



July 2024

# **Assessment of Significant Impact on MNES**

## **Jandakot Bus Depot – South Expansion**

# Introduction

This Attachment provides an assessment of the significance of indirect impacts to four Matters of National Environmental Significance (MNES) associated with the Jandakot Bus Depot – South Expansion project. This assessment is based upon the *Significant Impact Guidelines 1.1-Matter of National Environmental Significance* (DoE, 2013).

This assessment was completed with the assistance of AECOM Australia Pty Ltd.

## Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community - Endangered

An assessment against the impact criteria for Endangered ecological communities outlined in DCCEE's *Significant Impact Guidelines 1.1-Matter of National Environmental Significance* (DoE, 2013) is provided in **Table 1**.

**Table 1 Significant Impact Criteria for Banksia Woodlands of the Swan Coastal Plain Ecological Community**

Significant Impact Criteria	Impact	Significance
Reduce the extent of an ecological community	<p>The Proposed Action will result in clearing approximately 0.57 ha of Banksia Woodlands TEC within the PAA. The Banksia Woodlands TEC within the PAA is predominantly in Excellent Condition.</p> <p>The PAA is surrounded by areas of TEC to the north and west and areas also occur approximately 1 km to the east and south. Clearing this TEC will not result in a reduction in the geographic area over which the TEC occurs.</p> <p>The local extent of the Banksia Woodlands TEC in the City of Cockburn is 3,497 ha, with 253,540 ha mapped in the Swan Coastal Plain (TSSC, 2016). At a local context, loss of 0.57 ha represents less than 0.02% of Banksia Woodlands TEC in the City of Cockburn.</p>	Not significant
Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	<p>The area of Banksia Woodlands to be cleared within the PAA is largely isolated from other areas of TEC by Karel Avenue. The Proposed Action will extend the distance between the already separated communities, however, it will not bisect any additional patches of the TEC to create two or more smaller patches. Thus, the Proposed Action is considered unlikely to result in fragmentation that would significantly impact the viability of remaining TEC.</p>	Not significant
Adversely affect habitat critical to the survival of an ecological community	<p>The Banksia Woodland of Swan Coastal Plain TEC Conservation Advice defines all patches of TEC and a buffer of 20 – 50 m, as critical for the survival of the TEC (TSSC, 2016).</p> <p>The Proposed Action will directly impact 0.57 ha of the Banksia Woodland TEC patch. There are an estimated 253,540 ha of the TEC across the Swan Coastal Plain. Clearing of up to 0.57 ha of the TEC for the Proposed</p>	Not significant

	Action represents reduction of less than 0.006% of the reported extent at the regional scale. While the Proposed Action is anticipated to affect the habitat critical to the survival of Banksia Woodland TEC, the extent of impact is very small.	
Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival	The Proposed Action is not expected to modify or destroy any abiotic factors necessary for the communities survival. The small area of clearing and soil removal will not affect the community significantly. Similarly, the Proposed Action will not modify groundwater levels at the site.	Not significant
Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species	Dieback is not present in the Patch (Glevan, 2018). The Proposed Action will not lead to substantial changes in the species composition of the Banksia Woodlands TEC outside the area of clearing. The proposed clearing will be managed to minimise the risk of dieback and weed invasion to areas adjacent to the TEC by ensuring all vehicles entering the site are clean on entry. The PAA will be bitumenised which will prevent weed growth. No decline or loss of functionally important species is expected to occur.	Not significant
Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community	The Proposed Action will be undertaken adjacent to existing cleared land that may provide an area for growth of invasive species. The cleared area is proposed to be fully bituminized and thus does not pose a risk for introduction of weed species. The Proposed Action is consequently not expected to result in the introduction or spread of weeds that will impact the TEC adjacent to the PAA. The Proposed Action is not expected to result in a substantial reduction in quality or integrity of the TEC.	Not significant
Interfere with the recovery of an ecological community	No recovery plan has been adopted or made for this TEC. The Approved Conservation Advice recommends avoidance of fragmentation and avoiding and mitigating impacts. Following clearing, the seed bed from the cleared area is proposed to be transported and respread at a location to assist in rehabilitation of Banksia Woodland TEC within the conservation estate or on local government conservation reserves. The clearing of less than 1 ha of Banksia Woodlands TEC in this manner is not anticipated to impact upon the recovery of the ecological community.	Not significant

