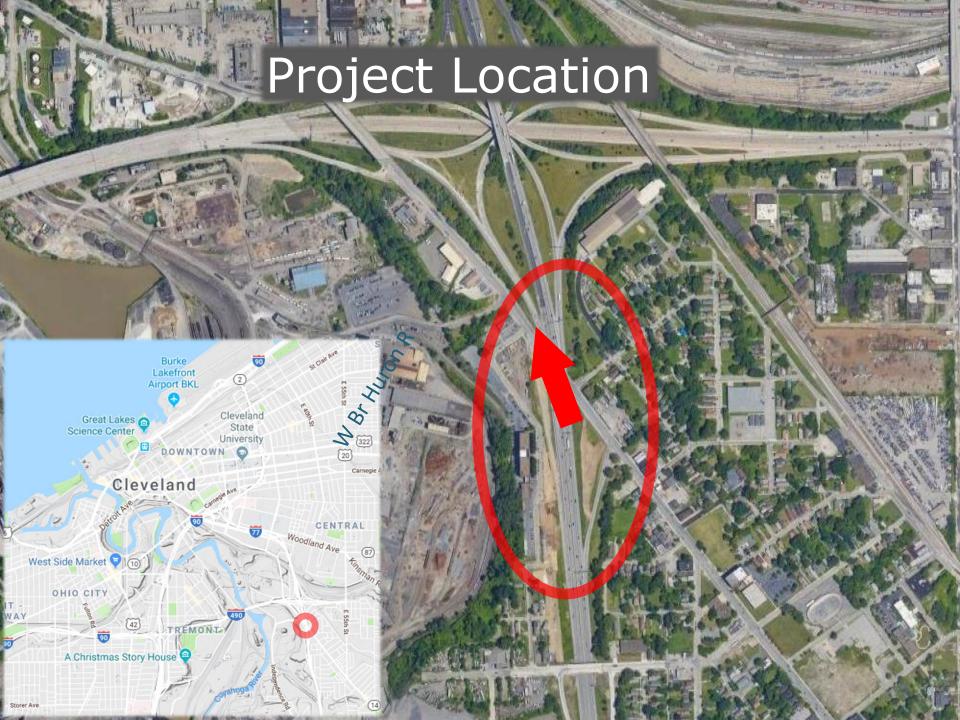
Gravity Wall Construction by Jet Grouting

October 3, 2018

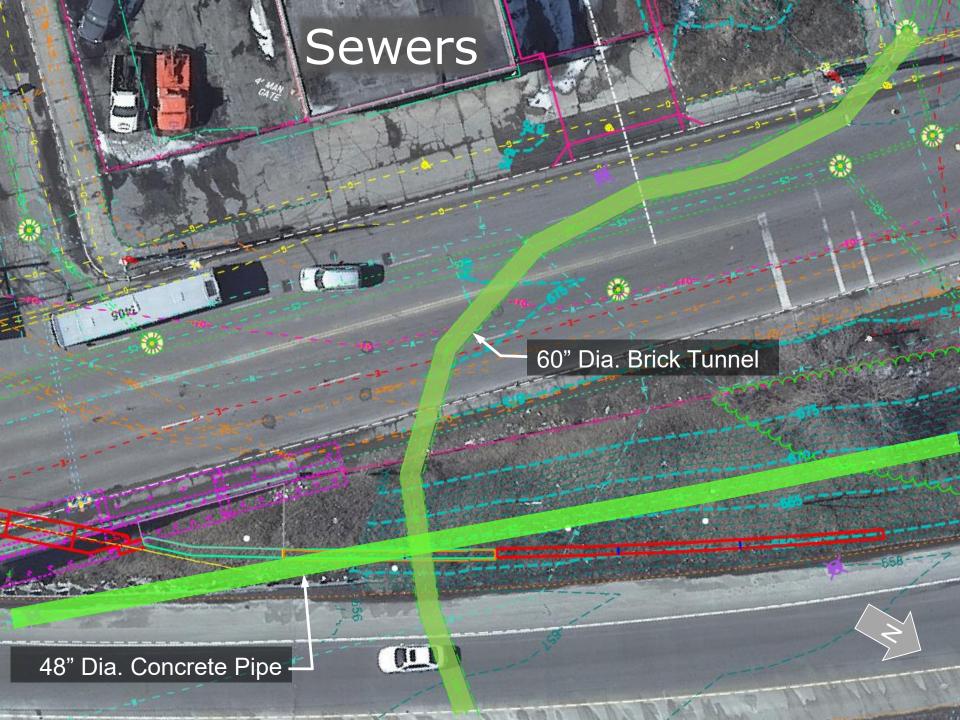
CUY-77-13.80 CCG6B Cleveland Innerbelt Contract Group 6B

