Our ref: DOC19/1113401-2
Your ref: SSD-8642

Ms Melanie Hollis

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Dear Melanie

Mangoola Coal Continuation Operations Project (SSD-8642) – review of Response to Submissions Report

I refer to your e-mail dated 19 December 2019 in which the Planning and Assessment Division (PAD) of the Department of Planning, Industry and Environment (the Department) invited Biodiversity and Conservation Division (BCD) of the Department for advice in relation to Response to Submissions Report for the Mangoola Coal Continued Operations Project. BCD have reviewed the Environmental Impact Statement for this project in relation to impacts to Aboriginal cultural heritage, biodiversity and flood risk.

BCD's recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**. If you require any further information regarding this matter, please contact Steven Cox, Senior Team Leader Planning, on 4927 3140 or via email at rog.hcc@environment.nsw.gov.au

Yours sincerely

LUCAS GRENADIER
A/Director Hunter Central Coast Branch
Biodiversity and Conservation Division

Enclosure: Attachments A and B

Attachment A

Biodiversity and Conservation Division recommendations

Mangoola Coal Continued Operations Project (SSD-8642) – Review of Response to Submissions Report

Biodiversity

The Biodiversity and Conservation Division (BCD) recommends:

1. BCD recommends that if the project is approved that it includes a consent condition that requires the offset management plan to be developed in consultation with the Biodiversity and Conservation Division.

2. BCD recommends that if the project is approved that it includes a condition that quantifies the Performance Indicators of post-mine rehabilitation by Year 7 so that:

    - the number of trees with hollows is set to >10% of benchmark values for targeted Plant Community Types
    - post-mine rehabilitation contains at least 25% of the species characteristic or diagnostic of targeted Plant Community Types, and
    - post-mine rehabilitation contains no more than a total of 5% cover of ecosystem-altering weed species such as *Acacia saligna*, *Olea europaea* subsp. *cuspidata* and *Chloris gayana*.

3. BCD is satisfied that Comments 1, 3, 4, 5, 6, 8 and 9 of BCD's letter dated 5 September 2019 and Comments 1 and 2 of BCD's letter dated 4 December 2019 have been satisfactorily addressed.

Aboriginal cultural heritage

The Biodiversity and Conservation Division recommends:

4. BCD considers test excavations should not be undertaken at Aboriginal sites that occur outside of the disturbance footprint. BCD recommends that the Rockshelter Complex (AHIMS 37-2-5443, 37-2-5444, 37-2-5445, 37-2-5446 and 37-2-5447) and any associated artefact sites or PADs should be preserved intact and are not subject to unnecessary test excavation.

5. BCD is satisfied that Comments 10, 12 and 13 of BCD's letter dated 5 September 2019 have been satisfactorily addressed.

Flooding and flood risk

The Biodiversity and Conservation Division recommends:

6. An erosion and scour monitoring and maintenance program should be developed for the Big Flat Creek riparian corridor.

7. Detailed design of the Wybong Road haul road overpass should include drainage design measures that ensure that the existing flood immunity of Wybong Road is at least maintained or improved.

8. The proponent should implement appropriate mitigation measures to ensure that the flood hazard vulnerability along Wybong Road does not exceed H2 for the 10% AEP flood event.

Attachment B

Biodiversity and Conservation Division detailed comments

Mangoola Coal Continued Operations Project (SSD-8642) – review of Response to Submissions Report

Biodiversity

1. BCD would like to be consulted in relation to the offset management plans

Biodiversity and Conservation Division (BCD) would like to be consulted during the development of the offset management plans for the Mangoola Coal Continued Operations Project, to provide input on the management of land with *Diuris tricolor* and *Prasophyllum petilum*.

Recommendation 1

BCD recommends that if the project is approved that it includes a consent condition that requires the offset management plan to be developed in consultation with the Biodiversity and Conservation Division.

2. The Preliminary Performance Indicators for post-mine rehabilitation are not measurable and targeted

The issue of providing measurable and targeted Performance Indicators for post-mine rehabilitation, raised in Comment 2 our letter dated 5 September 2019, has not been satisfactorily addressed in the response to submissions report. The proponent has suggested that they would consider BCD's recommended settings, but have not committed to them. BCD therefore recommends that conditions are included in any consent issued that Performance Indicators for post-mine rehabilitation by Year 7 includes that:

- the number of trees with hollows is set to >10% of benchmark values for targeted Plant Community Types
- post-mine rehabilitation contains at least 25% of the species characteristic or diagnostic of targeted Plant Community Types
- contains no more than a total of 5% cover of ecosystem-altering weed species such as *Acacia saligna, Olea europaea* subsp. *cuspidata* and *Chloris gayana*.

