

BIRRONG STATION UPGRADE – BIODIVERSITY ASSESSMENT

Transport for NSW

FINAL

November 2019



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Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Transport for NSW

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Executive Summary



Birrong Station has been identified as requiring an accessibility upgrade to meet the requirements of the *Disability Discrimination Act 1992* in providing more accessible, modern, and secure public transport infrastructure. In order to undertake this upgrade, environmental assessment is required in accordance with the *Environment Planning and Assessment Act 1979* (EP& A Act).

One threatened ecological community (TEC) was recorded within the study area, being *Cumberland Plain Woodland in the Sydney Basin Bioregion* critically endangered ecological community (CEEC) under the *Biodiversity Conservation Act 2016* (BC Act). No threatened species, endangered populations, migratory species or their habitats were recorded in the study area. The area of native vegetation to be impacted is approximately 0.14 hectares and includes one canopy tree for removal. This will require offsetting by TfNSW at a ratio of 1:8 under their vegetation offsetting guidelines (TfNSW 2019). Due to the nature and small extent of the proposed work, the proposed Birrong Station upgrade will not result in a significant impact to ecological values.

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Glossary

BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
CEEC	Critically Endangered Ecological Community
DBH	Diameter at Breast Height
DoEE	Commonwealth Department of the Environment and Energy
EEC	Endangered Ecological Community
EP&A Act	<i>Environment Planning and Assessment Act 1979</i>
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
KTP	Key Threatening Process
NSW	New South Wales
OEH	NSW Office of Environment and Heritage
PCT	Plant Community Type
PMST	Protected Matters Search Tool
REF	Review of Environmental Factors
TEC	Threatened Ecological Community
TfNSW	Transport for NSW
Umwelt	Umwelt (Australia) Pty Limited

1.0 Introduction

The Transport for NSW (TfNSW) Transport Access Program (TAP) is an initiative to provide more accessible, modern, and secure public transport infrastructure. One of the objectives of the TAP is to meet the requirements of the *Disability Discrimination Act 1992*. As part of the TAP, Birrong Station was identified as requiring an accessibility upgrade. Umwelt (Australia) Pty Limited (Umwelt) was engaged by TfNSW to undertake a Biodiversity Assessment for a proposed upgrade to Birrong Station, NSW. This will form part of a Review of Environmental Factors (REF) required for the upgrade in accordance with the *Environment Planning and Assessment Act 1979* (EP&A Act).

This Biodiversity Assessment has been prepared to assess the potential ecological impacts associated with the proposed upgrade and includes an assessment of potential impacts on threatened and migratory species, endangered populations and threatened ecological communities (TECs) listed under the *Biodiversity Conservation Act 2016* (BC Act) and/or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

This Biodiversity Assessment applies to the rail corridor, existing carpark, landscaped areas and roads surrounding Birrong Station, hereafter referred to as the 'study area' (**Figure 1.1**).

1.1 Proposed Work

The proposed upgrade will include the following components:

New footbridge, lift and ramps:

- installation of a new pedestrian footbridge south of the existing Avalon Street overbridge which would provide access from Rodd Street (east) over the rail corridor to Rodd Street (west). The footbridge would comprise of a concrete structure with protection screens
- installation of one lift to provide access between the new pedestrian footbridge and the platform
- construction of a new eastern station entrance, to include accessible ramp and stairs to connect to the new footbridge, with landscaping near the entrance
- construction of a new western entrance, to include a new accessible ramp and stairs to connect to the new footbridge, with landscaping near the entrance
- removal of the existing stairs to the platform from the Avalon Street overbridge and reinstating the existing bridge parapet.

Platform and station building works:

- localised platform regrading to ensure accessibility, tactile ground surface indicators and line marking as required for DSAPT compliance
- canopies at the boarding assistance zones (design of these canopies is yet to be determined and would be finalised in detailed design)
- conversion of the existing unisex toilet to a unisex ambulant toilet

- upgrades to the existing family accessible toilet including:
 - replacement of items for compliance with DSAPT
 - new entry ramp
 - extension of the roof canopy of the platform building to provide adequate shelter at the family accessible toilet entrance.

