



01 November 2019

Lauren Stevens
Development Planner
Lithgow City Council
PO BOX 19
LITHGOW NSW 2790

Our ref: 2125774-11597
Your ref:

Dear Ms Stevens

Bell Quarry Rehabilitation Project Response to Additional EPA Comments - DA294/18

The purpose of this letter is to provide a response to the Environment Protection Authority's (EPA) letter provided on 16 October 2019. The EPA's letter was provided after our most recent response that was issued on 11 October 2019 to Lithgow City Council (Council) and as such we have prepared this reply to assist in the assessment and determination of the Bell Quarry Rehabilitation Project (the Project).

It is noted that the project does not constitute a scheduled activity under the PoEO Act as acknowledged by EPA in the meeting on 3 October, 2019. The EPA are therefore not an integrated approval authority and general terms of approval are not required under Division 4.8 of the EP&A Act.

1 Proposed small scale field and laboratory trial

The EPA is recommending that the Project be refused primarily for the reason that it presents a perceived risk of unacceptably impacting on the quality of surface water, groundwater and the aquatic ecology of the Blue Mountains National Park.

As noted in previous submissions responses, a detailed and comprehensive water resources assessment has been undertaken in accordance with the SEARS and demonstrates general conformance with ANZECC guidelines. The assessment approach is considered to give the best representation of potential water quality impacts associated with the project and conservative assumptions were adopted to ensure consideration of reasonable worst case scenarios. It appears that comments regarding potential water quality risks are primarily associated with the perception of risk rather than an objective consideration of the technical assessments undertaken as part of the application.

However, our client has listened very carefully to the advice of the EPA, Council and other stakeholders and is offering to demonstrate further via additional studies that the predictions detailed in the EIS are achievable and that the Project would not result in an unacceptable impact on water quality and aquatic ecology of the receiving environment. Importantly, these additional studies would be undertaken via a small field scale and laboratory trial as part of a "deferred commencement consent" under section 4.16 (3) of the EP&A Act.

In summary, the scale of the field trial would be less than 5% of the total sought quantity of VENM and ENM materials and would be undertaken over an approximate six (6) month period at the site with details

of this commitment included as Attachment A of this letter. In additional, laboratory testing would be undertaken as part of the trial.

The final conditions of the trial would be agreed with Council, with input sought from the EPA and NPWS, prior to its commencement. Should the results achieve the predictions in the EIS and agreed assessment criteria, then the develop consent would be activated to enable the Project to proceed at the proposed full scale.

If potentially unacceptable impacts are identified then the development would not be able to proceed in accordance with the DA. The emplaced VENM/ENM (which in the first stage is above the groundwater table) would be capped and revegetated to prevent any ongoing environmental risks. However, we consider that the trial results would demonstrate our conclusion that the modelled predictions in the EIS are conservative and overestimate the predicted water quality changes.

Furthermore, we hope that Council, the EPA, NPWS and other stakeholders also consider this to be a reasonable approach to the assessment and determination of the Project given:

- Our client has invested significantly in seeking approval for this Project. We have followed the applicable regulatory framework which states that rehabilitating the site adjacent to the Blue Mountains National Park with the proposed VENM/ENM type materials is permissible development (subject to receiving development consent) and we have addressed the SEARs (and input provided by the EPA and others) in assessing the Project;
- The VENM/ENM framework under the Protection of the Environment Operations Act 1997 inherently recognises that these types of material present significantly lower risk of impacting the environment than does general waste;
- The assessment concludes (EIS GHD 2018) that the Project would not result in a material adverse impact on the environment and specifically water quality and the aquatic ecology of the Blue Mountains National Park; and
- The proposed trial will provide another layer of certainty in the assessment findings before any significant quantity of material would be received at the site (should the trial results be as expected).

2 Overview of Response to EPA

The EPA provided a number of comments in its recent letter which we consider it important to respond. These are each addressed below.

EPA Comment

The site has been rehabilitated consistent with the existing development approval (DA108/94) and the operating licence at the time, which was surrendered with EPA approval in 2014.

Response

It is acknowledged that the site was rehabilitated consistent with the existing development consent and the EPL surrender was approved by the EPA.

The Project however offers the opportunity to beneficially reuse material in the rehabilitation of the quarry voids and progressively return the site to a pre-quarry landform and revegetated with species consistent with the adjoining Blue Mountains National Park.

The alternative to retaining the site in its existing state is to have an open scar on the landscape and due to evaporation from the quarry voids deprives the downstream creek and Wollangambe River of water, particularly in dry periods compared to a landscape matching the pre-quarry environment.

The project involves rehabilitation of a former extractive industry site and will effectively increase the buffer zone and reduce potential edge effects in accordance with the recent UNESCO World Heritage Committee concerns articulated in the EPA's letter.

