



OUT21/15056

Nagindar Singh
Planning and Assessment Group
NSW Department of Planning, Industry and Environment

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Dear Mr Singh

**Gunlake Quarry Continuation Project (SSD-12469087)
Environmental Impact Statement (EIS)**

I refer to your email of 7 October 2021 to the Department of Planning, Industry and Environment (DPIE) Water and the Natural Resources Access Regulator (NRAR) about the above matter.

The project proposes increases in truck movements to maximum of 750 vehicles movements per day (facilitated through increased workforce and expanded quarry plant and equipment) and continued production for 30 years from the date of determination.

DPIE Water and NRAR have concerns regarding water take and licensing, groundwater model and water census of private bores including 'make good provision'. Further detail can be found in **Attachment A**.

Any further referrals to DPIE Water and NRAR can be sent by email to water.assessments@dpien.nsw.gov.au or to the following coordinating officer within DPIE Water:

Alistair Drew – Project Officer
E: Alistair.drew@dpien.nsw.gov.au

Yours sincerely

A handwritten signature in blue ink that reads 'Liz Rogers'.

Liz Rogers
Manager, Assessments, Knowledge Division
Department of Planning, Industry and Environment: Water
20 December 2021

Attachment A

Detailed advice to DPIE Planning & Assessment regarding the Gunlake Quarry Continuation Project (SSD-12469087) –EIS

1.0 Water Take and Licensing

1.1 Explanation

The proponent has predicted a maximum groundwater take of 68ML/yr due to groundwater interception in the pit commencing in year 2027. The proponent will be required to source an additional 31 units of entitlement in the Goulburn Fractured Rock Groundwater Source to account for this take. Based on existing entitlement held in this water source, and the availability of entitlement via Controlled Allocations, a viable path exists to acquire the necessary entitlement.

Insufficient information has been provided to confirm the ability of the proposed contingency measures to address the predicted water supply shortfall of 23ML/yr in a dry year. This includes confirming the ability to source this water from external suppliers or farm dams, or the ability of chemical dust suppressants to reduce water use sufficiently to reduce or prevent the need to source additional water. An inability to source this additional water would represent a risk to the project and would rely on the option of scaling back operations until additional water supplies are available.

A comprehensive water balance for the activity will be required to validate groundwater take and surface water take predictions and to inform model updates and licence requirements. This will need to include accurate metering of water captured and pumped around the site combined with modelled inputs and outputs. The groundwater level monitoring program will assist in verifying groundwater level changes associated with groundwater inflows and to identify any changes inconsistent with predictions.

1.2 Recommendation – Prior to Determination

- The proponent should provide further information to confirm the ability of the proposed contingency measures to meet water supply shortfalls during dry periods.

1.3 Recommendations – Post Approval

The proponent should:

- update the Soil and Water Management Plan to reflect monitoring, metering and management measures to report on groundwater and surface water take and potential impacts to water sources due to the activity.
- report on water take at the site each year (direct and indirect) in the Annual Review. This should include water take where a water licence is required and where an exemption applies. Where a water licence is required the water take needs to be reviewed against existing water licences.
- ensure sufficient water entitlement is held in a water access licence/s to account for the maximum predicted take for each water source prior to take occurring.
- ensure that relevant nomination of work dealing applications for Water Access Licences proposed to account for water take by the project have been completed prior to the water take occurring.
- be aware of the rules of the relevant water sharing plans and how they may impact the project and ability to trade water.

2.0 Independent Review of the Groundwater Model

2.1 Explanation

DPIE water notes that predicted cumulative groundwater impacts are based on an analytic element groundwater flow model and categorised in accordance with the Australian groundwater modelling guidelines as a class 1 flow model. The NSW Aquifer Interference Policy Section 3.2.3 states where a development consent under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* applies, the proponent's impact assessment is to be based on complex modelling platform that is:

- (i) calibrated and validated (where practical) to the available baseline data that has been collected at an appropriate frequency and scale and over a sufficient period of time to incorporate typical temporal variations. In instances where an activity has a high likelihood of causing more than minimal harm to a "reliable water supply", at least 2 years of baseline data is required; and
- (ii) consistent with the Australian Groundwater Modelling Guidelines; and
- (iii) independently reviewed and determined to be robust and reliable, and deemed fit-for-purpose to the satisfaction of the Minister;

The proponent should submit the independent review of the groundwater model to DPIE Water. Improving the robustness of the impact predictions with a numerical groundwater flow model within 5 years of project determination is recommended.

2.2 Recommendation – Post Approval

- Prior to implementing the continuation, the proponent should submit an independent review of the groundwater model to relevant Government agencies for review.

3.0 Water monitoring, water census of private bores and 'Make Good Provision'

3.1 Explanation

The current groundwater monitoring network of two closely positioned shallow piezometers is inadequate for updating baseline, verifying and updating the groundwater model, and detecting impacts on the water source and receptors.

Statements on data quality assurance is not evident, in the EIS, Water Management Plan (WMP), or online reported annual reviews or environmental monitoring results summaries. Water-quality baseline is inconsistently and inadequately defined in EIS Appendix F.5 and the water management plan. Significant improvements to the Water Management Plan are required to support an evaluation of impact consistent with that predicted in the EIS. It is recommended the proponent liaise with the department to reconcile these limitations prior to submitting the revised WMP.

DPIE Water notes that whilst the quarry is currently a dry operation, the impact predictions will need continuous refinement. The Environmental Assessment reports that there are two other quarries within 5 km of Gunlake Quarry; Johnniefields Quarry and Lynwood Quarry. Johnniefields Quarry is approximately 1 km east of Gunlake Quarry and is currently in care and maintenance. Lynwood Quarry is extracting rock from the Granite Pit, located approximately 750 m south of the Gunlake site boundary. There are also 39 groundwater works within a 5 km radius of the Quarry. Nine local groundwater works are registered for private use (stock or domestic/stock purposes).

Due to the identified potential for cumulative impact and noted limitations with both the analytical model and baseline dataset, a water census should be undertaken for registered users within 2km of the quarry. In addition, it is recommended those registered bores within 2km be added to the monitoring program as part of the Water Management Plan inclusive of the 'make good' provision.

3.2 Recommendations – Post Approval

The proponent should:

- conduct a water census of private registered bores within 2 kilometres of the quarry. Include monitoring of these registered works into the Water Management Plan and commit to the 'make good' provision.
- undertake consultation with DPIE Water on the Water Management Plan.

End Attachment A