SCHNABEL
GEOSTRUCTURAL DESIGN & CONSTRUCTION

Project Report

JET GROUTING

J AVENUE WATER TREATMENT PLANT - CEDAR RAPIDS, IOWA

Expansion of the J Avenue water treatment plant required an excavation adjacent to the existing structure. In one area, an excavation support and water cutoff wall was required very close to a 2-story concrete holding tank. The existing tank was so close that the backside of the 12" HP soldier beams had to be installed flush to the tank wall. The beams were not allowed to be driven. Drilling was not an option because of the lack of horizontal clearance against the tank wall.

The solution was to install jet grout columns along the face of the tank wall. Since the jet grout drill rod could be positioned close to the wall, the jet grout column was partially underneath the tank wall. This allowed the soldier beams to be placed in the fluid jet grout column and positioned flush to the tank wall. The jet grout columns were drilled in a primary-secondary-primary sequence. The primary columns received soldier beams, and the secondary columns sealed between the primary columns. Tiebacks were installed through the soldier beams to provide lateral support.

A total of 67 jet grout columns were installed to an average depth of 21 ft. The continuous wall of jet grout columns was successful in retaining the soil and water behind the wall and no measurable settlement of the tank structure occurred.

Owner: **City of Cedar Rapids**
General Contractor: **Miron Construction**
Design/Build Specialty Contractor:
Schnabel Geostructural Design & Construction

Miron
Building Excellence

For more information on this project or any other of our projects please contact Schnabel at:

(703) 742-0020 or visit our website at www.schnabel.com

SCHNABEL
GEOSTRUCTURAL DESIGN & CONSTRUCTION

PRINCIPLED. PROVEN.