



PRINCE EDWARD ISLAND  
ÎLE-DU-PRINCE-ÉDOUARD

# **WATER ACT WELL CONSTRUCTION REGULATIONS**

## PLEASE NOTE

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This document is *not* the official version of these regulations. The regulations and the amendments printed in the *Royal Gazette* should be consulted on the Prince Edward Island Government web site to determine the authoritative text of these regulations.

For more information concerning the history of these regulations, please see the *Table of Regulations* on the Prince Edward Island Government web site ([www.princeedwardisland.ca](http://www.princeedwardisland.ca)).

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## WELL CONSTRUCTION REGULATIONS

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## WATER ACT

### CHAPTER W-1.1

## WELL CONSTRUCTION REGULATIONS

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Pursuant to section 76 of the *Water Act* R.S.P.E.I. 1988, Cap. W-1.1, Council made the following regulations:

### INTERPRETATION AND APPLICATION

#### 1. Definitions

In these regulations

- (a) “**Act**” means the *Water Act* R.S.P.E.I. 1988, Cap. W-1.1;
- (b) “**annular space**” means the space between the outside of a well casing and the side walls of a well bore;
- (c) “**aquifer**” means a saturated, permeable geologic unit capable of transmitting useful quantities of water to wells and springs;
- (d) “**casing**” means a watertight length of pipe that is used to line and support the upper portion of a well and to prevent surface or subsurface contaminants from entering the well;
- (e) “**central supply well**” means a well connected to a water supply system serving five or more households;
- (f) “**closed-loop system**” means an earth energy system designed to use a ground heat exchanger for the purpose of extracting or rejecting heat;
- (g) “**commercial chemical storage facility**” means a facility used for the storage and sale, resale, or wholesale storage or distribution of commercial quantities of
  - (i) fertilizers and chemical products, or
  - (ii) pesticides that are restricted under the *Pesticides Control Act* R.S.P.E.I. 1988, Cap. P-4;
- (h) “**direct expansion system**” means a closed-loop earth energy system that uses a heat pump and a refrigerant charged ground heat exchanger;
- (i) “**disposal field**” means a disposal field as defined in the Schedule to the *Water Act* Sewage Disposal Systems Regulations;
- (j) “**flowing well**” means a well from which groundwater overflows periodically or year-round without the use of pumping equipment;

- (k) “**ground heat exchanger**” means a continuous, sealed, underground heat exchanger consisting of a closed loop of pipe through which a heat-transfer fluid passes to and returns from a heat pump;
- (l) “**grout**”, when used as a noun, means a stable, impervious bonding material that is capable of preventing the vertical movement of water along the outside of a well casing or, when used as a verb, means the act of applying such material;
- (m) “**heat-transfer fluid**” means a fluid used to transfer thermal energy to or from the ground in a closed-loop system;
- (n) “**manure storage facility**” means a structure, reservoir, catch basin, lagoon, cistern, gutter, tank or bermed area that contains agricultural waste and agricultural liquid waste prior to its use or disposal, but does not include a vehicle or mobile equipment used for the transportation and land application of livestock wastes;
- (o) “**open-loop system**” means an earth energy system designed to use groundwater or surface water for the purpose of extracting or rejecting heat by use of a liquid-source heat pump;
- (p) “**owner**” means an owner of real property and includes a person who has a right to possession of the real property;
- (q) “**petroleum storage tank system**” means a petroleum storage tank system as defined in the *Environmental Protection Act* Petroleum Storage Tanks Regulations;
- (r) “**pitless adapter**” means an aboveground or underground discharge device designed for attachment to a well casing
  - (i) to prevent the entrance of contaminants into the well,
  - (ii) to conduct water from the well, and
  - (iii) to provide access to the pumping equipment located partly within the well;
- (s) “**plumber**” means a person who holds a certificate of qualification or permit in the compulsory certified trade of plumber issued under the *Apprenticeship and Trades Qualification Act* R.S.P.E.I. 1988, A-15.2;
- (t) “**pump**” or “**pumping equipment**” means a pump or equipment or material used or intended for use in withdrawing groundwater for any purpose, and includes seals and tanks, together with fittings and controls;
- (u) “**pumping test**” means a test that is conducted to determine the characteristics of a well or an aquifer by pumping the well at a known discharge rate and measuring the amount of drawdown of the water level in the well;
- (v) “**pumping water level**” means the depth to the water level in a well, measured under pumping conditions from the top of the casing;
- (w) “**restricted area**” means a restricted area designated in Schedule A to these regulations;
- (x) “**return well**” means a well that is a component of an open-loop system, intended to accept discharge water and return it to the aquifer from which it is withdrawn;
- (y) “**rock pit**” means an artificial opening constructed underground and used for the disposal of clear water wastes into the ground;
- (z) “**septic tank**” means a septic tank as defined in the *Water Act* Sewage Disposal Systems Regulations;
- (aa) “**sewer line**” means a sewer line as defined in the *Water Act* Sewage Disposal Systems Regulations;
- (bb) “**solid waste disposal site**” means a solid waste disposal site as defined in the *Environmental Protection Act* Waste Resource Management Regulations;



- (cc) “**static water level**” means the depth to the water level in a well, measured under non-pumping conditions from the top of the casing;
- (dd) “**supply well**” means a well that is a component of an open-loop system, intended to extract water from an aquifer for delivery to a heat exchanger;
- (ee) “**unused well**” means a well that is not in use;
- (ff) “**vermin-proof well cap**” means a well cap manufactured and used to prevent the entry of vermin or nuisance organisms into a well;
- (gg) “**well contractor**” means a person who holds a valid well contractor’s licence;
- (hh) “**well contractor’s licence**” means a licence issued under subsection 4(1);
- (ii) “**well driller**” means a person who holds a valid well driller’s licence;
- (jj) “**well driller’s licence**” means a licence issued under subsection 3(1);
- (kk) “**well permit**” means a well permit issued under subsection 5(3). (EC507/21)