EPA Comment

The rehabilitation included the provision to store water in the pit as a fire fighting resource.

Response

The SEE prepared to support the existing DA in 1994 described an indicative final land form including retention of water storages in Cells 8 and 3 which could act as a supplementary water supply for fire fighting. The landform was considered indicative and would depend upon the volume of sand extracted and the final void space created. The description also describes a stable and well drained vegetated landform with maximum bench heights of 10 metres which has not been achieved with the existing rehabilitation.

It is noted that the rehabilitation project is subject to a new development application and there is no legal obligation for any individual property owner to maintain water for fire fighting purposes. It is understood that water in the voids has previously been used opportunistically to assist with bushfire response. The site will be progressively dewatered based upon the staging plan provided in the EIS and water will still be available for fire-fighting purposes until Stage 5 when the final void is dewatered. The applicant is supportive of the site continuing to provide emergency fire-fighting water throughout the development of the project.

EPA Comment

The landform is stable.

Response

Geotechnically in the short to medium term the landform appears to be stable, however in the longer duration there is the possibility for additional erosion and for the elevated quarry walls to fail in areas. Rehabilitating the site by dewatering it and backfilling it with VENM/ENM type materials would address the longer term stability of the quarry walls and also provide a vegetated landscape more stable than currently is the case as for example the existing quarry roads are not stabilised with vegetation and are eroding.

EPA Comment

Aside from slightly reduced flow rates, there is no impact to surface or groundwater within the UNESCO World Heritage listed Greater Blue Mountains Area (World Heritage Area) from the site.

Response

As the climate appears to be subject to more extensive dry periods, the loss of flow from the catchment associated with the site can be expected to have a greater impact on the downstream swamp vegetation and associated aquatic life. The Project offers to address this issue by returning the landscape and flow regime to the pre-quarry natural situation. This will provide a natural buffer and reduce the potential edge effects to the World Heritage Area.

EPA Comment

Inherent difficulty in managing waste over the fifteen-year life of the Project to ensure no contaminated waste is taken to the site.

Response

The project has been designed to operate within the EPA's regulatory framework. This comment suggests bias from EPA on the Project based on some actual and perceived malpractice within the waste industry. In GHD's experience there are considerable checks and balances from the source of the generation of waste to when it is received at a facility. Numerous sites operate within the law when receiving and emplacing waste material and / or VENM/ENM.

Furthermore, VENM and ENM type materials present a low risk of impacting on the environment and as such the facility receiving them is not required to be licensed (as discussed below). The applicant is committed to ensuring all material is reviewed and tested at the source to confirm that it meets the ENM composition requirements as stipulated in the EPA's ENM Order 2014 prior to it being received at the site. Further checks and balances will be undertaken at the site upon receipt of material and these will be documented in the site Environmental Management Plan (such as regular audits).

EPA Comment

Potential risks to surface and groundwater within the World Heritage Area downstream of the site

Response

As offered above, the applicant is seeking a deferred commencement consent to address this comment from the EPA and others. The intention is to demonstrate via a small scale trial at the site and laboratory testing that the Project would meet the water quality predictions in the EIS and agreed assessment criteria, prior to the approval being activated to enable the operations to be undertaken at the full scale as proposed.

EPA Comment

Potential risk of erosion from discharges impacting on the receiving drainage line and an endangered ecological community located within the World Heritage Area

Response

The Water Resources Assessment included a flow duration assessment which predicted the frequency that the range of potential flow rates at the site discharge and downstream would be experienced. This was undertaken for the natural, existing and rehabilitated scenarios as well as for each stage of the

project. This allows for assessment of potential erosion impacts as the rate and duration of flow are the key indicators of potential changes to erosive forces resulting from the project.

The assessment found that the proposed project will alter the flow regimes temporarily, including less frequent low flows and more frequent moderate flows, during the life of the project (though within current natural flow variation levels). However, after completion of the project and rehabilitation, flows will be restored to natural conditions as closely as possible to pre-quarrying conditions and will be significantly closer to natural conditions than is currently the case.

In order to manage these potential temporary changes to flow regimes mitigation measures were proposed including regular variation of dewatering rates. It is anticipated that with these mitigation measures the project is not expected to result in significant impacts with relation to downstream scour, and result in a long term restoration closer to natural conditions.

Furthermore, as can be seen from the flow duration results pumped discharge flows are only a small fraction of rainfall derived natural and existing flows during heavy rainfall periods and the risk of erosion was noted by the OEH representative as a secondary issue in the meeting on 3 October.

EPA Comment

No commitment to establishing a liner to reduce potential impacts to groundwater within the World Heritage Area.

Response

It appears that the technical review undertaken by OEH on behalf of the EPA was undertaken by staff not trained and experienced in hydrogeology or familiar with the modelling approaches adopted in the assessment. To address this deficiency it also appears that this suggestion for a liner was made to engineer off the perceived risk to groundwater.

