

Ontario Water Resources Act

R.R.O. 1990, REGULATION 903

WELLS

Consolidation Period: From December 6, 2010 to December 31, 2010.

This is the most current consolidation of this law available on e-Laws.

Notice of additional information:

On January 1, 2011, amendments made by O. Reg. 468/10 came into force. Grey shading and editorial notes will be removed in a subsequent consolidation to reflect this.

There may be more recent events that are not included in this notice.

Last amendment: O. Reg. 468/10.

This is the English version of a bilingual regulation.

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DEFINITIONS

1. (1) In this Regulation,

“air vent” means an outlet at the upper end of the casing that allows for equalization of air pressure between the inside of the casing and the atmosphere and for the release of gases from the well; (“évent”)

“annular space” means an open space between a casing or well screen and the side of a well, and includes space between overlapping casings within the well; (“espace annulaire”)

“aquifer” means a water-bearing formation that is capable of transmitting water in sufficient quantities to serve as a source of water supply; (“formation aquifère”)

“assistant well technician” means a person who works at the construction of wells as an employee or agent of the holder of a well contractor licence under the supervision of the holder of a well technician licence;

(“aide-technicien en construction de puits”)

“ASTM” means ASTM International; (“ASTM”)

Note: On January 1, 2011, subsection (1) is amended by adding the following definition:

“authorizing certificate” has the same meaning as in subsection 2 (1) of the Ontario Labour Mobility Act, 2009; (“certificat d’autorisation”)

See: O. Reg. 468/10, ss. 1, 3.

“AWWA” means the American Water Works Association; (“AWWA”)

“bedrock” means,

- (a) the solid rock underlying unconsolidated material such as gravel, sand, silt and clay, or
- (b) solid rock at the ground surface; (“roche-mère”)

“bentonite” means a commercially produced sealing material to be used in well construction or abandonment that,

- (a) consists of more than 50 per cent sodium montmorillonite by weight,
- (b) has the ability to swell in the presence of water,
- (c) does not provide nutrients for bacteria, and
- (d) does not impair the quality of water with which it comes in contact; (“bentonite”)

“casing” means pipe, tubing or other material installed in a well to support its sides, but does not include a well screen; (“tubage”)

“chlorinated” means disinfected with free chlorine residual; (“chloré”)

“dewatering well” means a well that is not used or intended for use as a source of water for agriculture or human consumption and that is made,

- (a) to lower or control the level of ground water in the area of the well, or
- (b) to remove materials that may be in the ground water; (“puits d’exhaure”)

“flowing well” means a well that has a static water level above the ground surface; (“puits jaillissant”)

“mineralized water” means water containing in excess of 6,000 milligrams per litre total dissolved solids or 500 milligrams per litre chlorides or 500 milligrams per litre sulphates; (“eau minéralisée”)

“minor alteration” means, with respect to a well,

- (a) routine repair or maintenance,
- (b) the installation of monitoring, sampling or testing equipment, other than equipment used to test the yield of the well or the aquifer,
- (c) the installation of a pump in a test hole, or
- (d) the installation of a well cap or watertight well cover; (“modification mineure”)

Note: On January 1, 2011, subsection (1) is amended by adding the following definitions:

“occupation” has the same meaning as in subsection 2 (1) of the Ontario Labour Mobility Act, 2009; (“métier ou profession”)

“out-of-province regulatory authority” has the same meaning as in subsection 2 (1) of the Ontario Labour Mobility Act, 2009; (“autorité de réglementation extraprovinciale”)

See: O. Reg. 468/10, ss. 1, 3.

“overburden” means unconsolidated material overlying bedrock; (“couverture”)

“pump” includes associated pumping equipment; (“pompe”)

Note: On January 1, 2011, subsection (1) is amended by adding the following definition:

“regulated occupation” has the same meaning as in subsection 2 (1) of the Ontario Labour Mobility Act, 2009; (“métier ou profession réglementé”)

See: O. Reg. 468/10, ss. 1, 3.

“sealant” means,

- (a) a slurry consisting of clean water and at least 20 per cent bentonite solids by weight, or
- (b) other material that is equivalent to a slurry described in clause (a) with respect to the ability

to form a permanent watertight barrier; (“matériau d’étanchéité”)

“static water level” means the level attained by water at equilibrium in a well when no water is being taken from the well; (“niveau hydrostatique”)

“subsurface formation” includes an aquifer; (“formation souterraine”)

“suitable sealant” means a sealant that is compatible with the quality of the water found in the well; (“matériau d’étanchéité approprié”)

“test hole” means a well that,

- (a) is made to test or to obtain information in respect of ground water or an aquifer, and
- (b) is not used or intended for use as a source of water for agriculture or human consumption;

(“trou d’essai”)

“tremie pipe” means a pipe or tube with an inner diameter that is at least three times the diameter of the largest particle of material to pass through it and that is used to conduct material to the bottom of a hole, including a hole containing standing water; (“tuyau à trémie”)

“well cluster” means a group of wells for which the person constructing the wells may complete one well record under subsection 16.4 (1); (“groupe de puits”)

“well owner” means the owner of land upon which a well is situated and includes a tenant or lessee of the land and a well purchaser; (“propriétaire de puits”)

“well purchaser” means a person who enters into a contract for the construction of a well with a person who is engaged in the business of constructing wells; (“acheteur de puits”)

“well record” means a form supplied by the Ministry for recording information about a well during construction or abandonment of the well; (“registre de puits”)

“well screen” means perforated pipe or tubing, unsealed concrete tiles or other material installed in a well to filter out particulate matter and form the water intake zone. (“filtre de puits”) R.R.O. 1990, Reg. 903, s. 1; O. Reg. 128/03, s. 1; O. Reg. 372/07, s. 1 (1-8).

(2) For the purposes of this Regulation,

(a) a person is a person constructing a well if the person is a well technician or other individual who works at the construction of the well; and

(b) a well purchaser is not a person constructing a well. O. Reg. 372/07, s. 1 (9).

(3) For the purposes of this Regulation, a well’s structural stage is complete on the day on which the well is capable of being used for the purpose for which it was constructed but for,

(a) compliance with section 15;

(b) the installation of a pump; or

(c) any alterations necessary to accommodate pumping, monitoring, sampling, testing or water treatment equipment. O. Reg. 372/07, s. 1 (9).

EXEMPTIONS

1.0.1 Sections 36 to 50 of the Act and this Regulation do not apply to any of the following that is a well:

1. A pond.
2. A reservoir.
3. A lagoon.
4. An artificial wetland.
5. A canal.
6. A trench.
7. A tile drain.
8. A wick drain.
9. A ditch. O. Reg. 372/07, s. 2.

1.0.2 Sections 36 to 50 of the Act and this Regulation do not apply to any of the following activities that are part of the construction of a well:

1. Inspecting the well using equipment that is not left unattended in the well.
2. Monitoring, sampling or testing the well using equipment that,
 - i. is not used to test the yield of the well or the aquifer, and is not left unattended in the well, or
 - ii. is not used to test the yield of the well or the aquifer, and was previously installed in the

well.

3. Installing equipment for monitoring, sampling or testing a test hole or dewatering well,

unless,

- i. the installation of the equipment involves an alteration of the well, other than notching the top of the casing, or
- ii. the equipment is used to test the yield of the well or the aquifer. O. Reg. 372/07, s. 2.

1.0.3 Section 43 of the Act does not apply to the following persons when they do anything referred to in paragraph 5 of subsection 5 (1) for a person who holds a well contractor licence:

1. Persons who hold a licence, limited licence or temporary licence under the Professional Engineers Act.
2. Persons who hold a certificate of registration under the Professional Geoscientists Act, 2000 and who are practising members, temporary members or limited members of the Association of Professional Geoscientists of Ontario.

3. Persons who are registered under subsection 8 (2) of the Ontario Association of Certified Engineering Technicians and Technologists Act, 1998, being chapter Pr7, and who are ordinary members of the Association continued under that Act. O. Reg. 372/07, s. 2.

SHALLOW WORKS

1.1 (1) A test hole or dewatering well that is made to a depth of not more than 3.0 metres below the ground surface is exempt from sections 36 to 50 of the Act and from this Regulation, unless,

- (a) it is constructed in a contaminated area;
- (b) it is constructed in an area with conditions likely to result in flowing wells; or
- (c) it penetrates through a formation that is not an aquifer. O. Reg. 128/03, s. 2.

(2) Despite subsection (1), a person who constructs a test hole or dewatering well described in that subsection shall ensure that,

- (a) the major horizons of soil are excavated separately, stored separately, kept free from contamination and, when the test hole or dewatering well is no longer being used or maintained for future use as a well, backfilled in the same relative positions that they originally occupied; or
- (b) when the test hole or dewatering well is no longer being used or maintained for future use as a well, it is backfilled with commercially produced dry bentonite sealing material or other suitable sealant, or with clean, uncontaminated soil that has a grain size that is the same as or finer than the soil that was originally excavated. O. Reg. 372/07, s. 3 (1).

(3) If it becomes apparent during construction, use or abandonment of a test hole or dewatering well that subsection (1) does not apply, the person who caused it to be constructed shall, unless subsection (4) applies, retain the services of the holder of a well contractor licence. O. Reg. 128/03, s. 2.

- (4) The well owner shall retain the services of the holder of a well contractor licence if,
 - (a) the structural stage of a test hole or dewatering well is complete;
 - (b) the well owner has assumed control over the operation of the test hole or dewatering well;

and

- (c) it becomes apparent during use or abandonment of the test hole or dewatering well that subsection (1) does not apply. O. Reg. 372/07, s. 3 (2).

(5) The holder of a well contractor licence who is retained under subsection (3) or (4) shall ensure compliance with the Act, this Regulation and the Environmental Protection Act. O. Reg. 128/03, s. 2.

(6) Subsections (3) and (4) do not apply if the person who would otherwise be required to retain the services of the holder of a well contractor licence has an employee who is the holder of a well technician licence and who ensures compliance with the Act, this Regulation and the Environmental Protection Act. O. Reg. 128/03, s. 2.

