

WATER MAIN

Adopted pursuant to *The Environmental Management and Protection Act, 2010*

PART 1 – General

Application

1-1 This chapter applies to every owner of a water main that is used or intended to be used to supply water for human consumptive use in a [municipality](#) with a population of at least 5,000 [persons](#) as determined by the most recent census conducted pursuant to the *Statistics Act (Canada)*, but does not apply:

- (a) to water pipelines;
- (b) to the operation of a water main;
- (c) to water treatment systems, water plants, water reservoirs, water pump houses; or
- (d) to the following activities conducted on a water main:
 - (i) maintenance;
 - (ii) line break repairs;
 - (iii) construction of service connections;
 - (iv) replacement of a water main with another water main at the same location or within the same right of way.

Information Note

This chapter comes into force on June 1, 2015.

In accordance with section 84 of the Act, it is an offence to fail to comply with the code.

Compliance

1-2 Every owner of a water main shall comply with all the requirements established pursuant to:

- (a) Part 1; and
- (b) either:
 - (i) Part 2; or
 - (ii) Part 3.

Notification required

- 1-3(1)** No person shall commence work on the construction of a water main unless that person has:
- (a) notified the [minister](#) in the form provided by the minister and provided the minister with any other information or material that the minister may reasonably require; and
 - (b) received a notification number from the minister.
- (2) Every person who has received a notification number pursuant to clause (1)(b) shall ensure that the notification number is included on all documents required by this chapter to be kept and retained.

Information Note

A person may notify the minister:

- (1) electronically by using the following link: www.environment.gov.sk.ca; or
- (2) by requesting a form from the Saskatchewan Ministry of Environment at:
 - Saskatchewan Ministry of Environment
 - 1-800-567-4224 (toll free in Canada)
 - Centre.Inquiry@gov.sk.ca

The owner shall not operate the waterworks without first obtaining an operating permit.

Every owner of a water main should consider and respond to the potential need to evaluate heritage properties.

Qualified person and certificates

- 1-4(1)** For the purposes of clause 2(1)(bb) of the Act, in this chapter “**qualified person**” means:
- (a) for the purposes of certifying an [environmental protection plan](#):
 - (i) a person licensed to practise professional engineering pursuant to [The Engineering and Geoscience Professions Act](#); or
 - (ii) an individual who is designated by the minister or who is a member of a class of persons designated by the minister pursuant to the Act to undertake the activity;
 - (b) for the purposes of certifying a water main design plan:
 - (i) a person licensed to practise professional engineering pursuant to The Engineering and Geoscience Professions Act;
 - (ii) a person who is an applied science technologist pursuant to [The Saskatchewan Applied Science Technologists and Technicians Act](#) and who has 8 years of experience in the area of work to be performed that is recognized by the Saskatchewan Applied Science Technologists and Technicians; or
 - (iii) an individual who is designated by the minister or who is a member of a class of persons designated by the minister pursuant to the Act to undertake the activity;
 - (c) for the purposes of certifying the monitoring and commissioning requirements:

- (i) a person licensed to practise professional engineering pursuant to *The Engineering and Geoscience Professions Act*;
 - (ii) a person who is an applied science technologist or certified technician pursuant to *The Saskatchewan Applied Science Technologists and Technicians Act*;
 - (iii) an operator who holds at least the corresponding certificate for the classification of the **waterworks** that is set out in the Saskatchewan Water and Wastewater Works Operator Certification Standards; or
 - (iv) an individual who is designated by the minister or who is a member of a class of persons designated by the minister pursuant to the Act to undertake the activity;
- (d) for the purposes of certifying the quality assurance and quality control sampling and analytical procedures, any person mentioned in clause (c).
- (2) Every owner of a water main shall ensure that any certificate provided by a qualified person in accordance with this chapter satisfies the requirements set out in the Qualified Person Certification Standard.

Information Note

The identification of a person as a qualified person does not entitle that person to engage in an activity if that activity is within the exclusive scope of practice of a profession and that person is not a member of that profession.

Designation of water main as a waterworks

- 1-5** For the purposes of this chapter, every water main is designated as a waterworks for the purposes of subclause 2(1)(pp)(ii) of the Act.

Environmental samples and laboratory analysis

- 1-6(1)** Subject to subsection (2), every owner of a water main shall ensure that environmental samples are:
- (a) collected, preserved, stored, handled or analysed in accordance with a method approved by a standards-setting organization; and
 - (b) if analysed by a laboratory, analysed by a laboratory accredited pursuant to the requirements of the Canadian Association for Laboratory Accreditation in accordance with the parameters for which the laboratory has been accredited.
- (2) If no parameter-specific environmental sampling method or analytical method accreditation process exists, every owner of a water main shall ensure that a qualified person provides a certificate stating that, in his or her opinion, the quality assurance and quality control for sampling and analytical procedures produce accurate, precise and reliable results.