## **2. Regulations do not apply**

For the purposes of these regulations and the Schedules to these regulations, an opening in the ground made for use in a horizontal-loop geothermal system is not considered a well and these regulations do not apply in respect of it. (EC507/21)

# **LICENCES AND PERMIT**

## ***Well Driller’s Licence***

## **3. Issuance of licence**

- (1) On receipt of an application in the form required by the Minister and the licence fee of \$200, the Minister may issue a well driller’s licence to an applicant who
  - (a) is at least 18 years of age;
  - (b) has at least 4,000 hours of work experience in operating a well-drilling machine under the supervision of a well driller, at least 1500 of which were obtained in the province;
  - (c) has successfully completed a written or oral test of competence in well drilling and knowledge of the Act and regulations, approved by the Minister; and
  - (d) has successfully completed a field test to demonstrate a practical knowledge of well construction, as the Minister considers necessary.

### **Authorization in another province**

- (2) Notwithstanding subsection (1), where an applicant holds a valid authorization to drill wells in another province that the Minister considers to be substantially similar to a well driller’s licence, the Minister may waive some or all of the requirements described in clauses (1)(b), (c) and (d).

### **Restriction on licence**

- (3) Notwithstanding clause (1)(b), where an applicant does not have 1500 hours of work experience obtained in the province, the Minister may issue the applicant a licence, subject to a restriction of drilling wells in a closed-loop system only until the applicant obtains 1500 hours of work experience in the province.

**Re-application**

- (4) An applicant who is refused a well driller's licence may not re-apply for a well-driller's licence for at least 90 days after the date of the previous application.

**Expiry and renewal**

- (5) A well driller's licence expires 24 months from the date it is issued and may be renewed on application in the form required by the Minister and on payment of the renewal fee of \$100. (EC507/21)

***Well Contractor's Licence***

**4. Well contractor's licence**

- (1) On receipt of an application in the form required by the Minister and the licence fee of \$500, the Minister may issue a well contractor's licence to an applicant who
- (a) is a well driller or employs or contracts a well driller; and
  - (b) has the equipment necessary to construct or reconstruct wells to the standards prescribed by these regulations.

**Expiry and renewal**

- (2) A well contractor's licence expires 24 months from the date it is issued and may be renewed on application in the form required by the Minister and on payment of the renewal fee of \$250. (EC507/21)

***Well Permit***

**5. Well permit required**

- (1) For the purpose of section 48 of the Act, a person may undertake the drilling, construction or reconstruction of a well in the following circumstances, if the person holds a well permit:
- (a) the land on which the well is to be drilled, constructed or reconstructed is in a restricted area;
  - (b) the well is to be drilled, constructed or reconstructed in a manner that does not comply with a restriction, requirement or standard in these regulations;
  - (c) more than five wells are to be drilled, constructed or reconstructed for a single closed-loop geothermal system; or
  - (d) a well or wells with a collective length of more than 250 metres are to be drilled, constructed or reconstructed for a single closed-loop geothermal system.

**Application**

- (2) The owner of the land on which the well is to be drilled, constructed or reconstructed, or a person with the written permission of the owner, may apply for a well permit.

**Issuance of well permit**

- (3) On receipt of an application in the form required by the Minister and on payment of the permit fee of \$25, the Minister may issue a well permit to the applicant if the Minister is satisfied that the drilling, construction or reconstruction of the well will not contaminate groundwater or provide a conduit for contaminants to reach the aquifer.





**No permit required**

- (4) For greater certainty, in circumstances other than those described in subsection (1) or the Water Withdrawal Regulations, the drilling, construction or reconstruction of a well may be undertaken without a permit. (EC507/21)

**DRILLING, CONSTRUCTION, AND RECONSTRUCTION OF WELL**

*Duties of Well Contractor and Well Driller*

**6. Oversight by well contractor**

- (1) A person undertaking the drilling, construction or reconstruction of a well shall ensure that the drilling, construction or reconstruction of the well is overseen by a well contractor.

**Drilling and construction by well driller**

- (2) Except as otherwise authorized by a well permit, a well contractor shall ensure that the drilling, construction or reconstruction of a well is conducted by or under the direct supervision of a well driller.

**Requirements and standards**

- (3) Except as otherwise authorized by a well permit, a well contractor and a well driller shall ensure that the drilling, construction or reconstruction of a well is conducted in accordance with the requirements and standards set out in these regulations. (EC507/21)

**7. Well construction report**

Upon completion of a well, the well contractor shall

- (a) complete a well construction report in the form approved by the Minister;
- (b) promptly provide a copy of the well construction report to the owner of the land on which the well is located; and
- (c) within 60 days of the completion of the well, provide a copy of the well construction report to the Minister. (EC507/21)

**Requirements and Standards**

*General*

**8. Construction**

A well shall be constructed in a manner that

- (a) adapts to the geologic and groundwater conditions existing at the site of the well;
- (b) maintains existing natural protection against contaminants;
- (c) seals off water-bearing formations that contain contaminants; and
- (d) leaves no artificial openings to the well. (EC507/21)

### ***Location of Wells***

#### **9. Prohibited locations**

- (1) A well shall not be constructed at a location
- (a) where the centre line of the well, extended vertically, does not clear a projection from any building by at least 3 metres;
  - (b) inside a foundation or structure; or
  - (c) where surface water other than rainwater will pass over the top of the well.

