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Dear Emily

Cadia Valley Operations Modification 14 Response to Submissions and Revised BDAR – Request for Agency advice

Thank you for your email dated 31 May 2021 seeking advice from the Biodiversity, Conservation and Science Directorate (BCS) of the Department of Planning, Industry and Environment (DPIE) regarding the revised Biodiversity Development Assessment Report (BDAR) and Response to Submissions (RTS) for the Cadia Valley Operations MOD 14 in Blayney Shire, NSW.

The updated BDAR has adequately responded to some of the matters previously raised by BCS. **Attachment 1** details the matters still outstanding.

If you have any questions about this advice, please contact Erica Baigent, Conservation Planning Officer, via erica.baigent@environment.nsw.gov.au or (02) 6883 5311.

Yours sincerely,

A handwritten signature in black ink that reads 'Samantha Wynn'.

Samantha Wynn
Senior Team Leader Planning North West
Biodiversity, Conservation and Science Directorate

23 June 2021

Attachment 1: Outstanding matters: Cadia MOD 14

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Acronyms

BAM	Biodiversity Assessment Method (2017)	LLS Act	<i>Local Land Services Act 2013</i>
BAM-C	Biodiversity Assessment Method Calculator	LLS Reg	<i>Local Land Services Regulation 2014</i>
BC Act	<i>Biodiversity Conservation Act 2016</i>	PCT	Plant Community Type
BCS	Biodiversity, Conservation and Science Division (formerly OEH)	CEEC	Critically Endangered Ecological Community
BDAR	Biodiversity Development Assessment Report		

Issues ⁱ	BCS Comments	Recommendations
2.1 Support any Category 1–Exempt Land designation via multiple pieces of evidence. This evidence might include: a) publicly available data sets on the SEED Portal such as: <i>NSW Landuse 2017</i> <i>NSW Native Vegetation Extent 5m Raster v1.2</i> (2018 woody extent layer) b) Category 2–Sensitive and Category 2–Vulnerable land from the NVR Map c) aerial photography and landholder records of land use (e.g. diaries, photos that show clearing or cropping activities) d) plot data already obtained.	The following issues are identified: - The two aerial photos used in the land category assessment are included in the BDAR, however: - the scale of the images is not appropriate to support the land category conclusions - the images are not overlaid with information to allow the reviewer to locate the development footprint or the land categories assigned - the image dates are not provided. Please note as per s.60J(4) of the LLS Act, images being used to demonstrate native vegetation cleared at 1 January 1990 must include imagery earlier than that date (i.e. no more recent than 31 December 1989). - The BDAR does not clearly explain how the various data sources were combined to form the land category map, including which datasets took precedence in any instances where data was conflicting. - The supporting data is not adequately linked to the final land category map. The specific pieces of evidence used to support the land category assigned to each polygon is not clear.	- Demonstrate that the date range of the imagery used in the land categorisation is suitable for supporting the land categorisation. - Any datasets presented in the BDAR to support the land categorisation must be at a suitable scale and contain sufficient information to locate the development footprint and land categories assigned. - Respond to the questions asked by BCS (email dated 18 June 2021) regarding the assessment of paddock trees and category 1 and category 2. - Review the published <i>native vegetation regulatory map: method statement</i> to determine how the SEED Portal datasets referenced can be best interrogated to support any identification of Category 1 – Exempt land. - Overlay all datasets used in the land categorisation to determine and justify the final map.
2.2 Clearly justify the final land categorisation by: a) combining data from the above mapping products, aerial photography of the site, on-site photographs, any		

