

Transport
for NSW

Macquarie Fields Station Upgrade

Review of Environmental Factors
Objective Reference (A65506018)

August 2024



transport.nsw.gov.au

Acknowledgement of Country

Transport for NSW acknowledges the Dharawal people, the traditional custodians of the land on which the Macquarie Fields Station Upgrade is proposed.

We pay our respects to their Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



Connecting with Country Statement

Transport for NSW have engaged Artefact Heritage to develop a Connecting with Country Framework to inform design development and carry out Aboriginal engagement for the Macquarie Fields Station Upgrade.

The Macquarie Fields Station Upgrade aims to:

- respect the rights of Aboriginal peoples to Indigenous cultural intellectual property, and we will support the right of Country to be cared for
- prioritise Aboriginal people's relationship to Country, and their cultural protocols, through education and enterprise by and for Aboriginal people
- prioritise financial and economic benefits to the Country where we are working, and by extension to the Traditional Custodians of that Country
- share tangible and intangible benefits with the Country where we are working, and by extension the Traditional Custodians of that Country, including current and future generations
- respect the diversity of Aboriginal cultures, but we will prioritise the local, place-specific cultural identity of the Country we're working on
- prioritise recognition and responsibility of Aboriginal people, supporting capacity building across Aboriginal and non-Aboriginal communities, and across government project teams
- support Aboriginal people to continue their practices of managing land, water and air through their ongoing reciprocal relationships with Country. We will create opportunities for traditional first cultures to flourish.



Prepared by Aurecon Australasia Pty Ltd and Transport for NSW.

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Executive summary

The Proposal

Transport for NSW (Transport) proposes to improve accessibility by upgrading Macquarie Fields Station (the Proposal).

This Proposal is being delivered as part of the Safe Accessible Transport program, a NSW Government initiative announced in February 2024, which aims to make public transport safe, inclusive and easy to use for all passengers, especially people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems. The program will upgrade stations and wharves to achieve Disability Standards for Accessible Public Transport (DSAPT) compliance and improve amenity, access and safety, acknowledging the important role these locations have to the communities they serve.

Key features of the Proposal (refer to Figure E-1) include:

- construction of a new pedestrian footbridge with stairs and weather protection to provide access to the station platforms and subsequent removal of the existing footbridge (following completion of the new footbridge)
- installation of a three-stop lift connecting Railway Parade, Platform 2 and the new pedestrian footbridge, and installation of a two-stop lift connecting Platform 1 and the new pedestrian footbridge
- upgrade of the station access from Railway Parade, including a new compliant accessible ramp and stairs, and a new second set of stairs near the new footbridge to Platform 2
- upgrade to the station forecourt to include:
 - six accessible parking spaces (including one longer accessible parking space to accommodate accessible community transport vehicles)
 - two accessible kiss and ride spaces
 - a new pedestrian crossing across Railway Parade to the station entrance
 - bus stop relocation on Railway Parade
 - additional bicycle parking
 - associated footpath and kerb ramp upgrades and new lighting
- modifications to the existing station building on Platform 2 to provide a new unisex ambulant toilet, a family accessible toilet, an electrical services enclosure and station storage facilities
- upgrade of the existing platform surfaces (through platform regrading and localised platform widening), new boarding assistance zone on Platform 1 and relocation of the boarding assistance zone on Platform 2, installation of tactile ground surface indicators (TGSIs) and provision of new canopies over the platforms near the new footbridge and boarding assistance zones
- provision of an accessible water refill station adjacent to the new family accessible toilet
- relocation of the memorial plaque adjacent to the main entrance stairs, subject to further stakeholder consultation during detailed design
- upgrades of other facilities and station services to make them accessible including wayfinding signage, hearing augmentation, Opal card readers, help points and public phone as well as improvement to landscaping, lighting and CCTV.

Most work required for the Proposal would be carried out during standard daytime construction hours, however certain work may need to occur outside standard hours including during the night.

This would include about four rail possessions, which are scheduled closures that would occur regardless of the Proposal when part of the rail network is temporarily closed and trains are not operating. Access would generally be maintained along Railway Parade and to the station, except during rail possession periods. There may be periods with temporary partial road closures on Railway Parade to facilitate work occurring in the station forecourt or within or near the road reserve, delivery of plant, equipment and materials or minor detours for pedestrians and cyclists to maintain safety around construction activities.

Construction is expected to commence with early work in late 2024, with main work commencing early 2025 and would take around 18 months to complete.

This Proposal has been developed in accordance with Transport's [Sustainability Plan](#) and the [Environment and Sustainability Policy](#). Avoiding and minimising impact is a key objective of this Proposal.

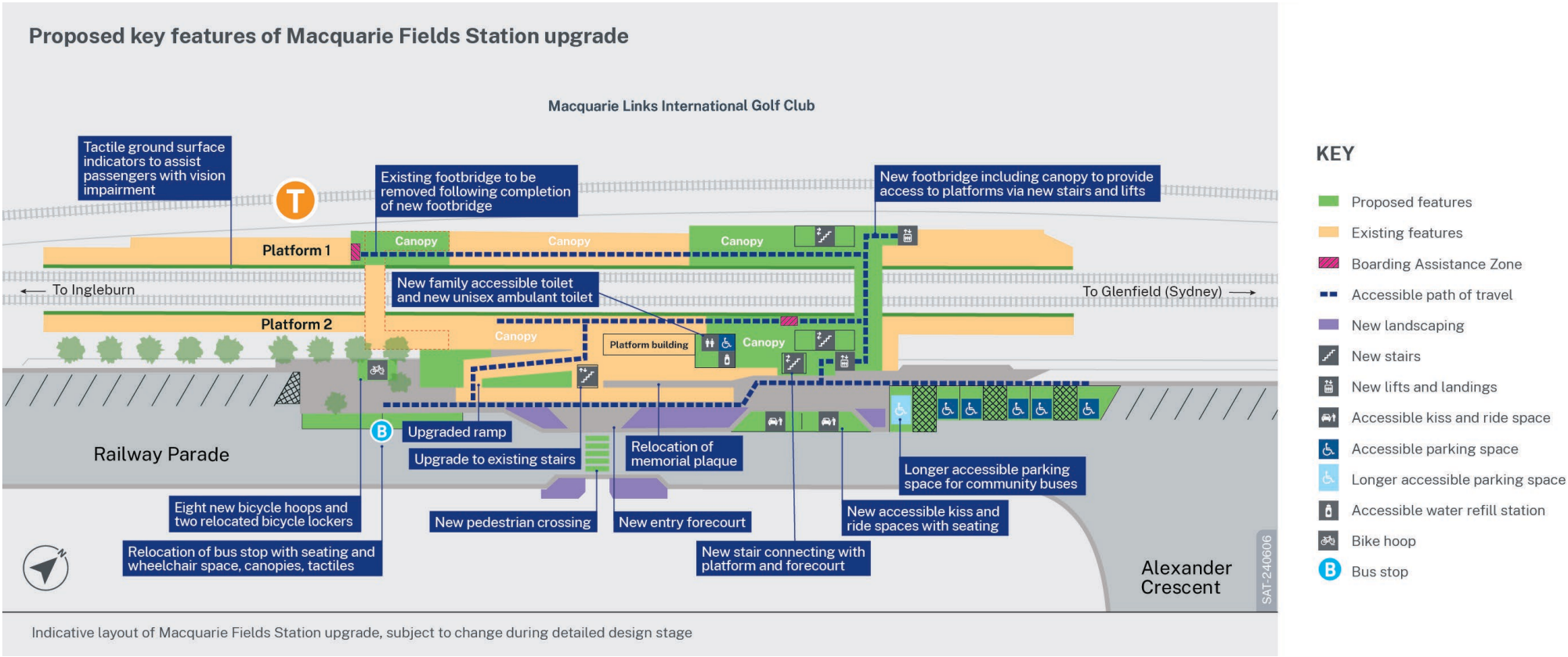


Figure E-1: Key features of the Proposal

Need for the Proposal

The Proposal would make sure that Macquarie Fields Station would meet legislative requirements under the *Disability Discrimination Act 1992* (DDA) and the *Disability Standards for Accessible Public Transport 2002* (DSAPT).

The Proposal is designed to drive a stronger customer experience outcome, with improvements made to amenity, access and safety. The Proposal aims to deliver improved connectivity between modes including greater opportunities for active transport, encourage greater public transport use by providing safe and welcoming spaces, and better integration of interchanges within the communities they serve.

Proposal objectives

The Safe Accessible Transport program aims to make public transport safe, inclusive and easy to use for all passengers, especially people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems.

The program will upgrade stations and wharves to achieve Disability Standards for Accessible Public Transport (DSAPT) compliance, improving amenity, access and safety and acknowledging the important role these locations have to the communities they serve.

Options considered

Initial design options for improving access to Macquarie Fields Station and achieving accessibility compliance were developed following workshops with stakeholders, including representatives from Transport and the design team. Options for the Proposal were assessed against development criteria relating to accessibility, constructability, operations and maintenance requirements, environmental impacts, sustainability, transport planning and customer experience and urban design and place making. Three options were identified for the Proposal:

- Option 1: retain and provide lifts on the existing pedestrian footbridge
- Option 2: replace the existing pedestrian footbridge with an accessible footbridge in its current location
- Option 3: remove the existing pedestrian footbridge and provide a new accessible footbridge at the northern end of the station.

Option 3 was selected as the preferred option as it provided the best constructability, accessibility, environmental and urban design and place-making outcomes.

Statutory and planning framework

The Proposal is for rail infrastructure facilities, as set out in Division 15 Subdivision 1 of *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPP (Transport and Infrastructure)), comprising upgrades to a railway station, station platforms and areas in a station complex that commuters use to get access to the platforms, public amenities for commuters and associated public transport facilities for railway stations, and is to be carried out by Transport. It can therefore be assessed under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Development consent from Council is not required.

The Proposal would involve work on Railway Parade, which is a local road under the control of the Campbelltown City Council. A Road Occupancy Licence would be obtained from the relevant roads authority for road work in accordance with section 138 of the *Roads Act 1993*.

The Proposal is unlikely to have a significant impact on matters of national environmental significance or on Commonwealth land within the meaning of the *Environment Protection and*

Biodiversity Conservation Act 1999 (Commonwealth). A referral to the Australian Department of Climate Change, Energy, the Environment and Water is not required.

Community and stakeholder consultation

Further community consultation activities for the Proposal would be undertaken during the public display period of this REF, with the public invited to submit feedback to help Transport understand what is important to customers and the community. The REF would be displayed for a period of three weeks. Information about these specific consultation activities is included in Section 5.4 of this REF.

During the display period a Project Infoline (1800 684 490) and email address (projects@transport.nsw.gov.au) would also be available for members of the public to make enquiries.

In accordance with the requirements of the SEPP (Transport and Infrastructure), consultation is required with local Councils and/or public authorities in certain circumstances, including where Council managed infrastructure is affected. Consultation has been undertaken with Sydney Trains, Transport and the Campbelltown City Council during the development of design options and the preferred option. Consultation with these stakeholders would continue through the detailed design and construction of the Proposal.

Transport would review and assess all feedback received during the public display period, prior to determining whether or not to proceed with the Proposal. Should the Proposal proceed to construction, the community would be kept informed prior to and during the construction period.

Environmental impacts

The main environmental impacts of the Proposal are outlined in the following sections.

Traffic and transport

Construction

Rail services would not be impacted by construction of the Proposal, with existing planned possession periods (when the rail network would already be shut down and the station closed) to be utilised for construction activities which require access to the rail corridor. However, there would be the following temporary traffic, parking and pedestrian impacts during construction:

- Up to 70 construction vehicle trips per day are expected during non-possession periods and up to 130 construction vehicle trips per day are expected during possession periods. This would have minimal impact on local traffic during construction due to the limited extent of work and the low volume of additional vehicle trips compared to existing traffic volumes.
- There are sufficient unrestricted parking spaces in the surrounding local road network to accommodate construction worker parking and so impacts are expected to be low. The Proposal would also result in the temporary closure of the on-street commuter car park on Railway Parade while repainting of the parking bays is carried out. This car park would otherwise be kept open during construction.
- There may be temporary partial road closures on Railway Parade when work is occurring in the station forecourt or within or near the road reserve (such as footpath kerb adjustments and installation of the pedestrian crossing). As access would still be maintained, this is expected to result in minor impacts due to the low volumes of traffic using Railway Parade.
- Pedestrian access to the station would also be maintained during non-possession periods. There may be temporary pedestrian management around work areas including temporary pedestrian station access and detours due to construction work in the station forecourt and on platforms.

Operation

The Proposal would improve accessibility for pedestrians and customers including people with a disability or lower mobility, carers with prams and those travelling with luggage. The Proposal would provide compliant access from the station forecourt to the boarding assistance zones on each Platform. The pedestrian crossing would also provide priority for pedestrians across Railway Parade, which is already heavily utilised by pedestrians. This would improve pedestrian movements and result in minimal impacts to the existing road network. The Proposal would result in the permanent reduction of 15 car parking spaces to accommodate upgrades to the station forecourt including the provision of six accessible parking spaces (including one longer accessible parking space to accommodate accessible community transport vehicles) and the pedestrian crossing. Due to the high availability of parking spaces near the station, this would have a minimal long-term impact on parking near the station.

