

PROVINCE OF BRITISH COLUMBIA
ORDER OF THE LIEUTENANT GOVERNOR IN COUNCIL

Order in Council No. 113 , Approved and Ordered February 29, 2016

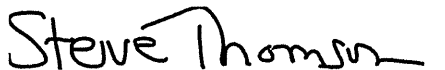

~~Lieutenant Governor~~
Administrator

Executive Council Chambers, Victoria

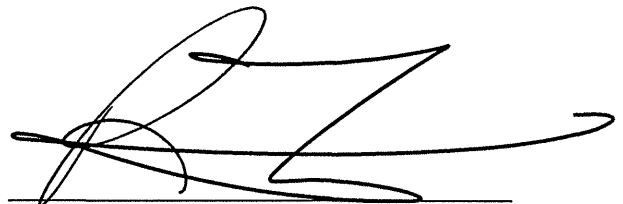
Administrator

On the recommendation of the undersigned, the ~~Lieutenant Governor~~, by and with the advice and consent of the Executive Council, orders that, effective February 29, 2016,

- (a) the Ground Water Protection Regulation, B.C. Reg. 299/2004, is repealed, and
- (b) the attached Groundwater Protection Regulation is made.



*Minister of Forests, Lands and Natural
Resource Operations*



Presiding Member of the Executive Council

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section: *Water Sustainability Act*, S.B.C. 2014. c. 15. ss. 124, 126, 129, 130 and 131

Other: *OIC 664/2004*

February 2, 2016

RESUB R/102/2015/96

GROUNDWATER PROTECTION REGULATION

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PART 1 – INTERPRETATION AND APPLICATION

Definitions and interpretation

- 1** (1) In this regulation:

“**Act**” means the *Water Sustainability Act*;

“**annular space**” means

- (a) an open space between the outside of the casing of a well and the surrounding geological formation, or
- (b) an open space between 2 or more casings in the same well;

“**backfill materials**” means

- (a) uncontaminated natural geological materials,
- (b) uncontaminated drill cuttings, or
- (c) uncontaminated non-toxic synthetic materials;

“**borehole**” means a drilled geotechnical well, other than a test pit, that is intended to remain in service for a period of not more than 30 days after construction;

- “casing”** means the piping or tubing installed in a well to support the sides of the well and includes production casing and surface casing;
- “casing stick-up”**, in relation to a well, means the length of the production casing in the well that is above
- (a) the surface of the ground adjacent to the well, or
 - (b) the floor of the well sump, pump house or well pit;
- “closed-loop geexchange well”** means a well, other than an open-loop geexchange well, used or intended to be used for the purpose of heat exchange in a closed-loop geexchange system in which there is no transfer of water between an aquifer and the well;
- “closure plug”** means the sealant placed in the uppermost portion of a well that is being decommissioned;
- “develop”**, in relation to a well, means remove from an aquifer the fine sediment and other organic or inorganic material that immediately surrounds the well screen, the drill hole or the intake area at the bottom of the well;
- “dewatering well”** means a well used or intended to be used for the purpose of diverting or conveying groundwater by pumping in order to
- (a) facilitate an excavation,
 - (b) stabilize an area of land, a building or any other improvement, or
 - (c) reduce water pressure in a geological formation;
- “drainage well”** means a well used or intended to be used for the purpose of diverting or conveying groundwater by the force of gravity and without pumping in order to
- (a) facilitate an excavation,
 - (b) stabilize an area of land, a building or any other improvement, or
 - (c) reduce water pressure in a geological formation;
- “drive shoe”** means a commercially-manufactured, forged or tempered steel sleeve with a cutting edge attached to the bottom of a drive pipe or casing to act as a cutting edge or protector for the lower edge of the drive pipe or casing during drilling;
- “excavated well”** means a well, commonly known as a dug well, excavated by
- (a) digging in unconsolidated materials using manual or mechanical methods, or
 - (b) blasting in consolidated materials;
- “flood debris”** means material, natural or otherwise, that is relocated by the movement of flood waters;
- “foreign matter”** means a thing, matter or substance described in section 59 (1) (a) to (g) [*prohibition on introducing foreign matter into well*] of the Act and includes the substances prescribed under section 2 of this regulation;
- “former regulation”** means the Ground Water Protection Regulation, B.C. Reg. 299/2004;

- “injection well”** means a well used or intended to be used for the purpose of conveying water into a geological formation with the aid of a well pump;
- “liner”** means piping or tubing installed in a well to protect the well pump or other works in the well from damage;
- “modify”** means make a change, other than an alteration, to a well or wellhead;
- “open-loop geexchange well”** means a water supply well that is used or intended to be used for the purpose of heat exchange in an open-loop geexchange system in which there is a transfer of water between an aquifer and the well;
- “permanent”** means,
- (a) in relation to a well, a well that is intended to be in service for a period of more than 90 days after construction, and
 - (b) in relation to a well pump, a well pump that is intended to remain installed in a well for a period of more than 90 days after installation;
- “pitless adapter”** means a mechanical device attached to a casing for the underground conveyance of water to or from a well;
- “pumping test”** means a flow test of a well in which the well is pumped and the quantity of water pumped, pumping water levels and recovery water levels are measured
- (a) to provide an estimate of the capacity of the well to produce groundwater, and
 - (b) to assess aquifer characteristics;
- “recharge well”** means a well used or intended to be used for the purpose of conveying water into a geological formation without the aid of a well pump and includes soakaway pits that are unfilled and cased;
- “register”** means a register of registered persons maintained by the comptroller, as described in section 7 [*registers of well drillers and well pump installers*], in respect of
- (a) registered well drillers, or
 - (b) registered well pump installers;
- “registration number”** means,
- (a) in relation to a well driller, the registration number recorded for the well driller by the comptroller on the register of well drillers, and
 - (b) in relation to a well pump installer, the registration number recorded for the well pump installer by the comptroller on the register of well pump installers;
- “rehabilitate”**, in relation to a well, means use chemical, mechanical or physical methods to improve or restore the capacity of the well to produce groundwater;
- “remediation well”** means a well that is used or intended to be used for the purpose of groundwater remediation, including the removal or treatment of contaminants that have entered an aquifer;
- “screen assembly”**, in relation to a well, means
- (a) a screen in the well,

- (b) a closed bottom, and
- (c) any other related components, including a riser pipe, packer, screen blank or tail pipe, that are required for
 - (i) the method or type of installation of the screen, or
 - (ii) the nature of the geological formation;

“sealant” means a sealing material or mixture of sealing materials that is

- (a) less permeable than the surrounding geological formation to be sealed,
- (b) appropriate for the particular soil and water conditions, and
- (c) non-toxic and does not have an adverse impact on the quality of the groundwater in an aquifer or a well;

“shut-in pressure”, in relation to a flowing artesian well, means

- (a) the water pressure after the artesian flow has been stopped, or
- (b) the height of the water above the top of the production casing or above the surface of the ground after the artesian flow has been stopped;

“sounding tube” means a tube that enables the groundwater level in a well to be measured;

“static water level”, in relation to a well, means the distance from the top of the production casing or the surface of the ground to the groundwater level in the well, when the groundwater level is not affected by pumping activities in the well;

“surface casing” means a casing that surrounds the production casing of a well;

“surface seal” means a sealant that

- (a) is installed in the annular space around the outside of the outermost casing and between multiple casings, and
- (b) extends to or just below the surface of the ground;

“temporary” means,

- (a) in relation to a well, a well that is intended to be in service for a period of not more than 90 days after construction, and
- (b) in relation to a well pump, a well pump that is intended to remain installed in a well for a period of not more than 90 days after installation;

“test pit” means an excavated geotechnical well that is intended to remain in service for a period of not more than 30 days after construction;

“unconsolidated aquifer” means an aquifer composed of sediment, such as gravel or sand;

“water supply well” means a well used or intended to be used for the purpose of exploring for, diverting or using groundwater, and includes a water source well, but does not include a drainage well, dewatering well or remediation well;

“well construction report” means a report required under section 57 (1) [*well reports*] of the Act relating to the construction of a well;

“well decommission report” means a report required under section 57 (1) of the Act relating to the decommissioning of a well;

“well identification report” means a report required under section 55 (4) [*well identification*] of the Act relating to the identification of a well;

“well pit” means an excavated artificial opening in the ground, lined with concrete, metal or wood, that contains a wellhead that is below the surface of the ground;

“well tag number” means the file number assigned in the government’s records to the records in relation to a particular well;

“well yield test” means a flow test of a well that

- (a) is conducted by airlifting, bailing or a similar method, and
- (b) provides an approximate estimate of the capacity of the well to produce groundwater.

(2) In the Act and this regulation:

“flow test” means a pumping test or a well yield test;

“flowing artesian well” means a well in which water, without the aid of a well pump,

- (a) rises above the surface of the ground or the top of the casing, if any, and
- (b) flows, either continuously or periodically.

(3) For the purposes of sections 54 [*attachment of well identification plates by owner of well supplying water supply system*] and 63 [*protection of water supply wells from entry of foreign matter and physical damage*], **“owner”** and **“water supply system”** have the same meaning as in section 55 of the Act.

Prescribed matters or substances

2 The following matters or substances are prescribed for the purposes of section 59 (1) (f) [*prohibition on introducing foreign matter into well*] of the Act:

- (a) paint and paint products;
- (b) liquid fuels;
- (c) fuel additives;
- (d) lubricants, other than water;
- (e) solvents, other than water;
- (f) herbicides and fungicides;
- (g) flood waters and flood debris.

Exclusions from definition of “well”

3 The following artificial openings in the ground are excluded from the definition of “well” in section 1 [*definitions*] of the Act:

- (a) the following artificial openings made for the purpose of drainage:
 - (i) drains, including building perimeter drains, curtain drains, French drains and backfilled soakaway pits;
 - (ii) sumps in buildings that are part of the drainage systems of the buildings;
 - (iii) ditches or infiltration trenches of a shallow and linear nature;

- (b) prefabricated vertical drains, vertical strip drains, wick drains and sand drains made for the purpose of facilitating soil consolidation prior to building construction;
- (c) seismic relief holes, including stone columns and stone densification points, made for the purpose of dissipating excess water pressure caused by seismic activity;
- (d) drill holes made for the purpose of mineral exploration.

Exemptions for certain wells

- 4** (1) The following are exempt from the requirements of this regulation and of Division 3 [*Wells and Groundwater Protection*] of Part 3 of the Act:
- (a) water source wells that are used to divert deep groundwater in the subject area, as “deep groundwater” and “subject area” are defined in section 51 of the Water Sustainability Regulation, and from which wells deep groundwater is used for an oil and gas purpose in the subject area;
 - (b) drainage wells;
 - (c) horizontal closed-loop geexchange wells that are less than 5 m deep;
 - (d) test pits.
- (2) Despite subsection (1), the following provisions apply in relation to the wells referred to in that subsection:
- (a) Part 8 [*Artesian Flow*];
 - (b) sections 74 (2) [*decommissioning boreholes and test pits*] and 80 [*well decommission reports for flowing artesian wells*];
 - (c) sections 52 [*controlling artesian flow during construction*], 53 [*controlling flowing artesian well*], 57 (3) (b) [*well reports in prescribed circumstances*], 59 [*prohibition on introducing foreign matter into well*], 60 [*remediation orders in relation to foreign matter in well*] and 61 [*wells on Crown land*] of the Act.

