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November 13, 2023

CSA Community Water Standards and the Municipal How-to Guide

**Presentation to the National Water and Wastewater Association Conference
Niagara Falls, ON**

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Agenda

- ✓ Opening remarks
- ✓ About CSA Group
- ✓ How water standards can support municipalities
- ✓ The *How-to Guide* to support implementation of standards
- ✓ Key takeaways



About CSA Group

Holding the future to a higher standard

CSA Group At-a-Glance

Holding the future to a higher standard

Standards Development Organization

Commercial Subsidiaries



Standards Development



Canadian Standards Association

54

Areas of technology

3,000

Standards and codes

Over 11,000

Expert committee members

How water standards can support communities



- **Helps provide consistency**



- **Demonstrates flood mitigation policy objectives**



- **Can promote certainty of expectations**



- **Helps avoid costs**



- **Provides a checklist to support approval processes**



- **Helps provide confidence to the public**



- **Provides comfort**



- **Aligns with a municipality's climate change plan**

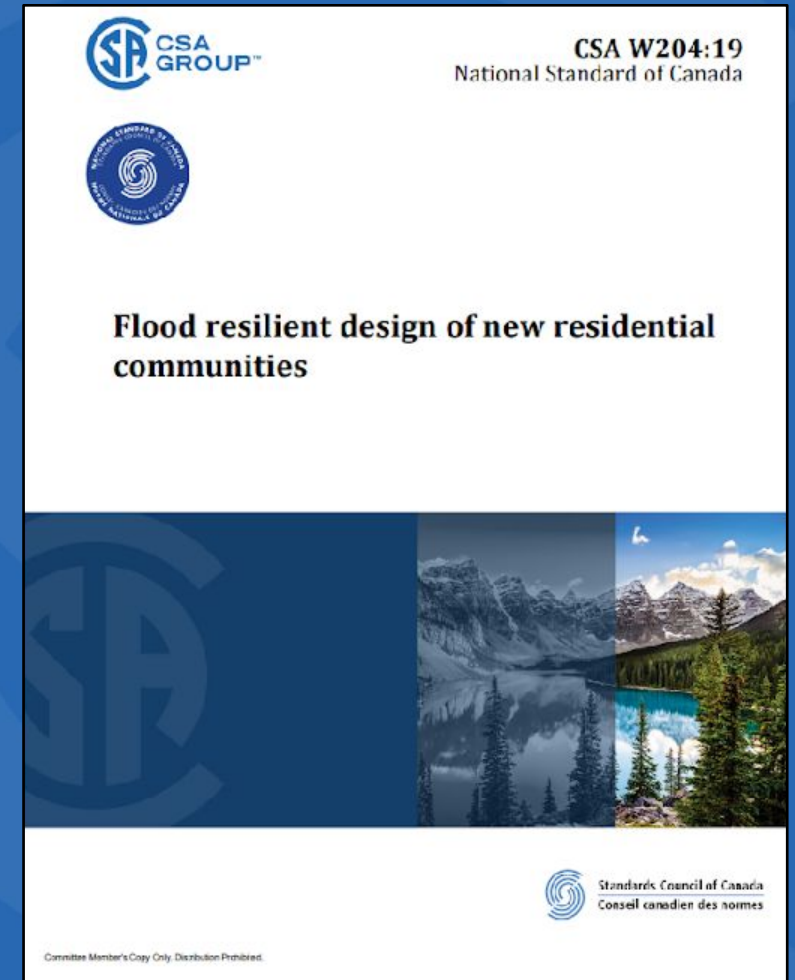


- **Assists communities**

CSA W204: Flood Resilient Design for New Residential Communities

Objective: Build flood-resilient aspects and considerations before the shovel hits the ground in new communities.

