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Drinking Water Quality Management System

– National Standard of Canada

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Executive Summary

Canadian Standards Association, operating as CSA Group, is a not-for-profit organization. Our mission is to enhance the lives of Canadians through the advancement of standards in the public and private sectors. We are a leader in standards research, development, education, and advocacy. The technical and management standards developed with our more than 11,000 members improve safety, health, the environment, and economic efficiency in Canada and beyond.

Recognizing the need for a national standard on drinking water quality management, CSA Group is seeking to develop a National Standard of Canada to establish nationally recognized requirements for the provision of safe drinking water across the country. Similar to the development of CSA W211:21 *Management standard for stormwater systems* which was published in 2021, CSA Group would work with key industry, government, and drinking water subject matter experts to develop a nationally recognized standard.

The proposed new National Standard of Canada (NSC) would be based on best practices and safety requirements from across the country intended to define minimum requirements for the management and operation of drinking water systems as well as prescribing an accreditation program for the verification and licensing of drinking water systems and operators. The NSC could therefore be referenced in regulation across Canada to establish nationally recognized and legally binding requirements for the provision of safe and quality drinking water.

CSA Group proposes building on its current portfolio of drinking water, wastewater, and storm water standards, guidelines, and research solutions to conduct further standards development activities in support of the management of water within communities.

CSA Group proposes a 22-month project schedule, to commence September 2026, with a completion date of July 2028. The enclosed proposal provides an overview of the project methodology, schedule and proposed costs associated with the project. In addition, project details, assumptions and highlights of CSA Group's ability and commitment to complete the proposed work are provided.

The total value of the proposed project as outlined is \$209,155 CAD, which includes no-fee view access of the resulting National Standard of Canada for the life of the first edition.

About CSA Group

Canadian Standards Association, operating as CSA Group, is a not-for-profit organization. Our mission is to enhance the lives of Canadians through the advancement of standards in the public and private sectors. We are a leader in standards research, development, education, and advocacy. The technical and management standards developed with our more than 11,000 members improve safety, health, the environment, and economic efficiency in Canada and beyond.

Project Overview

Background

Currently, there are no enforceable drinking water standards at a national scale in Canada¹. Health Canada, in partnership with the provinces, territories, and other federal departments have developed Guidelines for Canadian Drinking Water Quality. These guidelines provide maximum acceptable concentrations of substances in drinking water and basic parameters that water systems should strive to achieve, however, the applied responsibility for drinking water quality and the provision of safe drinking water remains that of the provinces and territories.

Following the 2000 water quality crisis in Walkerton, Ontario, the Ontario Ministry of Environment, Conservation, and Parks (MECP), in cooperation with Ontario's water sector, acted upon the recommendation of the Justice O'Connor Inquiry Report establishing Ontario's Drinking Water Quality Management Standard (DWQMS), published in 2007, and last updated in 2017.

As described in the Ontario's Drinking Water Quality Management Standard – Pocket Guide², the DWQMS sets out a framework for the operating authority and the owner of a drinking water system to develop a Quality Management System that is relevant and appropriate for the system.

¹ Our Living Waters, *National Drinking Water Standards* [website], https://www.ourlivingwaters.ca/national_drinking_water_standards (accessed November 28, 2024)

² Government of Ontario, *Ontario's Drinking Water Quality Management Standard – Pocket Guide* [website], <https://www.ontario.ca/page/ontarios-drinking-water-quality-management-standard-pocket-guide> (accessed November 28, 2024).

The DWQMS approach emphasizes the importance of:

- a proactive and preventative approach to management strategies that identify and manage risks to public health
- establishing and documenting management procedures
- clearly identifying roles and responsibilities
- continual improvement of your management system

Through mandating the use of DWQMS within the Safe Drinking Water Act, Ontario has established formal regulation. Likewise, several of the other Provinces and Territories have also established legally binding drinking water standards, while a remaining few have elected to only use the voluntary guidelines. The lack of nationally established standards and referencing regulation leaves Canada with a fragmented regulatory network that relies on the non-enforceable voluntary national Guidelines for Canadian Drinking Water Quality as the only nationally applicable materials for ensuring the safe supply of drinking water.

