

## Draft Regulations

### Draft Regulation

Environment Quality Act  
(R.S.Q., c. Q-2)

### Groundwater catchment

Notice is hereby given, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1), and section 124 of the Environment Quality Act, that the Regulation respecting groundwater catchment, the text of which appears below, may be made by the Gouvernement du Québec upon the expiry of 60 days following this publication.

The draft Regulation replaces the Regulation respecting underground waters made in 1967. Its purpose is to promote the protection of groundwater drawn for human consumption purposes and to govern the use of that resource.

To that end, it sets forth standards for the construction of groundwater catchment works. It specifies the standard distances that must be complied with in respect of septic installations for isolated dwellings. It also provides for mandatory analyses of water during the installation of a new catchment work. It specifies the catchment projects that are subject to an authorization of the Minister of the Environment, and the information and documents to be supplied. It makes the determination of the protection perimeters of the supply area mandatory for certain groundwater catchment works. It amends certain sections of the Regulation respecting the reduction of pollution from agricultural sources, made by Order in Council 742-97 dated 4 June 1997, so that those protection perimeters be taken into account. Finally, it amends the Regulation respecting waste water disposal systems for isolated dwellings (R.R.Q., 1981, c. Q-2, r.8) to ensure that it is consistent with the proposed regulation.

Further information may be obtained by contacting

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Any interested person having comments to make on the draft Regulation respecting groundwater catchment is asked to send them in writing, before the expiry of the 60-day period, to the Minister of the Environment, at the above address.

ANDRÉ BOISCLAIR,  
*Minister of the Environment*

### Regulation respecting groundwater catchment

Environment Quality Act  
(R.S.Q., c. Q-2, s. 31, pars. *c, e, g, h.1, h.2* and *m*, s. 46, 1st. par, subpars. *a, b, d, p, q, r* and *s*, ss. 86, and 124.1)

#### CHAPTER I PURPOSE

1. The purpose of this Regulation is to

(1) promote the protection of groundwater intended for human consumption; and

(2) govern groundwater catchment as to prevent the catchment of that water by an owner or operator from causing abusive nuisance to its neighbours, in particular by lowering the phreatic water level or by reducing the artesian pressure, to prevent the drawing of water in excessive amounts considering its availability, and to minimize the negative impacts from the catchment on bodies of water and watercourses, on the persons entitled to use it and on the ecosystems associated with those bodies of water and watercourses.

#### CHAPTER II CATCHMENT WORKS

2. Development works or modification of a catchment work shall be carried out in such a way as to prevent groundwater from being contaminated.

3. It is prohibited to install at less than 30 m from a wastewater system a catchment work of spring water or mineral water referred to in paragraph 2 of section 21 or a catchment work of groundwater supplying more than one residence. For the purposes of this Regulation, the expressions "spring water" and "mineral water" have the meaning given to them in the Regulation respecting bottled water (R.R.Q., 1981, c. Q-2, r. 5).

It is also prohibited to install any other catchment work at less than

(1) 30 m from any non-watertight wastewater system. Notwithstanding the foregoing, where the distance is not complied with, a tube well that complies with the standards provided for in paragraphs 1, 2 and 3 of section 5 may be installed at a distance of at least 15 m from a non-watertight wastewater system; or

(2) 15 m from a watertight wastewater system.

4. The casing of a tube well shall be new, shall not be less than 6 m long, shall have an inside diameter wider than 8 cm, shall rise above the natural ground surface by not less than 30 cm and shall comply with one of the following standards:

(1) ASTM Standard A 53/A 53M – 99b, if made of steel;

(2) ASTM Standard A 409/A 409M – 95a, if made of stainless steel; or

(3) ASTM Standard F-480-00, if made of plastic.

5. Where a tube well is drilled in a rock formation, a drive shoe shall be connected to the lower end of the casing and, if the rock formation lies less than 6 m from the natural ground surface,

(1) the well shall be drilled in such a way as to obtain a diameter at least 10 cm wider than the outside diameter of the casing;

(2) the casing shall be lowered to a depth of not less than 6 m; and

(3) the annular space shall be filled, in accordance with the rules, with a material that ensures a watertight and durable sealing such as a cement bentonite mix.