Urban design, landscape and visual amenity

Construction

Construction of the Proposal would result in a temporary impact to the urban and landscape character of the station and its surrounds and temporary visual impacts for several receivers, including customers and nearby residents. The presence of construction activities would result in moderate adverse urban and landscape character impacts within both the rail corridor and the surrounding residential area. The greatest visual impacts would be experienced by residential receivers immediately opposite the station on Railway Parade, with moderate adverse visual impacts expected for the closest receivers. In order to minimise visual impacts, work areas would be appropriately screened and maintained free from graffiti and unauthorised advertising.

Operation

During operation, the Proposal would result in beneficial urban and landscape character impacts within the rail corridor and station as it would upgrade the forecourt, increase canopy cover over the platforms and improve lighting and wayfinding. The greatest visual impact would be a moderate adverse impact experienced by receivers at the northern end of Railway Parade due to the new pedestrian footbridge and lift shafts being prominent. Opportunities to maximise the urban design and form of the Proposal would be implemented during detailed design through the development of an Urban Design and Landscape Plan.

Noise and vibration

Construction

Construction noise impacts are predicted to be the highest when noise intensive equipment is in use and work is near sensitive receivers. During standard daytime hours, the highest noise impacts are expected during vegetation clearing and main construction work-station access works, footpaths scenarios for residential receivers along Railway Parade opposite the station due to the use of noise intensive equipment such as chainsaws, chippers, jackhammers or concrete saws. Up to five receivers along Railway Parade would be highly noise affected (that is, experience noise levels greater than 75 dBA) during vegetation clearing.

Night-time construction work would be required for approximately four weekend possession periods during the construction period and would result in noise impacts when noise intensive equipment is in use during night-time periods. Up to three residential receivers on Railway Parade opposite the station are predicted to experience 'highly intrusive' impacts (being greater than 25 decibel exceedance of the Proposal's construction noise criteria adopted). 'Moderately intrusive' night-time impacts (being a 16–25 decibel exceedance of the Proposal's construction noise criteria) are predicted at residential receivers within about 150 metres of the Proposal area. The sleep disturbance screening criterion (55 dBA L_{Amax} for receivers south-east of the station) is likely to be exceeded where 'moderately intrusive' and 'highly intrusive' night-time impacts have been predicted when night-time work occurs near residential receivers.

Additional mitigation measures would be implemented for potentially affected sensitive receivers throughout construction, and would be confirmed by the Contractor during preparation of the Construction Noise and Vibration Management Plan.

Cosmetic damage impacts are not expected during construction as all residential receiver buildings are outside the minimum working distance for cosmetic damage for vibration (being 20 metres for a vibratory roller). However, some residential receivers near the Proposal area on Railway Parade, Alexander Crescent and Saywell Road are within the human comfort minimum working distance for vibration (being 100 metres for a large vibratory roller). Occupants of affected buildings may be able to perceive vibration impacts at times when vibration intensive equipment is in use. Where impacts are perceptible, they would likely only be apparent for relatively short durations when vibration intensive equipment is nearby.

Operation

The Proposal is not anticipated to result in operational noise and vibration impacts as the new station infrastructure such as new lifts, stairs and a ramp are not anticipated to generate substantial noise and vibration.

Socio-economic

Construction

During construction, there would be minor, temporary impacts to customers, pedestrians, nearby residential receivers and motorists. These impacts would be due to temporary disruptions to pedestrian and traffic flow, delivery of plant and equipment, temporary amenity impacts caused by noisy work (including at night), visual impacts of site hoarding and generation of dust during excavations.

Upon completion of construction, the memorial plaque located at the station entrance would be permanently relocated to be adjacent to the main entrance stairs, subject to further stakeholder consultation during the detailed design stage. This would allow the plaque's social significance for members of the community to continue to be acknowledged and recognised.

Operation

The Proposal would result in socio-economic benefits to customers using the station and broader community as it would improve access to the station for all customers through installation of lifts and a new pedestrian footbridge, platform regrading, upgrades to the station forecourt and improved customer amenity and facilities at the station. The Proposal is therefore likely to encourage a broader range of customers to use the station, including people with a disability or lower mobility, carers with prams and those travelling with luggage.

Biodiversity

The Proposal would result in the removal of six trees which would be replaced with 20 trees in accordance with Transport's *Tree and Hollow Replacement Guidelines* (Transport, 2023b).

Justification and conclusion

This REF has been prepared having regard to sections 5.5 and 5.7 of the EP&A Act, and section 171 of the EP&A Regulation, to ensure that Transport takes into account to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the Proposal.

The detailed design of the Proposal would also be designed in accordance with the *Transport Sustainable Design Guidelines – Version 4.0* (Transport for NSW, 2017) taking into account the principles of ecologically sustainable development (ESD).

Should the Proposal proceed, any potential associated adverse impacts would be appropriately managed in accordance with the mitigation measures outlined in this REF, and the Conditions of

Approval imposed in the Determination Report. This would ensure the Proposal is delivered to maximise benefit to the community and minimise any adverse impacts on the environment and the community.

In considering the overall potential impacts and proposed mitigation measures outlined in this REF, the Proposal is unlikely to significantly affect the environment including critical habitat or threatened species, populations, ecological communities or their habitats.

Display of the review of environmental factors

This REF is on display for comment between 29 August and 18 September 2024. You can access the document in the following ways:

Internet

The documents are available as pdf files on the Transport for NSW website at <https://www.transport.nsw.gov.au/projects/current-projects/macquarie-fields-station-upgrade>

Printed copies

Transport does not issue printed copies of REF and supporting documents to static locations (i.e. Council and libraries) to improve sustainability outcomes.

Copies by request

Printed and electronic copies are available by contacting the Project Infoline on 1800 684 490, noting that there may be a charge for hard copies or USB.

Community drop-in sessions

- Wednesday 4 September from 12pm to 2pm, Glenquarie Town Centre shopping centre
- Sunday 15 September from 8am to 1pm, Handmade and Homegrown weekly market.

How can I make a submission?

Submissions regarding this Proposal can be made:

Through the feedback form on project webpage (www.transport.nsw.gov.au/macquariefields)

In person at a community drop-in information session (details listed above)

Email: projects@transport.nsw.gov.au

Mail: Contact the below listed telephone number for a mailing address, if required.

Telephone: 1800 684 490

Submissions must be received by Wednesday 18 September 2024. Submissions will be managed in accordance with the [Transport for NSW Privacy Statement](#). A copy can be made available upon request.

What happens next?

Transport will collate and consider the submissions received during public display of the REF.

After this consideration, Transport will determine whether or not the Proposal should proceed as proposed and will inform the community and stakeholders of this decision.

If the Proposal is determined to proceed, Transport would continue to consult with the community and stakeholders prior to and during construction.

Table of contents

Acknowledgement of Country	ii
Connecting with Country Statement	iii
Executive summary	v
Table of contents	xiii
1 Introduction	1
1.1 Proposal identification	1
1.2 Purpose of the report	4
2 Need and options considered	5
2.1 Strategic need for the Proposal	5
2.2 Limitations of existing infrastructure	9
2.3 Proposal objectives and development criteria	9
2.4 Options considered	12
2.5 Preferred option	13
2.6 Design refinements	13
3 Description of the Proposal	14
3.1 The Proposal	14
3.2 Design	20
3.3 Construction activities	23
3.4 Ancillary facilities	30
3.5 Public utility adjustment	32
3.6 Property acquisition	32
3.7 Operation and maintenance	32
4 Statutory and planning framework	33
4.1 Environmental Planning and Assessment Act 1979	33
4.2 Other relevant NSW legislation	38
4.3 Commonwealth legislation	39
4.4 Confirmation of statutory position	40
5 Consultation	41
5.1 Consultation strategy	41
5.2 Community engagement	42
5.3 Aboriginal community engagement	44
5.4 SEPP (Transport and Infrastructure) consultation	46
5.5 SEPP (Precincts – Western Parkland City) consultation	46
5.6 Ongoing or future consultation	47

6	Environmental assessment.....	48
6.1	Traffic and transport.....	48
6.2	Urban design, landscape and visual amenity	53
6.3	Noise and vibration.....	67
6.4	Aboriginal cultural heritage.....	76
6.5	Non-Aboriginal heritage	77
6.6	Socio-economic	78
6.7	Biodiversity.....	81
6.8	Contamination, landform, geology and soils.....	90
6.9	Hydrology and flooding	92
6.10	Greenhouse gas	94
6.11	Climate resilience.....	96
6.12	Other impacts.....	97
6.13	Cumulative impacts.....	101
7	Environmental management.....	102
7.1	Environmental management plans (or system).....	102
7.2	List of mitigation measures	103
7.3	Licensing and approvals	124
8	Sustainability	125
8.1	Sustainability policy context	125
8.2	Sustainability issues, opportunities and initiatives.....	125
8.3	Sustainability rating.....	129
9	Conclusion.....	130
9.1	Justification	130
9.2	Objects of the EP&A Act.....	132
9.3	Conclusion	135
10	Certification.....	136
11	EP&A Regulation publication requirement	137
12	References.....	138
	Terms and acronyms used in this REF	141
	Appendix A -Consideration of section 171(2) factors, section 171A factors and matters of national environmental significance and Commonwealth land	144
	Appendix B -Statutory consultation checklists	157
	Appendix C –EPBC Act PMST Search Results.....	162

Appendix D – BioNet Search Results.....	163
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Tables

Table 2-1 Key NSW Government policies and strategies applicable to the Proposal 6	
Table 2-2 Objectives of the Safe Accessible Transport program.....	10
Table 3-1 Circular design strategies	22
Table 3-2 Indicative construction staging for key activities	23
Table 4-1 Relevant provisions of the Campbelltown LEP.....	36
Table 4-2 Other Commonwealth legislation applicable to the Proposal	40
Table 5-1 Summary of issues raised by the community	42
Table 5-2 Issues raised through Aboriginal community consultation.....	45
Table 5-3 Summary of Transport’s Procedure for Aboriginal Cultural Heritage Consultation and Investigation.....	46
Table 6-1 Summary of key roads that provide access to the Proposal area.....	49
Table 6-2 Site specific traffic and transport mitigation measures.....	53
Table 6-3 Visual impact rating matrix	54
Table 6-4 Landscape character zones	55
Table 6-5 Viewpoints -existing.....	57
Table 6-6 Construction urban design and landscape character impacts.....	60
Table 6-7 Construction impacts to viewpoints.....	61
Table 6-8 Operational urban design and landscape character impacts.....	62
Table 6-9 Operational impacts to viewpoints	63
Table 6-10 Site specific urban design, landscape and visual amenity mitigation measures	67
Table 6-11 Summary of unattended noise monitoring results	68
Table 6-12 Construction noise management levels.....	70
Table 6-13 NML exceedance levels for construction.....	70
Table 6-14 Site specific noise and vibration mitigation measures	76
Table 6-15 Site specific socio-economic mitigation measures.....	80
Table 6-16 Tree removal (Allied Tree Consultancy, 2024).....	85
Table 6-17 Site specific biodiversity mitigation measures.....	89
Table 6-18 Tree and Hollow Replacement Guidelines (Transport, 2023b) - replacement requirements	90
Table 6-19 Site specific hydrology mitigation measures.....	94
Table 6-20 Greenhouse Gas (GHG) emission scopes.....	95
Table 6-21 Climate change risk assessment approach (Transport for NSW)	96
Table 6-22 Other potential impacts.....	98
Table 7-1 Mitigation measures.....	103

Table 7-2 Summary of licensing and approvals required	124
Table 8-1 Sustainability objectives and initiatives for the Macquarie Fields Station Upgrade.....	126
Table 9-1 Objects of the <i>Environmental Planning and Assessment Act 1979</i>	132
Table 11-1 EP&A Regulation publication requirement	137

Figures

Figure 1-1 Location of the Proposal	3
Figure 3-1 Key features of the Proposal	15
Figure 3-2 Indicative 3D impression of Macquarie Fields Station –facing north (subject to detailed design)	16
Figure 3-3 Indicative 3D impression of Macquarie Fields Station –facing south-west (subject to detailed design)	16
Figure 3-4 Proposed station building layout (subject to detailed design).....	18
Figure 3-5 Indicative main site access route	29
Figure 3-6 Proposed site compound.....	31
Figure 4-1 Macquarie Fields Precinct Plan Map (NSW Department of Planning and Environment, 2017)	35
Figure 4-2 Land zoning.....	37
Figure 6-1 Landscape character zones.....	56
Figure 6-2 Viewpoint locations	59
Figure 6-3 Noise catchment areas, receivers and noise monitoring locations (SLR, 2024)	69
Figure 6-4 Summary of noise impacts and recommended mitigation –standard daytime hours (SLR, 2024).....	72
Figure 6-5 Summary of noise impacts and recommended mitigation –night-time hours (SLR, 2024).....	73
Figure 6-6 Construction vibration minimum working distances (SLR, 2024).....	75
Figure 6-7 Biodiversity existing environment.....	84
Figure 6-8 Vegetation removal	88

1 Introduction

This chapter introduces the Proposal and provides context for the environmental assessment. In introducing the Proposal, the objectives and project development history are detailed and the purpose of the report is provided.