# Forest Red tailed Black Cockatoo (*Calyptorhynchus banksii naso*) – Vulnerable

An assessment against the impact criteria for threatened species listed as Vulnerable outlined in DCCEE's *Significant Impact Guidelines 1.1-Matter of National Environmental Significance* (DoE, 2013) is provided in **Table 2**.

**Table 2 Significant Impact Criteria for Forest Red tailed Black Cockatoo**

Significant Impact Criteria	Impact	Significance
Lead to a long-term decrease in the size of an important population of a species	<p>The PAA does not contain the eucalypt species which are the predominant food for FRBC. There are scattered Allocasuarina trees present but these are not a dominant food for this species. MRIA (2017b, p. 37) did not consider the site to represent FRBC habitat due to the lack of foraging species. The clearing will result in the loss of 0.57 ha of at best marginal native foraging habitat for FRBC. This is less than the 1 ha criteria for a significant impact to the species (DAWE, 2022).</p> <p>No removal of breeding trees or potential breeding trees is proposed.</p> <p>The loss of 0.57 ha of marginal foraging habitat will contribute to a small reduction in the potential foraging habitat available and therefore, is not anticipated to lead to long-term decrease in the size of Black Cockatoo populations.</p>	Not significant
Reduce the area of occupancy of an important population	FRBC are highly mobile and able to move to neighbouring habitat to the north and east of the PAA ( <b>Attachment 'Att A – Figures', Figure 7</b> ). Given the available habitat within the surrounding and at a broader area, the clearing of 0.57 ha marginal foraging habitat for FRBC is not anticipated to reduce the area of occupancy of the population.	Not significant
Fragment an existing important population into two or more populations	FRBC are highly mobile. FRBC potential habitat will be cleared for the Proposed Action, however this will not create a gap of more than 4 km between patches of FRBC habitat due to the presence of other, better quality habitat in the area. Therefore, the Proposed Action will not fragment existing populations.	Not significant
Adversely affect habitat critical to the survival of a species	The Proposed Action will result in the loss of 0.57 ha of marginal quality native foraging habitat for FRBC, less than the 1 ha criteria set out in DAWE (2022). This small loss is not considered significant.	Not significant
Disrupt the breeding cycle of an important population	No breeding trees or potential breeding trees occur in the PAA, and therefore the action will not disrupt the breeding	Not significant

	cycle of FRBC but may impact upon the long-term breeding viability of the population with the PAA.	
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The Proposed Action will clear 0.57 ha marginal quality foraging habitat in an area where 1960 ha of foraging habitat is available within 6 km ( <b>Attachment 'Att A – Figures', Figure 7</b> ). The Proposed Action will not remove potential or actual breeding trees. Loss of potential foraging habitat will result in minor impact, however, given the availability of larger suitable foraging habitat in the vicinity of the PAA, the Proposed Action is not expected to decrease the availability or quality of habitat to the extent that the species is likely to decline.	Not significant
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	The Proposed Action involves the development of a bitumenised area where weeds are highly unlikely to grow. Machinery brought in during the works will be required to be clean on entry to avoid the introduction or spread of weeds. Work areas will be delineated to avoid accidental access or egress into bushland. With these measures in place, the Proposed Action will not introduce invasive species, consequently, it is envisaged that the FRBC habitat will not be impacted significantly.	Not significant
Introduce disease that may cause the species to decline	The Proposed Action is not anticipated to result in the introduction of new invasive species. The Proposed Action does not propose importing any material new to the Metropolitan Area that may carry disease. Machinery brought in during the works will be required to be clean on entry to avoid the introduction or spread of diseases such as dieback. The Proposed Action is not anticipated to result in the introduction of new avian diseases.	Not significant
Interfere substantially with the recovery of the species	The Proposed Action is unlikely to impact on the viability of foraging habitat in the region and is, therefore, not expected to interfere with recovery of FRBC. The recovery actions for FRBC includes seeking funding, eliminating illegal shooting, removing feral honeybees from suitable hollows, researching breeding ecology, and minimising effects of mining and urban development on habitat loss (DEC, 2008). The Proposed Action will result in 0.57 ha of marginal habitat loss. This is not considered significant in the local and regional context.	Not significant