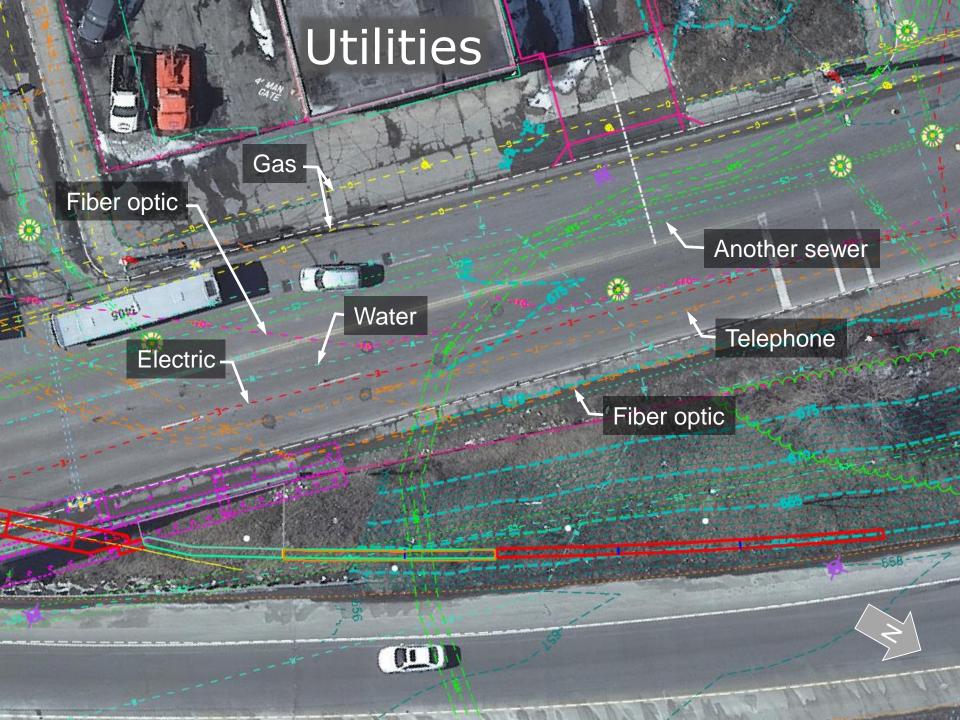
Peter Narsavage, PE













Scope requirements for sewers

13.6.7

The 60 inch interceptor ... shall be protected in place by the DBT. ... The DBT shall provide a minimum 21 foot diameter buffer zone ... centered on the pipe.

The 48 inch sewer shall be relocated to avoid Wall 1A or to cross the wall so that a 15 feet diameter of clear space centered around the pipe centerline is achieved.



Scope requirements for walls

16.3

- 8. No utilities, including storm and sanitary sewers, shall be placed within the reinforced soil mass of all MSE walls with the exception of new roadway drainage structures, lateral pipes and underdrain.
- 9. Existing storm and/or sanitary facilities within 10 feet* of the reinforced soil mass of all MSE walls shall be removed and relocated at least 10 feet outside of the reinforced soil mass.

