

Engineering Bulletin #2 | Construction Site Water Discharge Monitoring

June 1, 2022

Background

The City of Coquitlam is committed to protecting the watersheds within our community, to ensure that our local streams thrive to provide a diverse and abundant ecosystem. Coquitlam has many programs, policies, and tools to support this key value including the *Stream and Drainage System Protection Bylaw No. 4403, 2013* and *Erosion and Sediment Control (ESC)* requirements outlined at coquitlam.ca/esc.

Stormwater treatment and associated monitoring are necessary elements of many construction activities. Water treatment is a dynamic process and effective treatment for removing contaminants of concern varies during the process. Traditional manual sampling of stormwater discharge is an important component of water quality management, but only provides a snapshot of discharged water quality in time and does not protect against accidental non-compliant discharge.

Members of City Council and Coquitlam staff have met with development industry representatives to convey how seriously the City takes this issue, to make clear that accidental spills from construction site activities or non-compliant discharge are not acceptable.

Coquitlam has installed real-time water quality monitoring units in several key creeks across the City, to monitor creek health and to instantly detect discharges or spills into the area's stormwater systems that are contributing to creek water quality or flow issues.

Pilot Approach

Given the intensity of development activity in Coquitlam and the sensitivity of these watersheds, Coquitlam is reviewing a tighter regime of controls to ensure accidental spills are no longer an issue. A real-time discharge water quality monitoring unit has been installed as a pilot at a development site, which also redirects non-compliant water for reprocessing if water quality parameters (e.g. pH and turbidity) are not met.

The data and lessons learned from this site, and from implementation of similar systems within neighbouring municipalities, will inform an upcoming decision to consider requiring these real-time water quality monitoring units for more development sites.

How Can You Be Involved?

At this point, Coquitlam encourages you to consider implementing this real-time monitoring approach now for your construction site discharge. This will demonstrate clear alignment of your project with Coquitlam's strong values for environmental protection. The certainty provided by this system will also reduce your risk to spill-related enforcement activity such as fines or stop work orders. It may also result in cost-savings due to optimized on-site water quality treatment. If you proceed with this level of monitoring, we would appreciate learning about your experience, and using that valuable insight for future policy decisions.

Construction Site Discharge Water Quality Monitoring – Equipment Considerations

Component	Draft Requirements
Sensor Capabilities	pH Turbidity Temperature Discharge volume flow rate
Data Capabilities	Data sampling frequency = 10-45 seconds Automated start/stop discharge trigger rules Automated notification (ex. SMS, email, etc..) Data-sharing capability (ex. web-based dashboard, data extracts, etc.)
Quality Assurance Program	Date and time-stamped administrative activity logs (ie. maintenance activity, replacement components, calibration activity, etc.) Documentation of standard operating procedures (SOPs)

Contact Information

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