Delaware Department of Transportation

ENGINEERING INSTRUCTION

EI

UT-20-001

Title: Displaying Utility Information Within the Plan Set

4/16/2026

To improve the consistency and quality in the presentation of information within the construction plan sets that are generated for the Delaware Department of Transportation (DelDOT), it is recommended that utility information be displayed on the construction plans as follows.

As per the direction of the DelDOT Utility Engineer, all existing subsurface utility lines are to be annotated with the appropriate Quality Level (QL) classification as defined in the American Society of Civil Engineers (ASCE) document entitled "***Standard Guideline for Investigating and Documenting Existing Utilities (ASCE 38-22)***".

ASCE Quality Levels

The following Quality Level classifications shall be used to annotate all existing subsurface utility lines, which include traffic signalization lines, traffic ITMS lines, and traffic lighting lines.

Quality Level A - Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents. Accuracy is typically set to 15-mm vertical and to applicable horizontal survey and mapping accuracy as defined or expected by the project owner. QLA only applies at the location of the test hole or where the utility was fully exposed to collect data.

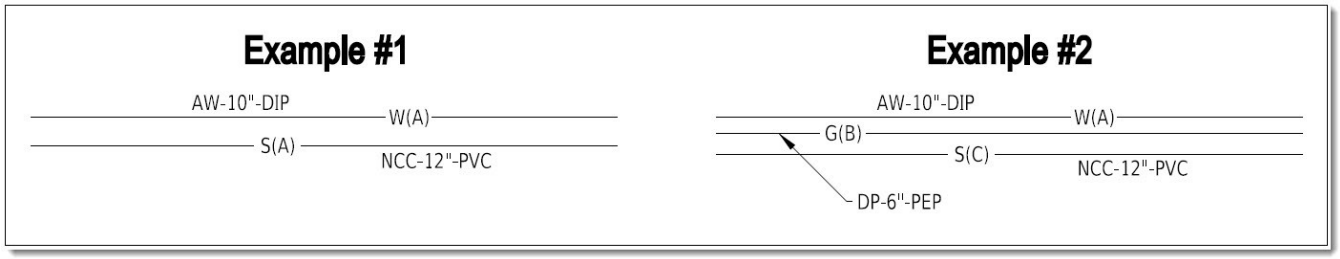
Quality Level B - Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality level B data should be reproducible by surface geophysics at any point of their depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents.

Quality Level C - Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information.

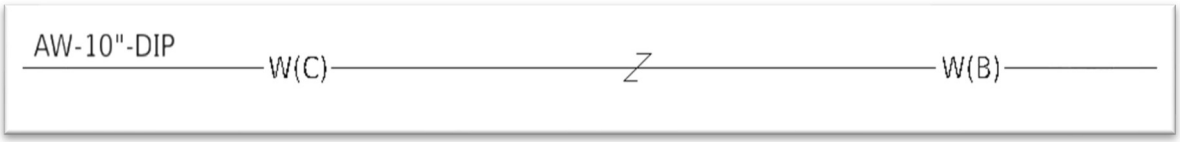
Quality Level D - Information derived from existing records or oral recollections. If info is not delivered by a SUE consultant in accordance with ASCE standards, then all linework shall be shown as QLD.

Subsurface Utility Labeling

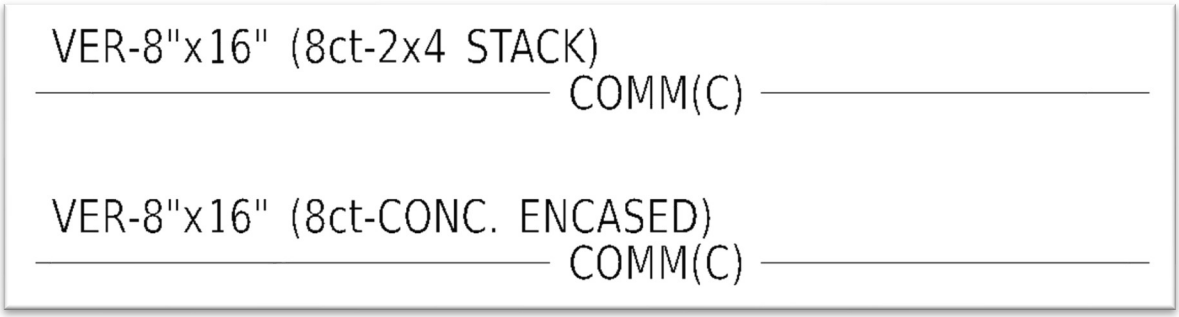
In addition to the appropriate Quality Level, where applicable, each subsurface utility line shall be annotated with the owner, size and material. This information shall be placed directly above or below the existing subsurface utility line being annotated (Example #1). In cases where line work is dense, and the annotation cannot be placed above or below the utility line, annotation can be performed via the use of a leader line (Example #2).



Wherever there is a break in Quality Level, it will be noted using the quality level break identifier (UT_BR). The identifier is to be placed at the break, rotated to the direction of the line.