#### **Wells - distance from contaminant sources**

- (2) A well shall not be constructed at a location that is within
- (a) 3 metres of a sewer line;
  - (b) 6 metres of a sewer collection main;
  - (c) 100 metres of a wastewater treatment system;
  - (d) 15 metres of a septic tank;
  - (e) 15 metres of a sewage disposal field;
  - (f) 15 metres of a rock pit;
  - (g) 90 metres of a manure storage facility;
  - (h) 150 metres of a solid waste disposal site;
  - (i) 5 metres of a petroleum storage tank system 1,200 litres or less in size;
  - (j) 15 metres of a petroleum storage tank system greater than 1,200 litres in size;
  - (k) 45 metres of a commercial chemical storage facility; or
  - (l) 6 metres of an existing or abandoned well.

#### **Contaminant sources - distance from wells**

- (3) A contaminant source listed in subsection (2) shall not be constructed at a location within a distance from an existing well that would, under subsection (2), preclude the construction of the well, unless the well is abandoned.

#### **Wells - distance from other features**

- (4) A well shall not be constructed at a location that is within
- (a) 1.5 metres of any property boundary;
  - (b) 1.5 metres of underground electrical cables, except for underground electrical cables that supply power to pumping equipment.

#### **Well to be placed according to plan**

- (5) Where
- (a) a development permit for a property has been issued under the *Planning Act* R.S.P.E.I. 1988, Cap P-8, or by a municipality; and
  - (b) the development permit includes a plan indicating the location of a well that is to be constructed on the property,
- the well shall not be constructed in a location other than that shown on the plan. (EC507/21)



## **Well Design**

### **10. Length of casing**

- (1) A well shall not be constructed with less than 12 metres of well casing or with a well casing that does not extend at least 30 centimetres above ground after final landscaping.

#### **Installation of casing**

- (2) A well casing shall not be installed unless the annular space is at least 4 cm wide and filled with grout from the bottom of the well casing to the pitless adapter.

#### **Exception**

- (3) Notwithstanding subsection (2), where the well casing to be installed is more than 12 metres long and the well is not a central supply well, the lower 12 metres of the annular space may be filled with grout and the remaining annular space may be filled with clean fill.

#### **Grout for central supply well**

- (4) Notwithstanding subsection (2), a well casing shall not be installed in a central supply well unless the annular space is filled with grout that is placed using a grout pump.

#### **Not applicable to closed-loop system**

- (5) Subsections (1) and (2) do not apply to a well that is a component of a closed-loop system. (EC507/21)

### **11. Equipment, materials and devices**

- (1) Any pitless adapter, well casing or grout used in the construction of a well shall meet the standards set out in Schedule B to these regulations.

#### **Not applicable to closed-loop system**

- (2) Subsection (1) does not apply in respect of a well casing installed in a well that is a component of a closed-loop system. (EC507/21)

## **Well Completion**

### **12. Completion requirements**

- (1) To complete the construction of a well,
  - (a) all earthen material and drill cuttings shall be removed from the well;
  - (b) to determine whether sufficient yield is available for the intended use of the well, a pumping test shall be conducted for a minimum of 30 minutes;
  - (c) on completion of the pumping test, the static water level, pumping rate and pumping water level shall be recorded on the well construction report;
  - (c) a recommended pump capacity and pump depth, based on the drawdown characteristics of the well, shall be recorded on the well construction report; and
  - (d) a vented, vermin-proof well cap with a proper expansion joint, approved by the Minister, shall be secured to the top of the well casing.

#### **Flowing well**

- (2) In respect of a flowing well, the well shall be capped and sealed in a manner that prevents the overflow of water from the well casing.

**Subsection (1) not applicable to closed-loop system**

- (3) Subsection (1) does not apply to a well that is a component of a closed-loop system. (EC507/21)

***Wells Used as Components of Earth Energy Systems***

**13. Open-loop system, discharge lines**

- (1) Discharge lines on open-loop systems shall not be connected to a wastewater treatment system or sewage disposal system.

**Return well**

- (2) A return well for an open-loop system shall be capable of accepting returning water discharging from the system without overflowing. (EC507/21)

**14. Closed-loop system, materials standards**

- (1) Any materials used in the construction of a closed-loop system that are intended to be buried underground shall meet the standards set out in Schedule B to these regulations.

**Installation and assembly standards**

- (2) Any materials used in the construction of a closed-loop system that are intended to be buried underground shall be installed or assembled in accordance with the standards set out in Schedule B to these regulations.

**Grouting requirements**

- (3) A well that is a component of a closed-loop system shall be grouted to ensure continuous contact between the ground heat exchanger and the borehole annulus.

**Heat-transfer fluid requirements**

- (4) Any heat-transfer fluid used in a closed-loop system shall meet the standards set out in Schedule B to these regulations.

**Direct expansion system, piping requirements**

- (5) The underground components of a direct expansion system shall not be installed without a cathodic protection system that meets the standards set out in Schedule B to these regulations. (EC507/21)

**PUMP INSTALLATION**

**15. Requirements for pump installation**

- (1) A person who installs pumping equipment in a well shall ensure it is installed in accordance with this section.

**Installation of pumping equipment**

- (2) Pumping equipment shall be installed in a well in a manner consistent with the recommendations set out in the well construction report with respect to the characteristics of the well and the pumping rate for the well.



**Minimum clearance**

- (3) There shall be at least 13 mm of clearance between the pumping equipment and the sidewall of a well.

**Connection**

- (4) A well and pumping or water distribution equipment shall be connected with a pitless adapter or a well seal.

**Pitless adapter**

- (5) For the purposes of subsection (3), a pitless adapter shall be installed so that different metals do not come into contact with each other.

