



Bore work permits

Frequently asked questions

What is a bore work permit?

A bore work permit can provide permission to:

- a) drill, decommission, construct, alter, deepen, plug, backfill or seal off a bore
- b) remove, replace, alter, slot or repair the casing, lining or screen of a bore.

Do I need a bore work permit?

If the property is located within a Water Control District, you will need to apply for a bore work permit. Water Control Districts have been declared for the Alice Springs, Daly Roper Beetaloo, Darwin Rural, Gove Peninsula, Great Artesian Basin, Tennant Creek, Ti Tree and Western Davenport regions. A map of Water Control Districts can be found on the back page of this document.

Permit application forms are available on our website or at any of our offices.

If the property is outside of a water control district, a permit is not required.

All water bore drilling must be undertaken by a licensed driller, in accordance with the Minimum Construction Requirements for Water Bores in Australia.

If I have connection to reticulated water supply, can I get a bore as well?

Yes, possibly. Contact water.licensing@nt.gov.au to enquire.

How long does it take to process a permit application?

Up to 2 weeks.

How much water will I need?

Careful planning is essential before embarking on costly construction and other commitments related to drilling a bore.

Here are three preliminary planning steps for you to consider:

- Determine the specific water use for your property - for example, water use may include a mix of domestic, home, garden, stock, crop irrigation etc.
- Estimate the amount of water needed for each proposed use and when you need it most – for example, how much water will I need for the house? When will my crop require the most water?
- Determine what options are available to provide the required supplies at the level and timing wanted, such as rainwater tanks, water storage tanks and pumping options.



As a general guide, household water use in the NT is 571 kilolitres per household per year. The amount of water required for a garden will be unique to your property as garden designs and plant types vary. Your local irrigation specialist or pump supplier will be able to provide specific advice on your water requirements and the most efficient irrigation systems.

The Department of Primary Industry and Resources (DPIR) can assist with calculating water requirements for agricultural, horticultural and pastoral uses.

Contact your nearest DPIR office or visit their website www.dpir.nt.gov.au for further information.

Depending on where your property is located and how much water you intend to use, a water extraction licence (to take or use water) may be required.

Contact water.licensing@nt.gov.au to enquire.

What groundwater resources are in my area?

Water Resources NT can be consulted for information on aquifers throughout the Territory. This information can help determine the potential groundwater supply at a given site.

Information can also be gained from discussions with nearby bore owners and licensed drillers.

If neighbouring bores are located in the same geological and topographical setting, then you could expect a similar result.

In addition to this, Water Resources Division retains information from the Final Statement of Bore supplied by licensed drillers for every bore. These records are public information and are in a searchable online database called NR Maps: nrmmaps.nt.gov.au

Where should I site a bore?

The NT Department of Health requires a separation distance of 100m from a bore to a traditional septic tank effluent trench, or

- 50m separation distance for aerated waste water treatment systems (unchlorinated effluent), or
- 30m separation distance for aerated waste water treatment systems (where effluent is continuously chlorinated).





A separation distance of 100m from any pollution source such as: fertiliser and /or chemical storage areas; packing sheds; plant workshops and animal enclosures.

To avoid interference when pumping, a 70m separation distance is required between bores however this can be less in some circumstances.

Siting the bore in close proximity to a power source could save costs; types of pumps to consider include electric, solar, petrol, diesel or even a windmill. Bear in mind that if using a fuel driven pump, suitable bunding must be used to mitigate risk of contaminating the water resource from fuel leaks.

Generally, a 5m wide firebreak is required on property boundaries to ensure unimpeded access around the property, so avoid siting the bore within a firebreak.

To avoid any damage when drilling, know where any underground services are on the property.

Drilling the bore on higher ground will allow year round access in flood prone areas.

How do I find a water bore driller?

All water bore drilling must be undertaken by a licensed driller, in accordance with the Minimum Construction Requirements for Water Bores in Australia.

A list of licensed water bore drillers is available on the Water Act Licensing and Permit System website at: ntlis.nt.gov.au/walaps-portal/report/current/dll It is recommended that you seek quotes and information on the products and services that drillers offer before commencing drilling. Drillers can also provide advice on the siting, drilling and construction of the bore.

What are my responsibilities as a permit holder?

- Engage an NT licensed driller; and
- Comply with all permit conditions.

What If I need more attempts at drilling a bore than authorised on the permit?