Interchange upgrades:

- a signposted accessible kiss and ride bay on Teresa Street adjacent to the eastern station entrance, including associated road and kerb adjustments
- an accessible parking space to the eastern side of the station (adjacent to Birrong Boys High School staff car park entrance)
- conversion of the two existing accessible parking spaces in the commuter car park to standard car parking spaces.

Electrical supply and systems work:

- upgrade to the station power supply and a new 11kV padmount substation to be located on the eastern side of the rail corridor, south of the proposed footbridge
- adjustments to station lighting, security systems including CCTV and communication systems including public announcement and hearing induction loops.



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- Legend**
- Study Area Boundary
 - Cumberland Plain Woodland in the Sydney Basin Bioregion CEEC
 - Tree Removal

FIGURE 1.1

Vegetation Communities in the Study Area

1.2 Methods

1.2.1 Database Searches

In order to identify threatened species, endangered populations and TECs with the potential to occur in the study area, a review of relevant ecological databases was completed. These database sources comprised:

- Office of Environment and Heritage (OEH) BioNet Atlas of NSW Wildlife database and mapping tool (OEH 2019) 10 kilometre (km) radius search, accessed October 2019
- Commonwealth Department of the Environment and Energy (DoEE) Protected Matters Search Tool (PMST) (DoEE 2019a) 10 km radius search for known/predicted EPBC Act-listed TECs, accessed October 2019
- PlantNET (Royal Botanic Gardens Sydney) database search for Rare or Threatened Australian Plant species within the Canterbury Bankstown LGA, accessed October 2019
- The Native Vegetation of the Sydney Metropolitan Area (OEH 2016).

1.2.2 Ecological Survey

On 10 October 2019 Umwelt Ecologist Emily Gardiner undertook an ecological survey of the study area which comprised:

- confirming the vegetation communities present (particularly for TECs listed under the BC Act and EPBC Act)
- walking meander searches for threatened and migratory species and endangered populations with a particular focus on those known to occur at the locality
- identification of habitat features (in particular active nests, hollow-bearing trees and hollow logs).

Where significant ecological features were identified, they were way-pointed with a hand-held GPS and details were recorded.

2.0 Results

2.1 Vegetation Communities

One vegetation community is present in the study area, being Plant Community Type (PCT) 849 Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain. This community occurs on the western side of the study area, adjacent to the existing carpark and within the northern rail corridor (**Figure 1.1**). The canopy is dominated by grey box (*Eucalyptus moluccana*), while the mid-storey is comprised of flax-leaved paperbark (*Melaleuca linariifolia*), swamp oak (*Casuarina glauca*) and white cedar (*Melia azedarach*). Groundcover is sparse, comprised of patches of exposed earth, slashed grasses and exotic species including prairie grass (*Bromus catharticus*), lamb's tongues (*Plantago lanceolata*) and oats (*Avena* sp.), with some occurrences of native purple coral pea (*Hardenbergia violacea*).

This PCT covers 0.14 ha of the study area and is consistent with *Cumberland Plain Woodland in the Sydney Basin Bioregion* critically endangered ecological community (CEEC) under the BC Act. As this community occurs in a patch with an area of <5 ha, it does not meet any condition threshold for *Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest* CEEC under the EPBC Act.

All other vegetation occurring in the study area is highly disturbed through maintenance activities (i.e. slashing along the rail corridor) and landscaping. The area in the north-western corner of the study area contains a planted canopy of brush box (*Lophostemon confertus*) and planted mid-storey of oleander (*Nerium oleander*), with manicured groundcover.

2.2 Habitat Features and Threatened Species

No threatened species, endangered populations or migratory species were recorded within the study area during the field survey. Multiple records of downy wattle (*Acacia pubescens*), vulnerable under the BC Act and EPBC Act, occur in the locality and within the rail corridor immediately to the north of the study area. This species is not present within the study area and is not expected to be impacted by the proposed work.

