

Process and information minimum requirements for integrated development that includes water supply from groundwater

This fact sheet applies to the use of groundwater for a water supply under integrated development proposals. This can include, for example, mineral water extraction (water bottling), rural residential subdivisions, caravan parks, resorts, sporting fields, golf courses, and other purposes.

Outline

This fact sheet summarises the process and information proponents must provide to support integrated development applications that propose taking groundwater for their operation from a water supply work. The work could be a bore, well, or spearpoint.

An integrated development is a development application lodged with a local council that requires approval from at least one NSW government agency (approval body) before the application is determined by the council.

This fact sheet specifies the minimum hydrogeological information an applicant needs to provide so the Department can assess the impacts of pumping on other groundwater users and on the environment. This factsheet is not applicable to the assessment and management of impacts from the indirect or incidental water take of aquifer interference activities such as building dewatering, dredging or quarrying.

Consent authority and approval bodies

The local council is the *consent authority* for integrated development applications and coordinates the process of impact review of the integrated development in conjunction with WaterNSW on water-related matters. The local council is not the authority for approval of water licences and water supply works, i.e. the development application does not provide those approvals.

WaterNSW is the *approval body* for water licences and water supply work (e.g. bore) approvals. WaterNSW will coordinate the assessment of potential water impacts of the development with the Department of Climate Change, Energy, the Environment and Water (the department).

WaterNSW issue General Terms of Approval (GTA) to Council which sets out the terms that an approval will be granted. The GTA are incorporated by Council into the development consent. If WaterNSW refuse to issue GTA, the Council must not approve the development application.

In a limited number of cases, the department is the approval body for groundwater supply work approvals for integrated development applications.

Recommended process where the proponent requires a groundwater supply

The applicant has two choices:

- Apply for the water access licence and/or water works approval at the same time as lodging the development application.
- Apply for the water access licence and/or water works approval after obtaining the development application.

It is recommended that the proponent apply for all required water access licences and/or bore approvals under the *Water Management Act 2000* at the same time as lodging the development application to the council, noting that applications for a water access licence and bore approval are made directly to WaterNSW.

In both instances, the full extraction volume requested may not be able to be provided as explained further below. The GTA will advise the maximum volume for which impacts are acceptable at the time of assessment, noting approval of the extraction volume can only be through water access licence and/or water works separately to the DA process.

The applicant should note that the volume authorised for extraction could be less than the volume the proponent wants if the impact associated with the total volume is determined unacceptable by this assessment.

Where the water access licence and/or water works approval application is made to WaterNSW at the same time as the development application is submitted:

The bore impact assessment carried out by the department at the time of development application will inform both the impact review for the development application and for the water access licence and/or bore approval process. An extraction limit condition will apply.

Where the approval and/or licence application is not made at the time of the development application but at a later date:

The bore impact assessment done at the time of the development application will inform impact review for the GTA but the bore impact assessment may no longer be valid to inform the water access licence and/or bore approval process. The proponent then risks having a condition imposed on that approval which sets a lower extraction limit than the proponent may have expected.

This is because there could be changes near the location of the proposed bore. For example, a new third-party bore could have been drilled nearby since the original impact assessment, the department then needs to consider the impact of the development on any new bores, thus potentially affecting the volume that can be taken by the proponent.

What water approvals and licences are required?

Under the *Water Management Act 2000* a **water supply work approval** and a **water access licence** are required before groundwater can be taken for water supply.

A **water supply work approval** authorises the construction and use of a bore or other work to extract (take) groundwater. When it is identified that a bore, or groundwater supply is needed for the proposal, there is a trigger for the integrated development process under the *Environmental Planning and Assessment Act 1979*.

A **water access licence** authorises a licence holder to take water from a specific water source. Water access licences specify a share component (entitlement). Share components are obtained either by buying them on the market (a dealing) or through a controlled allocation process.

To take groundwater you must have a relevant water supply work approval nominated on a water access licence for the groundwater source where you want to take the water.

Information requirement for groundwater impact assessment

The department uses hydrogeological information provided by the proponent to assess if the impact of groundwater take is within acceptable limits on nearby groundwater users and the environment, including rivers and groundwater-dependent ecosystems.

To inform the assessment, the following information (listed in Table 1) must be provided by the proponent with the development application.

