

31 March 2025

Attention: Victoria Hale, Senior Environmental Planner

**Re: SSD-62855708 - Proposed Waste Management Facility at 2-4 Hale Street, Botany
Respond to DCCEEW Submission**

DCCEEW – Water take and licensing recommendations:

2.1 Recommendation - pre-determination

*That the proponent quantifies the maximum annual volume of water take due to aquifer interference activities and demonstrates the ability to acquire sufficient water entitlement **unless an exemption applies**.*

2.2 Recommendation - post-determination

The proponent should ensure a water access licence (WAL) is obtained to account for the maximum predicted water take for construction and operation activities unless an exemption applies under the Water Management (General) Regulation 2018.

The groundwater tests noted water to 2m below ground level with the remediation action plan noting shallow groundwater to 1m below ground level. The EIS notes that excavation would be to a maximum of 3m with the removal of UST tanks.

Coombes Property Group has reviewed all relevant comments and provided responses to each item below.

Groundwater Levels on Site

It is to note that the groundwater well logs (tests) do not indicate standing groundwater levels; they only describe soil moisture conditions (e.g. dry, moist, wet, saturated). Table D of Appendix A – *Detailed Site Investigation* provides the standing groundwater levels on site, which are consistent with the levels outlined in the *Remediation Management Plan*.

Two underground Storage Tanks (USTs) were identified at the site, one located on the eastern boundary, and one located in the central area.

A geotechnical investigation for the proposed development was undertaken by JKGeotechnics on 16/04/2024. During these investigation works, standing groundwater was measured at a depth of 1.5m in MW1, located in the middle of the site next to one of USTs. During the detailed site investigation on 21/03/2022, standing water was measured at a depth of 1.2m in MW 1.

Does the activity require detailed assessment under the NSW Aquifer Interference Policy (AIP)?

Question	Consideration	Response	Proposed Waste Management Facility
1	Is the activity defined as an aquifer interference activity?	If YES , continue to Question 2.	YES , it is likely that groundwater would be encountered during removal of the two existing undergrounds storage tanks (USTs) and building footings installation.
2	Is the activity a defined minimal impact aquifer interference activity according to section 3.3 of the AIP?	If YES , then no further assessment against this policy is required. Volumetric licensing still required for any water taken, unless exempt.	<p>YES, impacts to groundwater would be of short duration during the construction phase and only minor impacts on the groundwater level are predicted during construction due to temporary dewatering activities.</p> <p>The operational phase of the Development would not cause a change to groundwater flows or groundwater dependent ecosystems.</p> <p>A Water Access Licence (WAL) is required unless an exemption applies under the Water Management (General) Regulation 2018.</p>

The construction methodology for removing of USTs will be development by the construction contractor. The methodology may include the use shoring systems to minimise groundwater seepage, scheduling the work during the dry season when groundwater levels are lower, and limiting the duration of open excavations. This will help to minimise groundwater extraction and reduce the potential for drawdown of surrounding groundwater resources. The USTs removal and disposal will be undertaken in accordance with Australian Standard AS 4976-2008: *The removal and disposal of underground petroleum storage tanks*.

Excavation validation samples will be analysed at a laboratory NATA accredited for the required analyses on an accelerated turnaround time (i.e. 24 hr) to allow for excavations to be backfilled as soon as possible and mitigate the potential risks.

The geotechnical investigation report (JKGeotechnics, April 2024) recommends that all footings for the new building consist of piles founded in the underlying natural sands to avoid excavation below the groundwater level. The recommended piling method for footing installation aims to minimise interaction with groundwater on site. The piling methodology will be developed by the construction contractor.

Typically, piles are filled with concrete immediately after drilling is completed, and only a minimal amount of groundwater is usually extracted.

Volumetric Licensing - Water Access Licence (WAL)

It is expected that approximately 829,440 litres (L) of groundwater will be extracted during the removal of the two USTs. The worst-case scenario was modelled, assuming that the open excavations will need to remain open for 10 days for each UST removal. Removing a small underground storage tank typically takes one to two days if there are no complications.

The geotechnical investigation identified that the alluvial soils below the fill initially consisted of loose to medium-dense fine-grained sand to a depth of approx. 6m. The hydraulic conductivity (k) of 2×10^{-4} m/s for fine sand (Botany Sands aquifer) is used for the preliminary assessment of groundwater extraction volume.

Sources used for the initial volume calculation:

- [Groundwater](#), Freeze and Cherry, 1979.
- [Hydrogeologic Properties of Earth Materials and Principals of Groundwater Flow](#), Woessner and Poeter, 2020.
- [Australian Journal of Earth Sciences](#), Aquifer heterogeneity: hydrogeological and hydrochemical properties of the Botany Sands aquifer and their impact on contaminant transport, [J. Jankowski, P. Beck](#), First published: 24 December 2001.

It is considered that impacts to the groundwater table and local groundwater hydrology will be minor and extraction of groundwater during the construction phase will not exceed 3 megalitres (ML) of groundwater per year.

Groundwater will not be pumped or extracted for any purpose other than temporary construction dewatering at the Site identified in the development application.

WAL Exemption

The proposed Development falls under two exemptions from WAL:

Less than 3 megalitres (ML)

- for taking less than or equal to 3ML of groundwater per year in any water source (3ML or less exemption).

The **3ML or less exemption** applies only to aquifer interference activities not involving taking water for consumption or supply. Examples include:

- temporary dewatering for water taken to ensure safe and efficient excavation when constructing buildings, but not to water taken for irrigation or town water supply
- remediation of groundwater contamination

More than 3ML (Botany Sands)

- for taking greater than 3ML of groundwater per year for excavation dewatering in the Botany Sands Groundwater Source only (Botany Sands exemption).

The purpose of the **Botany Sands exemption** is to maintain building and other construction activity where groundwater needs to be taken as a temporary measure while longer-term arrangements are considered for managing temporary infrastructure dewatering. This exemption applies to the Botany Sands Groundwater

source only and ends 30 June 2025 or when a controlled allocation of access licences occurs, whichever happens first. This exemption may be reviewed, and the exemption end date may be revised or extended.

Other considerations - Recording and reporting water taken

Record and report the water taken will be undertaken within 28 days of the water year finishing (i.e. by 28 July)

1. [Record of groundwater take under exemption \(PDF, 287.56 KB\)](#) form
2. Send the completed form to nrar.enquiries@nrar.nsw.gov.au

Should you wish for further clarification, please do not hesitate to contact myself on 0415 556 620 or email elena@coombesgroup.com.au.

Yours sincerely,



Elena Ivanova, Dip.Env.Eng
Environmental & Planning Manager
Coombes Property Group