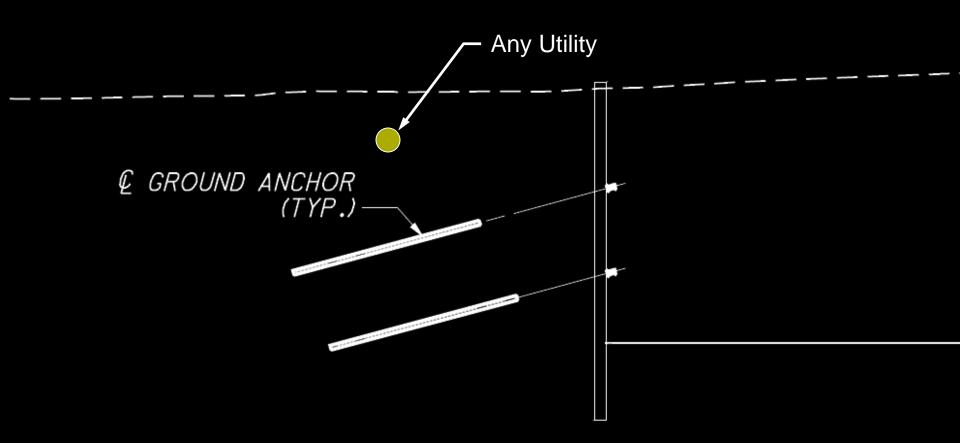
Scope requirements for walls

16.3

10. Existing and proposed utilities, including storm and sanitary sewers, shall be offset a minimum dimension of (0.6 X the total height of the proposed wall)* from the back of a retaining wall that does not utilize a reinforced soil mass. For walls of any construction type that utilize tiebacks, existing and proposed utilities shall be held to the MSE wall offset requirement described above.

* This dimension shall be measured horizontally in a 2 dimensional plan view. The elevations of the utility and the retaining wall elements shall not be considered for this requirement.

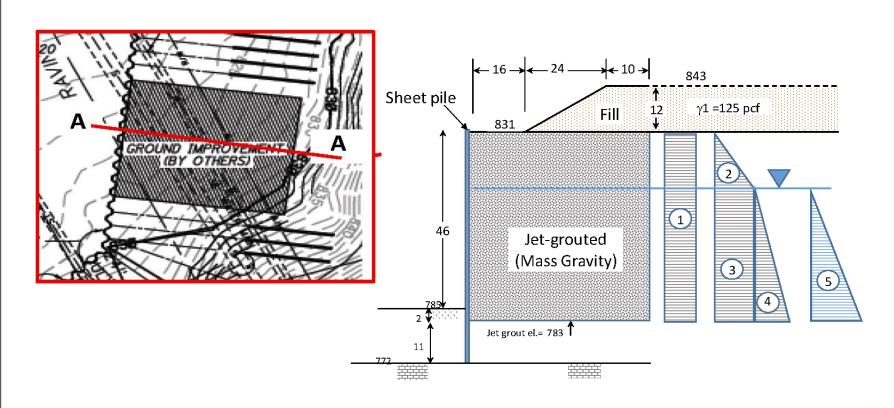
Cannot do this!