1.1 Proposal identification

Transport for NSW (Transport) proposes to provide accessibility upgrades to Macquarie Fields Station (the station) as part of the Safe Accessible Transport program (the Proposal). The station is on the Sydney Trains T8 Airport & South Line, located in the Campbelltown Local Government Area (LGA).

The Safe Accessible Transport program is a NSW Government initiative announced in February 2024. The program aims to make public transport safe, inclusive and easy to use for all passengers, especially people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems. The Proposal would improve accessibility of the station in line with the requirements of the Commonwealth *Disability Discrimination Act 1992* (DDA) and the *Disability Standards for Accessible Public Transport 2002* (DSAPT).

Key features of the Proposal include:

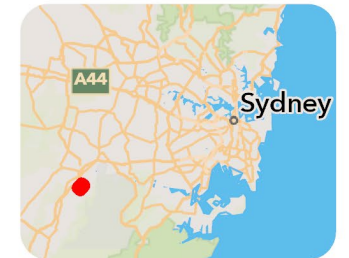
- construction of a new pedestrian footbridge with stairs and weather protection to provide access to the station platforms and subsequent removal of the existing footbridge (following completion of the new footbridge)
- installation of a three-stop lift connecting Railway Parade, Platform 2 and the new pedestrian footbridge, and installation of a two-stop lift connecting Platform 1 and the new pedestrian footbridge
- upgrade of the station access from Railway Parade, including a new compliant accessible ramp and stairs, and a new second set of stairs near the new footbridge to Platform 2
- upgrade to the station forecourt to include:
 - six accessible parking spaces (including one longer accessible parking space to accommodate accessible community transport vehicles)
 - two accessible kiss and ride spaces
 - a new pedestrian crossing across Railway Parade to the station entrance
 - bus stop relocation on Railway Parade
 - additional bicycle parking
 - associated footpath and kerb ramp upgrades and new lighting
- modifications to the existing station building on Platform 2 to provide a new unisex ambulant toilet, a family accessible toilet, an electrical services enclosure and station storage facilities
- upgrade of the existing platform surfaces (through platform regrading and localised platform widening), new boarding assistance zone on Platform 1 and relocation of the boarding assistance zone on Platform 2, installation of tactile ground surface indicators (TGSIs) and provision of new canopies over the platforms near the new footbridge and boarding assistance zones
- provision of an accessible water refill station adjacent to the new family accessible toilet

- relocation of the memorial plaque adjacent to the main entrance stairs, subject to further stakeholder consultation during detailed design
- upgrades of other facilities and station services to make them accessible including wayfinding signage, hearing augmentation, Opal card readers, help points and public phone as well as improvement to landscape, lighting and CCTV.

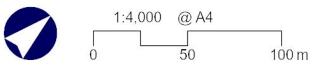
The location of the Proposal is shown in Figure 1-1 and an overview of the Proposal is provided in Figure 3-1. Chapter 3 describes the Proposal in more detail.



-  Proposal area
-  Site compound
-  Train Station
-  Railway
-  Watercourse



Source: Aurecon, TNSW, NSW Spatial Services (DCS), ESRI



Projection: GDA2020 MGA Zone 56

Safe Accessible Transport program - Macquarie Fields Review of Environmental Factors

Figure 1-1: Location of the Proposal

1.2 Purpose of the report

This review of environmental factors (REF) has been prepared by Aurecon Australasia Pty Ltd on behalf of Transport. For the purposes of these works, Transport is the proponent and determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act).

The purpose of the REF is to describe the Proposal, to document the likely impacts of the Proposal on the environment, and to detail mitigation measures to be implemented.

The description of the proposed work and assessment of associated environmental impacts has been undertaken in the context of section 171 and 171A of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), the factors in Guidelines for Division 5.1 assessments (DPE 2022), the *Biodiversity Conservation Act, 2016* (BC Act), the *Fisheries Management Act 1994* (FM Act), and the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act).

In doing so, the REF helps to fulfil the requirements of:

- Section 5.5 of the EP&A Act including that Transport examine and take into account, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

The findings of the REF would be considered when assessing:

- Whether the Proposal is likely to have a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval sought from the Minister for Planning under Division 5.2 of the EP&A Act.
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report.
- The significance of any impact on nationally-listed biodiversity matters under the EPBC Act, including whether there is a real possibility that the activity may threaten long-term survival of these matters, and if offsets are required and able to be secured.
- The potential for the Proposal to significantly impact any other matters of national environmental significance or Commonwealth land and the need to make a referral to the Australian Department of Climate Change, Energy, the Environment and Water for a decision by the Commonwealth Minister for the Environment on whether assessment and approval is required under the EPBC Act.

2 Need and options considered

This chapter describes the need for the Proposal in terms of its strategic setting and operational need. It identifies the various options considered and the selection of the preferred option for the Proposal.

2.1 Strategic need for the Proposal

Improving transport customer experience is a key focus of the NSW Government's transport initiatives. Transport interchanges and train stations are important gateways to the transport system and as such play a critical role in shaping the customer's experience and perception of public transport.

The Proposal forms part of the Safe Accessible Transport program. This program is designed to drive a stronger customer experience outcome, with improvements made to amenity, access and safety. The Proposal aims to deliver improved connectivity between modes including greater opportunities for active transport, encourage greater public transport use by providing safe and welcoming spaces, and better integration of interchanges within the communities they serve.

Transport is a significant agent of equality and a driver of social and economic activity; accessible transport enables people with disability to participate fully in their community and the economy. A safe, equitable and integrated transport network is important in enabling people across the state to travel safely and confidently to work, appointments, holidays, events, and to visit friends and family.

There are several initiatives underway across the state, focused on ensuring we deliver accessible services to all passengers, regardless of a person's accessibility needs, socio-economic circumstance, or location.

We are making public transport options safer and more accessible by upgrading stations and wharves, improving the built environment through the installation of more lifts, widening platforms and improving signage and wayfinding. Improving safety particularly for women, girls and gender diverse people is also a key aim of the program including improving lighting and active and passive surveillance at transport hubs. The modernisation of the network also helps bring ageing infrastructure in line with legislative requirements, making transport services easier to use for everyone.

Our approach to achieving equal access to our network is underpinned by legislation.

The purpose of the Commonwealth *Disability Discrimination Act 1992* (DDA) is to eliminate discrimination against people with a disability in a variety of areas such as employment, services and education. As Transport provides public transport services, we are required to upgrade the public transport network to remove discrimination in accessing public transport on the basis of disability. The Disability Standards for Accessible Public Transport (DSAPT) set out minimum accessibility requirements for public transport providers and ensure that people with disability have equivalent access to public transport services.

The Safe Accessible Transport program will contribute towards the NSW Government's investment in addressing public transport stations, wharves and stops that do not currently meet the requirements of the DSAPT.

Table 2-1 provides an overview of NSW Government policies and strategies relevant to the Proposal.

Table 2-1 Key NSW Government policies and strategies applicable to the Proposal

Policy / strategy	Overview	How the Proposal aligns
Future Transport Strategy (Transport, 2022a)	Future Transport Strategy is an update of NSW's Future Transport Strategy 2056 and NSW's Long Term Transport Master Plan. It is a suite of strategies and plans for transport to provide an integrated vision for the state. Future Transport identifies 14 strategic directions to guide transport investment in Greater Sydney. These outcomes include transport providing convenient access, supporting attractive places and providing 30-minute access for customers to their nearest centre by public transport.	The Proposal aligns with the Future Transport Strategy by providing accessible services for people who find it difficult to access public transport services. Accessible transport (such as that provided by the Proposal) enables people with disability to participate fully in their community and economy. The financial benefits of the Proposal are consistent with the financial sustainability objectives outlined in the Future Transport Strategy. The Proposal also contributes to the vision to reduce social inequality, with input sought from key stakeholders including local people with disability, Aboriginal and Torres Strait Islander peoples and women and girls from the local community. Finally, through the design and planning approval process, the Proposal design has been refined and would continue to be refined to minimise impacts to the environment and promote environmental sustainability outcomes of the Future Transport Strategy.
NSW Disability Inclusion Action Plan 2021-2025. (NSW Government, 2021)	The NSW Disability Inclusion Plan 2021-2025 was developed by the NSW Government and seeks to support making mainstream services and community facilities accessible for people with a disability. The plan provides four focus areas for all of Government. Relating to public transport is Focus Area 2, which seeks to create liveable communities. Actions under this Focus Area target an increase in the availability and accessibility of public and private transport options for people with disability.	The Proposal has been developed with consideration of the objectives of this plan and seeks to provide increased accessibility to Macquarie Fields Station, including for people with a disability, to increase liveability for the surrounding community. This aligns with Focus Area 2.

Policy / strategy	Overview	How the Proposal aligns
A Metropolis of Three Cities - Greater Sydney Region Plan (Greater Sydney Commission, 2018a)	<p>The Greater Sydney Region Plan is the NSW Government's 40-year land use plan for Sydney. It establishes a vision for a metropolis of three cities – the Eastern Harbour City, Central River City and Western Parkland City.</p> <p>One of the 10 directions of the framework is a well-connected city, by developing a more accessible and walkable city, through optimising existing infrastructure where possible.</p>	<p>The Proposal would enable equitable access to services and employment via the Sydney Trains network as well as social and cultural opportunities through investment in transport. The proposed upgrades to Macquarie Fields Station would promote public transport movements, walking and cycling, which contribute to the character and identity of the area and create a more accessible and walkable city.</p>
Western City District Plan (Greater Sydney Commission, 2018b)	<p>The Western City District Plan has been prepared to align with the visions and objectives of the Greater Sydney Region Plan. The Western City District (which includes Macquarie Fields) forms part of the Western Parkland City. Major transport investments in the district are critical to enhance access to economic corridors and support the ongoing development of the District.</p> <p>Planning priority W7 emphasises the importance of establishing the land use and transport infrastructure to deliver a liveable, productive and sustainable Western Parkland City.</p>	<p>The Proposal recognises the importance of accessibility, inclusion and safety by upgrading Macquarie Fields Station, part of the transport infrastructure network in south-west Sydney. The accessible design of the Proposal would encourage physical and social activity for a greater cross-section of the community and improve the liveability of the Western Parkland City. As such, it aligns with planning priority W7.</p>
State Infrastructure Strategy 2022-2042: Staying Ahead (Infrastructure NSW, 2022)	<p>The State Infrastructure Strategy 2022-2042 makes recommendations for each of NSW's key infrastructure sectors including Transport. The strategy notes the importance of infrastructure development in boosting economy-wide productivity and competitiveness.</p>	<p>The Proposal would contribute to equitable access to services and employment via the Sydney Trains network through the proposed upgrades to Macquarie Fields Station. This would contribute to economic productivity of the wider region.</p>

Policy / strategy	Overview	How the Proposal aligns
Macquarie Fields Precinct Plan (Department of Planning and Environment, 2017)	The Macquarie Fields Precinct Plan sets out the vision to develop Macquarie Fields as a local village centre. This would include provision of medium rise residential (three to six storeys) closer to the train station. The plan sets out goals to improve walking and cycling connections to Macquarie Fields Station.	The Proposal provides an accessible design which would encourage a greater cross-section of the community to regularly access the station. This would improve the walking and cycling connections in the station forecourt and on the platforms and facilitate accessible access to the station by residents of potential future medium rise residential buildings. The upgrades to kerb ramps on Railway Parade outside of the station forecourt would also improve the walking connections between the surrounding footpath network and the station, which is aligned with the goals of the plan.
Campbelltown Local Strategic Planning Statement (Campbelltown City Council, 2020)	The Local Strategic Planning Statement is Campbelltown City Council's plan for the community's social, environmental and economic land use needs over the next 20 years. Planning priority 1 sets out goals to create a great place to live, work, play and visit. Action 1.11 supports the creation of walkable neighbourhoods to enhance community health and wellbeing and create liveable, sustainable urban areas. In addition, action 1.14 notes the importance of delivering timely and appropriate infrastructure and services integrated into land use planning to support the demands of our existing communities and anticipated population growth.	The Proposal would provide accessible access to Macquarie Fields Station. Improved accessibility would provide for the needs for community members with low or limited mobility and allow them to safely access the station. This would allow Macquarie Fields Station to be an accessible transport hub in Macquarie Fields, improving the overall walkability of the suburb and enhancing community health and wellbeing (as per the objectives of Action 1.11). The Proposal also aligns with Action 1.14 as it would deliver the required accessibility upgrades to the station in a timely manner, with main construction commencing early 2025 and taking around 18 months to complete. This would provide appropriate accessibility infrastructure at the station and improve access for and usability by the local community.
Campbelltown Residential Development Strategy (Campbelltown City Council, 2013)	The Campbelltown Residential Development Strategy notes that the area around Macquarie Fields Station would evolve into suburban villages over time and provide additional development prospects.	The Proposal would provide suitable accessible access to both platforms of this station, allowing the station to better cater for future residents in suburban villages near the station. The new footbridge, including lifts, and upgrades to access paths would provide a more physically accessible and safe network allowing greater choice for customers with mobility constraints to access public transport. This would in turn make Macquarie Fields more attractive to future development prospects.

