Proposed Deep Creek Quarry – MidCoast Council Response

December 2021

Background

This memo provides comment to the proposed Deep Creek Quarry in relation to biodiversity issues. It has been prepared following a review of relevant exhibition and published documents.

This submission has identified and raises issues with nine (9) separate matters associated with the proposal, concerning:

1. The adequacy of the some of the biodiversity knowledge and evaluations
2. Avoidance measures and impacts to threatened species
3. Inadequate offsetting of residual biodiversity impacts
4. Cumulative impact and strategic ecological context
5. The KPOM is inadequate
6. Road standards

The Proposal

From information published on the Department of Planning and Environment website, the proposal involves:

- The development and operation of a new single pit gravel quarry of about 31.82-hectares disturbance area (and 18-hectare pit) extracting up to 500,000 tonnes per year for up to 30 years
- Provision of on-site crushing facilities, weighbridge, workshop and stockpile areas
- Haulage of up to 4,000 tonnes per day during peak sales (125 laden truck movements)
- The construction and operation of a private haul road to link the proposed quarry with The Bucketts Way and inclusive of a crossing of Deep Creek (box culverts). A new intersection will be constructed at The Bucketts Way.
- Power supply will be a combination of a diesel generator and solar power
- Water supply will be mainly drawn from on-site dams, in-pit groundwater and a pipeline from a former sawmill dam
- The progressive and final rehabilitation of the site to a mixture of open grassland and native vegetation

The proposed quarry and associated facilities impact on a range of local watercourses (1st and 2nd Order streams).

The study area lies within an area that forms part of an important habitat linkage between Karuah State Forest to the east and remnant native vegetation to the west (as identified in connectivity modelling of the Karuah – Myall Catchments – Lechner & Fung 2018).

The study area contains the following plant community types (PCTs):

- PCT 1590: Spotted gum – Broad-leaved Mahogany – Red Ironbark shrubby open forest
- PCT 1619: Smooth-barked Apple – Red Bloodwood – Brown Stringybark – Hairpin Banksia heathy open forest of coastal lowlands
- PCT1567: Tallowwood – Brush Box – Sydney Blue Gum moist shrubby tall open forest on foothills of the lower North Coast
- PCT 1556: Tallowwood – Smooth-barked Apple – Blackbutt grass tall open forest of the central and lower North Coast

The study area also contains areas of exotic grasslands, dams and cleared land.

No threatened ecological communities were identified within the study area.

Two (2) threatened flora species have been detected on the site, namely:

- *Callistemon linearifolius* (60 individuals in the development area), and
- *Tetratheca juncea* (19.05-hectares / 586 individuals in the development area

Large numbers of *Callistemon linearifolius* are located immediately adjacent to the disturbance area.

Sixteen (16) threatened fauna species have now been detected on the Site:

- Koala (29.02-hectare species polygon; detected at six locations in four separate areas of the site; the site was determined to be habitat critical to the survival of the species under the EPBC Act 1999)
- New Holland Mouse
- Yellow-bellied Sheathtail-bat
- Eastern False Pipistrelle
- Greater Broadnosed-bat
- East Coast Freetail-bat
- Golden-tipped Bat
- Little Bentwing-bat
- Southern Myotis (17.65-hectare species polygon)
- Large-eared Pied-bat
- Eastern Cave-bat
- Grey-headed Flying-fox
- Glossy Black-cockatoo
- Little Lorikeet
- Sooty Owl

- Masked Owl

One-hundred and twenty-eight (128) hollow-bearing trees and stags occur within the development footprint, containing 144 small hollows, 99 medium hollows and 51 large hollows.

The Terrestrial Biodiversity Assessment predicts that the proposal would have a residual impact on 29.02-hectares of native vegetation, requiring:

- PCT 1590:..... 325 ecosystem credits
- PCT 1619:..... 165 ecosystem credits
- PCT 1567:.....44 ecosystem credits
- PCT 1556:.....5 ecosystem credits

- *Callistemon linearifolius*:.....92 species credits
- *Tetratheca juncea*: ..... 577 species credits
- Koala:..... 736 species credits
- Southern Myotis:..... 416 species credits

Proposed mitigation measures are described in s5.3 of the BDAR.

A Koala Plan of Management has been prepared.