6. The following standards shall apply to the installation of a shallow well:

(1) the space inside the well shall be wider than 60 cm and the well shall not be more than 9 m deep below the natural ground surface;

(2) the casing shall be made of concrete pipes complying with Standard NQ 2622-126, corrugated steel pipes complying with Standard CSA G401-93, stone-work or gelinite;

(3) the well shall rise above the natural ground surface by not less than 30 cm; and

(4) the annular space shall be filled in accordance with the rules by means of a material that ensures a watertight and durable sealing such as a cement bentonite mix, to a depth of 1 m below the natural ground surface.

7. The casing of a well point shall be new, shall have an inside diameter of not more than 8 cm, shall rise above the natural ground surface by not less than 30 cm and shall comply with the ASTM standards provided for in section 4.

8. Underground connections to the casing of a catchment work shall be watertight.

9. Catchment works and observation wells shall be covered in such a way as to prevent contaminant infiltration.

10. The finishing grade, within a radius of 1 m from a catchment work, shall be carried out in such a way as to prevent the presence of stagnant water and infiltration of water into the ground.

11. A person who installs or alters a catchment work shall, on completion of the work, clean and disinfect the catchment work in such a way as to eliminate all microbial contamination.

The same cleaning and disinfecting obligation shall apply to a person who installs pumping equipment more than two days after the work prescribed in the first paragraph.

This section does not apply to catchment works intended solely for supplying water to fish breeding.

12. Where pumping equipment has not been installed three years after completion of the work or where pumping has been interrupted for at least three years, the owner shall seal off the catchment work and any observation well so as to protect the quality of the groundwater.

Any observation well that has not been used for at least five years shall also be sealed.

13. A person who drills a tube well shall carry out a flow rate test for not less than 30 minutes, during which he shall measure the flow rate and the water level before pumping and at the end of pumping.

14. A person who drills or deepens a tube well shall, within 60 days after completion of the work, draw up a drilling report, in accordance with the sample standard format provided by the Minister of the Environment, containing the information listed in Schedule I and he shall send a copy of the report to the owner of the well

and two copies to the local municipality on whose territory the well has been drilled or deepened. The report shall certify that the drilling complies with the standards of this Regulation.

The municipality shall draw up the drilling report of a surface well or a well point that it has authorized.

No later than 1 February each year, the municipality shall forward to the Minister a copy of the drilling reports that it has received and drawn up during the preceding calendar year.

15. Except in the case of catchment works authorized by the Minister, the owner of a catchment work shall take groundwater samples between the second and the thirtieth day after the pumping equipment has been put into service and shall have the samples analyzed by a laboratory accredited by the Minister under section 118.6 of the Environment Quality Act (R.S.Q., c. Q-2).

The following parameters shall be analyzed:

- total coliform bacteria;
- *Escherichia coli* bacteria;
- enterococcus bacteria;
- arsenic;
- barium;
- fluorides;
- nitrates and nitrites; and
- sulfates.

The laboratory shall give to the owner and forward to the Minister the results of the analyses of the water samples referred to in the first paragraph, within ten days of being drawn in the case of samples intended for controlling bacteria, or, in the case of samples intended for controlling other parameters, within 60 days of drawing the water.

The owner or operator of a catchment work referred to in the first paragraph shall ensure that water intended for human consumption complies with section 3 of the Regulation respecting the quality of drinking water made by Order in Council 647-2001 dated 30 May 2001.

16. The owner or operator of a catchment site able to provide a daily volume of at least 75 m<sup>3</sup> of groundwater shall enter in a register, at the end of each month, the quantity of water drawn.

In addition, where the capacity of the site is greater than 300 m<sup>3</sup> per day, the owner or operator shall, at the end of each month, enter in the register the level of the water that he measured in an observation well installed at a maximum distance of 100 m from the catchment work and in the same geological aquifer.