Well classes and subclasses

- 5** (1) For the purposes of this regulation, each of the following is a class of well:
- (a) water supply wells;
 - (b) monitoring wells;
 - (c) recharge wells;
 - (d) injection wells;
 - (e) dewatering wells;
 - (f) remediation wells;
 - (g) geotechnical wells;
 - (h) closed-loop geexchange wells.
- (2) For the purposes of this regulation, each of the following is a subclass of the geotechnical well class:
- (a) boreholes;
 - (b) test pits.

Application of standards to well classes

- 6** (1) The owner of a well that is being changed to a different class, or the person responsible for changing the class of a well, as applicable, must ensure that the well meets the standards and requirements of the Act and this regulation that apply to the new class of well.
- (2) The person responsible for drilling or altering either of the following wells must ensure that the well meets the highest standards and requirements of the Act and this regulation for any class or subclass that apply in respect of either of the following wells:
- (a) a well that is drilled or altered so that the well is in more than one class or subclass of well;
 - (b) a well the use or purpose of which is changed so that the well is in more than one class or subclass of well.

PART 2 – WELL DRILLERS AND WELL PUMP INSTALLERS

Division 1 – Registration and Qualification

Registers of well drillers and well pump installers

- 7** The comptroller must
- (a) establish and maintain
 - (i) a register of well drillers who are authorized to operate in British Columbia, and
 - (ii) a register of well pump installers who are authorized to operate in British Columbia,
 - (b) include in the registers the following information in respect of each well driller and well pump installer:
 - (i) full name;
 - (ii) business contact information, including business name, if any, address, telephone number and, if available, email address and fax number;
 - (iii) the registration number issued by the comptroller and the date of registration;
 - (iv) a reference to any certificates of held by the well driller or qualified well pump installer;
 - (v) in the case of a well driller, the class of well driller assigned by the comptroller in accordance with section 9 [*registration and classification of well driller*],
 - (c) make available to the public during normal business hours, or by posting on a publicly available website, a list of well drillers and well pump installers, which list may include any of the information set out in paragraph (b), and
 - (d) remove from the register any person who
 - (i) fails to meet a requirement for registration,

- (ii) fails to maintain a requirement for registration, including any requirement for maintaining a certificate issued by another province or territory of Canada, or
- (iii) is no longer actively working in Canada as a well driller or well pump installer.

Application for registration as well driller

- 8**
- (1) A person may apply to the comptroller for registration as a well driller by completing and submitting an application in the form and with the content specified by the comptroller.
 - (2) A prospective registrant described in subsection (1) must provide with an application proof satisfactory to the comptroller that the prospective registrant
 - (a) is an individual who is at least 19 years of age, and
 - (b) holds, for the purposes of the definition of “well driller” in section 48 (1) *[definitions]* of the Act, one of the following prescribed qualifications:
 - (i) a Certificate of Qualification as a Water Well Driller issued by the Province of British Columbia;
 - (ii) a Certificate of Qualification as a Geoexchange Driller issued by the Province of British Columbia;
 - (iii) a Certificate of Qualification as a Geotechnical/Environmental Driller issued by the Province of British Columbia;
 - (iv) a certificate issued by another province or territory of Canada that is equivalent to a certificate referred to in subparagraph (i), (ii) or (iii);
 - (v) a certificate as a Ground Water Drilling Technician issued by the Canadian Ground Water Association before April 26, 2013.

Registration and classification of well driller

- 9**
- (1) If the comptroller approves a person’s application under section 8 (1) to be registered as a well driller, the comptroller must
 - (a) classify the person as being in one or more of the following classes, based on the comptroller’s assessment of the person’s qualifications:
 - (i) a water well driller, if the person has a qualification described in section 8 (2) (b) (i), (iv) or (v);
 - (ii) a geoexchange driller, if the person has a qualification described in section 8 (2) (b) (ii) or (iv);
 - (iii) a geotechnical / environmental driller, if the person has a qualification described in section 8 (2) (b) (iii) or (iv),
 - (b) add the person to the register of well drillers, and
 - (c) issue an identification card to the person that includes reference to the classification of that person under paragraph (a) as one or more of the following:
 - (i) a water well driller;
 - (ii) a geoexchange driller;
 - (iii) a geotechnical / environmental driller.

- (2) Promptly after this regulation comes into force, the comptroller must
 - (a) classify every person who was registered in the register of qualified well drillers under the former regulation immediately before the date this regulation comes into force as all of the following:
 - (i) a water well driller;
 - (ii) a geoexchange driller;
 - (iii) a geotechnical / environmental driller,
 - (b) ensure that every person classified as a well driller under paragraph (a) is added to the register of well drillers, and
 - (c) issue an identification card to every person classified as a well driller under paragraph (a) that includes reference to the classification of that person as all of the following:
 - (i) a water well driller;
 - (ii) a geoexchange driller;
 - (iii) a geotechnical / environmental driller.

Application for registration as well pump installer

- 10** (1) A person may apply to the comptroller for registration as a well pump installer by completing and submitting an application in the form and with the content specified by the comptroller.
- (2) A prospective registrant described in subsection (1) must provide with an application proof satisfactory to the comptroller that the prospective registrant
 - (a) is an individual who is at least 19 years of age, and
 - (b) holds, for the purposes of the definition of “well pump installer” in section 48 (1) [*definitions*] of the Act, one of the following prescribed qualifications:
 - (i) a Certificate of Qualification as a Well Pump Installer issued by the Province of British Columbia;
 - (ii) a certificate issued by another province or territory of Canada that is equivalent to a certificate referred to in subparagraph (i);
 - (iii) a certificate as a Ground Water Pump Technician issued by the Canadian Ground Water Association before April 26, 2013.

Registration of well pump installer

- 11** (1) If the comptroller approves a person’s application under section 10 (1) to be registered as a well pump installer, the comptroller must
 - (a) add the person to the register of well pump installers, and
 - (b) issue an identification card to the person that identifies that person as a well pump installer.
- (2) Promptly after this regulation comes into force, the comptroller must
 - (a) ensure that every person is added to the register of well pump installers who, immediately before the date this regulation comes into force, was

registered in the register of qualified well pump installers under the former regulation, and

- (b) issue an identification card to every person added to the register of well pump installers under paragraph (a) that identifies that person as a well pump installer.

Notice to comptroller

- 12** (1) A registered well driller or registered well pump installer must advise the comptroller in writing within 60 days after
 - (a) any changes to the information included in the register in relation to the well driller or well pump installer, as the case may be, or
 - (b) the person ceasing to work in Canada as a well driller or well pump installer, as the case may be.
- (2) The comptroller is not required to issue an identification card under section 9 or 11, as applicable, to a registered well driller or registered well pump installer if the registered well driller or registered well pump installer has not complied with subsection (1).

Proof of qualifications – identification card

- 13** For the purposes of section 51 (3) [*proof of qualifications and insurance*] of the Act, the proof of qualifications that must be provided by a well driller or well pump installer is the identification card issued to the well driller or well pump installer by the comptroller under section 9 [*registration and classification of well driller*] or 11 [*registration of well pump installer*] of this regulation.

Division 2 – Qualifications for Activities

Qualifications for activities in relation to wells – well drillers

- 14** (1) For the purposes of sections 48 (1) [*definitions*] and 49 (2) (b) (i) [*restrictions on constructing or decommissioning wells and related activities*] of the Act,
 - (a) a registered well driller who is classified as a water well driller under section 9 (1) (a) (i) or (2) (a) [*registration and classification of well driller*] of this regulation is qualified in respect of constructing any class of well other than closed-loop geexchange wells,
 - (b) a registered well driller who is classified as a geexchange driller under section 9 (1) (a) (ii) or (2) (a) of this regulation is qualified in respect of constructing closed-loop geexchange wells,
 - (c) a registered well driller who is classified as a geotechnical / environmental driller under section 9 (1) (a) (iii) or (2) (a) of this regulation is qualified in respect of constructing the following classes of well:
 - (i) monitoring wells;
 - (ii) geotechnical wells;
 - (iii) remediation wells, and
 - (d) subject to section 15 of this regulation, a registered well driller is qualified in respect of decommissioning or deactivating any class of well.

- (2) For the purposes of section 50 *[restrictions respecting well pumps and flow tests]* of the Act, registered well drillers referred to in subsection (1) (a) are qualified to carry out the activities under section 50 (1) (a) to (c) of the Act in respect of water supply wells, dewatering wells, injection wells and remediation wells.

Qualifications for activities in relation to artesian flow – well drillers

- 15 (1) For the purposes of sections 52 (3) and (5) *[controlling artesian flow during construction]* and 53 (1) *[controlling flowing artesian well]* of the Act, a registered well driller is qualified to stop or control artesian flow in relation to a well if the well driller has competency in stopping or controlling artesian flow as a result of the well driller’s training, experience, knowledge or skills.
- (2) Despite subsection (1), a registered well driller who is not qualified to stop or control artesian flow in relation to a well may undertake that activity if the well driller is supervised by another registered well driller, or a professional, who has competency in stopping or controlling artesian flow as a result of the training, experience, knowledge or skills of the other well driller or the professional, as the case may be.

Qualifications for activities in relation to wells – well pump installers

- 16 For the purposes of sections 48 (1) *[definitions]* and 49 (3) (e) *[restrictions on constructing or decommissioning wells and related activities]* of the Act, a well pump installer is qualified in respect of decommissioning or deactivating a well, other than a flowing artesian well.

No restriction on who may decommission certain wells

- 17 For the purposes of section 49 (3) *[restrictions on constructing or decommissioning wells and related activities]* of the Act, any person may decommission the following wells, other than a flowing artesian well:
- (a) a well that has a depth of not more than 5 m;
 - (b) an excavated well that has a depth of not more than 15 m.

PART 3 – WELL CONSTRUCTION

Division 1 – Siting

Siting of water supply wells and permanent dewatering wells

- 18 (1) The person responsible for drilling a proposed water supply well or a proposed permanent dewatering well must site the proposed well so that the horizontal setback distance is not less than 15 m from any part of the proposed well to an existing water supply well, unless
- (a) the existing water supply well is not in use and is not intended to be in use, or
 - (b) the owner of the proposed well also owns the existing water supply well and only one well is proposed to be drilled.