WELL CONTRACTOR LICENCE

2. (1) An application for issuance of a well contractor licence shall be on a form supplied by the Ministry and shall be submitted along with the required fee. O. Reg. 128/03, s. 3.

(2) An application for renewal of a well contractor licence shall be on a form supplied by the Ministry and shall be submitted along with the required fee. O. Reg. 128/03, s. 3.

(3) If the applicant is a corporation or partnership, the application shall be completed and signed by the official representatives referred to in paragraph 1 of section 4. O. Reg. 128/03, s. 3.

3. (1) It is a requirement that an applicant for a well contractor licence or renewal thereof or, where the applicant is a partnership or a corporation, a partner or director thereof, be eighteen years of age or older. R.R.O. 1990, Reg. 903, s. 3 (1).

(2) An applicant for a well contractor licence or renewal thereof shall submit such information and material as the Director may reasonably require to satisfy the Director as to the character, qualifications and financial responsibility of the applicant or its directors and officers. R.R.O. 1990, Reg. 903, s. 3 (2).

(3) Every holder of a well contractor licence shall notify the Director in writing of any change in the information submitted under section 2 or subsection (2) within 10 days after the date of the change. O. Reg. 128/03, s. 4.

4. The following are prescribed as conditions attaching to every well contractor licence:

- 1. If the licensee is a corporation or partnership, it shall ensure that,
 - i. at least one director, officer or partner is designated as the official representative of the licensee at all times, and
 - ii. the official representatives have been assigned the responsibility of ensuring that the Act and this Regulation are complied with.

2. The licensee shall maintain insurance in a form approved by the Superintendent of Financial Services of the Province of Ontario for every well construction business carried on by the licensee, with respect to the liability of the licensee and the licensee's employees and agents arising out of the well construction business,

- i. in an amount not less than \$2,000,000 for property damage arising out of any one incident,

and

- ii. in an amount of not less than \$2,000,000 for the death of or bodily injury to any person not an employee of the licensee, for each such person, but the contract of insurance may,
 - iii. limit the insurer's liability under the contract of insurance arising out of any one incident to \$5,000,000, and
 - iv. provide that the insured shall be responsible for a stated amount, up to \$1,000, for each claim for which coverage is required.
3. The licensee shall not do work or cause any work to be done with respect to the construction of wells except by or under the supervision of,
- i. the licensee, if the licensee is also the holder of a well technician licence acting within the authority granted by his or her well technician licence,
 - ii. a partner of the licensee, if the licensee is a partnership and the partner is the holder of a well technician licence acting within the authority granted by his or her well technician licence,
 - iii. an officer or director of the licensee, if the licensee is a corporation and the officer or director is the holder of a well technician licence acting within the authority granted by his or her well technician licence,
 - iv. an employee or agent of the licensee, if the employee or agent is the holder of a well technician licence acting within the authority granted by his or her well technician licence, or
 - v. if the work only involves things referred to in paragraph 5 of subsection 5 (1), a person referred to in paragraph 1, 2 or 3 of section 1.0.3.
4. REVOKED: O. Reg. 128/03, s. 5 (2).
5. The licensee shall comply and shall ensure that employees and agents comply with the requirements of the Act and this Regulation. R.R.O. 1990, Reg. 903, s. 4; O. Reg. 128/03, s. 5; O. Reg. 372/07, s. 4.

WELL TECHNICIAN LICENCE

5. (1) The following classes of well technician licence are prescribed:
- 1. Well Drilling being a licence authorizing the holder to construct and supervise the construction of wells by means of well drilling equipment including,
 - i. rotary drilling equipment (standard, reverse, air, mud and air percussion),
 - ii. cable tool (churn and percussion), and
 - iii. diamond drilling equipment.
 - 2. Well Digging and Boring being a licence authorizing the holder to construct and supervise the construction of wells by means of digging with non-powered equipment or with a back-hoe or power shovel and by means of boring or augering equipment.
 - 3. Other Well Construction being a licence authorizing the holder to construct and supervise the construction of wells, or a type of well described in the licence, by only the methods or equipment specified in the licence.
 - 4. Pump Installation being a licence authorizing the holder to install and supervise the installation of pumps in or connected to wells.
 - 5. Monitoring, Sampling, Testing and Non-Powered Construction being a licence authorizing the holder to,
 - i. install and supervise the installation of monitoring, sampling or testing equipment in a well, other than equipment used to test the yield of the well or the aquifer,
 - ii. install and supervise the installation of pumps in a test hole or dewatering well for monitoring, sampling or testing purposes,
 - iii. construct and supervise the construction of test holes and dewatering wells by any method that does not use powered equipment. R.R.O. 1990, Reg. 903, s. 5 (1); O. Reg. 128/03, s. 6 (1); O. Reg. 372/07, s. 5 (1, 2).
- (1.1) A licence described in paragraph 1 or 2 of subsection (1),
- (a) does not authorize the holder to do anything referred to in paragraph 4 or subparagraph 5 i or ii of subsection (1); and
 - (b) authorizes the holder to do anything referred to in subparagraph 5 iii of subsection (1). O. Reg. 372/07, s. 5 (3).
- (1.2) A licence described in paragraph 3 of subsection (1) only authorizes the holder to do what is specified in the licence. O. Reg. 372/07, s. 5 (3).

(1.3) A licence described in paragraph 4 of subsection (1) authorizes the holder to do anything referred to in subparagraphs 5 i and ii of subsection (1). O. Reg. 372/07, s. 5 (3).

(2) An application for a well technician licence shall be on a form supplied by the Ministry and shall be submitted along with the required fee. O. Reg. 128/03, s. 6 (2).

(3) An application for renewal of a well technician licence shall be on a form supplied by the Ministry and shall be submitted along with the required fee. O. Reg. 128/03, s. 6 (2).

(4)-(8) REVOKED: O. Reg. 128/03, s. 6 (2).

6. (1) It is a requirement that an applicant for a well technician licence be eighteen years of age or older. R.R.O. 1990, Reg. 903, s. 6 (1).

(2) An applicant for a well technician licence or renewal thereof shall submit such information and material as the Director may reasonably require to be satisfied as to the character, qualifications and ability of the applicant. R.R.O. 1990, Reg. 903, s. 6 (2); O. Reg. 372/07, s. 6 (1).

(3) The following are prescribed as qualifications for an applicant for a class of well technician licence described in paragraph 1, 2, 3 or 4 of subsection 5 (1):

1. Successful completion of a course of study, of at least 30 hours, that is approved by the Director for the class of well technician licence applied for.

2. Four thousand hours of work experience helping at or doing the activity that would be authorized by the licence applied for, or a combination of work experience and other qualifications that the Director considers equivalent. O. Reg. 372/07, s. 6 (2).

(3.1) The following are prescribed as qualifications for an applicant for the class of well technician licence described in paragraph 5 of subsection 5 (1):

1. In the case of an applicant referred to in subsection (3.2),
i. successful completion of a course of study, of at least 15 hours, that is approved by the Director for the class of well technician licence described in paragraph 5 of subsection 5 (1), and
ii. 500 hours of work experience helping at or doing the activity that would be authorized by the licence applied for, or a combination of work experience and other qualifications that the Director considers equivalent.

2. In any other case,
i. successful completion of a course of study, of at least 30 hours, that is approved by the Director for the class of well technician licence described in paragraph 5 of subsection 5 (1), and
ii. 1,000 hours of work experience helping at or doing the activity that would be authorized by the licence applied for, or a combination of work experience and other qualifications that the Director considers equivalent. O. Reg. 372/07, s. 6 (2).

(3.2) Paragraph 1 of subsection (3.1) applies to an applicant who,

(a) is a member of the Association of Professional Engineers of Ontario as an engineer-in-training;

(b) is a member of the Association of Professional Geoscientists of Ontario as a geoscientist-in-training; or

(c) is a member of the Ontario Association of Certified Engineering Technicians and Technologists as a technician or technologist in training. O. Reg. 372/07, s. 6 (2).

(4) Every holder of a well technician licence shall notify the Director in writing of any change in the information submitted under section 5 or subsection (2) within 10 days after the date of the change. O. Reg. 128/03, s. 7 (2).

Note: On January 1, 2011, the Regulation is amended by adding the following section:

6.1 (1) A person who holds an authorizing certificate issued by an out-of-province regulatory authority in respect of an occupation may apply to the Director for the issuance of a well technician licence described in subsection 5 (1) in respect of the same occupation. O. Reg. 468/10, s. 2.

(2) Section 6 does not apply to a person who applies for a well technician licence under this section. O. Reg. 468/10, s. 2.

(3) Subject to subsection (4), the Director shall issue a well technician licence described in subsection 5 (1) to the applicant if,

(a) the applicant complies with the requirements set out in subsection 5 (2);

(b) the applicant provides the Director with a copy of the applicant's authorizing certificate;

(c) the well technician licence is, in the opinion of the Director, in respect of the same occupation as the applicant's authorizing certificate;

- (d) the applicant provides the Director with confirmation in writing from the out-of-province regulatory authority that the applicant's authorizing certificate is in good standing;
- (e) the applicant provides the Director with the following information in writing from the out-of-province regulatory authority:
 - (i) the type of well construction equipment used by the applicant,
 - (ii) the type of wells constructed by the applicant,
 - (iii) the number of wells constructed by the applicant each year in respect of the five-year period preceding the day on which the applicant submits his or her application under subsection (1), and
 - (iv) any complaints, compliance issues and the disposition of any enforcement activities in respect of the applicant; and
- (f) the applicant successfully completes an examination set by the Director under section 8 with respect to the legislation and regulations that govern the practice of the occupation of well technician in Ontario. O. Reg. 468/10, s. 2.

(4) The Director may refuse to issue a well technician licence if,

- (a) the applicant has made a false statement in any material part of the application for the issuance of the licence;
- (b) the applicant is in contravention of any of the conditions or requirements that apply to the applicant's authorizing certificate; or
- (c) the applicant is not competent to carry on or has been grossly negligent in carrying on the activities that are authorized by the applicant's authorizing certificate. O. Reg. 468/10, s. 2.

