

Sanitary & Storm Sewer Monitoring Projects



Flow Monitoring - City of Toronto

Project Completed: May 2009

The project involved the installation of 76 flow monitoring stations (sanitary and storm) in areas across the City of Toronto. The data collected was used to calibrate hydro-dynamic models and for service improvement projects. Intrinsic Safe Area/Velocity meters were used to measure flows. Weirs were used in instances where flows were not suitable i.e. very slow or low flows. Data was downloaded on a bi-weekly or more frequent basis and analysed through our automated data analysis system and posted to our website for review.



Unique Solutions: *Due to the large number of stations to be installed and the timing, additional meters were required to be purchased. By leveraging our supplier relationships, we were able to receive 30 new flow meters within 2 weeks. Additionally, installing 76 meters in a short period of time posed a significant logistical challenge. The installations were completed efficiently by maximizing the use of our equipment and performing installations at off peak hours / weekends with the use of trained staff from other internal business lines.*



YDSS Flow Monitoring - York Region

Project Completed: April 2008

During the construction of the 19th Avenue Interceptor, flow measurements were required upstream and downstream of the connection to assess the performance of the temporary siphon and alarm on surcharge as there were basement connections nearby. Area/Velocity meters were installed in the manholes upstream and downstream of the temporary siphon and a level sensor was installed in the manhole directly upstream of the siphon. All meters were in real-time mode sending readings live to our server every 5 minutes with alarms being generated and sent to Clarifica and York Region staff when necessary. If a critical alarm was sent indicating the siphon was reaching its limit, on-call staff were sent to the site to monitor the situation.



Unique Solutions: *Due to the size of the pipes and quantity of flows (often exceeding 1500 L/s during wet-weather events) installation had to be done during low flows with additional support for staff entering the flow so as not to have the equipment and footing taken away in the greater than 2.2m/s flow. The manhole where the depth meter was installed had the added complication of a drop structure that created significant turbulence. This made any sub-flow instrumentation impossible to install leaving a non-contact down-looking instrument as the only option. The installation of this sensor was completed with the use of a stilling well mounted through the turbulent layer of flow. This ensured that the sensor had a smoother surface with which to take measurements and minimized the ingress of spray into the measurement beam.*