



Case Study Category: SUE

Case Study Title: GPR and EM Subsurface Mapping for Catskill Aqueduct Waterline Installation in New York

Utility Name: Catskill Aqueduct, NY

Case Study Abstract: SUE is an engineering process used to identify and map underground utilities and structures as well as assign a quality level to data. There are different geophysical techniques available to acquire data regarding the two-dimensional location of underground utilities. It is important for designers or engineers to be familiar with various geophysical methods for successful designations of underground utilities. GPR and EM technologies are two predominant technologies that are used in designating and locating the underground utilities. This case study investigated application of these technologies to perform a geophysical subsurface survey for the installation of a 16-inch water line for the Catskill Aqueduct project in NY. The UIT 14-channel TerraVision II® GPR unit, and MetaVision II® multi-sensor EM devices in addition to a 200 MHz single channel GPR and a DualEM-4 ground conductivity meter were used to conduct the survey. Accurate 3D positions of the pipes and other underground utilities, in order to design the alignment to avoid conflicts during installation of the new waterline, pumping station, and related facilities, and to conduct geotechnical sampling were founded.

Case Study Link: <http://waterid.org/content/gpr-and-em-subsurface-mapping-catskill-aqueduct-waterline-installation-new-york>