



Office of
Environment
& Heritage

DOC17/139733-1
SSD 5899

Ms Genevieve Seed
Planning Officer, Resources Assessments
Department of Planning and Environment
genevieve.seed@planning.nsw.gov.au

Dear Ms Seed

Brandy Hill Quarry - Environmental Impact Statement - Exhibition (SSD 5899)

I refer to your email dated 28 February 2017, seeking comments on the proposed Brandy Hill Quarry Environmental Impact Statement (EIS).

The Office of Environment and Heritage (OEH) has undertaken a review of the EIS titled *Brandy Hill Expansion Project - Environmental Impact Statement (including Appendices)*, prepared by Hanson Heidelberg Cement Group (dated February 2017). OEH's review is in relation to threatened biodiversity, Aboriginal Cultural Heritage, and flooding / floodplain management. OEH understands the proposal is a State Significant Development project (SSD 5899) under the *Environmental Planning and Assessment Act 1979*.

With respect to biodiversity, the project has utilised the BioBanking Assessment Methodology (OEH 2014) and the 'NSW OEH interim policy on assessing and offsetting biodiversity impacts, State significant development (SSD) and State significant infrastructure (SSI) projects' (OEH 2011) as outlined in our SEARs to undertake the assessment. This includes the requirement to provide a suitable Biodiversity Offsets Strategy / Package. As such OEH has reviewed the project on this basis and is of the view that it has adequately addressed our issues as outlined in the SEARs with respect to biodiversity (including threatened species). Some minor issues have been identified in the 'Biodiversity' report and associated credit calculator files. These issues are discussed further in Attachment A.

OEH has reviewed the Aboriginal Cultural Heritage and flooding / floodplain management sections of the EIS, and is of the opinion the EIS adequately addresses any OEH issues.

If you require any further information regarding this matter please contact Steve Lewer, Regional Biodiversity Conservation Officer, on 4927 3158.

Yours sincerely

SHARON MOLLOY
Director, Hunter Central Coast
Regional Operations

Enclosure: Attachment A

ATTACHMENT A: OEH REVIEW – BRANDY HILL QUARRY ENVIRONMENTAL IMPACT STATEMENT EXHIBITION (SSD 5899)

THREATENED BIODIVERSITY

OEH has reviewed the Biodiversity Assessment Report (BAR; Appendix 7 – Biodiversity Assessment Report and appendices, dated 8 November 2016) and is generally satisfied that the proposal complies with the BioBanking Assessment Methodology (OEH 2014) and the '*NSW OEH interim policy on assessing and offsetting biodiversity impacts, State significant development (SSD) and State significant infrastructure (SSI) projects*' (OEH 2011). Both these approaches were given as options within OEHs SEARs to undertake the biodiversity assessment. The proposal and the SEARs pre-date the implementation Framework for Biodiversity Assessment (FBA; OEH 2014), nevertheless, the aforementioned approaches are consistent with the framework and would likely provide similar outcomes. Although OEH is generally satisfied, we have identified a number of minor issues within the BAR and recommend that these are undertaken, amended and/or corrected prior to any approval being granted.

OEH notes that the BAR also contained a compliant Biodiversity Offset Strategy (Section 8 of the BAR) which outlines the proposed offset strategy, and included copies of the credit profiles that indicate the biodiversity credit yields. OEH also confirms that the proponent submitted the BioBanking credit calculator files via OEH's portal to enable their veracity to be checked.

OEH provides the following advice, outlining our minor concerns or issues that require rectification and/or further clarification:

Vegetation Survey and Targeted Fauna / Flora Surveys

It is noted and acknowledged, that given the project is being assed under BBAM to address the impacts to threatened species and biodiversity, the previous requirements to undertake large scale baseline fauna surveying is now generally redundant, except for targeted surveys required for 'species credit' species, as this process assumes presence of the likely candidate species on the basis of the habitat / vegetation communities present. As such the proponent has undertaken (i) flora surveys to determine the presence and geographic spread of the Plant Community Types (PCTs) on the subject area and (ii) targeted flora and fauna surveys for likely threatened 'species credit' species (as outlined in Table 17 and 18 of the BAR).

Section 4 of the BAR outlines the survey methodology and vegetation mapping approach undertaken to determine the PCTs on the subject site (including their geographic spread). OEH concurs that this process is consistent with the BBAM guidelines (OEH 2014) and mapping guidelines (Sivertsen 2009). Six vegetation communities (PCTs) were identified on the subject site, based on quadrat based floristic sampling and analysis of dominant species, then comparing these to the PCT descriptions in the OEH VIS database. OEH supports this approach, and concurs (based on a site inspection conducted in March 2017) that the PCTs identified on the subject site appear correct, and that their geographic spread shown on Figure 3 (Vegetation Zones and BioBanking Plots/Transect) also appears accurate. However, further comment on their 'site attributes' is provide below under the assessment section.

