

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

Suggested information for inclusion in submission

1. Identifying matters of national environmental significance (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 Commonwealth has provided NSW with referral documentation which includes a possible list of MNES recorded on and within the vicinity of the proposal generated by the Protected Matters Search Tool. The BDAR (Section 8, Appendix I, Appendix J) has reviewed possible MNES

- Three EPBC-listed TECs were located within the study area - *Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion, Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion and Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest*. Four other TECs listed in the documents are noted in Appendix I as not being detected during surveys. Two TECs listed in the Commonwealth documents were not reviewed in Appendix I but were also not detected during surveys.
- 45 EPBC-listed species were identified by the PMST. 42 are reviewed by Appendix I. *Acacia bynoeana*, EPBC-listed threatened species *Acacia pubescens*, *Grevillea parviflora* subsp. *parviflora*, *Persoonia nutans* White-throated needletail, Koala and Grey-headed Flying-fox were detected or assumed to be present.
- 15 listed migratory species were identified by the PMST and have been reviewed in Appendix I. Eastern Osprey and Rufous Fantail were detected during surveys

No species that are known to occur on the site have been omitted from the assessment

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

The BAM has been applied to all the EPBC-listed threatened species and TECs identified as likely to be impacted.

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- (c) In the circumstance where there are EPBC Act-listed species that are not addressed by the FBA or BAM (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.

The SEARS only require that biodiversity impacts not covered by the BAM need to be addressed. They provide no detail about the assessment required for migratory species.

All migratory species identified as recorded on the site have been assessed in the BDAR

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- (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.

Verified.

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- (e) **Identify** where further information from the proponent is critical to the assessment of MNES particularly in relation to mapping (Table 1 (B) and Table 2 (D)), analysis of impacts (Table 1 (F) and Table 2 (F)), avoidance, minimisation/mitigation and offsetting, and 6. DPE would like to be made aware of this as soon as practicably possible – a phone call will do.

No additional information required.

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. If you do not have the Commonwealth's referral brief contact the DP&E assessment officer.

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

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

The Commonwealth referral documents considered that Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest, Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion and Koalas were likely to be significantly impacted.

The two ecological communities have had their direct impacts been assessed in accordance with the BAM and offsets calculated.

The calculation of offsets for indirect impacts is stated to be based on data collected during the biodiversity monitoring program for Snowy 2.0 Exploratory Works (EMM 2019). That report is not available to GSB EES. The effective VI losses for these calculations vary, but have a maximum of 7.5% of the existing VI. Several are less than 2% loss of VI. These figures contrast with the Northern Beaches Link, which applied a uniform 20% VI loss within a 20 m buffer, and the M12 Motorway, which had a 10-13% site value score loss within a 30 m buffer.

The assessor should provide a more detailed justification for the method used in calculating indirect offsets, including a presentation of the results of EMM (2019).

The Koala has had its direct impacts and offset requirements assessed in accordance with the BAM, but the indirect impact credit calculation may need to be reviewed if it is determined to be necessary to adjust the method of calculating indirect impacts for PCTs.

(b) **Note** if the nature and extent of impacts has not been provided for any relevant EPBC Act-listed species and communities.

N/A

(c) *There may be EPBC Act-listed threatened species and communities for which the proponent will claim that the impact will **not** be significant in accordance with the EPBC Act Significant Impact Guidelines. Please **provide** advice for cases where OEH disagrees with this finding. Note that generally the Commonwealth will not accept that a species determined to be significantly impacted at the referral decision stage is not likely to be significantly impacted unless strong evidence can be provided.*

The BDAR and Appendix I found that significant impacts on these three entities was 'possible'

