



NATIONAL GRID WALNUT ST. SUBSTATION

Demolition Profile

Costello Dismantling Co., Inc.

Transforming a Neighborhood

National Grid, a major gas and electric utility in the Northeast, is an important client to Costello Dismantling. In an ongoing effort to improve service to their customers, National Grid is creating a new infrastructure to address efficient delivery of new energy sources.

As new systems go online, a simultaneous process is taking place to remove obsolete plant and equipment from their property rolls. Legacy electric facilities were large, dangerous, and are increasingly becoming hazards as they age and deteriorate. An orderly shutdown of decommissioned facilities requires extensive planning which includes identification of hazardous materials, developing plans for proper disposal of all building components as well as future long term internal use of the property or sale of real estate.

An interesting recent project for this program was the demolition of the Walnut St. Substation in Haverhill, MA. The early 1920's facility was a historic electric Switch House and Distribution Center for that region of National Grid service, three floors of a 2,500 square foot concrete building with brick façade. Decorative capstones and stone architectural features topped the parapet of the building.

Critical Protection

The major challenge in this demolition plan was a 1930s residential building situated within four feet of the substation. The substation towered over the house and any result-

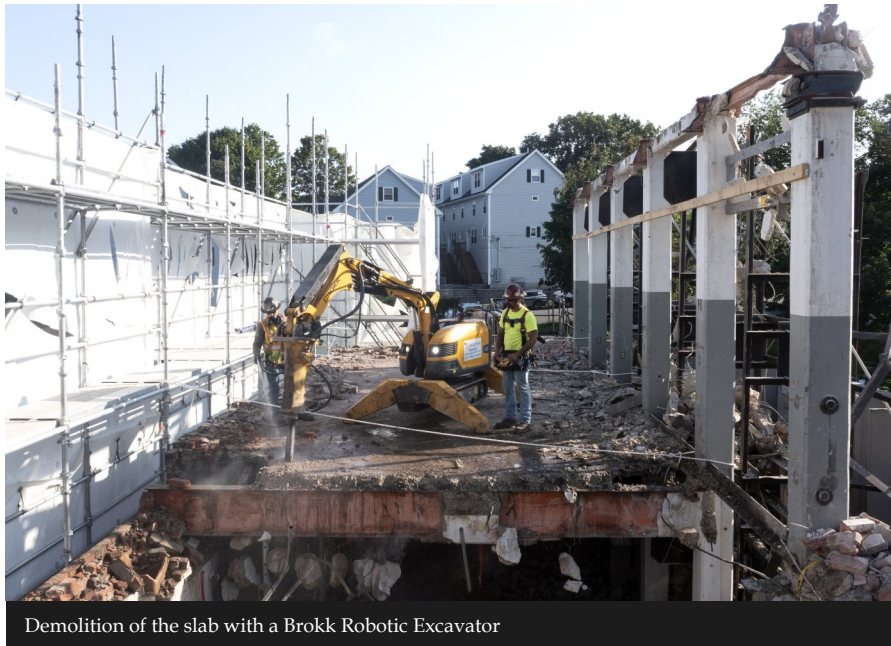
“We certainly had some unusual challenges during the course of this project, but as a team we were able to overcome them resulting in a successful building demolition/removal “

*- Yan Lachowicz
Lead Project Manager
National Grid*



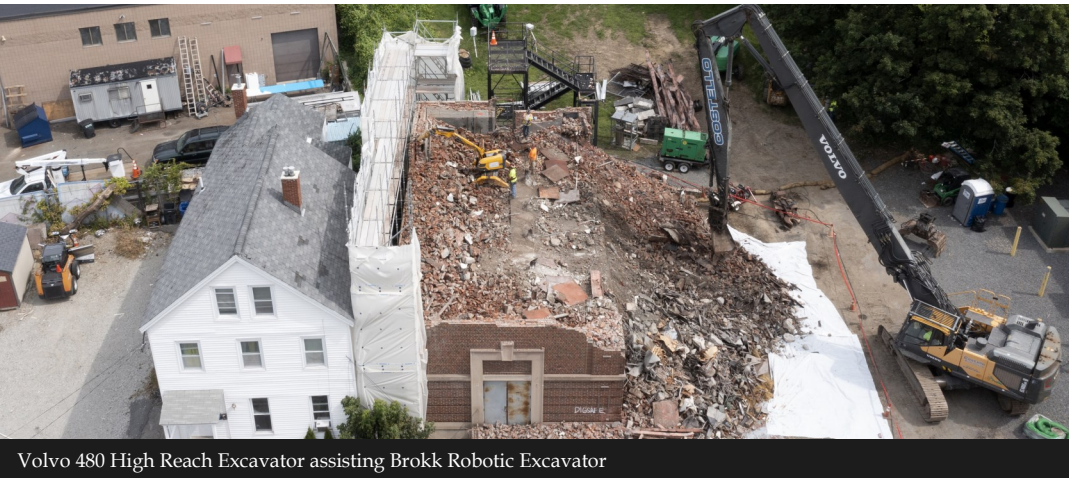
Demolition of the substation showing the western wall protection

Owner: National Grid
Location: Haverhill, MA
Project Manager: John Costello
Superintendent: Chande Bun and Greg Geyer
Start Date: Fall 2019
Completion Date: Summer 2020



Demolition of the slab with a Brokk Robotic Excavator

ing debris from demolition would certainly damage the neighboring property. A carefully formulated demolition and remediation plan was prepared and submitted to National Grid for their review. After considerable discussion between us and National Grid and between National Grid and the neighbors, a fully comprehensive plan was ready for implementation.



Volvo 480 High Reach Excavator assisting Brokk Robotic Excavator

The building was largely free of environmental contaminants prior to the start of our contract, but small amounts of asbestos and – typical for this type of building – PCB contamination remained. We removed the most difficult to manage PCB material using robotic grinding equipment in negative air containment, as well as traditional concrete chipping by hand. We also abated asbestos-containing waterproofing from the roof flashing prior to demolition.

Surgical Plan

The work plan had two goals: elimination of all dust and protection of the adjacent structure.

To accomplish these goals, we erected a three-story scaffolding system that wrapped around the side of the building closest to the adjacent house. The scaffolding was wrapped with reinforced poly sheeting and designed to be a critical barrier, in conjunction with water spray, to eliminate dust leaving the work zone. It also provided us with staging to work from when doing delicate demolition work.

For safety reasons, we developed a “surgical demolition” plan that entailed careful demolition of the critical western bay with a robotic Brokk demolition tool in coordination with hand labor as needed, all supported by a high reach excavator. The secure eastern bay was dismantled traditionally. A rigorous pre- and post-demolition engineering survey and active dust and vibration monitoring ensured that no damage was done to the adjacent structure. As an added precaution the residents were temporarily relocated during demolition.

This former substation was successfully dismantled with no accidents, no damage to the adjacent building, and minimal disruption to the mostly residential neighborhood. In its place is a clean, levelled site and three inconspicuous pad-mount transformers that replace the outmoded three-story building.



COSTELLO
DISMANTLING

www.costelldismantling.com
15 Cranberry Highway, West Wareham, MA 02576
Office: (508) 291-2324 Fax: (508) 291-2325