Discussion

This review / assessment has identified several issues associated with the proposal and its' supporting information. These are discussed below:

1. The adequacy of some of the biodiversity knowledge and evaluations

The fauna field surveys in the BDAR appear satisfactory to generate biometric data that informs the credit calculation process under the BAM. However, I am not satisfied that the work addresses key uncertainties associated with the type, nature and significance of impacts on certain threatened species. For instance, there is ecological uncertainty in respect of:

- The extent of the population, occupied habitat and connectivity of the subject population of the Koala and New Holland Mouse. It is not known how much of the disturbance footprint contributes to the viability of the subject / local population of these species as a targeted population study has not been presented. The proper assessment under the EPBC Act 1999, for instance, should rely on a higher degree of the understanding of the nature of subject populations of these nationally threatened species.
- The extent of the foraging habitat and range of the glossy black-cockatoo population of the Study Area. There has not been a comprehensive analysis of the presence of foraging habitat and an analysis of feeding trees and their locations.
- Whether or not the sooty owl or masked owl rely on any of the 51 large hollows of the development footprint for nesting purposes.

It is difficult to conclude that the impacts of the proposal are not significant for species such as the koala and New Holland mouse.

The application should not be positively determined in the absence of satisfactory biodiversity information.

2. Avoidance measures and Impacts to threatened species

The proposal is associated with substantial impacts to threatened species including the koala, southern myotis, *Tetratheca juncea*, *Callistemon linearifolius* and others as well as impacts on native vegetation and trees with hollows.

Avoidance of biodiversity impacts is the highest priority in the consideration of the avoid – minimize – offset hierarchy enshrined in the *Biodiversity Conservation Act 2016*.

The proposal and the BDAR submitted in support of the proposal does not refer to recent judgments of the NSW Land and Environment Court in relation to the practical consequences of "*avoiding*" biodiversity impacts. The BDAR should be revised to reflect the LEC judgment associated with IRM Property Group (No. 2) Pty Ltd v Blacktown City Council [2021] NSWLEC 1306 and other relevant cases. I am not satisfied that the development proposal satisfactorily avoids biodiversity impact in accordance with the relevant requirements of the BC Act 2016.

The proposal should be enhanced in relation to avoidance, mitigation and offsetting actions to ensure that threatened fauna species are not significantly or unreasonably harmed by the development.

The consideration of edge effects and indirect impacts appears to be relatively subjective in the BDAR rather than scientific and prescriptive.

Further, avoided habitat does not appear to be actively conserved within this proposal at the present time. There is only a consideration that 271-hectares of land around the development will be actively conserved.

3. Inadequate offsetting of residual biodiversity impacts

The proposal purportedly seeks to avoid, mitigate and then offset the biodiversity impacts of the development.

The proposal fails to ensure the protection of features of significance across the project area.

The proposal does not confine offsets to the local area, does not secure local populations of affected threatened species in perpetuity or explore novel approaches to effective conservation (eg. expansion of Karuah NR).

Further, if the development is positively determined that:

- Required offsets must be confined to be delivered locally.
- Any Offset Area Management Plan that would define and manage the offset area be finalised only through involvement, input and endorsement by MidCoast Council.
- As part of the finalisation of the offset areas, there should be further scientific analysis of the functional avenues of local or sub-regional wildlife connectivity for the proposed offset areas and their contribution to agency and community aspirations. Greater attention to local connectivity opportunities and constraints and sub-regional wildlife corridor targets is required

and should be utilised to place an offset area into a more effective, broader landscape context. This should include reference to key regional corridors, the climate change adaptation corridors projects, existing protected areas and aspirations by MidCoast Council. In a sub-regional context, the locality of the proposal occupies land between larger networks of remnant native vegetation, including agency lands of Karuah NP and the Black Bulga SCA and / or Myall River SF.

- An Offset Area Management Plan should consider issues associated with fencing, methods of active revegetation, management of weeds and pests, management and use of fire, signage and restrictions on access, as well as the relocation of habitat features such as hollows and logs and performance measurement and monitoring. Further, it should discuss pre-clearing capture and translocation of pertinent threatened fauna species from the disturbance area, which may be essential to avoid harm to individual species and serious loss of local populations. Further, it should program the compensation (at least on a 1:1 basis) of the loss of natural hollows from the disturbance area through a relocation of felled trees or artificial nesting box program and define the relocation and placement of other habitat furniture (rocks and fallen timber) into revegetation areas as cover for dependent fauna and to aid nutrient cycling and macro-invertebrate populations.
- The offset area should be zoned immediately on project approval for the highest level of Environmental Conservation (C2). The Applicant should facilitate this strategic process with MidCoast Council.

