

Carson Loop Water Main Replacement Phase VI-B Leeds, AL



PROJECT OVERVIEW AND CHALLENGES

Bradshaw Construction Corporation completed a microtunnel drive crossing under an interstate and state highway in Birmingham, Alabama. The project consisted of 1,174 feet of 59 inch jacked steel casing for a 36 inch ductile iron water main. Ground cover under the highways ranged from 10 to 100 feet while shafts were an average of 22 feet deep. Mining conditions began with a mixed face of sticky clay and very soft shale all below the water table. The tunnel transitioned to a full face of sandstone with unconfined compressive strength (UCS) up to 19,470 psi. The biggest challenges of this project included microtunneling a long drive with small diameter casing through mixed-face and mixed-reach ground conditions.



PROJECT INFORMATION - 543

OWNER:

Birmingham Water Works & Sewer Board
Engineering Department
Douglas Stockham
205-244-4000

ENGINEER:

Volkert, Inc.
Theo Johnson
205-214-5500

CONTRACTOR:

Rast Construction, Inc.

COMPLETION DATE:

11/1/2014

GEOLOGY:

Sticky Clay, Soft Shale, Sandstone with UCS

EXCAVATION METHOD:

Herrenknecht AVN-1200 MTBM

MINING DIMENSIONS:

1174' x 59" Ø

FINAL LINING:

36" Ductile Iron Pipe

FOR MORE INFORMATION:

Mike Wanhatalo, Project Manager
410-970-8300
mwanhatalo@bradshawcc.com
Refer to Project 543