

JAMAICA STATION

NEW YORK CITY - USA

Real time monitoring of a wall along the railways tracks during excavation works.

The extension of Jamaica Station required the installation of a shoring system in close proximity to the existing station and active railway lines.

The restricted access of the area and the sensitivity of the structures on site required the implementation of an automatic data acquisition system with efficient reporting and alarm systems to monitor the ground movements during site work.

A total of 2 in-place inclinometers and Geoscope web were used to monitor the excavation walls. 2 IPI chains were placed in the wall and then connected to a datalogger. Each IPI chain had a total length of 60 feet and was built with 12 mono-axial tiltmeters spaced every 5 feet.

The datalogger was connected by phonenumber communication to a central computer installed in nearby location.

The central computer with the Geoscope software was placed in a control room and was connected to a telephone line through a modem.

Every day, the system sent a graphical report to a list of involved all stakeholders. In case of alarm, the system sent an automatic email at any moment.

We installed 2 casings at each IPI location :

- One for the automatic IPI;
- One for manual verification with an inclinometer probe.

The project lasted four months and the budget was \$70,000.00.



Jamaica station during the extension works



Datalogger connected by phonenumber communication to a central computer



View of the railways tracks

OWNER :	PORT AUTHORITY OF NEW YORK AND NEW JERSEY
CONTRACTOR :	TAMS CONSULTANTS INC.
DATE OF WORKS :	2001
WORKS DONE :	
	<ul style="list-style-type: none"> • Installation of an automatic monitoring system including: <ul style="list-style-type: none"> - 2 In-Place Inclinometers - 12 tiltmeters • Real-time monitoring, alarms and reporting.