Monitoring Data Record

Project Title: R-2547CC (Site 4) COE Action ID: 2002-2-0819

Stream Name: UT to Marks Creek DWQ Numbers: 011689
City, County and other Location Information: Wake County, Knightdale Bypass (Sta. 154+78.5 -L-)
Date Construction Completed: August 2004 Monitoring Quarter: (6) of 8
Ecoregion: 8 digit HUC unit: 03020201
USGS Quad Name and Coordinates:
Rosgen Classification:
Length of Project: 787' Urban or Rural: Rural Watershed Size:
Monitoring DATA collected by: M. Green & J.Young Date: 8/9/07
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Rd. Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@dot.state.nc.us
Consultant Information:
Name:
Address:
Telephone Number: Email address:
Project Status: Complete

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level 1 ~~2~~ ~~3~~
Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*

Permit States: The permittee will visually monitor the vegetative plantings on all mitigation streambanks to access and insure complete stabilization of the mitigation stream segments. This monitoring will include adequate visual monitoring of planted vegetation for a minimum of two years after final planting, and appropriate remedial actions (e.g., replanting, streambank grading, ect.). If within any monitoring year, bank stabilization is not acceptable as determined by the Corps of Engineers, and remedial action required by the Corps of Engineers is performed, the two year monitoring of the affected portions of the stream will begin again.

Section 1. PHOTO REFERENCE SITES

Total number of reference photo locations at this site:
6 photo point locations - 2 photos at each location
Dates reference photos have been taken at this site: 4/18/06, 8/4/06, 11/9/06, 3/14/07, 5/31/07, 8/9/07

Individual from whom additional photos can be obtained (name, address, phone):

Other Information relative to site photo reference:

If required to complete Level 3 monitoring only stop here; otherwise,

Section 2. PLANT SURVIVAL
Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):

Estimated causes, and proposed/required remedial action:

ADDITIONAL COMMENTS: Live stakes and bareroot seedlings noted on the streambank and in the floodplain consisted of black willow, river birch, swamp chestnut oak, sycamore, and tulip poplar. Other vegetation noted consisted of *Juncus* sp., cattail, goldenrod, lespedeza, fennel, *Sagittaria* sp., woolgrass, and various grasses.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

The stream is stable for the 6th quarter of monitoring. The last crossvane upstream of the box culvert has water piping through this structure but no remedial action is necessary at this time. NCDOT will continue to monitor this stream relocation.

Date Inspected	Station Number	Station Number	Station Number	Station Number	Station Number
Structure Type					
Is water piping through or around structure?					
Head cut or down cut present?					
Bank or scour erosion present?					
Other problems noted?					

NOTE: Attach separate narrative sheets to each monitoring report describing/discussing the overall monitoring results. Include the identification of specific problem areas/channel failures, estimated cause and proposed/required remedial action. This should include a brief discussion of any parameter that has changed significantly from as-built.

Site 4

Photo 1(Upstream)

Photo 2 (Downstream)

Photo 3 (Upstream)

Photo 4 (Downstream)

Photo 5 (Upstream)

Photo 6 (Downstream)

Site 4

Photo 7 (Upstream)

Photo 8 (Downstream)

Photo 9 (Upstream)

Photo 10 (Downstream)

Photo 11(Upstream)

Photo 12 (Downstream)

Site 4

Overview of Site 4 Looking Upstream