Planning, Industry & Environment

Resources Assessment
Department of Planning, Industry and Environment

Attention: Lauren Evans

lauren.evans@planning.nsw.gov.au

Our ref: DOC19/867602-2

Your ref: SSD MOD

31 March 2020

Dear Ms Evans

**Subject**: **Marulan South Limestone**

I refer to your request for the Biodiversity Conservation Division (BCD) to undertake the assessment for the Matters of National Environmental Significance( MNES) for the *Marulan South Limestone Quarry SSD* project. We have also reviewed the further information provided by Niche Environmental in January 2020.

After further consideration of the information provided by Niche, we can confirm that the total obligation for the Peppertree MOD has been subtracted from the South Marulan offset obligation- that is: 428 (PCT 1334) & 157 (PCT 778) ecosystem credits and 487 (Koala) and 731 (Large - eared Pied Bat) Species credits.

The BOAMS assessment #00011994/BAAS17066/19/00012596 has been updated (BAM data 26/11/2019) to reflect this reduction.

In our previous correspondence an updated BDAR was requested, however we note this has not been provided.

**Aboriginal Cultural Heritage**

We indicated in our submission that we were satisfied that the Aboriginal consultation and assessment undertaken for the proposal area, as it was consistent with the methodologies already approved for the existing major projects associated with this site.

We also supported the preparation of an AHMP completed in consultation with the registered Aboriginal parties and the Department. In addition, it was noted that further consultation regarding the Marulan Creek Women's Cultural Site was required in relation to the measures and controls required to protect the site. It was also stated that consultation and protection measures needed to be undertaken prior to any construction or impact activities occurring near the Cultural Site.

Boral acknowledged our submission and committed to preparing the Aboriginal heritage management plan and carry out consultation in accordance with the submissions requests.

There is no further need for comment from an ACH perspective.

**Matters of National Environmental Significance**

We have undertaken a review of the documents to determine if the assessment has adequately addressed the MNES species which will be impacted by this development. Additional information is required regarding a number of matters. Please see Attachment 1 for further detail.

If you wish to discuss this matter further, please contact Lyndal Walters on 02 6229 7157 in relation to biodiversity or Jackie Taylor on 02 6229 7089 for Aboriginal cultural heritage.

Yours sincerely,

3/4/2020

**MICHAEL SAXON**
**Director**
**South East, Biodiversity and Conservation**

## Assessment of EPBC Act-listed threatened species and communities for projects

## Suggested *information for inclusion in the advice Planning &Assessment*

### 1. **Identifying MNES**

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(a) **Confirm** whether all the EPBC Act-listed threatened species and communities that occur on the project site, or in the vicinity are identified in the EIS. Note which species and/or communities have not been identified

The proponent states in section 4.1 of the BDAR that have done a MNES search however the list is not provided.

They have carried out an assessment on the likelihood of occurrence (Appendix 1 of the BDAR) which found the following MNES are likely, or do occur on the project site with potential for impact;

1. White box, yellow box, Blakelys red gum derived grassland
2. Large-eared pied bat
3. Grey-headed flying-fox
4. Koala

They also found that a moderate likelihood with minimal potential for impacts for the following;

1. Rufous fantail
2. Black-faced monarch
3. Fork-tailed swift
4. Cattle egret
5. Great egret

BCD carried out the MNES search including all areas within 10km of the project site. There are records of the following species that were not addressed in the EIS;

1. Golden sun moth
2. Mountain swamp gum/broad-leaved Sallee
3. Pectoral sandpiper
4. Common greenshank

The EIS should be supplemented with a consideration of the likelihood of occurrence for each of these species.

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(b) **Comment** on whether the Framework for Biodiversity Assessment (FBA) has been applied to all EPBC Act-listed threatened species and communities that occur on the project site or in the vicinity.

The FBA was not applied to this project as it was assessed Biodiversity Assessment Method (BAM) under the *Biodiversity Conservation Act 2016*.

There were several migratory species that have been assessed in the EIS, however the assessment is incomplete. Section 5.3.6 in the BDAR is not included.

As mentioned in the previous section there are records of 4 MNES species that were not included in the BDAR.

(c) In the circumstance where there are EPBC Act-listed species that are not addressed by the FBA (i.e.migratory species) **comment** on whether these species have been assessed in accordance with the SEARs and provide references to where the assessment information is detailed in the EIS.