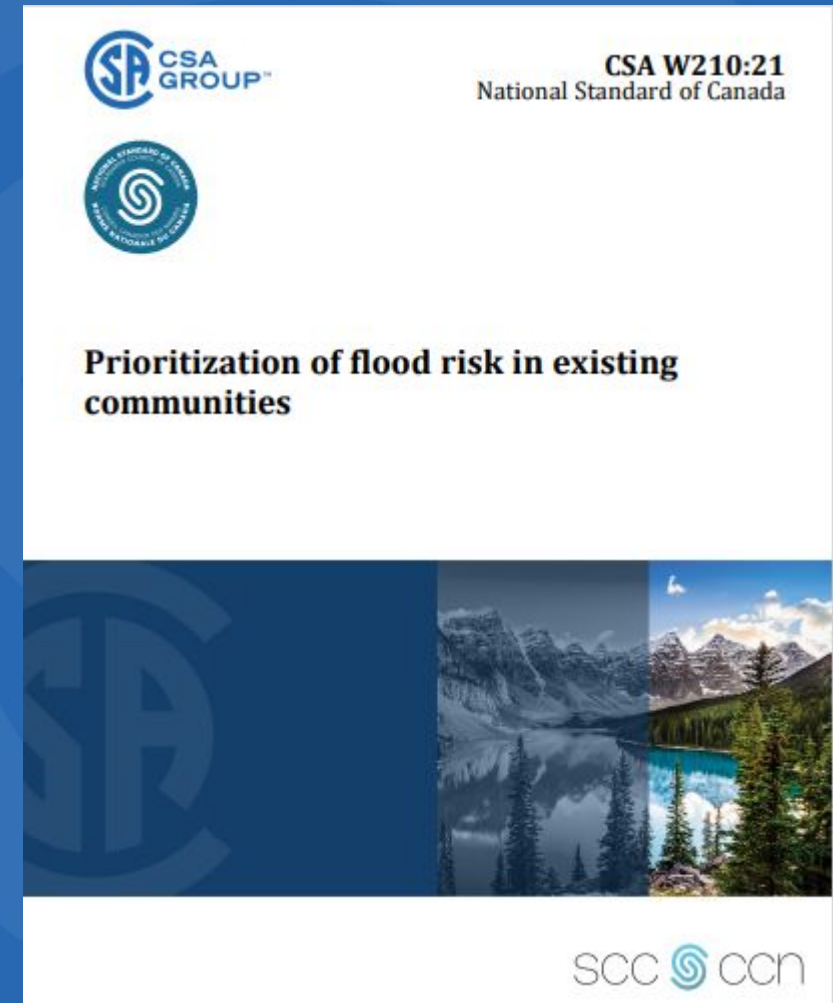
- Does not duplicate good design practices
- Addresses 2-levels
 - Community or watershed level
 - Characteristics of resilient design
 - Planning principles
 - Stormwater system design
 - Resilient major & minor systems
 - Operations & maintenance considerations



CSA W210 Prioritization of Flood Risk in Existing Communities

Objective: Help decision-making process in various levels of communities, as related to locations of high flood risk.