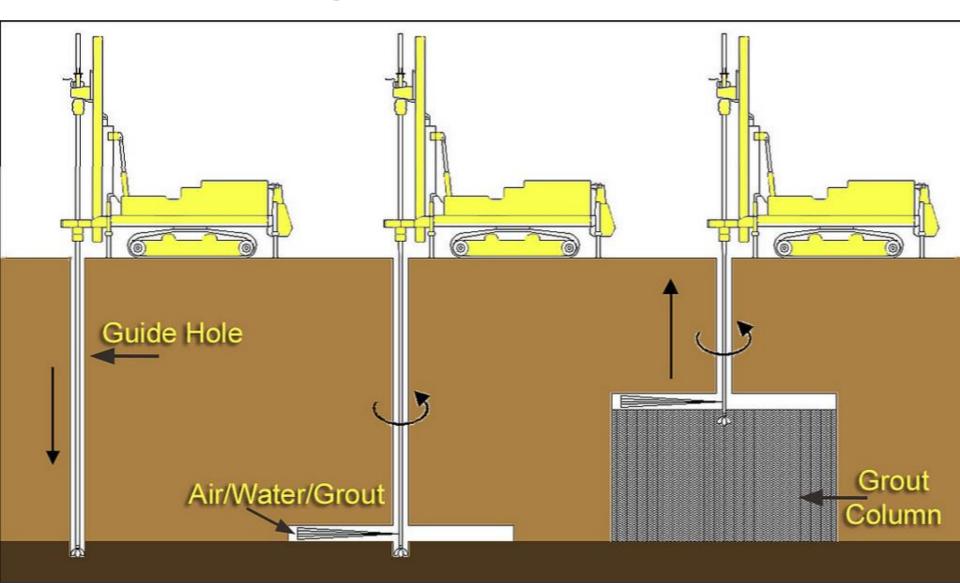


Ground Improvement at OCIT-1 Tunnel Portal

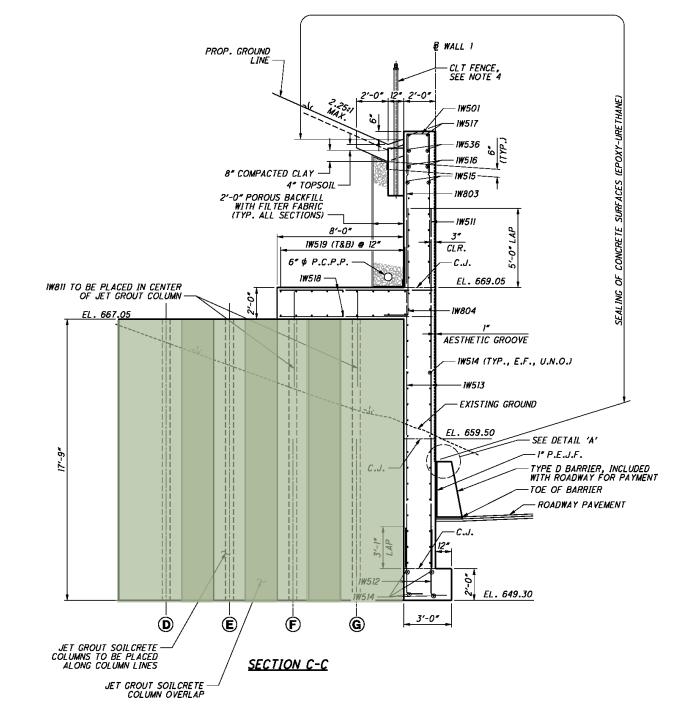


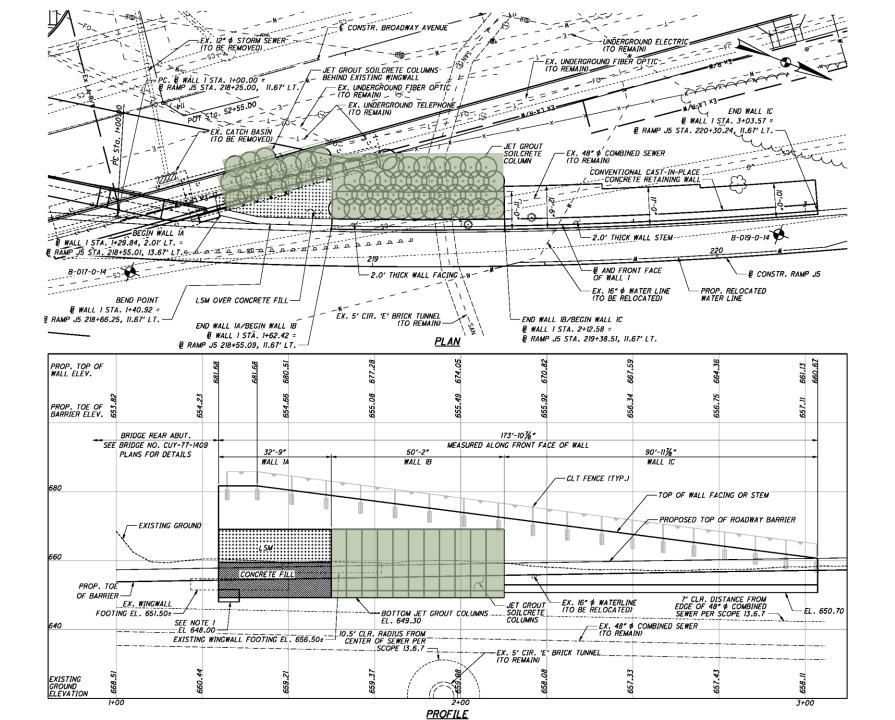


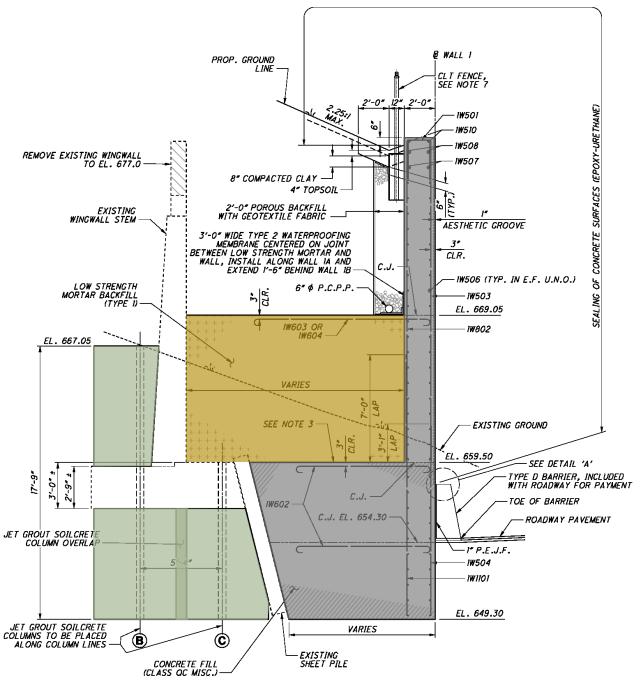
Jet Grouting





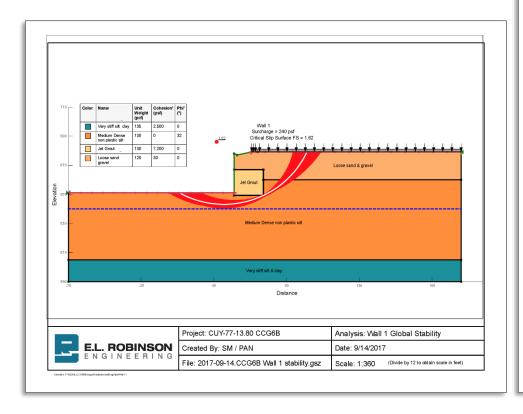