17. No person shall allow groundwater from a catchment work to gush at a rate of more than 15 m<sup>3</sup> per day.

18. Groundwater may be used for heating or air conditioning purposes only where the water is returned to its original aquifer in accordance with Standard CSA-C445-M92.

### CHAPTER III PERIMETERS OF PROTECTION

19. The owners and operators of catchment sites of spring water, mineral water or groundwater supplying more than 20 persons shall take the measures necessary to keep the quality of groundwater, in particular by delimiting a perimeter of immediate protection established at not less than 15 m from the catchment site.

A safety fence at least 1.8 m high shall be installed at the boundaries of the perimeter of immediate protection of a catchment site of spring water, mineral water or groundwater supplying more than one residence, except, in the latter case, if the work capacity is less than 75 m<sup>3</sup> per day. A notice shall be posted at the catchment site indicating the presence of a groundwater source intended for human consumption.

Within the perimeter of immediate protection, activities, installations or deposits of materials likely to contaminate groundwater are prohibited, except what is required, when installed safely to operate a catchment work.

The finishing grade, within the perimeter of immediate protection shall be carried out to prevent the infiltration of potentially contaminated water.

20. The owners and operators of groundwater catchment sites of spring water, mineral water or groundwater supplying more than 20 persons shall have the following documents signed by either an engineer member of the Ordre des ingénieurs du Québec or a geologist member of the Association professionnelle des géologues et géophysiciens du Québec:

- (1) the plan showing the location of the two perimeters of immediate protection, which correspond to the portions of the supply area of the catchment site as defined respectively by using a migration time of groundwater over 550 days (virological protection) and over 200 days (bacteriological protection);

(2) the assessment of the vulnerability of groundwater within the perimeters defined in paragraph 1 by applying the DRASTIC method;

(3) the inventory of the activities and works located inside the perimeters defined in subparagraph 1 of the first paragraph that are likely to alter the microbiological quality of groundwater such as wastewater treatment systems, works or sites for the storing or spreading of livestock waste or farm compost, or feedlots.

The inventory referred to in subparagraph 3 of the first paragraph shall be kept up to date and the information listed in subparagraphs 1, 2 and 3 of that paragraph shall be available upon request of the Minister of the Environment.

Furthermore, a copy of the documents referred to in the first paragraph shall be given to the local municipality on which territory the catchment site is located. The municipality shall allow for those documents to be consulted.

#### **CHAPTER IV** **GROUNDWATER CATCHMENT SUBJECT TO** **THE MINISTER'S AUTHORIZATION**

**21.** The following are subject to the authorization of the Minister:

(1) groundwater catchment projects having a daily capacity less than 75 m<sup>3</sup> intended to supply more than 20 persons;

(2) groundwater catchment projects that will be distributed or sold as spring water or mineral water or that will be an ingredient used in the fabrication, conservation or treatment announced as spring water or mineral water on a product within the meaning of the Food Products Act (R.S.Q., c. P-29) or on the package, container or label of such a product; and

(3) catchment projects of groundwater having a daily capacity of 75 m<sup>3</sup> or more or that will bring the daily capacity to more than 75 m<sup>3</sup>.

**22.** Every application for authorization to carry out a project referred to in section 21 shall be submitted in writing and shall include the following information and documents:

(1) in the case of a natural person, his name, address and telephone number;

(2) in the case of a legal person, a partnership or an association, its name, the address of its head office, the

office of the person signing the application and a certified copy of the document authorizing the application and the person signing it;

(3) the registration number assigned to the applicant, where he or it is registered in the register of sole proprietorships, partnerships and legal persons;

(4) in the case of a municipality, a certified copy of the document authorizing the application and the person signing it;

(5) the cadastral description of the lots on which the project will be carried out;

(6) the intended use of the water drawn;

(7) the forecast of the total flow rate in groundwater to be drawn for each month in a year;

(8) titles of ownership or rights of use of the lands situated within a perimeter of 15 m from the site where any catchment work of groundwater intended for human consumption will be installed.