**Hand pump**

- (6) A hand pump shall be mounted to the well casing or pump mounting sleeve in a manner that seals the top of the casing or sleeve.

**Opening in well casing to install pitless adapter**

- (7) An opening may be created through the wall of the well casing below the ground surface for the purpose of installing a pitless adapter on the pumping equipment, but for no other purpose.

**Sampling port**

- (8) Pumping equipment shall not be installed without a water sampling port or a tap at a point between the well and any water treatment device.

**Installation**

- (9) A pump shall be installed in accordance with the *Electrical Inspection Act* R.S.P.E.I. 1988, Cap. E-3.

**Cleaning and disinfecting**

- (10) Immediately after the installation or repair of pumping equipment in a well intended to produce water for human consumption,
- (a) all debris shall be removed from in and around the well; and
  - (b) the well shall be disinfected using a method set out in Schedule C to these regulations.

**When backflow prevention device required**

- (11) Where water is being withdrawn from a supply well for domestic purposes and for the operation of an open-loop system, the system shall be constructed to provide premise isolation by installing a backflow prevention device in the domestic potable water service piping in compliance with the requirements set out in the *Environmental Protection Act* A Code for Plumbing Services Regulations for Prince Edward Island.

**Not applicable to closed-loop system**

- (12) This section and Schedule C to these regulations do not apply to a well that is a component of a closed-loop system. (EC507/21)

## DECOMMISSIONING OF A WELL

### 16. Minister declares well unused

- (1) The Minister may declare a well to be unused and notify the owner of the land on which the well is located.

#### Unused well considered abandoned

- (2) For the purpose of section 50 of the Act, an unused well is considered to be abandoned 30 days after the person responsible for the well
- (a) surrenders the use of it;
  - (b) discovers it; or
  - (c) receives a notice declaring it unused under subsection (1).

#### Decommissioned by professional

- (3) The person responsible for an unused well shall ensure it is decommissioned by a well contractor, well driller or plumber.

#### Requirements and standards

- (4) A well contractor, well driller or plumber shall decommission a well, including a bore hole used as part of a closed-loop system, using a method set out in Schedule D to these regulations that is applicable to the type of well. (EC507/21)



## **SCHEDULE A Restricted Areas**

The following areas are restricted for well construction purposes.

In each description of a restricted area in this Schedule,

(a) all reference points are taken from Prince Edward Island Department of Communities, Land and Environment Restricted Well Construction Layer, in P.E.I. Double Stereographic Projection System, referenced to NAD83 (CSRS); and

(b) all azimuths and coordinates are derived from the P.E.I. Double Stereographic Projection System, referenced to NAD83 (CSRS), the coordinates being expressed in metres.

### **PRINCE COUNTY**

#### **1. NEW ANNAN**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 346955 metres East and 708001 metres North;

THENCE Easterly along a line approximately 1,550 metres to a point defined as 348509 metres East and 708006 metres North, or until it intersects the southwest shore of the Barbara Weit River;

THENCE Northwesterly and Southwesterly following the various courses of the said shore of the Barbara Weit River, to the point of intersection of the said shore of the Barbara Weit River or tributary of the Barbara Weit River with the power transmission line, just north of the Rails-to-Trails trail (former CNR Railway Corridor), or to a point defined as 346671 metres East and 708587 metres North;

THENCE Southeasterly by a straight line for approximately 650 metres to the point at the place of commencement.

#### **2. KENSINGTON**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 350536 metres East and 709414 metres North;

THENCE Easterly along a line approximately 892 metres to a point defined as 351431 metres East and 709396 metres North;

THENCE Northerly along a line approximately 1,100 metres to a point defined as 351450 metres East and 710496 metres North;

THENCE Westerly along a line approximately 456 metres to a point defined as 350992 metres East and 710506 metres North;

THENCE due South along a line approximately 296 metres to a point defined as 350992 metres East and 710209 metres North;

THENCE Southwesterly along a line approximately 470 metres to a point defined as 350537 metres East and 710087 metres North;

THENCE Southerly by a straight line for 674 metres or to the point at the place of commencement.

### **3. O'LEARY**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 306319 metres East and 740204 metres North;

THENCE Southeasterly along a line approximately 533 metres to a point defined as 306838 metres East and 740076 metres North;

THENCE Northerly along a line approximately 809 metres to a point defined as 306658 metres East and 740864 metres North;

THENCE Southwesterly along a line approximately 477 metres to a point defined as 306192 metres East and 740756 metres North;

THENCE Southerly by a straight line for 566 metres or to the point at the place of commencement.

### **4. MIMINEGASH**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) at the high water mark of the Western shore of the Northumberland Strait with coordinates at 305900 metres East and 759277 metres North;

THENCE Easterly along a line approximately 1,122 metres to a point defined as 307025 metres East and 759261 metres North;

THENCE Northerly along a line approximately 1,023 metres to a point defined as 307032 metres East and 760284 metres North;

THENCE Westerly along a line approximately 505 metres to a point defined as 306526 metres East and 760288 metres North, or until it intersects the shore of the Northumberland Strait;

THENCE Southwesterly following the various courses of the shore of the Northumberland Strait, including the Miminegash Run, to the point at the place of commencement.

### **5. TIGNISH**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 320893 metres East and 766928 metres North;

THENCE Easterly along a line approximately 548 metres to a point defined as 321443 metres East and 766926 metres North;

THENCE Northerly along a line approximately 869 metres to a point defined as 321445 metres East and 767795 metres North;

THENCE Westerly along a line approximately 548 metres to a point defined as 320895 metres East and 767796 metres North;





THENCE Southerly along a line approximately 868 metres to the point at the place of commencement.