(5) An applicant for a well technician licence issued under this section or a renewal thereof shall submit such information and material as the Director may reasonably require to be satisfied as to the character, qualifications and ability of the applicant. O. Reg. 468/10, s. 2.

(6) Every holder of a well technician licence issued under this section shall notify the Director in writing of any change in the information submitted under section 5 or subsection (3) or (5) within 10 days after the date of the change. O. Reg. 468/10, s. 2.

See: O. Reg. 468/10, ss. 2, 3.

7. The following are prescribed as conditions attaching to every well technician licence:

0.1 The licensee shall work or supervise work in connection with the construction of a well only if,

- i. the work is done for a person who holds a well contractor licence, or
- ii. the work is done for a ministry of the Crown and the licensee is employed in the ministry.

1. The licensee shall not supervise the operation of more than two pieces of well construction equipment at one time.

2. The licensee shall work or supervise work in connection with the construction of a well only as specifically authorized by the well technician licence he or she holds.

3. The licensee, while doing or supervising work related to the construction of wells, shall carry a copy of his or her licence and shall produce it upon the request of an employee or agent of the Ministry.

4. The licensee shall comply and shall ensure that every person under his or her supervision shall comply with the requirements of the Act and this Regulation.

5. The licensee shall, promptly after receipt of his or her licence, return to the Director any assistant well technician identification card previously issued to the licensee under this Regulation. R.R.O. 1990, Reg. 903, s. 7; O. Reg. 128/03, s. 8; O. Reg. 372/07, s. 7.

EXAMINATION

8. (1) Every applicant for a well contractor licence or a well technician licence shall take an examination set by the Director. R.R.O. 1990, Reg. 903, s. 8 (1).

(1.1) For the purpose of subsection (1), the Director may set different examinations for different classes of applicants and licences. O. Reg. 372/07, s. 8.

(2) If the applicant for a well contractor licence is a corporation or partnership, the examination required under subsection (1) shall be taken by each of the official representatives referred to in paragraph 1 of section 4. O. Reg. 128/03, s. 9.

(3) An application for an appointment to take an examination shall be on a form supplied by the Ministry and shall be accompanied by the required fee. O. Reg. 128/03, s. 9.

(4) REVOKED: O. Reg. 128/03, s. 9.

(5) An applicant who has paid the fee shall be given at least seven days notice of the date, time and place appointed for his or her examination. R.R.O. 1990, Reg. 903, s. 8 (5).

(6) No applicant may try an examination for the same licence more than four times in any period of twelve months. R.R.O. 1990, Reg. 903, s. 8 (6).

(7) For the purposes of subsection (6), an applicant who had an appointment for an examination that he or she did not try shall be deemed to have tried the examination. R.R.O. 1990, Reg. 903, s. 8 (7).

CONTINUING EDUCATION — WELL TECHNICIANS

8.1 (1) If an application is made to renew a well technician licence described in paragraph 1, 2, 3 or 4 of subsection 5 (1), it is a qualification of renewing the licence that the applicant must have successfully completed continuing education courses approved by the Director that consist of a total of at least 21 hours of instruction in the period that ends on the date the application is submitted and began on the later of the following dates:

1. January 1 of the third calendar year preceding the calendar year in which the licence expires.
2. The last day of instruction in a continuing education course that was previously relied on by the applicant for the purpose of this subsection and that ended in the third calendar year preceding the calendar year in which the licence expires. O. Reg. 372/07, s. 9.

(2) If an application is made to renew a well technician licence described in paragraph 5 of subsection 5 (1), it is a qualification of renewing the licence that the applicant must have successfully completed continuing education courses approved by the Director that consist of a total of at least 14 hours of instruction in the period that ends on the date the application is submitted and began on the later of the following dates:

1. January 1 of the third calendar year preceding the calendar year in which the licence expires.
2. The last day of instruction in a continuing education course that was previously relied on by the applicant for the purpose of this subsection and that ended in the third calendar year preceding the calendar year in which the licence expires. O. Reg. 372/07, s. 9.

(3) If a well technician licence is renewed during a calendar year, subsection (1) or (2) does not apply to a further renewal that occurs during the following two calendar years. O. Reg. 372/07, s. 9.

ASSISTANT WELL TECHNICIAN

9. (1) An assistant well technician without an identification card issued under this section is exempt from section 43 of the Act when working at the construction of wells if he or she is supervised by a holder of a well technician licence who is present at the site. O. Reg. 128/03, s. 11.

(2) An assistant well technician to whom an identification card has been issued under this section is exempt from section 43 of the Act when working at the construction of wells on behalf of the licensee named on the card if,

- (a) the expiry date on the card has not yet been reached;
- (b) he or she carries the card with him or her and produces it on the request of an employee or agent of the Ministry; and
- (c) he or she is supervised by the holder of a well technician licence who is available to be called to the site within one hour. O. Reg. 128/03, s. 11.

(3) A holder of a well contractor licence may, not earlier than four months after an assistant well technician begins to work as an employee or agent of the holder of the licence, apply to the Director on a form supplied by the Ministry for an identification card for the technician. O. Reg. 128/03, s. 11.

(4) A holder of a well contractor licence may, when the identification card for the assistant well technician is about to expire, apply to the Director on a form supplied by the Ministry for a new identification card for the technician. O. Reg. 128/03, s. 11.

(5) An identification card issued under this section for an assistant well technician shall bear an expiry date that is not more than 36 months after the date of issue. O. Reg. 128/03, s. 11.

(6) A person for whom an identification card is issued shall return the card to the Director promptly after ceasing to be the employee or agent of the licensed contractor named on the card. O. Reg. 128/03, s. 11.

10. REVOKED: O. Reg. 128/03, s. 12.

11., 11.1 REVOKED: O. Reg. 372/07, s. 10.

LOCATION OF WELLS

12. (0.1) Every person constructing a well shall comply with the requirements set out in this section. O. Reg. 372/07, s. 11 (1).

(1) The site of a new well shall be separated,

(a) from an earth pit privy, privy vault, pail privy, greywater system or cesspool, as defined in Ontario Regulation 350/06 (Building Code) made under the Building Code Act, 1992, by at least the applicable clearance distance set out in Table 8.2.1.5. of that regulation; and

(b) from a treatment unit, distribution pipe or holding tank, as defined in Ontario Regulation 350/06, by at least the applicable clearance distance set out in Table 8.2.1.6.A., 8.2.1.6.B. or 8.2.1.6.C. of that regulation. O. Reg. 372/07, s. 11 (2).

(1.1) The references in subsection (1) to earth pit privies, privy vaults, pail privies, greywater systems, cesspools, treatment units, distribution pipes and holding tanks include references to earth pit privies, privy vaults, pail privies, greywater systems, cesspools, treatment units, distribution pipes and holding tanks that have not been constructed but for which a building permit has been issued. O. Reg. 372/07, s. 11 (2).

(2) The site of a new drilled well that has a casing that extends to a depth of more than six metres below ground level shall be at least 15 metres from a source of contaminants other than one mentioned in subsection (1). O. Reg. 372/07, s. 11 (3).

(3) The site of,

(a) a new drilled well that does not have a casing that extends to a depth of more than six metres below ground level; or

(b) a new well that is not a drilled well,

shall be at least 30 metres from a source of contaminants other than one mentioned in subsection (1). O. Reg. 128/03, s. 15; O. Reg. 372/07, s. 11 (4, 5).

(4) The site of a new well shall be chosen so that the well is accessible for cleaning, treatment, repair, testing, inspection and visual examination at all times before, during and after completion of construction of the well. O. Reg. 128/03, s. 15.

(5) The site of a new well shall be at an elevation higher than the immediately surrounding area. O. Reg. 128/03, s. 15.

(6) Subsections (1) to (5) do not apply to a test hole or dewatering well. O. Reg. 128/03, s. 15.

(7) A new well shall not be constructed with a well pit, and a well pit shall not be added to an existing well, at any location. O. Reg. 372/07, s. 11 (6).

(7.1) Subsection (7) does not apply in respect of a test hole or dewatering well. O. Reg. 372/07, s. 11 (6).

(8) Despite subsection (7),

(a) a new well may be constructed with a well pit if the well is created by diamond drilling equipment in connection with mineral exploration; and

(b) a well pit may be added to an existing well, if the existing well was created by diamond drilling equipment in connection with mineral exploration. O. Reg. 372/07, s. 11 (7).

(9) If a well pit is permitted pursuant to subsection (7.1) or (8), the following requirements apply to the well pit:

1. Section 13 applies as if the well pit were a well.

2. The floor of the well pit shall be covered with a layer of suitable sealant at least 10 centimetres thick that, when set to a solid state, will be capable of supporting the weight of a person.

3. The top of the well pit shall be covered with a solid, watertight cover, sufficient to prevent the entry of surface water and other foreign materials into the well pit.

4. The cover on the well pit shall be fastened in place in a manner that will make it difficult for children to remove the cover.

5. The well pit shall be kept dry by means of a sump pump.

6. Despite paragraph 5, if the water table is substantially lower than the floor of the well pit, the well pit may be kept dry by means of drainage through a one-way valve that passes through the layer of sealant and that is located near the perimeter of the well pit.

7. The top of the casing of the drilled well shall be at least 40 centimetres above the floor of the well pit.

8. The top of the casing of the drilled well shall be sealed with a commercially manufactured sanitary seal and shall be provided with a length of air vent line sufficient to extend above the covering of the well pit. O. Reg. 128/03, s. 15; O. Reg. 372/07, s. 11 (8, 9).

(10) Paragraphs 4 to 8 of subsection (9) do not apply to a test hole or dewatering well described in subsection 13 (11). O. Reg. 372/07, s. 11 (10).

LOG AND FIELD NOTES

12.1 (1) Every person constructing or abandoning a well shall make, and have available for inspection at the well site,

- (a) a log of overburden and bedrock materials; and
- (b) field notes that include an up-to-date record of the construction or abandonment of the well.