data from within the footprint and available records of land use history b) linking the results to the specific components of the land category definitions in the LLS Act c) reviewing the published <i>native vegetation regulatory map: method statement</i> to determine how the datasets in recommendation 2.1 (a) above can be best interrogated to support any identification of Category 1 – Exempt land.	• There is no linkage made between the SEED portal datasets and the <i>native vegetation regulatory map: method statement</i> (NVR map method). • The basis on which ‘paddock’ trees were determined to be category 1 or category 2 is not clear from the BDAR. BCS has sought clarification from Premise regarding the method used (email dated 18 June 2021). A response is pending. • The BDAR indicates plot data was used to demonstrate the presence of ‘low conservation value grasslands’ (s.60H(2)(a) LLS Act). To use s.60H(2)(a) as part of justifying category 1 land, the <i>Interim Grasslands and other Groundcover Assessment Method</i> (IGGAM) must be used. The data collected by Premise does not appear to conform to that method (BCS email dated 5 May 2021).	
2.3 Present the final land categorisation on a map within the BDAR.		6. Explain (e.g. via a simple decision matrix/rule set) how different spatial datasets and other data sources were combined to form the land categorisation map, including explanation of how any conflicting spatial data were assigned precedence to allocate a map category. 7. A precautionary approach should be adopted - where information regarding land use or the presence of native vegetation is conflicting or uncertain, Category 2 should be assigned. 8. A minimum of two pieces of evidence are required to justify the categorisation of each Category 1 polygon on the land category map. The evidence supporting the classification of each polygon should be referenced in the attribute table of the shapefile. 9. Include the overall data processing method and decision hierarchy within the shapefile metadata. 10. The existing plot data collected for the ‘exotic pasture’ should not be used to justify that the development site contains ‘low conservation value grasslands’ (s.60H(2)(a) LLS Act). Instead, this data could be used to support statements regarding the past landuse history of the site (e.g. as part of ground truthing the interpretation of the relevant aerial and satellite imagery (see also s.60J(2) of the LLS Act and cl. 114 LLS Reg)).

4.1 State in the BDAR which component(s) of the paddock tree definition are applicable to the site and provide supporting information to demonstrate that the paddock tree streamlined assessment module may be used.	The BDAR is using the BAM (2020) definition of 'scattered tree' (page 33) rather than the BAM (2017) definition for 'paddock tree'.	11. Adopt the definition of paddock tree as set out in <i>Appendix 1: Streamlined assessment module – clearing paddock trees</i> in BAM (2017).
5.1 Note the BCS concerns regarding the application of the paddock tree module to identified species credit species habitat and await further advice from BCS.	The recommended method for addressing this issue was provided to Premise by BAM Support on 12 May 2021. BCS notes that the assessor has modified the approach recommended by BAM Support. The assessor has added two new vegetation zones into the BAM-C major project case representing the aggregated area of paddock trees that are within species polygons. This means that: rather than using the major project case to only calculate the species credits for these trees (with ecosystem credits calculated via the paddock tree module), the development case has been used to calculate both species and ecosystem credits for those paddock trees. Whilst this differs from the BAM Support advice, this approach is not specifically prohibited under the BAM. Proponents may choose to calculate ecosystem credits for trees meeting the BAM (2017) definition of a 'paddock' tree via either the paddock tree module or the full BAM. The justification for allocating all white box (<i>Eucalyptus albens</i>) 'paddock' trees to Plant Community Type (PCT 266) is however not clearly articulated in the BDAR.	12. Set out the justification for allocating all white box paddock trees to PCT 266.
6.2 Detail the basis on which each PCT was delineated into condition states (vegetation zones), including plot/spot sample data analysis, site photos, and any other relevant data collected from the site and field assessment methods to justify zone allocations.	Field sheets for all BAM plots have not been provided. The BDAR has not demonstrated that the grouping of all native plantings into a single vegetation zone ('PCT 277 native plantings') is appropriate. No BAM plots were located in this zone, with data gathered via 'rapid assessment spot samples' only. Six spot samples across this zone were taken (pages 11 and 16 of the BDAR indicate these are S1, S3, S4, S19, S18) however data from only three samples (S1, S2, S3) is presented in Table 4. The BDAR does not indicate that S2 is located within this vegetation zone, nor how data from all representative spot samples was utilised in the zone allocation. See related comments regarding recommendations 6.3 and 6.4 below.	13. Append BAM field sheets to the BDAR. 14. Justify the grouping of all native plantings into a single zone as per recommendation 6.2 of the BCS submission dated 18 February 2021.

