

Drilling water wells in Alberta

Facts at your fingertips

Water well drilling activity is regulated in Alberta under the *Water Act*, the Water (Ministerial) Regulation [Regulation] and the Directive for Water Wells and Ground Source Heat Exchange Systems [Directive]. To work in Alberta, drilling contractors must have a current Approval to Drill Water Wells. Application for an Approval to Drill is available at: <http://aep.alberta.ca/water/forms-applications/water-act-forms.aspx>.

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Classes of Approval

There are different classes of approval, depending on the nature of the 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 employment of a certified journeyman water well driller to operate the drilling machine and construct the wells;
- Certification of water well drillers is done through Apprenticeship and Industry Training, Alberta Advanced Education. For details of this program visit <https://tradesecrets.alberta.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 and Directive.

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 Directive dealing with reporting requirements, some 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, the Directive and the conditions of their Approval;
- Keep records during drilling operations;
- Report details of every well drilled to Alberta Environment and Parks.

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

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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 Directive also lists required setback distances from sources of contamination.

Standards for Constructing Wells

The Directive outlines standards for:

- Well design and construction,
- Disinfection,
- Yield testing,
- Pumping equipment installation, and
- Well closure (decommissioning)

The Regulation and Directive also require well owners to actively maintain their wells and to be responsible for having them properly decommissioned when no longer in use.

Specifications for Materials 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 standards set by the Canadian Standards Association (<https://www.csagroup.org/>) or the ASTM International (<https://www.astm.org/> – click on Products and Services).

Drilling Records

Drilling contractors must submit a drilling report for every well to Alberta Environment and Parks. The data from these records is stored in the Alberta Water Well Information Database and is maintained by the Groundwater Information Centre at 780-427-2770. This is a public database and can be accessed at <http://aep.alberta.ca/water/reports-data/alberta-water-well-information-database/default.aspx>.

Information on groundwater quantity and quality is useful to have prior to drilling a new well. It can provide the drilling contractor with guidance on the depth required to find an adequate supply of water to meet a landowner'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*, the Regulation and the Directive are available for purchase at the Queen's Printer Bookstore, at 780-427-4952 (Edmonton) or 403-297-6251 (Calgary). They are also available on-line at: <http://www.qp.alberta.ca/570.cfm>.

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

- On-line at: [https://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/wwg404](https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/wwg404)
- Any regional office of Alberta Environment and Parks
- Any district office of Alberta Agriculture and Forestry.