# Monitoring Data Record

Project Title: R-2719A Crescent Road COE Action ID: 200802460
WQC Number: 003763
Stream Name: UT to Falling Creek
City, County and other Location Information: UT to Falling Creek is located at the intersection of the future Crescent Road and US 70 in Kinston, Lenoir Co.
Date Construction Completed: 3/3/11 Monitoring Year: ( 1 ) of 5
Ecoregion: 8 digit HUC unit 03020202
USGS Quad Name and Coordinates:
**Rosgen Classification:**
Length of Project: 2,393' Urban or Rural: Rural Watershed Size:
Monitoring DATA collected by: M. Green and T. Bobbitt
Date: 7/20/12
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Road Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov
Consultant Information:
Name:
Address:
Telephone Number: Email address:
**Project Status: Complete**

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**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**: Monitoring of the stream restoration areas shall consist of Level 1 monitoring requirements. Monitoring shall be performed twice annually (summer and winter) for each year of a five year period following completion of the work. Monitoring activities shall consist of reference photos, plant survival determinations, and visual inspection of stream stability. The sites shall be monitored for five years, provided at least two bankfull events have occurred during this monitoring period. If two bankfull events have not occurred by the end of the five year monitoring period, the NCDOT may, at the DWQ's discretion, cease further monitoring of the site. The two bankfull events should occur within different monitoring years.

The permittee shall monitor the onsite buffer mitigation site. Monitoring shall consist of visual review and photo evidence. An annual report shall be submitted to the DWQ for a period of five years showing monitoring results, survival rate/success of tree and vegetation establishment, and that diffuse flow through the riparian buffer has been maintained. The first annual report shall be submitted within one year of final planting. Failure to achieve a buffer density of 320 trees per acre after five years will require the annual report to provide appropriate remedial actions to be implemented and a schedule for implementation. Approval of the final annual report and a formal "close out" of the mitigation site by the DWQ is required.

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Section 1. PHOTO REFERENCE SITES
*(Monitoring at all levels must complete this section)*

**Total number of reference photo locations at this site:**
**12 photos were taken from 6 photo point locations along the channel, 4 photos were taken of the vegetation plots, and 2 overview photos were taken of the site**
**Dates reference photos have been taken at this site: 1/31/12, 7/20/12**

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

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

**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: Planting was completed at this stream restoration project in March 2011. Planted vegetation is surviving along the streambank and within the buffer area. Type I – Elderberry and Silky Dogwood. Type II – River Birch, Green Ash, Overcup Oak, Swamp Chestnut Oak. There were four 50 x 50 foot vegetation plots set throughout the buffer area to determine how many trees per acre were surviving. Year 1 summer plant survival counts were conducted during July 2012 monitoring evaluation with the results (see chart below) showing an average tree density of 625 trees per acre, which is well above the minimum success of 320 trees per acre. Other vegetation noted onsite included cattail, fennel, green briar, ragweed, woolgrass, sedge, red maple, sweetgum, tear-thumb, lespedeza, stinkweed, soft rush, trumpet creeper, and various grasses. NCDOT will continue to monitor plant survival at the UT to Falling Creek stream mitigation site.

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

| Plot # | River Birch | Green Ash | Overcup Oak | Swamp Chestnut Oak | Total (Year 1) | Total (at planting) | Density (Tree/Acre) |
|---|---|---|---|---|---|---|---|
| 1 | 21 | 6 | 4 | | 31 | 35 | 602 |
| 2 | 17 | 7 | 8 | 2 | 34 | 39 | 593 |
| 3 | 5 | 19 | 4 | 7 | 35 | 38 | 626 |
| 4 | 16 | 9 | 12 | 10 | 47 | 47 | 680 |
| | **Average Tree Density** | | | | | | **625** |

**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 to Falling Creek is stabilized for the Year 1 Summer evaluation. NCDOT will continue to monitor channel stability at the UT to Falling Creek stream mitigation site.

| Date | 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? | | | | | |

**Section 4. DEBIT LEDGER**

The entire UT to Falling Creek stream mitigation site was used for the R-2719A project to compensate for unavoidable stream impacts.