Policy / strategy	Overview	How the Proposal aligns
Campbelltown Community Strategic Plan 2032 (Campbelltown City Council, 2022)	The Campbelltown Community Strategic Plan 2032 identifies community priorities and strategies to achieve these goals. The vision statement for the Plan is 'A city of opportunity for all', which refers to the history, environment, character and identity of Campbelltown LGA, equitable access including to transport, and social justice.	The Proposal would provide increased accessibility to both platforms of the station. The new footbridge, including lifts, and upgrades to access paths would provide a more physically accessible and safe network allowing greater choice for customers with mobility constraints to access public transport. This supports Focus area 2.2 of the Plan, which includes ensuring transport networks are integrated, safe, and meet the needs of all people, and improving transport options and networks so that Campbelltown LGA is an accessible and connected city for all.

2.2 Limitations of existing infrastructure

Access to Macquarie Fields Station is currently not compliant with legislative requirements for accessibility. The key limitations with the existing station infrastructure are as follows:

- While Platform 2 is accessible via stairs and a ramp from Railway Parade, the grade of the ramp presents difficulties for those with accessibility needs.
- Platform 1 is accessible via stairs and a pedestrian bridge from Platform 2. This limits the ability for people with a disability, older people, people with prams or luggage and others who may be experiencing mobility problems to access the station, particularly Platform 1 (which is the city-bound platform).
- The grade of the existing platforms and footpaths leading to the station presents difficulties for those with accessibility needs.
- The accessible parking spaces in the on-street commuter car park are degraded and require repair to meet compliance requirements.
- There is no pedestrian crossing on Railway Parade, meaning that there is no priority crossing across Railway Parade for pedestrians seeking to access the station.

The Proposal would aim to address these limitations and improve accessibility through providing a new pedestrian footbridge with lifts, a compliant accessible ramp to Platform 2, platform and footpath regrading and provision of a pedestrian crossing on Railway Parade.

2.3 Proposal objectives and development criteria

2.3.1 Objectives of the Safe Accessible Transport program

The Safe Accessible Transport program aims to make public transport safe, inclusive and easy to use for all passengers, especially people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems.

The program will upgrade stations and wharves to achieve DSAPT compliance, improving amenity, access and safety and acknowledging the important role these locations have to the communities they serve.

The delivery of upgrades as part of the Safe Accessible Transport program aims to provide a range of benefits as outlined in Table 2-2.

Table 2-2 Objectives of the Safe Accessible Transport program

Category	Objectives
Accessible services	<ul style="list-style-type: none"> upgrades should achieve compliance to provide public transport that is accessible for all passengers
Successful places	<ul style="list-style-type: none"> complement and integrate with existing and future communities, with consideration given to future land use and supporting economic and place-making objectives in centres
Efficient Improved connectivity for passengers	<ul style="list-style-type: none"> provide improvements to multi-modal connectivity to give passengers options, including active transport options replace car trips to destinations and centres with public and active transport modes
Adaptability	<ul style="list-style-type: none"> support the future needs of customers and consider emerging transport trends, growth and technologies plan and design infrastructure that is resilient and able to adapt to future uses and scenarios
Sustainability	<ul style="list-style-type: none"> deliver upgrades which make adaptive reuse of existing assets to reduce the projects carbon footprint construction methodologies and engineering solutions that drive a reduction of GHG emissions, energy usage and innovation limit environmental impacts and contribute to the NSW Government's aspirational target to achieve net-zero emissions by 2050 maximise the construction phase benefits to the local economy by using local businesses and engaging a workforce that reflects the local social demographic of the area

2.3.2 Proposal objectives

The specific objectives of the Macquarie Fields Station Upgrade are to:

- provide a station that is accessible to people with disability, older people, people with prams or luggage and others who may be experiencing mobility problems
- improve customer experience (weather protection, better interchange facilities and visual appearance)
- improve integration with the surrounding precinct
- improve customer safety
- improve wayfinding in and around the station
- improve customer amenity
- maintain pedestrian links to Railway Parade.

2.3.3 Sustainability objectives

The NSW Government aspires to provide a world class sustainable transport system that meets customer expectations and optimises the economic development of NSW. Transport is a key enabler of economic and social activity.

Consistent with the Future Transport Strategy, Transport is committed to managing impacts on the environment and operating in an environmentally sustainable manner. These commitments are set out in the Transport [Environment and Sustainability Policy \(2020\)](#) and [Transport Net Zero and Climate Change Policy \(2023e\)](#).

Sustainability objectives for the Proposal have been developed to align to Transport's sustainability policies, plans and guidelines and to respond to material sustainability issues and opportunities.

The sustainability objectives for the Proposal align with Transport's Sustainability Plan objectives, which are to:

- respond to climate change
- protect and enhance biodiversity
- improve environmental outcomes
- procure responsibly
- partner with communities
- respect culture and heritage
- align spend and impact
- empower customers to make sustainable choices.

Chapter 8 provides details of sustainability issues, opportunities and initiatives for the Proposal.

2.3.4 Development criteria

The development criteria for the Proposal include:

- achieve compliance with legislative requirements for accessibility
- design an engineering solution that is constructable
- minimise operations and maintenance requirements
- minimise adverse impacts on the environment and achieve sustainability in design
- minimise adverse impacts to heritage
- consider transport planning and customer experience in the design solution
- consider urban design and place making requirements.

2.3.5 Urban design objectives

Urban design objectives for the Proposal include:

- develop an integrated design that fits with the existing visual qualities, ecology and character of Macquarie Fields Station
- minimise impacts to the integrity of significant trees and cultural values of the community within the Proposal area
- contribute to the functionality of public spaces, including the gateway to Macquarie Fields Station, and enhance local and regional connectivity
- provide a landscaped gateway to Macquarie Fields Station
- enhance station identity
- enhance local identity and sense of place
- provide a sustainability strategy
- incorporate Connecting with Country design principles.

These urban design objectives have been developed with consideration for the 'Around the Tracks' - Urban design for heavy and light rail (Transport, Dec 2016 Interim Issue) objectives to:

- create liveable, sustainable and productive precincts
- create places for people
- optimise investment in heavy and light rail.

2.4 Options considered

2.4.1 Methodology for selection of preferred option

Options for improving access to Macquarie Fields Station were developed and assessed during an options development workshop held on 19 January 2022 with representatives from Transport and the design team. The options were assessed using multi-criteria analysis, which considered the Proposal's development criteria (refer to Section 2.3.4).

In the multi-criteria analysis, the strength and weakness of each option against each criteria was considered and a rating was applied. This provided objectivity in the selection of the preferred option.

2.4.2 Identified options

The NSW Government has identified the need for improving the accessibility of transport interchanges, train stations and commuter car parks across NSW as a priority under the Safe Accessible Transport program.

To achieve this for Macquarie Fields Station, three options were developed and considered alongside a 'do nothing' option.

Do nothing option

Under a 'do nothing' option, existing access to the station and platforms would remain the same and there would be no changes to the way the station currently operates.

Option 1

Under Option 1, the existing pedestrian footbridge would be retained and lifts would be constructed connecting to the existing pedestrian footbridge.

Option 2

Under Option 2, the existing pedestrian footbridge would be removed and replaced in its current location with lifts adjoining to the new footbridge structure. A temporary footbridge would be required during construction.

Option 3

Under Option 3, a new pedestrian footbridge with adjoining lifts would be constructed at the north-eastern end of the station.

2.4.3 Analysis of options

Do nothing option

The 'do nothing' option was not considered a feasible alternative as it would be inconsistent with the legislative requirements of the DDA and NSW Government objectives for improving the accessibility of train stations across NSW as a priority under the Safe Accessible Transport program. The 'do nothing' option would also not help encourage the use of public transport as no pedestrian upgrades would be made.

Option 1: construct lifts connecting to the existing pedestrian footbridge that would be retained

Option 1 met the environment and sustainability and heritage criteria, however it did not meet accessibility requirements. This option was best aligned with sustainability objectives as it would involve the use of the existing pedestrian footbridge.

It did not satisfy the identified future operations and maintenance requirements as the existing footbridge is coming to the end of its design life. It also only partially met engineering and constructability, transport planning and customer experience and urban design and place making criteria.

Option 2: demolish and replace the existing pedestrian footbridge in its current location

Option 2 performed better than Option 1, as it met the accessibility, environment and sustainability, heritage, transport planning and customer experience and urban design and place making criteria.

This option only partially met the engineering and constructability criteria as it would require a temporary pedestrian footbridge to be constructed. This would result in additional temporary work and impacts compared with Options 1 and 3, including an additional possession period with additional night-time impacts for local residents and increased use of materials, which may reduce sustainability outcomes. It also partially met the operations and maintenance criteria.

Option 3: construct a new pedestrian footbridge at the north-eastern end of the station

Option 3 satisfied all criteria except for the operations and maintenance criteria, which it partially satisfied.

2.5 Preferred option

Option 3 was selected as the preferred option as it best met the Proposal objectives and development criteria. This was largely because Option 3 would not require a new temporary footbridge during construction, which was the main advantage over Option 2 (the next best option).

As a result, a concept design for the Proposal was developed for this option.

2.6 Design refinements

Following selection of Option 3 as the preferred option and during the development of the concept design of the Proposal, the following design refinements have been carried out:

- extension of one of the new accessible parking spaces on Railway Parade to accommodate accessible community transport vehicles, in response to feedback received during targeted early engagement
- placement of the memorial plaque adjacent to the main entrance stairs following initial stakeholder engagement
- provision of full canopy cover between the boarding assistance zone and new stairs and lifts on Platform 1 to provide all-weather undercover access between the station entrance and boarding assistance zone
- inclusion of upgrades of the kerb ramps at both intersections of Railway Parade and Alexander Crescent to improve accessibility for pedestrians crossing Alexander Crescent when accessing or leaving the station.

3 Description of the Proposal

This chapter describes the Proposal and provides descriptions of existing conditions, the design parameters including major design features, the construction method and associated infrastructure and activities.

3.1 The Proposal

Transport proposes to provide accessibility and safety upgrades to Macquarie Fields Station as part of the Safe Accessible Transport program. The Proposal would improve accessibility of the station in line with the requirements of the Commonwealth *Disability Discrimination Act 1992* (DDA) and the *Disability Standards for Accessible Public Transport 2002* (DSAPT). The Proposal is shown in Figure 3-1. Indicative 3D impressions (subject to detailed design) are shown in Figure 3-2 and Figure 3-3.

Key features of the Proposal include:

- construction of a new pedestrian footbridge with stairs and weather protection to provide access to the station platforms and subsequent removal of the existing footbridge (following completion of the new footbridge)
- installation of a three-stop lift connecting Railway Parade, Platform 2 and the new pedestrian footbridge, and installation of a two-stop lift connecting Platform 1 and the new pedestrian footbridge
- upgrade of the station access from Railway Parade, including a new compliant accessible ramp and stairs, and a new second set of stairs near the new footbridge to Platform 2
- upgrade to the station forecourt to include:
 - six accessible parking spaces (including one longer accessible parking space to accommodate accessible community transport vehicles)
 - two accessible kiss and ride spaces
 - a new pedestrian crossing across Railway Parade to the station entrance
 - bus stop relocation on Railway Parade
 - additional bicycle parking
 - associated footpath and kerb ramp upgrades and new lighting
- modifications to the existing station building on Platform 2 to provide a new unisex ambulant toilet, a family accessible toilet, an electrical services enclosure and station storage facilities
- upgrade of the existing platform surfaces (through platform regrading and localised platform widening), new boarding assistance zone on Platform 1 and relocation of the boarding assistance zone on Platform 2, installation of tactile ground surface indicators (TGSIs) and provision of new canopies over the platforms near the new footbridge and boarding assistance zones
- provision of an accessible water refill station adjacent to the new family accessible toilet
- relocation of the memorial plaque adjacent to the main entrance stairs, subject to further stakeholder consultation during detailed design
- upgrades of other facilities and station services to make them accessible including wayfinding signage, hearing augmentation, Opal card readers, help points and public phone as well as improvement to landscape, lighting and CCTV.