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

- Chapter 8 – Impacts to MNES.
Table 8.1 MNES threatened communities and species for which assessments were completed
- Appendix H - EPBC PMST Report
- Appendix I – EPBC Act protected matters likelihood of occurrence assessment
Table I.1 Likelihood of occurrence assessment – threatened ecological communities
Table I.2 Likelihood of occurrence assessment – threatened flora
Table I.3 Likelihood of occurrence assessment – threatened fauna
Table I.4 Likelihood of occurrence assessment – migratory species
- Appendix J - EPBC Act significant impact criteria assessments
Table J.1 Significant impact criteria assessment – Threatened ecological communities
Table J.2 Significant impact criteria assessment – Endangered flora
Table J.3 Significant impact criteria assessment - Vulnerable flora
Table J.4 Significant impact criteria assessment - Critically endangered birds

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Table J.5 Significant impact criteria assessment - Vulnerable birds

Table J.6 Significant impact criteria assessment - Vulnerable mammals

Table J.7 Significant impact criteria assessment – migratory terrestrial species

Table J.8 Significant impact criteria assessment – migratory wetland species

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Table 1 Impact Summary Relevant EPBC Act-listed Threatened Ecological Communities (refer to section 3)

A	B	C	D	E		F	G	
EPBC Act -listed TEC	Y/N	PCTs	Y/N/ comment	Zone	Ha (Direct + Indirect)	Credits (Direct + Indirect)	Comment	Figures taken from BDAR
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Y	724 - Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion	Y	DNG	Does not meet EPBC listing criteria		-	-
				High/ Medium	0.89 + 1.25	27*	Direct impacts correctly assessed as 100% loss. Indirect impacts are a 20m buffer with reductions in native groundcover and litter scores.	Areas can be found in Table 5.4. Detailed description in Tables 5.5-5.7. Credits in Table 7.8.
				Poor	Does not meet EPBC listing criteria		-	-
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Y	883 - Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion	Y	DNG	Does not meet EPBC listing criteria		-	-
				High	3.77 + 2.34	89*	Ditto	Ditto
				Medium	1.64 + 0.61	39*	Ditto	Ditto

* **The credit requirements for direct and indirect impacts are not provided separately by the calculator, nor by the BDAR.**

(A) **List** the relevant EPBC Act-listed threatened ecological communities that will be significantly impacted in accordance with the referral documentation.

(B) **Verify** that there is evidence in the EIS that the listed TEC has been mapped in accordance with relevant listing guidelines (Yes/No).

Proponents are required by the SEARs to ensure that EPBC Act-listed communities are mapped in accordance with EPBC Act listing criteria. It is important that any derived native grassland components of an EPBC Act-listed TEC are included in the mapping of native vegetation extent.

(C) **List** the Plant Community Types (PCTs) associated with the threatened ecological communities in accordance with Chapter 5 of the FBA or BAM.

(D) **Confirm** that the identification of PCTs has been correct (Yes/No) and comment if not correct.

(E) **Record** the area of impact (ha) and credits required.

(F) **Comment** on the analysis of the impacts in relation to the nature and extent of the impact and whether or not the EIS includes an analysis of the direct and indirect impacts to the TEC. Note whether further information might be required.

(G) **Cite** relevant page numbers for details provided in the EIS and appendices for each TEC.

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Table 2 Impact Summary Relevant EPBC Act-listed Species (refer to section 4)

A	B	C	D	E		F	G
Threatened species (listed under the EPBC Act)	Credit Type (SC/EC)	Record PCTs associated with ecosystem credits	Y/N/Comment	Ha (total species habitat)	Credits (total species habitat)	Comment	Figures taken from BDAR
Koala	SC/EC	724	All vegetation with overstorey is included within the Koala habitat polygon	6.84 (direct)	200	Credits are calculated using the average FVIS loss	Tables 6.13, 7.9 & 7.11
		725					
		883					
		1067					

