		
Buffer Restoration	2.9	2.9	100.00		
Buffer Preservation	1200	1200	100.00		
Stream Restoration	1470 LF	0			1470 LF
TOTAL	31.2	2.22	7.12		

1.4 Project History: SPEIGHT BRANCH

August 2001	Site Construction
November 2001	Banded Treatment of mowing and spraying
March 2002	Site Planted
June 2002	Vegetation Monitoring (1 Year)

2.0 VEGETATION: SPEIGHT BRANCH MITIGATION SITE (YEAR 1 MONITORING)

2.1 Success Criteria

Success Criteria states that there must be a minimum of 320 trees per acre living for at least three consecutive years. A minimum of 290 trees per acre living at year 4 and a minimum of 260 trees per acre living at year 5.

2.2 Description of Species

The following tree species were planted in the Wetland Enhancement Area:

Platanus occidentalis, Sycamore

Quercus falcata var. *pagodaefolia*, Cherrybark Oak

Fraxinus pennsylvanica, Green Ash

Quercus lyrata, Overcup Oak

Betula nigra, River Birch

Quercus nigra, Water Oak

Quercus phellos, Willow Oak

2.3 Results of Vegetation Monitoring

Plot #	Sycamore	Cherrybark Oak	Green Ash	Overcup Oak	River Birch	Water Oak	Willow Oak				Total (1 year)	Total (at planting)	Density (Trees/Acre)
1	4	2	15	5	4	2					32	44	495
2	1		6	2	4	6	1				20	38	358
3	11		4	7		2					24	42	389
4	15	2	1	11	1						30	40	510
				AVERAGE TREE DENSITY									438

Site Notes: Other species noted: boxelder, elderberry, sweetgum, heavy poison ivy, blackberry, briars, various grasses, tulip poplar, red maple, pine, and winged sumac. Volunteer green ash noted in plots.

3.0 Conclusions

Approximately 9.3 acres of this site were planted in the wetland enhancement area in March 2002. The 2002 vegetation monitoring revealed an average density of 438 trees per acre, which is well above the 320 trees per acre minimum requirement.

The stream channel was visually monitored during the annual vegetation monitoring of the site. The stream bank was heavily vegetated with herbaceous vegetation and stabilized throughout the length of the channel. Photos 2 through 9 and photo 11 show the conditions of the stream. No remedial actions are necessary.

NCDOT will continue vegetation monitoring at the Speight Branch Mitigation Site.

Speight Branch

Photo 1

Photo 2 (Stream)

Photo 3 (Stream)

Photo 4 (Stream)

Photo 5 (Stream)

Photo 6 (Stream)

2002

Speight Branch

Photo 7 (Stream)

Photo 8 (Stream)

Photo 9 (Stream)

Photo 10

Photo 11(Stream)

Photo 12

2002

Speight Branch

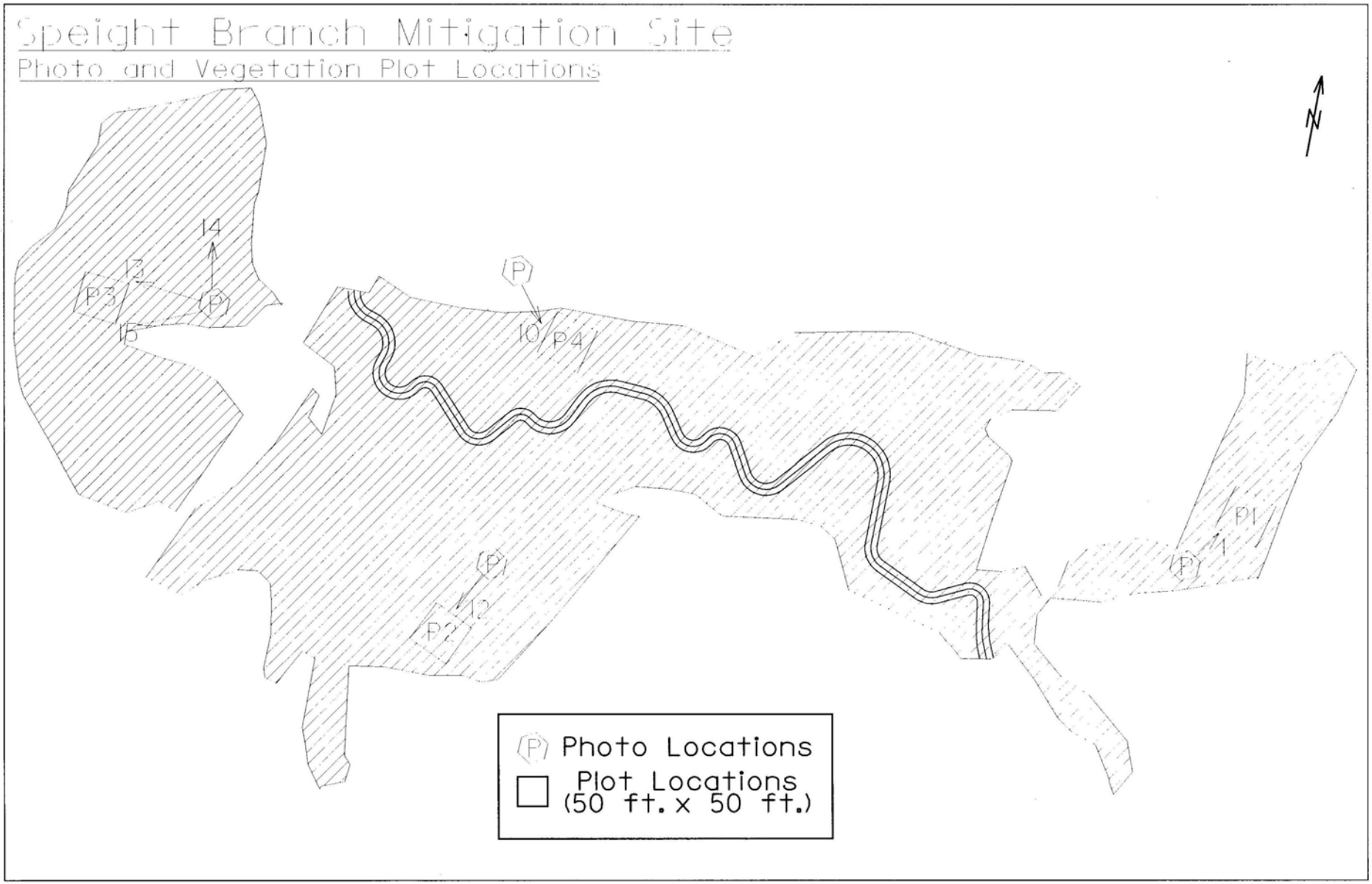
Photo 13

Photo 14

Photo 15

2002

Speight Branch



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