

Cyril Giraud
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Level 8, 799 Pacific Highway
Chatswood, New South Wales, 2067

16/11/2023

Subject: Water Management Plan

Dear Mr Giraud

I refer to the Water Management Plan submitted in accordance with the conditions of the consent for the Dubbo Quarry Continuation Project (SSD-10417).

The Department has carefully reviewed the document and considers that several amendments are required to improve the plan. Despite this, the Department is satisfied that the plan generally meets the requirements of the relevant conditions of consent and is sufficient to manage potential water impacts associated with initial vegetation clearing and overburden removal works.

Accordingly, as nominee of the Planning Secretary, I approve the Water Management Plan (revision 4, dated 3 November 2023) subject to the following conditions:

- Within 2 months of the date of this letter a revised Water Management Plan that effectively addresses the comments in **Attachment A** must be submitted to the Department for approval.
- Works undertaken under the development consent (SSD-10417) must be limited to the removal of vegetation, topsoil and overburden until the abovementioned revised Water Management Plan is approved by the Planning Secretary.

You are reminded that if there are any inconsistencies between the Plan and the conditions of consent, the conditions prevail.

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Jarrod Blane on 02 8275 1831 or jarrod.blane@dpie.nsw.gov.au.

Yours sincerely



Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Planning Secretary

Attachment A

Condition	Requirement	Consideration	Action
Discharge Characterisation Report (Version 4)			
B35	Within 12 months of the completion of the clean water diversion installation required by conditions B33, the Applicant must prepare a Discharge Characterisation Report for the development and submit it to the Planning Secretary for information. This report must:	Information relevant to the Discharge Characterisation Report (DCR) is included in Section 5 of the Water Management Plan (WMP). Section 5.4 includes an assessment based on predicted/modelled information on groundwater levels, East Pit inflows and surface water (levels and quality) following the installation of the East Pit diversion channel. The DCR and associated modelling will need to be updated and calibrated with monitoring data following the installation of the diversion drain and once the East Pit water levels have had time to reach equilibrium. Section 6.3.1 indicates that the Holicom will prepare an annual water management review as part of the Annual Environmental Management Report (AEMR) which includes this information. The Department accepts this approach however notes that comprehensive re-modelling will need to be completed after the installation of the diversion channel and once actually monitoring data is available.	An updated and revised DCR (including re-modelling) will need to be submitted to the Department for approval within 12 months of completion of the clean water diversion.
	(a) be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary	The WMP, which includes information relevant to the DCR, was prepared by Chris Kuczera (Associate Water Resources Engineer) and Samuel Cook (Associate Hydrogeologist) who were approved by DPE on 25 May 2023.	Nil
	(b) be prepared in consultation with the EPA and DPE Water;	The WMP, which includes information relevant to the DCR, was provided to the EPA and DPE Water for comment and Version 4 of the document was updated	Subsequent DCR documentation will need to be prepared in consultation with EPA and DPE

	to address these comments.	Water.
(c) include: (i) measures to avoid the need for discharges as far as reasonable and feasible; (ii) analysis of the frequency and volume of discharges during dry, median (or average) and wet weather conditions; (iii) sufficient baseline water quality data from the East Pit; (iv) characterisation of the expected water quality and frequency of proposed discharges; (v) assessment of the impact of discharges to Eulomogo Creek; and (vi) measures to prevent pollution of Eulomogo Creek and any other potential downstream impacts.	Included in Section 5, and specifically summarised in Table 5.5. Reliance on the East Pit for storage of site dirty water and operational re-use. Water balance model included in Appendix B and summarised in Section 5. Model estimates/predicts flow and discharge regimes for historic operations and the continued project, both before and after the installation of the East Pit water diversion (ie. 3 scenarios modelled). Section 3.6 includes baseline water quality characteristics of the East Pit, derived from 3 rounds of water quality monitoring undertaken to date. Section 5.4.2 and Table 5.3 includes prediction of water quality characteristics in the East Pit following installation of the diversion. Specific baseline data and characterisation will need to be updated with actual monitored data once the clean water diversion is constructed and the East Pit reaches equilibrium levels. The DCR sections (and WMP as a whole) contain limited information on the impact of discharges to Eulomogo Creek or the downstream environment, or any mitigation or management measures to prevent pollution from discharges. Further, the DCR sections (and WMP as a whole) do not provide any information on the need to regularise proposed/predicted discharges to Eulomogo Creek via a variation to the existing Environment Protection Licence (EPL 2122). The Department is aware that the current site EPL does not currently include any discharge points or water quality/volumetric	Characterisation of East Pit and discharge water will need to be confirmed following installation of the diversion channel. Update the WMP to include an assessment of the impact of predicted discharges on Eulomogo Creek and the downstream environment, and include measures to prevent pollution of the creek. Provide information to the Department on the status of discussions with the EPA regarding a variation to the current EPL to allow discharge of excess water from the site into Eulomogo Creek. Update the WMP to reflect the outcomes of these arrangements.

