CSA PLUS 4011:19



Technical Guide: Infrastructure in permafrost: A guideline for climate change adaptation



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Preface

This is the second edition of CSA PLUS 4011, *Technical Guide: Infrastructure in permafrost: A guideline for climate change adaptation*. It supersedes the previous edition published in 2010.

Updates to the new edition are as follows:

- a) Current climate change projections recommended for use in northern Canada are presented (Chapter 4);
- b) Up-to-date information on ground temperature trends in permafrost throughout northern Canada are presented (Chapter 2);
- c) Permafrost conditions critical for infrastructure foundations have been summarized, revised, and consolidated into a single chapter (Chapter 2);
- d) Description and explanation of foundations used in northern Canada for buildings constructed on permafrost have been revised to improve readability (Chapter 3);
- e) Current trends in climate (temperature and precipitation) throughout the North are presented (Chapter 4);
- f) A range of climate projections available for northern Canada are presented graphically to allow assessment of current uncertainty in future climate projections (Chapter 4 and Annex C);
- g) Minor revisions to the screening process have been made for clarity (Chapter 5).

CSA Group received funding for the development of this Guideline from the Standards Council of Canada, as part of the Northern Infrastructure Standardization Initiative with input from the Northern Advisory Committee (NAC).

This Guideline was prepared by the Technical Subcommittee on Climate Change Adaptation for Infrastructure in Permafrost, under the jurisdiction of the Technical Committee on Northern Built Infrastructure and the Strategic Steering Committee on Construction and Civil Infrastructure, and has been formally approved by the Technical Committee.

Notes:

- 1) Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- 2) Although the intended primary application of this Guideline is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
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