



*Morton Street Shafts are pictured at left.
Drawing above is for Morton Street shafts.*

PATH Rapid Transit Ventilation & Evacuation Shafts

New York, NY & Jersey City, NJ

The PATH Rapid Transit System connecting New York and New Jersey underwent a major upgrade and rehabilitation during the past ten years. This project included the construction of numerous ventilation and evacuation shafts connecting the underground tunnels to the street. Mueser Rutledge Consulting Engineers (MRCE) was responsible for the design of two of these shafts: the Railroad Avenue and the Morton Street shafts.

Railroad Avenue Shaft, Jersey City, NJ

The Railroad Avenue shaft in Jersey City employed slurry wall technology to construct a shaft from grade down to the tunnels. When the shaft was enclosed, the tunnel structure was removed from inside the shaft. All work was done without interrupting operations.

Morton Street Shafts, New York City, NY

The shaft construction at Morton Street in New York City is similar to that at Railroad Avenue except that the construction of the shaft was within one hundred feet of the Hudson River. The design had to account for this situation not only in the completed structure but particularly during the construction. Scenarios that involved high tides, storms, hurricanes, or accidents had to be examined and taken into account in the design. It should be noted that the existing tunnels and stations were approximately 100 years old and are therefore historic structures. Because these structure were vulnerable to damage, new construction had to occur alongside an operating railroad. The work was accomplished without incident.