		allowances/limits. The water balance model predicts significant discharges to Eulomogo Creek would be required prior to the installation of the clean water diversion channel (ie. approximately 200-800 ML/year). The Department requests information on the status of discussions with the EPA in relation to a variation to the EPL to regularise the proposed discharges.	
Water Management Plan (Version 4)			
B39	The Applicant must prepare a Water Management Plan for the development. This plan must: (a) be prepared by suitably qualified and experienced person/s whose appointment has been approved by the Planning Secretary;	The WMP was prepared by Chris Kuczera (Associate Water Resources Engineer) and Samuel Cook (Associate Hydrogeologist) who were approved by DPE on 25 May 2023	Nil
	(b) be prepared in consultation with the EPA, DPE Water and Council; and	The WMP was provided to the EPA, Council and DPE Water for comment and Version 4 of the document was updated to address these comments. A response table (dated 3 Nov 2023) was submitted to the Department detailing how specific comment were addressed. The Department has sent the response table to DPE Water for final comment, specifically regarding the proposed approach to groundwater and surface water take licencing.	Update the WMP to address any subsequent comments received from DPE Water.
	(c) include a: (i) Site Water Balance that: - includes details of: - sources and security of water supply; - water use and management on the site; - any off-site discharges or water transfers;	Water balance model included in Appendix B and summarised in Section 5. Model estimates/predicts flow and discharge regimes for historic operations and the continued project, both before and after the installation of the East Pit water diversion (ie. 3 scenarios modelled). Section 5.3.3 acknowledges that key aspects of the	Update the WMP to include measures that would be implemented to minimise potable water use on site.

	– metering of captured water volumes in all water storages and measuring of volumes of water pumped between water storages; and – reporting procedures, including the annual preparation of a Site Water Balance; and • uses accurately measured volumes of captured water and water pumped around the water storages within the development's water management system and measured groundwater inflows to the water storages; and • minimises clean and potable water use on the site;	model have considerable uncertainty, primarily associated with limited data on flow exchange and runoff. Section 6.3.1 indicates that the Holicom will prepare an annual water management review as part of the AEMR. The Department considers this vital given model uncertainty. The WMP does not include any measure that would be implemented to minimise potable water use on site.	
	(ii) Surface Water Management Plan, that includes: • detailed baseline data on surface water flows, water quality, riparian condition and geomorphic stability in watercourses and/or water bodies that could potentially be affected by the development; • surface water impact assessment criteria, including trigger levels for investigating any potentially adverse impacts, and surface water management performance measures; • a detailed description of the	Sections 3.2 and 3.6 includes baseline data on surface water characteristics of Eulomogo Creek and the upgradient Eastern and Northern watercourses, including surface water flows and water quality. The WMP does not include information on current riparian condition or geomorphic stability of Eulomogo Creek or the eastern or northern watercourses. Section 3.6.2 defines water quality targets/criteria based on the <i>Macquarie-Castlereagh water quality management plan</i> (NSW DoI 2018). Sections 3 and 4 include descriptions of the existing and proposed water management systems. The proposed water management system for the Western	Update the WMP to include: • information on current riparian condition and geomorphic stability of Eulomogo Creek and the eastern and northern watercourses; • any measures necessary to ensure separation of the clean and dirty water systems in the vicinity of the WEA and SEA; • a monitoring and reporting program for stream stability, riparian condition or geomorphic processes along Eulomogo Creek, and

surface water management system on the site, including the:

- clean water diversion system;
- erosion and sediment controls;
- dirty water management system; and
- water storages;
- a program to monitor and report on;
 - any surface water discharges;
 - stream stability, riparian condition and geomorphic processes in receiving watercourses;
 - the effectiveness of the water management system;
 - surface water flows and quality in watercourses and/or waterbodies that could potentially be impacted by the development; and
- a protocol for identifying and investigating any exceedances of the surface water impact assessment criteria and for notifying the Department and relevant stakeholders of these events.