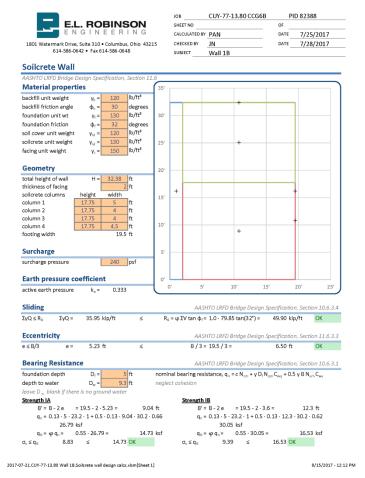




SECTION B-B

Calculations & Stability Analysis

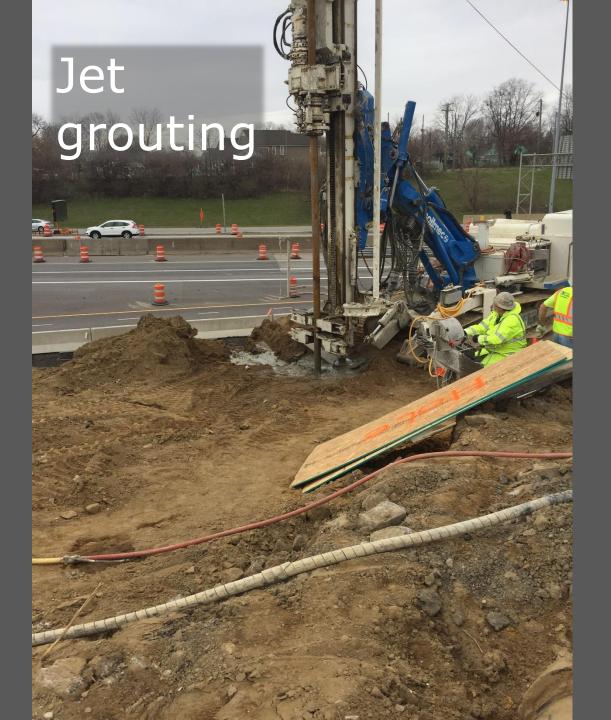




Working slab









Jet Grouting in Cleveland, Ohio, 2018 Contractor: Schnabel Foundation Co.