# Carnaby's Black Cockatoo (*Zanda latirostris*) – Endangered

An assessment against the impact criteria for threatened species listed as Endangered outlined in DCCEE's *Significant Impact Guidelines 1.1-Matter of National Environmental Significance* (DoE, 2013) is provided in **Table 3**.

**Table 3 Significant Impact Criteria for Carnaby's Black Cockatoo**

Significant Impact Criteria	Impact	Significance
Lead to a long-term decrease in the size of a population	The Proposed Action will result in the loss of 0.68 ha of potential native foraging habitat of which 0.57 ha is high-quality for CBC. This is less than the 1 ha criteria for a significant impact to the species (DAWE, 2022). No removal of breeding trees or potential breeding trees is proposed. The loss of 0.57 ha of high quality foraging habitat will contribute to a small reduction in the potential foraging habitat available and therefore, is not anticipated to lead to long-term decrease in the size of Black Cockatoo populations.	Not significant
Reduce the area of occupancy of the species	CBC are highly mobile and able to move to neighbouring habitat to the north and east of the PAA. Given the available habitat within the surrounding and at a broader area, the clearing of 0.57 ha of potential high quality foraging habitat for CBC is not anticipated to reduce the area of occupancy of the species.	Not significant
Fragment an existing population into two or more populations	CBC are highly mobile. CBC potential habitat will be cleared for the Proposed Action, however this will not create a gap of more than 4 km between patches of CBC habitat due to the presence of other habitat in the area. Therefore, the Proposed Action will not fragment existing populations.	Not significant
Adversely affect habitat critical to the survival of the species	The Proposed Action will result in the loss of 0.57 ha of high-quality Banksia Woodland - native foraging habitat for CBC, less than the 1 ha criteria set out in DAWE (2022). This small loss is not considered significant.	Not significant
Disrupt the breeding cycle of a population	No breeding trees or potential breeding trees occur in the PAA, and therefore the action will not disrupt the breeding cycle of CBC but may impact upon the long-term breeding viability of the population with the PAA.	Not significant
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the	The Proposed Action will clear 0.57 ha of high-quality foraging habitat in an area where 1960 ha of foraging habitat is available within 6 km ( <b>Attachment 'Att A – Figures', Figure 7</b> ). The Proposed Action will not remove potential or actual breeding trees. Loss of potential foraging habitat will result in minor impact, however, given the availability of larger suitable foraging habitat in the vicinity of the PAA, the Proposed Action is not expected to	Not significant