**23.** Applications related to catchment projects of groundwater intended for human consumption having a daily capacity of 75 m<sup>3</sup> or more, to the projects intended for the sale of spring water or mineral water and those that can supply a daily volume of 300 m<sup>3</sup> shall be accompanied by a hydrogeological study containing

(1) a plan of the zone under examination, indicating the location of bore holes and stratigraphic drill holes, at a scale of between 1:2 000 and 1:5 000;

(2) a plan of the zone under examination, indicating the location of the existing catchment works within a radius of at least 1 km, at a scale of 1:20 000;

(3) a description of the hydrography, geology and hydrogeology of the area;

(4) the results of any geophysical surveys that may have been done;

(5) the geological log of each catchment work proposed;

(6) a plan showing a cross sectional view of the planned or already constructed catchment works contained in the project;

(7) a plan showing a cross sectional view of the observation well(s);

(8) the results of the sieve analyses;

(9) the results of pumping tests interpreted in accordance with the rules;

(10) the results, provided by a laboratory accredited by the Minister, of the analysis of water samples taken from the site for which a groundwater catchment work is planned for the purposes of providing water for human consumption. The analyzed parameters are those pertaining to the physical, chemical, radiochemical, biological and microbiological characteristics of the water in the case of a catchment project of spring water or mineral water; as for the other catchment projects of water intended for human consumption, the analyzed parameters are the same as those subject to the mandatory control provided for in the Regulation respecting the quality of drinking water as well as the following parameters:

- total alkalinity;
- chlorides;
- iron;
- orthophosphates;
- ammonia nitrogen;
- total hardness; and
- manganese;

(11) the results, provided by a laboratory accredited by the Minister, of the analysis of the water samples taken from the site for which a groundwater catchment work is planned for the purposes of providing water for human consumption. The analyzed parameters are the same as those indicated in section 15;

(12) an interpretation of the results obtained that make it possible to establish in particular:

- the flow rate potential of each catchment work proposed;
- the operating flow rate of each catchment work proposed;
- interference with surrounding catchment works, bodies of water and wetlands;
- assessment of the risks associated with identified activities; and

— proposed palliative measures.

The hydrogeological study shall be established under the signature of either an engineer member of the Ordre des ingénieurs du Québec or a geologist member of the Association professionnelle des géologues et géophysiciens du Québec.

24. Applications related to catchment projects of groundwater having a daily capacity less than 75 m<sup>3</sup> intended for supplying more than 20 persons shall be accompanied by a hydrogeological report containing

(1) a drilling report containing the information provided for in Schedule I;

(2) the results, provided by a laboratory accredited by the Minister, of the analysis of the water samples taken from the site for which a groundwater catchment work is planned. The analyzed parameters are the same as those submitted to the mandatory control prescribed by the Regulation respecting the quality of drinking water and the following parameters:

- total alkalinity;
- chlorides;
- iron;
- orthophosphates;
- ammonia nitrogen;
- total hardness; and
- manganese.

25. Applications related to catchment projects of groundwater having a daily capacity less than 75 m<sup>3</sup> or more but less than 300 m<sup>3</sup> and whose water is not intended for human consumption shall be accompanied by a hydrogeological report containing

(1) a drilling report containing the information listed in Schedule I;

(2) the results, provided by a laboratory accredited by the Minister, of the analysis of the water samples taken from the site for which a groundwater catchment work is planned. The analyzed parameters are the same as those indicated in section 15;

(3) the plan of the zone under examination, indicating the location of the existing wells and that of wells and drillings carried out for the purposes of the project, within a radius of at least 1 km, at a scale of 1:20 000;

(4) the results of pumping tests carried out and interpreted in accordance with the rules; and

(5) an interpretation of the results obtained that make it possible to establish in particular:

— the flow rate potential of each catchment work proposed;

— the operating flow rate of each catchment work proposed; and

— interference with surrounding catchment works, bodies of water and wetlands.

The hydrogeological report shall be established under the signature of either an engineer member of the Ordre des ingénieurs du Québec or a geologist member of the Association professionnelle des géologues et géophysiciens du Québec.