- (2) The person responsible for drilling a proposed water supply well or proposed permanent dewatering well referred to in subsection (1) may, if the person responsible determines that it is not practicable to site the well as described in that subsection, site the proposed well with a horizontal setback distance from any part of the proposed well to an existing water supply well that is less than 15 m in accordance with alternative specifications that meet the requirements of subsection (3).
- (3) A proposed well under subsection (2) may be sited in accordance with alternative specifications for the siting of the proposed well if
 - (a) a professional who has competency in the field of hydrogeology prepares the alternative specifications for the siting of the proposed well so that the existing uses of the existing water supply well will not be adversely affected,
 - (b) the person responsible for drilling the well submits the alternative specifications to an engineer for acceptance by the engineer before the proposed well is drilled,
 - (c) the engineer accepts the alternative specifications, with any terms and conditions the engineer may specify, and
 - (d) the person responsible drills the water supply well in accordance with
 - (i) the alternative specifications accepted by the engineer under paragraph (c), and
 - (ii) the terms and conditions, if any, specified by the engineer under that paragraph.
- (4) If a water supply well or permanent dewatering well is drilled in accordance with alternative specifications under subsection (3), the person responsible for drilling the well must include the accepted alternative specifications, including the terms and conditions specified by the engineer, if any, with the well construction report required under section 76 [*well construction reports submitted to both comptroller and well owner*].

Siting of recharge wells and injection wells

- 19** (1) Before a recharge well or injection well is constructed for the purpose of conveying urban runoff into the ground,
- (a) the owner of the proposed recharge well or injection well must retain a professional who has competency in the field of hydrogeology or geotechnical engineering to design the proposed well, and
 - (b) the professional must
 - (i) design the proposed well so that the proposed well does not cause a significant adverse impact on the quality of water in an aquifer or in another well that diverts water from the aquifer, and
 - (ii) specify the following distances in the design:
 - (A) a minimum horizontal distance between the proposed well and an existing water supply well;

- (B) a minimum vertical distance between the point of infiltration of the proposed well and the water table below to ensure that the point of infiltration of the proposed well is and will remain above the water table at all times.
- (2) If the point of infiltration of treated water for a proposed recharge well or injection well is below the seasonal high water table, the professional, or the owner of the proposed recharge well or injection well, must submit the design described in subsection (1) to an engineer, who may
 - (a) accept the design, and may specify terms and conditions on the acceptance, and
 - (b) determine whether the recharge well or injection well may be exempted from the minimum vertical distance specification described in subsection (1) (b) (ii) (B).
 - (3) The person responsible for drilling a proposed recharge well or injection well must include the accepted design referred to in subsection (2), including the terms and conditions, if any, specified by the engineer with the well construction report if that report is required under section 76 [*well construction reports submitted to both comptroller and well owner*].
 - (4) The owner of a proposed recharge well or injection well must ensure that the person responsible constructs the well in accordance with
 - (a) the design of the proposed recharge well or injection well made by the professional under subsection (1) (b), and
 - (b) in the case of a proposed recharge well or injection well to which subsection (2) applies, the accepted design and the terms and conditions, if any, specified by the engineer under that subsection.
 - (5) The owner of a recharge well or injection well must
 - (a) ensure that the professional prepares as-built drawings of the well, and
 - (b) retain the design and any as-built drawings prepared by the professional until the well is decommissioned.

Division 2 – Casings and Liners

Casings and liners – general requirements

- 20** If a casing or liner is to be installed in a well in the course of drilling or altering the well, the person responsible for drilling or altering the well must install a casing or liner that is
 - (a) composed of new material or used material in like-new condition, and
 - (b) strong enough to withstand the pressure or force exerted on the casing or liner during the installation of the casing or liner and the operation of the well.

Thermoplastic casings and liners for water supply wells

- 21** If a thermoplastic casing or thermoplastic liner is to be installed in a water supply well in the course of drilling or altering the well, the person responsible for drilling or

altering the well must install a thermoplastic casing or thermoplastic liner that is approved or certified by one of the following for use for drinking water:

- (a) Canadian Standards Association;
- (b) Underwriters' Laboratories of Canada;
- (c) ASTM International;
- (d) NSF International.

Division 3 – Surface Seals

Surface seal – general requirements

- 22**
- (1) The person responsible for drilling a well that has one or more casings must complete the well with an effective, permanent and continuous surface seal, as shown in Figures 1 and 2 of Schedule 5.
 - (2) A surface seal required under subsection (1) must be installed in accordance with the applicable requirements of this Part to prevent the entry of any foreign matter from the surface of the ground into the well or the aquifer, if any, penetrated by the well.
 - (3) A surface seal required under subsection (1) must be
 - (a) installed in all annular spaces of the well,
 - (b) not less than 2.54 cm thick, including the wall thickness of any surface casing left permanently in place, and
 - (c) not less than
 - (i) 1 m in length,
 - (ii) in the case of a water supply well, the length determined in accordance with section 23, or
 - (iii) in the case of a closed-loop geoechange well, the entire length of the ground loop, in accordance with section 25 [*sealing closed-loop geoechange wells*].
 - (4) All openings in the production casing of a well, including, without limitation, joints, lifting holes, perforations and pitless adapter holes, that are within the length of the surface seal must be made watertight with non-toxic materials.

Surface seal – water supply wells

- 23**
- (1) The person responsible for drilling a water supply well that has one or more casings must, in addition to meeting the requirements under section 22, complete the water supply well with a surface seal that is not less than 5 m in length, unless
 - (a) the depth of the water supply well is insufficient to have a surface seal length of 5 m, in which case the surface seal must be the greatest possible length up to 5 m, or
 - (b) the method of drilling the water supply well is by driving, in which case the surface seal must be not less than 1 m in length.
 - (2) In addition to the requirements set out in subsection (1), if bedrock is encountered at or within 5 m of the surface of the ground in the circumstances described in

subsection (1), other than those circumstances described in paragraph (b) of that subsection, the surface seal must extend to a minimum depth of 1 m into competent bedrock, as shown in Figure 3 of Schedule 5.

Multiple annular spaces

- 24** (1) If an annular space is created during the installation of a surface casing, the person responsible for drilling the well must
- (a) subject to paragraph (b), remove the surface casing and install the surface seal between the next outermost casing and the geological formation, or
 - (b) if the surface casing cannot be removed,
 - (i) excavate the immediate area around the surface casing,
 - (ii) install sealant in the immediate area around the surface casing, as shown in Figure 2 of Schedule 5, to a length that is not less than 1 m and extends laterally from the surface casing to completely fill the excavated area, and
 - (iii) install sealant in the next outermost annular space, as shown in Figure 2 of Schedule 5, to a length that is not less than the minimum length required under section 22 (3) (c) [*surface seal – general requirements*].
- (2) Subject to subsection (1) (b), the open annular space, if any, between multiple casings must be effectively capped with a well cap or sealed with a surface seal.

Sealing closed-loop geoechange wells

- 25** (1) The person responsible for constructing a closed-loop geoechange well must seal the closed-loop geoechange well along the entire length of the ground loop, from the bottom upward, promptly after installing the ground loop.
- (2) The person responsible for converting an existing well into a closed-loop geoechange well must seal the closed-loop geoechange well the ground loop is in along the entire length of the ground loop, from the bottom upward, promptly after installing the ground loop.

Backfill materials above surface seal

- 26** A surface seal may extend to within 0.3 m of the surface of the ground to allow for up to 0.3 m of backfill materials above the surface seal, but the total length of the surface seal must not be less than the length required under section 22 (3) (c) [*surface seal – general requirements*].

Surface sealing for alterations

- 27** (1) If an alteration to a well impairs the integrity of the existing surface seal, the person responsible for altering the well must ensure that the integrity of the surface seal is restored as soon as practicable.
- (2) If a structural change is made to the depth, diameter or screen assembly of a well that has a casing installed and that does not have a surface seal, the person responsible for making the structural change must install a surface seal that

- (a) is not less than 1 m in length or extends to bedrock, whichever is shorter, and
- (b) is not less than 2.54 cm thick.

Division 4 – Development, Well Yield Testing and Disinfection

Development and screens – water supply wells

- 28**
- (1) In this Division, “alter” does not include the installation of a surface seal.
 - (2) The person responsible for drilling, altering or rehabilitating a water supply well must develop the water supply well in a manner that prevents the following during the development or operation of the water supply well:
 - (a) significant collapse of the surface of the ground around the water supply well;
 - (b) damage to the surface seal of the water supply well.
 - (3) The person responsible for drilling a water supply well into an unconsolidated aquifer, or altering a water supply well so that the well penetrates an unconsolidated aquifer, must equip the well with a screen assembly
 - (a) that is securely attached to the production casing, and
 - (b) the screen component of which
 - (i) is composed of durable material having strength suited to the particular soil and water conditions encountered during drilling or alteration, and
 - (ii) has slot openings that are appropriately sized so that the depth of the well does not change as a result of sand or other unconsolidated material being drawn in during operation of the well or building up in the well.
 - (4) A screen assembly is not required under subsection (3) if
 - (a) the water supply well is an excavated well, or
 - (b) the gravel or other unconsolidated material naturally exposed at the bottom of the production casing is coarse enough to allow the water supply well to be developed so that
 - (i) the bottom of the production casing is stable, and
 - (ii) the depth of the well does not change as a result of sand or other unconsolidated material being drawn in during operation of the well or building up in the production casing.

Use of certain substances – water supply wells

- 29**
- (1) For the purposes of section 59 (2) (d) [*prohibition on introducing foreign matter into well*] of the Act, drilling, altering, developing and rehabilitating are prescribed activities.
 - (2) The person responsible for performing an activity referred to in subsection (1) may introduce acids, lubricants, bactericides or other similar substances into a water supply well in order to perform the activity in accordance with subsection (3).

- (3) If acids, lubricants, bactericides or other similar substances are used in connection with an activity under subsection (2), the person responsible for performing the activity must
 - (a) promptly after using the acids, lubricants, bactericides or other similar substances, remove groundwater from the water supply well until the remaining concentrations of acids, lubricants, bactericides and other similar substances in the remaining groundwater in the well would not prevent the use of the water supply well for its intended purpose, and
 - (b) dispose of the groundwater removed from the water supply well in a manner that does not pose a threat to the aquatic ecosystem of a stream or an aquifer or to property, public safety or the environment.

Disinfection of water supply wells

- 30** The person responsible for drilling, altering, developing or rehabilitating a water supply well must, promptly after performing the activity, disinfect the groundwater in the well to destroy micro-organisms introduced by the activity.

Well yield tests and reports

- 31** (1) The person responsible for drilling or altering a water supply well or a permanent dewatering well must
 - (a) conduct a well yield test, and
 - (b) include the details of the well yield test in the well construction report required under section 76 [*well construction reports submitted to both comptroller and well owner*].
- (2) Despite subsection (1), a well yield test is not required if there is insufficient water in the well to conduct the test.

Pumping tests

- 32** (1) A well owner who is required to carry out a pumping test as part of an application for an authorization or by order of the comptroller, a water manager or an engineer must ensure that a professional who has competency in the field of hydrogeology
 - (a) designs the test,
 - (b) performs or directly supervises the test, and
 - (c) interprets the results of the test.
- (2) A professional who has competency in the field of hydrogeology may install a temporary well pump to carry out a pumping test.