4. Cumulative impact and strategic ecological context

It is concerning that cumulative hard rock quarry proposals are advanced in the North Karuah / Limeburners Creek area in the absence of a strategic framework. Quarries in the locality have gained approval for a limited initial term but have then been subject to modifications and extensions, which expand project timelines and enlarge footprints (and thus prolong and expand disturbance to the local environment).

Thus, quarry project proposals in the North Karuah – Limeburners Creek should be considered in a strategic framework.

In the broader context, MidCoast Council has developed the Tops to Lakes Initiative and has commissioned studies which demonstrate that the quarry is sited in an area that is an important connecting habitat (Karuah NR to Black Bulga SCA connection). Our Tops to Lakes Initiative seeks to reinstate and protect connected landscapes and enhance the quality and integrity of natural landscapes to provide environmental services provisions. Relevantly, any decisions relating to this proposal (by way of either a refusal or a conditional approval) should recognise the existence and aspirations of Council's Tops to Lakes Initiative and its aspirations and the Karuah Catchment modelled wildlife corridors (Lechner & Fung 2018).

One of the key goals of the Tops to Lakes Initiative is the establishment and protection of a connecting corridor(s) of functional, resilient natural vegetation between Karuah Nature Reserve (and associated habitats) and the foot-slopes and ranges of Black Bulga SCA as well as Karuah Nature Reserve and Myall River State Forest

The BDAR for this project impacts but does not advance the preservation and restoration of regional connectivity. It does not report on the Great Eastern Ranges Initiative.

Quarrying, cumulatively, has the potential to further fragment and sever connecting habitats and make the large-scale restoration of connecting habitats and functional natural areas in the

landscapes of this locality practically unachievable. However, the strategic planning of quarries and their associated offset areas and restored perimeter lands represents an opportunity to deliver the connectivity and ecological enhancement/ restoration that is required. This depends however on proactive, committed and strategic planning of quarries and their associated offset lands. It also requires the timely delivery of offset requirements, in both a practical sense (ie. revegetation of degraded or modified areas) as well as in an administrative sense (public dedication, environmental zoning, conservation mechanisms, etc). Consent authorities and the community need to be assured that conservation outcomes are effectively and appropriately delivered, and managed and secured in perpetuity.

The cumulative risks and paucity of strategic oversight of offset lands and connectivity have not been properly considered in the BDAR.

Should the Department deem that the proposal can be positively determined, I would ask that the finalisation of all spatial, temporal and administrative details associated with the footprint (avoidance) and offsets for the proposed development be a Deferred Commencement Condition that requires the formation and endorsement of a Final Layout and Offset Strategy, which includes input, review and acceptance of the Strategy by a convened Agency Panel that includes MidCoast Council.

It is important that the true ecological risks and threats of the proposal be clearly understood by the agencies in formulating a decision in relation to this proposed quarry.

5. The KPOM is inadequate

In my opinion, the details within the KPOM submitted with the biodiversity reporting are not satisfactory to be confident that its practical implementation will conclusively and proactively conserve the subject population of the koala on the lands. Additional assessments and more detailed and prescriptive actions are required to conserve the local population of the koala.

The koala cannot be conserved on-site unless the habitat that it needs for survival is protected and actively managed. The KPOM only is "considering" establishing a BSA for an onsite offset and acquiring additional offset land to the east. The project should be executing the conservation of the proposed 271-hectares of koala habitat formally.

6. Engineering

The development proposes upgrade the intersection of The Bucketts Way / Deep Creek Road. This will be subject to a detailed design and Public Engineering Works Permit (PEWP) to resolve the minor details but the general concept is acceptable. TBW is currently under review for potentially being handed back to TFNSW. If this happens before handover then the upgrade will form part of a Works Authorisation Deed with TFNSW which will resolve the intersection in the same way.