Table 1 Proponents data/information requirements for the department's impact assessment

Subject	Data/information requirements
Site details	Provide a map showing the location of the proposed site and surrounding area including proposed or existing: production, monitoring and stock/domestic bores. Details of relevant receptors such as rivers/creeks and groundwater dependent ecosystems, and the location of acid sulphate soils and national parks and so on must also be provided.
Water Sharing Plan	Provide details of: <ul style="list-style-type: none"> • The target groundwater source and relevant management zone. • The water sharing plan/s that apply. • A map showing that the bore site/s meet the relevant water sharing plan distance conditions that apply to that groundwater source/s and an accompanying table with explanatory text.
Bore construction	Provide detailed information on existing or proposed bore construction including a detailed bore construction diagram. Where an existing bore is proposed for use, the proponent should provide information to confirm bore construction is suitable for the type of water supply and meets the water sharing plan requirements (as outlined above). Evidence such as camera logs and/or downhole geophysics logs or other relevant information should be included.

Subject	Data/information requirements
Hydrogeological characterisation	<p>Include the following details of the target aquifer/s in the local area:</p> <ul style="list-style-type: none"> • aquifer type, aquifer confinement (is it confined or unconfined), • connectivity with surrounding shallow aquifers and/or surface where relevant • depth of the water table, hydraulic gradient and flow directions • location of any nearby receptors that could be impacted by extraction from the target aquifer for example any groundwater dependent ecosystems <p>Where possible also include site-specific pumping test data including analysis of aquifer parameters and provide the raw data.</p> <p>Determine if the aquifer yield is sufficient to meet the development requirements.</p> <p>Pumping test must be carried out in accordance with the <i>Minimum requirements for pumping tests on water bores in New South Wales - Information for landholders, agents and consultants</i>, NSW Department of Planning, Industry and Environment, department reference number PUB19/540, December, ISBN 978-1-76058-346-0.</p>
Pumping schedule	<p>Provide details of the proposed pumping schedule including water bore extraction rates, anticipated average and maximum pumping intervals in hours per day and the number of days per year.</p> <p>The proposed annual volume of groundwater pumping from the water bore extraction operations.</p>
Groundwater quality	<p>Determine if water quality is suitable for the intended use, provide detailed water quality analysis.</p>

Metering and reporting requirements

Any take of groundwater will be subject to the requirements of the NSW Non-Urban Water Metering Policy. These metering rules are implemented through conditions applied to your water supply work approval, and two types of condition could be applied, including:

- the ‘mandatory metering equipment condition’, where water supply works must have metering equipment unless an exemption applies
- recording and reporting information to WaterNSW about the water taken by your water supply works

More information on the NSW metering requirements can be found at:

[Non-urban metering | Water \(nsw.gov.au\)](https://www.nsw.gov.au/non-urban-metering)

Bore construction

A bore cannot be constructed without a current water supply work approval. Additionally, NSW water sharing plans require all water supply bores to be constructed by a licensed water bore drilling contractor. Construction must also comply with the current version of the *Minimum Requirements for Water Bore Construction in Australia*.