# UT to Falling Creek

Photo Point #1 (Upstream)

Photo Point #1 (Downstream)

Photo Point #2 (Upstream)

Photo Point #2 (Downstream)

Photo Point #3 (Upstream)

Photo Point #3 (Downstream)

Year 1 Summer – July 2012

# UT to Falling Creek

Photo Point #4 (Upstream)

Photo Point #4 (Downstream)

Photo Point #5 (Upstream)

Photo Point #5 (Downstream)

Photo Point #6 (Upstream)

Photo Point #6 (Downstream)

Year 1 Summer – July 2012

# UT to Falling Creek

Vegetation Plot #1

Vegetation Plot #2

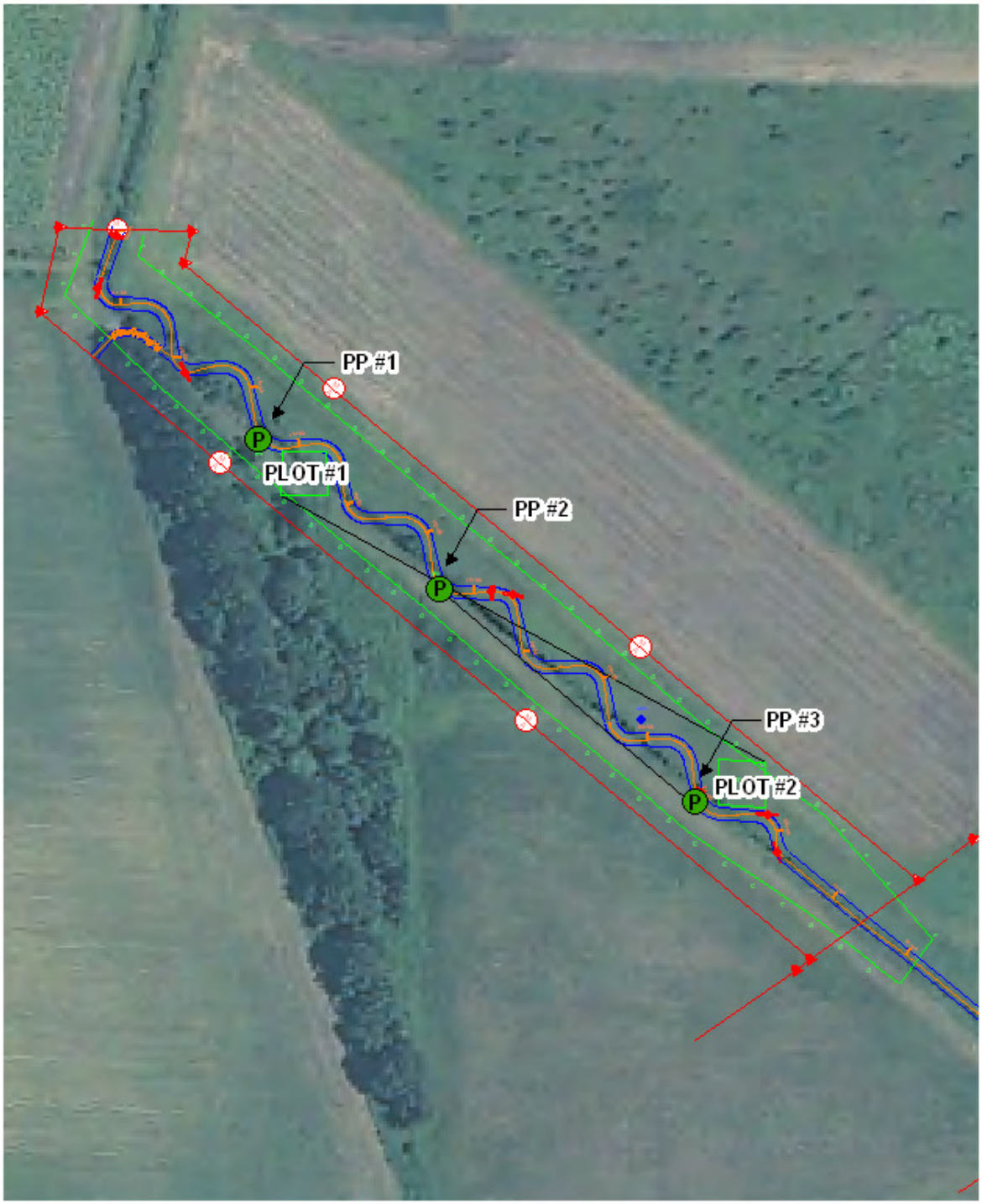
Vegetation Plot #3

Vegetation Plot #4

Overview photo  looking upstream

Overview photo looking downstream

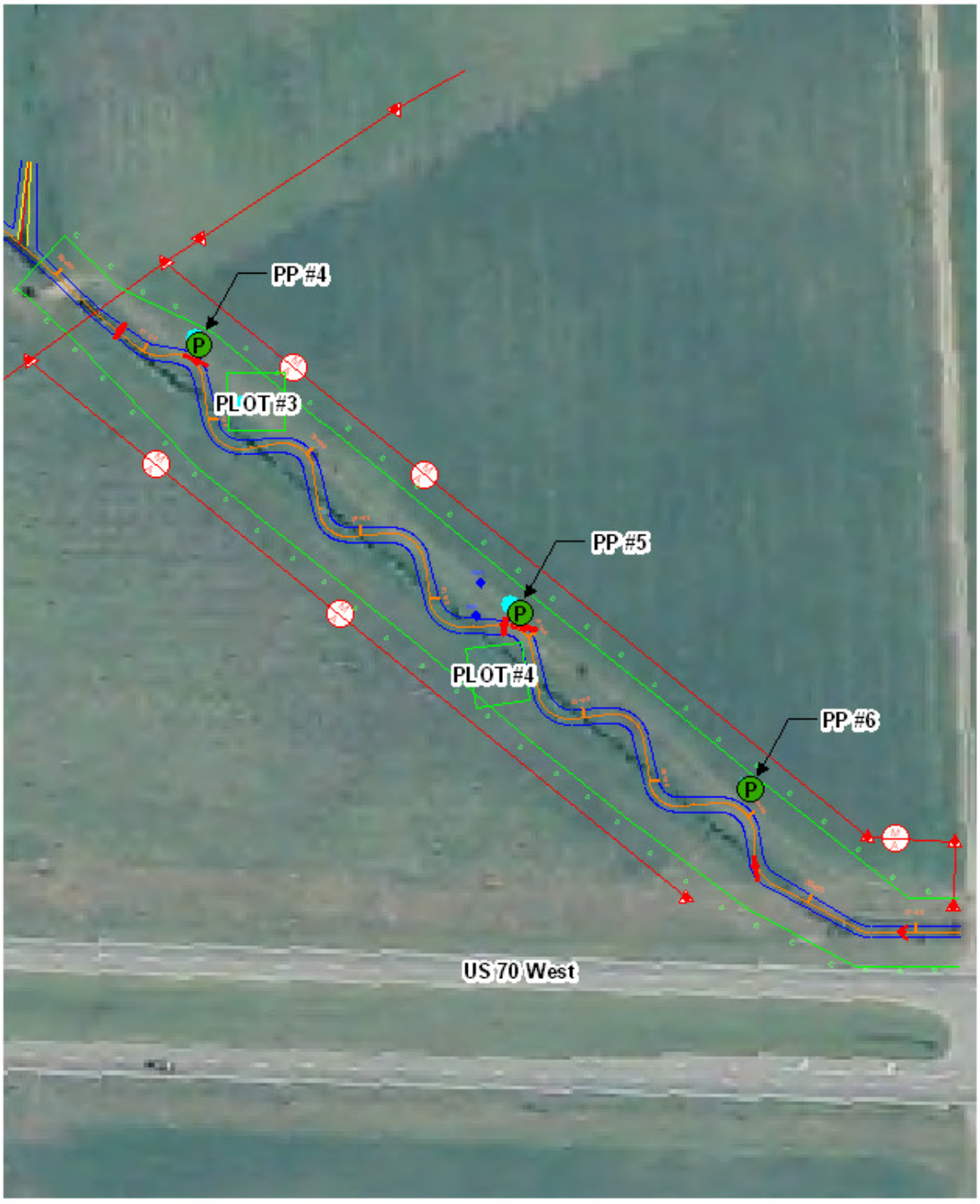
Year 1 Summer – July 2012




R-2719A UT to Falling Creek Stream Restoration Site
Vegetation Plot & Photo Point Locations
Lenoir County, North Carolina

0 750 1,500
Feet

N
W E
S

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