



Groundwater Management Information Fact Sheet 2:

Licensing Groundwater Spearpoints and Bores

This fact sheet is one of five fact sheets developed from the information contained in the Sydney Coastal Councils Group *Groundwater Management – A Guide for Local Government*. For further information about the other facts sheets of the Sydney Coastal Councils Group please visit www.sydneycoastalcouncils.com.au

Accessing groundwater through spearpoints and bores

There is generally little understanding of the potential for groundwater to be used as an alternative water supply. The siting of a groundwater work is not only important in terms of ease of use, but must also account for other site-specific considerations. In particular, important local features such as property boundaries, waterways and waste disposal areas may all have significant bearing on the suitability of a location for a groundwater work. Within the Sydney Coastal Region, two main types of water supply installation (“groundwater work”) are used. These are spearpoints and bores.

Spearpoints are shallow installations usually reaching no more than 6 metres in depth, these installations usually only deliver low yields. Such flow rates are suitable for household use, but are generally too low for other purposes.

Bores are more complicated installations than spearpoints because they are designed to maximise the available yield during pumping. The flow rates provided by bores are dependent on the nature of the aquifer into which they are installed, together with the construction techniques and materials used. In the Sydney Coastal Region, properly constructed bores in coastal sand bed aquifers may yield in excess of 40 L/sec, whereas bores in Hawkesbury Sandstone might only produce 0.5 to 1 L/sec.

Licensing requirements for spearpoints and bores

In order to establish a groundwater work, there are two essential requirements to be considered.

1. The **work itself must be licensed** (i.e. a licence must be applied for and obtained by the intended user) from the Department of Water and Energy (DWE) (formerly the Department of Natural Resources); and
2. The driller selected to carry out the installation must be **licensed water bore drilling contractor**.

Obligations using and approving spearpoints and bores

Several obligations apply to both the licensee and the driller, including environmental protection, occupational health and safety, and prevention of pollution (Table 1). A basic checklist of these requirements should be used to ensure that appropriate approvals and safeguards are observed prior to, during and following the installation of any groundwater work.

Table 1 Licensee obligations when installing a groundwater work

Licensee obligations

1. A bore licence for the intended purpose has been obtained from DWE.
2. The class of driller’s licence held by the water bore drilling contractor is appropriate for the proposed type of installation.
3. Access and clearances for the drilling rig are sufficient in the area selected for the work.
4. The presence and location of underground or overhead services (e.g. water, gas, electricity) around the site.
5. Obtaining a written quotation or agreement from the driller indicating the activities to be carried out and the materials to be used.
6. Observing the drilling and construction of the groundwater work from a safe distance and ensuring compliance with the written agreement or quotation.
7. Forwarding a fully documented and signed copy of the ‘*Form A - Particulars of a Completed Bore*’ to DWE (in some cases the driller may forward a signed copy of the Form A to DWE on behalf of the licensee).

Table 2 Drillers obligations when installing a groundwater work

Drillers obligations

1. A written quotation for the installation of the groundwater work has been provided to the client.
2. A bore licence appropriate for the work has been obtained by the licensee and the conditions outlining the construction have been read and understood.
3. Clear technical advice on the type of work, site controls and materials to be used have been provided to the client.
4. Drilling and constructing the work in accordance with the *Minimum Construction Requirements for Water Bores in Australia - 2nd Edition* (LWBC 2003) and licence conditions.
5. Observation of safety requirements during drilling.
6. Disposal of drill cuttings ("drilling spoil") in an environmentally acceptable manner.
7. Controlling discharge of drilling fluids and groundwater to prevent their release off-site.

Monitoring and testing spearpoints and bores

In the urban environments of the Sydney Coastal Region, the potential for any water source to become contaminated is very high. This applies not only to rivers and streams, but also to rainwater and groundwater. The range and frequency of testing cannot be broadly applied for all groundwater works in the Sydney Coastal Region. Various factors, such as the proximity to contamination sources, will dictate more frequent and more rigorous testing regimes at much greater expense.

Decommissioning spearpoints and bores

Once a bore or spearpoint ceases to be used its decommissioning for any reason must be carried out to prevent the contamination of groundwater resources, to preclude the transfer of fluids between aquifers, to maintain pressures and water levels, and to eliminate the hazard posed by any surface components. In this regard, guidance on the decommissioning of groundwater works should be sought from the *Minimum Construction Requirements for Water Bores in Australia - 2nd Edition* (LWBC 2003).

Conclusion

The installation of a bore or spearpoint anywhere in the Sydney coastal region should not be considered solely as a response to drought and water restrictions. In most cases the cost of installation and the expense of regular water quality testing by the owner of the licence means that the groundwater work should be included as a component of a long-term (say 10 year duration) water management plan for a property. If considering accessing groundwater using a spearpoint or bore it is essential to contact your local council and the DWE to ensure all the appropriate licenses are attained.

Recommendations

Based on the information contained in this fact sheet and the *Groundwater Management – A Guide for Local Government*, the SCCG recommends that:

- Those wishing to access groundwater as an alternative water supply be directed to familiarise themselves with the requirements and obligations placed on the users of this resource.
- Such interested parties be made aware of and follow the systematic process of licensing and installing a groundwater work.
- Council staff dealing with public or consultants' inquiries familiarise themselves with the *Minimum Construction Requirements for Water Bores in Australia - 2nd Edition* (LWBC 2003).
- Intending bore water users are made aware of the need for regular water quality testing to provide ongoing reassurance of the suitability of groundwater for a proposed use.
- Councils develop and implement policies to restrict or prohibit domestic / industrial activities with the potential to contaminate groundwater resources (e.g. on-site wastewater disposal) near environmentally sensitive areas or in suburbs with widespread groundwater use.
- Intending bore water users are made aware of the obligation to appropriately decommission a groundwater work if it is to be abandoned.

For more information on groundwater management please see the other fact sheets in the series. All fact sheets are available at www.sydneycostalcouncils.com.au

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