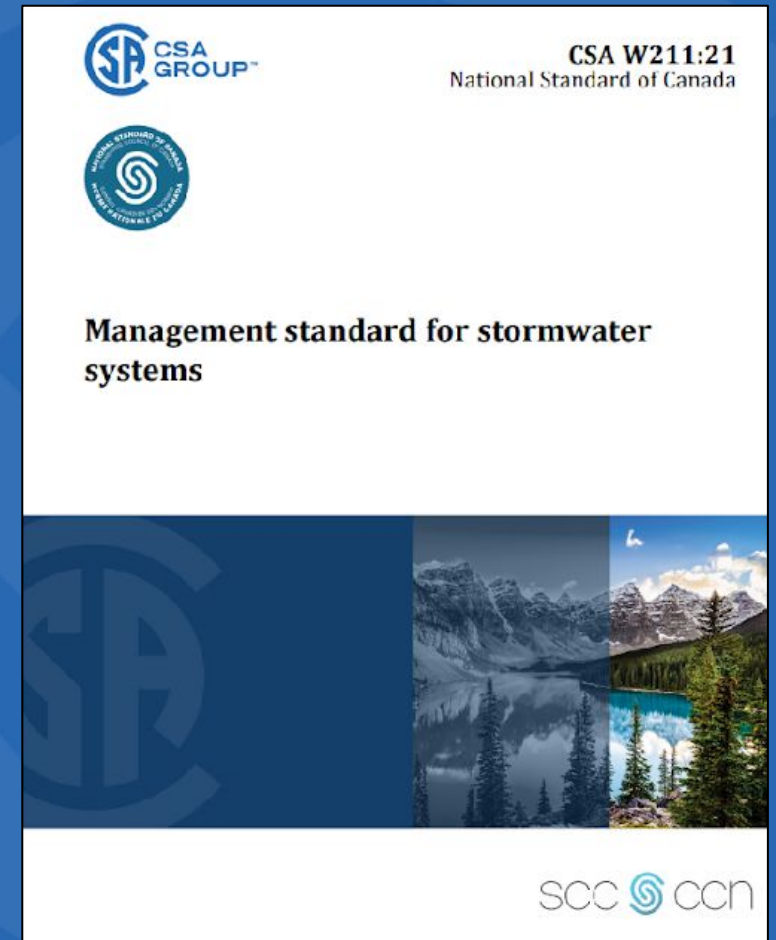
- Does not intend to advise on how to complete specific flood actions
- Key areas covered:
 - Flood risk priority framework
 - Identification of hazards and impacts
 - Flood risk scoring



CSA Water Standards – Management Standard for Stormwater Systems

Objective: The long-term objective of this standard is to provide an encapsulation of best practices to help ensure that municipalities across Canada have common, consistent requirements for the management of a stormwater system.

- Key areas covered:
 - Plans, processes and procedures to for holistic long-term management of a stormwater systems
 - Emphasis on continual improvement



HOT OFF THE PRESS!

New CSA Standard on Natural Asset Inventories

CSA W218:23 Specifications for natural asset inventories

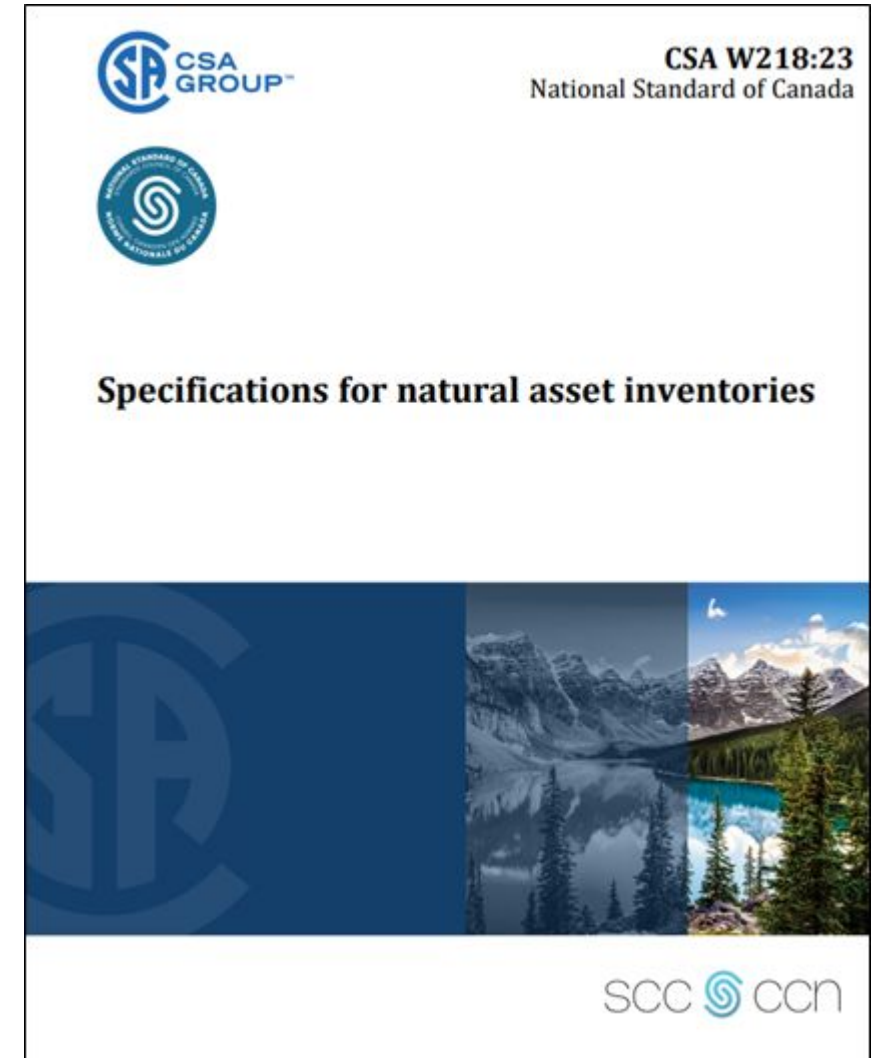
Defines the development of a natural asset inventory using methods that are common for built infrastructure to facilitate the integration of natural asset management with existing practices.