Section 5 of the BAR provides details of the targeted flora and fauna survey. In general, OEH is of the opinion that the majority of the flora and fauna surveys detailed in the BAR appear to be adequate. However, further clarification on how the stratification units were determined and how the survey design was applied would help clarify the adequacy of these surveys. OEH acknowledges that Table 14 in the BAR provides details of the methodology undertaken. However, it does not indicate how this sampling meets the minimum survey effort requirements specified in OEH guidelines. Specifically, OEH requests that proponent provide details on the sampling methods and survey effort per stratification unit (i.e. area of unit) and how these meet the minimum requirements in OEH survey guidelines (DEC 2004).

With respect to the targeted threatened species surveys OEH is generally of the view that the surveys undertaken (as per Table 14) adequately sample all the required taxa, except for one. OEH notes that

the BAR does not include targeted surveys or an impact assessment on the recently listed *Pterostylis chaetophora*, a threatened orchid (gazetted 29 August 2014), nor is this species referenced in any database searches or the credit calculator. OEH considers this unusual, given the close proximity of known records for this orchid (i.e. Grahamstown Dam catchment area and Columbey National Park), and is of the view that either the database searches and/or credit calculations were undertaken prior to the species being gazetted; or the species was not included in the credit calculator at the time of assessment. Nevertheless, OEH requires further consideration of this species, including targeted surveys (or expert report) and impact assessment (including if appropriate determination of 'species credits' as outlined below), in accordance with OEH guidelines DEC 2004, OEH 2016). OEH notes the following details for this species:

***Pterostylis chaetophora* (Tall Rustyhood)** – This is a widespread, though rarely recorded, vulnerable orchid species, which has been recently listed (gazetted in August 2014). It is known to occur from Taree to the Hunter Valley, including the Port Stephens local government area. It is specifically known from c. 18 scattered locations: in an the area between Taree and Kurri Kurri, extending to the south-east towards Tea Gardens and west into the Upper Hunter, with additional records near Denman and Wingen. Specific details on its habitat and distribution are poorly known, though it is known from seasonally moist, dry sclerophyll forest with a grass and shrub understorey. The species has been recorded to the east of the proposal within the Grahamstown Dam catchment area, which represents the largest known population ('hundreds of plants' – at the most easterly limit of its geographic range); and to the west of the proposal in Columbey National Park. Given its known habitat preferences (e.g. *Melaleuca nodosa* understorey / variant in PCT 1600 [HU814] and PCT 1602 [HU816] and known occurrence within the local government area, OEH is of the opinion this species has the potential to occur on the subject site. As such OEH expects appropriately targeted sampling to be undertaken during its known flowering period (September to November [Bishop 2000]) in accordance with OEHs threatened flora guidelines (OEH 2016) and samples sent to the NSW Herbarium for identification and/or confirmation. OEH will provide assistance with details of the nearby location to assist with the targeted sampling. OEH notes that an unidentified *Pterostylis* species was recorded for the subject site (as per the Flora List – Appendix 3 of the BAR); this conceivably could represent the species. If adequate sampling is unachievable, an expert report, undertaken in accordance with OEH guidelines, would suffice as an alternative approach.

Furthermore, this species will also need to be considered under the impact assessment within the BAR and if required determination of 'species credits'. BioBanking data for *Pterostylis chaetophora*, including the Tg score is available in the Threatened Species Profile Database. However, this data is not currently available in the current BioBanking credit calculator. Therefore, if species credits are required for *P. chaetophora*, Equation 6 of the BBAM (OEH 2014) will need to be manually applied. Alternatively, the assessor can calculate the required species credits for *P. chaetophora* in the BioBanking Credit Calculator by using a surrogate threatened flora species, which has the same Tg score as *P. chaetophora*. The chosen method should be clearly stated in the BAR.

With respect to BioBanking plot sampling (i.e. floristic plots) and their adequacy, OEH is of the opinion that the survey effort undertaken is consistent with our guidelines. Furthermore, the proponent has utilised the 'BioBanking Assessment Methodology' (BBAM) (OEH 2014), which requires a minimum number of plots and/or transects to be undertaken to meet the methodology requirements. OEH confirms that the plots surveyed adequately represent OEH's survey requirements under the BBAM and are appropriately located within different vegetation types (i.e. PCTs) present on the subject site.