Division 5 – Wellhead Completion

Casing stick-up

- 33** (1) The person responsible for drilling or altering a well must ensure that the casing stick-up is continuous and extends a minimum of 0.3 m above
 - (a) the surface of the ground adjacent to the well, or
 - (b) if applicable, the floor of the well sump, pump house or well pit.

- (2) Subsection (1) does not apply in relation to
 - (a) a geotechnical well,
 - (b) a closed-loop geoexchange well,
 - (c) a temporary dewatering well, or
 - (d) a monitoring well drilled under the supervision of a professional who has competency in the field of hydrogeology or geotechnical engineering.

Protection of thermoplastic casings

- 34** The person responsible for drilling or altering a well must ensure that thermoplastic casing at or above the surface of the ground is completely protected from damage and material breakdown.

Slope of surface of ground around wellhead

- 35** The person responsible for drilling or altering a well must slope the surface of the ground immediately around the wellhead to ensure that water does not pond around the wellhead or in the area disturbed during drilling.

Well pit restrictions – water supply wells

- 36**
 - (1) Except as provided in this section, a person must not construct a well pit for the following activities:
 - (a) constructing a new water supply well;
 - (b) adding a well pit to an existing water supply well that does not have an existing well pit.
 - (2) If a water supply well that has an existing well pit is being altered, a person must either
 - (a) remove the well pit, or
 - (b) comply with subsection (3).
 - (3) A person may construct a well pit for a water supply well if the well pit is designed by a professional who has competency in the field of hydrogeology or geotechnical engineering to ensure that
 - (a) water does not pond in the well pit, and
 - (b) any water that enters the well pit is conveyed away in a manner that is not likely to cause an adverse impact on the quality of water in an aquifer.
 - (4) The construction of a well pit must be supervised by the professional who designs the well pit under subsection (3).
 - (5) The owner of a water supply well with a well pit must ensure that the professional who designs the well pit under subsection (3) prepares as-built drawings of the well pit.
 - (6) The professional who designs the well pit under subsection (3) must submit the design and as-built drawings to the owner and the comptroller within 90 days after the construction of the well pit.

**Drainage away from wellhead – construction of wells
in well sumps, pump houses or well pits**

- 37** (1) The person responsible for constructing
- (a) a well sump,
 - (b) a pump house for a well, or
 - (c) a well pit for a well
- must ensure that the well sump, pump house or well pit is designed and constructed so that water entering the well sump, pump house or well pit is conveyed away from the wellhead.
- (2) Subsection (1) does not apply in relation to a well sump, pump house or well pit for a monitoring well if the well and the well sump, pump house or well pit are
- (a) designed by a professional who has competency in the field of hydrogeology or geotechnical engineering to prevent adverse impacts on the quality of water in an aquifer, and
 - (b) constructed in accordance with that design.

PART 4 – WELL CAPS AND WELL COVERS

Well caps

- 38** (1) Subject to subsections (3) to (5), the person responsible for drilling or altering a well must, promptly on completing the drilling or alteration, securely attach to the top of the production casing a well cap that does all of the following:
- (a) prevents direct and unintended entry into the well of
 - (i) any water at the surface of the ground, including floodwater and ponded water, and
 - (ii) any foreign matter;
 - (b) prevents persons or animals from entering the well;
 - (c) prevents or minimizes the flow of water from a flowing artesian well.
- (2) A well cap required under subsection (1) must be
- (a) commercially manufactured, or
 - (b) fabricated from durable material having strength suited to the location of the well cap and the local environmental conditions.
- (3) A steel plate welded to the top of the production casing may be used instead of a well cap on a well that is not yet in service.
- (4) The person responsible for drilling or altering a well that has an annular space between multiple casings must securely attach to the casings at the top of the annular space a permanent and watertight well cap that complies with subsection (2).
- (5) Subsection (1) does not apply in relation to
- (a) a geotechnical well,
 - (b) a closed-loop geoexchange well, or

- (c) a water supply well equipped with a hand pump that meets the requirements of subsection (1) for a well cap.

Maintenance and attachment of well caps or steel plates

- 39**
- (1) A well owner must ensure that
 - (a) a well cap that meets the applicable requirements of this Part remains securely attached to the top of the production casing or, if the well is not yet in service, a steel plate remains welded to the top of the production casing, and
 - (b) the well cap or steel plate is maintained in good operating condition.
 - (2) Subject to section 42 [*custom-designed well caps and well covers*], if a well does not already have a well cap securely attached to the top of the production casing, the well owner must promptly and securely attach to the top of the production casing a well cap that meets the requirements of this Part.
 - (3) A steel plate welded to the production casing may be used instead of a well cap on a well referred to in subsection (2) that is not yet in service.
 - (4) Subsections (1) and (2) do not apply in relation to
 - (a) a geotechnical well,
 - (b) a closed-loop geexchange well, or
 - (c) a water supply well equipped with a hand pump that meets the requirements of section 38 (1) for a well cap.

Well covers

- 40**
- (1) Subject to subsection (3), the person responsible for drilling or altering a well in which the top of the casing is below the surface of the ground must, in addition to complying with section 38 [*well caps*], promptly and securely install at or above the surface of the ground a well cover that does both of the following:
 - (a) prevents direct and unintended entry into the well of
 - (i) any water at the surface of the ground, including floodwater and ponded water, and
 - (ii) any foreign matter;
 - (b) prevents persons or animals from entering the well.
 - (2) A well cover required under subsection (1) must be
 - (a) commercially manufactured, or
 - (b) fabricated from durable material having strength suited to the location of the well cover and the local environmental conditions.
 - (3) Subsection (1) does not apply in relation to a geotechnical well or a closed-loop geexchange well.

Maintenance and installation of well covers

- 41**
- (1) The owner of a well that is completed below the surface of the ground, or in which the casing does not extend above the surface of the ground, must ensure that

- (a) a well cover that meets the applicable requirements of this Part remains securely installed, and
 - (b) the well cover is maintained in good operating condition.
- (2) If a well completed below the surface of the ground, or in which the casing does not extend above the surface of the ground, does not already have a well cover, the well owner must promptly and securely install at or above the surface of the ground a well cover that meets the applicable requirements of this Part.
- (3) Without limiting section 36 [*well pit restrictions – water supply wells*], this section does not apply in relation to a geotechnical well or a closed-loop geotreatment well.

Custom-designed well caps and well covers

- 42** (1) If it is not practicable for the owner of a well referred to in section 39 (2) [*maintenance and attachment of well caps or steel plates*] or 41 (2) to attach a well cap or install a well cover that meets the requirements of this Part, the well owner must engage a qualified well driller, qualified well pump installer or professional to design and attach an effective well cap or design and install an effective well cover.
- (2) For the purposes of subsection (1), a well cap is effective if it does all of the following:
- (a) prevents direct and unintended entry into the well of
 - (i) any water at the surface of the ground, including floodwater and ponded water, and
 - (ii) any foreign matter;
 - (b) prevents persons or animals from entering the well;
 - (c) stops or brings under control the flow of water from a flowing artesian well.
- (3) For the purposes of subsection (1), a well cover is effective if the requirements of subsection (2) (a) and (b) are met.
- (4) The owner of a well must ensure that a well cap attached or well cover installed under this section is maintained in good operating condition.

PART 5 – WELL PUMPS AND RELATED WORKS

Definition of “related works”

- 43** In this Part, “**related works**”, in relation to a well pump, includes, without limitation, the pump motor, pump column, pitless adapter and sounding tube.

Pump installation – general requirements

- 44** The person responsible for installing a well pump must
- (a) install the well pump and related works so that there is no damage to or movement of the casing during the installation or operation of the well pump,
 - (b) ensure that the well pump is protected by a liner if the well is unstable, and

- (c) install the well pump and related works in a manner that
 - (i) prevents the entry into the well of any foreign matter, and
 - (ii) allows the well, well pump and related works to be properly disinfected.

Pitless adapter installation, replacement or repair

- 45** The person responsible for installing, replacing or repairing a pitless adapter must ensure that
- (a) the pitless adapter is constructed with materials that will likely not have a significant adverse impact on water quality,
 - (b) the pitless adapter is installed in a manner that will prevent corrosion of metal, and
 - (c) the connection or seal between the pitless adapter and the production casing is watertight.

Thermoplastic liner, drop pipes and sounding tubes for water supply wells

- 46** If a thermoplastic liner, drop pipe or sounding tube is to be installed in a water supply well, the person responsible must ensure the thermoplastic liner, drop pipe or sounding tube is approved or certified by one of the following for use for drinking water:
- (a) Canadian Standards Association;
 - (b) Underwriters' Laboratories of Canada;
 - (c) ASTM International;
 - (d) NSF International.

Devices to prevent flow of water back into well

- 47** The person responsible for installing a permanent well pump into a well must ensure that the well is equipped with a device that prevents the flow of water back into the well.

Sealing after installation of well pump or related works

- 48**
- (1) If the installation of a well pump or related works in a well impairs the integrity of the existing surface seal, the person responsible for installing the well pump or related works must repair or replace the surface seal to meet the requirements of Division 3 [*Surface Seals*] of Part 3 [*Well Construction*].
 - (2) If the installation of a well pump or related works in a well that does not have a surface seal creates a visible annular space between the outermost casing of the well and the surrounding geological formation, the person responsible for installing the well pump or related works must seal the annular space with sealant.

Modification of wellhead

- 49** If the installation of a well pump or related works requires modification of the wellhead, the person responsible for the installation must ensure that, after the modification, the wellhead

- (a) meets, or continues to meet, the requirements of this regulation, and
- (b) remains compliant with the design of the professional referred to in section 36 (3) [*well pit restrictions – water supply wells*].

Use of non-toxic lubricants and solvents

- 50**
- (1) For the purposes of section 59 (2) (d) [*prohibition on introducing foreign matter into well*] of the Act, the activity of installing, maintaining or repairing a well pump is a prescribed activity.
 - (2) The person responsible for performing an activity referred to in subsection (1) may use a lubricant or solvent for the activity if the lubricant or solvent is non-toxic.

Hand pumps in water supply wells

- 51**
- (1) The person responsible for installing a hand pump in a water supply well must ensure that the hand pump is installed so that it meets the requirements of section 38 (1) [*well caps*] that apply in respect of a well cap.
 - (2) If a water supply well is equipped with a hand pump that is not installed as described in subsection (1), the owner of the water supply well must ensure that the hand pump is upgraded or replaced before March 1, 2018 so as to comply with that subsection.

Disinfection of water supply wells after well pump activities

- 52**
- The person responsible, in respect of a water supply well, for installing a permanent well pump or removing a temporary well pump must disinfect the groundwater in the well to destroy any micro-organisms introduced by that activity.