Key areas include:

- minimum requirements for data gathering and processing;
- inventory structure;
- documentation;
- maintaining and continually improving a natural asset inventory

Implementation of the Standard can help:

Align with an organization's broader asset management plan





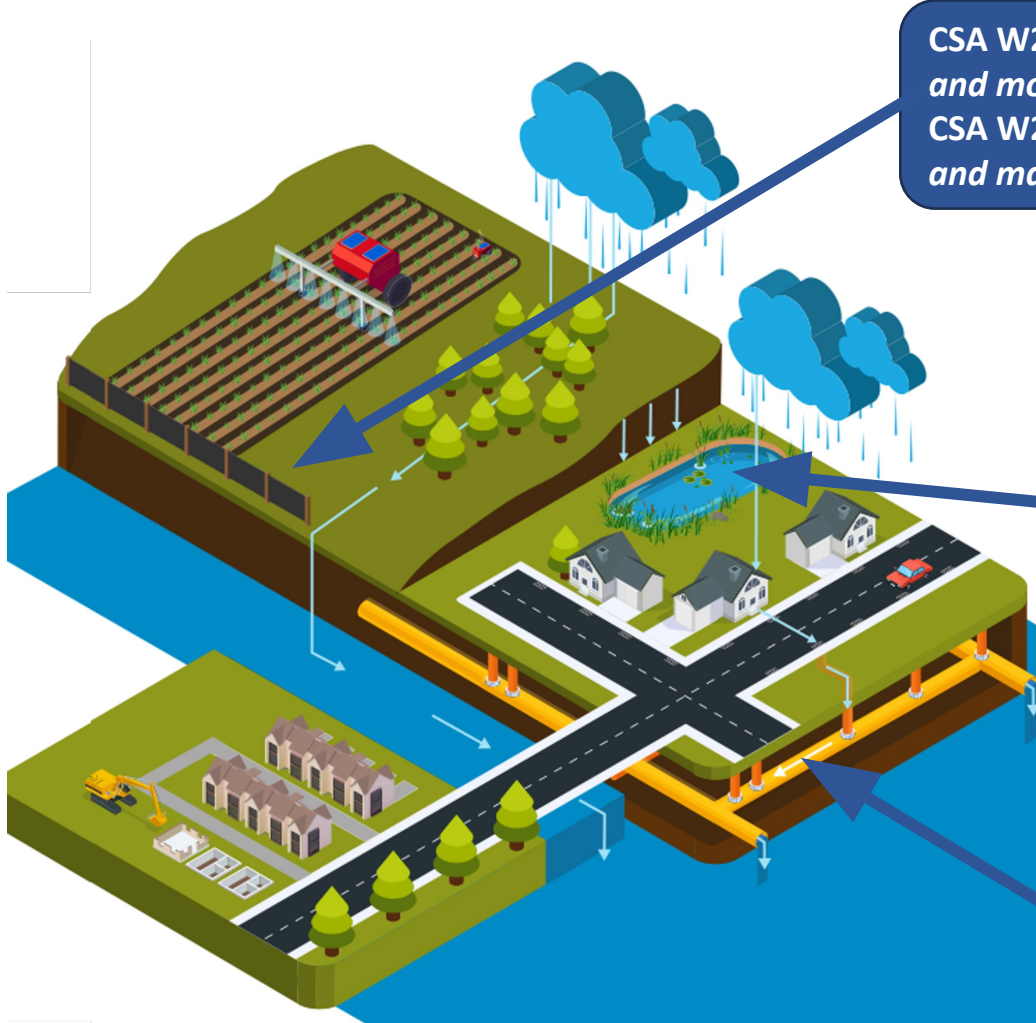
Municipal How-to Guide for CSA Water Standards