## **6. SUMMERSIDE ISTHMUS**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) at the intersection of the high water mark of the North shore of the Wilmot River and the western boundary of Highway 1A, with coordinates at 343055 metres East and 704825 metres North;

THENCE Northerly along a line approximately 1,667 metres to a point defined as 343055 metres East and 706491 metres North;

THENCE Easterly along a line approximately 1,193 metres to a point defined as 344251 metres East and 706498 metres North;

THENCE due North along a line approximately 1,400 metres to the intersection with the southern boundary of Highway 2 to a point defined as 344231 metres East and 707898 metres North;

THENCE Westerly along the Southern boundary of Highway 2 to the intersection of the Southern boundary of Highway 2 and 336050 metres East, or to a point defined as 336050 metres East and 708752 metres North;

THENCE due South along a line approximately 3,923 metres to a point defined as 336050 metres East and 704830 North or until it intersects the Northern shore of Summerside Harbour;

THENCE Easterly along the various courses of the said shore of the Summerside Harbour and the North shore of the Wilmot River to the point at the place of commencement.

## **7. BEDEQUE**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 344148 metres East and 698647 metres North;

THENCE Easterly along a line approximately 199 metres to a point defined as 344341 metres East and 698698 metres North;

THENCE Northerly along a line approximately 510 metres to a point defined as 344203 metres East and 699189 metres North;

THENCE due West to the intersection of the southeastern shore of an unnamed tributary that feeds into the Bradshaw River above Woodside Shore, or to a point defined as 344120 metres East and 699189 metres North;

THENCE Southeast along the various courses of the southeastern boundary of the said unnamed tributary to a point defined as 344032 metres East and 699077 metres North;

THENCE Southerly along a line approximately 450 metres to the point at the place of commencement.

## **8. CAPE WOLFE**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 293811 metres East and 742445 metres North;

THENCE Easterly along a line approximately 400 metres to a point defined as 294211 metres East and 742445 metres North;

THENCE Northerly along a line approximately 290 metres to a point defined as 294209 metres East and 742738 metres North;

THENCE Westerly along a line approximately 400 metres to a point defined as 293810 metres East and 742738 metres North;

THENCE Southerly along a line approximately 290 metres to the point at the place of commencement.

## **9. MISCOUCHE**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 333057 metres East and 709476 metres North;

THENCE Easterly along a line approximately 477 metres to a point defined as 333535 metres East and 709448 metres North;

THENCE Northerly along a line approximately 200 metres to a point defined as 333548 metres East and 709648 metres North;

THENCE Westerly along a line approximately 478 metres to a point defined as 333069 metres East and 709673 metres North;

THENCE Southerly along a line approximately 197 metres to the point at the place of commencement.

## **10. MOUNT PLEASANT**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 322635 metres East and 725496 metres North;

THENCE Easterly along a line approximately 377 metres to a point defined as 323002 metres East and 725586 metres North;

THENCE Northerly along a line approximately 300 metres to a point defined as 322930 metres East and 725875 metres North;

THENCE Westerly along a line approximately 377 metres to a point defined as 322562 metres East and 725790 metres North;

THENCE Southerly along a line approximately 303 metres to the point at the place of commencement.

## **11. MONT CARMEL**

The restricted area is enclosed by the following boundaries:



COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 320250 metres East and 705979 metres North;

THENCE Northeasterly along a line approximately 324 metres to a point defined as 320496 metres East and 706191 metres North;

THENCE Northwesterly along a line approximately 400 metres to a point defined as 320236 metres East and 706495 metres North;

THENCE Southwesterly along a line approximately 320 metres to a point defined as 319989 metres East and 706285 metres North;

THENCE Southeasterly along a line approximately 400 metres to the point at the place of commencement.

## **12. BORDEN-CARLETON**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 347854 metres East and 689941 metres North;

THENCE Northeasterly along a line approximately 750 metres to a point defined as 348460 metres East and 690383 metres North;

THENCE Northwesterly along a line approximately 460 metres to a point defined as 348239 metres East and 690786 metres North;

THENCE Westerly along a line approximately 820 metres to a point defined as 347478 metres East and 690465 metres North;

THENCE Southeasterly along a line approximately 640 metres to the point at the place of commencement.

## **QUEENS COUNTY**

### **13. CORNWALL (FORMERLY NORTH RIVER)**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 384156 metres East and 688948 metres North;

THENCE Easterly along a line approximately 1,630 metres to a point defined as 385713 metres East and 689448 metres North, or until it intersects the western shore of the North River;

THENCE North and Northwesterly following the various courses of the said western shore of the North River to a point defined as 385017 metres East and 690074 metres North or to the point of intersection of the western shore of the North River and the southeastern shore of an unnamed tributary that empties into the North River;

THENCE Southwesterly following the various courses of the Southeastern shore of the unnamed tributary to a point defined as 384785 East and 689717 North;

THENCE Southerly along a straight line approximately 140 metres to the Southern boundary of the Kingston Road to a point defined as 384825 metres East and 689581 metres North;

THENCE Westerly along the Southern boundary of the Kingston Road, approximately 820 metres to a point defined as 384037 metres East and 689335 metres North;

THENCE Southerly along a line approximately 400 metres to the point at the place of commencement.

