



PROJECT BRIEF

Middlebury Monitoring Phase 1-3 Construction Inspection & Monitoring

PROJECT PROFILE

CLIENT:
Kubricky Construction

LOCATION:
Middlebury, VT

VALUE:

- Automated alerts to essential personnel if instruments reached predetermined limit level compromising adjacent structures
- Remote adjusting trigger levels reduced need for trips to project site, saving client time and money

SERVICES PROVIDED:

- Preconstruction surveys for sensitive historical properties
- Geotechnical instrumentation and monitoring
- Vibration monitoring to adjacent structures during active construction

“Eight vibration monitors were installed to monitor vibrations due to construction activities at the most sensitive structures located adjacent to the project site. Air overpressure microphones were also included with the vibration monitors.”



INSTALLATION OF GEOTECHNICAL INSTRUMENTS & DATA MANAGEMENT COLLECTION

Geocomp has been working as a sub consultant for Kubricky Construction Corp throughout all three phases of the Middlebury Bridge and Rail Project. Phase III of the project which is currently ongoing, includes twenty six preconstruction surveys for historical properties deemed as sensitive by Vermont DOT. Many of these properties are also being monitored for potential deformation and vibration effects. Eight vibration monitors were installed to monitor vibrations due to construction activities at the most sensitive structures located adjacent to the project site. Air overpressure microphones were also included with the vibration monitors. The blasting operations were monitored remotely in real-time by Geocomp personnel using our *iSiteCentral*® data management system. If the vibration or air overpressure limit levels were reached, notifications were sent to all essential personnel via *iSiteCentral*®. Over 100 survey prisms were installed on the structures closest to the project site and the temporary support of excavation system. Three automated total stations were used to periodically take readings on each of the survey monitoring points and report changes in real-time.



BACKGROUND

The Vermont Agency of Transportation (VTrans) in collaboration with the Town of Middlebury is undertaking a project to replace two almost 100-year old rail bridges with a tunnel. The two bridges are about 300 feet apart and will be disassembled and removed as the tunnel excavation continues. The project takes place in busy downtown Middlebury, VT with many local businesses and historical structures located nearby. Replacing the rail bridges with a tunnel will change the town landscape by overlaying the depressed, walled rail bed that cuts through the town with green space that will connect with other existing green space.