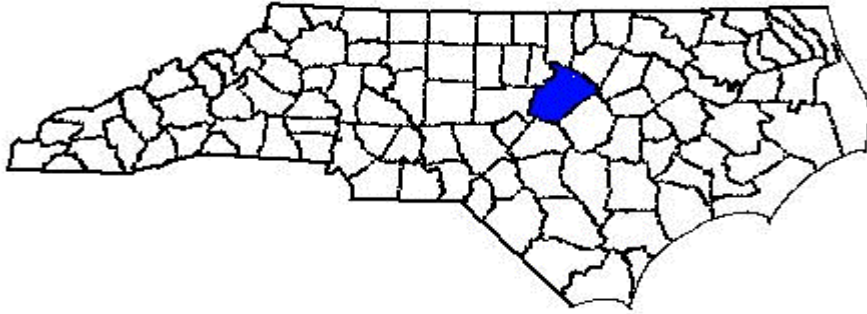


# ANNUAL REPORT FOR 2004



**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 on the Speight Branch Mitigation Site. The site consists of approximately 28 acres, with 9.3 acres of the site planted for wetland enhancement. The remaining acreage was used as preservation. The purpose of the site is to fulfill compensatory mitigation requirements for wetland and stream impacts associated with the 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 2004 vegetation monitoring revealed an average density of 416 trees per acre, which is above the 320 trees per acre minimum requirement.

The stream channel was visually inspected during the annual vegetation monitoring on the site. The channel appears to be stable with herbaceous vegetation covering the stream banks throughout the project reach.

A beaver problem was noted in June 2004. The USDA met with NCDOT officials in July 2004 to address the beaver issue. The beavers were removed from the site prior to August 3, 2004, when the Regulatory Agencies met onsite with NCDOT officials. It was agreed that the Speight Branch stream monitoring could be discontinued. There were no beaver problems noted onsite at time of monitoring.

During the onsite meeting with the regulatory agencies, it was stated that NCDOT could propose to close out the enhancement area if the 2004 monitoring data met the success criteria.

The 2004-year represents the third year of vegetation monitoring for Speight Branch. The wetland enhancement area met the success criteria with 416 trees per acre, therefore NCDOT proposes to discontinue vegetation monitoring at the Speight Branch Mitigation Site.

## **1.0 INTRODUCTION: SPEIGHT BRANCH MITIGATION SITE**

### **1.1 Project Description**

The Speight Branch Mitigation Site is located in the northwest quadrant of the intersection of SR 1152 and Swift Creek in central Wake County (Figure 1). The site is comprised of approximately 28 acres and provides 9.3 acres of wetland enhancement and 18.7 acres of preservation. The site also provides 1,470 linear feet of stream restoration.

