

## National Center Sanitary Sewer Project Crystal City, VA



### PROJECT OVERVIEW AND CHALLENGES

The primary jacking pit on the NCSS project was a 30' deep, 26' diameter shaft supported by steel ribs and wood lagging. The shaft was installed in primarily sandy, dry conditions with interspersed layers of hard clay. One of the main challenges involved in the shaft installation was the presence of a manhole intersecting the shaft. The manhole remained from a previous drilled shaft installation and was encased with flowable fill and surrounded by an 8' corrugated metal casing. During excavation, the portion of the casing impacting the shaft had to be removed and the backfill grout chipped away and remove to allow for the installation of the shaft supports. In addition to the jacking shaft, (2) 8' diameter intermediate shafts were installed for manhole connections and a final, 18' diameter receiving shaft was installed in the center of Rt. 1 to retrieve the TBM and perform the final sewer connection.



### PROJECT INFORMATION - 478

**OWNER:**

Arlington County, VA  
Department of Public Works  
Jerry Kuo  
703.228.3664

**ENGINEER:**

Patton, Harris, and Rust Associates  
Graeme Lake, PE  
410.997.8900

**CONTRACTOR:**

Bradshaw Construction Corporation

**CONTRACT VALUE:**

\$3,248,850

**COMPLETION DATE:**

2/15/2011

**GEOLOGY:**

Sand, Clay, Boulders

**EXCAVATION METHOD:**

Akkerman TBM, 68" Ø

**MINING DIMENSIONS:**

26'Ø x 30VF

**FINAL LINING:**

Steel Rib and Board

**FOR MORE INFORMATION:**

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Refer to Project 478