#### **14. CORNWALL**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 382836 metres East and 685250 metres North;

THENCE due East along a line approximately 440 metres to a point defined as 383278 metres East and 685250 metres North, or until it intersects the Western shore of the Mill Creek;

THENCE Northeasterly following the various courses of the said shore of the Mill Creek to a point defined as 383388 metres East and 685476 metres North;

THENCE Northerly along a line approximately 190 metres to a point defined as 383356 metres East and 685666 metres North;

THENCE Northerly along a line approximately 70 metres to a point defined as 383354 metres East and 685741 metres North;

THENCE Northerly along a line approximately 190 metres to a point defined as 383392 metres East and 685937 metres North, or until it intersects the shore of Hydes Pond on the Mill Creek;

THENCE Northerly following the various courses of the shore of Hydes Pond and Mill Creek to the intersection of the said shore with the centre line of Highway 1 (Trans-Canada Highway) to a point defined as 383619 metres East and 687066 metres North;

THENCE Northeasterly along the centre line of Highway 1 (Trans-Canada Highway) approximately 350 metres to a point defined as 383886 metres East and 687293 metres North;

THENCE Northerly along a line approximately 190 metres to a point defined as 383830 metres East and 687477 metres North;

THENCE Westerly along a line approximately 580 metres to a point defined as 383282 metres East and 687291 metres North, or until it intersects the centre line of Cornwall Drive;

THENCE Southerly along the centre line of Cornwall Drive to a point defined as 383245 metres East and 686448 metres North, or until it intersects the centre line of Highway 1 (Trans-Canada Highway);

THENCE Westerly along the centre line of Highway 1 (Trans-Canada Highway) to a point defined as 383027 metres East and 686357 metres North;

THENCE Southerly along a line approximately 1,120 metres to the point at the place of commencement.

#### **15. CHARLOTTETOWN (FORMERLY WINSLOE)**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 386832 metres East and 693032 metres North;



THENCE Northeasterly along a line approximately 323 metres to a point defined as 387052 metres East and 693268 metres North;

THENCE Northwesterly along a line approximately 608 metres to a point defined as 386605 metres East and 693682 metres North;

THENCE Southwesterly along a line approximately 165 metres to a point defined as 386489 metres East and 693564 metres North;

THENCE Southerly along a line approximately 218 metres to a point defined as 386487 metres East and 693346 metres North;

THENCE Southeasterly along a line approximately 465 metres to the point at the place of commencement.

#### **16. WINTER RIVER BASIN (BRACKLEY WELLFIELD)**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 388501 metres East and 695484 metres North;

THENCE Easterly along a line approximately 731 metres to a point defined as 389206 metres East and 695683 metres North;

THENCE Northerly along a line approximately 1052 metres to a point defined as 388877 metres East and 696682 metres North;

THENCE Westerly along a line approximately 631 metres to a point defined as 388266 metres East and 696517 metres North;

THENCE Northerly along a line approximately 13 metres to a point defined as 388259 metres East and 696537 metres North;

THENCE Westerly along a line approximately 97 metres to a point defined as 388166 metres East and 696511 metres North;

THENCE Southerly along a line approximately 1,080 metres to the point at the place of commencement.

#### **17. WINTER RIVER BASIN (UNION WELLFIELD)**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 390270 metres East and 695620 metres North;

THENCE Easterly along a line approximately 899 metres to a point defined as 391140 metres East and 695855 metres North;

THENCE Northerly along a line approximately 543 metres to a point defined as 390998 metres East and 696379 metres North;

THENCE Westerly along a line approximately 904 metres to a point defined as 390126 metres East and 696133 metres North;

THENCE Southerly along a line approximately 532 metres to the point at the place of commencement.

## **18. WINTER RIVER BASIN (SUFFOLK WELLFIELD)**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 394675 metres East and 696554 metres North;

THENCE Easterly along a line approximately 1,000 metres to a point defined as 395636 metres East and 696831 metres North;

THENCE Northerly along the western boundary of Highway 222 (Suffolk Road) to a point defined as 395010 metres East and 698019 metres North;

THENCE Westerly along a line approximately 1,460 metres to a point defined as 393602 metres East and 697618 metres North;

THENCE Southerly along a line approximately 782 metres to a point defined as 393814 metres East and 696865 metres North;

THENCE Easterly along a line approximately 741 metres to a point defined as 394529 metres East and 697067 metres North;

THENCE Southeasterly along a line approximately 533 metres to the point at the place of commencement.

## **19. WEST COVEHEAD**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 390208 metres East and 703743 metres North;

THENCE Easterly along a line approximately 423 metres to a point defined as 390633 metres East and 703741 metres North;

THENCE Northerly along a line approximately 397 metres to a point defined as 390635 metres East and 704138 metres North;

THENCE Westerly along a line approximately 420 metres to a point defined as 390214 metres East and 704138 metres North;

THENCE Southeasterly along a line approximately 395 metres to the point at the place of commencement.

## **20. MARSHFIELD**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 393046 metres East and 692939 metres North;

THENCE Easterly along a line approximately 530 metres to a point defined as 393580 metres East and 692937 metres North;

THENCE Northerly along a line approximately 790 metres to a point defined as 393584 metres East and 693731 metres North;



THENCE Westerly along a line approximately 530 metres to a point defined as 393049 metres East and 693732 metres North;

THENCE Southerly along a line approximately 790 metres to the point at the place of commencement.

## **21. JOHNSTONS RIVER**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 398446 metres East and 690779 metres North;

THENCE Easterly along a line approximately 600 metres to a point defined as 399049 metres East and 690777 metres North;

THENCE Northerly along a line approximately 640 metres to a point defined as 399050 metres East and 691420 metres North;

THENCE Westerly along a line approximately 600 metres to a point defined as 398448 metres East and 691422 metres North;

THENCE Southerly along a line approximately 640 metres to the point at the place of commencement.

## **22. VICTORIA**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 361616 metres East and 685155 metres North;

THENCE Easterly along a line approximately 436 metres to a point defined as 362053 metres East and 685153 metres North;

THENCE Northerly along a line approximately 318 metres to a point defined as 362054 metres East and 685471 metres North;

THENCE Westerly along a line approximately 437 metres to a point defined as 361616 metres East and 685469 metres North;

THENCE Southerly along a line approximately 314 metres to the point at the place of commencement.