BBAM Assessment and Credit Calculations

OEH has reviewed the BAR in conjunction with the submitted BioBanking credit calculator files and is of the opinion the BioBanking Assessment Methodology (BBAM) has been correctly applied to the project. As part of this review OEH has checked the reliability of the numerous BBAM assumptions utilised in the BAR as part of their assessment and supports their conclusions (e.g. application of assessment circles, determination of 'plant community type', assessment of connectivity, targeted threatened species surveys etc.). OEH generally concurs with these assumptions as briefly outlined below, unless otherwise stated:

- OEH supports the BAR in its assertion that six (6) Plant Community Types (i.e. PCTs; as described on OEH's VIS database) occur within the subject site. These six PCTs are described in detail in Section 4 of the BAR and listed in Table 4. OEH concurs that the PCTs chosen for the site correctly represent the vegetation communities present on the site. A site inspection of the PCTs in March 2017 confirmed this opinion.

- Based on a site inspection, OEH concurs that the BBAM sampling quadrats / plots adequately reflect the vegetation on both the development and offset sites, with respect to PCTs present, geographic spread across the site, floristics, condition, and cover and abundance. OEH audited BIOSIS's BBAM / floristic plot data sheets and found them to provide an accurate representation of all the PCTs identified, albeit some minor issues outlined below which will require the credit calculator to be amended and re-run to determine the new credit yield:
 - PCT 1602 (HU816) – within plot 7 no trees with hollows were noted, however, OEH site inspection indicated that there were 2 hollows. OEH acknowledges that we may not have been exactly on the plot, but given we were within the GPS co-ordinates and the hollows were close to this point, OEH recommends the calculator be amended. This may slightly increase the site value score for this PCT.
 - PCT 1598 (HU812) – the shrub cover in the ground layer was recorded as 0 by the consultants, however, the site inspection revealed it to be 5-10%. OEH acknowledges that at the time of sampling, the shrub cover may have been low or non-existent, however, it should reflect its current condition. As such OEH recommends that this site attribute be amended in the credit calculator. This will bring this attribute into 'benchmark' which may lead to a slight increase in the site value score.
 - PCT 1584 (HU798) – plot 18 appears to have an incorrect native overstorey cover figure assigned to it. Based on the site inspection the cover was not 0.75%, but more in the vicinity of 75%. As such this appears to be a data entry error, and thus needs to be corrected in the credit calculator. This will mean that the PCT is in 'benchmark' for the overstorey cover attribute and thus increase the site value score.
- OEH has reviewed the survey effort undertaken for the proposal, including targeted surveys (both flora and fauna; as detailed in Tables 17 and 18 of the BAR) and the BBAM plots (as outlined above). OEH acknowledges that they appear adequate with respect to sampling techniques, stratification areas / habitat sampled and timing / seasonality; and they appear to be compliant with recommended OEH guidelines (e.g. DEC 2004, DEC 2009).
- OEH is of the opinion that the data inputted into the credit calculator as detailed in the BAR has been correctly entered for both the development and offset proposal, with respect to assessment circles, determination of vegetation cover, regionally significant linkages and corridor widths, patch size, potential habitat niches / elements and overall plot / quadrat data (including condition indices). With respect to Mitchell Landscapes, OEH notes that the subject site falls into both Newcastle Coastal Ramp and Scone-Gloucester Foothills, with the larger southern portion of the development site falling into the former Mitchell Landscape (i.e. Newcastle Coastal Ramp).
- The BAR indicates that the Koala was recorded on the subject site, during 2014 targeted surveys (as per Table 36). Under BBAM, all suitable habitat (i.e. foraging and/or breeding) for this species must be identified on the subject site to determine the 'species' credit yields (i.e. for development sites the number of credits the impact will generate). Typically, this is done on the basis of SEPP44 – Koala Habitat Protection (i.e. PCTs with known feed / browse trees greater than 15% of the canopy cover) and the mapping of 'Preferred' / 'Supplementary' Koala habitat on site (as per the Port Stephens Council Comprehensive Koala Plan of Management [PSC 2002]), in conjunction Spot Analysis Technique (SAT; Phillips & Callaghan 2011) to further assess these areas to determine potential occupancy rates). Section 5.4.3 and Appendix 8 (Targeted Koala Survey Report) outlines the approach taken to determine the habitat ('species credit') polygon. Essentially, Biosis have applied the above methodology, but have applied it in a much more precautionary way, in that any PCT which recorded greater than 15% of the trees where primary browse species was considered to be potential habitat, as compared to mapping the specific parts of the PCT where this occurred. This has resulted in a species polygon of 45.8 hectares which represents almost all the subject site.

In light of the above, OEH is of the belief that the Koala habitat may have been over-estimated. The proponent has indicated that it may refine these calculations. OEH has no issue with

amending the Koala habitat polygon provided it is done in accordance with the BBAM guidelines and the recognised approach in determining core/preferred Koala habitat.

