

HIGH VIEW TUNNEL (1871)

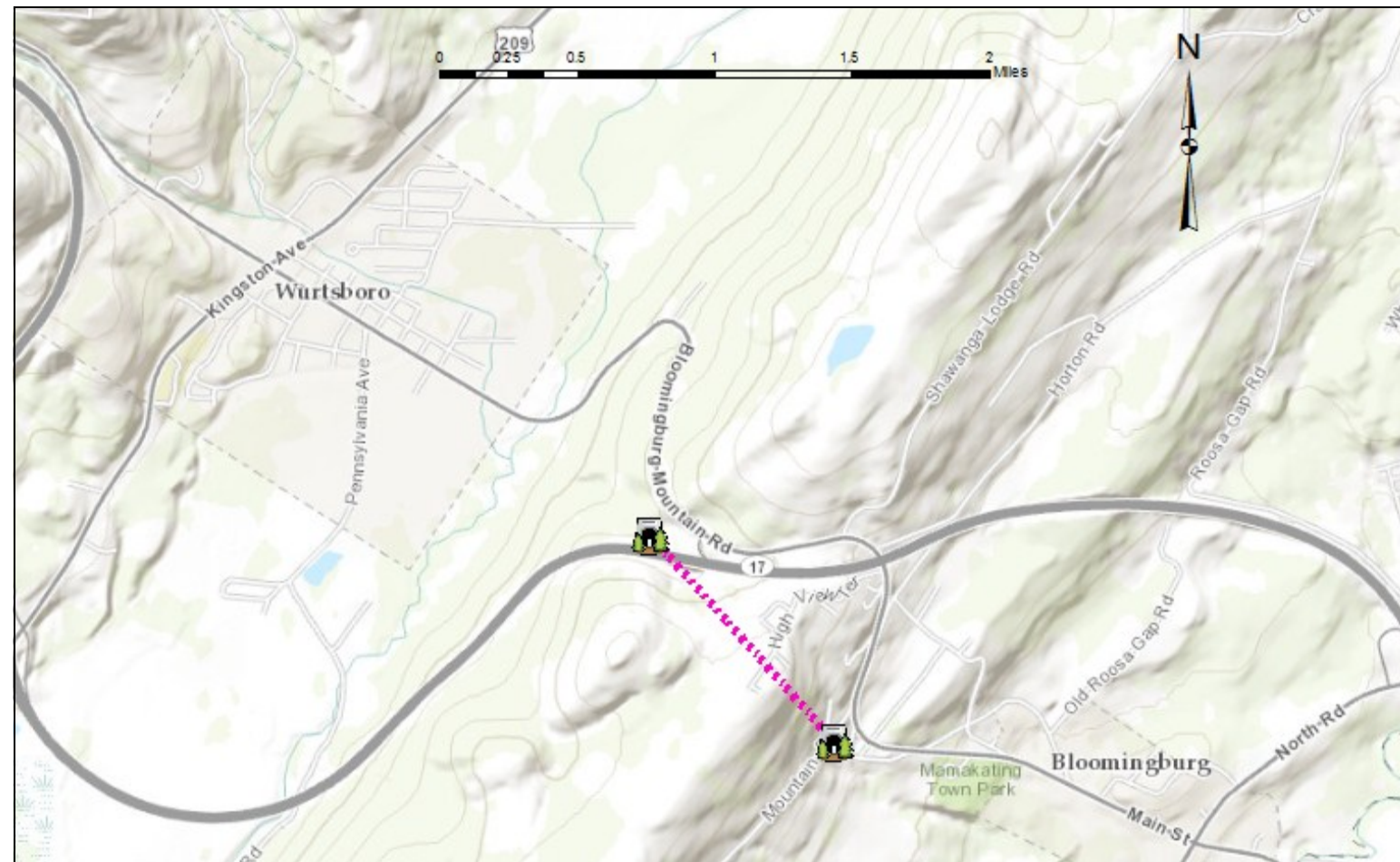
In 1868, more than 20 years after the Erie rejected the idea of a tunnel, Clinton Stephens designed a tunnel through the Shawangunk ridge between Wurtsboro on the west and Bloomingburg on the east for the New York and Oswego Midland Rail Road (later the Ontario and Western [O&W] Railway). Stephens had previously done considerable work on the Erie Canal and had also contracted with the Erie Railroad. Construction of the so-called High View Tunnel began in 1868 and was completed in 1871. Work was started at both ends of the tunnel simultaneously. When both teams met in the middle, they were only a few feet off. This was quite an engineering feat at the time, especially since the tunnel is curved near the east portal (Skye, 2009).