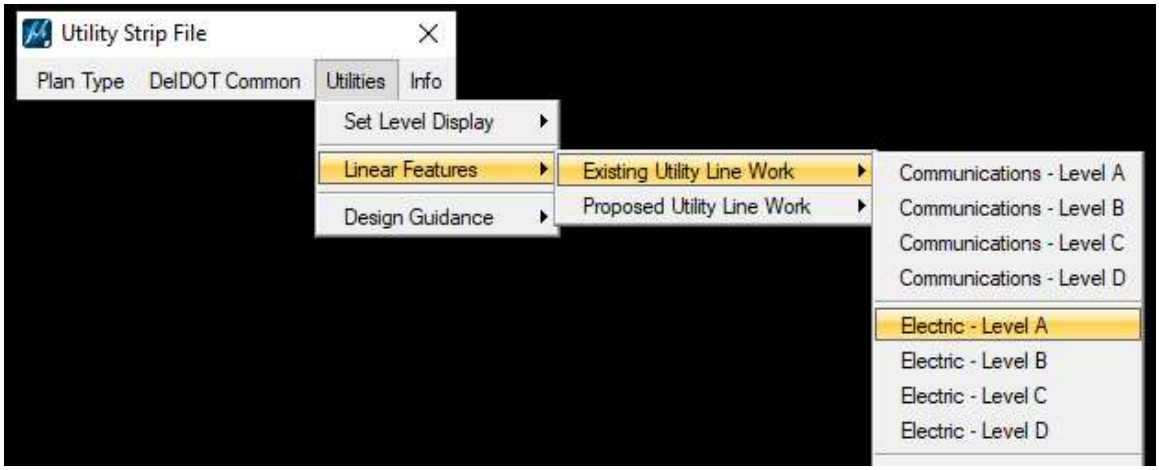
For utilities with multiple conduits, cables, fibers, or duct banks, the quantity and arrangement or encasement type should be called out.

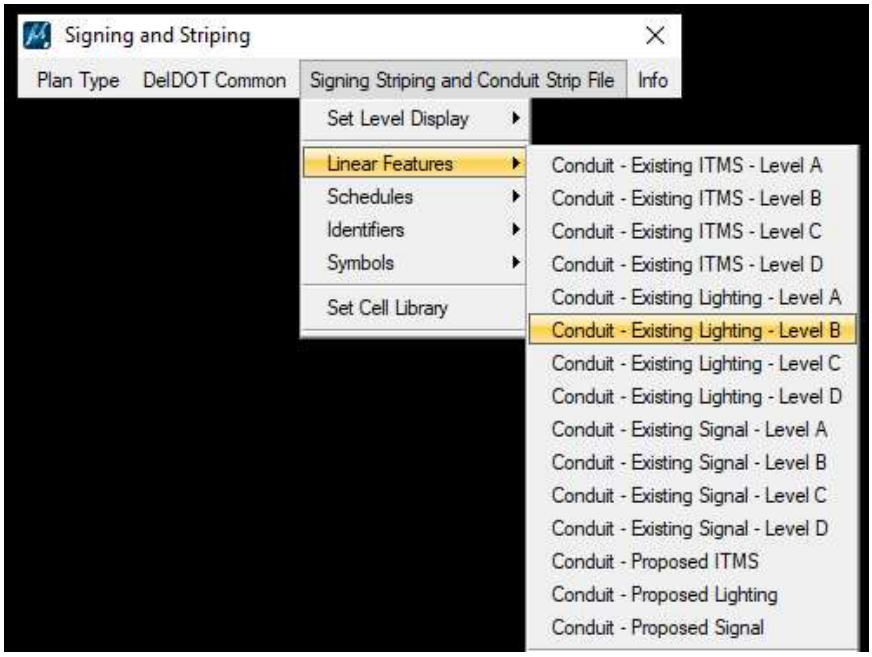


The DelDOT CADD resources (DelDOT_Line_Styles.rsc) contain the necessary line styles that are to be utilized when displaying existing subsurface utility lines within Construction Plan sets. The chart below contains the appropriate line style for each subsurface utility type. (Note: for this chart, random Quality Levels were chosen as an example only.)

ELECTRIC POWER LINES	EXISTING FACILITIES	PROPOSED FACILITIES
COMMUNICATIONS LINES	COMM(A)	COMM
ELECTRIC POWER LINES	E(A)	E
GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS	G(A)	G
IRRIGATION, RECLAIMED WATER, AND SLURRY LINES	IR(A)	IR
SEWER LINES	S(A)	S
POTABLE WATER LINES	W(A)	W
ITMS LINES	ITMS(A)	ITMS
LIGHTING LINES	LI(A)	LI
SIGNALIZATION LINES	SIG(A)	SIG

The DelDOT Menu Bar in MicroStation v8i, and the DelDOT Ribbon Tab in MicroStation Connect Edition have been updated to reflect the use of the line style mentioned above. Utilization of the Menu Bar or Ribbon Tab will ensure the proper element attributes (Level, Color, Line Style, and Weight) are being used when placing the subsurface utility lines.





Utility Company Abbreviation for Utility Line Annotation

A listing of utility company names and appropriate abbreviations is posted on the Delaware Department of Transportation (DelDOT) Design Resource Center (DRC), and can be found at the following link:

https://deldot.gov/Business/drc/index.shtml?dc=utilities