OUT19/14564

Melissa Anderson
Environmental Assessment Officer
Planning & Assessments
NSW Department of Planning and Environment

melissa.anderson@planning.nsw.gov.au

Dear Ms Anderson

Sancrox Quarry Expansion Project (SSD-7293)
EIS Exhibition

I refer to your email of 25 October 2019 to the Department of Planning, Industry and Environment (DPIE) Water and the Natural Resources Access Regulator (NRAR) about the above matter.

The following recommendations for you to consider are provided from DPIE Water and NRAR. Please note Crown Lands, the Department of Primary Industries (DPI) – Fisheries and DPI - Agriculture all now provide a separate response directly to you. Please note more detail is provided in **Attachment A**.

Pre-Approval

Groundwater Assessment, Licencing and Monitoring

- Assess and classify the groundwater model against the Australian Groundwater Modelling Guidelines and have the model peer reviewed.
- Provide details on acquiring suitable surface/groundwater entitlement to cover estimated take.
- Correctly identify potentially impacted water sources and revise its Aquifer Interference Policy (AIP) (DPI 2012) assessment as required.

Post Approval

Groundwater Licencing and Monitoring

- If a Water Access Licence (WAL) is required it must be obtained prior to the commencement of works.
- Develop a groundwater monitoring plan in consultation with DPIE Water including threshold trigger values as well as a contingency strategy if triggers are exceeded.
- Develop a water quality monitoring plan for the in-pit sump(s) and existing monitoring bores while they remain accessible.

Surface Water Assessment

- Establish a sediment control structure adjacent to the northern aggregate stockpile to the southeast of the Project area.

Any further referrals to DPIE – Water and NRAR can be sent by email to: landuse.enquiries@dpi.nsw.gov.au.

Any further referrals to (a) Crown Lands; (b) DPI – Fisheries; and (c) DPI – Agriculture can be sent by email to: (a) lands.ministerials@industry.nsw.gov.au; (b) ahp.central@dpi.nsw.gov.au; and (c) landuse.ag@dpi.nsw.gov.au respectively.

Yours sincerely

Simon Francis
Senior Project Officer, Assessments
Water – Strategic Relations
10 February 2020

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Groundwater Assessment, Licencing and Monitoring

The numerical groundwater model (herein the model) reported in the EIS was calibrated in steady state only and with no transient verification. The proponent has not referenced the Australian Groundwater Modelling Guidelines (2012) in the EIS or in Appendix F. No report is given of a peer review and no classification is made under the Guidelines. However, the model is appropriately constructed and well calibrated.

The model does not incorporate surface water harvesting and enhanced pit inflows, nor does it take into account harvested surface water storages close to the pit. These have the potential to alter the model final iterations in its current form.

The proponent has misidentified the applicable Water Sharing Plans and Water Sources potentially affected by this development, possibly misguided by the possibility that the Water Sharing Plan for the Hastings Unregulated and Alluvial Water Sources (2019) was yet to be gazetted at the time of the groundwater assessment.

In any event, the proponent has failed to identify the New England Fold Belt Coast Groundwater Source of the Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016 as the impacted water source. (The Hastings Alluvium sits adjacent to the quarry extent but partly within the project boundary.)

Despite this, the minimum impact considerations of the AIP are correctly made for a less productive porous rock aquifer, but should be reassessed by the proponent in view of the other errors made and the shortcomings identified with the numerical model.

The bulk of the water demands are to be supplied from harvesting overland flows on site, with an estimated peak operational demand of at 131 ML/year. The groundwater seepage into the pit void is modelled at between 15 to 22 ML/year – representing the full volume of groundwater take.

The proponent has not provided details on acquiring suitable surface/groundwater entitlement for the predicted water take within the WSP. The predicted 100-year 2 m drawdown contour is not entirely within lands owned by the proponent (and quarry lease). The proponent has modelled drawdown impacts on two neighbouring third-party bores that breach the 2 m limit required under the AIP. The proponent will need to implement monitoring of these sites in the WMP and provide triggers for make good provisions on impacted bores.

There are currently three groundwater monitoring bores within the proponents lease area and a further 13 bores within a 2 km radius of the pit. Two years of water level data were collected in the three monitoring bores at 12 hr intervals between October 2015 and July 2017. Water quality monitoring was completed only once during the pump test completed in November 2017 – this is insufficient to represent baseline conditions.

A water monitoring plan will need to be developed in consultation with DPIE Water.

Surface Water Assessment

Surface water runoff flows into the main pit and is pumped into water holding dams in the southeast corner of the site. There is a sediment basin in the north east of the quarry that captures water from the crushing plant and stock pile. The northern aggregate stockpile area drains to the southeast and has minimal sediment control. The proponent has committed to reviewing sediment control on site. The quarry is surrounded by a bund at its extents.

The quarry sites represent a challenge for erosion control deemed “high risk”, due to the large areas of exposed soil surface (which is often unavoidable), and erosion control will only ever be partially effective. To protect receiving waters against pollution, sediment controls such as large sediment basins near final discharge locations and smaller sediment traps targeting problem areas, will be an important element of the Soil and Water Management Plan.