Information Note

Standards-setting organizations include bodies such as the Standards Council of Canada, the Canadian Standards Association, the Underwriters Laboratories of Canada, the International Organization for Standardization, the American Society for Testing and Materials (ASTM) International and the United States Environmental Protection Agency.

General records

- 1-7(1)** Every owner of a water main shall ensure that the following records are kept and retained for at least 7 years from the date the record was created:
- (a) records respecting cleaning and disinfection procedures, including the cleaners and disinfectants used, the disinfectant concentrations achieved and all microbial water quality analysis performed during commissioning of the water main;
 - (b) the results of all pressure integrity testing performed during commissioning of the water main;
 - (c) a record of the commissioning procedures used;
 - (d) a record of any action taken to correct failed test results respecting construction-related microbial or pressure integrity;
 - (e) a record of any departure from planned or accepted construction practices;
 - (f) records of any environmental sampling, analysis or monitoring that has been conducted, including:
 - (i) the results of any environmental analysis;
 - (ii) the date, location and time of environmental sampling or monitoring;
 - (iii) the name of the person collecting the environmental sample;
 - (iv) an identification of the environmental sample type;
 - (v) the date of analysis of the environmental sample;
 - (vi) the sampling method used;
 - (vii) the name of the laboratory that performed the analysis of the environmental sample;
 - (viii) the name of the person responsible for performing the analysis of the environmental sample; and
 - (ix) the quality assurance and quality control records of any environmental samples.
- (2)** Every owner of a water main shall ensure that the following records are kept and retained for the operational life of the water main and for a period of 15 years after the operational life:
- (a) any water main operation or maintenance manual developed during the operational life;
 - (b) copies of all water-main-related notification information and correspondence;

- (c) copies of all water-main-related design specifications, reports and as-constructed drawings;
 - (d) copies of all records related to the construction and any inspection of the water main;
 - (e) copies of all analytical and testing procedures;
 - (f) any certificate received from a qualified person;
 - (g) any other records mentioned in Part 2 or Part 3.
- (3) Every owner of a water main shall ensure that the records required to be kept pursuant to this section are made available to the minister on request.
- (4) An owner of a water main shall ensure that, on transfer of ownership of the water main, the records required to be kept pursuant to this section are transferred to the new owner.

General reporting

- 1-8(1)** Subject to subsection (2), every owner of a water main shall provide the minister with a copy of the results of any microbiological testing performed in accordance with this chapter within 7 days after receiving the results.
- (2) If the results of any microbiological testing mentioned in subsection (1) detect any coliform or *Escherichia coli* organisms, the owner of the water main shall provide the minister with a copy of those results immediately on receiving them.
- (3) Every owner of a water main shall:
- (a) provide the following documents, before beginning construction, to the designer, contractor and the person supervising the construction work:
 - (i) a copy of the notification provided to the minister pursuant to section 1-3;
 - (ii) a copy of this chapter; and
 - (b) provide the minister with the following:
 - (i) before beginning construction, verbal or written notice of the date when construction will begin;
 - (ii) after construction is 75% complete and before it is 95% complete, verbal or written notice that construction is significantly completed;
 - (iii) within one year after completing construction, as-constructed drawings of the water main or any changes to the water main.

Information Note

A person may provide verbal or written notice to the minister by:

- (1) contacting the Environmental Protection Officer responsible for the waterworks; or
- (2) electronically by using the following link: www.environment.gov.sk.ca.

PART 2 – Alternative Solution

Information Note

Part 2 applies to every owner of a water main who has elected to comply with Part 2.

Results-based objective

- 2-1(1) The results-based objective of this chapter is to limit the probability of unacceptable **adverse effects** resulting from the activity addressed by this chapter.
- (2) The results-based objective mentioned in subsection (1) must be satisfied by:
- (a) providing a water main to convey water for human consumptive use by taking reasonable and prudent measures:
 - (i) to ensure that the water meets the concentration limits for the parameters set out in Table 3 in the Appendix of *The Waterworks and Sewage Works Regulations*, within the timelines set out in that Table, when the water main is commissioned;
 - (ii) to ensure that the water meets the chemical treatment standards set out in clause 27(6)(b) of *The Waterworks and Sewage Works Regulations* when the water main is commissioned;
 - (iii) to ensure that the water meets the microbial and bacteriological standards set out in subsection 29(3) of *The Waterworks and Sewage Works Regulations* when the water main is commissioned;
 - (iv) to employ effective and safe products and materials that come into contact with water in the water main;
 - (v) to design and construct the water main:
 - (A) to resist infiltration of foreign **substances**; and
 - (B) to facilitate cleaning and maintenance of the water main; and
 - (vi) in advance of commissioning:
 - (A) to clean, disinfect and flush the water main; and
 - (B) to pressure test the water main;
 - (b) providing longevity of the water main by taking reasonable and prudent measures to design and construct the water main:
 - (i) to facilitate seamless workings with the existing human consumptive use waterworks for a period of at least 10 years; and
 - (ii) to withstand normally encountered stresses; and
 - (c) taking reasonable and prudent measures to include components on monitoring, recording and reporting.

