

Monitoring Data Record

Project Title: R-2248BB – Charlotte Outer Loop COE Action ID: 200131321
Stream Name: UT Thomas Pond (Site 9) DWQ Number: 011231
City, County and other Location Information: Mecklenburg County, Charlotte Outer Loop, NC 27 Exit (Mount Holly Road)
Date Construction Completed: April 2005 Monitoring Year: (4) of 5
Ecoregion: _____ 8 digit HUC unit 03050101
USGS Quad Name and Coordinates: _____

Rosgen Classification: _____

Length of Project: 1148 ft. Urban or Rural: Rural Watershed Size: _____
Monitoring DATA collected by: M. Green and J. Young Date: 2/21/11

Applicant Information:

Name: NCDOT – Roadside Environmental Unit
Address: 1425 Rock Quarry Rd, Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov

Consultant Information:

Name: _____
Address: _____
Telephone Number: _____ Email address: _____

Project Status: _____

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level 1

Permit States: The permittee shall perform the following components of Level I monitoring each year for the 5-year monitoring period: Reference photos; plant survival (i.e. identify specific problem 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 required. The permittee shall submit the monitoring reports to the USACE, Raleigh Regulatory Field Office Project Manager, within sixty days after completing the monitoring. If less than two bankfull events occur during the first 5 years, the permittee shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the five-year monitoring period, the USACE, in consultation with the resource agencies, may determine that further monitoring is not required. It is suggested that all bankfull occurrences be monitored and reported through the required monitoring period. The permittee shall perform and submit photo documentation twice each year (summer and winter) for the 5-year monitoring period, and for any subsequently required monitoring period.

Section 1. PHOTO REFERENCE SITES

(Monitoring at all levels must complete this section)

Total number of reference photo locations at this site: 14 photos were taken from 7 photo point locations.

Dates reference photos have been taken at this site: 2/6/08, 9/3/08, 3/6/09, 9/1/09, 3/16/10, 9/28/10, 2/21/11

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

Other Information relative to site photo reference: A site map with photo point locations is included with this report.

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

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: The planted vegetation is surviving and consisted of black willow, silky dogwood, green ash, tulip poplar, tag alder, swamp chestnut oak, and sycamore. Other vegetation noted included fennel, goldenrod, cattail, jewelweed, pokeberry, briars, maple, sedge, redbud, *Juncus* sp., *Scirpus* sp., sweetgum, pine, lespedeza 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.

UT Thomas Pond stream relocation is experiencing some instability for the Year 4 Winter evaluation. The areas of instability are listed in the table below. There were no grade control structures installed within the sections of stream where these headcuts have formed. NCDOT will continue to monitor this stream relocation for channel stability and to see if any remedial action is warranted.

| Date | Station Number | Station Number | Station Number | Station Number | Station Number | Station Number |
|--|----------------------------------|--|--|--|--|---|
| 2/21/11 | 217+80 –L- (PP#1 Upstream) | 218+80 to 219+00 –L- (Additional Photo) | 219+00 –L- (Additional Photo) | 0+20 Loop E (Additional Photo) | 0+60 Loop E (Additional Photo) | 2+80 Loop E (Additional Photo) |
| Structure Type | Crossvane | | | | | |
| Is water piping through or around structure? | Water piping under crossvane | | | | | |
| Head cut or down cut present? | | | A previous headcut has moved upstream approx. 50 ft. | Headcut has formed approx. 20 ft. upstream of photo point #4 | A previous headcut has moved approx. 30 ft. upstream | Headcut has formed approx. 30 ft. upstream of the box culvert at Loop E |
| Bank or scour erosion present? | | | | Banks of the channel are unstable downstream of photo point #4 | | |
| Other problems noted? | | New channel has formed b/t PP#2 and PP#3 | | | | |

Section 4. DEBIT LEDGER

The entire UT Thomas Pond stream mitigation site was used for the R-2248BB project to compensate for unavoidable stream impacts.

