

Final Survey Report

March 18, 2016

TIP: B-5691

PEF: CALYX Engineers +Consultants

Project No.: W0377

L&S # 06-16-14

Cumberland and Sampson Counties

Description: Bridge 52 on SR 1006 (Maxwell Rd) over the South River

Datum

- This is an English project.
- The Horizontal Datum is NAD 1983 (conus) NA 2011.
- The Vertical Datum is NAVD 88.
- All distances and coordinate units are US Survey Feet.

Baseline Alignment

b5691_ncdot_fs.dgn.

b5691_ncdot_baseline.txt

- The Baseline Control for this project was established by NCDOT.
- Baseline –BL- Beginning Station; BL-1, Station 5+00.00.
- Project GPK file: b5691_ls_gpk.gpk.

- Localized Monument used for Project Control: **B5691-1**

<u>Northing</u>	<u>Easting</u>	<u>Elevation</u>
485,959.906	2,097,635.914	106.81'

- The Average Combined Factor GROUND TO GRID is 0.999876875

-EL- Existing Alignment

b5691_ncdot_fs.dgn.

- –EL- Beginning Station; Station 10+00.00.
The Existing Alignment –EL- was generated by a best fit of the existing roadway centerline.

Field Surveys

This project was field surveyed between February 25, 2016 and March 15, 2016.

CALYX performed the following survey tasks by conventional methods.

- Pavement dtm's.
- Gravity utilities and Pipe inverts.
- Classification.
- Field Property ties.
- Location of planimetric features

- Supplemental dtm's
- Hydrographic surveys
- Location of wetlands (delineated by others)
- Location of TBM set by NCDOT
- SUE – designation, location and mapping

Planemetric Mapping

b5691_ncdot_fs.dgn.

- All planemetric features in the mapping were conventionally surveyed by CALYX.
- No data from photogrammetry was provided.

Existing Right of Way

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- A Right of Way Abstract was not provided by NCDOT.
- The right of way was mapped at 60 feet wide (30 feet from centerline) based on existing plats of record and visual observation of NCDOT maintenance.

Properties

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- Property Lines were drawn from deeds and plats obtained from the Register of Deeds Office.

Utility Information

b5691_ncdot_fs.dgn.

The following utilities were observed within the project limits.

- Power
- Note: No underground utilities found within the project limits

DTM and TIN files

b5691_ls_dtm.dgn.

b5691_ls_tin.tin

- The DTM file is comprised of conventional topo (pavement dtm's, obscured and non-obscured dtm's and hydrographic dtm's), performed by CAYLX.

- Curve and Stroke Tolerance was set at 0.15 feet and with a minimum length of 30 feet. Side Dissolve option was used with a Side Length of 100 feet.

Existing Bridge

- The existing bridge appears to have a wooden deck with an asphalt wearing surface on steel girders, supported by timber substructure.
- The bridge rail is metal guardrail.

Adjacent Land Uses and Traffic

- The vehicular traffic along on SR 1006 (Maxwell Rd) was observed to be medium throughout the day.
- The land use around the project limits are undeveloped wooded tracts.

Deliverables

The following is a list of the files and data submitted at the completion of the Survey.

Surveyor's Report	b5691_ls_sr.pdf
Baseline Text File	b5691_ls_baseline.txt
GPK File:	b5691_ls_gpk.gpk
Full Survey File	b5691_ncdot_fs.dgn
DTM File	b5691_ls_dtl.dgn
DAT File	b5691_ls_dat.dat
TIN File	b5691_ls_tnl.tin
Pole Data File	b5691_ls_pdf.txt
Propcon Database	b5691_ls_poc.mdb
Deeds and Plats in pdf format	b5691_ls_deeds
Certification Letter	b5691_Certification Letter.pdf

PHOTOS



LOOKING NORTHEAST



LOOKING SOUTHWEST



LOOKING UPSTREAM



LOOKING DOWNSTREAM



BRIDGE PROFILE (LOOKING WEST)



WOODEN ENDWALLS (TYPICAL)