DEPARTMENT OF **ENVIRONMENT AND NATURAL RESOURCES**

WATER RESOURCES
NORTHERN TERRITORY

Water Bore Drillers

Requirements & Responsibilites

Requirements

All drilling activities shall be conducted in accordance with the *Water Act* and its Regulations. Drillers are required to:

1. Obtain a Registered Number (RN) from the Department. RN is a unique identification number and must be clearly and permanently displayed on the bore and included on the Statement of Bore form;
2. Sight the valid Bore Construction Permit if conducting any drilling work within a Water Control District;
3. Read, understand and implement all the conditions on the Bore Construction Permit;
4. Complete and submit the Statement of Bore to the department for every bore within 28 days of completion;
5. Submit required strata and water samples to the department for every bore drilled within 28 days of completion. Strata samples are to be approximately 250g secured in sealed bags of each change in strata observed in the bore. Representative water samples of 1 litre are to be taken from each water bearing bed found in the bore (unless an exemption is provided on the Bore Construction Permit).

Responsibilities

The Department encourages good industry practice relating to water bore drilling as stated in the Minimium Construction Requirements for Water Bores in Australia. The publication can be found at: www.adia.com.au

Driller's have the following responsibilities:

- Adhere to all relevant Territory legislative requirements;
- Bore design shall: suit the hydrogeological conditions, be appropriate to protect the aquifer, be suitable for the intended purpose of the bore and meet the client's requirements;
- The bore shall be constructed by a suitably qualified driller who possesses the appropriate experience and the relevant class of licence and endorsement;
- A bore is sited to meet separation requirements and provide a reliable and useful water supply;
- Information should be sought about the hydrogeological conditions in the area before drilling;
- Water bores must be constructed a suitable distance from known possible sources of contamination, or designed and constructed to eliminate all sources of contamination;
- The driller shall ensure the location complies with any conditions specified in the bore permit;
- Formation samples shall be taken to determine the nature and type of strata, and to confirm any changes in the formation. Water samples should be taken to provide a guide to water quality encountered during drilling operations;
- Any water samples taken during or immediately following construction and development should be representative of the groundwater;
- Drilling fluids should be selected and managed to: facilitate the drilling process, ensure the removal of cuttings from the borehole, minimise damage to the formations;

NORTHERN TERRITORY GOVERNMENT

- Chemicals and other drilling fluid additives that could leave a residual toxicity should not be added to any drilling fluids or cement slurries (i.e. grouts) used to drill and complete any water bore;
- Bores should be sufficiently plumb and straight to ensure that there will be no interference with the installation, alignment, long term operation or future removal of the pump;
- Water bore casings and joints shall: prevent the collapse of the strata penetrated; assist in construction and sealing, and prevent intermixing; be strong enough to withstand installation, construction, and operational pressures; provide access to the water producing zone; be of sufficient size to act as a safe housing for the pump selected for the hole; provide an adequate operational life;
- The method of completion across the water entry zone of the bore should: allow efficient entry of water into the bore; stabilise the formation; prevent unacceptable ingress of materials from the formation;
- Bores are sealed to: protect the groundwater resource from contamination; maintain aquifer pressures and quality; isolate the targeted production zone from other formations;
- Bores are developed to: remove introduced products, improve near well permeability, reduce entry losses, reduce entry of suspended solids, increase well efficiency;
- All water supply bores should be tested to establish their indicative yield;
- Drilling equipment that has been used should be disinfected to prevent the transfer of microbiological organisms (bacteria) between sites;
- After completing drilling, the bore should be free of any introduced microbiological organisms (bacteria);
- Accurate information on the drilling, construction, reconditioning and decommissioning is recorded to be available for the use of drillers, landholders and regulators;
- Headworks shall control the flow of water;
- The protruding casing should be completed so that it: is protected from damage, prevents surface runoff or potentially contaminated fluids from entering the bore;
- After completion of the job the site should be restored as close as possible to its original condition;
- Bore maintenance is intended to preserve the performance of the bore and its component parts in good repair;
- Rehabilitation is intended to repair a bore that has failed; and
- Failed or unwanted bores should be decommissioned to restore, as far as possible, the aquifer isolation that existed before the bore was drilled and constructed.

NORTHERN TERRITORY GOVERNMENT

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