Based on hydrogeological assessment methods utilised for the Project it is considered that the risk is low to negligible of the groundwater being impacted such that it would impact on the downstream ecology at the swamp. This finding is expected to be reconfirmed via the proposed small scale trial at the site and laboratory testing and the data obtained from it.

EPA Comment

Improvement to the aesthetic appeal of the site will only be achieved following the life of the Project and an undefined regeneration period

Response

This comment is incorrect. It is proposed to progressively rehabilitate the site in six stages as detailed in Section 4 of the EIS (GHD 2018). The regeneration period is subject to the natural growth cycle of the plantings that would be endemic with the local vegetation and as mentioned would be progressively planted as each of the six stages are rehabilitated.

EPA Comment

The environmental assessment does not demonstrate that there will be an improved environmental outcome in the long-term, when compared to the current stabilised site.

Response

The Project would result in improved environmental outcomes in the long-term by returning the site to the pre-quarry landform and a vegetated state consistent with the adjoining Blue Mountains National Park.

As the emplaced VENM/ENM would be covered with soil types generally consistent with the local area and revegetated progressively the risk of impact to water quality from runoff in the long-term would be insignificant. In terms of surface water flow, a superior environmental outcome would be achieved by reinstating the pre-quarry landform and vegetation.

In terms of the groundwater, extensive and conservative groundwater modelling predicts that the downstream ecological receptors are also not expected to be affected.

The proposed small scale trial and laboratory testing would provide another check that the long term predictions, particularly with respect to groundwater would be achieved before the Project could proceed to full scale operations.

EPA Comment

The EPA provided several concluding statements regarding:

- whether the Project is a genuine reuse project rather than simply a method of opportunistic waste disposal and does not cause harm to the environment and human health; and
- the comments from UNESCO regarding mining projects and activities in the vicinity of World Heritage Areas and cumulative impacts from edge effects on these Areas

The EPA concluded by suggesting that the project was not legitimate under the NSW waste framework, and recommended that the Project should be refused from obtaining development consent on the basis of ecological sustainable development, the precautionary principle and the sensitivity of the Blue Mountains National Park, including its vulnerability to edge effects.

Response

The EPA in its initial 20 March 2019 assessment of the Project incorrectly concluded it triggered Integrated Development and as such it was not prepared to issue general terms of approval for the Project. This position was reversed by the EPA at the meeting on 3 October 2019 where it acknowledged it does not have a statutory role in assessing and determining whether the Project should be approved or refused.

The Project is legitimate in the context of the NSW planning legislation, which applies to the site and also under the NSW waste framework as it is specifically allowed in resource recovery exemptions under the Protection of the Environment Operations Act 1997 (i.e., the ENM Order 2014).

Also contrary to the claims of the EPA the Project would reduce the edge effects on the Blue Mountains National Park by reinstating the pre-quarry landform and to provide progressive vegetation consistent

with that adjoining the site, rather than retaining an open disused quarry mostly filled with water and which is not fully revegetated.

To address the potential concerns from the EPA and others with respect to water quality the applicant is proposing to undertake a small scale trial and laboratory testing, as part of a deferred commencement consent for the Project.

Sincerely
GHD

A handwritten signature in blue ink that reads "A. Dixon".

Anthony Dixon
Technical Director and

A handwritten signature in blue ink that reads "Karl Rosen".

Karl Rosen
Technical Director and

Attachment A – Small Scale Trial and Laboratory Testing (Deferred Commencement Consent)

The following is proposed as the key elements of a deferred commencement consent:

- A small scale trial in the order of 10,000 tonnes of VENM and ENM which is less than 5% of the total quantity of material sought to be received would be undertaken within Stage 1 at the site (as identified in Section 4.2.2 of the EIS (GHD 2018)) for a duration of approximately 6 months (as a slightly longer duration may be needed if the dry conditions don't enable enough data to be obtained);
- Prior to commencing the trial, its framework would be documented in an Environmental Management and Assessment Plan (EMAP), including the trial location, details of sampling frequencies, locations and substances to be tested and how the results would be compared to the EIS predictions and appropriate guideline values. The EMAP would also include details for capping and revegetating the emplaced material should it be determined that the Project should not proceed beyond the trial. This plan would be approved by Council, with input from the EPA and NPWS;
- The results of the trial would be documented and submitted to Council, EPA and NPWS soon after the completion of the trial;
- Subject to the results of the EMAP and the approval of Council, taking into account input from the EPA and NPWS then the Project could proceed at the scale as originally proposed in the EIS (GHD 2018);
- Should the EMAP or Council (taking into account input from the EPA and NPWS) conclude that the Project should not proceed then the emplaced VENM/ENM material would be capped and revegetated as detailed in the approved EMAP.