PART 6 – WELL IDENTIFICATION

Attachment of well identification plates by person responsible for drilling or alteration

- 53**
- (1) If a well identification plate is required for a well under column 3 of the table in Schedule 6, the person responsible for drilling the well must, promptly on completing the drilling, securely attach to the well, in accordance with section 55 [*well identification plate attachment*], a well identification plate that has been obtained from the comptroller.
 - (2) The person responsible for altering a well that does not have a well identification plate as required under column 3 of the table in Schedule 6 must, promptly on completing the alteration, securely attach to the well, in accordance with section 55, a well identification plate that has been obtained from the comptroller.
 - (3) The person responsible referred to in subsection (1) or (2) must report the well identification in the well construction report made under section 76 [*well construction reports submitted to both comptroller and well owner*].

Attachment of well identification plates by owner of well supplying water supply system

- 54** (1) The owner of a well drilled for the purpose of supplying a water supply system must, if a well identification plate has not already been attached to the well, promptly and securely attach to the well, in accordance with section 55, a well identification plate that has been obtained from the comptroller.
- (2) As soon as practicable after attaching a well identification plate, the well identification must be reported in a well identification report in accordance with section 75 [*well identification reports by owner of well supplying water supply system*].

Well identification plate attachment

- 55** (1) A well identification plate required under this Part must be securely attached to the casing, well cap or well cover of the well so that the well identification number is plainly visible.
- (2) If it is not possible to securely attach the well identification plate to the casing, well cap or well cover, the well identification plate may be securely attached to any of the following so that the well identification number is plainly visible:
- (a) the discharge pipe;
 - (b) the pump motor housing;
 - (c) the stand at the top of the well;
 - (d) the pump house;
 - (e) a nearby post.
- (3) If 2 or more wells are contained in a single protective casing, each of those wells must have a well identification plate.

Protection and replacement of well identification plates

- 56** (1) The owner of a well that is required under section 53 [*attachment of well identification plates by person responsible for drilling or alteration*] or 54 [*attachment of well identification plates by owner of well supplying water supply system*] to have a well identification plate attached must
- (a) protect the well identification plate from any physical damage,
 - (b) ensure that the well identification plate is promptly attached and remains securely attached in accordance with section 55 so that the well identification number remains plainly visible, and
 - (c) if the well identification plate is missing or damaged,
 - (i) report the loss or damage to the comptroller within 30 days after discovering the loss or damage, and
 - (ii) request the comptroller to supply a replacement well identification plate.
- (2) If a replacement well identification plate is supplied by the comptroller, the well owner must ensure that the well identification plate is promptly attached and remains securely attached in accordance with section 55.

PART 7 – WELL OPERATION AND MAINTENANCE

Application of Part 7

- 57 This Part applies in relation to a well whether or not the well is in use, in service or deactivated, but does not apply in relation to a well that has been decommissioned in accordance with this regulation.

General operating requirements for well and area around wellhead

- 58 (1) The owner of a well must ensure the following in respect of the operation of a well and wellhead:
- (a) the surface of the ground immediately around the wellhead remains sloped so that water does not pond around the wellhead;
 - (b) the well and the area immediately around the wellhead are maintained in a manner that prevents the entry into the well of any foreign matter;
 - (c) any repairs to the well or wellhead are promptly undertaken when required to ensure that the well and wellhead are maintained in good operating condition.
- (2) The owner of a well must ensure the following in respect of a well and wellhead:
- (a) access to the well and wellhead is maintained for inspections undertaken in accordance with section 89 [*right of access to land and premises by authorized persons*] of the Act;
 - (b) the area immediately around the wellhead is kept clear of all obstructions, including vegetation, that might interfere with
 - (i) the alteration, repair, maintenance or inspection of the well, or
 - (ii) the alteration, repair, maintenance, replacement, removal or inspection of works.

Drainage away from wellhead – maintenance of wells in well sumps, pump houses or well pits

- 59 The owner of a well that is in a well sump, pump house or well pit must ensure that the well sump, pump house or well pit is maintained in a manner so that any water entering the well sump, pump house or well pit is conveyed away from the wellhead.

Operation of water supply wells and permanent dewatering wells with alternative specifications

- 60 The owner of a water supply well or permanent dewatering well that is drilled in accordance with alternative specifications under section 18 (3) [*siting of water supply wells and permanent dewatering wells*] must ensure that the well is completed, equipped, operated and maintained in accordance with the accepted alternative specifications, including any terms and conditions specified by the engineer.

Conveyance of urban runoff – recharge wells and injection wells

- 61 The owner of a recharge well or injection well constructed for the purpose of conveying urban runoff into the ground must ensure that the recharge well or injection well is completed, equipped, operated and maintained

- (a) in accordance with the design referred to in section 19 (1) [*siting of recharge wells and injection wells*] and the applicable terms and conditions, if any, and
- (b) so that the recharge well or injection well does not cause a significant adverse impact on the quality of water in an aquifer or in another well that diverts water from the aquifer.

Storage near water supply wells

- 62** (1) A person must not leave any foreign matter, store any foreign matter or allow any foreign matter to accumulate within 3 m of the wellhead of a water supply well.
- (2) A person must ensure that any foreign matter that the person leaves, stores or allows to accumulate beyond the 3 m referred to in subsection (1) does not travel to within that 3 m.

Protection of water supply system wells from entry of foreign matter and physical damage

- 63** The owner of a well constructed or altered for the purpose of supplying a water supply system must ensure that the well is completed, equipped and maintained in a manner that
- (a) prevents any foreign matter from entering from the surface of the ground into the well, either directly into the top of the well or through an annular space, and
 - (b) protects the well and wellhead from physical damage due to flood debris, ice or erosion.

Maintenance of surface seal

- 64** (1) The owner of a well that has a surface seal must ensure that
- (a) the integrity of the surface seal is maintained, and
 - (b) in the case of a closed-loop geexchange well, any visible openings in the well are sealed with sealant.
- (2) If a visible annular space appears around the outermost casing of a well, the owner of the well must ensure that the visible annular space is sealed with sealant.

Maintenance of casing and stick-up

- 65** (1) The owner of a well to which section 33 [*casing stick-up*] applies must ensure that the production casing
- (a) is maintained in a manner that ensures that the production casing remains continuous and the casing stick-up extends a minimum of 0.3 m above
 - (i) the surface of the ground adjacent to the well, or
 - (ii) the floor of the well sump, pump house or well pit, and
 - (b) if damaged, is repaired or replaced with production casing that meets the requirements of
 - (i) section 20 [*casings and liners – general requirements*],

- (ii) section 21 [*thermoplastic casings and liners for water supply wells*], if applicable, and
 - (iii) section 34 [*protection of thermoplastic casings*], if applicable.
- (2) The owner of a well must ensure that thermoplastic casing used in the well remains protected from damage and material breakdown.

PART 8 – ARTESIAN FLOW

Additional requirements – stopping or controlling artesian flow

- 66** The person responsible for stopping or controlling artesian flow of a well under section 52 (7) [*controlling artesian flow during construction*] of the Act must, in addition to the requirements of the Act,
- (a) configure the wellhead or equip the well with a device that prevents the flow of water back into the well, and
 - (b) measure the shut-in pressure or static water level and record that measurement on the well construction report required under section 76 [*well construction reports submitted to both comptroller and well owner*] of this regulation.

Report on artesian flow management

- 67** (1) The professional who, in relation to a flowing artesian well, prepares a report for the purposes of section 52 (6) [*controlling artesian flow during construction*] of the Act must
- (a) have competency in the field of hydrogeology or geotechnical engineering,
 - (b) assess the artesian flow conditions of the flowing artesian well, and
 - (c) record the assessment of the artesian flow conditions.
- (2) A report referred to in subsection (1), in relation to a flowing artesian well, must include the information set out in Schedule 1 and be submitted as soon as practicable after the assessment of the artesian flow conditions.

Maintenance of equipment installed to control artesian flow

- 68** The owner of a flowing artesian well must ensure that equipment installed to control the artesian flow
- (a) is maintained in a manner that allows the artesian flow to be controlled and the flow of water back into the well to be prevented,
 - (b) is protected from damage caused by freezing conditions,
 - (c) is not removed from the well except for the purpose of
 - (i) inspecting, repairing or replacing the equipment, or
 - (ii) an activity relating to the well that requires the temporary removal of the equipment, and
 - (d) if removed for a purpose described in paragraph (c), is replaced promptly.

PART 9 – WELL DEACTIVATING AND DECOMMISSIONING

Deactivating or decommissioning wells – general

- 69**
- (1) Subject to subsection (3), for the purposes of section 56 (2) (a) [*decommissioning or deactivating well*] of the Act, the prescribed period for a well to be considered to be not in service is 5 years.
 - (2) Subject to subsection (3), for the purposes of section 56 (4) of the Act, the prescribed period for a deactivated well to be considered to be not in service is 5 years.
 - (3) The prescribed periods set out in subsections (1) and (2) do not apply in the case of a flowing artesian well that is managed in accordance with section 52 (6) [*controlling artesian flow during construction*] or 53 (3) [*controlling flowing artesian well*] of the Act.
 - (4) If a flowing artesian well is managed in accordance with section 52 (6) or 53 (3) of the Act, the requirements of this Part do not apply in respect of the well until it is possible to deactivate or decommission the well in accordance with the recommendations of a professional, as accepted by an engineer.

Requirements for deactivating wells

- 70**
- (1) The person responsible for deactivating a water supply well, an injection well, a dewatering well or a remediation well must take the well pump out of operation by
 - (a) shutting off the power supply to the well pump, or
 - (b) removing or disconnecting the manual pump handle.
 - (2) In the case of a flowing artesian well, the person responsible for deactivating the well must, in addition to complying with subsection (1),
 - (a) prevent any flow of water back into the well,
 - (b) stop any artesian flow through the casing, and
 - (c) prevent any leakage of the artesian flow at the surface of the ground or into another aquifer.
 - (3) The person responsible for deactivating a recharge well must install equipment that prevents water, contaminants and foreign matter from entering the well through the top of the well.
 - (4) The person responsible for deactivating a monitoring well must take out of operation any equipment used for monitoring.
 - (5) The person responsible for deactivating a closed-loop geoexchange well must take out of operation any equipment used for the geoexchange system.