species is likely to decline	decrease the availability or quality of habitat to the extent that the species is likely to decline.	
Result in invasive species that are harmful to critically endangered or an endangered species becoming established in the endangered or critically endangered species' habitat	The Proposed Action involves the development of a bitumenised area where weeds are highly unlikely to grow. Machinery brought in during the works will be required to be clean on entry to avoid the introduction or spread of weeds. Work areas will be delineated to avoid accidental access or egress into bushland. With these measures in place, the Proposed Action will not introduce invasive species, consequently, it is envisaged that the CBC habitat will not be impacted significantly.	Not significant
Introduce disease that may cause the species to decline	The Proposed Action is not anticipated to result in the introduction of new invasive species. The Proposed Action does not propose importing any material new to the Metropolitan Area that may carry disease. Machinery brought in during the works will be required to be clean on entry to avoid the introduction or spread of diseases such as dieback. The Proposed Action is not anticipated to result in the introduction of new avian diseases.	Not significant
Interfere with the recovery of the species	Proposed clearing is unlikely to impact on the viability of foraging habitat in the region and is therefore not expected to interfere with recovery of the species. The recovery actions for CBC include undertaking regular monitoring, implementing strategies to reduce motor vehicle collisions, researching breeding ecology, and protecting and managing important habitat (DPAW, 2013). The Proposed Action will result in the potential habitat loss of 0.68 ha, and will not affect the achievement of these actions.	Not significant



# Grand Spider Orchid (*Caladenia huegelii*) – Endangered

An assessment against the impact criteria for threatened species listed as Endangered outlined in DCCEEW's *Significant Impact Guidelines 1.1-Matter of National Environmental Significance* (DoE, 2013) is provided in **Table 4**.

Table 4 Significant Impact Criteria for *Caladenia huegelii*

Significant Impact Criteria	Impact	Significance
Lead to a long-term decrease in the size of a population	No <i>C. huegelii</i> were recorded within the PAA in the flora and vegetation surveys conducted in 2017 and 2018 by GHD (GHD, 2019b) or MRIA in 2017 (MRIA, 2017a). It is not known if the PAA contains the suitable pollinating insects or soil mycorrhiza to support a population of the orchid. While it is not clear whether the site contains areas suitable for translocation of the species, there are other suitable areas in the conservation estate at Ken Hurst Park (approximately 1 km east) and Jandakot Regional Park (3 km south east).	Not significant
Reduce the area of occupancy of the species	Since no <i>C. huegelii</i> were recorded within the PAA in the flora and vegetation surveys conducted by GHD (2019b) or MRIA (2017a), the clearing of 0.57 ha potential habitat is not anticipated to reduce the area of occupancy of the population	Not significant
Fragment an existing population into two or more populations	The area of Banksia woodland to be cleared is isolated from other areas of vegetation by Karel Avenue and Roe Highway. The Proposed Action will not extend the distance between known individuals or bisect any additional patches of habitat to create two or more smaller patches that potentially can be <i>C. huegelii</i> habitat. Thus, the Proposed Action is considered unlikely to result in fragmentation that would significantly impact <i>C. huegelii</i> .	Not significant
Adversely affect habitat critical to the survival of the species	The Proposed Action will not lead to substantial changes in the species composition in areas where <i>C. huegelii</i> occurs due to the management of weeds and dieback. Proposed clearing will be managed to minimise the risk of dieback and weed invasion to areas adjacent to the PAA. No decline or loss of species is expected to occur	Not significant
Disrupt the breeding cycle of a population	As there are no <i>C. huegelii</i> in the PAA, the Proposed Action is not expected to result in a disruption to the breeding cycle of <i>C. huegelii</i> .	Not significant
Modify, destroy, remove or isolate or decrease the availability or quality of	The PAA offers potentially suitable habitat for the species, however it is not currently known whether the area contains the required mycorrhiza or pollinating species to complete the <i>C. huegelii</i> lifecycle. As such it is not clear if translocation is an option. Removal of vegetation within the PAA will not modify,	Not significant