BCD understands that the Completion Criteria for post-mine rehabilitation would be developed as part of the revised Biodiversity Offset Management Plans post consent.

Recommendation 2

BCD recommends that if the project is approved that it includes a condition that quantifies the Performance Indicators of post-mine rehabilitation by Year 7 so that:

- the number of trees with hollows is set to >10% of benchmark values for targeted Plant Community Types
- post-mine rehabilitation contains at least 25% of the species characteristic or diagnostic of targeted Plant Community Types, and
- post-mine rehabilitation contains no more than a total of 5% cover of ecosystem-altering weed species such as *Acacia saligna, Olea europaea* subsp. *cuspidata* and *Chloris gayana*.

3. Vegetation Zone 6 should be identified as being in 'moderate to good – poor' condition

As agreed by the proponent in the response to submissions report (page 45), Vegetation Zone 6 should be identified as being in 'moderate to good – poor' condition. This should occur in the online BioBanking Credit Calculator and in all future references to Vegetation Zone 6.

Recommendation 3

Vegetation Zone 6 should be identified as being in 'moderate to good – poor' condition in the online BioBanking Credit Calculator and in all future references to Vegetation Zone 6.

4. Requested additional data for the biodiversity assessment has been provided

BCD is satisfied that the following biodiversity comments have been addressed:

- Comment 1 of BCD's letter dated 5 September 2019 – the proponent has provided the additional details required for the Biodiversity Assessment Report.
- Comment 3 – the proponent has provided sufficient information so that BCD is satisfied that the planted River Red Gum and Weeping Myall plants in the development footprint of this project do not generate species credits.
- Comment 4– the proponent has re-run the BioBanking Credit Calculator with the main Mitchell Landscape of the development footprint selected.
- Comment 5– the proponent has provided additional information that shows that the development will not encroach onto an existing biodiversity offset.
- Comments 6, 7, 8 and 9– the proponent has provided additional data in the Orchid Expert Report.
- Comments 1 and 2 of BCD's letter dated 4 December 2019 – the proponent has provided additional detail about the assessment of credits for threatened orchids and Vegetation Zone 6.

Aboriginal cultural heritage

BCD has reviewed the Response to Submissions Report (Umwelt 2019) with respect to Aboriginal cultural heritage.

5. Test excavation of rock shelters outside of the disturbance footprint is not supported

Comment 11 of BCD's letter dated 5 September 2019 relating to proposed test excavation of the rockshelter sites has not been satisfactorily addressed. There are five previously registered Aboriginal rockshelter sites AHIMS 37-2-5443, 37-2-5444, 37-2-5445, 37-2-5446, 37-2-5447 and one associated artefact scatter 37-2-5804 located within a few metres of each other within the Mangoola Coal Continued Operations (MCCO) additional project area boundary. This rockshelter complex is outside of the MCCO additional disturbance area and the EIS states that these sites will not be impacted by the MCCO Project and will not be affected by blasting. In the response to submissions prepared by Umwelt (December 2019), the applicant has asserted that test excavation should be undertaken at the five rock shelters that lie outside of the development footprint to test the veracity of potential archaeological deposit associated with the rockshelters.

BCD considers there is no justification or requirement to unnecessarily harm these sites by archaeological test excavation. BCD do not support test excavation of sites that will not be harmed by the development. BCD also does not support test excavation being undertaken

post approval at the five rock shelters under the Aboriginal Cultural Heritage Management Plan (ACHMP).

Recommendation 4

BCD recommends that test excavations should not be undertaken at Aboriginal sites that occur outside of the disturbance footprint. BCD recommends that the Rockshelter Complex (AHIMS 37-2-5443, 37-2-5444, 37-2-5445, 37-2-5446 and 37-2-5447) and any associated artefact sites or PADs should be preserved intact and are not subject to unnecessary test excavation.

