

Subject:

CAN/BNQ 2501-500, Geotechnical Site Investigation for Building Foundations in Permafrost (Fifth NISI Phase 1 standard)

Product:

Joint news release for SCC and BNQ

Title: New national standard will help ensure infrastructure resiliency in Canada's North

The Standards Council of Canada (SCC) and the [Bureau de normalisation du Québec](#) (BNQ) today announced the publication of a new National Standard of Canada (NSC) that will help ensure that infrastructure built in Canada's North is adequately prepared for the uncertainties of a changing climate.

CAN/BNQ 2501-500, *Geotechnical Site Investigations for Building Foundations in Permafrost Zones*, is the fifth standard developed through the [Northern Infrastructure Standardization Initiative](#) (NISI). It establishes a consistent methodology for performing geotechnical site investigations so that the results can be used to design building foundations with due consideration—in a risk management framework—of the conditions prevailing at the building site, including the distinctive characteristics of permafrost and the seasonal and interannual climate conditions as well as the projected climate conditions over the service life of the building foundations.

In the long term, it is expected that this standard will help reduce maintenance issues which, as a result of climate change or improper site evaluation, can cause permanent damage to structures.

To date, five NSCs were developed under Phase I of NISI with the support of Indigenous and Northern Affairs Canada. NISI standards address the unique circumstances found in Canada's North, providing mechanisms to help adapt and reduce the vulnerability of northern infrastructure to the impacts of climate change. Building on the success of Phase I of NISI, SCC has embarked on a second phase that will continue to address critical issues relevant to Canada's North amidst a changing climate.

Taken together, these standards will help building owners and operators and those responsible for public and community infrastructure build and maintain resilient infrastructure in a changing climate.

By engaging communities and experts from across the North, SCC is providing standardization solutions that are effective in addressing climate change impacts to northern infrastructure, planning and management. In the process, we are helping to protect the health and well-being of Canadians, communities and the economy.

Quick facts:

- BNQ, a standards development organization accredited by SCC, was selected by SCC in February 2015 to develop the fifth NISI standard.
- The previous NSCs published under Phase I of NISI include:
 - [Community drainage system planning, design, and maintenance in northern communities](#);
 - [Thermosyphon foundations for buildings in permafrost regions](#);
 - [Moderating the effects of permafrost degradation on existing building foundations](#); and
 - [Managing changing snow load risks for buildings in Canada's North](#).
- NSCs published under Phase II of NISI will include:
 - Operating, maintaining and decommissioning of wastewater treatment systems;
 - Selection of foundation types for buildings in permafrost;
 - Fire resilient building design and materials;
 - Techniques for dealing with high winds as it pertains to infrastructure; and
 - Erosion protection in permafrost.
- The NISI standards address the effects of climate change on new or existing infrastructure in the North, as well as on retrofits, operations and maintenance.

Quotes:

“The Northern Infrastructure Standardization Initiative is an excellent example of how SCC brings stakeholders together to identify and develop progressive standardization solutions that protect the safety and well-being of all Canadians. This fifth NISI standard will provide much-needed guidance for planners in Canada’s North to mitigate the risks of a changing climate.”

- John Walter, CEO, SCC

“BNQ is proud to publish this National Standard of Canada, which provides a framework for conducting geotechnical site investigations in permafrost zones. The application of this standard should contribute to reduce the vulnerability of Canada’s Northern infrastructure to the impacts of climate change.”

- Jean Rousseau, Senior Director, Bureau de normalisation du Québec

More information:

- [Northern Infrastructure Standardization Initiative \(NISI\) program page](#)
- [CAN/BNQ 2501-500 information page on BNQ website](#)

About BNQ:

The Bureau de normalisation du Québec (BNQ) has acted as a central standardization and certification organization for over 50 years. BNQ takes the lead in developing measures to support business, manufacturing, social and regulatory communities with its normative innovations. For more information: www.bnq.qc.ca.



About the Standards Council of Canada:

SCC is a Crown corporation and part of the Innovation, Science and Economic Development Canada portfolio that leads and facilitates the development and use of national and international standards and accreditation services in order to enhance Canada's competitiveness and well-being. For additional information on SCC, visit www.scc.ca.

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New national standard will help resilience of infrastructure in Canada's North [link]

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Canada's North is highly vulnerable to the impacts of climate change, but SCC is working with partners from across the North to provide standardization solutions that will ensure Canada's North is adequately prepared for the uncertainties of a changing climate.