



## **List of Our Ongoing Noise and Vibration Monitoring Projects**

### **Project 1:**

***Name of Project:*** Geotechnical Instrumentation and Monitoring Plan- Segment 1- Keelesdale Station

***Location:*** Toronto, Ontario, Canada

***Client:*** Metrolinx-Eglinton Crosstown Light Rapid Transit (ECLRT) Project

***Main project features:*** Geotechnical Instrumentation and Monitoring, Noise and Vibration Monitoring

***Activities performed:*** install and monitoring following instrument

- Prepared and installed six (6) real-time vibration stations and five (5) real-time noise monitoring station.
- And weekly attendant two (2) noise and two (2) vibration stations monitoring.

### **Project 2:**

***Name of Project:*** Geotechnical Instrumentation and Monitoring Plan- Segment 1- Mt Dennis Station

***Location:*** Toronto, Ontario, Canada

***Client:*** Metrolinx-Eglinton Crosstown Light Rapid Transit (ECLRT) Project

***Main project features:*** Geotechnical Instrumentation and Monitoring, Noise and Vibration Monitoring

***Activities performed:*** install and monitoring following instrument

- Prepared and installed four (4) real-time vibration stations and four (4) real-time noise monitoring station.
- And weekly attendant two (2) noise and two (2) vibration stations monitoring

### **Project 3:**

***Name of Project:*** TTC Wilson Yard Track and Structure Building Renovation (Contract AW1-3)

***Location:*** Toronto, Ontario, Canada

***Client:*** TTC

***Main project features:*** Track and Structure Building Renovation

***Activities performed:***

- Prepared and installed the one (1) real-time noise monitoring station and one (1) real-time vibration monitoring station.

### **Project 4:**

***Name of Project:*** TTC Hillcrest Complex Surface Way Facility Replacement, and Harvey Shop Loading Deck (Contract M7-2 & M1-91)

***Client:*** TTC

***Main project features:*** Surface Way Facility Replacement

***Activities performed:***

- Prepared and installed the two (2) real-time noise monitoring station and two (2) real-time vibration monitoring station.

### **Project 5:**

***Name of Project:*** Rossland Road – Phase 2 Realignment/Reconstruction, Ajax, Ontario (RFT No.T15038).

***Location:*** Ajax, Ontario, Canada

***Client:*** Regional of Durham



**Main project features:** Road Realignment/Reconstruction

**Activities performed:**

- Prepared and installed two (2) real-time vibration station and two (2) real-time noise monitoring station

**Project 6:**

**Name of Project:** Humber Sanitary Trunk Sewer Rehabilitation, City of Toronto (Tender Call No. 362- 2015).

**Location:** Toronto, Ontario, Canada

**Client:** Toronto Water Department

**Main project features:** Tunneling and watermain installation

**Activities performed:**

- Prepared and installed three (3) real-time vibration stations and two (2) real-time noise monitoring stations

**Project 7:**

**Name of Project:** Hwy 400 at Hwy 9 from South of 19<sup>th</sup> Side Road to North of South Canal Bridge (Contract No. 2015-2004).

**Location:** Kettleby, Ontario, Canada

**Client:** MTO

**Main project features:** Highway 400 Reconstruction and Widening

**Activities performed:**

- Prepared and installed and monitored the two (2) vibration control stations.

**Project 8:**

**Name of Project:** 407 East Extension – Structure M-117

**Location:** Highway 35 and Highway 115, Ontario, Canada

**Client:** MTO

**Main project features:** Highway 407 East Extension

**Activities performed:**

- Prepared and install four (4) vibration stations monitoring for the existing Enbridge gas pipes.

**Project 9:**

**Name of Project:** Cameron Lake Bridge Replacement, Highway 35 and Pearn Road (MTO 2015-4197)

**Location:** Kawartha Lake, Ontario, Canada

**Client:** MTO

**Main project features:** Bridge Replacement and Highway Reconstruction and Widening

**Activities performed:**

- Prepared the vibration monitoring program for owner approve.
- Supply and install two (2) real-time vibration stations monitoring for the existing bridge and neighbors during the piling and construction work.