Extension Area (WEA) and Southern Extension Area (SEA) does not include measures (eg. diversion channels) that would be installed to divert clean water from upslope areas around the disturbance areas and pits to ensure separation and avoid mixing of the clean and dirty water systems.

Section 6 includes monitoring and reporting commitments for surface water quality and flows. The WMP does not include a monitoring and reporting program for stream stability, riparian condition or geomorphic processes. This is considered important, particularly given significance of the predicted discharge volumes into Eulomogo Creek for the period prior to the installation of the clean water diversion (ie. approximately 200-800 ML/year). It is noted that the Biodiversity Management Plan recently approved by the Department does not include information on the riparian condition or aquatic ecosystems along Eulomogo Creek, or any mitigation or management measures to protect this system.

The location of the water level meter installed upstream of the East Pit is not shown on Figure 3.2.

Section 6.2 includes a Trigger Action Response Plan (TARP). This TARP is not considered adequate to manage potential adverse impacts of the development on surface waters. The TARP is required to include measurable water quality and level triggers, that initiate specific actions and responses to minimise and avoid impacts. The water quality triggers should specifically link into the water quality targets/criteria included in Section 3.6.2 of the WMP. Actions should include activities on site that would be implemented to mitigate and manage impacts.

Section 6.3.3 indicates that Holicim will establish and implement a procedure to notify Council when water

mitigation and management measures that would be implemented to protect this system;

- the location of the water level meter installed upstream of the East Pit (on Figure 3.1 or 3.2);
- updated TARP(s) to include measurable water quality and level triggers and specific actions and responses to minimise and avoid impacts; and
- details of the water discharge notification procedure (nature and timing) to Council.

		discharges occur from the site. The WMP does not provide any details on how Council would be notified or the timing for notifications.	
	(i) Groundwater Management Plan that includes: • detailed baseline data of groundwater levels, yield and quality for groundwater resources potentially impacted by the development, including groundwater supply for other water users and groundwater dependent ecosystems; • a detailed description of the groundwater management system; • groundwater performance criteria, including trigger levels for investigating any potentially adverse groundwater impacts; • a program to monitor and report on: – groundwater levels, yield and quality of groundwater resources potentially impacted by the development; – groundwater inflows into the extraction areas; – impacts of the development on groundwater dependent ecosystems; and – impacts of the development on groundwater supply for other water users; • a protocol for identifying and	Sections 3.3 and 3.4 include existing hydrogeological characteristics and baseline data groundwater levels from surrounding bores and within the East Pit. Section 3.5 describes the existing groundwater management system associated with the East Pit. Section 3.6 provides baseline data on groundwater quality. Section 4 includes a description of the proposed water management system associated with the continued project. The Department notes that the key control to minimise impact to the regional groundwater system is the requirement to limit extraction to 285m AHD in the WEA and 288.5m AHD in the SEA and 2m above the regional alluvial aquifer (condition A8 of the consent). These requirements are not specifically referenced in the WMP, nor does the WMP include a procedure to determine the pit depths required to ensure extraction remains 2m above the regional aquifer. Section 6 includes a groundwater monitoring program. Considered adequate. The WMP includes limited information in relation to groundwater performance criteria, particularly in relation to groundwater quality and levels of surrounding bores. The WMP does not include any procedures to determine if any water supply to any owner of privately owned land surrounding the quarry is affected by quarrying operations, noting the compensatory water supply conditions of consent (ie.	Update the WMP to: • specifically reference the requirements of condition A8 of the consent; • include specific groundwater performance criteria, with reference to conditions B29-B32, the AIP and <i>Upper Macquarie Alluvial Groundwater Source</i>; • provide further justification and discussion of the groundwater related TARPs, and update the TARPS to include specific triggers for groundwater levels and quality.

	investigating any exceedances of the groundwater performance criteria and for notifying the Department and relevant stakeholders of these events; and • a protocol to obtain appropriate water licence(s) to cover the volume of any unforeseen groundwater inflows into the extraction areas including details to monitor and verify water take.	B29-B32). The TARP at Section 6.2 is not considered adequate. Further justification and discussion of TARP ID's 5 and 6 in Table 6.3 should be provided, including how they address the minimal impact considerations of the <i>NSW Aquifer Interference Policy</i> (AIP) and requirements of the <i>Upper Macquarie Alluvial Groundwater Source</i>. Triggers for groundwater levels and quality at monitoring bores should be provided. Section 7 includes the proposed approach to water licensing. Holicom will be required to confirm the acceptability of the approach with DPE Water.	
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