O. Reg. 372/07, s. 12.

(2) Despite clause (1) (a), a person is not required to have a log of overburden and bedrock materials if,

- (a) the person is constructing a well by the use of a driven point;
- (b) the person is altering a well without deepening it;
- (c) the person is only installing a pump; or
- (d) the person is abandoning a well. O. Reg. 372/07, s. 12.

COVERING OF WELL

12.2 Whenever a well under construction is left unattended, including during a minor alteration or the installation of a pump, the person constructing the well shall cover the upper open end of the well securely in a manner sufficient to prevent entry into it of surface water and other foreign materials. O. Reg. 372/07, s. 12.

SURFACE DRAINAGE

12.3 The person constructing the well shall ensure that the surface drainage is such that water will not collect or pond in the vicinity of the well. O. Reg. 372/07, s. 12.

WELL DEPTH

12.4 (1) If a new well is constructed by any method, the person constructing the well shall ensure that the well is at least six metres deep, unless the only useful aquifer available necessitates a shallower well, in which case the person constructing the well shall ensure that the well is at least three metres deep. O. Reg. 372/07, s. 12.

- (2) Subsection (1) does not apply to a test hole or dewatering well. O. Reg. 372/07, s. 12.

CASING AND WELL SCREEN

13. (0.1) Every person constructing a new well shall comply with the requirements set out in this section. O. Reg. 372/07, s. 13 (1).

- (1) Casing and well screen shall be new material. O. Reg. 128/03, s. 16; O. Reg. 372/07, s. 13 (2).

(2) Subsection (1) does not apply to a test hole or dewatering well if abandonment of the test hole or dewatering well is scheduled to take place not later than 180 days after completion of the structural stage of the test hole or dewatering well. O. Reg. 128/03, s. 16; O. Reg. 372/07, s. 13 (3).

(3) Casing and well screen shall be clean and free of contamination. O. Reg. 128/03, s. 16; O. Reg. 372/07, s. 13 (4).

(4) Casing and well screen shall not impair the quality of water with which it comes in contact. O. Reg. 128/03, s. 16; O. Reg. 372/07, s. 13 (5).

- (5) Casing shall be watertight. O. Reg. 128/03, s. 16.

- (6) Any seams in casing shall achieve a permanent watertight bond. O. Reg. 128/03, s. 16.

- (7) If concrete casing is used,

- (a) the concrete casing sections shall be fully cured and commercially manufactured;

(b) the concrete casing sections shall be properly aligned in the well so that the joints are flush and the casing is centred; and

(c) the concrete casing sections shall be joined with a mastic sealing material that remains pliable and waterproof and that is approved for potable water use by NSF International. O. Reg. 372/07, s. 13 (6).

(8) A well that obtains water from overburden shall be cased from the water intake zone to at least 40 centimetres above the highest point on the ground surface within three metres radially from the outside of the casing, after the surface drainage conforms with section 12.3, as measured on completion of the well's structural stage. O. Reg. 372/07, s. 13 (6).

(9) A well that obtains water from bedrock shall be cased from the bedrock to at least 40 centimetres above the highest point on the ground surface within three metres radially from the outside of the casing, after the surface drainage conforms with section 12.3, as measured on completion of the well's structural stage. O. Reg. 372/07, s. 13 (6).

(10) Subsections (8) and (9) do not require a cased well to be cased to the height set out in those subsections if,

- (a) the well is made by the use of a jetted point or driven point;

(b) the well is cased, from the highest point on the ground surface within three metres radially from the outside of the casing, after the surface drainage conforms with section 12.3, to,

- (i) the water-producing zone, if the well obtains water from overburden, or
- (ii) the bedrock, if the well obtains water from bedrock;

(c) the top of the casing is above ground at a height sufficient to permit attachment of the well tag; and

(d) a permanent marker identifies the location of the well and is visible at all times of the year. O. Reg. 372/07, s. 13 (6).

(11) Subsections (8) and (9) do not require a cased test hole or cased dewatering well to be cased above the ground surface if,

- (a) the well is located where vehicle or pedestrian traffic is likely to pass directly over the well;
- (b) the well is completed with a flush-mounted watertight commercially manufactured well cover sufficient to prevent entry of surface water and other foreign materials into the well; and
- (c) the well cover is sufficiently strong, durable and well-installed to protect the well from damage, or the well cover is covered with a metal plate that is sufficiently large and sufficiently strong, durable and well-installed to protect the well cover and the well from damage. O. Reg. 372/07, s. 13 (6).

(11.1) A test hole or dewatering well is not required to be cased if,

- (a) abandonment of the test hole or dewatering well is scheduled to take place not later than 30 days after completion of the structural stage of the test hole or dewatering well; and
- (b) the person constructing the well covers the upper open end of the well securely in a manner sufficient to prevent the entry of surface water and other foreign materials whenever the well is left unattended. O. Reg. 372/07, s. 13 (6).

(11.2) A well that is required to be cased shall, despite subsections (8), (9) and (10),

- (a) have at least six metres of casing below the level of the original ground surface, unless clause (b) applies; or
- (b) have at least 2.5 metres of casing below the level of the original ground surface, if a casing that extended to six metres below the level of the original ground surface would not permit the use of the only useful aquifer. O. Reg. 372/07, s. 13 (6).

(11.3) Subsection (11.2) does not apply to a test hole or dewatering well. O. Reg. 372/07, s. 13 (6).

(12) The casing of a drilled well that obtains water from bedrock, other than from the weathered bedrock zone, shall be sealed into the bedrock with suitable sealant to prevent impairment of the quality of the ground water and the water in the well. O. Reg. 372/07, s. 13 (7).

(13) Subsection (12) does not apply to a test hole or dewatering well. O. Reg. 128/03, s. 16.

(14) If a well is constructed with a well pit pursuant to subsection 12 (8),

- (a) subsections (8) and (9) do not require the well to be cased above the ground surface; and
- (b) the well pit shall be cased from the bottom of the well pit to at least 40 centimetres above the highest point on the ground surface within three metres radially from the outside of the well pit casing, after the surface drainage conforms with section 12.3, as measured at the time the well pit is completed. O. Reg. 372/07, s. 13 (8).

(15) REVOKED: O. Reg. 372/07, s. 13 (8).

(16) The following are the minimum specifications for casing:

1. In the case of high yield wells, the casing specifications in Table 2 of AWWA A100-06, as it may be amended from time to time.
2. The outer permanent casing in double walled casing constructions must be steel pipe that conforms to ASTM A252 or ASTM A500.
3. Steel casing with an inside diameter of more than 50.8 millimetres must have a nominal wall thickness of 4.78 millimetres and a minimum wall thickness of 4.18 millimetres and must conform to ASTM A-53 Grade B, ASTM A589 Grade B or ASTM A500 Grade B or C.
4. Steel casing with an inside diameter of 50.8 millimetres or less must have a nominal wall thickness of 2.77 millimetres and a minimum wall thickness of 2.41 millimetres and must conform to ASTM A-53 Grade B, ASTM A589 Grade B or ASTM A500 Grade B or C.
5. Galvanized steel casing that is corrugated and that is used in bored or dug wells must be 18 gauge and must conform to ASTM A-53 Grade B, ASTM A589 Grade B or ASTM A500 Grade B or C.
6. Concrete casing with an inside diameter of 60.96 centimetres or more must have nominal wall thickness of 5.08 centimetres.

7. Plastic casing with an inside diameter of 10.16 centimetres or more must have a minimum wall thickness of 0.635 centimetres and must be ABS or PVC pipe approved for potable water use by the Canadian Standards Association, the Canadian Society for Testing and Materials, ASTM or NSF International.

8. Fibre-reinforced plastic casing must be manufactured from virgin resin and virgin fibres and must be approved for potable water use by NSF International. O. Reg. 128/03, s. 16; O. Reg. 372/07, s. 13 (9, 10).

(17) Subsection (16) does not apply to a test hole or dewatering well. O. Reg. 128/03, s. 16; O. Reg. 372/07, s. 13 (11).

(18) The casing used in a well shall be continuous casing. O. Reg. 128/03, s. 16.

(19) Joints in casing are prohibited, except for joints that,

(a) achieve a permanent, watertight bond, such as welded steel joints; and

(b) are made so that the jointed casing does not impair the quality of water with which it comes in contact. O. Reg. 128/03, s. 16.

(20) The annular space between casings of different diameters shall be sealed with suitable sealant to prevent the entry into the well of surface water and other foreign materials. O. Reg. 128/03, s. 16; O. Reg. 372/07, s. 13 (12).

(21) No person shall ground a lightning rod by attaching it, directly or indirectly, to the casing of a well. O. Reg. 128/03, s. 16.

DEEPENING OF WELLS

13.1 (1) If a well is deepened, section 13 applies, with necessary modifications, as if a new well were being constructed, but continued use of the casing in the existing well is permitted if the casing appears sound. O. Reg. 372/07, s. 14.

(2) No person shall construct a well by penetrating through the bottom of a bored or dug well by means of drilling or by the use of a jetted point or driven point. O. Reg. 372/07, s. 14.

ANNULAR SPACE — SUBSURFACE MOVEMENT

14. If a new well is constructed by any method, the person constructing the well shall ensure that any annular space, other than annular space surrounding a well screen, is sealed to prevent any movement of water, natural gas, contaminants or other material between subsurface formations or between a subsurface formation and the ground surface by means of the annular space. O. Reg. 372/07, s. 15.

ANNULAR SPACE — CONSTRUCTION AND SEALING OF DRIVEN POINT WELLS

14.1 (1) If a new well is constructed by the use of a driven point, the person constructing the well shall comply with section 14 by ensuring that any annular space is filled to the ground surface using a material and a method approved in writing by the Director that, in the opinion of the Director, will ensure that there are no gaps or air spaces in the material placed in the annular space. O. Reg. 372/07, s. 15.

(2) Subsection (1) does not apply to a test hole or dewatering well if abandonment of the test hole or dewatering well is scheduled to take place not later than 180 days after completion of the structural stage of the test hole or dewatering well. O. Reg. 372/07, s. 15.