**Project 10:**

**Name of Project:** Road Improvement for HWY 9 from 6.04 km west of Hwy 400 to 1.92 km west of HWY 400, Schomberg, ON (Contract No. 2016-2014)



**Location:** Schomberg, Ontario, Canada

**Client:** MTO

**Main project features:** Highway Reconstruction and Widening

**Activities performed:**

- Prepared the vibration monitoring program for owner approve.
- Supply and install two (2) real-time vibration stations monitoring for the existing bridge and neighbors during the piling and construction work.

**Project 11:**

**Name of Project:** Highway 400/11 Willow Creek South Bridge Replacement, Barrie ON  
(Contract No. 2016-2013)

**Location:** Barrie, Ontario, Canada

**Client:** MTO

**Main project features:** Highway and Bridge Reconstruction and Widening

**Activities performed:**

- Prepared the vibration monitoring program for owner approve.
- Supply and install two (2) real-time vibration stations monitoring for the existing bridge and neighbors building during the piling and construction work.

**Project 12:**

**Name of Project:** Construction of the Midblock Collector Road (Norman Bethune Avenue) crossing Highway 404 between Highway 7 and 16th Avenue, and widening of Allstate Parkway from 130m south of Centurian Drive to 90m north of Centurian Drive- DIVISION 2: Construction of the Hwy 404 S-E/W Ramp Extension from Highway 7 to Norman Bethune Avenue (Contract No. T-14-53)

**Location:** Richmond Hill and Markham, Ontario, Canada

**Client:** Regional of York

**Main project features:** Embankment settlement monitoring, Highway and Ground Settlement monitoring for tunnelling work

**Activities performed:**

- Prepared the monitoring program for approve
- Prepared and installed two (2) real-time vibration station and two (2) real-time noise monitoring station



## **Completed Noise and Vibration Monitoring Projects**

### **Project 1:**

**Name of Project:** TTC Lawrence Station – Fire Ventilation Upgrade Project (Y60-6)

**Location:** Toronto, Ontario, Canada

**Client:** TTC

**Main project features:** TTC Yonge Street and Lawrence Subway Station – Fire Ventilation Upgrade

**Activities performed:**

- Prepared and installed and monitored the four (4) real-time vibration stations and one (1) real-time noise control station.

### **Project 2:**

**Name of Project:** TTC Lawrence West Station – Key Station Accessibility Project (A45-14)

**Location:** Toronto, Ontario, Canada

**Client:** TTC

**Main project features:** TTC Lawrence West Subway Station – Subway Station Renovation Work project.

**Activities performed:**

- Prepared and installed one (1) real-time vibration stations and one (1) real-time noise monitoring station.

### **Project 3:**

**Name of Project:** TTC Ossington Station Easier Access Phase III, Toronto, Ontario (B45-2)

**Location:** City of Toronto, Ontario, Canada

**Client:** TTC

**Main project features:** Station Easier Access Phase III

**Activities performed:**

- Prepared and installed one (1) real-time vibration stations and two (2) real-time noise monitoring station.

### **Project 4:**

**Name of Project:** TTC – Wilson Complex Wheel Lathe Project (C1-39)

**Location:** Toronto, Ontario, Canada

**Client:** TTC

**Main project features:** TTC Wilson Yard Modifications Work and Construction project.

**Activities performed:**

- Installed and monitored the one (1) real-time vibration stations and one (1) real-time noise control station.

### **Project 5:**

**Name of Project:** TTC – TTC Roncesvalles Yard – Acoustic Barrier North Wall (B4-22)

**Location:** Toronto, Ontario, Canada

**Client:** TTC

**Main project features:** Acoustic Barrier North Wall Construction Project.

**Activities performed:**

- Prepared and installed the one (1) real-time vibration monitoring station.



### **Project 6:**

***Name of Project:*** TTC – St. Clair West Station - Easier Access Phase III (A45-9)

***Location:*** Toronto, Ontario, Canada

***Client:*** TTC

***Main project features:*** Easier Access Construction Project.

***Activities performed:***

- Prepared and installed the one (1) real-time vibration monitoring station.

