

Drilling water wells in Alberta

FACTS AT YOUR FINGERTIPS

To work in Alberta, drilling contractors must have a current Approval to Drill Water Wells

Water well drilling activity is regulated in Alberta under the *Water Act* and the *Water (Ministerial) Regulation [Regulation]*. To work in Alberta, drilling contractors must have a current Approval to Drill Water Wells. Application forms are available at: www.environment.alberta.ca/1580.html

There are different classes of approval, depending on the nature of the water well being drilled.

Class A Approval

- is for contractors drilling wells intended for the diversion and use of groundwater for any purpose;
- may be issued to a certified journeyman water well driller or to a business owner who provides proof of intent to hire someone with the qualification to operate the drilling machine and construct the wells;
- certification is done through Apprenticeship and Industry Training in Alberta Advanced Education and Technology. For details of this program visit www.tradesecrets.gov.ab.ca.

Class B Approval

- is for contractors completing very shallow, large diameter wells using an excavating machine such as a backhoe;
- needs no formal training, but the contractor must follow all of the standards set out in the *Regulation*.

Class C Approval

- is for contractors drilling wells solely for the purpose of collecting groundwater data or conducting special investigations unrelated to diversion and use of groundwater;
- contractors are currently exempt from sections of the *Regulation* dealing with reporting requirements, well site specifications and yield testing.

Once an approval is obtained, contractors can drill any number of wells across the province but must:

- follow the standards set out in the *Regulation* and conditions in their Approval;
- keep records during drilling operations;
- report details of every well drilled to Alberta Environment.

Standards for locating wells

Deciding where to locate a water well is the joint responsibility of the drilling contractor and the well owner.

There are specific location requirements to ensure new wells are kept accessible for cleaning, repairing, monitoring or inspecting. A well must be located at least 3.25 metres from any building, and the area immediately surrounding the well must be graded to prevent water ponding around the well casing. A well cannot be located inside a pit and the top of the well casing must extend at least 20 cm above the established ground surface. A well must also be equipped with a well cap or cover to protect it from entry of surface water or foreign materials. The *Regulation* also lists setback distances from sources of contamination.

Standards for constructing wells

The *Regulation* outlines standards for:

- well design and construction,
- disinfection,
- yield testing,
- pumping equipment installation, and
- well closure (plugging).

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The *Regulation* also requires the well owner to actively maintain wells and to properly close them off when no longer in use.

Specifications for materials being used

There are minimum requirements for the materials used in drilling and construction of wells, including casing diameters and wall thicknesses. Materials used must be new and meet or exceed *Canadian Standards Association* (www.csa.ca) or the *American Society of Testing and Materials* (www.astm.org – click on Standards).

Drilling records

Contractors must submit a drilling record of every well to Alberta Environment. The data from these records is stored in the *Groundwater Information System* and is maintained by the Groundwater Information Centre at 780-427-2770. This is a public database and can be accessed at www.environment.alberta.ca/1295.html

Information on groundwater quantity and quality is useful to have prior to drilling a new well. It can provide the contractor with guidance on the depth required to find an adequate supply of water to meet a well owner's requirement. It may also help identify any trends in the way wells are designed and constructed in a given area and provide an idea of the water quality in aquifers found at different depths.

Related information

Copies of the *Water Act* and *Water (Ministerial) Regulation* are available for purchase at the Queen's Printer Bookstore, at 780-427-4952 (Edmonton) or 403-297-6251 (Calgary). It is also available on line at www.qp.gov.ab.ca/Documents/acts/W03.CFM (*Water Act*) and www.qp.gov.ab.ca/Documents/REGS/1998_205.CFM *Water (Ministerial) Regulation*, Part 7).

A helpful user's guide manual titled *Water Wells That Last for Generations* is available, free of charge, at:

- any Alberta Environment District office,
- any district office of Alberta Agriculture and Rural Development or at [www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/wwg404](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wwg404)
- any district office of Agriculture Canada (Prairie Farm Rehabilitation Administration).

Another information source is Agriculture Canada's *Groundwater Assessment Reports*. Completed for several municipalities across Alberta, these reports provide information on the status of available groundwater in both shallow and deep aquifers, including yield potential and water quality characteristics.

They can be viewed at www.agr.gc.ca/pfra/water/groundw_e.htm