Objectives

The NSC will set minimum requirements and provide guidance for the establishment of a quality management system that will seek to meet the needs of the following interest groups:

- all levels of government, and their agencies: ability to align system management across the country
- consultants and industry practitioners: access to best practices
- the public interest: enabling governments to safely and effectively manage their drinking water systems
- education/curriculum developers and providers: basis for training, and professional development

Scope

The development of the NSC will be managed by CSA Group utilizing a balanced Committee of subject matter experts from relevant industry, government, and drinking water interests.

The key deliverable meant to achieve the project objectives is the development of a new National Standard of Canada which will include and be complemented by:

- development of a seed document to initially capture and consolidate the available best practices and safety requirements based on the available materials from across the country for greater review and content development by the Committee
- engagement of interested parties seeking best practices and feedback, and
- publication of a new National Standard of Canada in both English and French

The development of the NSC from the seed document will be accomplished through CSA Group's accredited standards development process. The respective content development of the standard will involve convening of the committee from across Canada to set the base requirements. While it will ultimately be the responsibility of the Committee to determine and confirm the scope of the developed standard, the scope of the NSC could include the following topics:

Guidance for how to:

- implement a quality management system
- establish an accreditation protocol for operating authorities of drinking water systems
- identify hazards for drinking water systems

Minimum requirements for:

- development and implementation of an operational plan
- conducting risk assessments
- establishing best management practices

Once the NSC is published, this expert consensus will lend credibility to the NSC and through implementation across the country could lend itself to a greater accountability in the eyes of the public in respect to overall public safety.

Relevant Works

As a focused strategic priority, CSA Group's Natural Resources standards program has been actively working to develop National Standards of Canada along with other standards products to support climate adaptation, flood mitigation, natural and nature-based solutions, erosion and sediment control, and natural assets.

The projects listed below were developed with input from a multitude of technical subject matter experts from across Canada, participating in the research and standards development process as CSA Group members. Through our work, CSA Group has correspondingly built a robust membership of subject matter experts who have served to develop, manage, and pioneer standards solutions on a variety of topics.

Standards

- [CSA W211:21](#) *Management standard for stormwater systems*
- [CSA S503:20](#) *Community drainage planning, design, and maintenance in northern communities*
- [CSA W200:18 \(R2023\)](#) *Design of bioretention systems*
- [CSA W201:18 \(R2023\)](#) *Construction of bioretention systems*
- [CAN/CSA-W2022-18 \(R2023\)](#) *Erosion and sediment control inspection and monitoring*
- [CSA W205:19](#) *Erosion and sedimentation management for northern community infrastructure*
- [CSA W208:20](#) *Erosion and sediment control installation and maintenance*
- [CSA W210:21](#) *Prioritization of flood risk in existing communities*
- [CSA W218:23](#) *Specifications for natural asset inventories*
- [CSA W224:24](#) *Coastal flood risk assessment for building and infrastructure*

Research

- [Managing flooding and erosion at the watershed scale: guidance to support governments using nature-based solutions](#)
- [Future innovation for stormwater management](#)
- [Nature-based solutions for coastal and riverine flood and erosion risk management](#)
- [Turbidity monitoring: addressing gaps for erosion and sediment control in Canada](#)

Proposed Methodology and Workplan

Methodology

To develop the proposed National Standard of Canada (NSC) CSA Group will employ its accredited standards development process, establishing a suitable Committee of technical subject matter experts to accommodate the consensus-based process. Utilizing a seed document created by a subject matter expert, based on the current Province of Ontario document, the Committee will work to develop a draft standard which will be edited, translated, and circulated for public review before proceeding to the respective Technical Committee for final review and formal approval. Once approved the draft standard will be published in both English and French as a NSC by CSA Group.

Assumptions

This proposal is based on the following assumptions, inclusions and limitations:

- Signed contract to be in place prior to project commencement
- The decisions of the respective committee(s) on project initiation, content, approval, and related timing are beyond the control of CSA Group and as such are estimates only
- A technical sub-committee (TSC) of 10 to 20 members of subject matter experts is to be established
- The TSC will report to the established CSA Group Technical Committee (TC) on Community water – drinking, storm, & waste, membership of which is to be supplemented with additional subject matter expertise as required
- The target publication date is based on achieving consensus amongst the members of the committee(s)
- The standard is estimated to be 75 to 100 pages in length
- There may be as many as 10 committee meetings, held virtually, for development and approval of content with no in-person meetings
- The standard will be published in English and French with Public Review in English and French as well

Proposed Work Plan

The following work plan outlines the primary tasks to be performed by CSA Group to develop the proposed NSC.