## **23. NORTH RUSTICO**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 374633 metres East and 711151 metres North;

THENCE Easterly along a line approximately 940 metres to a point defined as 375573 metres East and 711182 metres North;

THENCE Northeasterly along a line approximately 430 metres to a point defined as 375783 metres East and 711555 metres North;

THENCE Northwesterly along a line approximately 1,170 metres to a point defined as 374987 metres East and 712421 metres North;

THENCE Westerly along a line approximately 670 metres to a point defined as 374347 metres East and 712227 metres North;

THENCE Southerly along a line approximately 1,110 metres to the point at the place of commencement.

## **KINGS COUNTY**

### **24. STRATFORD (CABLE HEIGHTS SUBDIVISION)**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 393352 metres East and 684394 metres North;

THENCE Easterly along a line approximately 210 metres to a point defined as 393553 metres East and 684448 metres North;

THENCE Northeasterly along a line approximately 300 metres to a point defined as 393750 metres East and 684674 metres North;

THENCE Northerly along a line approximately 500 metres to a point defined as 393775 metres East and 685174 metres North;

THENCE Westerly along a line approximately 460 metres to a point defined as 393314 metres East and 685223 metres North;

THENCE Southerly along a line approximately 500 metres to a point defined as 393260 metres East and 684727 metres North;

THENCE Southerly along a line approximately 350 metres to the point at the place of commencement.

### **25. MONTAGUE (NORTH SIDE)**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 426142 metres East and 680158 metres North;

THENCE Easterly along a line approximately 1,200 metres to a point defined as 427342 metres East and 680158 metres North;

THENCE Northerly along a line approximately 644 metres to a point defined as 427343 metres East and 680802 metres North;

THENCE Westerly along a line approximately 1,195 metres to a point defined as 426145 metres East and 680808 metres North;

THENCE Southerly along a line approximately 650 metres to the point at the place of commencement.

### **26. MONTAGUE (SOUTH SIDE)**

The restricted area is enclosed by the following boundaries:





COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 427052 metres East and 678485 metres North;

THENCE Easterly along a line approximately 540 metres to a point defined as 427591 metres East and 678486 metres North;

THENCE Northerly along a line approximately 900 metres to a point defined as 427589 metres East and 679385 metres North, or until it intersects the Southern shore of the Montague River;

THENCE Westerly following the various courses of the said shore of the Montague River to a point defined as 427433 metres East and 679432 metres North;

THENCE Easterly along a line approximately 48 metres to a point defined as 427478 metres East and 679449 metres North;

THENCE Northerly along a line approximately 66 metres to a point defined as 427455 metres East and 679510 metres North;

THENCE Westerly along a line approximately 125 metres to a point defined as 427334 metres East and 679476 metres North;

THENCE Southwesterly along a line approximately 93 metres to a point defined as 427272 metres East and 679407 metres North;

THENCE Southeasterly along a line approximately 7.5 metres to a point defined as 427277 metres East and 679401 metres North, or until it intersects the southern shore of the Montague River;

THENCE Southwesterly along the said shore of the Montague River to a point defined as 427050 metres East and 679191 metres North;

THENCE Southerly along a line approximately 706 metres to the point at the place of commencement.

## **27. FORTUNE**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 446859 metres East and 699948 metres North;

THENCE Easterly along a line approximately 500 metres to a point defined as 447358 metres East and 699951 metres North;

THENCE Northerly along a line approximately 440 metres to a point defined as 447354 metres East and 700389 metres North;

THENCE Westerly along a line approximately 500 metres to a point defined as 446856 metres East and 700387 metres North;

THENCE Southerly along a line approximately 440 metres to the point at the place of commencement.

## **28. SOURIS**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) at the Northern Boundary of Highway 2 with coordinates at 457612 metres East and 700720 metres North;

THENCE Easterly along the Northern boundary of Highway 2 to a point defined as 458901 metres East and 700482 metres North;

THENCE Northerly along a line approximately 1,576 metres to a point defined as 459083 metres East and 702047 metres North, or until it intersects the Southern boundary of Highway 335;

THENCE Southwesterly along the Southern boundary of Highway 335 to a point defined as 458006 metres East and 701736 metres North or to a point where it intersects the Southeastern boundary of Highway 305;

THENCE Southwesterly along the Southeastern boundary of Highway 305 to a point defined as 457611 metres East and 701387 metres North;

THENCE Southerly along a line approximately 667 metres to the point at the place of commencement.

## **29. GEORGETOWN**

The restricted area is enclosed by the following boundaries:

COMMENCING at a point defined by the P.E.I. Double Stereographic Projection System, NAD83 (CSRS) with coordinates at 435022 metres East and 682726 metres North;

THENCE Southeasterly along a line approximately 2,340 metres to a point defined as 437086 metres East and 681611 metres North;

THENCE Northeasterly along a line approximately 516 metres to a point defined as 437334 metres East and 682064 metres North;

THENCE Northwesterly along a line approximately 2,340 metres to a point defined as 435267 metres East and 683173 metres North;

THENCE Southerly along a line approximately 510 metres to the point at the place of commencement.  
(EC507/21)



## **SCHEDULE B** **Standards for Well Construction Equipment, materials and devices**

### **INTERPRETATION**

#### **1. Interpretation**

In this Schedule,

- (a) “**ANSI**” means the American National Standards Institute;
- (b) “**ASTM**” means the American Society for Testing Materials;
- (c) “**CAN/CSA**” means a standard developed by the Canadian Standards Association;
- (d) “**NSF**” means the National Sanitation Foundation.

