

Final Survey Report August 12, 2016

TIP #: 94-0022
Project #: 17BP.11.R.118
LS #: Various
Project ID #: D11BP-CON-GEL
Watauga County

Description: Bridge # 22 over Beaver Dam Creek on SR 1209 (Rush Branch Road)

Field Surveys:

Project was surveyed between 7/5/16 and 8/11/16.
GEL performed the following surveys by conventional methods:

- Property
- Pavement DTM's
- Planimetric features
- Full DTM's
- Hydrographic surveys
- Microstation Files were mapped at 1" = 50' scale

Limits:

Limits are defined as 350' from each end of bridge and 75' left and right of centerline of road plus an additional width of approximately 180' left along the creek. Hydrographic survey limits are 75' upstream and 180' downstream and include top of bank, water's edge, under water shots and ground shots 25' away from top of bank.

Control:

Two GPS points (940022-1 and 940022-2) were set on the site by NCDOT and used as project control. Point BL 103 and BL 104 were established using conventional survey methods.

A differential level loop was run from 940022-1 to establish elevations for BL 103, BL 104 and Bench Mark 10. Benchmark 10 is a Bench Tie nail set in a 12" Black Locust BL Station 7+06.81 125.50' Left.

Existing R/W:

R/W was mapped based on existing alignment and reference plats available found in public records. No R/W abstract was provided by NCDOT.

Existing Alignment:

An existing alignment was computed using pavement splits of pavement located within project limits. This existing alignment was stored as chain EL 1.

Property:

Property information requested was based within limits of survey area. Property owner and property information was obtained from Watauga County GIS and Watauga County Register of Deeds.

Utility Information:

Utility information was designated by response to NC811 Ticket #C161812761 and collected by GEL.

Hydro Information:

The creek was surveyed for 75 feet upstream and 180 feet downstream. Top of bank, bottom of bank and random underwater shots were obtained. Ground shot were obtained 25' from the top of the bank.

DTM & TIN Files:

The DTM file is a product of conventional topo (pavement, supplemental, and hydrographic dtm's performed by GEL. Curve stroke tolerance was set at 0.15' with a minimum length of 30' and a side dissolve option with a side length of 100'.

Adjacent land usage and traffic:

- A mix of a school site, recreational facility and agricultural tracts.
- Light traffic observed during work hours.

Deliverables:

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|-----------------------|----------------------------|
| • Survey Report | 940022_ls_sr_160812.pdf |
| • Baseline Text File | 940022_ls_bln_160812.txt |
| • Project GPK file | 940022_ls_gpk_160812.gpk |
| • Final Survey File | 940022_NCDOT_FS_160812.dgn |
| • DTM File | 940022_ls_dtl_160812.dtm |
| • TIN File | 940022_ls_tnl_160812.tin |
| • Propcon Database | 940022_ls_poc_160727.mdb |
| • Deed Book (digital) | pdf copies |