Drilling through old sheet pile





Confirmation hole







ODOT Innerbelt I-77 Cleveland, OH

(Contract 58-5341)

Jetgrouting Columns

Date : 5/22/2018 Begin: 11:39:57 AM JET : 11:48:13 AM 12:14:53 PM

Drilling duration: 00:08:10 : 00:26:39 JET duration : 00:34:49 Total duration

Grout volume : 1790.56 gal Volume by foot: 92.03 gal/ft

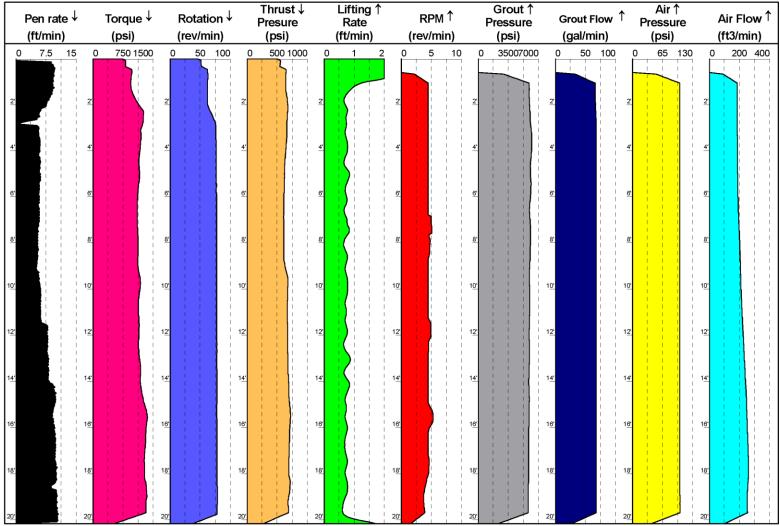
Jet Depth : 0'7" - 20'0"

Drill Depth : 0'0" - 20'0"

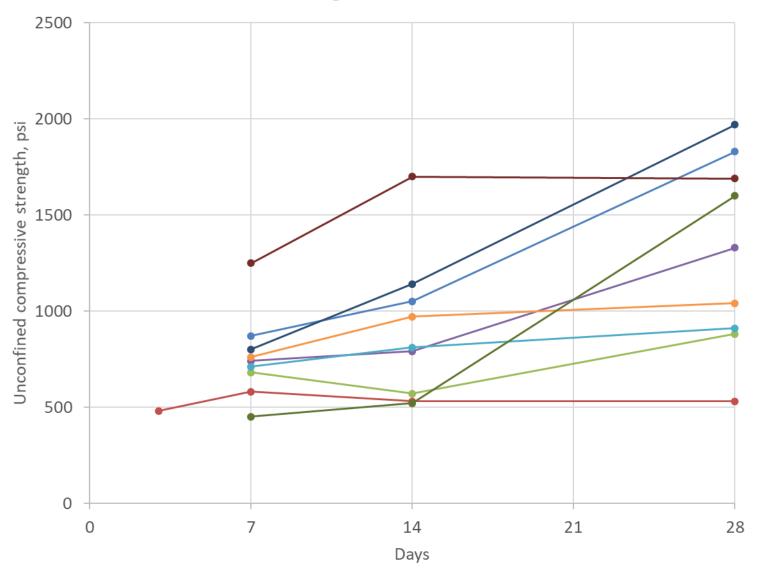
JET Length: 19'5"

Column F4 1/50

EXJTC 5.95/LC2JTC920EN



Jet Grout Strength





Removing Surface of Jet Grout Soilcrete Cleveland, Ohio, 2018













Great staff at E.L.Robinson Engineering Scott Mesick, Jack Weaver, and entire Kokosing Construction crew on 6B Scott Slack, Matt Schulz, and the rest of the ODOT District 12 construction staff