Several threatened fauna species have been recorded in the wider locality and may utilise some of the habitats to be impacted by the proposed work for foraging, however no hollow-bearing trees, burrows or active nests are present in the study area.

3.0 Assessment of Significance

The potential impacts of the proposed work on vegetation within the study area include:

- disturbance of groundcover and midstorey species as a result of vehicle access, landscaping, stockpiling and hardstand construction
- removal of one canopy tree (*Eucalyptus crebra*) (**Plate 3.1**) at the site of the proposed new footbridge and stairs.

One TEC listed under the BC Act, *Cumberland Plain Woodland in the Sydney Basin Bioregion* CEEC, was recorded within the study area. The potential impacts on the CEEC have been assessed by way of a Five-Part Test of Significance under the BC Act, which is provided in **Appendix 1**. The Test of Significance indicated that there is not likely to be a significant impact on this CEEC.

Under the TfNSW Vegetation Offset Guide (TfNSW 2019), the removal of native vegetation which is deemed unlikely to have a significant effect on threatened biodiversity requires an offset. Due to the nature of the proposed work (i.e. removal of an individual tree) secondary offsetting requirements are triggered. The planting requirements for offsetting are shown in **Table 3.1**.

Table 3.1 Offsetting requirements for individual tree removal (TfNSW 2019)

Tree type	Offset
Large tree (DBH greater than 60 cm)	Plant minimum 8 trees
Medium tree (DBH greater than 15 cm, but less than 60 cm)	Plant minimum 4 trees
Small young tree (DBH less than 15 cm)	Plant minimum 2 trees

Due to the large size of the tree (i.e. DBH greater than 60cm), TfNSW is required to plant a minimum of eight trees to offset the impact of this removal.

Given the absence of threatened flora and fauna recorded during the field survey, the small extent of habitat within the study area and the minor nature of the proposed work, a Test of Significance under the BC Act and Assessment of Significance under the EPBC Act are not considered to be required for any threatened flora or fauna species.



Plate 3.1 Canopy tree to be removed

4.0 Recommendations

In order to minimise the ecological impacts associated with the proposed work, Umwelt recommends the following:

- disturbance should be restricted to the minimum area required and should avoid tree removal wherever possible
- if removal of trees cannot be avoided (subject to detailed design and arborist assessment), they should be offset in accordance with the TfNSW Vegetation Offset Guidelines (TfNSW 2019). The following principles should be adhered to:
 - planting of offset trees at the ratio specified for the size of the tree to be removed (**Table 3.1**)
 - planting should occur on or near the impacted site or, where this is not possible, at alternative locations identified and agreed with the relevant Council and/or stakeholders
 - locally native species should be utilised
 - under no circumstances should noxious weeds (as listed in Council schedules under the *Biosecurity Act 2015*) or environmental weed species be planted (e.g. camphor laurel (*Cinnamomum camphora*), privet (*Ligustrum* spp.), willow (*Salix* spp.), box elder (*Acer negundo*), coral trees (*Erythrina* spp.), honey locust tree (*Gleditsia triacanthos*) and African olive (*Olea europaea* subsp. *cuspidata*)
 - tree species that pose potential health risks should be avoided (e.g. plane tree (*Plantanus occidentalis*) and rhus tree (*Toxicodendron succedaneum*))
- in instances where the landscape is characterised by exotic tree planting, (e.g. in the curtilage of listed heritage items), offsetting with exotic trees may be considered appropriate. In such circumstances, only non-invasive exotic tree species may be used (e.g. African wild plum (*Harpephyllum caffrum*) and Norfolk Island pine (*Araucaria heterophylla*))
- all work should avoid the dripline of native trees wherever possible
- erosion and sediment controls to be implemented around work areas to avoid impacts to creeks and drainage channels via stormwater runoff
- ensure that machinery is free of weed material before entering and exiting the study area to avoid the introduction or spread of weed species.

5.0 Conclusion

The proposed Birrong Station upgrade will not result in a significant impact to ecological values (including threatened species, endangered populations, migratory species or TECs), primarily due to the small extent and minor nature of the proposed works.