Requirements for decommissioning wells

- 71**
- (1) Subject to section 72, the person responsible for decommissioning a well must
 - (a) if practicable, remove from the well the well pump and all other equipment and instrumentation,

- (b) fill the well throughout its depth with layers of sealant and backfill materials in a manner that precludes any lengthwise movement of liquids
 - (i) within the well,
 - (ii) in any visible annular space between the outer casing and the surrounding geological formation, and
 - (iii) between casings,
 - (c) seal off all known aquifers and known water-bearing zones within an aquifer, as shown in Figure 4 of Schedule 5, to prevent mixing of groundwater from different aquifers or different water-bearing zones within an aquifer,
 - (d) subject to paragraph (e), subsection (5) of this section and section 74 (2), install a closure plug that is at least 1 m in length and, if the depth of the well is insufficient to have a closure plug length of 1 m, the greatest possible length up to 1 m, and
 - (e) if the well is a water supply well, or a well that was used at any time as a water supply well, install a closure plug that, subject to subsection (5), is not less than 5 m in length and, if the depth of the water supply well is insufficient to have a closure plug length of 5 m, the greatest possible length up to 5 m.
- (2) The person responsible for decommissioning a well may leave casings in place.
 - (3) If there is a potential for entry of liquids into a well, the person responsible for decommissioning the well must fill any entry points or openings with sealant.
 - (4) The person responsible for decommissioning a well must ensure that
 - (a) the uncased portion of the well has layers of sealant, as shown in Figure 4 of Schedule 5, that are
 - (i) at least 1 m in length, and
 - (ii) separated by not more than 6 m of backfill materials, and
 - (b) all sealant is placed in the well in a manner that ensures the physical integrity and continuity of the seal.
 - (5) A closure plug may extend to within 0.3 m of the surface of the ground to allow for up to 0.3 m of backfill materials above the closure plug, but the total length of the closure plug must not be less than the length required under subsection (1) (d) or (e), as applicable.
 - (6) If a well that is being decommissioned is a closed-loop geoexchange well, the person responsible for decommissioning the well must remove the circulation fluids from the ground loops in the closed-loop geoexchange system.
 - (7) If a well that is being decommissioned is a flowing artesian well, the person responsible for decommissioning the well must, in addition to complying with this section,
 - (a) stop the artesian flow through the casing, and
 - (b) prevent any leakage of the artesian flow at the surface of the ground or into another aquifer.

Alternative specifications for decommissioning wells

- 72** (1) If the person responsible for decommissioning a well determines, before decommissioning the well, that it is not practicable to comply with section 71 (1) (b), (d) or (e), (4) or (5), the person may decommission the well in accordance with alternative specifications prepared by a professional under subsection (2) of this section.
- (2) A well referred to in subsection (1) may be decommissioned in accordance with alternative specifications in respect of section 71 (1) (b), (d) or (e), (4) or (5) if
- (a) a professional who has competency in the field of hydrogeology or geotechnical engineering prepares alternative specifications for the decommissioning of the well that ensure that isolated groundwater from different aquifers, or from different water-bearing zones within an aquifer, remain isolated,
 - (b) the person responsible for decommissioning the well submits the alternative specifications to an engineer for acceptance by the engineer before the well is decommissioned,
 - (c) the engineer accepts in writing the alternative specifications, with any terms and conditions that the engineer may specify, and
 - (d) the person responsible decommissions the well in accordance with the alternative specifications accepted by the engineer under paragraph (c) and any terms and conditions specified by the engineer.

Decommissioning temporary wells

- 73** The owner of a temporary well must ensure that, within 90 days after drilling is completed, the temporary well is
- (a) decommissioned in accordance with section 71 [*requirements for decommissioning wells*] or 72, as applicable, or
 - (b) made into a permanent well that meets the standards and requirements of the Act and this regulation that apply to a permanent well of the applicable class.

Decommissioning boreholes and test pits

- 74** (1) The owner of a borehole must ensure that, within 30 days after drilling is completed, the borehole is
- (a) decommissioned in accordance with section 71 [*requirements for decommissioning wells*] or 72 [*alternative specifications for decommissioning wells*], as applicable, or
 - (b) made into a temporary or permanent well that meets the standards and requirements of the Act and this regulation that apply to a temporary or permanent well of the applicable class.
- (2) The owner of a test pit must ensure that, within 30 days after excavation is completed, the test pit is decommissioned by backfilling with backfill materials.

PART 10 – WELL REPORTS

Well identification reports by owner of well supplying water supply system

- 75 The owner of a well that supplies a water supply system who attaches a well identification plate in accordance with section 54 [*attachment of well identification plates by owner of well supplying water supply system*] must
- (a) complete a well identification report in the form specified by the comptroller that includes the information set out in Schedule 2, and
 - (b) submit to the comptroller, in the manner specified by the comptroller, a copy of the well identification report within 90 days after attaching the well identification plate.

Well construction reports submitted to both comptroller and well owner

- 76 If a well construction report must be completed under column 4 of the table in Schedule 6 and must be submitted to both the comptroller and the well owner under column 6 of that table in respect of a class of well, the person responsible for drilling or altering a well in that class must do all of the following:
- (a) complete a well construction report, in the form specified by the comptroller, that includes the information set out in Schedule 3;
 - (b) submit a copy of the well construction report, within 90 days after completing the drilling or alteration,
 - (i) to the comptroller in the manner specified by the comptroller, and
 - (ii) to the well owner;
 - (c) retain the well construction report for at least 10 years.

Well construction reports submitted to well owner only

- 77 If a well construction report must be completed under column 4 of the table in Schedule 6 and must be submitted to only the well owner under column 6 of that table in respect of a class of well, the person responsible for drilling or altering a well in that class must do all of the following:
- (a) complete a well construction report, in the form specified by the comptroller, that includes the information set out in Schedule 3;
 - (b) submit a copy of the well construction report, within 90 days after completing the drilling or alteration, to the well owner;
 - (c) retain the well construction report for at least 10 years.

Well decommission reports submitted to both comptroller and well owner

- 78 If a well decommission report must be completed under column 5 of the table in Schedule 6 and must be submitted to both the comptroller and the well owner under column 6 of that table in respect of a class of well, the person responsible for decommissioning a well in that class must do all of the following:
- (a) complete a well decommission report, in the form specified by the comptroller, that includes the information set out in Schedule 4;

- (b) submit a copy of the well decommissioning report, within 90 days after decommissioning the well,
 - (i) to the comptroller in the manner specified by the comptroller, together with the well identification plate, if applicable, and
 - (ii) to the well owner;
- (c) retain the well decommissioning report for at least 10 years.

Well decommissioning reports submitted to well owner only

- 79** If a well decommissioning report must be completed under column 5 of the table in Schedule 6 and must be submitted only to the well owner under column 6 of that table in respect of a class of well, the person responsible for decommissioning a well in that class must do all of the following:
- (a) complete a well decommissioning report, in the form specified by the comptroller, that includes the information set out in Schedule 4;
 - (b) submit a copy of the well decommissioning report, within 90 days after decommissioning the well, to the well owner;
 - (c) retain the well decommissioning report for at least 10 years.

Well decommissioning reports for flowing artesian wells

- 80** If a well that is decommissioned in accordance with section 71 [*requirements for decommissioning wells*] or 72 [*alternative specifications for decommissioning wells*] is a flowing artesian well, or if artesian flow is encountered during the decommissioning of a well, the person responsible for decommissioning the well must complete and submit a well decommissioning report to both the comptroller and the owner of the well in accordance with section 78 [*well decommissioning reports submitted to both comptroller and well owner*].

PART 11 – GENERAL

Retention of records

- 81** (1) For the purposes of section 116 (1) [*records and reporting*] of the Act, the prescribed period during which the owner of a well must keep information and records under this section is
- (a) in the case of information and records described in subsection (2) of this section, until the well is decommissioned, and
 - (b) in the case of information and records described in subsection (3) of this section, until 10 years after the well is decommissioned.
- (2) For the purposes of section 116 (1) (b) of the Act, the owner of a well must keep, for the period set out in subsection (1) (a), the following information and records:
- (a) every well identification report and well construction report required in respect of the well;
 - (b) a report on every flow test conducted in respect of the well;

- (c) if the well is an injection well, every as-built drawing, if any, prepared under section 19 (5) (a) [*siting of recharge wells and injection wells*] of this regulation;
 - (d) if the well is in a well pit, every as-built drawing, if any, prepared under section 36 (5) [*well pit restrictions – water supply wells*] of this regulation.
- (3) The owner of a well must keep, for the period set out in subsection (1) (b), a well decommission report made in respect of the well under section 78 [*well decommission reports submitted to both comptroller and well owner*], 79 [*well decommission reports submitted to well owner only*] or 80, which is prescribed for the purposes of section 116 (1) (b) of the Act.
 - (4) If the owner of a well conveys or disposes of the well owner's interest in the well, the well owner must transfer all information and records referred to in subsection (2) that are in the custody or under control of the well owner to the new owner of the well or other person to whom the interest in the well is conveyed or otherwise disposed.

General offences

- 82**
- (1) A person who does either of the following commits an offence:
 - (a) fails to advise the comptroller of changes to the information included in the register as and when required to do so under section 12 (1) (a) [*notice to comptroller*];
 - (b) fails to advise the comptroller of ceasing to work in Canada as a well driller or well pump installer as and when required to do so under section 12 (1) (b).
 - (2) A person who fails to remove a well pit as and when required to do so under section 36 (2) [*well pit restrictions – water supply wells*] commits an offence.
 - (3) A person who fails to upgrade or replace an existing hand pump as required under section 51 (2) [*hand pumps in water supply wells*] commits an offence.
 - (4) A person who does any of the following commits an offence:
 - (a) fails to protect a well identification plate from physical damage as and when required to do so under section 56 (1) (a) [*protection and replacement of well identification plates*];
 - (b) fails to ensure that a well identification plate remains securely attached to the well and plainly visible as and when required to do so under section 56 (1) (b);
 - (c) fails to report the loss or damage of a well identification plate to the comptroller and request a replacement as and when required to do so under section 56 (1) (c);
 - (d) fails to install a replacement well identification plate as and when required to do so under section 56 (2).
 - (5) A person who does any of the following commits an offence:
 - (a) fails to ensure that the surface of the ground immediately around a wellhead remains sloped to prevent ponding around the wellhead as required under

section 58 (1) (a) [*general operating requirements for well and area around wellhead*];

- (b) fails to ensure that access to the well and wellhead is maintained for inspection purposes as and when required to do so under section 58 (2) (a);
- (c) fails to ensure that the area immediately around a wellhead is kept clear of all obstructions as and when required to do so under section 58 (2) (b).

(6) A person who fails to ensure that any water is conveyed away from a wellhead within a well sump, pump house or well pit as and when required to do so under section 59 [*drainage away from wellhead – maintenance of wells in well sumps, pump houses or well pits*] commits an offence.

(7) A person who does either of the following commits an offence:

- (a) fails to comply with the storage requirements under section 62 (1) [*storage near water supply wells*] by leaving, storing or allowing to accumulate any foreign matter within 3 m of the wellhead of a water supply well;
- (b) fails to prevent any foreign matter that is left, stored or allowed to accumulate more than 3 m from a water supply well from travelling to within 3 m of the wellhead of a water supply well as and when required to do so under section 62 (2).

(8) A person who fails to configure the wellhead or equip a well in a manner that prevents the flow of water back into the well as required under section 66 (a) [*additional requirements – stopping or controlling artesian flow*] commits an offence.

