STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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To: All L&S Staff/PEF's

From: Charles W. Brown, PE, PLS
State Location & Surveys Engineer

Subject: Proc 2014-1
New SUE Utility Procedures

The Sub-Surface Utility industry has standards to classify underground utility location. Publication CI/ASCE 38-02 defines 4 different levels of service (LOS). These LOS's are as follows:

- LOS A – Test Holes where the utility is exposed and a horizontal coordinate (XY) and direct point elevation (Z) is obtained on the utility.
- LOS B – This is full designation and horizontal location (XY) by a licensed SUE firm utilizing various geophysical prospecting equipment.
- LOS C – Survey of above ground appurtenances (meters, valves, etc.) and line information depicted by records research and/or lines painted by the One Call Center.
- LOS D – Utility lines mapped by records research with no additional field designation.

Location and Surveys is making changes to more closely follow this industry standard. In the past, we have considered in-house locating and mapped record utility lines as "LOS D" (marked by solid line work) and work completed by an SUE firm (dashed line work) as "SUE - LOS B". Due to this, we have always used the same line work for Level C and Level D (solid lines) which results in improperly classifying the quality of our underground utility location. LOS C includes surveyed above ground appurtenances and any utility lines painted by the One Call Center and/or depicted per records. These LOS C utility lines are higher quality than LOS D utilities located without any field surveys.

Each LOS, except LOS A, will have a unique line style and level. LOS A does not have a line style as it is a point feature. Along with this change, the Utility Unit has also requested that more data be provided to them including owner, material and type. This has required several changes in the way we map utilities.

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In order to map the utilities using this new method, new levels have been created for each LOS. Also, all underground linear utility work has been moved inside of NCMAP and has been placed in a utility called NCUTIL. NCUTIL is included as part of NCMAP and is included with the CADD workspaces.

This new utility has the ability to place new utility lines and test holes as well as edit existing or field collected utility lines and test holes. When you place a utility line or test hole, you are given the ability to add the new information such as owner, size, material type and notes. This information is attached to the elements by way of MicroStation "X Attributes" and is visible when you "hover" over the element. A list of utility owners is maintained in an Excel spreadsheet in the workspaces. This file is maintained by the GTS group. NCUTIL has the ability to label any of this information in the CADD file either along the element or by using a leader line.

In order to accommodate the new line styles and levels, CADD services has removed the old linear utility levels. To merge an existing utility file into a new drawing, you will have to use the NCREMAP utility. The re-mapper program has been modified to take these new levels into account.

The final requirement is a modification of the SMD file for field use. Feature codes will not change, but the name associated with the feature codes will now reflect the new LOS types.

These changes reflect a major shift in the philosophy of how we collect utility information. NCUTIL is a simple program in its design and its use. It should make for an easy transition from the way Location and Surveys has mapped utilities in the past. The re-mapping issue, although unexpected, has been addressed in an updated re-mapper utility. The GTS group will be producing a short video tutorial on the new NCUTIL utility to be distributed soon.

Please contact Donnie Stallings of the GTS group if you need assistance and to report any future issues related to mapping utilities. He can be reached at 919-707-6800.

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