Why develop the guide?

- **Awareness** - National Standards for water management are relatively new.
- Municipalities are typically dealing with **overstretched** resources.
- Fragmented guidance **across jurisdictions**.
- Develop **guidance** for how and where to use standards with municipalities and for municipalities.



CSA Community Water Management Standards



CSA W202:18 *Erosion and sediment control: inspection and monitoring*
CSA W208:20 *Erosion and sediment control: installation and maintenance*

CSA W200:18 (R23) *Design of bioretention systems*
CSA W201:18 (R23) *Construction of bioretention systems*

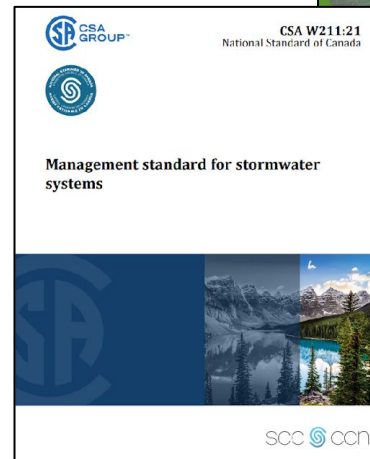
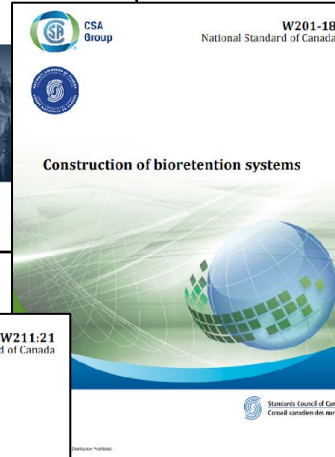
CSA W210:19 *Prioritization of flood risks*

CSA W204:19 *Flood resilient design of new communities*
CSA W211:21 *Management standard for stormwater systems*
CSA W218:23 *Specifications for natural asset inventories*

Methodology



7 standards were included in the guide



- 4 pilot municipalities provided the consultant with access to their strategic documents and policies
- Consultant reviewed these documents and looked for ‘best fit’ opportunities for reference
- Held a validation workshop of the draft guide with 14 municipalities
- Produced a highly visual, easy-to-use, step-by-step guide.

Introduction to the Guide

Three steps to integrating CSA standards into municipal planning and approval processes



The following questions will help you identify gaps and the applicable CSA Group Community Water Standards.