(9) A person who does any of the following commits an offence:

- (a) fails to ensure that any equipment installed to control artesian flow and prevent water from flowing back into a well is maintained as required under section 68 (a) [*maintenance of equipment installed to control artesian flow*];
- (b) fails to protect any equipment installed to control artesian flow and prevent water from flowing back into a well from damage caused by freezing as required under section 68 (b);
- (c) removes any equipment installed to control artesian flow and prevent water from flowing back into a well for purposes other than those permitted under section 68 (c);
- (d) fails to ensure that any equipment installed to control artesian flow and prevent water from flowing back into a well is replaced as and when required under section 68 (d).

(10) A person who fails to complete and submit a well identification report as and when required to do so under section 75 [*well identification reports by owner of well supplying water supply system*] commits an offence.

(11) A person who commits an offence under this section is liable on conviction to the penalties set out in section 106 (6) [*general offences*] of the Act.

PART 12 – TRANSITION

Transition – certification

- 83 The comptroller must not, under section 7 (d) (ii) [*registers of well drillers and well pump installers*], remove any person from the register of well drillers or the register of well pump installers, as the case may be, merely because the person fails to maintain a requirement for registration on or after April 26, 2013, in relation to certification as a Ground Water Drilling Technician or a Ground Water Pump Technician issued by the Canadian Ground Water Association before April 26, 2013.

Transition – well identification report

- 84 For the purposes of section 81 (2) [*retention of records*], a reference to a “well identification report” includes information regarding the identification, if any, of a well that was reported under the former regulation.

Transition – well construction report

- 85 The definition of “well construction report” in section 1 (1) [*definitions and interpretation*] includes a well construction report relating to the construction or alteration of a well that was completed before this regulation came into force, if available.

Transition – well decommission report and well closure report

- 86 The definition of “well decommission report” in section 1 (1) [*definitions and interpretation*] includes a well closure report relating to the decommissioning or closure of a well that was completed under the former regulation.

SCHEDULE 1 – INFORMATION IN ARTESIAN FLOW MANAGEMENT REPORTS

Required information

- 1 A report by a professional in respect of artesian flow management required under section 67 [*report on artesian flow management*] of this regulation must include
- (a) the following information relating to the owner, location and identification of the well:
 - (i) the name and mailing address of the owner of the well;
 - (ii) the property on which the well is located, described by its site address, legal description or parcel identifier number (PID);
 - (iii) either
 - (A) the universal transverse mercator (UTM) zone and the UTM coordinates of the well recorded to the nearest metre, or
 - (B) the latitude and longitude of the well recorded in decimal degrees to at least 5 decimal places, or recorded in degrees, minutes and seconds with the seconds recorded to at least 2 decimal places;

- (iv) if a well identification plate is attached to the well, the well identification number,
- (b) the following information relating to actions taken to mitigate or remediate damage caused by artesian flow:
 - (i) a description of the assessment of artesian flow, including rate of flow, artesian pressure, site conditions and visible impacts;
 - (ii) a description of the construction of the well and the observed state of the artesian flow in respect of the well, including a scaled drawing that shows the construction and the observed state;
 - (iii) in respect of any actions taken to attempt to stop or bring the artesian flow under control, or remediate any damage caused by the artesian flow, a description of the following:
 - (A) any actions taken by the professional or, to the knowledge of the professional, by another person;
 - (B) the timeline for the actions;
 - (C) if known, the name and contact information of another person who took the actions;
 - (D) any observations, or proof, of the actions taken by another person under clause (A);
 - (E) any material, including sealant, added into the flowing artesian well;
 - (F) the reasons for the failure of the attempts to stop or bring the artesian flow under control,
- (c) an evaluation by the professional in respect of the following:
 - (i) a description of the proposed manner of managing the artesian flow, including the following:
 - (A) the exceptional circumstances that make it not practicable to stop or bring the artesian flow under control under section 52 (1) (a) or (b) [*controlling artesian flow during construction*] of the Act;
 - (B) the method by which the flow of water will be prevented from flowing back into the well;
 - (C) if the well will be altered, modified or configured differently, a description of what is proposed and a scaled drawing of the well;
 - (D) the anticipated work plan and timeline for implementation;
 - (E) the estimated reduction of artesian flow;
 - (F) options, if any, for managing the artesian flow other than the proposed manner;
 - (G) any potential threats to property, public safety or the environment that may be posed by the proposed manner;
 - (H) any other potential impacts that may be caused by the proposed manner, including to any public or private lands or activities, to infrastructure, to stream water, to any aquifer, to other water

users or holders of water rights or to wildlife, fisheries, habitats or other ecosystems;

- (I) options, if any, for potential remediation of any adverse impacts that may be caused by the proposed manner, such as those described in clauses (G) and (H);
- (J) the estimated cost of managing the artesian flow in accordance with the proposed manner, including maintenance and monitoring costs that may be anticipated;
- (K) the estimated cost of stopping or bringing the artesian flow under control;
- (ii) any conclusions as to whether the proposed manner of managing the artesian flow
 - (A) would be more suitable than stopping or bringing the artesian flow under control, and
 - (B) would not pose a threat to property, public safety or the environment;
- (iii) the reasons or basis for the conclusions under subparagraph (ii), including the following:
 - (A) an evaluation of the risks and consequences of the proposed manner of managing the artesian flow as compared to other options;
 - (B) an evaluation of the likelihood that the proposed manner of managing the artesian flow will satisfy the requirements of section 52 (6) of the Act, and
- (d) the following information:
 - (i) the name and business contact information of the professional;
 - (ii) a summary of the professional's experience with controlling or managing artesian flow.

Other information requirements

- 2 Section 1 of this Schedule does not limit any other provision of this regulation that may require the inclusion of information in a report in respect of artesian flow management.

SCHEDULE 2 – INFORMATION IN WELL IDENTIFICATION REPORTS

Required information

- 1 A well identification report required under section 75 [*well identification reports by owner of well supplying water supply system*] of this regulation must include
 - (a) the following information relating to the owner and location of the well:
 - (i) the name, mailing address, telephone number and, if available, the email address of the owner of the well that is for the purpose of supplying a water supply system;
 - (ii) the name of the well, if any;

- (iii) the name of the water supply system;
- (iv) the property on which the well is located described by its site address, legal description or parcel identifier number (PID);
- (v) either
 - (A) the universal transverse mercator (UTM) zone and the UTM coordinates of the well recorded to the nearest metre, or
 - (B) the latitude and longitude of the well recorded in decimal degrees to at least 5 decimal places or recorded in degrees, minutes and seconds with the seconds recorded to at least 2 decimal places,
- (b) the following information relating to the well identification plate:
 - (i) the well identification number;
 - (ii) a description of where the well identification plate is attached;
 - (iii) the name of the person attaching the well identification plate;
 - (iv) the date of attachment of the well identification plate, and
- (c) a copy of
 - (i) any available well construction report relating to the well, or
 - (ii) any information on the depth and diameter of the well.

Other information requirements

- 2 Section 1 of this Schedule does not limit any other provision of this regulation requiring the inclusion of information in a well identification report.

SCHEDULE 3 – INFORMATION IN WELL CONSTRUCTION REPORTS

Required information

- 1 A well construction report required under section 76 [*well construction reports submitted to both comptroller and well owner*] or 77 [*well construction reports submitted to well owner only*] of this regulation must include
 - (a) the following information relating to the owner and location of the well:
 - (i) the name and mailing address of the owner of the well;
 - (ii) the property on which the well is located, described by its site address, legal description or parcel identifier number (PID);
 - (iii) either
 - (A) the universal transverse mercator (UTM) zone and the UTM coordinates of the well recorded to the nearest metre, or
 - (B) the latitude and longitude of the well recorded in decimal degrees to at least 5 decimal places or recorded in degrees, minutes and seconds with the seconds recorded to at least 2 decimal places,
 - (b) the following information relating to the type of work, class of well and method of drilling:

- (i) whether the report relates to the drilling of, or an alteration to, the well;
 - (ii) the class and, if applicable, category or subclass of the well;
 - (iii) if the well is a water supply well, the intended use or purpose of the water supply well;
 - (iv) the method of drilling the well,
- (c) the following information relating to geological materials and their water-bearing characteristics:
- (i) a description of the geological materials encountered during drilling or alteration, including the depth at which the materials are encountered and whether they are water-bearing;
 - (ii) if the well is drilled into bedrock, the depth of water-bearing zones, if any, encountered in bedrock and their estimated flow,
- (d) the following information relating to the construction of the well:
- (i) the details of casings used, if any, including surface casing;
 - (ii) if a drive shoe was used;
 - (iii) the diameter of the hole;
 - (iv) the total depth drilled;
 - (v) the finished well depth;
 - (vi) the type and depth of any backfill materials or sealant placed in the well;
 - (vii) the details of the surface seal and the method of its installation, if a surface seal was installed;
 - (viii) the details of the screen assembly and filter pack material, if any;
 - (ix) the details of liner used, if any,
- (e) if the well was developed, the following information relating to the development of the well:
- (i) the method of development;
 - (ii) the duration of development,
- (f) if a well yield test was conducted, the following information relating to the well yield test:
- (i) the method, rate and duration of well yield testing;
 - (ii) the drawdown in water level at the end of well yield testing;
 - (iii) the well yield estimated from the test;
 - (iv) if the well was hydrofractured, any increase in well yield resulting from hydrofracturing,
- (g) the following information relating to the completion of the well:
- (i) if a casing was installed, the final length of the casing stick-up;
 - (ii) the static water level or shut-in pressure level, whichever is applicable;
 - (iii) whether the well was disinfected;

- (iv) the type of well cap used, and if a well cover was also used, the type of well cover used,
- (h) if a well identification plate is required, the following information:
 - (i) the well identification number;
 - (ii) the location where the well identification plate is attached,
- (i) if available, the well tag number,
- (j) the following information relating to the person responsible for drilling or altering the well:
 - (i) the name, address, telephone number and, if applicable, registration number of the person responsible for drilling or altering the well;
 - (ii) the name and, if applicable, registration number of the person who drilled or altered the well, if different from the person referred to in subparagraph (i),
- (k) the starting and completion dates of the work,
 - (l) a copy of alternative specifications relating to the well, if any, made under section 18 (3) [*siting of water supply wells and permanent dewatering wells*] of this regulation, including the engineer's acceptance and the terms and conditions, if any, relating to the alternative specifications,
 - (m) a copy of the documentation referred to in section 19 (2) [*siting of recharge wells and injection wells*] of the regulation, including the design, the engineer's acceptance and the terms and conditions, if any, and
 - (n) a copy of any drilling authorization for the well.

Other information requirements

- 2 Section 1 of this Schedule does not limit any other provision of this regulation requiring the inclusion of information in a well construction report.