6.3 Ensure that all zones have the required number of appropriately located BAM plots and that the correct data is included in the BDAR and BAM-C.		
6.4 Present a rationale regarding the use of BAM plots from zone PCT 277 'Moderate' for PCT 277 'Plantings' to adequately demonstrate that this approach would not result in an underestimation of the credits required to offset impacts to these areas.	The BDAR now uses 'rapid assessment spot samples' in the place of BAM plots for the vegetation zone 'PCT 277 native plantings.' It is noted in the BDAR that this approach may be applied for streamlined BAM assessments. This may be in reference to Appendix 2 of the BAM <i>'Streamlined assessment module – small area development that requires consent'</i> Table 13, 5.3 (a), which has not been used in this assessment As this site has a minimum lot size of 100ha, the small area streamlined assessment module is only applicable to areas of 5ha or less. The 'PCT 277 native plantings' zone alone is a total of 5.44ha. BAM Support have advised BCS that the small area streamlined assessment module should not be used in conjunction with a full BAM assessment. Assessment of whether or not the small areas module maximum area threshold is met should be based on the total development footprint. BCS notes that the plantings are estimated to range from 5 to 20 years in age. Premise have concluded that these areas are Category 2 rather than Category 1 land. BCS is unable to comment on the validity of that conclusion based on the information presented, but a precautionary approach is advocated where there is uncertainty See comments above regarding recommendations 2.1 to 2.3.	15. Confirm, in accordance with recommendations 1 to 10 the appropriate land category for the plantings comprising 'PCT 277 native plantings' ' 16. The appropriate number of BAM plots are required for each vegetation zone except where land is demonstrated to meet the definition of Category 1 Land under the LLS Act. 17. An alternative option available to the assessor in the absence of BAM plot data from 'PCT 277 native plantings' is the assumption of benchmark values for this zone.
9.1 Supply the information required by s.10.2.2 of the BAM, to allow a determination of whether the proposal will have serious and irreversible impacts on the Box-Gum CEEC within the meaning of the BC Act and Regulation.	The BDAR includes responses to all the requirements of s.10.2.2. Some of the responses require further detail. The three extinction risk principles in 3.2.2 of the <i>Guidance to assist a decision-maker to determine a serious and irreversible impact</i> are not addressed: • reduction in geographic extent (Principle 1) • environmental degradation or disruption of biotic processes (Principle 2) • restricted geographic distribution (Principle 3).	18. Provide further detail in responses to the requirements of s.10.2.2. • Information on the action and measures taken to avoid indirect impacts on the CEEC • An estimation of the extant area of CEEC within the IBRA region and IBRA subregion using publicly available vegetation datasets • Information on impacts to abiotic factors such as removal of topsoil, or changes to overland flows; to characteristic and functionally important species such as removal of

		rocks or timber; and indirectly to the CEEC such as edge effects, erosion, or sedimentation 19. Evaluate the extinction risk of the entity to be impacted as per 3.2.2 of the Guidance.
12.1 Update the assessment of prescribed impacts with specific reference to s.6.7 and s.9.2 of the BAM and s.2.5 of the BAM Stage 2 Operational Manual. Ensure that all requirements are met.	The BDAR has not demonstrated that all requirements of s. 9.2.1.2 and s.9.2.1.4 of the BAM have been adequately addressed. Rock habitat The BDAR identifies impact to mapped rock outcrops and surface rock as a prescribed impact for pink-tailed legless lizard and striped legless lizard. The BDAR has not assessed the importance of this habitat nor the consequences of the impact in accordance with s. 9.2.1.2 of the BAM. For the pink-tailed legless lizard the BDAR simply states that the impact of the development on potential native vegetation habitat of the pink-tailed legless lizard is accounted for in the offset obligation. This statement has no relevance to this prescribed impact for rock habitat, whether they are within native vegetation or within the areas mapped as 'exotic pasture'. Non-native vegetation The BDAR appears to incorrectly state: • <i>'BMS (2020) have not associated the...non-native vegetation as potential habitat for any candidate threatened fauna species' (page 77)</i> • <i>'BMS (2020) concluded that threatened species were 'highly unlikely' to occur in exotic pastures' (page 64).</i> • <i>'BMS (2020) consider that the exotic dominated grasslands are unlikely to represent habitat for threatened species, including the Striped Legless Lizard, given the dense monocultural nature of the exotic pastures which are unlikely to provide the open tussock grass environment required for ease of movement by this species'(page 81).</i> BMS (2020) indeed concluded that the pink-tailed legless lizard was <i>'highly unlikely to occur in exotic grassland, and potential habitat is</i>	20. Demonstrate that all requirements of s.9.2.1.2 of the BAM for prescribed impacts to rock habitat have been addressed. 21. Demonstrate that all requirements of s.9.2.1.4 of the BAM for prescribed impacts to non-native vegetation have been addressed. 22. Utilise the guidance provided in the BAM Stage 1 Operational Manual (section 5) and the BAM Stage 2 Operational Manual (section 2.5) when addressing prescribed impacts. 23. If the conclusions regarding habitat suitability for threatened species are to be altered from the BMS (2020) report, the BDAR must demonstrate compliance with the requirements of section 6.4 of the BAM.