ANNULAR SPACE — CONSTRUCTION AND SEALING OF BORED WELLS WITH CONCRETE CASING

14.2 (1) If a new well is constructed by boring and concrete casing is used, the person constructing the well shall ensure that the well is constructed with a diameter that,

(a) from the ground surface to a depth of 2.5 metres, is at least 15.2 centimetres greater than the outside diameter of the casing that will be used; and

(b) from a depth of 2.5 metres to a depth of at least the full depth of the well or six metres, whichever is less, is at least 7.6 centimetres greater than the outside diameter of the casing that will be used. O. Reg. 372/07, s. 15.

(2) If a new well is constructed by boring and concrete casing is used in the well, the person constructing the well shall comply with section 14 by ensuring that the following rules are complied with:

1. If a well screen is installed,

i. the annular space shall be filled, from the bottom of the well to at least the top of the well screen with clean, washed gravel or sand that is deposited after placement of the well screen and casing, and

ii. any remaining annular space shall be filled with suitable sealant, upward from the top of the gravel or sand referred to in subparagraph i to the bottom of the bentonite material referred to in paragraph 6.

2. The top of the gravel or sand referred to in subparagraph 1 i shall not be closer than six metres to the ground surface, unless the only useful aquifer available necessitates a shallower well, in which case the top of the gravel or sand shall not be closer than 2.5 metres to the ground surface.

3. If no well screen is installed, the annular space shall be filled with suitable sealant from the bottom of the casing upward to the bottom of the bentonite material referred to in paragraph 6.

4. The sealant referred to in subparagraph 1 ii or paragraph 3 shall be continuously deposited by forcing sealant through a tremie pipe, with the bottom end of the pipe immersed in the rising accumulation of sealant.

5. If the sealant referred to in subparagraph 1 ii or paragraph 3 contains cement,

i. it shall be allowed to set according to the manufacturer's specifications or for 12 hours, whichever is longer, and

ii. if, after setting in accordance with subparagraph i, the sealant has settled or subsided, it shall be topped up to the original level.

6. From the ground surface to a depth of at least 2.5 metres, the annular space shall be filled with bentonite granules, pellets or chips that have been screened in accordance with the manufacturer's specifications and that have a diameter of not more than 20 millimetres and not less than six millimetres. O. Reg. 372/07, s. 15.

(3) Subsections (1) and (2) do not apply to a test hole or dewatering well if abandonment of the test hole or dewatering well is scheduled to take place not later than 180 days after completion of the structural stage of the test hole or dewatering well. O. Reg. 372/07, s. 15.

ANNULAR SPACE — CONSTRUCTION AND SEALING OF DUG WELLS

14.3 (1) If a new well is constructed by digging, the person constructing the well shall comply with section 14 by ensuring that the annular space is filled to the ground surface in accordance with the following rules:

1. The annular space from the bottom of the well to a depth not closer to the ground surface than 2.5 metres shall be filled with,

i. clean, washed gravel or sand, or

ii. native materials that were excavated from the hole, if the well is not constructed in a contaminated area and the major horizons of soil are excavated separately, stored separately, kept free from contamination and backfilled in the same relative positions that they originally occupied.

2. The remainder of the annular space shall be filled with suitable sealant that will provide the appropriate structural strength to support the weight of persons and vehicles that may move over the area after it is filled. O. Reg. 372/07, s. 15.

(2) Subsection (1) does not apply to a test hole or dewatering well if abandonment of the test hole or dewatering well is scheduled to take place not later than 180 days after completion of the structural stage of the test hole or dewatering well. O. Reg. 372/07, s. 15.

ANNULAR SPACE — CONSTRUCTION AND SEALING OF DRILLED AND OTHER WELLS

14.4 (1) If a new well is constructed by any method, other than a method described in section 14.1, 14.2 or 14.3 or by the use of a jetted point, the person constructing the well shall ensure that the well is constructed with a diameter that, from the ground surface to a depth of at least the full depth of the well or six metres, whichever is less, is at least 7.6 centimetres greater than the outside diameter of the casing that will be used. O. Reg. 372/07, s. 15.

(2) If a new well is constructed by any method, other than a method described in section 14.1, 14.2 or 14.3 or by the use of a jetted point, the person constructing the well shall comply with section 14 by ensuring that the following rules are complied with:

1. If a well screen is installed,

i. the annular space shall be filled, from the bottom of the well to at least the top of the well screen with clean, washed gravel or sand that is,

A. deposited during or after placement of the well screen and casing, or

B. developed, after placement of the sealant referred to in subparagraph ii, by surging water through the well screen to remove the adjacent fine grained soils, and

ii. any remaining annular space shall be filled with suitable sealant, upward from the top of the gravel or sand referred to in subparagraph i to the ground surface.

2. If no well screen is installed, the annular space shall be filled with suitable sealant from the bottom of the casing upward to the ground surface.

3. The top of the gravel or sand referred to in paragraph 1 shall not be closer than six metres to the ground surface, unless the only useful aquifer available necessitates a shallower well, in which case the top of the gravel or sand shall not be closer than 2.5 metres to the ground surface.

4. The sealant referred to in paragraphs 1 and 2 shall be continuously deposited by forcing sealant through a tremie pipe, with the bottom end of the pipe immersed in the rising accumulation of sealant.

5. If the sealant referred to in paragraphs 1 and 2 contains cement,

i. it shall be allowed to set according to the manufacturer's specifications or for 12 hours, whichever is longer, and

ii. if, after setting in accordance with subparagraph i, the sealant has settled or subsided, it shall be topped up to the original level. O. Reg. 372/07, s. 15.

(3) Subsection (1) does not apply to a well if,

(a) the well is constructed with a diameter that, from the ground surface to a depth of at least the full depth of the well or six metres, whichever is less, is at least 5.1 centimetres greater than the outside diameter of the casing that will be used;

(b) the suitable sealant used to comply with subsection (2) has a maximum particle size that will not be subject to bridging; and

(c) proper alignment is ensured by,

(i) in the case of a well constructed using a cable tool rig, the use of a breakaway guide for centering the casing that does not impair the quality of the water with which it comes into contact and that is placed two metres above the bottom of the casing, or

(ii) in the case of a well constructed using a rotary rig, the use of centralizers located below a depth of six metres. O. Reg. 372/07, s. 15.

(4) Subsections (1) to (3) do not apply to a test hole or dewatering well if abandonment of the test hole or dewatering well is scheduled to take place not later than 180 days after completion of the structural stage of the test hole or dewatering well. O. Reg. 372/07, s. 15.

ANNULAR SPACE — WELLS WITH A WELL PIT

14.5 (1) If a new well is constructed by any method and the well is constructed with a well pit,

(a) the person constructing the well shall ensure that the well pit is constructed with a diameter that, from the bottom of the well pit to the ground surface, is at least 7.6 centimetres greater than the outside diameter of the well pit; and

(b) the person constructing the well shall ensure that the annular space outside the well casing is filled, from the bottom of the well pit to the ground surface, with suitable sealant that will provide the appropriate structural strength to support the weight of persons and vehicles that may move over the area after it is filled. O. Reg. 372/07, s. 15.

(2) If the sealant referred to in clause (1) (b) contains cement,

(a) it shall be allowed to set according to the manufacturer's specifications or for 12 hours, whichever is longer; and

(b) if, after setting in accordance with clause (a), the sealant has settled or subsided, it shall be topped up to the original level. O. Reg. 372/07, s. 15.

(3) Subsections (1) and (2) do not apply to a test hole or dewatering well if abandonment of the test hole or dewatering well is scheduled to take place not later than 180 days after completion of the structural stage of the test hole or dewatering well. O. Reg. 372/07, s. 15.

ANNULAR SPACE — WELLS WITH DOUBLE WALLED CASING

14.6 Sections 14 to 14.5 do not apply to a well that is constructed with a casing surrounded by a permanent casing of larger diameter (sometimes referred to as a double walled casing), but,

(a) sections 14, 14.2, 14.3, 14.4 and 14.5 apply, with necessary modifications, to the annular space outside the outer casing; and

(b) sections 14.2, 14.3 and 14.4 apply, with necessary modifications, to the annular space between the casings, unless there is no ground water leaking into the annular space between the casings. O. Reg. 372/07, s. 15.

FLOWING WELLS

14.7 (1) If, during construction of a well, the well becomes a flowing well, the person constructing the well,

(a) shall construct the well to accommodate and be compatible with an appropriate device that controls the discharge of water from within the well casing, is capable of stopping the discharge of water from within the well casing, and is capable of withstanding the freezing of water in the well casing;

(b) shall install a device described in clause (a);

(c) shall construct the well and install the device described in clause (a) in a manner that prevents any uncontrolled flow of water from the well or at the well site; and

(d) shall construct the well and install the device described in clause (a) in a manner that prevents backflow of water into the well or well casing. O. Reg. 372/07, s. 15.

(2) Subsection (1) does not apply if the well is abandoned in accordance with section 21.1. O. Reg. 372/07, s. 15.

(3) Every contract for the construction of a well shall be deemed to contain a term that makes the well contractor responsible for,

(a) the cost of complying with subsection (1); and

(b) if subsection (1) does not apply pursuant to subsection (2), the cost of abandoning the well.

O. Reg. 372/07, s. 15.

(4) Subsection (3) does not apply to a written contract that expressly releases the well contractor from the responsibility referred to in that subsection. O. Reg. 372/07, s. 15.

DEVELOPMENT

14.8 (1) Before the structural stage of a new well is completed, the person constructing the well shall do everything reasonably practicable to remove any debris, including well cuttings and drilling fluids, from the well by developing the well until the well water is clear and free of sand. O. Reg. 372/07, s. 15.

(2) Subsection (1) does not apply to a test hole or a dewatering hole. O. Reg. 372/07, s. 15.

WELL YIELD

14.9 (1) Before the structural stage of a well is completed, the person constructing the well shall test the yield of the well in accordance with section 14.10. O. Reg. 372/07, s. 15.

(2) Subsection (1) does not apply to a minor alteration of a well or the installation of a pump. O. Reg. 372/07, s. 15.