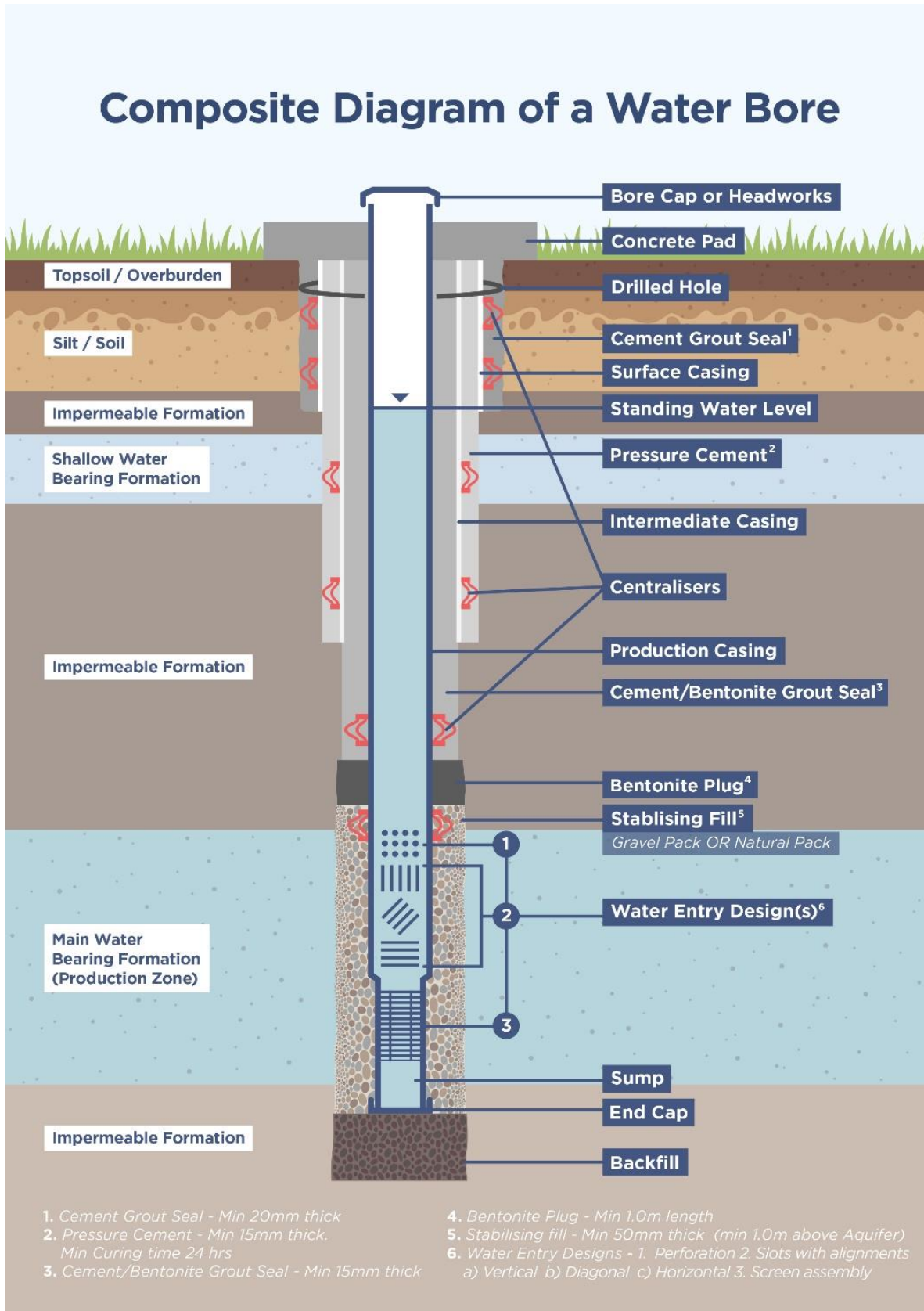
Any multi-level aquifers bores should be designed with adequate cement grout seals to prevent inter-aquifer flow, isolate shallow aquifers and protect shallow sensitive groundwater systems. This should be factored into the design criteria of production bore construction.

Retrofitting existing bores of considerable age, or bores that are constructed for a different purpose, may not be suitable.

Domestic and stock bores are generally not constructed to a suitable standard to allow conversion to a production bore. Additionally, domestic and stock bores are often located on sites that do not meet the distance rules in the relevant water sharing plan.

Figure 1 on page 6 of this fact sheet is a composite diagram of a best practice water bore design.

Figure 1 Composite diagram of a water bore



More information

The NSW Department of Climate Change, Energy, the Environment and Water website contains water sharing plan information that can point you to your relevant plan:

<https://water.dpie.nsw.gov.au/plans-and-programs/water-sharing-plans/status>

The WaterNSW Real Time Data website can provide more information about groundwater bore construction and groundwater level details:

<https://realtimedata.waternsw.com.au/>

The WaterNSW Water Licensing information website can provide more information about the licence relevant to your operations and the steps involved in attaining that licence:

<https://www.waternsw.com.au/customer-service/water-licensing/about-licences>

The NSW Department of Climate Change, Energy, the Environment and Water website provides more information about how groundwater is managed in NSW under Groundwater Management and Science:

<https://water.dpie.nsw.gov.au/science-data-and-modelling/groundwater-management-and-science>