6.0 References

Department of the Environment and Energy (DoEE) (2019) Protected Matters Search Tool, available at <http://www.environment.gov.au/epbc/protected-matters-search-tool>, accessed October 2019.

Department of the Environment, Water, Heritage and the Arts (DEWHA) (2009) Approved Conservation Advice for Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest ecological community. Canberra, December 2009.

Office of Environment and Heritage (OEH) (2016) *The Native Vegetation of the Sydney Metropolitan Area - Version 3.1*. VIS_ID 4489.

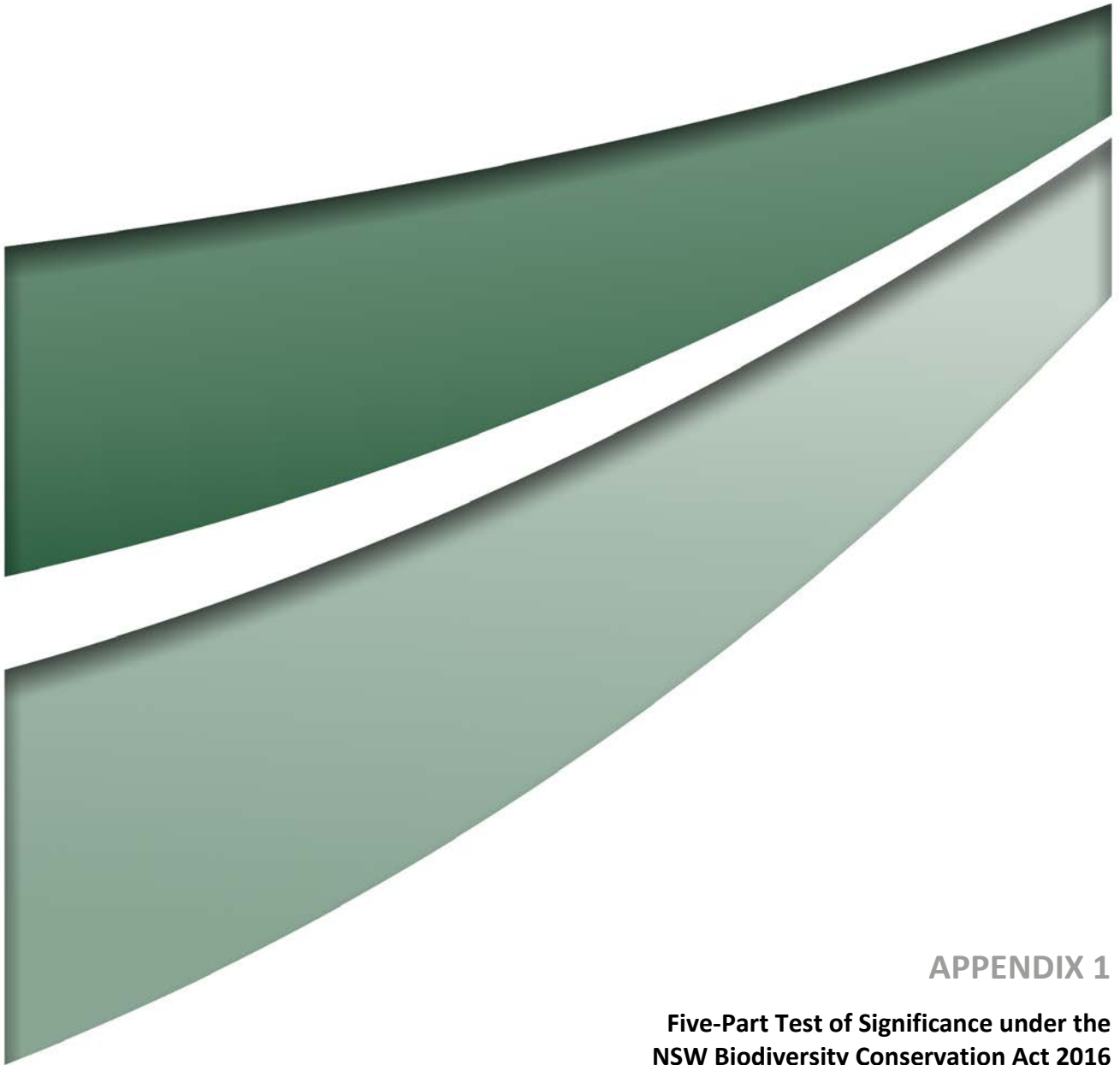
Office of Environment and Heritage (OEH) (2019) BioNet Atlas of NSW Wildlife, accessed October 2019.