The development proposes to upgrade Deep Creek Road and it is noted that the design provided by Northrop is not consistent with MCC Standard Drawing SD048 – Typical Road Cross Sections for Rural Roads:

https://www.midcoast.nsw.gov.au/files/assets/public/document-resources/plan-amp-build/stage-2/roads-amp-bridges/design-guide-amp-construction-specs/standard-drawing/sd048-typical-road-cross-sections.pdf

Batters and shoulders should be updated to reflect the requirements in Councils standard drawing as well as catering for a minimum shoulder width of 1m rather than 0.5m. This will form part of the traffic assessment and may be dealt with by condition and under a Public Engineering Works Permit. This includes the road design, pavement thickness, swept path analysis etc.

7. Noise

- Modelling used to determine noise impacts on future potential receptor locations may not be representative of 'worse case' situations i.e. potential future receptor (dwellings) may be built closer to quarry site than indicated in Figure 2 of the Acoustic Report.
- Project Noise Trigger Levels (PTNL) were not provided for night time period. PTNL and relevant noise modelling results should be included for the night time period as product dispatch (loading of empty trucks and movement of the trucks to and from The Bucketts Way) is proposed to occur from 6am.
- The modelling location used for extractive equipment including dozers and excavators may not be representative of a 'worse case' scenario. Modelling should include use of extractive equipment at existing and elevated ground levels as well as within the quarry pit area.
- Location of noise logger may not represent background noise levels at the most sensitive receiver as 'This location is closer to The Bucketts Way than many receivers, but further than others that front The Bucketts Way'. Existing receptors 19,9,6 (for example) are located in an area with less traffic noise than the elected location used for noise logging.
- The Product Stockpile area appears to be located further north in the project plans prepared by Kleinfelder (2021/10/21 – version 1) than in Figures 4 to 6 in the Acoustic Report prepared by Spectrum Acoustics (Document No: 181724-9247) dated October 2021.
- The Acoustic Report States that 'Receivers R3 and R4a are currently unhabituated with no approved dwelling. Ironstone Developments Pty has a negotiated agreement with these properties and management/mitigation of predicted noise impacts is not required'. It should be confirmed that it is possible to maintain this arrangement for the life of the development.
- The assessment of trucks on the haul road is unclear, including location of modelling, methodology and consideration of all impacts such as brakes. It must be demonstrated that the haul road trucks will meet relevant criteria (including during the night time period – 6:00am to 7:00am).
- A common noise complaint received by Council is in relation to quarry trucks breaking in the early morning. While residents along the Bucketts Way may not notice increased truck movement residents located along or close to the haul road (quiet rural road) are likely to be affected by increased traffic, in particular during early morning period 6am to 7am.

8. Air Quality

- Section 5.1 Local climatic conditions provides that 'Williamtown RAAF is located approximately 27.4km north-northeast of the Project'. This is incorrect, and it must be confirmed that this assumption has not affected modelling results.
- The AQIA The development has not been assessed each stage of the development in line with the EIS. Further detail in this regard should be provided.
- It is provided that 'there are no specific ambient air quality monitoring recommendation for Project at the residential receptors'. This is unacceptable and an air quality monitoring network (including real-time air quality monitoring) should be proposed to allow for appropriate investigation of complaints, to ensure that predicted impacts are accurate, to ensure that mitigation and

management measures are effective and to assess and record the impact of any future developments in the area on ambient quality.

- Details of reactive and predictive management requirements and trigger conditions for works to cease have not been included.
- It has not been demonstrated that all reasonable and feasible air quality management options have been investigated.
- The AQIA does not sufficiently address agency comments as identified in section 3 of the AQIA.

Concluding Remarks

This is a significant proposal that will cause the clearing and loss of a large area of native vegetation, affect local populations of threatened species and removes and modifies areas of habitat for biodiversity and connectivity.

This correspondence highlights that there are outstanding ecological, noise and air quality concerns that should be adequately considered by the authorities prior to any formal, positive determination.

Work needs to be completed and considerable consultation and liaison needs to be established before it can be concluded that a reasonable and satisfactory development is occurring and that noise, air quality and biodiversity impacts (at a subject, local and sub-regional scale) are appropriately avoided, mitigated or compensated.

Furthermore, minor adjustment will be required to proposed roadworks to comply with Council standards.

The above technical issues are brought to the attention of the NSW Office of Environment and Heritage and the Department of Planning and Environment in their assessment and determination of the proposal.

Bruce Moore
Coordinator Major Assessments
MidCoast Council