Pre-Committee

Activities:

- **Notice of Intent** – CSA Group will issue a notice of intent to notify the public of the intent to proceed with development of the new NSC via the CSA Group and SCC websites.
- **Establish CSA Group TSC** – CSA will establish a suitable technical subcommittee made up of subject matter experts representing relevant interest groups that is balanced with geographically diverse membership.
- **Member Orientation** – A training session will be organized to educate all members of the roles and responsibilities of committee members, as well as the standard development process.

- **Kick-off meeting** – A project kick-off meeting of the TSC will be held. The meeting will serve to introduce members of the TSC to the project and to discuss and refine the project schedule.
- **Confirmation of project schedule and key milestones** – The project schedule and key milestones will be confirmed with TSC membership.
- **Working draft preparation** – A subject matter expert will be engaged to conduct a literature landscape review to identify suitable reference materials for inclusion and to develop a working draft (seed document), to be provided as a starting point to the TSC to commence NSC development activities.

Stage Deliverables:

- 1) Notice of intent issued
- 2) TSC established
- 3) Project schedule and key milestones confirmed
- 4) Seed document developed

Content development

Activities:

- **Develop draft standard** – Utilizing the seed document, the TSC will develop a draft standard through a series of collaborative meetings, an online workspace shared amongst the TSC and TC members, and additional reference materials and correspondence. CSA Group will facilitate the process to develop the technical content of the draft standard by the TSC.
- **TC review** – Prior to advancing the draft standard to the enquiry and editing stage, the draft standard will be circulated to the TC for review and comment. Comments received will be forwarded to the TSC for review and consideration to make necessary additions and alterations to the draft standard.
- **Translation** – The draft standard will be translated to French in preparation for public review circulation.

Stage Deliverables:

- 1) TC review of working draft completed
- 2) Development of draft standard in preparation for public review circulation completed
- 3) Draft document translation completed

Enquiry and editing

Activities:

- **Public review** – The draft standard will be posted on the CSA Group public review online forum for a period of 60 days, during which time it will be accessible to the public for review and comment. Comments received through the public review will be consolidated into a comprehensive report and provided to the TSC for review and consideration. Once the TSC has reached consensus on the required additions and alterations to the draft standard resulting from the consideration of public review comments, CSA Group will prepare a revised draft for advancement to approval stage.
- **Internal review (quality review and preapproval edit)** – In coordination with the public review process the revised draft shall be prepared internally and submitted to CSA Group editorial staff to conduct both a quality review, to review for clarity of standards language used, as well as a preapproval edit, to review for compliance with CSA Group standard development policies and guidelines, prior to advancing for the preparation of a ballot draft of the standard.

Stage Deliverables:

- 1) 60-day public review process completed
- 2) Disposition of public review comments completed
- 3) CSA Group internal quality review completed
- 4) CSA Group internal preapproval edit completed
- 5) Standard ballot draft preparation completed

Approval

Activities:

- **Technical approval** – The draft standard will be circulated through ballot to the TC voting membership for approval. Comments received through the ballot process will be consolidated into a comprehensive report and provided to the TSC for review and consideration. Once the TSC has reached consensus on the required additions and alterations to the draft standard resulting from the consideration of ballot comments, the amended draft standard will be circulated to the TC for final approval, if necessary.

Note: To meet CSA Group requirements for approval, the affirmative votes must constitute at least fifty percent of the total voting membership and two-thirds of the votes cast. During this process, all negative votes must be tabulated and dispositioned; as well, all comments must be addressed. Further, if significant technical changes are required as a result of comment dispositioning, a second ballot may be required.

Note: Publication of consensus-based documents, such as standards or technical specifications, is dependent upon many factors including but not limited to the TC reaching consensus. In the

event consensus cannot be achieved, CSA Group will enter into collaborative discussion with the Ontario Government to evaluate the appropriate steps and alternative deliverables to satisfy the terms of the project.

- **Second level review** – The second level review, an internal CSA Group procedural approval conducted to confirm due process in accordance with CSA Group’s directives and guidelines has been followed, will be undertaken.

Stage Deliverables:

- 1) Draft standard approval received
- 2) Second level review completed

Publication

Activities:

- **Final edit** – During the publication stage, CSA Group’s Editorial and Production Services team will conduct a final edit to verify conformity with the applicable editorial and procedural requirements.
- **Final translation** – CSA Group will finalize the translation of the document to reflect all additions, alterations, and edits.
- **NSC Publication** – CSA Group, through its ability to self-declare, will publish the standard as a National Standard of Canada in both English and French.
- **Publication Availability** – CSA Group will make the standard available to the public on a CSA Group online platform, in English and French.

