CASE STUDY | CS-01

Town of Kentville, Nova Scotia

NOVA SCOTIA FEDERATION OF MUNICIPALITIES

Context

The Town of Kentville has a mixed drainage network. The denser town centre relies primarily on underground concrete storm pipes, while surrounding lower-density areas use open ditches and culverts.

The Challenge

A residential development was approved without adequate consideration of downstream stormwater impacts, contributing to system surcharging—when the volume of water entering the drainage system exceeds its capacity and causes water to back up.

The Response

Kentville developed a comprehensive Stormwater Management Master Plan, including field surveys, computer modelling, hybrid green-grey solutions, and stormwater considerations for development approvals.

Key Insights

1 The Problem with Regulatory Gaps

Without appropriate stormwater strategies and development requirements, upstream development can increase pressure on existing drainage systems and transfer flood risk downstream—leaving municipalities and property owners to manage flooding, clean-up, and mitigation.

2 The Outfall Effect

Drainage systems cannot be evaluated without understanding where the water ultimately goes.

An outfall is where stormwater leaves a drainage system and enters a receiving environment, such as a river, lake, harbour, or the ocean. When an outfall drains into tidal water, high water levels can restrict discharge and cause water to back up through the drainage network.

3 The Power of Modern Tools

Combining field data with computer modelling can help municipalities identify drainage constraints and underground bottlenecks.

Computer modelling software can support this analysis and help municipalities make informed infrastructure and capital investment decisions.

Consider Your Municipality

How do municipalities consider downstream impacts when new development is approved?

LEARN MORE: View the full Guidance Document at FloodAdaptNS.ca

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