26. No person shall undertake or continue to draw groundwater on the territory of Îles-de-la-Madeleine unless he has obtained authorization from the Minister.

#### CHAPTER V DRILLING

27. Any person who drills for the purposes of exploring for groundwater shall, on completion of the work, seal off the bore holes which have been drilled and which will not be used for the purposes of collecting or monitoring groundwater.

28. Every application for a drilling permit shall be made on the form provided by the Minister and shall be made by the holder of a well drilling contractor's licence issued by the Régie du bâtiment du Québec.

29. Every application for renewal of a permit shall be made no later than 1 March each year on the form provided by the Minister.

30. Every application for a permit or for renewal of a permit shall include a postal money order or a certified cheque for \$100, made out to the Minister of Finance.

#### CHAPTER VI PENAL

31. Any person who contravenes the provisions of sections 2, 4 to 8, 10, 11, 13 to 16 commits an offence and is liable to a fine of

(1) \$500 to \$5 000, in the case of a natural person; or

(2) \$1 000 to \$20 000, in the case of a legal person.

32. Any owner or operator of a catchment work or owner of a catchment site who contravenes the provisions of sections 3, 9, 12, 17 to 21 or 26 commits an offence and is liable to a fine of

(1) \$2 000 to \$15 000, in the case of a natural person; or

(2) \$5 000 to \$100 000, in the case of a legal person.

33. Any person who contravenes section 27 commits an offence and is liable to the fine prescribed in section 32.

34. The fines prescribed in sections 31, 32 and 33 shall be doubled in the case of a subsequent offence.

#### CHAPTER VII TRANSITIONAL AND FINAL

35. Local municipalities are responsible for the application of sections 2 to 11, 13, 14, 16 to 18, 20, 27 and 36.

36. Notwithstanding section 3, where, on (*enter the date of coming into force of this Regulation*), there is, in respect of a land, a main construction duly authorized by a municipality but whose dimensions do not comply with the distances applicable to a catchment work referred to in the second paragraph of the same section, either a tube well that complies with the standards of paragraphs 1, 2 and 3 of section 5 or a surface well or a well point may be installed on such land if, during the flow rate test prescribed by section 13, water in sufficient quantity to meet the domestic needs cannot be drawn from a tube well.

37. A person who, on (*enter the date of coming into force of this Regulation*), owns a groundwater catchment site intended for heating or air conditioning purposes shall, within four years, allow the water to return to the original aquifer in accordance with the provisions of section 18.

38. Notwithstanding section 19, the perimeter of immediate protection of a catchment site existing on (*enter the date of coming into force of this Regulation*) may be established at not less than 15 m, taking into account the present obstacles, such as the dimension of the land, a road, a dwelling.

39. The application referred to in section 26 related to the authorization to continue to draw groundwater in Îles-de-la-Madeleine shall be made in writing no later than (*enter the anniversary date of the coming into force of this Regulation*) and contain the information listed in section 22.

40. The owner of a catchment work that can provide a volume of at least 75 m<sup>3</sup> of groundwater per day shall send to the Minister, no later than (*enter the anniversary date of the coming into force of this Regulation*), a notice indicating the location of any catchment work, the use of that water, the volume of water drawn daily and the number of days per year when water is drawn. He shall also notify the Minister of any change that may cause the notice to be inaccurate or incomplete.

41. This Regulation applies in particular to a reserved area or an agricultural zone established pursuant to the Act respecting the preservation of agricultural land and agricultural activities (R.S.Q., c. P-41.1).

42. The Regulation respecting waste water disposal systems for isolated dwellings<sup>1</sup> is amended by substituting the following lines for the first line of the table of paragraph *d* of the first paragraph of section 7.2, starting with “Well or source”:

“

Tube well that is 6 m deep or more and installed in accordance with the prescriptions of paragraphs 1, 2 and 3 of section 4 of the Regulation respecting groundwater catchment ( <i>enter the date and number of the Order in Council that made the Regulation</i> )	15
Other well or source used as water supply	30
	”.