	YES	NO	Relevant Standards
Does the Regional Plan have a hazard-related policy or flood planning section?	See "Basic Regional Plan Policy"	See "Comprehensive Regional Plan Policy"	<ul style="list-style-type: none"> • W204:19 • W210:21
Does your Official Community Plan or Development Plan have a hazard-related policy or flood planning section?	See "Basic Official Community Plan or Development Plan Policy"	See "Comprehensive Official Community Plan Policy"	<ul style="list-style-type: none"> • W204:19 • W210:21
Does your Official Community Plan or Development Plan require or encourage low-impact development and/or green infrastructure?	See "Basic Official Community Plan or Development Plan Policy"	See "Comprehensive Official Community Plan Policy"	<ul style="list-style-type: none"> • W200:18 • W201:18
Does your municipal Zoning Bylaw or Land Use Bylaw limit development in areas subject to flooding?	See "Basic Zoning Bylaw Regulation"	See "Comprehensive Zoning Bylaw Regulation"	<ul style="list-style-type: none"> • W204:19 • W210:21
Does your municipal Zoning Bylaw or Land Use Bylaw promote safer building and rebuilding through required elevations above base flood elevation?	See "Basic Zoning Bylaw Regulation"	See "Comprehensive Zoning Bylaw Regulation"	<ul style="list-style-type: none"> • W204:19 • W210:21
Has your municipality established Development Permit Areas to regulate development within and abutting flood-prone areas? (applies to British Columbia only)	See "Basic Development Permit Area Regulation"	See "Comprehensive Development Permit Area Regulation"	<ul style="list-style-type: none"> • W204:19 • W210:21
Does your municipality's Stormwater Management Plan encourage low-impact development and/or green infrastructure for stormwater management?	See "Basic Stormwater Management Plan Provision"	See "Comprehensive Stormwater Management Plan Provision"	<ul style="list-style-type: none"> • W200:18 • W201:18
Does your municipality have a long-term management plan for your stormwater system? This plan would go beyond management of stormwater and would include all the key aspects of managing the stormwater system, such as a description of existing stormwater system assets, roles and responsibilities, and identification of supporting information and plans that impact the stormwater systems.	See "Comprehensive Stormwater Management Plan Provision"	See "Comprehensive Stormwater Management Plan Provision"	<ul style="list-style-type: none"> • W211:21

Step 2

- **Step 1: Assemble your tool box – which tools do you have** (e.g. bylaws, stormwater management plans, official plans)
- **Step 2: Identify the gaps and new tools, through standards, which could help in meeting objectives**
- **Step 3: Develop or update policies and guidelines supported by National Standards**

Step 3: Develop or Update policies & strategic documents



Basic Official Community Plan or Development Plan Policy

POLICY FOR GREENFIELD RESIDENTIAL DEVELOPMENT:
"New residential development shall be designed in compliance with the CSA Group Standard CSA W204:19 Flood resilient design of new residential communities."

POLICY FOR EXISTING RESIDENTIAL DEVELOPMENT:
"Existing residential development shall be prioritized for flood protection in compliance with CSA W210:21, Prioritization of flood risk in existing communities."

POLICY FOR LOW-IMPACT DEVELOPMENT:
"The municipality shall encourage the use of innovative low-impact development design, as per CSA W200:18, Design of bioretention systems and CSA W201:18, Construction of bioretention systems, in new development and redevelopment in addition to, or as an alternative to, the required stormwater management quantity facilities."

Comprehensive Official Community Plan Policy

POLICY FOR GREENFIELD RESIDENTIAL DEVELOPMENT:
"Development in the flood-prone area may be permitted provided that existing or potential hazards can be mitigated through accepted engineering techniques and resource management practices which meet the approval of the Municipality, [the relevant Conservation Authority], and the other appropriate agencies as necessary and where the risk to public safety and other effects can be mitigated in accordance with the following policies and standards:

- The flooding and erosion hazards can be safely addressed, and the development and site alteration is carried out in accordance with standards (e.g., CSA W202:18, CSA W204:19);
- Existing hazards are not aggravated, or new hazards are not created;
- No adverse environmental impacts and no negative impact on natural heritage features will result. An Environmental Impact Assessment may be required to demonstrate that no adverse environmental impacts will result;
- Vehicles and people have a way of safe ingress and egress during times of flooding, erosion, or other emergencies; and
- The development is carried out in accordance with CSA W204:19, Flood resilient design of new residential communities."