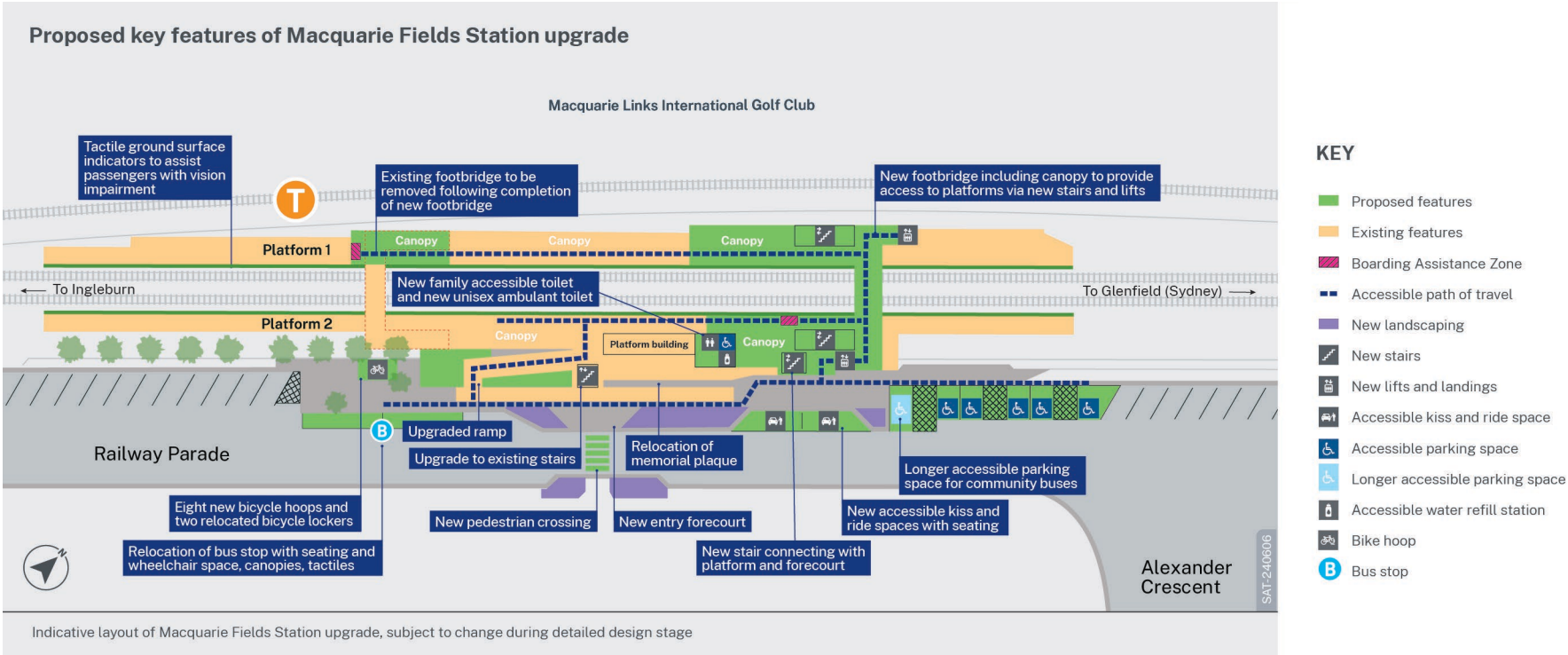


Figure 3-1 Key features of the Proposal



Figure 3-2 Indicative 3D impression of Macquarie Fields Station – facing north (subject to detailed design)



Figure 3-3 Indicative 3D impression of Macquarie Fields Station – facing south-west (subject to detailed design)

3.1.1 Station footbridge work

Modifications to the platforms and station footbridge would include:

- construction of a new pedestrian footbridge on the north-eastern side of the station, including:
 - installation of new stairs connecting each platform to the new footbridge
 - installation of two new 17-person lifts (one on each platform), with the lift on:
 - Platform 1 connecting the platform with the new footbridge
 - Platform 2 connecting the station forecourt, platform and new footbridge
 - protection and anti-throw screens along the footbridge and stairs to meet safety requirements while also providing visibility to and from the station
- removal of the existing non-compliant footbridge following completion of the new footbridge to allow full accessibility compliance at the station.

3.1.2 Station access, forecourt and interchange facilities

Modifications to the station forecourt and interchange facilities would include:

- upgrade of the existing ramp and stairs connecting the forecourt to the station entrance, to provide accessible access from the station forecourt to Platform 2
- construction of new stairs on the north-eastern end of the forecourt, opposite the new lift to Platform 2, providing additional access from the station forecourt to Platform 2
- relocation of the memorial plaque to be adjacent to the main entrance stairs, subject to further stakeholder consultation during the detailed design stage
- relocation of the existing 'Macquarie Fields Station, Railway Parade' bus stop about 40 metres south-west along Railway Parade and providing additional capacity to allow for two buses, seating and an accessible waiting area at the new location
- upgrade of bicycle facilities, including:
 - relocation of two bicycle lockers to the western end of the station forecourt
 - provision of eight new bicycle hoops adjacent to the lockers
- provision of six new accessible parking spaces on Railway Parade, including one longer space to accommodate accessible community transport vehicles
- provision of two accessible kiss and ride spaces on Railway Parade
- construction of a new non-signalised pedestrian crossing across Railway Parade opposite the existing station entrance
- upgrade of the associated footpaths in the station forecourt between the accessible parking spaces and south-western section of on-street commuter car park and kerb ramps, including the kerb ramps at both intersections of Railway Parade and Alexander Crescent
- provision of new lighting in the on-street commuter car parking spaces south-west along Railway Parade between the station forecourt and Alexander Crescent
- line-marking of existing parking spaces in the on-street commuter car park on Railway Parade.

Modifications to the existing platforms and station building would include:

- Modifications to the station building are shown in Figure 3-4.

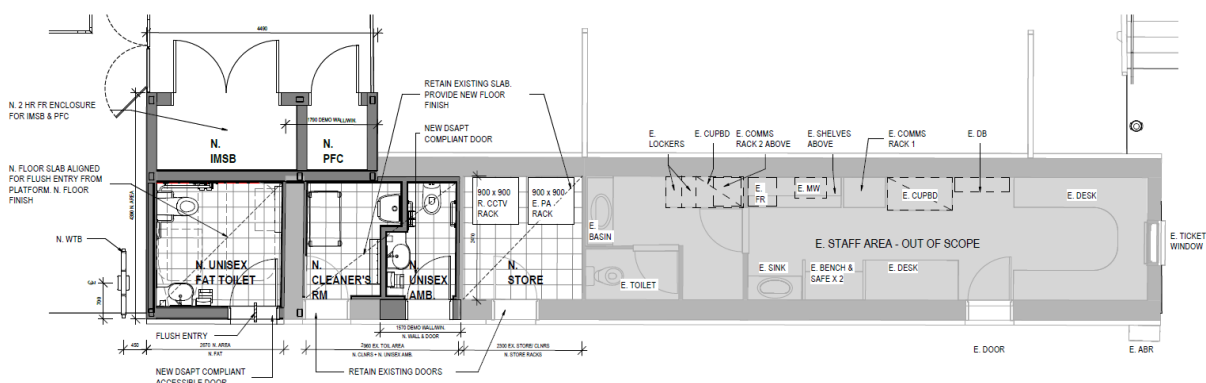


Figure 3-4 Proposed station building layout (subject to detailed design)

Materials and finishes for the Proposal would be selected based on the criteria of durability, low maintenance and cost effectiveness, to minimise visual impacts, to integrate within the context of the place and to be aesthetically pleasing.

Availability and constructability are also important criteria to ensure that materials are readily available and the structure can be built with ease and efficiency. Materials would also be selected for their application based on their suitability for meeting design requirements.

Each of the upgraded or new facilities would be constructed from a range of different materials, with a different palette for each architectural element. Subject to detailed design, the Proposal would include the following:

- lift shafts – concrete and glass
- pedestrian footbridge – concrete structure with steel frames, screens and canopy
- platform stairs – concrete structure with steel frames, screens and canopy
- platform and footbridge canopies – steel structure with canopy
- extension to the existing building – to integrate with the existing façade.

The design would be submitted to Transport's Design Review Panel at various stages for comment before being accepted by Transport. An Urban Design and Landscape Plan (UDLP) would also be prepared by the Contractor, prior to finalisation of detailed design for endorsement by Transport.

3.1.5 Ancillary work

The ancillary work required as part of the Proposal would include:

- improvements to customer information and communication systems, including upgraded wayfinding and other station signage, new hearing loops along the station platforms, new CCTV cameras and new/adjusted Opal card readers
- provision of accessibility compliant kerbs, balustrades and handrails throughout the station
- provision of a new accessible water fountain adjacent to the new family accessible toilet
- relocation of bin storage to an out of sight location below Platform 2
- services and utilities protection, adjustments and/or relocations to accommodate the new work
- adjustments to lighting and electrical services requiring trenching, including removal of the footing of the redundant overhead wiring structure, earthing and bonding of electrical equipment and new or modified structures
- upgrades to the station power supply to cater for the new lifts, by replacing the existing single-phase isolation transformer with a new three-phase padmount transformer
- new stormwater drainage connections from new canopies to the existing stormwater drainage system
- landscaping and planting within the station precinct and forecourt.

3.2 Design

3.2.1 Design criteria

The Proposal would be designed having regard to the following:

- DSAPT (issued under the DDA)
- National Construction Code
- relevant Australian Standards
- Asset Management Branch Standards
- Transport standards
- Transport Sustainable Design Guidelines – Version 4.0 (Transport for NSW, 2017)
- Crime Prevention Through Environmental Design (CPTED) principles
- other Transport policies and guidelines
- relevant Council standards or guidance documents.

3.2.2 Engineering constraints

There are a number of constraints which have influenced the design development of the Proposal, these include:

Existing structures: the placement and integrity of existing structures needed to be considered during the development of the design – these structures included the platforms, existing footbridge, station building, overhead wiring and supporting structures, station forecourt and bus stop, and parking on Railway Parade.

Inaccessibility of Platform 1: the station has two side platforms, with direct street access via a ramp and stairs only to Platform 2. Platform 1 is only accessible via stairs and the pedestrian footbridge, which has constrained design and constructability for the Proposal.

Sydney Trains' requirements: modifications for existing structures and new structures within the rail corridor must be designed and constructed with consideration of train impact loads, structural clearances to the track, and safe working provisions.

Utilities: a Dial Before You Dig (DBYD) search has identified a number of utilities in the vicinity of the proposed works including:

- Sydney Water
- Telstra
- Optus
- TPG
- NBN
- Nextgen.

Some utilities are expected to be required to be relocated or protected, subject to confirmation as part of an underground service search.

Public access: maintaining pedestrian access to the station, including the existing footbridge, when the station is operational (i.e. not during rail possession periods).

Trees: there are established trees within the rail corridor between the station and Railway Parade. The Proposal design has considered opportunities to minimise the need for established tree removal.

3.2.3 Sustainability in design

The NSW Government aspires to provide a world class sustainable transport system that meets customer expectations and optimises the economic development of NSW. Transport is a key enabler of economic and social activity.

The Proposal has been developed and would be delivered in accordance with Transport's Sustainability Plan including Transport's vision - that every journey is people and planet positive.

Circular economy

In 2018-19 the construction sector was the second largest waste generating, generating 12.7 million tonnes of waste accounting for 16.8% of Australia's waste. Transport project delivery not only generates large amounts of construction waste but also consumes large amounts of raw materials.

A circular economy approach means shifting away from a 'take, make, use and dispose' approach to one that better values resources. This means using materials efficiently and keeping products and materials in use for as long as possible. Three key principles underpin a circular economy approach:

- designing out waste and pollution
- keeping products and materials in use
- regenerating natural systems.

The construction of the Proposal is anticipated to use large amounts of materials including but not limited to:

- concrete
- galvanised steel
- aluminium
- paint
- asphalt.

During operation the main circular economy impacts will relate to material use and disposal as a result of maintenance.

Response to circular design strategies

Adopting a circular economy approach results in economic, social and environmental benefits including reduction of emissions. Throughout the development of detailed design, the Proposal would look to embed the circular design strategies outlined in Table 3-1.

Table 3-1 Circular design strategies

Circular design strategies	Definition	Proposal strategies
Design to maximise materials circularity and enable disassembly	Design using materials, products and connection systems that allow for easy re-use and recycling of materials, products and components at end of life. Design to allow an assembled structure or product to be taken apart without destroying its constituent materials or components.	Where possible, pre-cast design elements have been proposed. The use of pre-cast structural elements would reduce embodied emissions in materials. Individual components such as handrails, balustrades, fittings and finishes would be installed through dry connections (as opposed to wet connections such as glue and cement) where possible. This would allow these items to be more easily re-used in the future once it is no longer required at this station.
Design for materials efficiency	Materials efficiency means 'doing more with less' – this involves design and construction methods that use lower amounts of materials and reduce waste.	The Proposal would involve the use of sustainable materials, including: <ul style="list-style-type: none"> • cement with a higher recycled material content • recycled steel where practical. The Sustainability Management Plan would also outline the approach to identification of opportunities to reduce embodied lifecycle impacts of the Proposal.
Design for best practice operational waste management	Design to ensure that waste and recycling storage and collection systems maximise re-use and recycling and allow for ease of access by both users and waste service providers.	The bin storage area, positioned near the proposed bicycle lockers, would be relocated to an out of sight location below Platform 2. This would improve waste management practices for waste service providers and minimise visual impacts.
Re-use existing assets or materials	Incorporate existing structures, products and materials on the project site into the new development.	The existing station building would be retrofitted to accommodate the Proposal, with a minor extension proposed. The existing bicycle lockers would be retained and relocated as part of the Proposal. Where possible, the existing canopies and light poles would also be retained.
Select products with recycled content	Preference products that contain recycled content to keep materials circulating within the economy.	Use of recycled materials would be considered further during detailed design and confirmed by the Contractor. This may include consideration of recycled alternatives to reinforcing steel mesh, cement and asphalt.