Appendix 8 of the BDAR includes an EPBC Act assessment of significance for the species listed below;

- Fork-tailed swift
- Great Egret
- Cattle Egret
- Rainbow bee-eater
- Black-faced monarch
- Rufous fantail

It was concluded that there would not be a significant impact to any of these species as although potential habitat exists on the site;

- None of the above species occur in significant numbers within the project area
- The Project area does not support significant breeding habitat such that it may be used by a significant number of individuals to conduct any aspect of their lifecycle including foraging, breeding, overwintering or sheltering.

Page 66 of the BDAR states “No migratory fauna, as listed on the EPBC Act, were recorded during the survey. A number of additional listed migratory species have been recorded from the locality and in some cases have the potential to use habitat within the Study Area. These species include: Great Egret, Cattle Egret, Rufous Fantail, Rainbow Bee-eater, Fork-tailed Swift and Black-faced Monarch. Impacts of the Project on these species are considered in section 5.3.6. “

However, there is no section 5.3.6 in the BDAR. This means that there is no assessment of impacts to these migratory species. This needs to be provided to comply with the SEARS.

Section 6.2.6 details impacts to koala, large-eared pied bat but not the migratory species.

Appendix 1- BDAR - There is a likelihood of occurrence which includes these migratory species, which states potential for impacts but does not provide any detail. It is unclear how these potential for impacts were assessed as section 5.3.6 is missing from the information provided in the EIS.

It should also be noted that the rufous fantail was observed during surveys directly adjacent to the site.

There is a reliance on suitable habitat being offsite in surrounding areas, however these areas have suffered substantial losses in the bushfires of 2019/20.

(d) **Verify** that the proponent has expressed a statement about the potential impact i.e. likely significant, low risk of impact, not occurring, for each listed threatened species and community protected by the EPBC Act referred to in 1(a). Note which species and/or communities have not been addressed in this manner.

The proponent has not provided a statement about the potential impact for all threatened species and community referred to in 1(a).

Section 6 of the BDAR sets out the direct impacts to the following fauna species;

1. Large-eared pied bat –140.3 ha of foraging habitat removed – not significant impact (although we question this)
2. Koala – 132.4 ha of foraging and dispersal habitat removed – significant impact
3. White box Yellow Box Blakely’s Red Gum Grassy Woodland – 88.6 ha removed – significant impact.

There are no specific details on direct or indirect impacts for the following threatened fauna in the EIS or BDAR;

- Grey-headed flying-fox
- Regent honeyeater

There is no specific details on direct or indirect impacts for the following migratory species in the EIS or BDAR;

- Fork-tailed swift
- Great egret
- Cattle egret
- Rainbow bee-eater
- Black-faced monarch
- Rufous fantail

Indirect impacts are discussed in Chapter 12 of the EIS in a broad sense but not specifically regarding any EPBC Act listed species. It appears that they are relying on Appendix 8 of the BDAR – *Threatened species assessments of significance under the EPBC Act* to address the impacts on the other migratory species and the grey-headed flying-fox and the regent honeyeater rather them addressing them in chapter 12 of the EIS or section 6 of the BDAR.

It would be useful to have a table of all the EPBC Act listed species as listed in 1(a) which clearly shows direct and indirect impacts.

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(e) I**dentify** where further information from the proponent is critical to the assessment of MNES particularly in relation to mapping Table 1 (A), analysis of impacts Table 1 (F) and Table 2 (F), avoidance, mitigation and offsetting, and 6.

There is no assessment of impacts to the migratory species listed in 1(a), and as such it is difficult to say that they have been assessed in accordance with the SEARs.

Mapping showing koala movement corridors has not been included. This would be useful in developing mitigation and management measures for the koala. For example, will they need to travel across roads once the clearing occurs, and therefore require vehicle strike mitigation measures.

It should be noted that the bushfires of 2019/20 may have impacted koala movement corridors, but this has not been included as part of this assessment.

It would be useful to show the habitat on a map that the proponent is relying on to make the assumptions about whether or not significant impact will result from the project in relation to;

- Large-eared pied bat
- Grey-headed flying fox
- Regent honeyeater

This would include maps showing the area to be cleared against the surrounding available habitat that is being relied on.

**Box gum woodland**

It is unclear from the mapping provided whether the box-gum woodland located on the project site has been mapped in accordance with the EPBC Act criteria. The following should be clarified by the proponent;

The mapping in Figure 12.2 of Chapter 12 of the EIS shows the box-gum woodland on the site and has graded it into 3 different condition classes – being medium, poor and plantings. However, Table 15 in Appendix 2 of the BDAR describes them as medium, poor and acacia. Clarify that “Acacia” as described in Table 15 is the same as the category of “Plantings” in Figure 12.2 of the EIS, and therefore that “Plantings” doesn’t meet the EPBC Act listing criteria.

