



Harlem River Crossing for a New M-29 Feeder

New York, NY

Mueser Rutledge Consulting Engineers (MRCE) led a joint venture effort to design the directional drilling crossing of the Harlem River. The work included a feasibility study of several sites, alignment selection, and design. Harlem River Crossing is part of the \$250 million new 345 kV underground transmission circuit project connecting the Sprainbrook Substation in Yonkers to the Academy Substation in Manhattan, NY. The project included an interpretation of the geotechnical data, subsurface conditions, and ground behavior that was likely to influence HDD construction activities. The design addressed anticipated ground conditions that may be encountered during HDD construction operations, as well as provided a basis of design to anticipate such conditions. It also included discussions of geologic and man-made features of engineering design and construction significance, including the monitoring requirements of the existing structures and utilities. Results of the detailed HDD design led to the conclusion that an utilidor is a cost-effective solution to this river crossing. Based on our recommendation, the client decided to proceed with the tunneling option.

Two tunnels concepts were analyzed during the pre-feasibility study. The short one crosses the Harlem River between the Bronx and Manhattan east of the Broadway Bridge. The longer option would connect the Bronx directly with the Academy Substation.