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Our Ref: HW2019-913

Energy & Resource Assessments
NSW Department of Planning, Industry and Environment
23 - 33 Bridge Street
Sydney NSW 2000

Attention: Melissa Anderson – Environmental Assessment Officer
via email: melissa.anderson@planning.nsw.gov.au

Dear Melissa,

RE: STOCKTON SAND QUARRY – REQUEST FOR ADVICE REGARDING ENVIRONMENTAL IMPACT ASSESSMENT (SSD-9490)

Thank you for your referral of the above application to Hunter Water seeking advice and recommended conditions of consent for the proposed continuation and modification of sand extraction operations at Stockton Sand Quarry, located at Coxs Lane, Fullerton Cove.

The quarry is located adjacent to the North Stockton Catchment Area gazetted under the *Hunter Water Regulation 2015*. While the proposal is located outside of the gazetted catchment area, catchment area boundaries typically follow convenient landscape or cadastral features. As such, activities at the site may still affect groundwater in the Catchment Area. While groundwater is not currently extracted from the North Stockton aquifer for potable water supply, Hunter Water maintains an interest in protecting the water source and ensuring it is not adversely affected by inappropriate development. This includes ensuring that all activities are undertaken in a manner consistent with current best management practice.

Hunter Water understands the proposed development would include extraction of up to 750,000 tonnes per annum (tpa) of sand product from a former extraction area by front-end loader/excavator and dredging. The proposed extraction limit would be implemented until 2028, after which the current extraction rate of 500,000 tpa would be reinstated.

The proposal involves extraction of sand to a depth of -15 m AHD. According to the Hydrogeological Impact Assessment submitted in support of the application, the proposal would result in the creation of a pond around 23.3 hectares in size at the conclusion of operation, which is expected to result in the ongoing evaporative loss of approximately 130 million litres of fresh water per year. Further, the proposal would result in the use of 12 - 15 million litres of potable water per year from the public supply during operation.

Our concerns with the proposal are outlined in the following sections.

1. Extractive Operations, Aquifer Protection and Site Rehabilitation

In regard to best management practice, we note that the proposal to extract sand below the water table to -15 metres AHD is inconsistent with current best practice and the approval of

other sand extraction operations in the area, which have limits on the depth of extraction imposed upon them in order to protect groundwater sources.

Best practice for existing operations is considered to be extraction to a depth of no more than 0.7 metres of maximum predicted groundwater levels, with the final landform to be a minimum of 1 metre above the maximum groundwater level. For example, sand extraction at the Sibelco Tanilba Northern Dune operation, the Sibelco Anna Bay operation, the Cabbage Tree Road Quarry (SSD-6125), Salt Ash Sand Quarry (07_0094), and the Fullerton Cove Sand Quarry (07_0145) all have extraction depth limits imposed upon them to safeguard groundwater sources. Measures to protect groundwater sources are related to both pollution risk and the loss of valuable water supplies through drainage and evaporation.

Hunter Water recommends that all extractive operations should be designed and undertaken in a way that ensures protection of water sources and facilitates sustainable future land use. Hunter Water is of the opinion that inadequate justification has been provided for why this particular sand resource justifies extraction below the water table, or for the creation of a 23.3 hectare open lake following the completion of sand extraction, which would result in the loss of around 130 million litres of fresh water per year due to evaporation.

2. Limits to Extraction Depth

Limiting the depth of sand extraction to above the water table with a suitable buffer would be consistent with the determination of other sand extraction activities in the vicinity and is supported by Hunter Water. It is Hunter Water's position that the approach adopted for other sand extraction operations in the area, where the extraction depth is limited by the requirement to create a final landform that is at least one metre above the predicted maximum groundwater elevation, is the only scenario which is considered suitable.

This approach assumes that topsoil may be salvaged prior to extraction activities by way of site preparation will be a nominal depth of 0.3 metres and may be removed to a limit of 0.7 metres above the predicted maximum groundwater elevation and stockpiled for subsequent replacement in the same or similar location on completion of the extraction activities for site rehabilitation purposes.

It is recommended that survey methods used to control extractive operations be specified in operational management plans requiring approved prior to commencement of works to avoid issues such as over-excavation, as has occurred at times at other extractive operations in the area.

Plans showing the pre- and post-extraction levels should be included in a report prepared each year to review the operation to demonstrate compliance with the extraction limits.

Relevant approval authorities should be notified immediately if it is determined that extraction or other levels do not comply with the approval conditions for any reason.

3. Potable Water Use

The Environmental Impact Statement states that: "*Water demands for the project including dust suppression and drinking water will continue to be sourced via a water cart contractor, which sources water supply from the potable water network.*", with dust suppression requirements in the order of 12 - 15 million litres per year. It also indicates that the activities would be extracting up to 100 million litres of groundwater per year.

For the application to be approved, Hunter Water recommends that a condition of consent be for Boral to obtain a share allocation that would cover their dust suppression water requirements so as to not burden the public potable drinking water supply. If the use of potable water is approved, the Proponent should be required to ensure water is provided by a licenced contractor with an approved standpipe location.

4. Water Quality and Groundwater Management

Hunter Water considers that extractive operations can be feasibly undertaken without adversely impacting on water quality, but only if undertaken with suitable operational management controls that are developed and implemented to safeguard against aquifer pollution or contamination risks and an appropriate monitoring program is undertaken to assess this during the life of the operation.

In order to ensure suitable operational management controls are in place, the Groundwater Management Plan should include event based monitoring (with event triggers to be determined from consultation during preparation of the plan) in order to accurately assess the impact of operations at the site.

5. Pollution Risk and Spill Management

The storage and management of fuels and other chemicals used on site will need to comply with all relevant standards and be undertaken in a way that protects the aquifer from the risk of contamination. Spills of any such materials should be cleaned up immediately and disposed of at an appropriately licenced facility. These matters should be documented in the Environmental Management Plan and include a spill management procedure (including remedial action to be implemented in the event of a spill incident). The importation of fill materials to the site is considered to pose a contamination risks. If such importation is permitted, strict controls should be enforced to ensure they are not contaminated.

6. Independent Environmental Audit

It is recommended that if approval is granted, that it includes a condition requiring independent audits of the operation be conducted at specified intervals during the life of the operation to assess compliance against environmental and other approval requirements.

Hunter Water can provide more detailed information on any of the above matters, such as for the setting of approval conditions, if required. For further advice or clarification regarding this submission, please contact me on (02) 4979 9545.

Yours sincerely



Malcolm Withers
Account Manager Major Development