Circular design strategies	Definition	Proposal strategies
Incorporate green infrastructure	Incorporate the network of green spaces, natural systems and semi-natural systems –including waterways, bushland, tree canopy, green walls and roofs, green ground cover, parks and open spaces – that support sustainable communities.	<p>The Proposal’s landscaping design includes replanting of native vegetation. While six trees are proposed to be removed as part of this Proposal, 20 new trees would be planted.</p> <p>The use of permeable pavers would be investigated during detailed design and used where possible in the station forecourt to allow water to drain in rainfall events. This would reduce standing water, cool surfaces and increase water capture for plants.</p>

Sustainability issues and opportunities for the Proposal are discussed in Section 8.

3.3 Construction activities

3.3.1 Work methodology

The construction methodology would be further developed during the detailed design of the Proposal by the nominated Contractor in consultation with Transport.

The proposed construction activities for the Proposal are identified in Table 3-2. This staging is indicative and is based on the current concept design and may change once the detailed design and construction methodology is finalised. The staging is also dependent on the Contractor’s preferred methodology, program and sequencing of work. The staging and activities are often concurrent to increase efficiency and reduce impact on the community and construction timeframes.

Table 3-2 Indicative construction staging for key activities

Stage	Activities
Site establishment and enabling work	<ul style="list-style-type: none">• establish ancillary facilities (including erection of fencing, site offices, amenities and plant and material storage areas)• carry out validation of utility services• relocate or upgrade services/utilities as required• remove vegetation• install safety barriers, lighting and hoarding around the nominated work zones, including any areas of the platform used for temporary laydown/storage of plant, material and spoil for the duration of the construction

Stage	Activities
Construction of new footbridge (including stairs and lifts)	<ul style="list-style-type: none"> construct new footbridge (including stairs), comprising the following activities: <ul style="list-style-type: none"> construct footbridge foundations (including stairs) lift and install new aerial footbridge into place and connect with foundations lift and install canopy on new footbridge install mesh protection and anti-throw screens along new stairs and footbridge walkways construct and install new lifts, comprising the following activities: <ul style="list-style-type: none"> excavate and pile for lift shaft construct lift foundations/bases install formwork and reinforcement for lift pits and walls and upper lift landings install steelwork for lift shafts and canopy roofing install lift car and motor install lift shaft services, lift cars, motors and fit-out lift cars install cladding and glazing to lift shaft commission new footbridge and lifts
Removal of existing footbridge	<ul style="list-style-type: none"> following commissioning of the new footbridge, close the existing footbridge to customers remove stairs to existing footbridge in stages remove existing footbridge in stages
Station access, forecourt and interchange work	<ul style="list-style-type: none"> construct new station access connecting the station forecourt, Platform 2 and new footbridge on the north-eastern end of the forecourt, opposite the new lift relocate the existing 'Macquarie Fields Station, Railway Parade' bus stop and install two bus parking spaces, seating and an accessible waiting area install six new accessible parking spaces (including one long accessible parking space), and two kiss and ride spaces on Railway Avenue install signage for new bus stop, accessible parking and kiss and ride areas relocate the two existing bicycle lockers and install eight new bicycle hoops adjacent to the lockers install new pedestrian crossing adjust footpaths and kerbs to align with parking and footpath changes throughout the station forecourt following commissioning of the new footbridge and lifts, close the existing ramp and stairs upgrade existing ramp and stairs providing access from the station forecourt to provide compliant accessible station access relocate the memorial plaque upgrade the kerb ramps at both intersections of Railway Parade and Alexander Crescent (four kerb ramps total) new line-marking of commuter car spaces along Railway Parade adjacent to the station entry/forecourt

Stage	Activities
Platform work	<ul style="list-style-type: none"> temporary removal / reinstatement of platform furniture excavate for new platform canopy footings upgrade existing canopies to provide longer canopies near the new footbridge and boarding assistance zones regrade and resurface the platform, including installation of TGSIs to provide compliant accessible paths throughout the station
Station building modifications	<ul style="list-style-type: none"> install a temporary toilet on platform demolish internal walls, fixtures, fittings and wall and floor finishes of existing toilet and cleaners' storeroom in station building install a new dividing wall and door to create the new unisex ambulant toilet and cleaners' storeroom extend the existing building by constructing a new floor slab, new walls and new doors for the new unisex family accessible toilet and electrical storage enclosures waterproof and re-tile toilet areas introduce new internal fixtures and fittings
Electrical upgrades	<ul style="list-style-type: none"> isolate and remove existing transformer and install new padmount transformer carry out trenching for new cable routes removal of the footing of the overhead wiring structure to provide appropriate earthing and bonding for the station install new lighting in the Railway Parade on-street commuter car park
Finishing work	<ul style="list-style-type: none"> install compliant kerbs, balustrades and handrails throughout the station adjust fencing and install bollards connect the new canopies to the existing stormwater drainage system through new stormwater drainage connections install new wayfinding and other station signage install a new water fountain adjacent to the new family accessible toilet relocate bin storage to an out of sight location below Platform 2 carry out landscaping and planting within the station precinct and forecourt install, test and commission new hearing loops within the station platforms, new CCTV cameras and new / adjusted Opal card readers line-mark existing parking spaces in the on-street commuter car park on Railway Parade
Site demobilisation	<ul style="list-style-type: none"> verify that all finishing work has been completed remove temporary safety barriers, lighting and hoarding demobilise and reinstate site compound area

3.3.2 Construction workforce

The number and types of workers would vary throughout the different stages of construction but would include workers such as:

- plant and machinery operators
- traffic controllers
- labourers
- utilities servicers
- project and site managers.

During non-possession periods, an average of about 20 construction workforce staff are estimated to work on the Proposal per day. During possession periods, up to 50 construction workforce staff are expected to work on the Proposal during peak periods.

Final details of the workforce would be identified during detailed design by the Contractor.

3.3.3 Construction hours and duration

Subject to approval, early construction activities are expected to commence in late 2024, with main construction commencing early 2025 and taking around 18 months to complete. Timeframes are subject to detailed design and final construction methodology.

Most work required for the Proposal would be undertaken during standard construction hours, which are defined by the NSW Environment Protection Authority (EPA) as follows:

- 7.00 am to 6.00 pm Monday to Friday
- 8.00 am to 1.00 pm Saturdays
- no work on Sundays or public holidays.

Certain work may need to occur outside standard hours and would include evening work, night work and work during routine rail possessions. Rail possessions are scheduled closures that would occur regardless of the Proposal when part of the rail network is temporarily closed and trains are not operating.

Out of hours work is required in some cases to minimise disruptions to customers, pedestrians, motorists and nearby sensitive receivers; and to ensure the safety of railway workers and operational assets. It is estimated that approximately four rail possessions would be required to facilitate the following:

- service validation and services relocation
- dilapidation surveys
- localised platform widening near the freight rail line
- excavation and piling for new footbridge (including foundations and lift shafts)
- installation of new footbridge (including stairs, lift shafts and lift cars), protection screens and canopies
- installation of new platform canopies
- platform regrading and resurfacing
- electrical power supply upgrades
- removal of the existing footbridge and stairs.

Out of hours work may also be scheduled outside rail possession periods which might reduce impact of the Proposal on the wider community and road network, for example to facilitate oversized plant and material deliveries, minor road work and other platform work which would otherwise impact train passengers. The Contractor engaged to do the work may have an alternative construction methodology and may request access to weeknight rail possessions (which would indicatively run for around four nights from Monday night to Thursday night with working hours of around 11pm to 3am) to allow for preparation work prior to the weekend possessions. Approval from Transport would be required for any out of hours work and the affected community would be notified as outlined in Transport's *Construction Noise and Vibration Guideline (public transport infrastructure)* (Transport for NSW, 2023c) (refer to Section 6.3 for further details).

3.3.4 Plant and equipment

The plant and equipment likely to be used during construction includes:

- 4 tonne dump trucks
- 5 tonne excavators
- 13 tonne excavators (hi-rail)
- 15 tonne rough terrain cranes
- 55 tonne crawler cranes
- 70 tonne slew cranes
- 125 tonne slew cranes
- 450 tonne slew cranes
- bobcats
- chainsaws
- concrete pumps and trucks
- concrete saws
- demolition saws
- elevated work platforms (EWP)
- forklifts
- generators
- glass handling lifts (between 350 kilogram and 1 tonne)
- hand tools
- high rail EWPs
- hydro vacuum trucks
- jack hammers
- lighting towers
- low loaders
- piling rigs (low head profile rig)
- rail trailers
- rigid trucks
- road sweepers
- scaffolding
- semi-trailers
- skip trucks
- truck and dog
- vibrating rollers / compaction plates
- water trucks.

Additional equipment that would likely to be used would be identified during detailed design by the Contractor.

3.3.5 Earthworks

Excavations and earthworks would generally be required for the following:

- excavation for lift shafts
- upgrades to the station forecourt, including bus stop, bicycle, pedestrian and parking provisions and associated kerb and gutter adjustments
- localised platform widening
- platform regrading and resurfacing
- extension of the existing station building
- other minor civil works including footings and foundations for structures, drainage / stormwater works, and trenching activities for service adjustments and relocations.

It is estimated that about 250 cubic metres of excavated material would be generated from these activities. Excavated material would be reused onsite where possible or disposed of in accordance with relevant legislative requirements.

Specific locations for spoil placement would be agreed with Transport and the Contractor during the delivery phase.

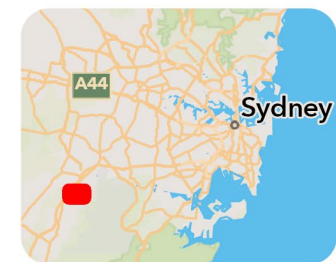
3.3.6 Source and quantity of materials

The source and quantity of materials would be determined during the detailed design phase of the Proposal and would consider the requirements of the Transport *Sustainable Design Guidelines – Version 4.0* (Transport for NSW, 2017). Materials would be sourced from local suppliers where practicable. Reuse of existing and recycled materials would be undertaken where practicable.

3.3.7 Traffic management and access

Traffic and transport impacts associated with the Proposal are assessed in Section 6.1 of this REF.

It is expected that all spoil removal, demolition waste and material deliveries would occur by road via the indicative main site access route shown in Figure 3-5. Some oversized materials or deliveries would occur outside of standard working hours. These deliveries could include major plant and equipment, crane components, components of the new footbridge, lift shafts and prefabricated elements such as precast beams or reinforcing cages.



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Figure 3-5: Indicative main site access route

The potential traffic and access changes expected during the construction of the Proposal include:

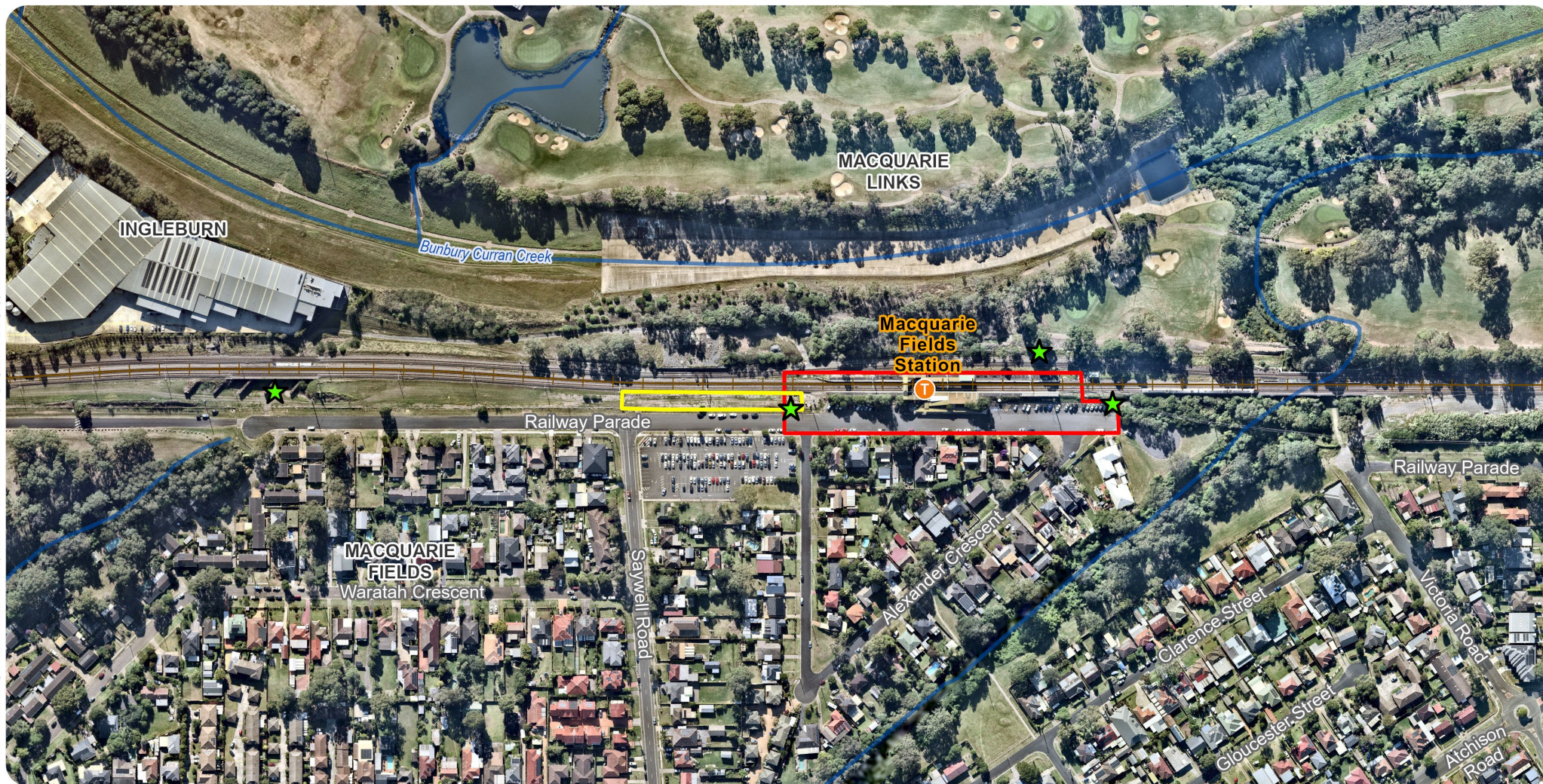
- temporary pedestrian and traffic management to facilitate construction vehicle access onto worksites
- temporary pedestrian access arrangements to the station
- temporary detours due to construction work in the station forecourt and on platforms.