We note that the proponent has referenced the flowchart on page 5 of the *EPBC Act Policy Statement* for the box-gum woodland, and that the box-gum woodland rated poor in Table 15 has been included due to the patch size, rather than meeting the criteria of greater than 12 native understorey species, which it does not meet.

However, clarification should be provided as to how the box-gum woodland outside the project site has been mapped as no ground surveys have been undertaken. It is difficult to determine that a Plant Community Type (PCT) is box-gum woodland without having seen whether it meets the criteria. We understand that mapping by Tozer et al (2006) and the best equivalent vegetation type (p24, Tableland Grassy box Gum Woodland) was used to define the surrounding box-gum woodland. However, we would have expected some form of ground truth investigation to have occurred.

The data relied upon to determine the presence/absence of box-gum woodland is found in the BAM plot data in the BDAR.

The total area of clearing should be clarified. In Appendix 8 of the BDAR (Threatened Species Assessments of significance under the EPBC Act) it states that there will be 80.7 hectares cleared, however in the BDAR it states that there will be 88.6 hectares of box-gum woodland cleared. Is this because 7.9 hectares doesn't meet the EPBC Act criteria, whilst it meets the *Biodiversity Conservation Act 2016* listing criteria? The differences should be clearly shown on a map. It is noted that in Table 14 – Offset liability properties the areas of impact and credits required has been based on 88.6 hectares of box-gum woodland.

The mapping should also show if there is any box-gum woodland remaining on the project site post clearing. This is important as indirect impacts are addressed. In particular, the buffer zone of vegetation being used to mitigate dust impacts. The PCT type for this buffer zone is not identified.

## 2. Assessment of the relevant impacts

All EPBC Act-listed species and/or communities that the Commonwealth consider would be significantly impacted (as noted in the referral documentation) should be assessed and offset. These are referred to as relevant impacts.

(a) **Verify** [by ticking the following boxes]:

ϒ the nature and extent of all the relevant impacts has been described

ϒ measures to avoid and mitigate have been described

ϒ an appropriate offset for any residual adverse significant impact has been determined. *Note an offset is appropriate if calculated by the FBA and provides an offset specifically for the entity impacted*.

Unable to complete until further information is received for assessment.

(b) **Note** if information in relation to any of these boxes has not been provided for any relevant EPBC Act-listed species and communities.

***The nature and extent of all the relevant impacts has not been fully described.***
The document does not include a description of impacts to migratory species.

There is a heavy reliance on the surrounding protected areas, specifically, Bungonia State Conservation Area and Morton National Park to demonstrate that the removal of habitat from the project will not be significant. However, Morton National Park was severely burnt during the bushfires of 2019/20. The assessment does not consider any potential impacts of the fires on the local occurrence of the species. For example, up to 50% of the foraging habitat of the large-eared pied bat has been burnt within 30km of the site in the bushfires. In addition, of the 1029 records of this species in NSW its estimated that up to 28% have been affected by the bushfires.

***Measures to avoid and mitigate have been described, but clarification needed***
For mitigation measures for indirect impacts. It is not clear whether the 100m buffer referred to on page 78 of the BDAR is included in the areas proposed to be impacted or whether it is additional. The BDAR states "To account for a quantitative measure of indirect impacts, a 100m buffer has been placed around the subject site. This buffer would likely encapsulate the potential spread of weeds, edge effects in surrounding vegetated areas, erosion, dust, intensive light spill, and sedimentation during construction and operation".

The assessment needs to include more detailed consideration of the impact of dust on biodiversity.

***An appropriate offset for any residual adverse significant impact***
The Biodiversity Conservation Trust (BCT) are continuing to work with the land-owner and ecological consultant on the development of the BSSAR for Coolumburra, a 1000ha property near Nerriga.

There may be an overestimation of the credits available for the koala at the offset site owned by Boral. The BCT have advised that they will develop a position on koala species polygon generation that can be applied at Coolumburra. It is anticipated that this will take until the end of March 2020. It should be noted however that the offset site, Coolumburra was been severely burnt in the 2019/20 bushfires.

There is also concern about the credits for the large-eared pied bat calculated at Coolumburra, however at this stage the project is not considered to have a significant impact on this species.

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(c) Consideration of proponents conclusions about the significance of impact in accordance with the *EPBC Act Significant Impact Guidelines*.