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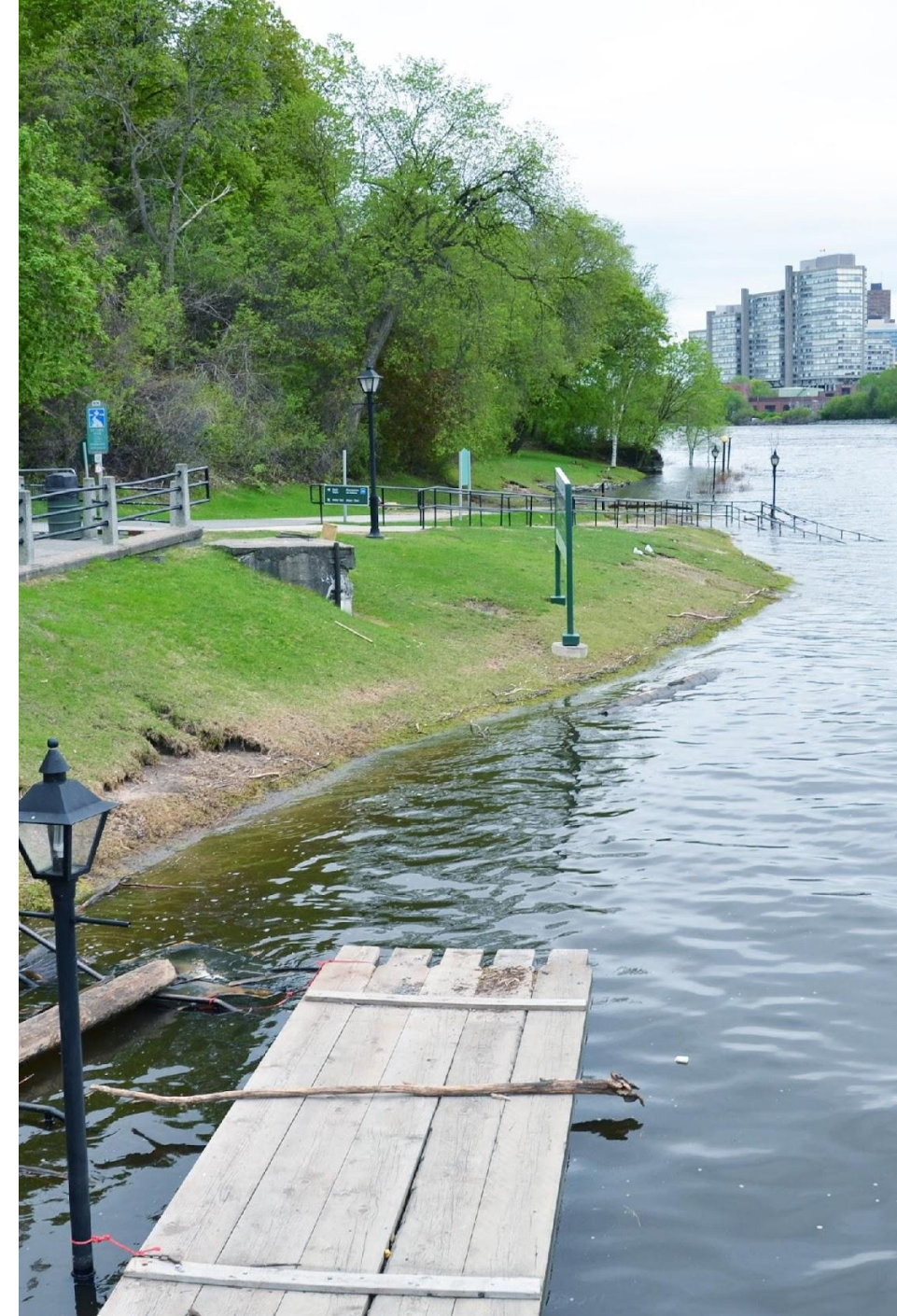
- Policy language examples provided, with references to standards
- Flexibility to modify to meet needs
- Valuable resource for small to medium-sized municipalities with stretched resources

What are municipalities saying?

“We see CSA Water Standards as a key part of building flood resilience in our community and have incorporated them into our Community Plan.