### **STANDARDS FOR MATERIALS USED IN WELL CONSTRUCTION**

#### **2. Well Casing**

A well casing used in a drilled well is required to meet the following material requirements:

- (a) it shall be made of new material that is free of contamination;
- (b) it shall be made of either steel or thermoplastic;
- (c) it shall have an inside diameter of at least 127 mm;
- (d) if it is a steel well casing, it shall conform to one of the following standards:
  - (i) for carbon steel well casings, ASTM standard ASTM A589, *Standard Specification for Seamless and Welded Carbon Steel Water-Well Pipe*, for Type IV Water-Well Casing Pipe, Grade B, or
  - (ii) for steel pipes, ASTM standard ASTM A53/A53M, *Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless*, for Type E, Grade B pipes;
- (e) if it is a thermoplastic well casing with an inside diameter of 152 mm, it shall have a wall thickness of at least 7.1 mm, and shall conform to ASTM standard ASTM F480, *Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80*;
- (f) if it is a thermoplastic well casing with an inside diameter of greater than 152 mm, it shall have a wall thickness that meets or exceeds the specifications set out for standard dimension ratio (SDR) 17, or Schedule 80 of ASTM standard ASTM F480, *Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80*.

#### **3. Grout**

3. All grout used to seal the annular space between a well casing and the side walls of a well bore shall comply with NSF/ANSI 60.

#### **4. Pitless adaptors**

4. All pitless adaptors shall comply with NSF 61.

## STANDARDS FOR THE INSTALLATION OF BELOW-GROUND COMPONENTS OF CLOSED-LOOP EARTH ENERGY SYSTEMS

### 5. Below-ground components

Components of closed-loop systems that are buried underground shall comply with CAN/CSA-C448 Series 13, Section 5.3.

### 6. Installation method of below-ground components

Components of closed-loop systems that are buried underground shall be installed or assembled in compliance with the methods cited in CAN/CSA-C448 Series 13, Sections 5.3.2.3.1 and 5.3.2.3.2.

### 7. Heat-transfer fluids in closed-loop systems

Heat-transfer fluids in a closed-loop shall comply with CAN/CSA-C448 Series 13, Section 5.7.

### 8. Cathodic protection for direct expansion closed-loop systems

The cathodic protection system installed for the protection of underground piping and tubing in a direct expansion type of closed-loop system shall be installed and maintained in a manner consistent with CAN/CSA-C448 Series 13, Section 4.4.1.

(EC507/21)

## SCHEDULE C

### METHODS FOR DISINFECTING WELLS

A well shall be thoroughly disinfected before it is placed into operation. The most commonly used methods involve chlorine, either in liquid or tablet form. The approved methods are indicated by the case descriptions below. (Note: Chlorine should always be used in a well-ventilated place, because breathing the fumes can be hazardous to a person's health.)

#### **CASE A - WELL HOOKED UP TO A PLUMBING SYSTEM**

1. Mix 1 litre of liquid laundry bleach or chlorine with approximately 45.5 litres (10 gallons) of water. Pour the solution directly into the well by removing the well seal or the well cap.
2. Open all faucets in the system and let the water run until the chlorine odour or taste is detected. Turn water off and repeat step #1 with a second chlorine solution.
3. Let the system sit for a minimum of 8 hours, and preferably overnight.
4. Discharge water from all outlets until the chlorine odour and taste has disappeared. Faucets or fixtures discharging to septic tank systems should be temporarily diverted to an outside discharge point to avoid overloading the disposal system.



### **CASE B - AFTER WELL COMPLETION**

1. Mix 1 litre of liquid laundry bleach or chlorine with approximately 45.5 litres (10 gallons) of water.
2. Pour the solution into the well, secure the well with an approved well cap and let the system sit for a minimum of 8 hours, and preferably overnight.  
(EC507/21)

## **SCHEDULE D**

### **METHODS FOR FILLING UNUSED WELLS**

Unused wells, if left open or if insufficiently covered or filled, can be a potential source of groundwater contamination. In addition, wells dug by hand pose a potential safety hazard to the public, livestock and wildlife. The approved methods are indicated by the case descriptions below.

#### **CASE A - DRILLED WELLS**

All obstructions in the well shall be removed prior to filling the well. The well should then be filled with alternating layers of bentonite or cement and clean fill (clay till or sand). The bottom 3 m (10 feet) of the bore hole shall be filled with the bentonite or cement. The thickness of the individual layers of bentonite shall be not less than 0.3 m (1 foot) thick. The thickness of clean fill layers shall not exceed 1.5 m (5 feet).

(Note: This plugging procedure is intended to prevent the vertical movement of contamination down the well bore hole. In addition, if the portion of the casing which is above ground becomes an eyesore or a safety concern, it can be cut off below the ground surface.)

#### **CASE B - DUG WELLS**

Any obstructions in the well (piping, pump, wooden material, etc.) shall be removed prior to the plugging of the well.

The well shall be filled to within 1 m (3 feet) of the ground surface with a mixture of sandstone and clean fill material. A minimum 0.15 m (6 inches) thick layer of a low permeability material such as bentonite or compacted clay shall be installed within 1 m (3 feet) of the ground surface to prevent the entry of surface water to the water table.

The surface area of the top of the well shall be covered with topsoil and graded in a manner that will allow drainage away from the well.

#### **CASE C - BOREHOLES FOR CLOSED-LOOP SYSTEMS**

Boreholes for closed-loop systems which will no longer be used shall be abandoned in a manner that complies with CAN/CSA C-448 – Series 13, paragraphs 4.5.1, (a), (b) and (c), developed by the Canadian Standards Association.  
(EC507/21)