

Monitoring Data Record

Project Title: R-2417BB (Site 6) COE Action ID: 200201326

Stream Name: _____ DWQ Numbers: 3378

City, County and other Location Information: Lee County, Sanford Bypass (Sta. 540+20 to 555+00 -L- RT.)

Date Construction Completed: Water was turned into the stream in Oct. 2006. Streambank reforestation was completed in Jan. 2007.

Monitoring Quarter: (8) of 8

Ecoregion: _____ 8 digit HUC unit: 03030004

USGS Quad Name and Coordinates: _____

Rosgen Classification: _____

Length of Project: 1,734' Urban or Rural: Rural Watershed Size: _____

Monitoring DATA collected by: M. Green and J.Young Date: 2/19/09

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 quarterly 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: 9 photo point locations – 2 photos taken from each location

Dates reference photos have been taken at this site: 5/21/07, 8/7/07, 11/2/07, 2/1/08, 5/13/08, 8/8/08, 11/17/08, 2/19/09

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: Planted live stakes and bareroot seedlings noted on the streambank and in the floodplain consisted of black willow, silky dogwood, river birch, black cherry, water oak, and willow oak. Other herbaceous and woody species noted were *Juncus* sp., sedge, woolgrass, fennel, goldenrod, pine, pokeberry, *Scirpus* sp., clover, ragweed, alder, sweetgum, tulip poplar, sycamore, red maple, and cattail. As noted in the 5th quarter report, a supplemental planting of the buffer area took place in March 2008 due to low survivability. The streambank and buffer plantings look to be established as of the 8th quarter evaluation. NCDOT proposes to discontinue vegetation monitoring at R-2417BB Site 6 stream relocation.

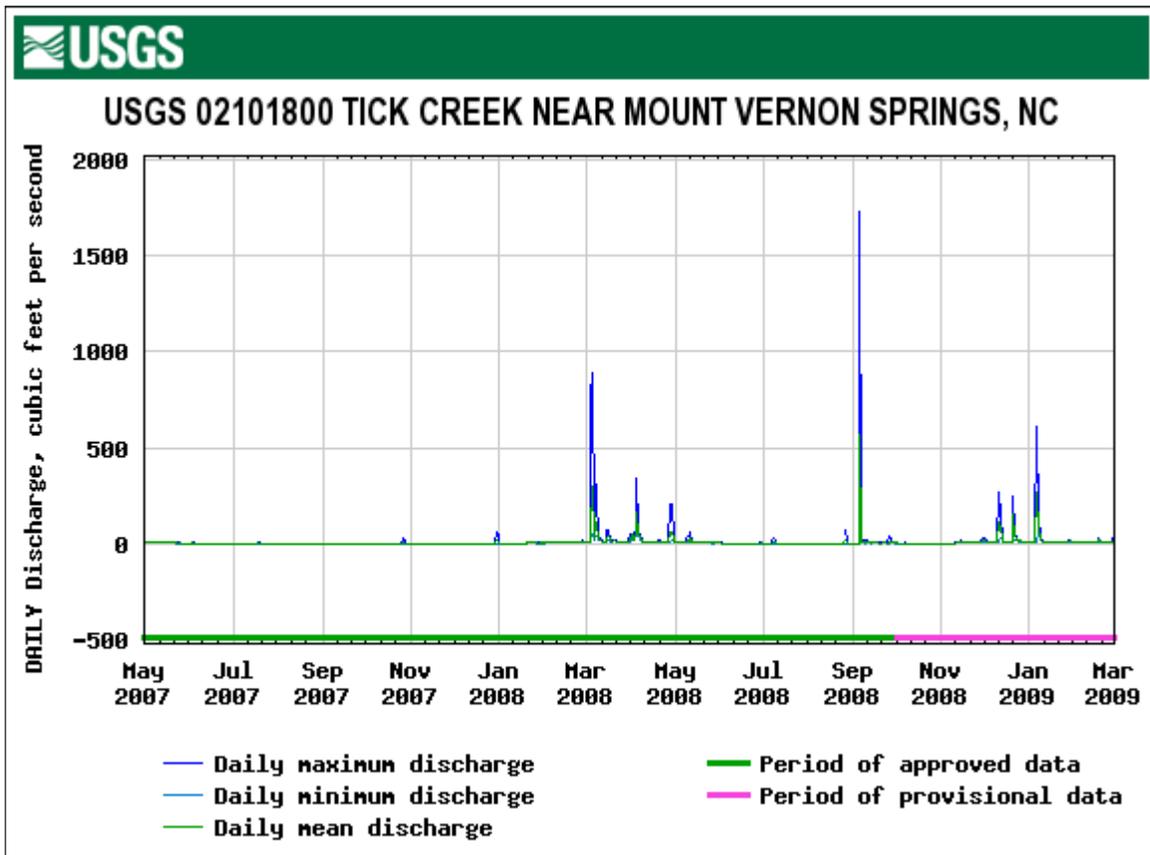
If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

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.

This completes the 8th quarter monitoring evaluation for R-2417BB Site 6 stream relocation. The stream relocation is stabilized for the 8th quarter evaluation with all of the crossvanes functioning properly. NCDOT visually documented 2 bankfull events that were noted during the 5th and 6th quarter evaluations. A review of known USGS surface water gages identified one gage approximately 20.4 miles from the R-2417BB Site 6 stream relocation which is the Tick Creek gage near Mount Vernon Springs, NC. The Tick Creek gage has a drainage area of 16 square miles. It is situated in USGS Hydrologic Unit 02101800. Based on the drainage area associated with the gage, the correlated bankfull discharge according to the NC Mountain and Piedmont Regional Curve is approximately 700 cubic feet per second (cfs). A review of peak flows conducted for the period between May 2007 to March 2009 shows that there was approximately 2 bankfull events during the monitoring period. The USGS graph depicting the peak flows occurring during the monitoring period is below. NCDOT proposes to discontinue channel stability monitoring at R-2417BB Site 6 stream relocation.



