



## SECANT PILES

### RONDOUT WESTBRANCH BYPASS TUNNEL SHAFT - WAPPINGER FALLS, NEW YORK

One of the main sources of water for New York City are reservoirs in the Catskill Region of upstate New York. This water flows to New York City through a system of tunnels. One of these tunnels that runs under the Hudson River has begun to leak as a result of its age. A new tunnel was proposed to allow the existing leaky tunnel to be bypassed. To construct the bypass tunnel, shafts were constructed on both sides of the Hudson to launch and receive the tunnel equipment. Schnabel constructed the secant piles for the shaft on the east bank of the Hudson to support the earth above the rock, and prevent water infiltration.

A series of overlapping, reinforced secant piles were installed in a self-supporting circular ring pattern to allow excavation through the overburden soils and upper portion of the bedrock. The secant piles were installed to a depth of around 87 feet through fill, dense sands and gravel, and toed into 15' to 20' of shale bedrock. A Sonic Caliper, as well as Schnabel's designed laser device, were used to confirm the verticality of each shaft.

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Owner: **New York City of Environmental Protection**  
General Contractor: **Schiavone Construction Co, LLC**  
Design/Build Specialty Contractor:  
**Schnabel Geotechnical Design & Construction**



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For more information on this project or any other of our projects please contact Schnabel at:

**(703) 742-0020 or visit our website at [www.schnabel.com](http://www.schnabel.com)**



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