Information Note

Clause 27(6)(b) of *The Sewage Works and Waterworks Regulations* requires, unless otherwise set out in the permit to operate, a total chlorine residual of not less than 0.5 mg/L or a free chlorine residual of not less than 0.1 mg/L in the water throughout the distribution system.

Section 29(3) of *The Sewage Works and Waterworks Regulations* requires the following in the water throughout the distribution system, unless otherwise set out in the permit to operate:

- (a) total coliform levels of zero organisms detectable per 100 millilitres;
- (b) *Escherichia coli* levels of zero organisms detectable per 100 millilitres; and
- (c) background bacterial levels of less than 200 organisms per 100 millilitres or no overgrowth.

Environmental protection plan

2-2 Every person who intends to construct a water main shall:

- (a) have an environmental protection plan prepared that sets out the methods that will be employed to satisfy the results-based objective described in section 2-1;
- (b) ensure that a qualified person provides a certificate stating that, in his or her opinion, the methods and components in the environmental protection plan, if carried out in accordance with that plan, will satisfy the results-based objective described in section 2-1; and
- (c) submit the following documents to the minister:
 - (i) the environmental protection plan for acceptance pursuant to section 27 of the Act;
 - (ii) the certificate from a qualified person obtained pursuant to clause (b).

Information Note

The environmental protection plan, and the certificate(s) from the qualified person, may be submitted to the minister:

- (1) electronically by using the following link: www.environment.gov.sk.ca; or
- (2) by requesting a form from the Saskatchewan Ministry of Environment at:
Saskatchewan Ministry of Environment
1-800-567-4224 (toll free in Canada)
Centre.Inquiry@gov.sk.ca

In accordance with section 27 of the Act, the minister may accept the environmental protection plan, accept the environmental protection plan and impose terms and conditions or refuse to accept the environmental protection plan.

PART 3 – Acceptable Solution

Information Note

Part 3 applies to every owner of a water main who has elected to comply with Part 3.

Water main design plan

- 3-1(1)** Before constructing, altering or expanding a water main, the owner of the water main shall:
- (a) ensure that a water main design plan is prepared that satisfies the requirements set out in subsection (2); and
 - (b) ensure that a qualified person provides a certificate stating that, in his or her opinion, the water main design plan, if carried out in accordance with that plan, will satisfy the requirements set out in subsection (2).
- (2) The water main design plan mentioned in subsection (1) must satisfy the requirements set out in the following provisions of the Waterworks Design Standard:
- (a) section 1.2.5 (Distribution);
 - (b) section 5.1 (Distribution - General);
 - (c) section 5.3 (Distribution Systems).

Commissioning of water main

- 3-2** Every owner of a water main shall:
- (a) ensure that the water main is constructed in accordance with the water main design plan prepared in accordance with section 3-1;
 - (b) before commissioning a water main, ensure that a qualified person provides a certificate stating that, in his or her opinion:
 - (i) the requirements for commissioning a water main set out in the Waterwork Start-Up Standard have been met;
 - (ii) the water in the water main meets the concentration limits for the parameters set out in Table 3 in the Appendix of *The Waterworks and Sewage Works Regulations*, within the timelines set out in that Table;
 - (iii) the water will meet the chemical treatment standards set out in clause 27(6)(b) of *The Waterworks and Sewage Works Regulations* when the water main is commissioned;
 - (iv) the water will meet the microbial and bacteriological standards set out in subsection 29(3) of *The Waterworks and Sewage Works Regulations* when the water main is commissioned; and
 - (v) a pressure test of the water main has been conducted and the water main has passed that pressure test; and

- (c) ensure that only the chemicals listed in the NSF/ANSI Standard 60: Drinking Water Treatment Chemicals - Health Effects are used to clean the water main during construction, alteration, extension or commissioning of the water main.

Information Note

Clause 27(6)(b) of *The Sewage Works and Waterworks Regulations* requires, unless otherwise set out in the permit to operate, a total chlorine residual of not less than 0.5 mg/L or a free chlorine residual of not less than 0.1 mg/L in the water throughout the distribution system.