SCHEDULE 4 – INFORMATION IN WELL DECOMMISSION REPORTS

Required information

- 1 A well decommission report required under section 78 [*well decommission reports submitted to both comptroller and well owner*], 79 [*well decommission reports submitted to well owner only*] or 80 [*well decommission reports for flowing artesian wells*] of this regulation must include
 - (a) the following information relating to the owner and location of the well:
 - (i) the name and mailing address of the owner of the well;
 - (ii) the property on which the well is located described by its site address, legal description or parcel identifier number (PID);
 - (iii) either
 - (A) the universal transverse mercator (UTM) zone and the UTM coordinates of the well recorded to the nearest metre, or
 - (B) the latitude and longitude of the well recorded in decimal degrees to at least 5 decimal places or recorded in degrees,

minutes and seconds with the seconds recorded to at least 2 decimal places,

- (b) the following information relating to the well:
 - (i) if a well identification plate is attached to the well, the well identification number;
 - (ii) if available, the well tag number;
 - (iii) the class and, if applicable, category or subclass of the well;
 - (iv) the diameter of the hole;
 - (v) the depth of the well;
 - (vi) the method of drilling, if known;
 - (vii) the diameter and material of the casing or liner, if any;
 - (viii) the reason for decommissioning;
 - (ix) the method of decommissioning;
 - (x) the details of decommissioning, including the depths, types and amounts of sealant and backfill materials, and any remaining casing,
- (c) the following information relating to the person responsible for decommissioning the well:
 - (i) the name, address, telephone number and, if applicable, registration number of the person responsible for decommissioning the well;
 - (ii) the name and, if applicable, registration number of the person who decommissioned the well, if different from the person referred to in subparagraph (i),
- (d) the starting and completion dates of the work,
- (e) a copy of alternative specifications relating to the well, if any, made under section 72 [*alternative specifications for decommissioning wells*] of this regulation for the decommissioning of the well, including the engineer's acceptance and the terms and conditions, if any, relating to the specifications, and
- (f) if the well is a water supply well, a drilled recharge well, a drilled injection well or a permanent dewatering well, a copy of any available well construction report relating to the well.

Other information requirements

- 2 Section 1 of this Schedule does not limit any other provision of this regulation requiring the inclusion of information in a well decommission report.

SCHEDULE 5 – FIGURES RELATING TO WELLS

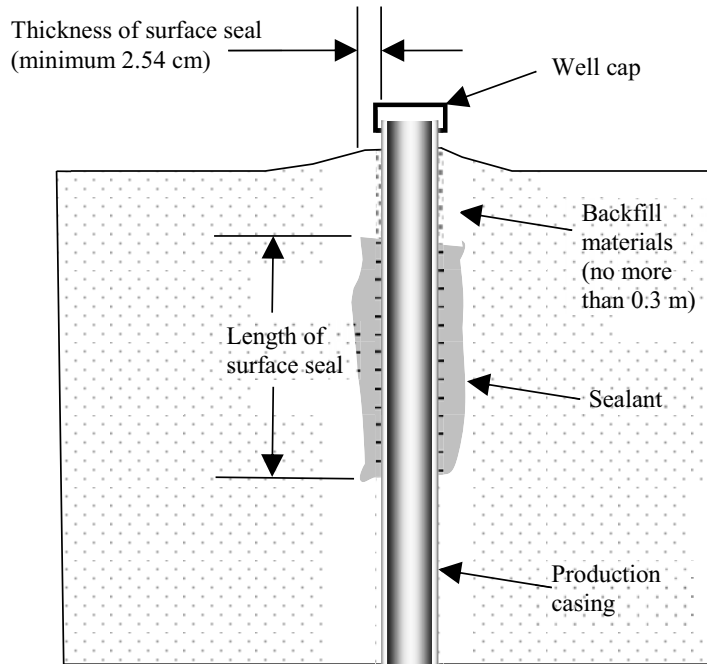


Figure 1: Surface seal in the outermost annular space of the well (surface casing removed).

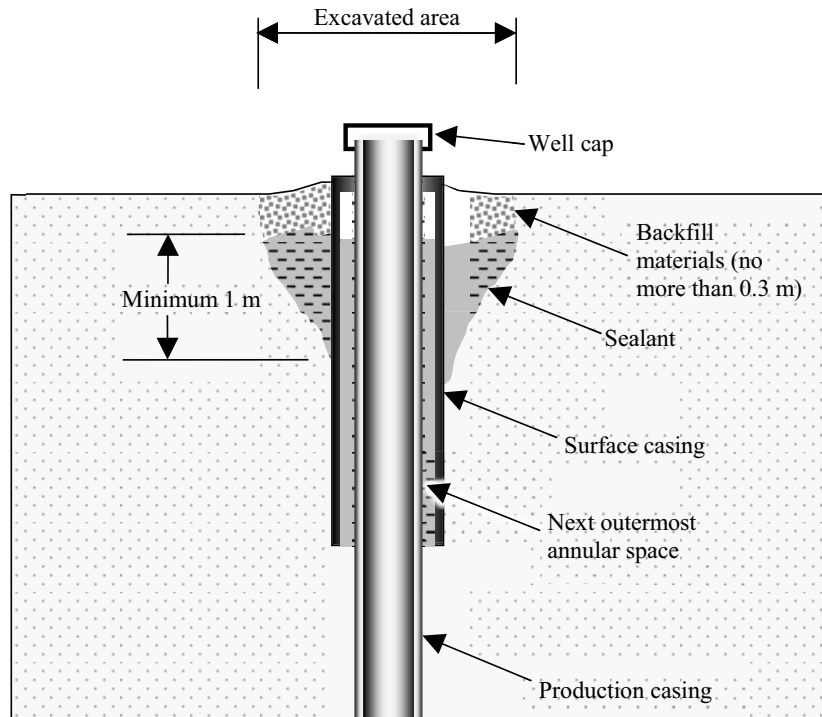


Figure 2: Surface seal in the outermost annular space of the well (where an annular space is created during the installation of the surface casing and the surface casing has not been removed) and in the next outermost annular space.

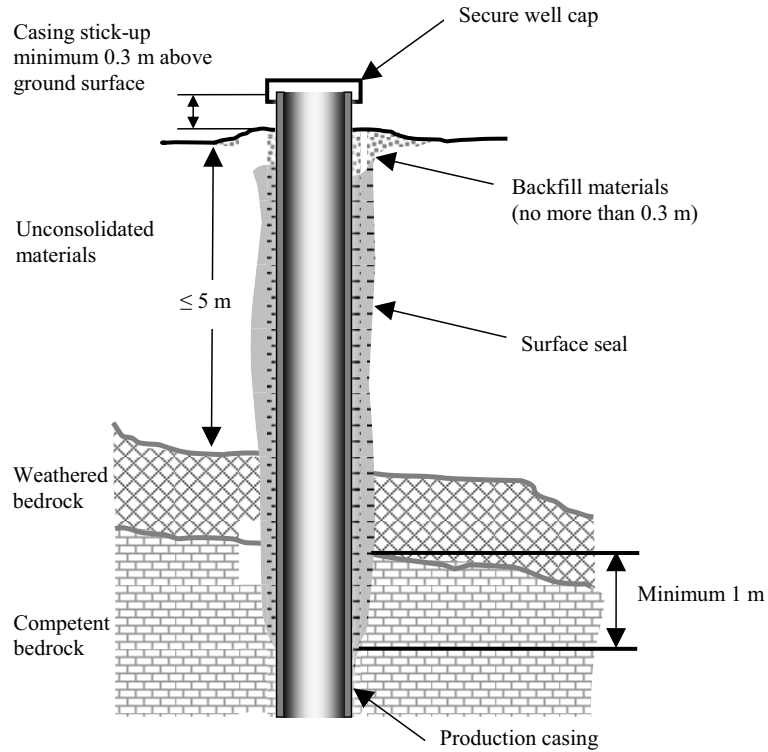


Figure 3: Sealing requirements for bedrock wells.

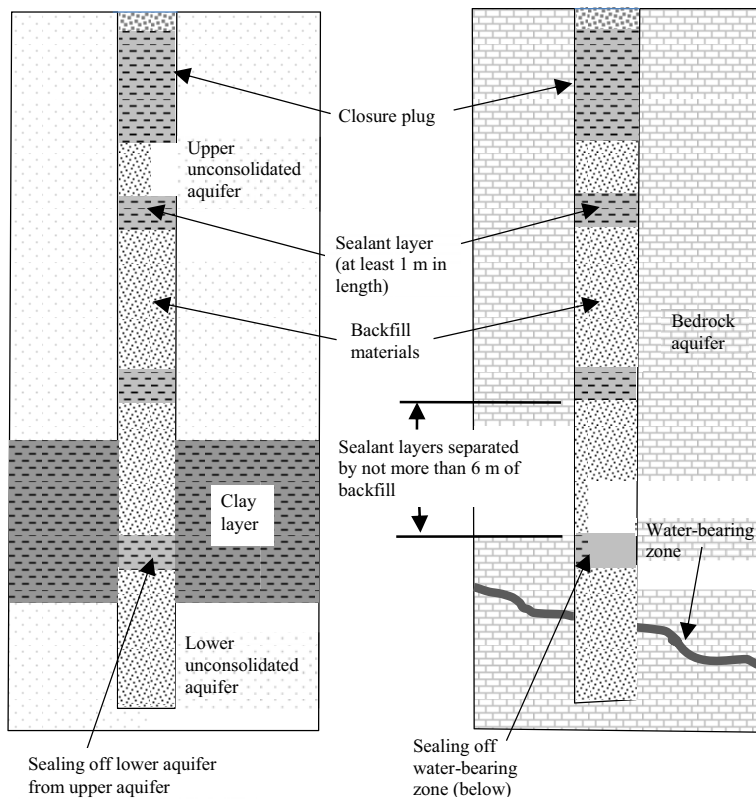


Figure 4: Well decommission with sealants, backfill materials and closure plug.

**SCHEDULE 6 – TABLE RELATING TO
WELL IDENTIFICATION PLATES AND WELL REPORTS**

Column 1 Class of well	Column 2 Category or subclass	Column 3 Well identification plate required?	Column 4 Well construction report required? (Schedule 3)	Column 5 Well decommission report required? (Schedule 4)	Column 6 Person to whom well construction report or well decommission report must be submitted?
Water supply	All water supply wells	Yes*	Yes	Yes	To the comptroller and well owner
Monitoring	Temporary	No	No	No	Not applicable
	Permanent	No	Yes	Yes	To the well owner
Recharge or Injection	Made by drilling or boring	Yes	Yes	Yes	To the comptroller and well owner
	Made by driving, jetting or excavating	No	No	No	Not applicable
Dewatering	Temporary	No	No	No	Not applicable
	Permanent	Yes	Yes	Yes	To the comptroller and well owner
Remediation	Temporary	No	No	No	Not applicable
	Permanent	No	Yes	Yes	To the well owner
Geotechnical	Borehole	No	Yes	Yes	To the well owner
Closed-loop geoechange	All closed-loop geoechange wells	No	Yes	Yes	One well construction report per geoechange system to the comptroller and a report for every well in that system to the well owner
All classes of well	All flowing artesian wells	If required above	Yes	Yes	To the comptroller and well owner

* Well identification reports for water supply system wells under section 75 of the regulation use Schedule 2 and are submitted to the comptroller.