UT Thomas Pond



Photo Point #1 (Upstream)



Photo Point #1 (Downstream)



Photo Point #2 (Upstream)



Photo Point #2 (Downstream)



Photo Point #3 (Upstream)
Year 4 Winter – February 2011



Photo Point #3 (Downstream)

UT Thomas Pond



Photo Point # 4 (Upstream)



Photo Point #4 (Downstream)



Photo Point #5 (Upstream)



Photo Point #5 (Downstream)



Photo Point #6 (Upstream)
Year 4 Winter – February 2011



Photo Point #6 (Downstream)

UT Thomas Pond



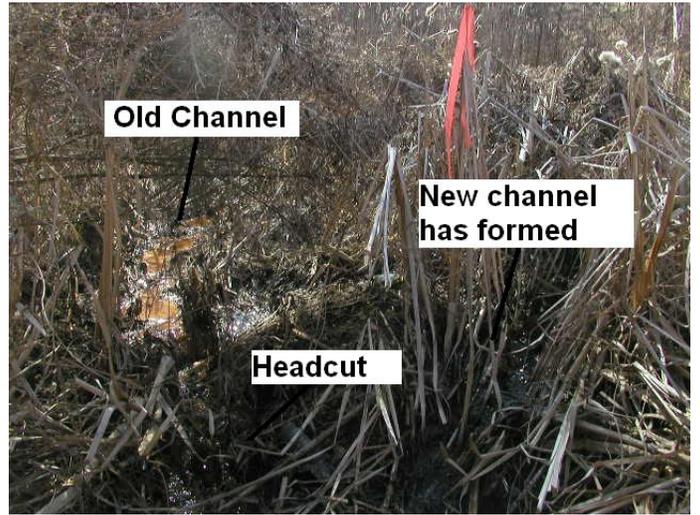
Photo Point #7 (Upstream)



Photo Point #7 (Downstream)



Sta. 218+80 to 219+00 -L-
New channel has formed b/t PP#2 and PP#3



Sta. 219+00 -L-
A previous headcut has moved approx. 50 ft. upstream

Year 4 Winter – February 2011

UT Thomas Pond



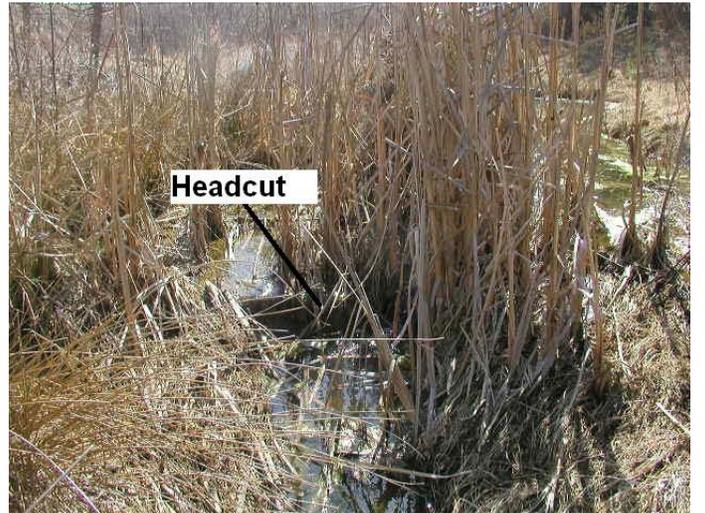
Sta. 0+20 –Loop E- (Headcut has formed approx. 20 ft. upstream of photo point #4)



Sta. 0+20 –Loop E- (Banks of the channel are unstable downstream of photo point #4)