(3) Subsection (1) does not apply to a test hole or dewatering well if the person constructing it,

(a) measures the static water level in the well by means of a plastic or metal tape, an air line or an electrical device; and

(b) ensures that any part of the tape, air line or electrical device that comes into contact with water in the well is clean. O. Reg. 372/07, s. 15.

(4) Subsection (1) does not apply to an alteration of a well that involves only,

(a) the removal of the casing above the ground surface so that the casing is flush with the ground surface;

(b) the addition of casing above the ground surface; or

(c) the creation or removal of a well pit. O. Reg. 372/07, s. 15.

14.10 (1) If the yield of water from a well is tested,

(a) the water level in the well shall be measured and recorded on the well record for the well,

(i) immediately before commencement of pumping,

(ii) at one minute intervals or more frequently during the first five minutes of pumping,

(iii) at five minute intervals or more frequently during the next 25 minutes of pumping,

(iv) at 10 minute intervals or more frequently during the next 30 minutes of pumping,

(v) at one minute intervals or more frequently during the first five minutes after pumping stops,

(vi) at five minute intervals or more frequently during the next 25 minutes after pumping stops,

and

(vii) at 10 minute intervals or more frequently during the next 30 minutes after pumping stops;

(b) the water level in the well shall be measured by means of a plastic or metal tape that is clean or an air line or electrical device that is clean;

(c) water shall be pumped from the well at a steady rate, continuously for at least one hour; and

(d) the rate of pumping during the test shall be recorded on the well record. O. Reg. 372/07, s.

15.

(2) Clauses (1) (a) and (b) do not apply if the design of the well does not allow for the water level in the well to be measured during the test of water yield from the well. O. Reg. 372/07, s. 15.

(3) If water cannot be pumped from the well continuously for one hour in accordance with clause (1) (c), no further measurements are required under clause (1) (a) and there shall be recorded on the well record,

- (a) the reason pumping was discontinued;
- (b) the rate of pumping and the length of the pumping period; and
- (c) the water level measurements made. O. Reg. 372/07, s. 15.

WELL TAG

14.11 (1) Before the structural stage of a new cased well is completed, the person constructing the well shall obtain a well tag from the Ministry and shall affix it permanently to the outside of the casing or to a permanent structure associated with the well, at a point where the well tag will be visible and will not be obstructed by the well cap, by other components of the well or by equipment associated with the well. O. Reg. 372/07, s. 15.

(2) If an alteration, other than a minor alteration, is made to a cased well that does not already have a well tag, the person making the alteration shall obtain a well tag from the Ministry and, before the alteration is completed, shall affix the well tag permanently to the outside of the casing or to a permanent structure associated with the well, at a point where the well tag will be visible and will not be obstructed by the well cap, by other components of the well or by equipment associated with the well. O. Reg. 372/07, s. 15.

(3) If an alteration is made to a cased well that already has a well tag, the person making the alteration shall safeguard the well tag during the alteration and, if the well tag is removed, the person making the alteration shall, before the alteration is completed, reaffix the well tag permanently to the outside of the casing or to a permanent structure associated with the well, at a point where the well tag will be visible and will not be obstructed by the well cap, by other components of the well or by equipment associated with the well. O. Reg. 372/07, s. 15.

(4) Despite subsection (3), if an alteration is made to a cased well that already has a well tag and the well tag is broken, defaced, illegible or otherwise unusable, the person making the alteration shall,

- (a) remove the well tag and return it, not later than the date clause (c) is complied with, to the Director;
- (b) obtain a new well tag from the Ministry and, before the alteration is completed, affix the well tag permanently to the outside of the casing or to a permanent structure associated with the well, at a point where the well tag will be visible and will not be obstructed by the well cap, by other components of the well or by equipment associated with the well; and
- (c) within 30 days after the new well tag is affixed to the casing, complete a well record with respect to the replacement of the well tag and forward a copy of the well record to the Director. O. Reg. 372/07, s. 15.

(5) Despite subsections (1) to (4), if one well record is prepared for a cluster of wells in accordance with section 16.4 and a well tag is affixed to the deepest well in the cluster, it is not necessary to affix a well tag to any other well in the cluster. O. Reg. 372/07, s. 15.

DISINFECTION

15. (1) On the day the structural stage of the well is completed, the person constructing the well shall ensure that,

- (a) any remaining debris is removed from the well;
- (b) the water in the well is dosed to a concentration of not less than 50 milligrams per litre and not more than 200 milligrams per litre of free chlorine and left undisturbed for a period of at least 12 hours; and
- (c) the water in the well is not used for human consumption until the steps required by subsections (2) to (7) are taken. O. Reg. 372/07, s. 16.

(2) A person who undertakes construction of a well that is being used or maintained for use for the purpose for which it was constructed or installs pumping equipment in a well shall ensure that as soon as possible after the construction or installation is complete, the water in the well is dosed to a concentration of not less than 50 milligrams per litre and not more than 200 milligrams per litre of free chlorine. O. Reg. 372/07, s. 16.

(3) Subsection (2) does not apply to the replacement of a pump that is installed above or adjacent to a well or in a well pit unless the replacement involves the removal of a well cover or well cap required by subsection 15.2 (6) or (7). O. Reg. 372/07, s. 16.

(4) A person referred to in subsection (2) shall ensure that, at least 12 hours and not more than 24 hours after the water is chlorinated, the well water is tested for free chlorine residual. O. Reg. 372/07, s. 16.

(5) If, according to a test under subsection (4), the concentration of free chlorine residual in the well water is less than 50 milligrams per litre or more than 200 milligrams per litre, the person referred to in subsection (2) shall ensure that the following steps are taken:

1. Water shall be pumped out of the well until the concentration of free chlorine residual in the well water is less than 1 milligram per litre.

2. The water in the well shall be dosed to a concentration of not more than 200 milligrams per litre of free chlorine.

3. At least 12 hours and not more than 24 hours after the water is dosed under paragraph 2, the well water shall be tested for free chlorine residual.

4. If, according to a test under paragraph 3, the concentration of free chlorine residual in the well water is less than 50 milligrams per litre or more than 200 milligrams per litre, the steps referred to in paragraphs 1 to 3 and this paragraph shall be repeated. O. Reg. 372/07, s. 16.

(6) A person who is required to ensure that steps set out in subsection (5) are taken shall ensure that,

(a) subject to paragraph 4 of subsection (5), the steps are taken in the sequence in which they are set out in subsection (5); and

(b) each step is taken as soon as reasonably possible. O. Reg. 372/07, s. 16.

(7) If, according to a test under subsection (4) or paragraph 3 of subsection (5), the concentration of free chlorine residual in the well water is 50 milligrams per litre or more but not more than 200 milligrams per litre, the person who is referred to in subsection (2) shall ensure that water is pumped out of the well until the concentration of free chlorine residual in the well water is less than 1 milligram per litre. O. Reg. 372/07, s. 16.

(8) No person shall, during a period between the chlorination of the water in a well by a person referred to subsection (2) and the testing of the well water for free chlorine residual under this section,

(a) disturb the well; or

(b) use the well for any purpose. O. Reg. 372/07, s. 16.

(9) A person who is responsible for ensuring that well water is tested for free chlorine residual under this section shall ensure that, before the well is used as a source of water for human consumption, the well purchaser is given a written record of the test results. O. Reg. 372/07, s. 16.

(10) Subsections (4) to (9) do not apply to an alteration of a well if all of the following criteria are satisfied:

1. The alteration involves the urgent replacement or repair of a pump that unexpectedly failed.

2. No water supply is immediately available as an alternative to the water from the well.

3. The well purchaser provides the person who undertakes the alteration with written instructions to discontinue the disinfection process after complying with subsection (2). O. Reg. 372/07, s. 16.

(11) If, pursuant to subsection (10), subsections (4) to (9) do not apply to an alteration of a well,

(a) the well purchaser shall ensure that, before the well water is used for any purpose, water is pumped from the well until no odour of chlorine remains in the well water; and

(b) the person who undertakes the alteration shall retain the written instructions referred to in paragraph 3 of subsection (10) for two years. O. Reg. 372/07, s. 16.

(12) This section does not apply if the Director gives written approval to another method of disinfection and the approved method is complied with. O. Reg. 372/07, s. 16.

(13) This section does not apply to a minor alteration of a well. O. Reg. 372/07, s. 16.

(14) This section does not apply to a test hole, dewatering well or flowing well. O. Reg. 372/07, s.

16.

VENTING

15.1 (1) If a new well is constructed by any method, the person constructing the well shall ensure that the well is vented to the outside atmosphere in a manner that will safely disperse all gases. O. Reg. 372/07, s. 16.

(2) Subsection (1) does not apply to,

(a) a test hole; or

(b) a well in which casing is used to transmit water out of the well. O. Reg. 372/07, s. 16.

(3) If a pump is installed in a drilled well, the person constructing the well shall ensure that,

(a) an air vent is installed with a minimum inside diameter of,

(i) 0.3 centimetres, if the inside diameter of the casing is less than 12.7 centimetres, or

(ii) 1.2 centimetres, if the inside diameter of the casing is 12.7 centimetres or more;

(b) the air vent,
(i) is of sufficient length to extend above the covering of the well pit, if a well pit exists, or
(ii) extends above the ground surface a distance sufficient to prevent the entry of flood water from any anticipated flooding in the area but not less than 40 centimetres, if no well pit exists; and
(c) the open end of the air vent is shielded and screened in a manner sufficient to prevent the entry of any materials into the well. O. Reg. 372/07, s. 16.

(4) Subsection (3) does not apply to an uncased test hole or an uncased dewatering well. O. Reg. 372/07, s. 16.

(5) Subsection (3) does not apply to the following wells if there is no potential hazard from natural gas or any other gas:

1. A well with a well pit.
2. A test hole or dewatering well described in subsection 13 (11). O. Reg. 372/07, s. 16.

INSTALLATION OF EQUIPMENT

15.2 (1) Every person constructing a well shall comply with the requirements set out in this section. O. Reg. 372/07, s. 16.

(2) If a connection to the casing of a drilled well is made below the ground surface, a well seal or pitless adapter shall be used and the connection shall be made watertight. O. Reg. 372/07, s. 16.