NSW Scientific Committee (2010) Cumberland Plain Woodland in the Sydney Basin Bioregion - Critically Endangered Ecological Community Listing.

RailCorp (2006), Vegetation Mapping – Marrickville to Sefton, February 2006, Version 0.1. Railcorp Geospatial Services Unit.

Threatened Species Scientific Committee (TSSC) (2009) Commonwealth Listing Advice on Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest. Department of the Environment, Water, Heritage and the Arts. Canberra, ACT: Department of the Environment, Water, Heritage and the Arts.

Transport for NSW (TfNSW) (2019) Vegetation Offset Guide DMS-SD-087 Supporting document – Applicable to Infrastructure and Place.



APPENDIX 1

**Five-Part Test of Significance under the
NSW Biodiversity Conservation Act 2016**

Those species, endangered populations and TECs considered to have reasonable potential to occur (based on known distribution and habitat requirements) or recorded within the study area and with reasonable potential to be significantly impacted by the proposed works are addressed in the following ‘Test of Significance’. This assessment is conducted in accordance with the *Biodiversity Conservation Act 2016* (BC Act).

The potential impacts of the proposed work on the 0.14 ha patch of *Cumberland Plain Woodland in the Sydney Basin Bioregion* CEEC include:

- disturbance of groundcover and midstorey species as a result of vehicle access, landscaping and hardstand construction
- removal of one canopy tree at the site of the proposed new footbridge and stairs.

Cumberland Plain Woodland in the Sydney Basin Bioregion CEEC	
(1) The following is to be considered for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:	
(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction	Not applicable.
(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:	
(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	This CEEC is estimated to have an extent of approximately 12,300 ha (DEWHA 2009). Due to the small extent and minor nature of the proposed work, is unlikely that the proposed work will have a significant adverse effect on this community such that its local extent is likely to be placed at risk of extinction.
(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction	The diversity of the CEEC within the study area is low due to past clearing and construction activities related to the rail line and carpark. It is unlikely that potential disturbance to the predominately exotic groundcover and removal of one canopy tree will substantially and adversely modify the composition of this CEEC such that its local occurrence is likely to be placed at risk of extinction.
(c) in relation to the habitat of a threatened species or ecological community:	
(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and	The proposed work will potentially result in the removal of one canopy tree and disturbance to 0.14 ha of groundcover.
(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and	The CEEC within the study area occurs as a highly disturbed and fragmented patch. The proposed work will not result in the fragmentation of currently connected areas of habitat.

Cumberland Plain Woodland in the Sydney Basin Bioregion CEEC	
(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,	
	The CEEC in the study area occurs in a disturbed and fragmented landscape of urban development. The area to be modified is not likely to be important to the long-term survival of the CEEC in the locality due to the minor nature of the proposed work.
(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly)	
	The proposed work will not impact any declared areas of outstanding biodiversity value.
(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	
	There is one KTP relevant to this project, being: <ul style="list-style-type: none"> • Clearing of native vegetation (BC Act and EPBC Act) Due to the minor nature of the proposed work, the implications of this KTP are not considered to be significant.
Conclusion	
	Due to the location of the CEEC in a fragmented, urban landscape, the small extent and minor nature of the potential impacts, the proposed work is not considered likely to result in a significant impact to the <i>Cumberland Plain Woodland in the Sydney Basin Bioregion</i> CEEC.



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