Typically, a permit allows drilling for up to three attempts. Prior to commencing work on any additional bores, you will need to contact the department to obtain additional approval.

What if I have to change the proposed bore site as authorised on the permit?

Contact us if any changes need to be made.

What are the components of a bore?

- Surface Collar - All bores must be constructed with the installation of a surface collar to a minimum of 5m in depth and a minimum annulus of 20mm. The annular space of cased boreholes must be grouted when the bore is completed to effectively seal the surface collar.
- Concrete slab - Requirements state that completed bores have a 1m² concrete slab at surface level around the bore casing. The slab must be 75mm thick above the final ground surface and be 25mm thick below the final ground surface. The surface slab must allow water to drain away from a finished bore casing.
- Casing - Casing is a pipe that is used to protect the borehole from collapsing. The selection of



the casing material and size is based on a number of factors including bore depth, water quality, cost and potential yield. Casings can be made from steel, plastic or fibreglass, although plastic is now more widely used because it is inexpensive and corrosion free. The borehole must be larger than the casing that is being installed. The resulting space (the annulus) must be filled with watertight materials, i.e. grout, concrete or bentonite that prevents surface water contamination, transfer between zones and to protect the casing from corrosive soils and water. The bore casing is also required to extend a minimum of 300mm above the top of the concrete slab; however, if the bore is located in an area prone to flooding, the finished casing should extend above the potential flood elevation, whichever is higher.

These standards reduce the chance of bore and aquifer contamination from floodwater, ponded surface water, human and animal wastes and chemicals.

- Screens – Screens are required to be installed in bores within unconsolidated aquifers (sand and gravel). The bore screen allows efficient entry of water into the bore, stabilises the formation and to prevent entry of unacceptable particles.

For more information you can view the current edition of the Minimum Construction Requirements for Water Bores in Australia.

How much water can the bore provide?

At completion of drilling, all water supply bores should be tested by a licensed driller to establish the indicative yield. Bore yield is the volume of water that can be pumped during a specific period of time. This information is critical when deciding whether to equip the bore and aids in the choice of pump.

What is the water quality of my bore?

There are no legal testing requirements for private water bores. It is therefore up to you, the owner of the bore to monitor the quality of your water supply.

Water Resources NT encourages bore owners to test for water quality initially after bore construction and prior to it being used, as well as on a yearly basis. Tests for bacteria, nitrate and trace metals should be conducted by an accredited water analysis laboratory.

Laboratory services are:

Northern Territory Environmental Laboratories, Darwin
(08) 8947 0510 (heavy metal testing)

**Department of Primary Industry and Resources,
Berrimah Farm, Darwin**

(08) 8999 2194 (chemical testing)
(08) 8999 2347 (microbiological testing)

AZRI Building, Alice Springs

(08) 8951 8110 (microbiological testing)

Operators of businesses or facilities that provide drinking water have a responsibility to ensure that the water is safe to use. Guidelines for Private Water Supplies have been developed by the NT Department of Health and can be viewed at:

nt.gov.au/environment/water/water-and-your-health/private-water-supply-management

How do I look after my bore?

Problems with a bore can result from many causes, including poor construction, equipment failure, incrustation, corrosion and depletion of the aquifer. These problems can lead to decreased yield and water quality.