3.4 Ancillary facilities

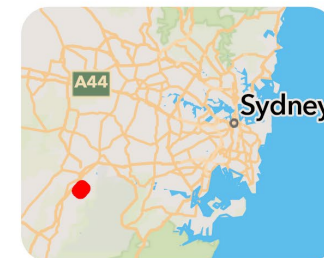
A temporary site compound would be required to accommodate a site office, amenities, laydown and storage area for materials. An area for a site compound has been proposed within the rail corridor opposite the Council car park on Railway Parade (refer to Figure 3-6). The area nominated for the site compound is on land owned by Transport Asset Holding Entity (TAHE). Impacts associated with using this area have been considered in the environmental impact assessment including requirements for rehabilitation. The location of the temporary site compound would be subject to further consideration by the Contractor, and may be adjusted to suit the Proposal's needs (subject to further environmental assessment).

The station platform would also be used as a temporary laydown and spoil storage area for the duration of construction. Laydown and storage areas would be appropriately fenced off and would not inhibit customer access to the platform during the construction period. However, temporary hoarded construction areas and laydown and storage areas may limit patron movement on the platform. Furthermore, hi-rail access points (either to be constructed or existing) would be used for hi-rail track plant and equipment to gain access to the track and traverse to the worksite during possession periods. Existing rail access gates are shown in Figure 3-6.

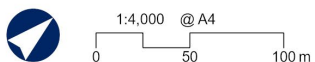
Other worksite areas may be established during the course of the construction period and would be staged to minimise inconvenience to the customers and adjacent public areas. All established worksite areas would include suitable demarcation, hoarding or fencing. Landowners consent would be required for any proposed site compounds that are not on Transport land.



- Proposal area
- Site compound
- T Train Station
- + Railway
- ~ Watercourse
- ★ Existing rail access gate



Source: Aurecon, TINSW, NSW Spatial Services (DCS), ESRI



Projection: GDA2020 MGA Zone 56

Safe Accessible Transport program - Macquarie Fields Review of Environmental Factors

Figure 3-6: Proposed site compound

3.5 Public utility adjustment

The Proposal has been designed to avoid relocation of services where feasible, however further investigation may be required. It is likely some services may require relocation, including water and communications services, but such relocation is unlikely to occur outside of the footprint of the work assessed in this REF.

In the event that work would be required outside of this footprint, further assessment would be undertaken. The appropriate utility providers would be consulted during the detailed design phase.

3.6 Property acquisition

Transport does not propose to acquire any property as part of the Proposal.

3.7 Operation and maintenance

The future operation and maintenance of the new station infrastructure is subject to further discussions with Sydney Trains, Transport and Campbelltown City Council. Structures constructed under this Proposal would be maintained by Sydney Trains. However, it is likely that adjacent garden/landscape areas would continue to be maintained by Campbelltown City Council.

4 Statutory and planning framework

This chapter provides the statutory and planning framework for the Proposal and considers the provisions of relevant state environmental planning policies, local environmental plans and other legislation.

4.1 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the system of environmental planning and assessment in NSW. This Proposal is subject to the environmental impact assessment and planning approval requirements of Division 5.1 of the EP&A Act. Division 5.1 of the EP&A Act specifies the environmental impact assessment requirements for activities undertaken by public authorities, such as Transport, which do not require development consent under Part 4 of the Act.

In accordance with section 5.5 of the EP&A Act, Transport, as the proponent and determining authority, must examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the Proposal.

Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) defines the factors which must be considered when determining if an activity assessed under Division 5.1 of the EP&A Act has or is likely to have a significant impact on the environment. Chapter 6 of the REF provides an environmental impact assessment of the Proposal in accordance with section 171 and Appendix B specifically responds to the factors for consideration under section 171.

4.1.1 State Environmental Planning Policies

State Environmental Planning Policy (Transport and Infrastructure) 2021

State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP (Transport and Infrastructure)) aims to facilitate the effective delivery of infrastructure across the State.

Section 2.92 of SEPP (Transport and Infrastructure) permits development on any land for the purpose of a railway or railway infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the Proposal is for railway infrastructure facilities, comprising upgrades to a railway station, station platforms and areas in a station complex that commuters use to get access to the platforms, public amenities for commuters and associated public transport facilities for railway stations, and is to be carried out by Transport, it can be assessed under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (NSW). Development consent from council is not required.

The Proposal is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under:

- State Environmental Planning Policy (Resilience and Hazards) 2021
- State Environmental Planning Policy (Planning Systems) 2021
- State Environmental Planning Policy (Precincts – Central River City) 2021
- State Environmental Planning Policy (Precincts – Eastern Harbour City) 2021
- State Environmental Planning Policy (Precincts – Western Parkland City) 2021
- State Environmental Planning Policy (Precincts – Regional) 2021.

Section 2.10 to 2.15 of SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local Councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by SEPP (Transport and Infrastructure) (where applicable), is discussed in Chapter 5 of this REF.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 6 (Water Catchments) of the State Environmental Planning Policy (Biodiversity and Conservation) 2021 relates to the use of land within four regulated catchments as defined in the SEPP:

- the Sydney Drinking Water Catchment
- the Sydney Harbour Catchment
- the Georges River Catchment
- the Hawkesbury-Nepean Catchment.

The Proposal is within the Georges River Catchment.

Georges River Catchment

Determining authorities undertaking an activity in a regulated catchment must satisfy sections 6.6(2), 6.7(2), 6.8(2) and 6.9(2) and consider environmental impacts listed in sections 6.6(1), 6.7(1), 6.8(1) and 6.9(1) of SEPP (Biodiversity and Conservation). This includes specific consideration of water quality and quantity, aquatic ecology, flooding, and recreation and public access. An assessment of these factors is provided in Appendix A.

State Environmental Planning Policy (Resilience and Hazards) 2021

State Environmental Planning Policy (Resilience and Hazards) 2021 (SEPP (Resilience and Hazards)) provides a State-wide approach to the remediation of contaminated land for the purpose of minimising the risk of harm to the health of humans and the environment. While consent for the Proposal is not required, the provisions of SEPP (Resilience and Hazards) have still been considered in the preparation of this REF.

Section 6.8 of this REF contains an assessment of the potential contamination impacts of the Proposal. It is not expected that any large-scale remediation (Category 1) work would be required as part of the Proposal. The proposed land use would not differ to the existing use and is, therefore, unlikely to be affected by any potential contaminants that exist within the rail corridor. Impacts of contaminated lands and potential remediation are outlined in Section 6.8.

State Environmental Planning Policy (Precincts–Western Parkland City) 2021

Chapter 3 of the State Environmental Planning Policy (Precincts–Western Parkland City) 2021 (SEPP (Western Parkland City)) provides a framework for development within Sydney region growth centres. The Proposal is located in the Greater Macarthur Growth Area. Consent for the Proposal is not required under the SEPP (Western Parkland City) because:

- the Proposal does not occur on land zoned under Part 3.3 of the SEPP (Western Parkland City).
- Part 3.4 does not apply as there is a Precinct Plan for Macquarie Fields (refer to Figure 4-1 which shows proposed future land zoning)
- Part 3.5 does not apply as the Proposal is not mapped as flood prone land
- Part 3.6 does not apply as the Proposal is not on land zoned under Part 3.3 of the SEPP, flood prone and major creeks land or in an environmental conservation area.

The Proposal would support future land use and development in the Greater Macarthur Growth Area. While consent for the Proposal is not required, the contribution of the Proposal to the objectives of the SEPP (Western Parkland City) has still been considered in the preparation of this REF.

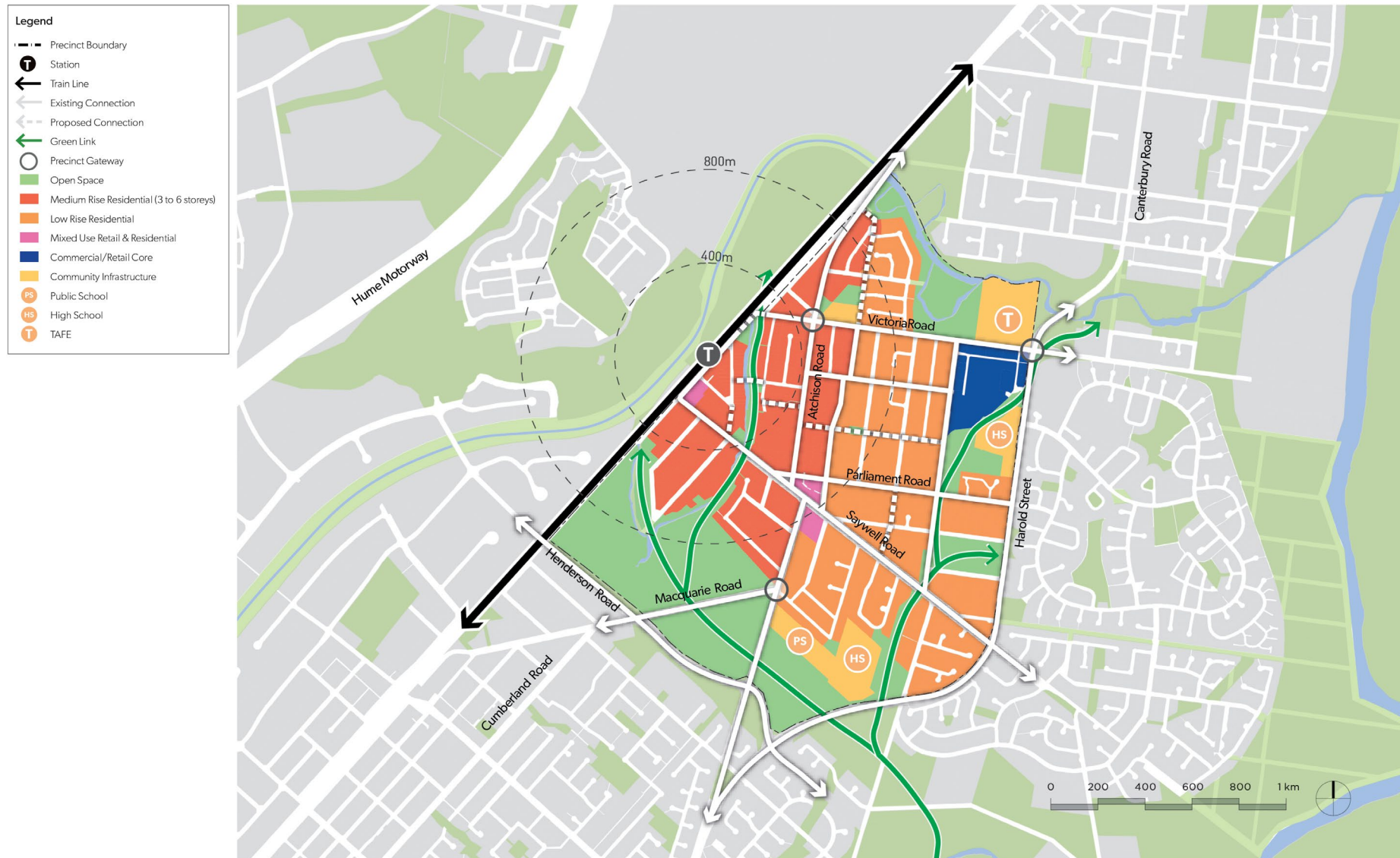


Figure 4-1 Macquarie Fields Precinct Plan Map (NSW Department of Planning and Environment, 2017)

4.1.2 Cumberland Plain Conservation Plan

The Cumberland Plain Conservation Plan is a conservation plan for Western Sydney that identifies strategically important biodiversity areas within the Cumberland subregion to offset the biodiversity impacts of future urban development to facilitate a vibrant, green and liveable city. The Plan facilitates growth in Western Sydney to 2056 and beyond and delivers important development and biodiversity outcomes.