The now abandoned High View Tunnel cuts through Shawangunk Mountain just south of a high wind gap ~1 mi southwest of Wurtsboro, Sullivan County. Elevation of the floor of the gap is ~1000 ft, the mountain rising to knobs ~1200 ft immediately to the northeast and southwest. Just to the southeast, and also on the line of the tunnel is a narrow spur-ridge ~100 ft higher than the floor of the gap. The elevation of both portals is ~840 ft, and therefore ~250 ft of rock lie above the deepest part of the tunnel. Original length of the tunnel was 3,857 ft, cut through solid rock. The rock was excavated using steam-powered drills and black powder.

The southeast portal of the tunnel is situated several hundred feet northeast of the former High View Station. The Martinsburg Formation exposed at the portal and in cuts to the south is predominantly evenly interstratified, thin-bedded gray shale and silt-stone, exhibiting only slight internal deformation. Bedding strikes N35-65E and dips rather uniformly 10-15NW. Attitude of cleavage in the shales is ~N75E/20SE. Attitudes of the most prominent joints are N75E/90, N28E/87SE, and N2W/83E.

The present northwest portal is on the mountainside directly downslope from the westbound lanes of recently constructed new NY Route 17. Well exposed at the portal and in the rock cut to the northwest is medium- to thick-bedded, light-gray to white Shawangunk quartzitic sandstone and conglomerate. Bedding is relatively uniform, striking N33E and dipping 26° NW. Numerous large, angular quartzite blocks fill the cut just beyond the existing portal, a result of a “botched attempt” to block the original portal that shortened the tunnel ~ 20 ft (Houck, 2006).

The High View Tunnel was originally “jerry-built” with little regard to safety and geologic conditions (Wakefield, 1970, p. 45). Particularly troublesome were a pocket of clay encountered in the course of construction (probably related to deep weathering in the Martinsburg at the northwest-dipping contact with the Shawangunk), the fractured (jointed) nature of the Shawangunk quartzite, and constant water problems. In 1878 the Midland installed brick lining in parts of the tunnel, but leaving large rooms of solely rock bore construction between three lined segments (Wakefield, 1970, p. 45; Houck, 2006). In 1897, seventeen years after taking over the tunnel from the Midland, the O&W Railway attempted to further strengthen the arching of the tunnel. (The local press reported, however, that the men performing the work were exposed to almost unbearable gas and smoke conditions [Wakefield, 1970, p. 47].)



Location map of the O&W Railroad's tunnel through Shawangunk Mountain between High View and Bloomingburg, Sullivan Co., NY (Yankee Lake and Wurtsboro 7.5' quadrangles).



High View Station, now an elegant residence, along the abandoned railroad grade a few hundred feet from the east portal of the O&W tunnel. In the late 1960's, the station “brood[ed] hauntingly over a field-like thicket, a vandalized shell, nothing more than a shelter for a flock of chickens” (Wakefield, 1970, p. 38). Things have since decidedly improved.



Southeast portal of the abandoned O&W tunnel at High View (GPS ~41° 33' 30.3"N/74° 27' 30.6"W). Bedding in the Martinsburg shale and sandstone in the immediate vicinity of the portal is very gently west dipping.



Martinsburg shale and sandstone on the southeast side of the old railroad grade approaching the east portal of the Otisville tunnel near High View Station. Bedding dips gently northwest.



Northwest portal of the abandoned O&W High View tunnel about 0.8 mi east-southeast of Wurtsboro (GPS 41° 34' 00.0"N/74° 28' 05.7"). The Shawangunk conglomerate here strikes N33E and dips 26° NW. Note the iron, brick, and crushed stone (from interior out) linings of the tunnel exposed in a botched attempt to shorten the tunnel sometime in the past.



Southeast portal of the High View tunnel near the former High View Station on the east flank of Shawangunk Mountain (GPS 41°33' 30.3"N/74° 27' 30.6"W). Bedding in the Martinsburg shale here strikes N65E and dips 14°NW on the west limb of a minor anticlinal fold.