### **Project 7:**

***Name of Project:*** TTC – Wilson Carhouse North Expansion (C1-38)

***Location:*** Toronto, Ontario, Canada

***Client:*** TTC

***Main project features:*** TTC Wilson Yard Modifications Work and Construction project.

***Activities performed:***

- Installed and monitored the one (1) real-time noise and (1) vibration control station.

### **Project 8:**

***Name of Project:*** TTC Greenwood Yard – Track Conversion and South Fencing Replacement, Toronto, Ontario (Contract No. GR1-46)

***Location:*** Toronto, Ontario, Canada

***Client:*** TTC

***Main project features:*** Track Conversion and South Fencing Replacement

***Activities performed:***

- Prepared and installed one (1) attendant noise monitoring station

### **Project 9:**

***Name of Project:*** TTC Broadview Station - Bus Roadway On-Grade Paving Rehabilitation, Toronto, Ontario (Contract D5-24)

***Location:*** Toronto, Ontario, Canada

***Client:*** TTC

***Main project features:*** TTC Broadview Station Modifications Work and Construction project.

***Activities performed:***

- Installed and monitored the two (2) real-time noise monitoring stations and three (3) real-time vibration control stations.

### **Project 10:**

***Name of Project:*** TTC Roncesvalles Yard – East Retaining Wall Replacement and Electrical Upgrades, Toronto, Ontario (Contract B4-29).

***Location:*** Toronto, Ontario, Canada

***Client:*** TTC

***Main project features:*** TTC Roncesvalles Yard Modifications Work and Construction project.

***Activities performed:***

- Installed and monitored the five (5) real-time vibration control stations.

### **Project 11:**

***Name of Project:*** TTC Keele Yard Retrofit (Contract B4-36)



**Location:** Toronto, Ontario, Canada

**Client:** TTC

**Main project features:** TTC Keele Yard Modifications Work and Construction project.

**Activities performed:**

- Prepared and installed and monitored the one (1) real-time noise and one (1) vibration control station.

### **Project 12:**

**Name of Project:** TTC – Coxwell Station - Easier Access Phase III, (Contract D45-8)

**Location:** Toronto, Ontario, Canada

**Client:** TTC

**Main project features:** Easier Access Construction Project.

**Activities performed:**

- Prepared and installed the one (1) real-time noise monitoring station and two (2) real-time vibration stations.

### **Project 13:**

**Name of Project:** Metrolinx – UP Express Union Station Platform and Waiting Lounge

**Location:** City of Toronto, Ontario, Canada

**Client:** Metrolinx

**Main project features:** Union Station Renovation

**Activities performed:**

- Prepared and installed six (6) real-time vibration stations and one (1) real-time noise monitoring station.

### **Project 14:**

**Name of Project:** South Blair Road/Rail Grade Separation and Access Road Project

**Location:** City of Whitby, Ontario, Canada

**Client:** Metrolinx

**Main project features:** Rail Grade Separation Ground Settlement, Shoring Support System and Tracks Monitoring

**Activities performed:**

- Prepared and installed one (1) real-time vibration station and one (1) real-time noise monitoring station

### **Project 15:**

**Name of Project:** Reconstruction and Widening for 2nd Concession Road, York Region, ON

**Location:** East Gwillimbury, Ontario, Canada

**Client:** Regional of York

**Main project features:** Rail Grade Separation Ground Settlement, Shoring Support System and Tracks Monitoring

**Activities performed:**

- Prepared and installed one (1) real-time vibration station and one (1) real-time noise monitoring station

### **Project 16:**



***Name of Project:*** North Brampton Pumping Station NB14-1 Chamber and Zone Piping Modification (Project 10-1966, 13-1903 and 07-1506)

***Location:*** Brampton, Ontario, Canada

***Client:*** Regional of Peel

***Main project features:*** Pumping Station Modification – Tunneling and Shaft construction

***Activities performed:***

- Prepared and installed one (1) real-time vibration station for monitoring the existing pumping station building at this construction site.