

Engineering Bulletin #6 | Recommended Landscaping and Water Treatment Practices for Construction Sites in Stoney Creek

Date: June 26, 2026

Background

The City has identified water quality concerns in Stoney Creek, potentially linked to improper discharge treatment and landscaping at construction sites. Elevated levels of aluminum, iron, chromium, nutrients and ammonia have been detected in site discharges. As required by the *Stream and Drainage System Protection Bylaw 4403, 2013* (the Bylaw) and the Erosion and Sediment Control (ESC) Plan, all discharged water must meet applicable federal and provincial standards.

Non-compliant discharges are subject to enforcement. The City has enhanced its monitoring and sampling to ensure compliance. Developers and contractors must ensure that water leaving their site meets the above standards to protect creek water quality and avoid penalties.

Why this Matters

Stoney Creek is the most important salmon-bearing stream in the lower Brunette River watershed and of high conservation value. The City continues to hear from the community about water quality concerns in Stoney Creek, especially when discoloured water, foam, or staining is visible downstream from construction sites, which reflects the importance residents place on protecting local streams and fish habitat. When builders manage discharge and landscaping carefully, they help keep pollutants out of the creek, respond to community expectations, and build greater public confidence and support for development in the area.



Impacts of landscaping and/or chemical water treatment overdosing at Stoney Creek.

Improper Treatment of Site Discharge

Polymer/flocculant additives are permitted at development sites to reduce turbidity to meet water quality criteria of the Stream and Drainage System Protection Bylaw 4403, 2013. Improper use of these additives may result in overdosing of chemicals and negative impacts to discharge water quality. Observed impacts to Stoney Creek include:

- White foam and staining on culverts:
 - **Aluminum containing foam, red staining from iron** resulting from improper treatment of site discharge.
 - **High concentrations of metals** including aluminum and iron that exceed Provincial Water Quality Guidelines and may impact aquatic life adversely.

Recommended Practices for Construction Sites

- Ensure proper dosage of water treatment chemicals is being used by water treatment professionals.
- Consider treatment options without metals (i.e. Chitosan and sand filters).
- Test for the presence of residual flocculant or coagulant chemicals

Impacts of Landscaping Activity on Water Quality

Impacts are most pronounced during hot, dry periods when large volumes of topsoil are placed and heavily watered to establish landscaping. As water moves through these soils, it carries nutrients into the City's storm system, which drains directly to watercourses, potentially harming the environment and fish health. Observed impacts to Stoney Creek include:

- **Discolouration:** Tannins from the soils and organic material discolour water giving it a dark brown appearance.
- **Low Dissolved Oxygen (DO):** Decomposition of organic matter and bacteria remove oxygen from the water, stressing or harming aquatic life.
- **Toxicity:** High concentrations of nutrients and ammonia impact aquatic life
- **Bacteria:** Elevated levels of E. coli and fecal coliforms is associated with reduced dissolved oxygen within the water, which can stress or harm aquatic life.

Recommended Practices for Construction Sites during Landscaping Activities:

- **Topsoil and Soil Amendment Management**
 - Use clean, uncontaminated topsoil from reputable suppliers and follow the Canadian Landscape Guidelines for Growing Medium.
 - Avoid excessive use of organic soil amendments, particularly with manure.
 - Request that the supplier provide results of a compost maturity test to confirm only mature compost is being used.
- **Irrigation Management**
 - Strictly adhere to Metro Vancouver's water restrictions from May 1 – October 15.
 - Apply irrigation gradually and evenly to allow water to infiltrate into the soil.
 - Inspect landscaped areas regularly to identify pooling water or runoff leaving the site – saturated soils display lack of infiltration.

Engagement of a Qualified Environmental Professional (QEP)

To comply with the Bylaw and applicable provincial and federal regulations, the City recommends retaining a Qualified Environmental Professional (QEP) to monitor site discharge during landscaping and ensure all water quality requirements are met.

Failure to manage prohibited discharge is a violation of the *Stream and Drainage System Protection Bylaw No. 4403, 2013* and may result in:

- Immediate fines
- Reporting to Provincial and Federal environmental authorities.
- Stop work orders
- Cost recovery: The City may use the ESC security deposit for remedial work, and if the deposit is insufficient, the developer must pay the deficiency on demand.

Resources

For guidance on these issues, consult with a QEP and refer to the resources below where applicable:

BC Approved Water Quality Guidelines (Aquatic Life, Wildlife & Agriculture)

BC Water Quality Guideline No. W QG-15 (Nitrogen)

Canadian Council of Ministers of the Environment Water – Aquatic Life

Metro Vancouver’s Monitoring and Adaptive Management Framework (MAMF)

Canadian Landscape Standard Latest Edition

Lawn Watering Restrictions | Metro Vancouver

Contact Information

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