Site 6



Photo Point #1 (Upstream)



Photo Point #1 (Downstream)



Photo Point #2 (Upstream)



Photo Point #2 (Downstream)



Photo Point #3 (Upstream)



Photo Point #3 (Downstream)

Site 6



Photo Point #4 (Upstream)



Photo Point #4 (Downstream)



Photo Point #5 (Upstream)



Photo Point #5 (Downstream)



Photo Point #6 (Upstream)



Photo Point #6 (Downstream)

Site 6



Photo Point #7 (Upstream)



Photo Point #7 (Downstream)



Photo Point #8 (Upstream)



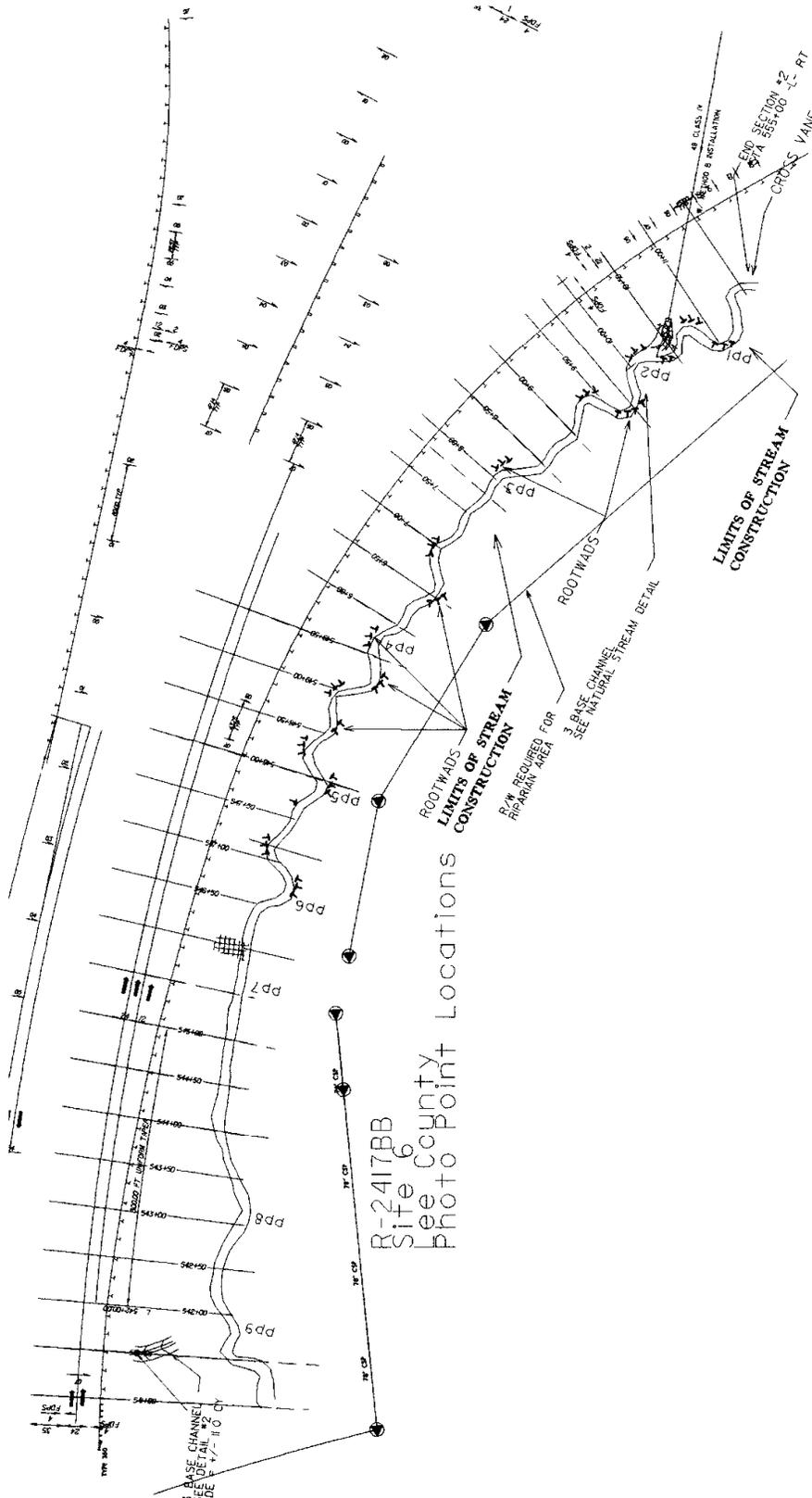
Photo Point #8 (Downstream)



Photo Point #9 (Upstream)



Photo Point #9 (Downstream)



R-2417BB
 Site Plan
 See County
 Photo Point Locations

3' BASE CHANNEL
 SEE DETAIL #2
 11.0 CY

ROOTWADS
 LIMITS OF STREAM
 CONSTRUCTION
 RAW REQUIRED FOR
 RIPARIAN AREA
 3' BASE CHANNEL
 SEE NATURAL STREAM DETAIL

LIMITS OF STREAM
 CONSTRUCTION

18 CLASS IV
 18" DIAMETER 18" R.C. MANHOLE
 EVO SECTION #2
 571A 555-00 L-RT
 CROSS VANE