(3) A cutting torch shall not be used to make an opening in the casing wall to accommodate a pitless adapter. O. Reg. 372/07, s. 16.

(4) If a connection to the casing of a well, other than a drilled well, is made below the ground surface, the connection shall be made watertight with durable bonding material. O. Reg. 372/07, s. 16.

(5) If a connection to the casing of a well is made below the ground surface, any outside excavation shall be filled with suitable sealant extending from the casing a minimum distance outward of 20 centimetres and extending from the bottom of the excavation to within 20 centimetres of the ground surface. O. Reg. 372/07, s. 16.

(6) The top of the casing of a well that is constructed by digging or boring shall be covered with a solid, watertight well cover, sufficient to prevent the entry of surface water and other foreign materials into the well. O. Reg. 372/07, s. 16.

(7) Subject to paragraph 8 of subsection 12 (9), the top of the casing of a well that is not constructed by digging or boring shall be sealed with a commercially manufactured vermin-proof well cap. O. Reg. 372/07, s. 16.

(8) Subsections (6) and (7) do not apply if all of the following criteria are satisfied:

1. A floor has been constructed around or adjacent to the casing of the well.
2. A pump is installed above or adjacent to the well.
3. The top of the casing is shielded in a manner sufficient to prevent entry of any material that may impair the quality of the water in the well.
4. The casing of the well is extended to at least 15 centimetres above the floor referred to in paragraph 1. O. Reg. 372/07, s. 16.

15.3 A person who installs equipment in a well shall ensure that the equipment is clean. O. Reg. 372/07, s. 16.

INFORMATION

16. (1) Where a well is constructed and mineralized water is encountered, the person constructing the well shall immediately notify the well purchaser and the owner of the land on which the well is situated that the condition exists. O. Reg. 372/07, s. 17.

(2) Subsection (1) does not apply to a test hole or dewatering well. O. Reg. 372/07, s. 17.

(3) Where a well is constructed and natural gas is encountered, the person constructing the well shall immediately notify the well purchaser, the owner of the land on which the well is situated and the Director that the condition exists. O. Reg. 372/07, s. 17.

16.1 (1) On the day the structural stage of a well is completed, the person constructing the well shall, unless the well purchaser otherwise directs,

(a) deliver to the well purchaser a copy of an information package about wells obtained from the Ministry;

(b) provide the well purchaser with a water sample from the well of at least one litre for visual examination; and

(c) measure the depth of the well in the presence of the well purchaser. O. Reg. 372/07, s. 17.

(2) Subsection (1) does not apply to a test hole or dewatering well. O. Reg. 372/07, s. 17.

(3) Subsection (1) does not apply to a minor alteration of a well. O. Reg. 372/07, s. 17.

16.2 (1) On the day a pump is replaced in an existing well, the person constructing the well shall, unless the well purchaser otherwise directs, deliver to the well purchaser a copy of an information package about wells obtained from the Ministry. O. Reg. 372/07, s. 17.

(2) Subsection (1) does not apply to a test hole or dewatering well. O. Reg. 372/07, s. 17.

RECORDS — SINGLE WELL RECORD

16.3 (1) On completion of a well's structural stage, the person constructing the well shall,

- (a) complete, in accordance with the instructions on the form, a well record for the well;
- (b) deliver a copy of the well record to the well purchaser and the owner of the land on which the well is situated within 14 days after the date on which the well's structural stage is complete;
- (c) forward a copy of the well record to the Director within 30 days after the date on which the well's structural stage is complete; and
- (d) retain a copy of the well record for two years. O. Reg. 372/07, s. 17.

(2) Subsection (1) does not apply to a minor alteration of a well or the installation of a pump. O. Reg. 372/07, s. 17.

(3) Subsection (1) does not apply in respect of a test hole or dewatering well that is abandoned within 30 days after the date on which its structural stage is complete. O. Reg. 372/07, s. 17.

RECORDS — WELL CLUSTERS

16.4 (1) Despite clause 16.3 (1) (a), a person constructing wells may complete one well record for a group of wells instead of a separate well record for each individual well if all the following circumstances exist:

1. Every well in the group is a test hole or dewatering well.
2. Every well in the group is located,
 - i. on the same property as another well in the group,
 - ii. on a property that is adjacent to a property on which another well in the group is located, or that would be adjacent but for a road between the two properties, or
 - iii. on a property that has only one or two intervening properties between it and a property on which another well in the group is located.
3. The structural stage of every well in the group is complete or, if the wells are being constructed in phases, the structural stage of every well in the relevant phase of construction is complete.
4. Each owner of land on which a well in the group is situated has given written consent to the use of a single well record for the group and the well record states that all the required consents have been given. O. Reg. 372/07, s. 17.

(2) For the purpose of subparagraph 2 iii of subsection (1), the following rules apply to the determination of the number of intervening properties between two properties on which wells are located:

1. The number of intervening properties shall be determined along a straight line joining the two wells.
2. If the straight line mentioned in paragraph 1 crosses a road, the road shall not be counted as an intervening property, unless one or both of the two wells is located on or inside the boundaries of the road.
3. If part of the straight line mentioned in paragraph 1 is on or within the boundaries of a road, the number of intervening properties shall be determined with reference to the properties adjacent to that portion of the road, on the side of the road that has fewer properties. O. Reg. 372/07, s. 17.

(3) A person constructing wells who completes one well record for a well cluster under subsection (1) shall,

- (a) indicate in the well record, in a convenient, concise and comprehensive manner, which of the wells share common features, such as diameter, construction technique, casing, venting, pumps and method of abandonment;
- (b) include in the well record a statement that the person constructing the well will promptly submit to the Director, on request, any additional information in the person's custody or control related to any well in the well cluster that the person has constructed;
- (c) despite clause 16.3 (1) (b), deliver to the well purchaser and each owner of land on which a well in the well cluster is situated a copy of the well record for the well cluster within 60 days after the commencement of construction of the first well or, if the wells are being constructed in phases, within 60 days after the commencement of construction of the first well in the relevant phase of construction; and

(d) despite clause 16.3 (1) (c), forward a copy of the well record for the well cluster to the Director within 75 days after the commencement of construction of the first well or, if the wells are being constructed in phases, within 75 days after the commencement of construction of the first well in the relevant phase of construction. O. Reg. 372/07, s. 17.

(4) If one well record is completed for a well cluster under subsection (1) and an alteration, other than a minor alteration, is made to a well in the well cluster,

(a) this section ceases to apply to that well; and

(b) the person making the alteration shall obtain and affix a well tag in accordance with subsection 14.11 (2) and comply with section 16.3. O. Reg. 372/07, s. 17.

(5) A person constructing a well who completes a new well record under subsection (4) shall,

(a) despite clause 16.3 (1) (b), deliver to the well purchaser and each owner of the land on which the well in the well cluster is affected by the subsequent construction a copy of the well record within 60 days after the commencement of the subsequent construction or, if the subsequent construction is done in phases, within 60 days after the commencement of the relevant phase of the subsequent construction; and

(b) despite clause 16.3 (1) (c), forward a copy of the well record to the Director within 75 days after the commencement of the subsequent construction or, if the subsequent construction is done in phases, within 75 days after the commencement of the relevant phase of the subsequent construction. O. Reg. 372/07, s. 17.

RECORDS — WELL ABANDONMENT

16.5 (1) On completion of the abandonment of a well, the person abandoning the well shall,

(a) complete, in accordance with the instructions on the form, a well record for the well;

(b) deliver a copy of the well record to the owner of the land on which the well is situated,

(i) within 14 days after the date on which the well construction equipment is removed from the site, or

(ii) in the case of a well cluster, within 60 days after the date on which the first well in the well cluster is abandoned; and

(c) forward a copy of the well record, and any well tag that was removed from the well, to the Director,

(i) within 30 days after the date on which the well construction equipment is removed from the site, or

(ii) in the case of a well cluster, within 75 days after the date on which the first well in the well cluster is abandoned. O. Reg. 372/07, s. 17.

(2) Subsection (1) does not apply in respect of a test hole or dewatering well that is abandoned within 30 days after the date on which its structural stage is complete. O. Reg. 372/07, s. 17.

17.-19. REVOKED: O. Reg. 372/07, s. 18.

WELL MAINTENANCE

20. (1) The well owner shall maintain the well at all times after the completion of the well's structural stage in a manner sufficient to prevent the entry into the well of surface water and other foreign materials. O. Reg. 372/07, s. 19.

(2) If the casing of a well extends above the ground surface, no person shall,

(a) reduce the height of the casing, if the casing of the well extends to a height of less than 40 centimetres above the ground surface; or

(b) reduce the height of the casing to a height of less than 40 centimetres above the ground surface, if the casing extends to a height of 40 centimetres or more above the ground surface. O. Reg. 372/07, s. 19.

(3) Subsection (2) does not apply to a well described in subsection 13 (10) or a test hole or dewatering well described in subsection 13 (11). O. Reg. 372/07, s. 19.

ABANDONMENT

21. (1) A person constructing a new well that is discontinued before completion of the well's structural stage shall immediately abandon the well. O. Reg. 372/07, s. 20.

(2) The well purchaser of a new well that is dry shall immediately abandon the well unless the owner of the land on which the well is situated agrees in writing to maintain the well for future use as a well. O. Reg. 372/07, s. 20.

(3) The well owner shall immediately abandon the well if it is not being used or maintained for future use as a well. O. Reg. 372/07, s. 20.

(4) If a well produces mineralized water, the well owner shall immediately abandon the well. O. Reg. 372/07, s. 20.

(5) If a well produces water that is not potable, the well owner shall immediately abandon the well unless the well owner seeks the advice of and takes such measures directed by the local medical officer of health. O. Reg. 372/07, s. 20.

(6) If a well contains natural gas or other gas, the well owner shall immediately abandon the well unless measures are taken to manage the gas in a way that prevents any potential hazard. O. Reg. 372/07, s. 20.