	<i>limited to native ground cover in the native forest and grassland areas, and within 50m of the mapped rock outcrops' (page 51).</i> However, for the striped legless lizard, BMS (2020) stated '<i>Many studies have found the species present (and reproducing) in areas with grazing history, and areas dominated by exotic grasses such as <i>Phalaris aquatica</i> (DoE, 2020), which is prevalent throughout the study area...As the study area contains extensive areas of suitable habitat features for this species (including <i>Phalaris</i>), no geographic or habitat constraints occur within the BAM-C, and no surveys have been conducted, the Striped Legless Lizard is possible to occur on-site'</i> (page 51). On that basis BMS (2020) included almost all of the 'exotic pasture' on the site in their species polygon for the striped legless lizard. The statements by Premise referenced above do not contain any references or use of specific data in accordance with s 6.4.1.17 and Step 5 '<i>Determine the area or count, and location of suitable habitat for a species credit species</i>' of the BAM to support revision of the extent of suitable habitat as assessed by BMS (2020). In the absence of that justification, s.9.2.1.4 must be addressed. See related comments below related to BCS recommendations 12.2, and 12.4.	
12.2 Map the location and extent of all applicable prescribed impacts within the BDAR, including where these extend outside of the mapped vegetation zones. The BMS (2020) survey results, habitat assessments and species polygons should be utilised.	BMS (2020) species polygons appear to be represented in Figures 18 to 29 of the BDAR and prescribed impacts mapped on Figures 31 to 33. However, these figures are not effectively utilised in the assessment of prescribed impacts under s.9.2 of the BAM. Conclusions in the BDAR regarding the extent of suitable habitat for the striped legless lizard differ substantially from BMS (2020) and Figures 31 to 33 of the BDAR. See comments above related to BCS recommendation 12.1.	24. Unless revised in accordance with recommendation 23 above, utilise the BMS (2020) habitat assessments and species polygons in the assessment of prescribed impacts, including where these extend outside of the mapped vegetation zones.

12.4 Explicitly identify the residual prescribed impacts following implementation of avoidance, minimisation and mitigation measures. Provide evidence-based justification for conclusions and discuss any limitations to data, assumptions and predictions about impacts on biodiversity	Due to the issues outlined above regarding recommendations 12.1 and 12.2, the BDAR has not explicitly identified the residual prescribed impacts for the pink-tailed legless lizard and striped legless lizard.	25. Explicitly identify the residual prescribed impacts following implementation of avoidance, minimisation and mitigation measures. Provide evidence-based justification for conclusions and discuss any limitations to data, assumptions and predictions about impacts on biodiversity
13.1 Ensure that the BDAR has fulfilled the requirements of s.9.3 of the BAM regarding mitigation measures, with specific consideration of s.2.6 of the BAM Operational Manual Stage 2.	The BDAR does not appear to identify and evaluate and measures for which there might be a risk of failure and consequence of any residual impacts likely to remain after mitigation measures are applied (s.9.3.1.2 of the BAM and s. 2.6 of the BAM Operational Manual Stage 2).	26. Ensure the BDAR addresses all components of s.9.3.1.2 of the BAM. 27. Include mitigation measures for the pre-construction phase within Table 13 of the BDAR.
13.2 Ensure all mitigation measures proposed for direct, indirect and prescribed impacts are adequately described in the BDAR. A single consolidated summary of the measures proposed for implementation is recommended.	Whilst the BDAR references the Cadia Valley Operations Land and Biodiversity Management Plan (including the Vegetation Clearance Protocol), Table 13 '<i>Avoidance and Mitigation Measures, Responsibility and Timing</i>' (page 84 of the BDAR) does not include any measures for the pre-construction phase. Pre-construction measures such as planning works based on seasonal factors (noted on page 82), pre-clearing surveys etc are not included (see s.9.3.2.2 of the BAM). There is also no distinction made between mitigation for direct, indirect and prescribed impacts. Such distinction would assist the assessor to: • demonstrate that s.9.3.2.3 (mitigating indirect impacts) and s.9.3.3 (mitigating prescribed impacts) of the BAM have been adequately addressed • determine and articulate the residual impacts of the proposal as required by the BAM (for example, see comments above for recommendation 12.4 regarding residual prescribed impacts).	28. Summarise and categorise the mitigation measures as being applicable to prescribed, direct, or indirect impacts, ensuring that s.9.3.2.3 and s.9.3.3 of the BAM are adequately addressed.

ⁱ Recommendations as numbered in the BCS submission dated 18 February 2021.