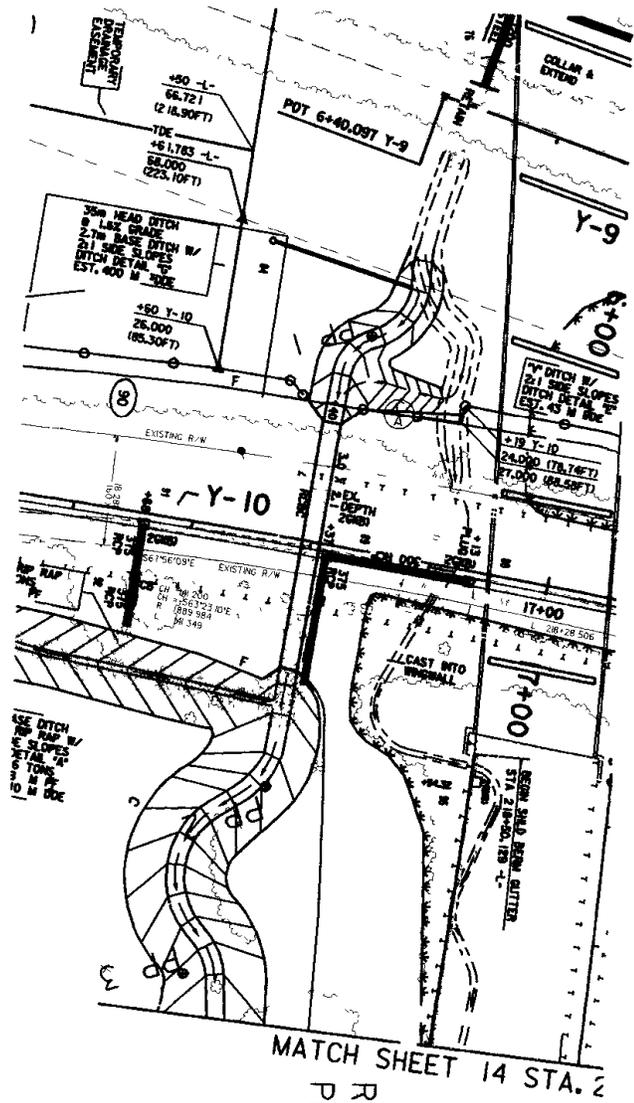


Sta. 0+60 –Loop E- (A previous headcut has moved approx. 30 ft. upstream)



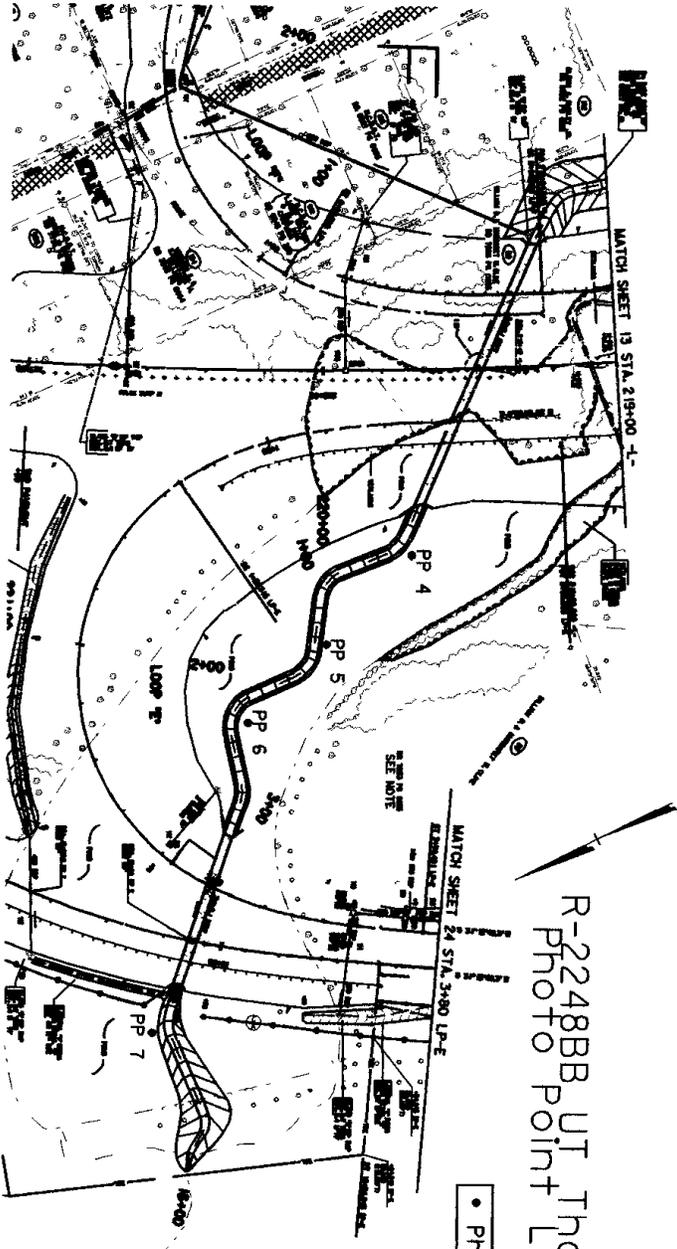
Sta. 2+80 –Loop E- (Headcut has formed approx. 30 ft. upstream of the box culvert at Loop E)

Year 4 Winter – February 2011



⊕ Photo Points

R2248BB UT Thomas Pond
 Photo Point Locations



00 1

R-2248BB, UT Thomas Pond
 Photo Point Locations

• Photo Points