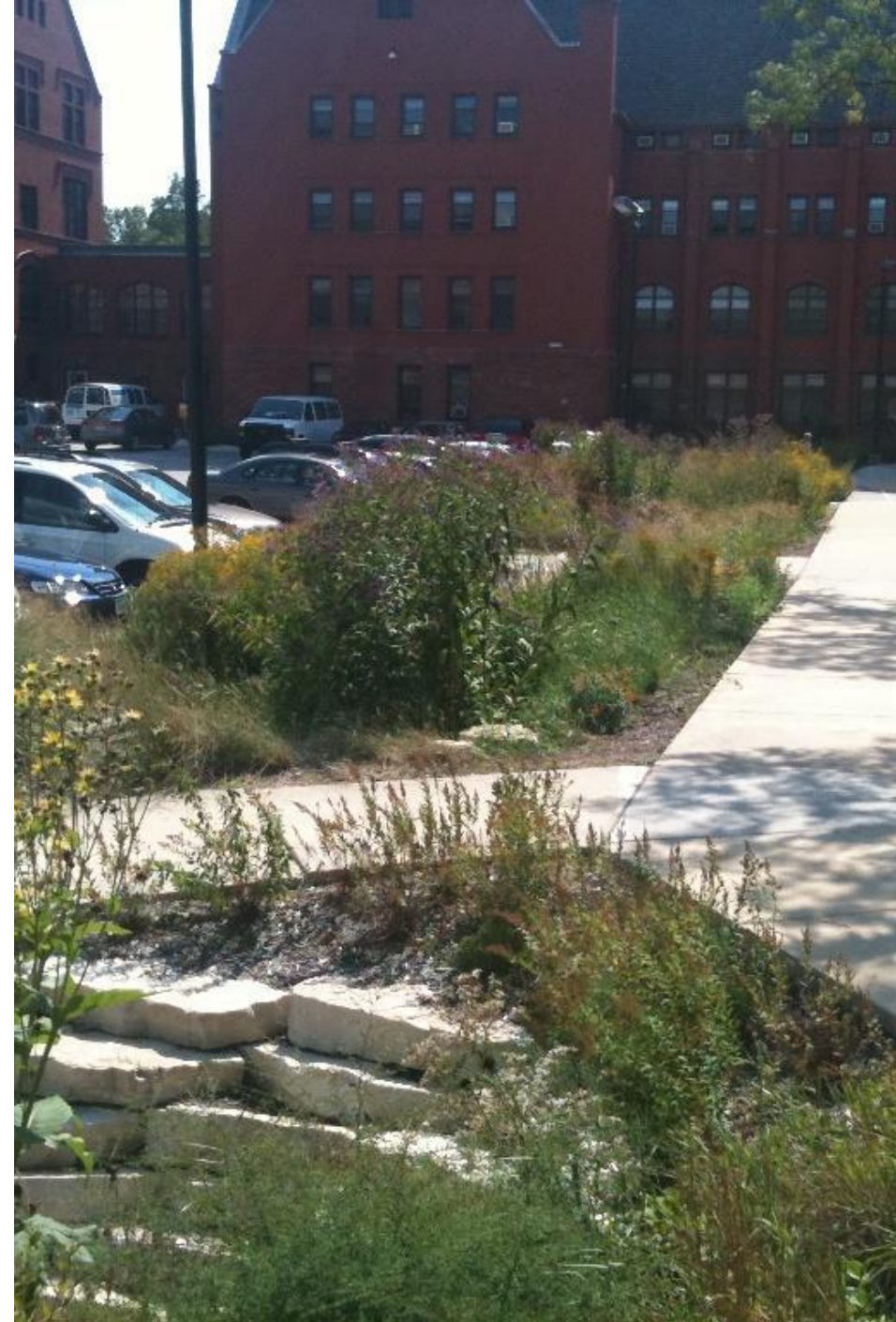
We would encourage other communities to explore the Municipal How-to Guide. It is a quick and easy way to learn about the standards and give you a headstart on developing policies and bylaws that implement the standards.”

**Chris Prosser
Chief Administration Officer (CAO)
Town of High River, AB**



Key Takeaways

- Leveraging national expertise, CSA standards can help save staff time and money, by avoiding duplication of effort, potentially freeing up funds for other purposes.
- Standards can **help** provide consistency and expectations for the development community.
- The implementation of standards can demonstrate the municipal government's commitment to protecting their communities against the impacts of flooding.
- Consistent application of standards can help municipalities work with other tiers of government to address cross-jurisdictional issues.





Thank-you!

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