Section 29(3) of *The Sewage Works and Waterworks Regulations* requires the following in the water throughout the distribution system, unless otherwise set out in the permit to operate:

- (a) total coliform levels of zero organisms detectable per 100 millilitres;
- (b) *Escherichia coli* levels of zero organisms detectable per 100 millilitres; and
- (c) background bacterial levels of less than 200 organisms per 100 millilitres or no overgrowth.

Environmental samples

- 3-3** Notwithstanding section 1-6, every owner of a water main shall ensure that environmental samples collected, preserved, stored, handled or analysed pursuant to this Part are collected, preserved, stored, handled or analysed in accordance with the Standard Methods for the Examination of Water and Wastewater.

Reporting

- 3-4** Every owner of a water main shall submit the following documents to the minister:
- (a) before constructing, altering or expanding a water main:
 - (i) the water main design plan mentioned in clause 3-1(1)(a); and
 - (ii) the certificate from a qualified person obtained pursuant to clause 3-1(1)(b);
 - (b) before commissioning a water main, the certificate from a qualified person obtained pursuant to clause 3-2(b).

Information Note

A person may submit documents to the minister by:

- (1) contacting the Environmental Protection Officer responsible for the waterworks; or
- (2) electronically by using the following link: www.environment.gov.sk.ca.

Glossary of Terms

Act

The Environmental Management and Protection Act, 2010.

Human consumptive use

The use of water for human consumption, including the following uses and applications:

- (a) drinking;
- (b) cooking and food preparation;
- (c) oral hygiene.

Hygienic use

The use of water for hygienic purposes by humans, including the following uses and applications:

- (a) bathing and personal hygiene, but not including swimming;
- (b) showering;

but does not include human consumptive use.

Municipality

A municipality as defined in *The Interpretation Act, 1995*, including the Saskatchewan portion of the City of Lloydminster.

NSF/ANSI Standard 60: Drinking Water Treatment Chemicals – Health Effects

The NSF/ANSI Standard 60: Drinking Water Treatment Chemicals – Health Effects, as established by NSF International, May 2, 2011, and adopted pursuant to the Adoption of Standards Chapter.

Owner of a water main

A person who owns a water main or intends to construct a water main.

Pipes

Closed conduits and all appurtenances attached to those conduits.

Pump house

A facility in a waterworks containing one or more pumps and any appurtenances to those pumps that are designed to pump water into a waterworks or a water main.

Qualified Person Certification Standard

The Qualified Person Certification Standard, as established by the minister on November 15, 2012, and adopted pursuant to the Adoption of Standards Chapter.

Saskatchewan Water and Wastewater Works Operator Certification Standards

The Saskatchewan Water and Wastewater Works Operator Certification Standards, EPB 539, as established by the minister on November 15, 2012, and adopted pursuant to the Adoption of Standards Chapter.

Service connection

A water pipe that connects a water main with a premises.

Standard Methods for the Examination of Water and Wastewater

The Standard Methods for the Examination of Water and Wastewater, 21st Edition, 2005, published by the American Public Health Association, the American Water Works Association and the Water Environment Federation, and adopted pursuant to the Adoption of Standards Chapter.

Water main

That part of a [water distribution works](#) that includes water mains and related piping, control and monitoring systems and appurtenances.

Water pipeline

All or a portion of a waterworks, distribution system or extended network of pipes that:

- (a) is owned by a person or association, other than a municipality;
- (b) is used or intended to be used to provide water for human consumptive use or hygienic use; and
- (c) serves one or more of, or any combination of, the following:
 - (i) permanent residences;
 - (ii) seasonal residences;
 - (iii) acreages;
 - (iv) farmsteads;
 - (v) trailer courts;
 - (vi) commercial buildings;
 - (vii) industrial buildings;
 - (viii) any other similar facility.

Waterwork Start-Up Standard

The Waterwork Start-Up Standard, EPB 560A, as established by the minister on November 15, 2012, and adopted pursuant to the Adoption of Standards Chapter.

Waterworks Design Standard

The Waterworks Design Standard, EPB 501, as established by the minister on November 15, 2012, and adopted pursuant to the Adoption of Standards Chapter.

Standards Referenced in this Chapter

The following standards, adopted pursuant to the Adoption of Standards Chapter, are referenced in this chapter:

- NSF/ANSI Standard 60: Drinking Water Treatment Chemicals – Health Effects
- Qualified Person Certification Standard
- Saskatchewan Water and Wastewater Works Operator Certification Standards
- Standard Methods for the Examination of Water and Wastewater
- Waterwork Start-Up Standard
- Waterworks Design Standard