(7) If a well permits any movement of natural gas, contaminants or other materials between subsurface formations, or between a subsurface formation and the ground surface, and the movement may impair the quality of any waters, the well owner shall immediately abandon the well unless measures are taken that prevent the movement at all times. O. Reg. 372/07, s. 20.

(8) If a well is constructed in contravention of any provision of this Regulation dealing with the location of wells, the methods and materials used in the construction of wells or the standards of well construction, the well owner shall immediately take steps to rectify the situation, but if those steps fail, the owner shall immediately abandon the well. O. Reg. 372/07, s. 20.

(9) The well owner shall ensure that measures taken pursuant to subsections (5) to (7) are functional at all times. O. Reg. 372/07, s. 20.

(10) Subsections (4) to (8) do not apply if the well owner has the written consent of the Director. O. Reg. 372/07, s. 20.

(11) Subsections (4) and (5) do not apply to a test hole or dewatering well. O. Reg. 372/07, s. 20.

(12) Subsections (4) and (5) do not apply to a well that,

(a) is used or intended for use as a source of water for agriculture; and

(b) is not used as a source of water for human consumption. O. Reg. 372/07, s. 20.

(13) The person abandoning the well shall retain the services of the holder of a well contractor licence, and shall ensure that the contract between them requires a well technician licensed to construct the type of well that is being abandoned to be used to abandon the well, unless,

(a) the person who works on the abandonment of the well is the owner of the land or is a member of the owner's household;

(b) the person who works on the abandonment of the well is working without remuneration for another person on land owned by the other person or by a member of the other person's household;

(c) the person who works on the abandonment of the well holds a licence referred to in paragraph 1 of subsection 5 (1); or

(d) the well is a test hole or dewatering well, the well is abandoned by a method that does not use powered equipment, and the person who works on the abandonment of the well is,

(i) a person who holds a licence referred to in paragraph 5 of subsection 5 (1), or

(ii) a person referred to in paragraph 1, 2 or 3 of section 1.0.3. O. Reg. 372/07, s. 20.

21.1 (1) If a well is abandoned, the person abandoning the well shall ensure that the following steps are taken and, unless otherwise specified, they shall be taken in the sequence in which they are set out in this subsection:

1. If the well already has a well tag, the well tag shall be removed and returned to the Director within 30 days after its removal.

2. If the well casing or well screen has collapsed, reasonable efforts shall be made to remove it, and all other equipment and debris in the well shall be removed.

3. The well, including any annular space, shall be plugged by,

i. in the case of any well, placing a continuous column of an abandonment barrier from the bottom of the well upward to approximately two metres below the ground surface so that it prevents any movement of water, natural gas, contaminants or other material between subsurface formations or between a subsurface formation and the top of the abandonment barrier, or

ii. in the case of a well that is greater than 65.0 centimetres in diameter, placing a continuous column of an abandonment barrier by taking the steps described in subsection (5) until the materials placed in the well under that subsection reach to approximately two metres below the ground surface.

4. If a well casing or well screen was not removed under paragraph 2, it shall be removed, where reasonably possible, during the taking of the steps required by paragraph 3, with the bottom of the casing immersed in the rising accumulation of the abandonment barrier until the required level has been reached.

5. If a well casing or well screen was not removed under paragraph 2 or 4, it shall be removed, where reasonably possible, to a minimum depth of two metres below the ground surface.

6. If an abandonment barrier placed under paragraph 3 contains cement, it shall be allowed to set until firm and, if necessary, it shall be topped up to approximately two metres below the ground surface.

7. Unless to do so may cause remaining structures to be destabilized, damaged or unsafe, below ground concrete structures, foundations and slabs shall be removed, at any time before the steps required by paragraph 8 are taken, at least to a depth adequate to accommodate the sealing measures described in paragraph 8.

8. The well shall be sealed at the ground surface by,

i. placing between 50 and 150 centimetres in vertical thickness of bentonite chips, pellets, granules or powder in the well opening in accordance with the manufacturer's specifications, and

ii. fill the remaining well opening to the ground surface with soil cover, or other material that is more in keeping with the surface material immediately adjacent to the well opening, to prevent inadvertent or unauthorized access.

9. The disturbed area shall be stabilized to prevent erosion. O. Reg. 372/07, s. 20.

(2) Paragraphs 2, 4 and 5 of subsection (1) do not apply to a person who abandons a well by overdrilling the entire well. O. Reg. 372/07, s. 20.

(3) The following rules apply for the purpose of subparagraphs 3 i and ii of subsection (1):

1. The abandonment barrier must be compatible with the quality of the water found in the well.

2. The abandonment barrier must not contain any materials that may impair the integrity of the abandonment barrier, including soil or drill cuttings.

3. If the well is in contact with contaminants, the abandonment barrier must be stable in the presence of the contaminants.

4. If the well is less than or equal to 6.5 centimetres in diameter and the well casing and well screen have been removed under paragraph 2 of subsection (1) or are being removed under paragraph 4 or 5 of subsection (1), the abandonment barrier must be,

i. a slurry consisting of clean water, Portland cement and not more than 5 per cent bentonite solids by weight, or

ii. a slurry consisting of clean water and at least 20 per cent bentonite solids by weight, and the abandonment barrier must be placed using a tremie pipe, with the bottom of the tremie pipe immersed in the rising accumulation of the abandonment barrier until the required level has been reached.

5. Paragraph 4 also applies, with necessary modifications, to an uncased well that is less than or equal to 6.5 centimetres in diameter.

6. If the well is less than or equal to 6.5 centimetres in diameter and the well casing and well screen have not been removed under paragraph 2 of subsection (1) and are not being removed under paragraph 4 or 5 of subsection (1), the abandonment barrier must be,

i. a slurry consisting of clean water, Portland cement and not more than 5 per cent bentonite solids by weight, or

ii. bentonite chips or pellets that have been screened and placed in accordance with the manufacturer's specifications.

7. If the well is more than 6.5 centimetres in diameter, the abandonment barrier must be,

i. a slurry consisting of clean water and at least 20 per cent bentonite solids by weight,

ii. a slurry consisting of clean water, Portland cement and not more than 5 per cent bentonite,

iii. a slurry consisting of clean water and Portland cement,

iv. a slurry consisting of clean water, Portland cement and clean sand,

v. a slurry consisting of equal weights of Portland cement and clean gravel, mixed with clean water,

vi. a slurry (sometimes called a concrete slurry) consisting of clean water, Portland cement, clean sand and clean gravel,

vii. bentonite chips or pellets that have been screened and placed in accordance with the manufacturer's specifications, or

viii. other material approved in writing by the Director, if the Director is of the opinion that the performance of the other material is the equivalent of the performance of a slurry referred to in subparagraphs i to vi.

8. A wet abandonment barrier for a well that is more than 6.5 centimetres in diameter shall be placed using a tremie pipe, with the bottom of the tremie pipe immersed in the rising accumulation of the abandonment barrier until the required level has been reached. O. Reg. 372/07, s. 20.

(4) Subparagraph 3 i of subsection (1) and subsection (3) do not prevent the placing of clean, washed sand or gravel in the well bore, adjacent to water producing zones or fractures, to minimize the loss of sealant material. O. Reg. 372/07, s. 20.

(5) The steps referred to in subparagraph 3 ii of subsection (1) with respect to a well that is greater than 65.0 centimetres in diameter, which shall be taken in the sequence in which they are set out in this subsection, are the following:

1. Clean sand or pea gravel shall be placed from the bottom of the well to the top of the deepest water producing zone or the top of the well screen, whichever is deeper.

2. At least 0.1 metre of bentonite chips or pellets shall be placed over the sand or pea gravel.

3. If the water level can be drawn down to the top of the bentonite chips or pellets,

i. the water level shall be drawn down to the top of the bentonite chips or pellets,

ii. at least 0.3 metres of a bentonite slurry that consists of clean water and at least 20 per cent bentonite solids and that is compatible with the quality of the water found in the well shall be placed over the bentonite chips or pellets, and

iii. clean gravel, sand, silt or clay shall be dropped over the bentonite slurry to fill the remainder of the well, while maintaining at least 0.3 metres of the bentonite slurry above the rising accumulation of gravel, sand, silt or clay.

4. If the water level cannot be drawn down to the top of the bentonite chips or pellets, the remainder of the well shall be filled to approximately two metres below the ground surface with an abandonment barrier, which may be interspersed with clean sand or pea gravel placed in each water producing zone of the well. O. Reg. 372/07, s. 20.

(6) If the well is greater than 65.0 centimetres in diameter, the person abandoning the well shall ensure that sealing materials are selected and placed for the purpose of paragraphs 3 and 8 of subsection (1) so that they will provide the appropriate structural strength to support the weight of persons and vehicles that may move over the area after it is filled. O. Reg. 372/07, s. 20.

(7) If the well is a flowing well, commercially manufactured drilling mud that does not impair the quality of the water with which it comes in contact may be used, in taking the steps required by subsection (1), to assist with drilling or placement of an abandonment barrier, but the drilling mud may not be used as an abandonment barrier. O. Reg. 372/07, s. 20.

(8) Paragraphs 2 to 9 of subsection (1) and subsections (3) to (7) do not apply to a person who abandons a well by excavation of the entire well in the course of work carried out for another purpose. O. Reg. 372/07, s. 20.

(9) This section also applies, with necessary modifications, to a well pit and, for that purpose, a reference in subsections (1) to (8) to a well shall be deemed to be a reference to a well pit. O. Reg. 372/07, s. 20.

PROTECTION OF WELL TAG

22. (1) No person shall use a well tag obtained from the Ministry, except in accordance with this Regulation. O. Reg. 128/03, s. 24.

(2) No person shall remove a well tag affixed in accordance with this Regulation, except,

(a) in accordance with subsection 14.11 (3) or (4) or paragraph 1 of subsection 21.1 (1); or

(b) with the written consent of the Director. O. Reg. 128/03, s. 24; O. Reg. 372/07, s. 21.

(3) No person shall deface, alter, conceal or obstruct a well tag affixed in accordance with this Regulation. O. Reg. 128/03, s. 24.

FORMS 1-9 REVOKED: O. Reg. 128/03, s. 25.