- (A) **List** the relevant threatened species that will be significantly impacted in accordance with the referral documentation.
- (B) **Record** whether the relevant threatened species is classified as “species credit species” or “ecosystem credit species” for the purposes of the FBA or BAM.
- (C) **List** the PCTs associated with the ecosystem credit species.
- (D) **Verify** that the habitat polygons for MNES have been mapped appropriately representing the foraging and/or breeding habitat for the species that will be impacted by the development.
- (E) **Record** the area of impact (ha) and credits required. For impacts associated with ecosystem credit species identify the total credit requirements associated with the cleared PCTs identified as habitat for the species. Note: where the PCTs identified as habitat are also TECs, there will be overlap in the credit requirements between Tables 1 and 2. Where the same credits are referenced more than once they should not be considered to be cumulative.
- (F) **Comment** on the adequacy of the analysis of the impacts in relation to the nature and extent of the impact and whether or not the EIS includes an analysis of the direct and indirect impacts to the species. Note if further information is required.
- (G) **Cite** relevant page numbers for details provided in the EIS and appendices for each threatened species.

3. Avoid and minimise/mitigate

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

measures to avoid and minimise/mitigate¹ have been described

Section 4.3 of Volume 1 of the EIS briefly discusses alternatives to the proposal which are based on a Planning Agreement between the then RMS and Qube. The only alternative discussed is to upgrade part of the existing alignment of Moorebank Avenue to four lanes. It then lists reasons why that alternative is not considered 'desirable':

- Container trucks would interact with public vehicles
- potential for congestion
- Moorebank Avenue would create a barrier to east-west movement within Moorebank Logistics Park, reducing operational efficiency
- There would be less efficient movement of freight between the rail link, terminals and warehouses
- The future automation of the MLP would be potentially constrained
- There would be negative cost/time implications
- There would be unacceptable traffic congestion on Moorebank Avenue by 2029

There are no considerations of developing alternative routes for crossing over/under Moorebank Av between the two intermodal sites. EES has no expertise in this subject and cannot state if such options are feasible.

There are no considerations of other alignment options within the Boot Land, but it is already constrained by the existence of the biodiversity stewardship agreement site.

(b) **Comment** on whether or not the EIS identifies measures to avoid and minimise/mitigate impacts on the relevant EPBC Act-listed threatened species and communities. Section 8 of the FBA and sections 8 and 9 of the BAM require that proponents detail these efforts and commitments in the BAR/BDAR. Identify gaps in the discussion on measures to avoid and minimise/mitigate impacts on Commonwealth matters. Provide references to sections and page numbers in the EIS and appendices.

EES has no expertise to assess the relative transport planning merits of the two alternatives considered.

Clauses 8.1 & 8.2 of the BAM are only partially applicable to this proposal as the presence of the BSA site has already defined the only available route for the realignment. Table 7.8 of the BDAR provides information on the measures to be implemented to minimise and mitigate the impacts of the chosen alignment. These measures all appear appropriate and comprehensive.

(c) **Comment** on the adequacy and feasibility of measures to avoid and minimise/mitigate impacts. Identify inadequacies where further efforts could be made to avoid and minimise/mitigate impacts on Commonwealth matters. Provide references to sections and page numbers in the EIS and appendices that discuss avoidance and minimisation/mitigation measures relevant to EPBC Act-listed species and communities.

Measures to avoid, minimise and mitigate impacts are discussed in Chapter 7.2 (pp. 132-141) and Table 7.8

Assuming that the alternative of upgrading Moorebank Avenue is not feasible from a traffic planning perspective, then the measures to avoid, minimise and mitigate impacts are considered appropriate and comprehensive.

EES does not have the expertise in road design and construction to determine whether the implementation of these measures has resulted in the absolute minimisation of impacts.

¹ Note: whilst sections 8 and 9 of the BAM deal with minimisation and mitigation measures separately (respectively), section 8 of the FBA deals with both but labels them all as minimisation measures.

4. Offsetting

(a) **Verify** [by ticking the following boxes] that the offsets proposed to address impacts to EPBC Act-listed threatened species and communities are in accordance with the requirements under the EPBC Act.