The EIS/BDAR concluded that the project will not have a significant impact on the following EPBC Act listed species;

1. grey-headed flying fox
2. large-eared pied bat
3. Regent honeyeater

However, there is insufficient evidence to determine if the findings of no significant impact to these EPBC Act listed species is correct. In particular, for the large-eared pied bat. Further information should be provided to clarify the concerns listed below.

**Grey-headed flying-fox** - it is unclear from the information provided whether there will be a significant impact to this species. Further information is required.

- The project will clear the foraging habitat (140.3 hectares) but heavy reliance has been placed on the surrounding conservation areas to determine that it will not be a significant impact.
- It is unclear how they have surveyed for this species in accordance with the EPBC Bat Guidelines *(Survey guidelines for Australia's threatened bats - Guidelines for detecting bats listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999*) eg daytime and night time surveys and checked for unknown camps.
- Pg 65 of Appendix 1 of BDAR says that they have 'recorded from Bungonia Gorge during field survey and expected to occur in the area'. Further details on the survey required.
- EPBC bat guidelines also recommend that "a clear assessment of the contribution of the project area in terms of food plants, especially in relation to the broader region, is provided".

**Large-eared pied bat** – it is unclear from the information provided whether there will be a significant impact to this species. Further information is required;

- The survey data is unclear. It appears that they have not carried out the correct amount of trapping given the size of the site. A minimum of 16 trap or net nights per 50ha, and a variety of detector methods should be undertaken.
- More information required on how the foraging habitat was determined on site.
- Clarification is required on how the foraging habitat for off site was calculated, particularly the figure of 7400 hectares.

- To note: **Up to 50% of the foraging habitat has been burnt within 30km of the site in the bushfires. In addition, of the 1029 records of this species in NSW its estimated that up to 28% have been affected by the bushfires.**

**Regent Honeyeater** - it is unclear from the information provided whether there will be a significant impact to this species. Further information is required.

- The assessment indicates the impact is unlikely as no Regent Honey eaters were found during targeted surveys. However *The Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the EPBC Act* recommend that survey effort include area searches of 20 hours over 10 days for areas less than 50ha, but as the impact area is 140.3 hectares, it appears that insufficient survey was carried out.
- More information on the surveys required – what time of day was the survey? Was it breeding season? Did they try playback calls?

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(d) Provide references to where specific lists or tables are detailed in the EIS i.e. *List of EPBC Act-listed EECs Appendix J Table 4 pg 65*

- Environmental Impact Statement (EIS) – Chapter 12 – Terrestrial biodiversity
- EIS - Appendix K - Biodiversity development assessment report (BDAR)
- BDAR - Appendix 1 – Likelihood of occurrence
- BDAR – Appendix 2 – Plant community type descriptions
- BDAR - Appendix 5 – Fauna survey species list and survey weather details
- BDAR - Appendix 8 – Threatened species assessments of significance under the EPBC Act

## 3. Avoid, mitigate and offset

The EIS details the measures to avoid and minimise impacts on relevant EPBC Act listed threatened species and communities.

**Avoid**

There is no avoid of EPBC Act listed species and communities. The constraints of the mine proposal do not allow for any avoidance of biodiversity values, so they have focussed mostly on offsetting the impacts and have some mitigation measures in place which will be detailed in a proposed Biodiversity Management Plan, Rehabilitation Management Plan, and Bushfire Management Plan.

Chapter 5 of the BDAR – Avoidance and site justification - sets out how they considered other options for the project such as location of overburden areas, and resource location. The option they have chosen is not the least impact on biodiversity but other constraints such as cost of other options, as set out in Chapter 5, and impact to sensitive receivers have meant that this Mine plan is the preferred option. Evidence has been provided on why they cannot avoid and have chosen this plan.

The conclusion is that they will impact, therefore they will need to mitigate and offset. The project will impact on EPBC Act listed threatened species and communities.

Further details of avoid is to be found in the following chapters of the EIS;

- Chapter 12 – Terrestrial biodiversity
- Chapter 27- Revised environmental risk analysis
- Chapter 28 – Project alternatives

**Impact**

Chapter 12 – Terrestrial biodiversity, Section 12.3 – Impact assessment, and Chapter 6 of the BDAR sets out direct and indirect impacts.

Direct – clearing of native vegetation and associated habitat of 182.4ha

- Box-gum woodland – 88.6ha
- Koala – 132.4
- Large-eared pied bat – 140.3

Indirect

- Include increased edge effects for surrounding vegetation
- Increased noise, dust and light spill
- Loss of connectivity and fragmentation of habitats at a regional scale through clearing of intact areas of native vegetation.
- Spread of weeds
- Erosion and sedimentation
- Altered fire regimes.