habitat to the extent that the species is likely to decline	destroy, remove, isolate or decrease the availability or quality of habitat as it is not current habitat for the species.	
Result in invasive species that are harmful to critically endangered or an endangered species becoming established in the endangered or critically endangered species' habitat	The Proposed Action involves the development of a bitumenised area where weeds and other introduced species are highly unlikely to grow. Machinery bought in during the works will be required to be clean on entry to avoid the introduction or spread of weeds. Work areas will be delineated to avoid accidental access or egress into bushland. With these measures in place, the Proposed Action will not introduce invasive species, consequently, it is envisaged that the <i>C.huegelii</i> habitat will not be impacted significantly.	Not significant
Introduce disease that may cause the species to decline	The Proposed Action is not anticipated to result in the introduction of new invasive species. The Proposed Action does not propose importing any material new to the Metropolitan Area that may carry disease. Machinery bought in during the works will be required to be clean on entry to avoid the introduction or spread of diseases such as dieback. The Proposed Action is not anticipated to result in the introduction of new avian diseases.	Not significant
Interfere with the recovery of the species	The Recovery Plan recommends liaising with land managers, monitoring populations and obtaining conservation outcomes for developments in areas where this species occurs (DEC, 2009). The Proposed Action will not impact upon these measures.	Not significant

# References

Department of Agriculture Water and Environment (DAWE). (2022). *Referral Guideline for 3 WA Threatened Black Cockatoo Species*. Department of Agriculture, Water and the Environment. <https://www.dcceew.gov.au/sites/default/files/documents/referral-guideline-3-wa-threatened-black-cockatoo-species-2022.pdf>

Department of Environment (DoE). (2013). *Significant Impact Guidelines 1.1 - Matters of National Environmental Significance*. [https://www.dcceew.gov.au/sites/default/files/documents/neg-guidelines\\_1.pdf](https://www.dcceew.gov.au/sites/default/files/documents/neg-guidelines_1.pdf)

Department of Environment and Conservation (DEC). (2009). *Grand Spider Orchid (Caladenia huegelii) Recovery Plan*. Commonwealth Department of the Environment, Water, Heritage and the Arts, Canberra. <https://www.dcceew.gov.au/sites/default/files/documents/caladenia-huegelii.pdf>

Department of Environment and Conservation (DEC). (2008). *Forest Black Cockatoo (Baudin's Cockatoo Calyptorhynchus baudinii and Forest Redtailed Black Cockatoo Calyptorhynchus banksii naso) Recovery Plan*. <https://www.dcceew.gov.au/sites/default/files/documents/wa-forest-black-cockatoos-recovery-plan.pdf>

Department of Parks and Wildlife (DPAW). (2013). *Carnaby's Cockatoo (Calyptorhynchus latirostris) Recovery Plan*. [Carnaby's Cockatoo \(Calyptorhynchus latirostris\) Recovery Plan \(agriculture.gov.au\)](https://www.agriculture.gov.au/sites/default/files/documents/carnaby%27s%20cockatoo%20recovery%20plan.pdf)

GHD. (2019). Additional Targeted Flora Survey Memorandum. Unpublished report prepared for the Public Transport Authority, May 2019. [https://www.epa.wa.gov.au/sites/default/files/PER\\_documentation2/Appendix%205\\_Targeted\\_sig\\_flora\\_survey.pdf](https://www.epa.wa.gov.au/sites/default/files/PER_documentation2/Appendix%205_Targeted_sig_flora_survey.pdf)

Glevan (2018). *Phytophthora Dieback occurrence assessment*. Unpublished report prepared for the Public Transport Authority, October 2018. [https://www.epa.wa.gov.au/sites/default/files/PER\\_documentation2/Appendix%206\\_Dieback\\_Assessment.pdf](https://www.epa.wa.gov.au/sites/default/files/PER_documentation2/Appendix%206_Dieback_Assessment.pdf)

Metropolitan Road Improvement Alliance (MRIA). (2017a). *Detailed Flora and Vegetation Assessment - Karel Avenue Upgrade*. Unpublished report, November 2017.

Metropolitan Road Improvement Alliance (MRIA). (2017b). *Level 1 Fauna and Targeted Black Cockatoo Surveys - Karel Avenue Upgrade*. Unpublished report, November 2017.

Threatened Species Scientific Committee (TSSC). (2016). *Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community*. <https://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>