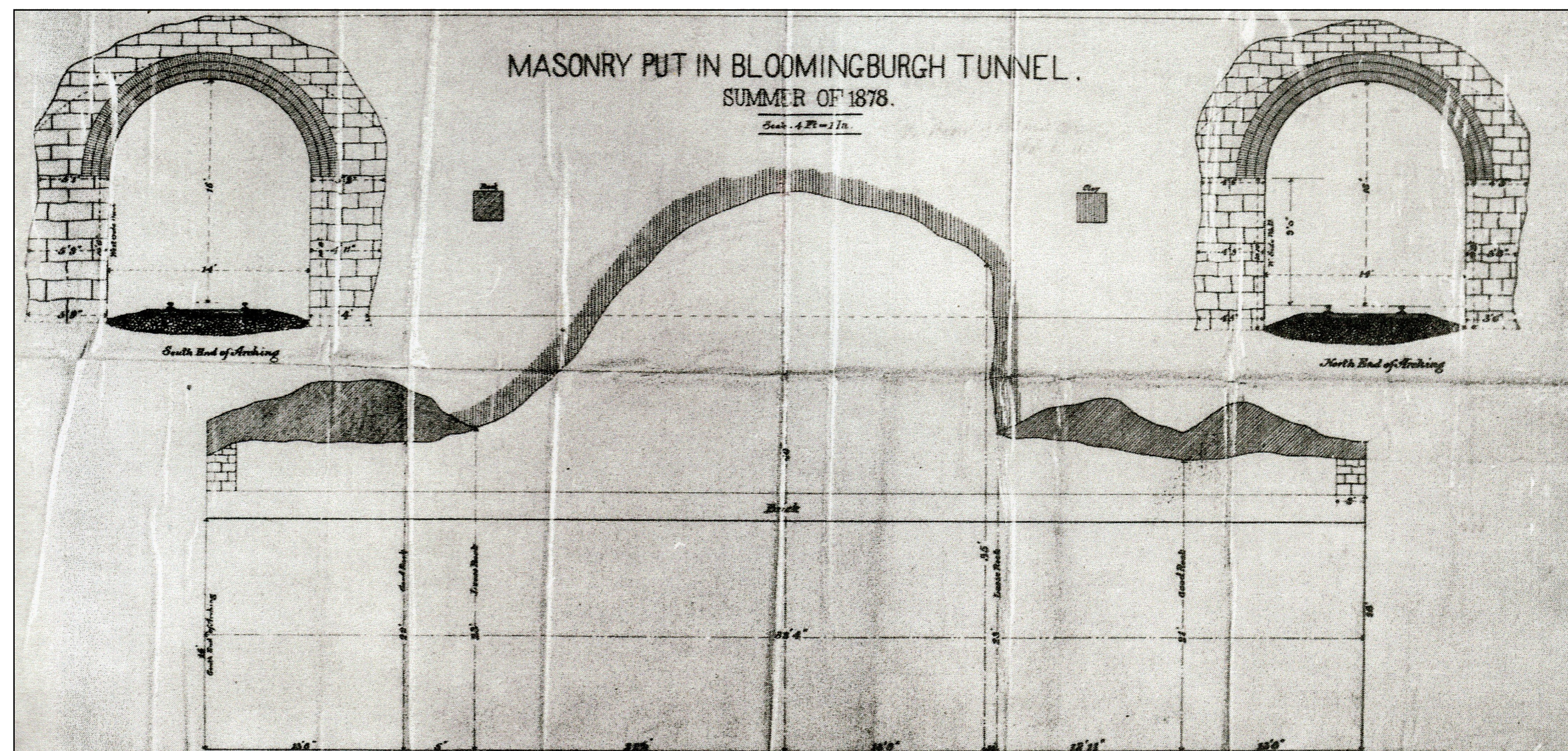
Cut in Shawangunk Formation along old NY Route 17, a few hundred yards north-northwest of the northwest portal of the High View Tunnel. Bedding dips to the northwest.



Long rock-cut in Shawangunk quartzite and quartz conglomerate in the approach to the northwest portal of the High View tunnel.



Close-up of the southeast portal of the High View tunnel showing gently west-dipping bedding, water in tunnel (a constant problem during railroad operations), and lack of lining at portal.



Engineering department drawing showing details of brick lining built to protect trains from persistent roof rock-falls in the O&W's High View-Wurtsville ("Bloomingburgh") tunnel. The August 30, 1878, Liberty (NY) Register reported "the Midland is doing a good job in the tunnel, laying a solid brick arch which will make it save for all trains to come" (Wakefield, 1970, p. 47).