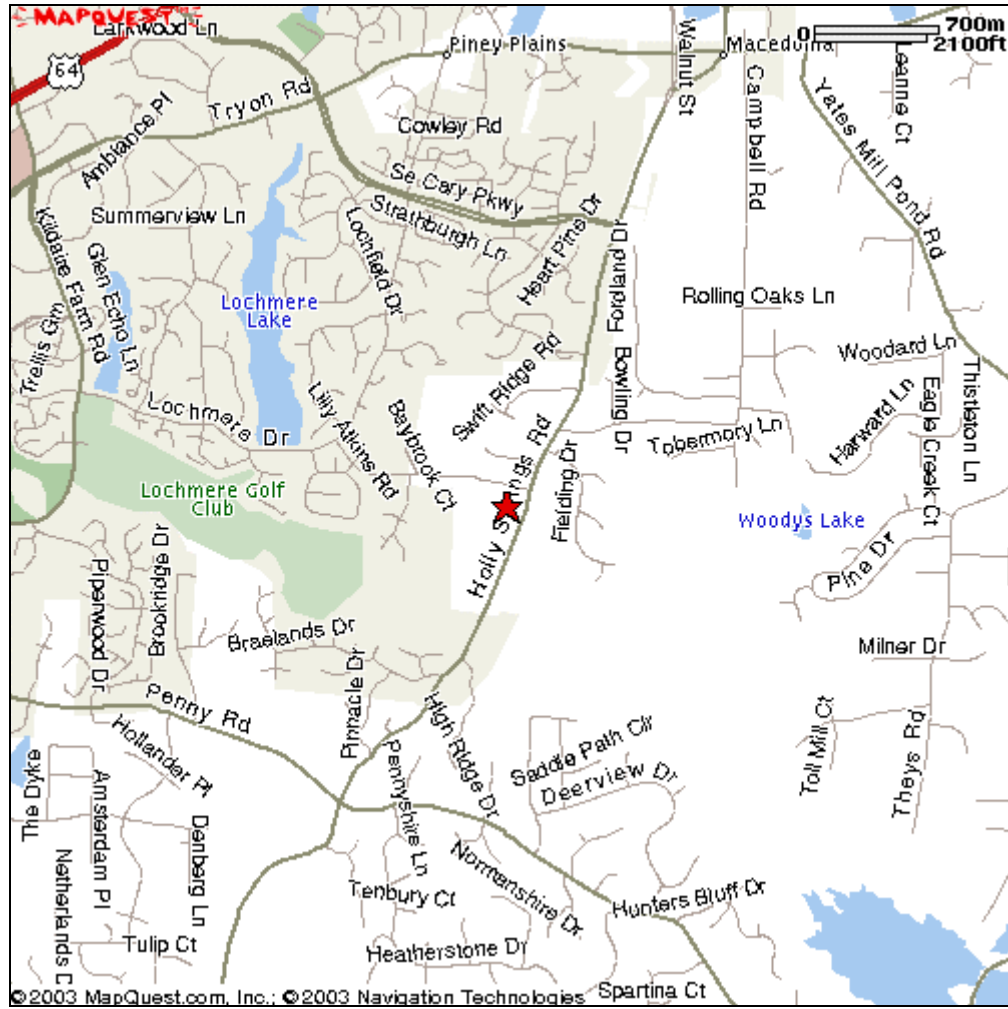
### **1.2 Purpose**

The purpose of this report is to detail the vegetation monitoring in 2004 at the Speight Branch Mitigation Site. No hydrologic monitoring is required for this site.

### **1.3 Project History**

August 2001	Site Construction
November 2001	Banded Treatment of Mowing and Spraying
March 2002	Site Planted
June 2002	Vegetation Monitoring (1 yr.)
June 2003	Vegetation Monitoring (2 yr.)
August 2004	Vegetation Monitoring (3 yr.)

Figure 1: Site Location Map



## 2.0 VEGETATION: SPEIGHT BRANCH MITIGATION SITE (YEAR 3 MONITORING)

### 2.1 Success Criteria

The success criteria state that a minimum of 320 trees per acre must be living for at least three consecutive years. A minimum of 290 trees per acre must be living at year 4 and a minimum of 260 trees per acre must be 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 (3 year)	Total (at planting)	Density (Trees/Acre)
1	4	1	15	5	5			30	44	464
2	2		12		1		2	17	38	304
3	6		5	6		2	10	29	42	470
4	13		3	8	1			25	40	425
										416

**Site Notes:** Other species noted: boxelder, elderberry, sweetgum, poison ivy, blackberry, briars, tulip poplar, red maple, pine, cattail, *Aster* sp., ragweed, broomsedge, *Juncus* sp., lespedeza, *Baccharis* sp., fennel, goldenrod, nutsedge, winged sumac, and various grasses. Volunteer green ash noted in plots. Site was heavily vegetated and had standing water in lower lying areas.

### **3.0 CONCLUSIONS**

Approximately 9.3 acres of this site were planted in the wetland enhancement area with the remaining acreage as preservation. The 2004 vegetation monitoring revealed an average density of 416 trees per acre, which is above the 320 trees per acre minimum requirement.

A beaver problem was noted in June 2004. The USDA met with NCDOT officials in July 2004 to address the beaver issue. The beavers were removed from the site prior to August 3, 2004, when the Regulatory Agencies met onsite with NCDOT officials. It was agreed that the Speight Branch stream monitoring could be discontinued. There were no beaver problems noted onsite at time of monitoring.

During the onsite meeting with the regulatory agencies, it was stated that NCDOT could propose to close out the enhancement area if the 2004 monitoring data met the success criteria. The wetland enhancement area met the success criteria with 416 trees per acre, therefore NCDOT proposes to discontinue vegetation monitoring at the Speight Branch Mitigation Site.

## **APPENDIX A**

### **SITE PHOTOS/PHOTO AND VEGETATION PLOT LOCATIONS**



# SPEIGHT BRANCH



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

# Speight Branch Mitigation Site

## Photo and Vegetation Plot Locations