6. Comments 10, 12 and 13 have been satisfactorily addressed

BCD is satisfied that the following Aboriginal cultural heritage comments (of BCD's letter dated 5 September 2019) have been addressed:

- Comment 10 - the proponent has committed to undertaking salvage of the 26 Aboriginal sites in consultation with the Registered Aboriginal Parties and in accordance with the protocols in the Aboriginal Cultural Heritage Management Plan (ACHMP).
- Comment 12 - the proponent has committed to the Aboriginal cultural values identified in the Aboriginal archaeological assessment process being included in the Aboriginal Cultural heritage management plan to assist in the appropriate management and mitigation of Aboriginal cultural values in the Mangoola Coal Continued Operations project area.
- Comment 13 - the proponent has committed to the Aboriginal objects salvaged in the development footprint being included in the current approved Mangoola Care Agreement C0003885.

Flooding and flood risk

7. An erosion and scour monitoring and maintenance program should be developed for the Big Flat Creek riparian corridor

The proponent undertook a peer review of flood modelling for the project in response to BCD's comments on the EIS (refer to Comment 14 of BCD's letter dated 5 September 2019). The peer review is included as Appendix 5 of the Response to Submissions (RTS). The review shows that the proposal will result in significant flow velocity increases within the riparian corridor of Big Flat Creek, particularly in the vicinity of the proposed haul road crossing.

The review recommends that future detailed design should provide appropriate erosion and scour protection to any area affected by increased flood velocities due to the project. This recommendation is not addressed in the main body of the RTS report or listed under Section 5.0 'Proposed Additional Management Measures'.

BCD agree that a suitable erosion and scour monitoring and maintenance program should be implemented as an approval condition to determine if additional scour protection is required.

Recommendation 6

An erosion and scour monitoring and maintenance program should be developed for the Big Flat Creek riparian corridor and implemented prior to commencement of construction.

8. The project should not reduce the flood immunity of Wybong Road at the Wybong Road haul road overpass

Comment 18 in BCD's letter dated 5 September 2019 raised the issue of flooding behaviour beneath the proposed Wybong Road overpass and recommended that it be reviewed so the safety of the roadway during flooding is not affected by the project.

The proponent undertook a flood impact assessment to investigate this and included the assessment as Appendix 4 of the RTS. That assessment determined that flooding impacts to Wybong Road would remain relatively unaffected for the 1% Annual Exceedance Probability (AEP) flood event. During a 1% AEP event, flood depths on Wybong Road at the haul road crossing will be in the range of 550mm to 750mm (not passable for vehicles).

BCD notes that Wybong Road appears to remain passable by vehicular traffic for events up to 10% AEP. Flooding hazards on Wybong Road at the proposed haul road overpass will increase due to the project as it will result in a containment of flows in a confined space along the road corridor.

The detailed design of the Wybong Road haul road overpass should include additional drainage through the embankments. At a minimum, the flood immunity under the haul road crossing should not be less than then Wybong Road's current level of flood immunity, although this was not determined in the flood impact assessment. The proponent should determine Wybong Road's current level of flood immunity prior to adopting a design standard less than the 10% AEP flood event.

Recommendation 7

Prior to construction, the Wybong Road haul road overpass should be designed to include drainage measures that ensure that the current pre-project flood immunity of Wybong Road is at least maintained or improved.

9. The flood hazard vulnerability classification along Wybong Road should not exceed H2 for the 10% AEP flood event

Comment 19 in BCD's letter dated 5 September 2019 raised the issue of the existing flooding immunity of Wybong Road and how impacts had been determined. The proponent undertook a flood impact assessment to investigate this and included the assessment as Appendix 4 of the RTS. The assessment determined that Wybong Road currently has a low flood immunity and would unaffected by the Project.

BCD note that the project will reduce Wybong Road's level of flood immunity. The most notable change is the flood hazard increases from a H2 hazard classification to H5 for a section of road near chainage 4,800 m. The H5 classification signifies a very high level of flood risk and is described as being unsafe for all vehicles and people during flood conditions. The change of classification caused by the project signifies a substantial increase in risks to users of Wybong Road. This risk would be particularly apparent for frequent users of the road, who may perceive a lower level of risk due to past experiences travelling on the road in flood conditions.

If the flood hazard classification at chainage 4800 still exceeds H2 after detailed design, the proponent should undertake appropriate measures to reduce the hazard, such as upgrading the culvert at the Big Flat Creek crossing.

Recommendation 8

Prior to construction and as part of detailed design the proponent should implement appropriate mitigation measures to ensure that the flood hazard vulnerability along Wybong Road does not exceed H2 for the 10% AEP flood event.