OEH also notes that the EIS and BAR fails to discuss the importance of the overall subject site and surrounds with regards to habitat connectivity and movement pathways for the Koala. OEH is of the opinion the inclusion of comments relating to the areas to the north of the subject site, being conserved under the BioBanking Scheme (under the *Threatened Species Conservation* 1995) and maintaining this connective link, would have adequately help argue this point. Furthermore, the retention of vegetated areas and potential Koala habitat to the north of the development area (on the overall Hanson property), also helps maintain these links.

- OEH concludes that the BAR and associated BOS have been undertaken in accordance with the BBAM and interim offset guidelines. OEH notes that the credit calculator will need to be re-run to reflect OEH's comments (as outlined above) and quantum of biodiversity credits amended.

Biodiversity Offset Strategy

OEH notes that the BAR includes a BOS (Section 8 of the BAR). The BOS identifies that the proposed development will require the retirement 2,799 'ecosystem credits' (i.e. 48.62 ha across six PCTs), and 1191 Koala a 'species' credits.

As stated in the BOS, the proponent will:

- Purchase and retire the biodiversity credit requirements (i.e. 2,799 ecosystem and 1191 species credits) from a registered BioBank agreement site in accordance with the OEH interim policy (OEH 2011). The majority of the credits will be purchased on a 'like for like basis' (i.e. Tier 1), with credits for HU812 and HU591 being purchased under a Tier 3 arrangement, as 'like for like credits' appear to be not available in the IBRA. OEH supports this approach and agrees the credit trading variation is permissible under the OEH interim policy (OEH 2011).

OEH has a preference for credits to be secured prior to any approval granted, but in the absence of this strongly recommends that they be retired prior to any clearing / disturbance of the subject site.

References:

Bishop, T. (2000) *Field Guide to the Orchids of New South Wales and Victoria*. Second Edition, University of New South Wales Press Ltd., UNSW, Sydney.

DEC (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities*. Draft, Department of Environment and Conservation, Hurstville; available at: www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf.

DECC (2009) *Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians*. April 2009. Department of Environment and Climate Change (NSW), Goulburn Street, Sydney.

OEH (2011) NSW OEH interim policy on assessing and offsetting biodiversity impacts of Part 3A, State significant development (SSD) and State significant infrastructure (SSI) projects. NSW Office of Environment and Heritage, Sydney, June 2011.

OEH (2014) *Framework for Biodiversity Assessment*. September 2014. NSW Office of Environment and Heritage, Sydney. www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf

OEH (2016) *NSW Guide to Surveying Threatened Plants*. February 2016. Office of Environment and Heritage, Goulburn Street, Sydney.

Phillips, S. and Callaghan, J. (2011) The Spot Assessment Technique: a tool for determining localised levels of habitat use by koalas *Phascolarctos cinereus*. *Australian Zoologist*, **35**, pp:774-780.

PSC (2002) *Port Stephens Council Comprehensive Koala Plan of Management (CKPoM)*. Prepared by Port Stephens Council with the Australian Koala Foundation, June 2002.

Sivertsen, D. (2009) *Native Vegetation Interim Type Standard*. Department of Environment, Climate Change and Water NSW, Sydney.

ABORIGINAL CULTURAL HERITAGE

OEH has reviewed the *Brandy Hill Quarry Expansion: Aboriginal Cultural Heritage Assessment Report* (Biosis 2015), with respect to Aboriginal Cultural Heritage. The Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared for the proposed quarry expansion to assess the potential harm that the proposal could have on Aboriginal Cultural Heritage within the subject area. No Aboriginal sites or areas of PAD were identified during the field survey and the ACHAR determined, through consultation with Registered Aboriginal Parties, that the project area has low Aboriginal Cultural Heritage significance overall. The ACHAR therefore concluded that impacts to Aboriginal Cultural Heritage as a result of the proposed works are unlikely, and submissions received from registered Aboriginal parties for the project support this conclusion.

The ACHAR also notes an appropriate management process for the discovery and management of Aboriginal objects and ancestral remains, should this occur during the course of the proposed works. OEH supports the recommended management measures. Additionally, there were no concerns raised regarding the management recommendations of the ACHAR by the registered Aboriginal parties for this proposal. OEH therefore has no further concerns with respect to Aboriginal Cultural Heritage and the proposed expansion of the Brandy Hill Quarry.

FLOODING AND FLOODPLAIN MANAGEMENT

OEH has reviewed the flooding / floodplain management component of the EIS is satisfied that the project will have no significant impact on flooding in the vicinity.

OEH – APRIL 2017