- An appropriate offset for any residual adverse significant impact has been determined
- Proposed offsets for TECs provide a like-for-like outcome i.e. proponents have identified PCTs attributed to the specific threatened ecological community being impacted
- Proposed offsets for threatened species provide a like-for-like outcome
- Proposed offsets have been determined using the FBA or BAM

If offsets have not been determined in accordance with the FBA or BAM, DPE is required to discuss the proposed approach with the Commonwealth as soon as possible.

Credit requirements for threatened species have been calculated in the BAM as a single impact zone (incorporating both direct and indirect impacts). However, the calculation is done in the BAM as a single vegetation zone, using the average VI loss over the zone (direct VI loss + indirect VI loss on a pro-rata basis of the area of each).

As the species polygon will, most likely, have different proportions of direct and indirect impacts, this will result in lower credit requirements for some species, and higher ones for others. *Credit requirements for flora species should be recalculated separately for direct and indirect impact zones.*

5. Resources

(a) 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.

There are no significant sources of information and data which have not been used.

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Table 3 Summary of Offset Requirements

A	B	C	D	E	F
Threatened species or TEC (listed under the EPBC Act)	Credits required as calculated by the FBA or BAM	Credits generated from offsets in remnant vegetation	Credits generated from offsets proposed by other means	Comment on the proposed offsets	Figures taken from BDAR
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	27	0	0	No credits confirmed but three options are proposed for a future BOS. All are acceptable.	Areas can be found in Table 5.4. Detailed description in Tables 5.5-5.7. Credits in Table 7.8. Chapter 7.4
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	128	0	0	No credits confirmed but three options are proposed for a future BOS. All are acceptable.	Areas can be found in Table 5.4. Detailed description in Tables 5.5-5.7. Credits in Table 7.8. Chapter 7.4
Koala	200	0	0	No credits confirmed but three options are proposed for a future BOS. All are acceptable.	Tables 6.13, 7.9 & 7.11. Chapter 7.4

Applicant is attempting to source further credits to meet these shortfalls by:

- Investigating existing EOI site
- Releasing EOIs in local newspapers
- Engaging with existing biodiversity credit holders who may have suitable habitat for *Pultenaea parviflora* to discuss undertaking additional species credit surveys

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- Undertaking desktop assessment of potential offset sites and, where feasible, conduct surveys of potential offset sites for species credits. Progress stewardship site agreements on suitable sites.
- (A) **List** the relevant threatened species or threatened ecological communities that are proposed to be offset (these are the listed species and communities that will be significantly impacted in accordance with the *EPBC Act Significant Impact Guidelines 1.1*, i.e. the list provided by the Commonwealth in the referral documentation.). Identify any relevant species or ecological communities which have not been proposed for offsetting.
- (B) **List** the total credit requirement identified by the FBA or BAM for impacted EPBC Act-listed threatened species and threatened ecological communities. For TECs and ecosystem credit species this is the sum of the credits required for the PCTs associated with those TECs or ecosystem credit species.
- (C) **Identify** the total number of required credits which are proposed to be retired through conserving and managing remnant / mature vegetation.
- (D) **Identify** the number of credits proposed to be met through other methods allowable under the FBA or BAM, such as ecological rehabilitation of mined land, funding biodiversity conservation actions or payment into the Biodiversity Conservation Fund.
- (E) **Comment** on the adequacy of the proposed offset in meeting requirements of the FBA or BAM and the EPBC Act. In particular is there a reasonable argument for a shortfall in credits required for MNES and/or non-compliance with like-for like? Are the offsets proposed by means other than protection of remnant vegetation adequate?
- (F) **Reference** the relevant page numbers from the EIS and appendices for each threatened species and community.

Notes

Indirect impacts for NBL

- 20 m buffer
- 20% VI loss

Indirect impacts for M12

- 30 m buffer
- Effectively a 10-13% VI loss