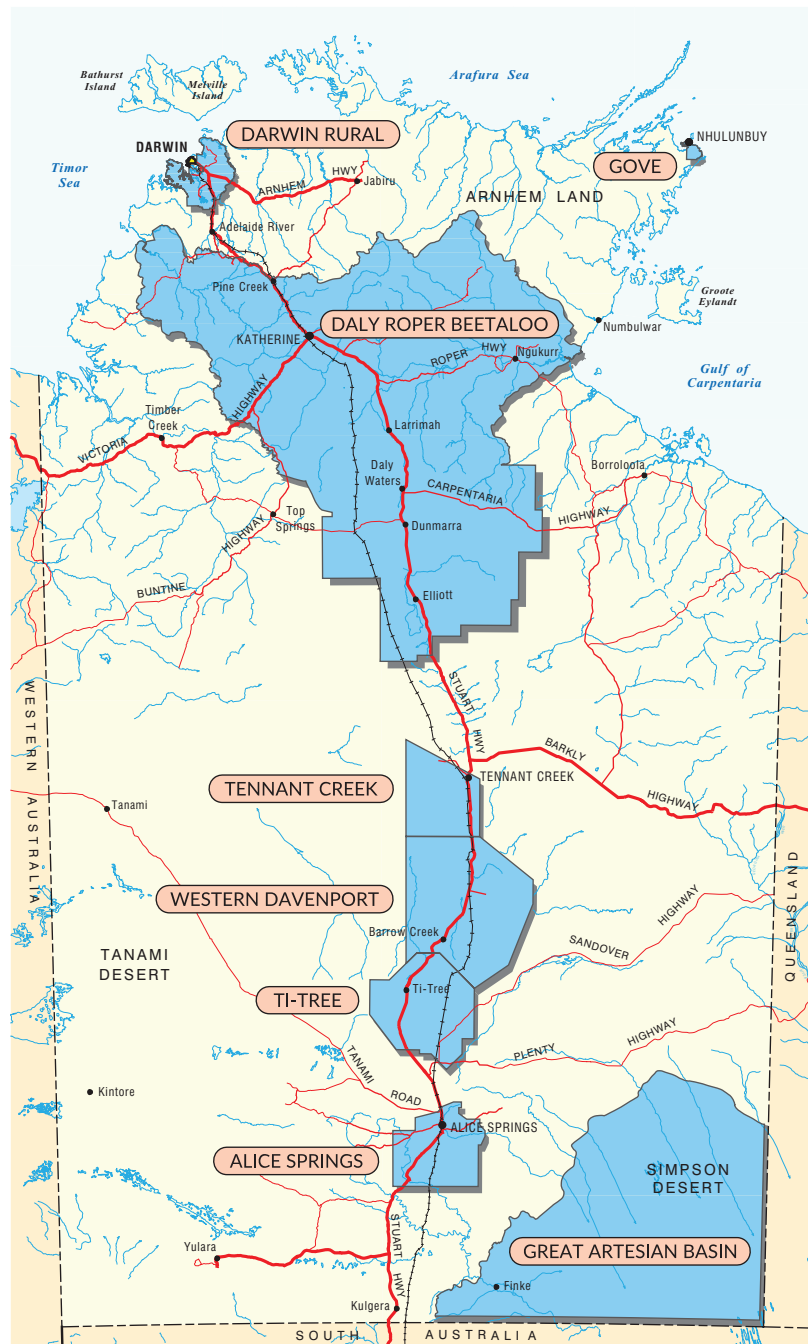
Maintain pumping equipment and avoid pumping the bore at higher than recommended rates as this may result in pump problems and bore instability. Seal the space between the casing and pump equipment to prevent entry of small animals, insects, dirt and other pollutants.

What if I think my bore has not been constructed properly?

Contact us for advice at water.regulation@nt.gov.au

For your information, below is a map of water control districts.

NORTHERN TERRITORY DECLARED WATER CONTROL DISTRICTS



NORTHERN TERRITORY OF AUSTRALIA

Water Control Districts are areas declared where there is a need for enhanced management for the sustainability of groundwater reserves and river flows.

Within a Water Control District a bore construction permit is required, water allocation plans can be developed and water extraction licences are required unless there is a specific exemption in place.

Water Control District Declaration

Darwin Rural; 2 June 1999

Gove; 18 September 2002

Daly Roper Beetaloo;
22 June 2018

Tennant Creek; 15 July 2009

Western Davenport;
15 July 2009

Ti-Tree; 21 October 2009

Alice Springs; 4 July 2007

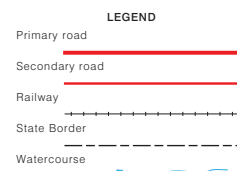
Great Artesian Basin;
3 February 2010



For further information contact:
Department of
Environment and Natural Resources
Water Resources Division

P: 08 8999 4455
E: water.licensing@nt.gov.au
Web: nt.gov.au/water

Goyder Centre, Chung Wah Terrace
Palmerston



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kilometres 0 100 200 300 400 kilometres



Projection - Lambert Conformal Conic
Standard Parallels 23°20'00"S & 12°40'00"S
Horizontal Datum GDA 94



For more information contact Water
Resources: Darwin: 08 8999 4455
Katherine: 08 8973 8834
Alice Springs: 08 8951 9215
E: water.licensing@nt.gov.au
www.nt.gov.au/water