

NASHVILLE ELECTRIC SERVICE
DESIGN-BUILD TRANSMISSION LINE TUNNEL
6TH AVE SOUTH
NASHVILLE, TENNESSEE



Project Description

The design-build contract included 2,400 LF of 8.5 feet diameter tunnel with 2 permanent access shafts. Due to property acquisition issues the tunnel length was increased to 3,088 LF during the design phase. Due to limited site availability the substation temporary access shaft was excavated 21 feet by 21 feet to a depth of 62 vertical feet. Excavation of the shaft included approximately 12 vertical feet of overburden supported by ring beams and liner plate. The remaining 50 vertical feet of shaft was drilled, blasted, and excavated in rock. A 16 feet x 16 feet permanent cast-in-place concrete access structure was constructed within the temporary shaft. The TBM mining shaft was excavated 32 feet in diameter to a depth of 143 vertical feet. Excavation of the shaft included approximately 24 vertical feet of overburden supported by ring beams and liner plate. The remaining 119 vertical feet of shaft was drilled, blasted, and excavated in rock. A 16 feet x 16 feet permanent cast-in-place concrete access structure was constructed within the temporary shaft. The hard rock tunnel was mined with our Jarva Mark VIII Tunnel Boring Machine. Approximately 30% of the tunnel length was mined through curves.

At a Glance

Contract Amount:
\$8.8 M

Notice to Proceed:
June 1, 2010

Completion Date:
October 1, 2012

Owner:
Nashville Electric Service

Engineer:
Smith Seckman Reid, Inc.