**Mitigation**

Mitigation is set out in the following chapters and Appendices of the EIS;

- Chapter 12 – Terrestrial biodiversity
- Chapter 29 – Environmental management, monitoring and reporting
- Appendix K of the EIS - BDAR
- BDAR – section 5.1
- BDAR – section 6.4 – proposal of a Biodiversity Management Plan (BMP) to reduce and mitigate biodiversity impacts throughout the life of the project. It will include key components such as;
    - fencing and signposting,
    - employee education and general environmental controls,
    - vegetation clearance protocol, and
    - pest and weed management.

There will also be a Rehabilitation Management Plan (section 6.4.1) which will include biodiversity management measures, and a Bushfire Management Plan (section 6.4.2)

It would be useful to see more detail on the measures proposed in the Biodiversity Management Plan, Rehabilitation Management Plan and the Bushfire Management Plan.

The EIS concludes that it is unviable for the project to avoid the removal of vegetation, for a number of reasons, including the seam of limestone is directly underneath the habitat to be removed, and the cost of disposing the overburden elsewhere is prohibitive. As they have been unable to avoid the biodiversity impacts they will be working on minimising and offsetting residual impacts.

It is difficult to minimise the direct impact of the clearing, however Chapter 12, Section 12.4 of the EIS sets out management measures to mitigate direct and indirect impacts, such as the development of a Biodiversity Management Plan (BMP), and a Rehabilitation Management Plan.

The Biodiversity Management Plan (BMP) should include further measures to protect the koala in accordance with the *EPBC Act referral guidelines for the vulnerable koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)*. These include measures to mitigate vehicle strike from truck and machinery movement to and from the project site. The BMP should also include specific pre-clearance steps for the koala, including pre-clearance surveys.

We note that there is a population of koalas in Bungonia Gorge directly adjacent to the site and koala feed trees on the subject site, and that koalas have been observed on the mine site every 2-3 years.

Further information is required for the impacts of dust on biodiversity. It is unclear if the 100m buffer zone would alleviate impacts from dust on the remaining vegetation. The management of this buffer zone should be included in the BMP.

A Rehabilitation Management Plan for a mine should not be considered part of the mitigation measure to direct loss of box-gum woodland or koala. This is because it is unlikely that mine rehabilitation can replicate the biodiversity values that will be lost for this project. Chapter 26, section 26.1.3 of the EIS sets out previous challenges on the mine site regarding rehabilitation.

## 4. Offsetting

Offsets have been calculated in accordance with the NSW Biodiversity Offset Scheme (BOS).

The *EPBC Environmental Offsets Policy* - Section 9 – Offset delivery options – provides for the use of the BOS.

The Biodiversity Conservation Trust is responsible for determining whether the proposed offsets are appropriate. They are currently assessing the robustness of the data provided to date as there are concerns that credit availability on the offset site have not been accurately calculated.

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**5. Comment** on whether the information and data relied upon for the assessment have been appropriately referenced in the EIS. Comment on the validity of the sources of information and robustness of the evidence.

In general, the information and data relied upon has been appropriately referenced in the EIS and BDAR.

However, further information, or clarification is required for some of the references used to make conclusions in the EIS/BDAR, such as;

- Detail on survey methods for the large-eared pied bat, grey-headed flying fox, koalas and box-gum woodland.
- There is a discrepancy on the size of the clearing of box-gum woodland. It says 88.6ha in the EIS and BDAR, and 80.7ha in EPBC assessment of significance. This should be explained.
- There is a reliance on modelled vegetation mapping (Tozer et al) to determine the areas of box gum woodland surrounding the project site. However, on ground surveys should be conducted which ground truth available mapping.
- Clarification of the data used to determine significant impacts to the large-eared pied bat (extent of foraging habitat), box-gum woodland (extent of CEEC surrounding the project site), and koala corridors and indirect impacts.

Refer also to *Section 2-Assessment of the relevant impacts* for details.

The robustness of the evidence relied upon will be affected by the impact of the 2019/20 bushfires. Habitat that has been relied upon for assessing significance of impacts, in particular to the large-eared pied bat, has been severely burnt.

In addition, the offset site known as Coolumburra has been severely burnt.

The Biodiversity Conservation Trust is currently investigating the method of calculation of credits available at the Coolumburra offset site.