43. The Regulation respecting the reduction of pollution from agricultural sources<sup>2</sup>, is amended

(1) by inserting the following in section 3 after “parcel”:

<sup>1</sup> The Regulation respecting waste water disposal systems for isolated dwellings (R.R.Q., 1981, c. Q-2, r. 8) was last amended by the Regulation made by Order in Council 1217-2000 dated 18 October 2000 (2000, G.O. 2, 5243). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Éditeur officiel du Québec, 2000, updated to 1 November 2000.

<sup>2</sup> The Regulation respecting the reduction of pollution from agricultural sources, made by Order in Council 742-97 dated 4 June 1997 (1997, G.O. 2, 2607) was last amended by the Regulation made by Order in Council 1004-2000 dated 24 August 2000 (2000, G.O. 2, 4481). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Éditeur officiel du Québec, 2000, updated to 1 November 2000.

““perimeter of immediate protection” means the perimeter of immediate protection against bacteriological risks referred to in subparagraph 1 of the first paragraph of section 20 of the Regulation respecting groundwater catchment (*enter the number and date of the Order in Council that made the Regulation*);”;

(2) by substituting “more than one residence or used to produce spring water or mineral water within the meaning of the Regulation respecting bottled water R.R.Q., 1981, c. Q-2, r. 5)” for “2 or more dwellings” in paragraph 2 of section 7;

(3) by adding the following paragraph at the end of section 7:

“The spreading of livestock waste and farm compost is prohibited in the perimeter of immediate protection of a groundwater catchment site.”;

(4) by adding “and in section 7” at the end of the second paragraph of section 8;

(5) by adding “or the larger areas determined by the agro-environmental fertilization plan” at the end of the third item of the second paragraph of section 20;

(6) by adding “and its perimeter of immediate protection” at the end of paragraph 3 of section 27;

(7) by substituting “from a spring, a well or an individual surface water intake” for “from a spring, a well or a water intake” in subparagraph *a* of paragraph 1 of section 45;

(8) by adding the following paragraph at the end of section 45:

“(6) the facility must not be located within the perimeter of immediate protection of a groundwater catchment site.”.

44. This Regulation replaces the Regulation respecting underground waters (R.R.Q., 1981, c. M-13, r. 3).

45. The Minister of the Environment shall, no later than 15 June 2006, and every five years thereafter, submit a report to the Government on the application of this Regulation.

The report shall be made public no later than fifteen days after it has been submitted to the Government.

46. This Regulation comes into force on the fifteenth day following the date of its publication in the *Gazette officielle du Québec*, except section 20 that comes into force on (*enter the date of the second anniversary of the coming into force of this Regulation*).

### SCHEDULE I

(ss. 14, 24 and 25)

#### DRILLING REPORT

The following information shall be entered in the drilling report that must be made under the signature of the well driller or qualified person:

(1) name of the owner of the site on which the catchment work is installed;

(2) address of the site on which the catchment work is installed;

(3) cadastral description of the land on which the catchment work is installed;

(4) location of the catchment work:

— No. of topographical map at a scale of 1:50 000;

— UTM coordinates: X and Y;

— UTM zone;

(5) sketch indicating location and distance from

— soil absorption system;

— road;

— house;

— building;

(6) date of installation of catchment work;

(7) class of catchment work:

— tube well;

— shallow well;

— well point;

(8) drilling method:

— rotary;

— cable tool;

— diamond;

— back-digging shovel;

— earth auger;

— driven wells;

(9) casing length and diameter;

(10) strainer length, diameter and opening, where applicable;

(11) nature and thickness of the geological formations encountered;

(12) depth of main water intakes;

(13) presence of natural gas;

(14) other information to be supplied by a person who drills or deepens a tube well:

— number of water drilling permit (WDP);

— number of licence issued by the Régie du bâtiment du Québec;

— flow rate of catchment work;

— water level before pumping (static level) and at end of pumping (dynamic level);

— uration of pumping;

— pumping method;

— installation of drive shoe;

— the intended use of the water drawn;

— total flow rate of groundwater forecasted to be drawn monthly and annually.