

UT West Bear Creek Mitigation Plan Wayne County

R-2554C WBS Element: 34461.1

December 20, 2007

NCDOT will perform on-site mitigation to offset unavoidable stream and wetland impacts associated with Transportation Improvement Program (TIP) R-2554C. The mitigation is located within the NCDOT right-of-way within NCDWQ sub-basin 03-04-05 and within HU 03020202. The site totals 19.36 acres and contains approximately 600 ft of an unnamed tributary to West Bear Creek as well as approximately 800 ft of West Bear Creek. It is located on the La Grange USGS quad map and on sheets 11-13 of the preliminary plans from Sta. 250+60 to Sta. 256.

At this site, both the unnamed tributary as well as West Bear Creek will be impacted by R-2554C (Site 4). The proposed mitigation involves relocating these stream channels into an adjacent agricultural field within the NCDOT right-of-way. NCDOT proposes to restore approximately 1243 linear feet of stream and 2.8 acres of riparian buffer at a ratio of 1:1.

Existing Conditions

West Bear Creek is a tributary to Bear Creek. Bear Creek runs just west of La Grange and is a tributary to the Neuse River. The UT to West Bear Creek begins, within this site, at the outfall of a large residential pond. The outfall pipe is perched and a large scour hole has formed at this location. The UT flows from here in a southwesterly direction along the edge of an agricultural field. The riparian buffer is sparse and ranges from approximately 0-10 ft. The channel is incised with high, unstable banks for the majority of its length within the site. The confluence with West Bear Creek occurs at a 90-degree angle at the corner of the agricultural field. From this point, West Bear Creek flows in an easterly direction along the field. It continues to have a sparse riparian buffer and exhibits evidence of past straightening.

Proposed Conditions

NCDOT proposes to restore 1243 linear feet of UT West Bear Creek by re-establishing the correct pattern, profile and dimensions of the channel within the adjacent farm field. A riparian buffer of at least 50 ft will be planted along each bank of the new channel with a mix of bare root saplings at a rate of 680 trees per acre. (Table 2) Final stream design plans will be submitted with final roadway plans for Section C of the TIP R-2554.

Success Criteria and Monitoring Plan

The following monitoring will be performed each year of the 3-year monitoring period on the restoration areas: reference photos, plant survival (i.e., identify specific problems areas (missing, stressed, damaged or dead plantings), estimated causes and proposed/required remedial action), visual inspection of channel stability. Physical measurements of channel stability/morphology will not be performed. A monitoring report will be submitted within sixty (60) days after completing the monitoring.

TABLE 1 MITIGATION SUMMARY		
Type	Quantity	Credits
Stream Restoration	1243 ft	1243 ft
Buffer Restoration	121968 sq. ft	121968 sq ft

TABLE 2. PROPOSED BARE-ROOT AND LIVESTAKE SPECIES		
Common Name	Scientific Name	Percent Planted by Species
Type II Streambank Reforestation – Bare Root Plantings		
River Birch	<i>Betula nigra</i>	30%
Sycamore	<i>Platanus occidentalis</i>	30%
Overcup Oak	<i>Quercus lyrata</i>	20%
Swamp Chestnut Oak	<i>Quercus michauxii</i>	20%
Type I Streambank Reforestation - Live Stakes		
Black willow	<i>Salix nigra</i>	50%
Silky Dogwood	<i>Cornus amomum</i>	50%