Stage Deliverables:

- 1) Publication of NSC in both English and French completed
- 2) Publication made available in both English and French through CSA Group online platform

Maintenance

Ongoing maintenance – During the life of a standard, when necessary, amendments and interpretations may be developed and published. Also, CSA Group directives require that a decision be taken by the TC at least every 5 years to reaffirm the standard in its current form, develop a new edition, or withdraw the standard.

View Access

Supporting the public availability of the developed NSC is critical to facilitating its broad uptake and adoption. To assist with NSC availability, it will be made publicly available on a CSA Group online platform to users in Canada through a no-fee viewable format for the life of the first edition or until reaffirmation, in English and French. View access format requires a simple user registration and will permit users to scroll through the full text of the document. Subject to additional fee, CSA Group reserves the right to:

1. provide any current or future publication(s) in different formats for a fee, including but not limited to, paper, downloadable PDF, HTML, XML or other alternative formats, and/or
2. provide enhanced functionality and/or access methods for a fee such as multi-document and time-limited subscriptions.

Project Budget and Schedule

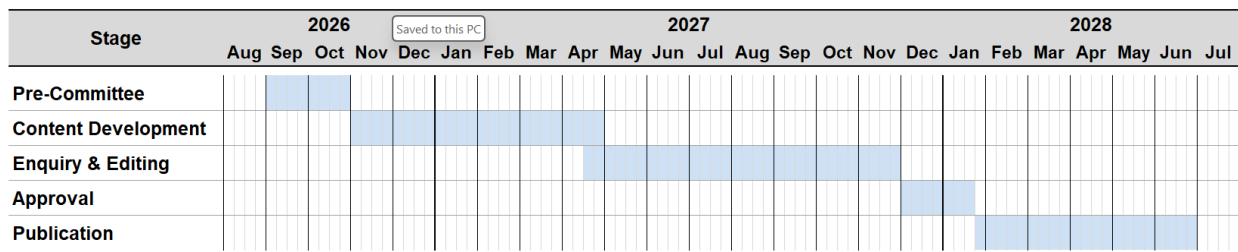
Project Budget

The proposed cost for the project is \$209,155 excluding applicable taxes. An invoicing schedule will be agreed to as a component of finalizing any subsequent contribution agreement or contract upon acceptance of this proposal.

Project Schedule

CSA Group proposes to commence the project in September 2026 with the work plan advancing as illustrated in Figure 1 being completed over a 22-month duration, with publication for July 2028.

Figure 1: Proposed Project Schedule



Note: The schedule is subject to change based on committee decisions, the ability to meet consensus, or other unforeseen factors.

Offer of Service

Canadian Standards Association, operating as CSA Group (“CSA Group”) is pleased to submit this proposal to the Province of Ontario Ministry of Environment, Conservation and Parks (“Client”), dated May 2026. CSA Group offers to provide the project deliverables as described herein in consideration for Client paying CSA Group in accordance with the pricing structure set out herein, and subject to negotiation of the terms and conditions of the final agreement in the event CSA Group is awarded the contract.

This proposal is submitted based on the following terms:

CSA Group is an accredited Standards Development Organization (“SDO”) in Canada and the United States of America, providing services in accordance with its Policy governing standardization, and Directives and guidelines governing standardization, where those documents apply to the services being performed, as well as other non-accredited services and products. Decisions of committees or ANSI or the Standards Council of Canada, and related timing, are beyond the control of CSA Group. Dates and deliverables are estimates only.

CSA Group will own the full copyright in any works created in the course of performing the services. CSA Group must own the intellectual property in any document or other product arising from the services in order to maintain its integrity and adherence to the accredited SDO process, as applicable.

CSA Group assumes no liability with respect to the content or subsequent use of any document or other product arising from the services, and the Client hereby releases CSA Group, its divisions or affiliates, their employees, directors and agents from any and all claims for losses and damages relating to or resulting from the performance of the services.

This proposal is valid for a period of ninety (90) days from the date it is issued.

These terms cannot be varied except in a written agreement signed by CSA Group. CSA Group’s acceptance of a purchase order containing different terms or conditions does not modify or supersede these terms.