As the Proposal area is within the Greater Macarthur Growth Area, the Plan is applicable. The Proposal is located on land identified as 'excluded land' in the Plan, meaning that the vegetation has not been pre-assessed for removal as part of the Plan. As such, vegetation removal required as part of this Proposal has been assessed in Section 6.7 of this REF.

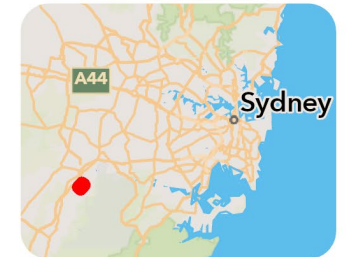
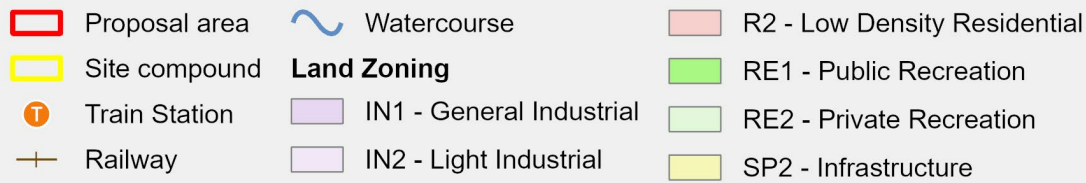
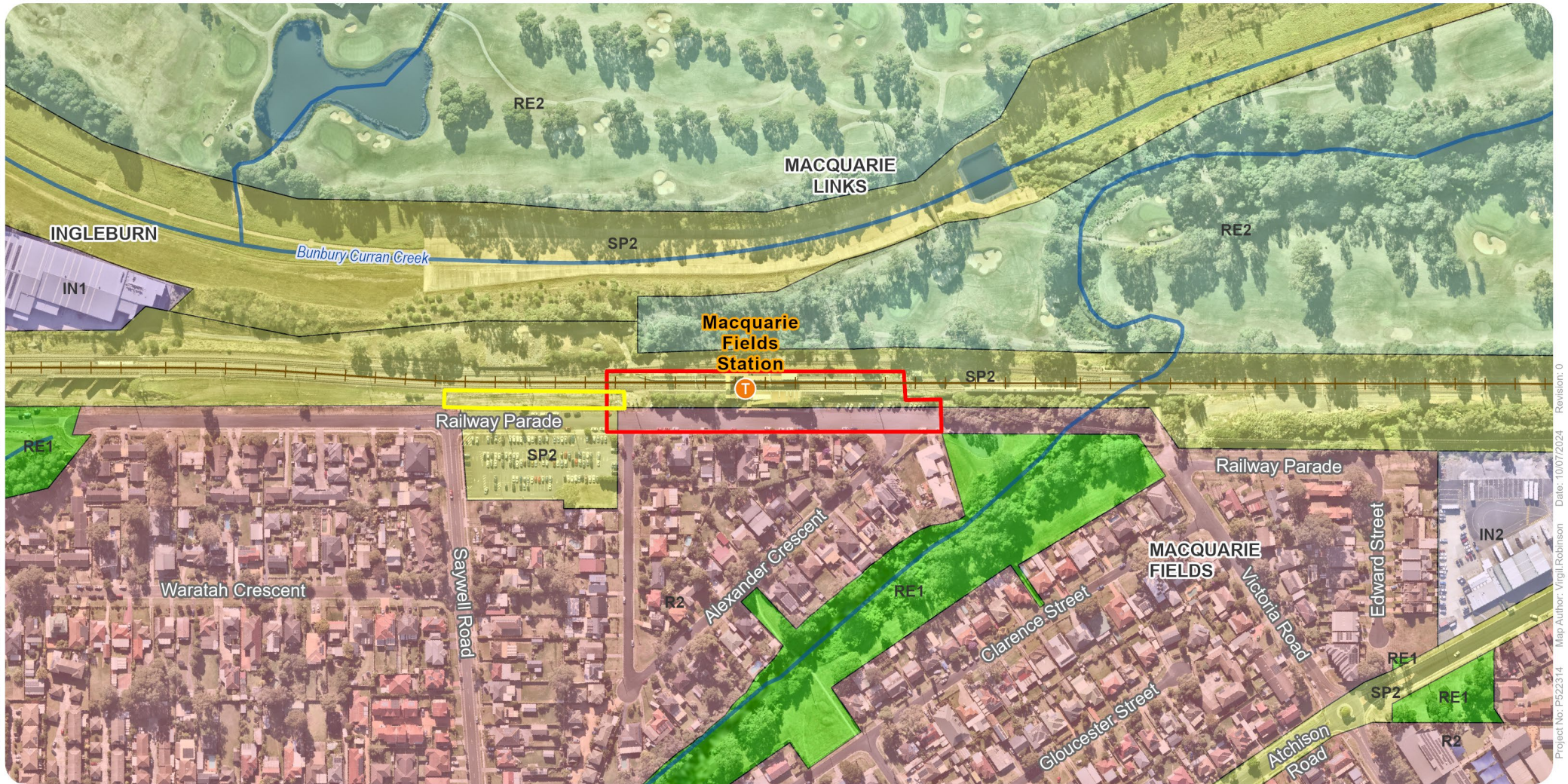
4.1.3 Local Environmental Plans

Campbelltown Local Environmental Plan 2015

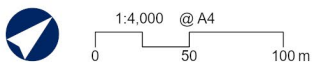
The Proposal is located within the Campbelltown local government area (LGA). The SEPP (Transport and Infrastructure) prevails over all other environmental planning instruments (such as local environment plan (LEP)) except where there is an inconsistency with State Environmental Planning Policy (Precincts) 2021 or certain provisions of State Environmental Planning Policy (Resilience and Hazards) 2021. During the preparation of this REF, the provisions of Campbelltown LEP were considered (refer Table 4-1).

Table 4-1 Relevant provisions of the Campbelltown LEP

Provision description	Relevance to the Proposal
Clause 2.3 – Zone objectives and Land Use Table	<p>Under the Campbelltown LEP:</p> <ul style="list-style-type: none"> The rail corridor is on land zoned as SP2 Railway Corridor. The Proposal is consistent with the objectives of this zone as it provides for infrastructure and related uses. Railway Parade and the residential properties of Macquarie Fields opposite the station are on land zoned as R2 Low Density Residential. The Proposal is consistent with the objectives of this zone as it enables accessible operation of the station that provides facilities to meet the day to day needs of residents as well as facilitates diverse and sustainable means of access and movement through accessible access to the station. <p>Land zoning within and near the Proposal is mapped in Figure 4-2.</p>
Clause 7.1 – Earthworks	<p>Clause 7.1 of the Campbelltown LEP aims to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land. By virtue of section 2.92 of the SEPP (Transport and Infrastructure), the Proposal is permissible without development consent. Consideration of the potential impacts and mitigation measures for earthworks for the Proposal is outlined in Section 6.8.</p>



Source: Aurecon, TfNSW, NSW Spatial Services (DCS), ESRI



Projection: GDA2020 MGA Zone 56

Safe Accessible Transport program - Macquarie Fields Review of Environmental Factors

Figure 4-2: Land zoning

4.2 Other relevant NSW legislation

4.2.1 Transport Administration Act 1988

The *Transport Administration Act 1988* establishes Transport as a public authority which exercises its functions in a manner that promotes certain common objectives, including to promote the delivery of transport services in an environmentally sustainable manner.

This REF has been prepared having regard to, among other things, the specific objectives of Transport under the *Transport Administration Act 1988*, including:

2A Objects of Act

...

- a. *to provide an efficient and accountable framework for the governance of the delivery of transport services,*
- b. *to promote the integration of the transport system,*
- c. *to enable effective planning and delivery of transport infrastructure and services,*
- d. *to facilitate the mobilisation and prioritisation of key resources across the transport sector,*
- e. *to co-ordinate the activities of those engaged in the delivery of transport services,*
- f. *to maintain independent regulatory arrangements for securing the safety of transport services.*

2B Common objectives and service delivery priorities of public transport agencies

...

a. Environmental sustainability

To promote the delivery of transport services in an environmentally sustainable manner.

b. Social benefits

To contribute to the delivery of social benefits for customers, including greater inclusiveness, accessibility and quality of life.

4.2.2 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) is aimed at conserving threatened species, populations and ecological communities of animals and plants. The BC Act outlines the framework for addressing impacts on biodiversity from development and clearing.

While six trees would be removed along Railway Parade during construction of the Proposal, this is not expected to have a substantial impact on the overall ecological values of the area as they would not result in the loss of naturally occurring plant communities. The Proposal is unlikely to have a significant impact on any threatened species, population or ecological community (refer to Section 6.7).

4.2.3 Crown Land Management Act 2016 and Crown Land Legislation Amendment Act 2017

The *Crown Land Management Act 2016* and *Crown Land Legislation Amendment Act 2017* set out the requirements for ownership, use and management of Crown Land. They describe the permissions and authorisation needed when planning the development of activities on Crown Land. The *Crown Land Management Act 2016* also describes the process for the acquisition of Crown Land.

The Proposal does not involve work on any Crown land.

4.2.4 Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) aims to protect items of State and local heritage significance and outlines the process for the approval of development that may impact on items of heritage significance. The Heritage Act includes requirements for approval for impacts to items listed on the State Heritage Register and exposure of relics and notification of impacts to items listed on a Section 170 heritage and conservation register.

There are no listed heritage items within or in the vicinity of the site. As a result of the existing levels of site disturbance, there is a low likelihood that unknown items of heritage or historic significance, or relics, would be present. Further information is provided in Section 6.5.

4.2.5 Protection of the Environment Operations Act 1997

The Proposal does not involve a 'scheduled activity' under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act). Accordingly, an Environment Protection Licence is not required for the Proposal. However, in accordance with Part 5.7 of the POEO Act, Transport would notify the NSW EPA of any pollution incidents that occur onsite. This would be managed through the Construction Environmental Management Plan (CEMP) to be prepared and implemented by the Contractor.

4.2.6 Roads Act 1993

Section 138 of the *Roads Act 1993* (the Roads Act) requires consent from the relevant road authority for the carrying out of work in, on or over a public road. However, clause 5(1) in Schedule 2 of the Roads Act states that public authorities do not require approval for work on unclassified roads.

The Proposal would involve work on Railway Parade, which is a local road under the control of Campbelltown City Council. Road Occupancy Licence/s would be obtained from Council for road work and any temporary road closures where required (refer to Section 6.1 for more information).

4.2.7 Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001* (WARR Act) sets out provisions for resource and waste management.

Transport would carry out the Proposal having regard to the requirements of the WARR Act. A site-specific Waste Management Plan would be prepared.

4.3 Commonwealth legislation

4.3.1 Environment Protection and Biodiversity Conservation Act 1999

Under the EPBC Act, a referral is required to the Australian Government for proposed actions that have the potential to significantly impact on matters of national environmental significance or the environment of Commonwealth land. These are considered in Appendix A and Chapter 6 of the REF.

Potential impacts to these biodiversity matters are also considered as part of Chapter 6 of the REF.

Findings – matters of national environmental significance

The assessment of the Proposal's impact, on matters of national environmental significance and the environment of Commonwealth land, found that there is unlikely to be a significant impact on relevant matters of national environmental significance or on Commonwealth land. Accordingly, the Proposal has not been referred to the Australian Government Department of Climate Change, Energy, the Environment and Water under the EPBC Act.

4.3.2 Other relevant Commonwealth legislation

Other Commonwealth legislation applicable to the Proposal is discussed in Table 4-2.

Table 4-2 Other Commonwealth legislation applicable to the Proposal

Applicable legislation	Considerations
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	<p>There is an obligation on a person who discovers anything which they have reasonable grounds to suspect are Aboriginal remains to report that discovery to the Minister, giving particulars of the remains and their location.</p> <p>The Proposal does not include any previously identified Aboriginal sites and/or places (refer Section 6.4); however, considerations for unexpected finds further detailed in mitigation measures and applies to this Act.</p>
<i>Disability Discrimination Act 1992 (DDA)</i>	<p>This Act aims to eliminate as far as possible, discrimination against persons on the ground of disability in areas including access to premises and the provision of facilities, services and land.</p> <p>The Proposal would be designed having regard to the requirements of this Act. The key objective of the Proposal is to improve the accessibility of Macquarie Fields Station which is consistent with the objectives of this Act.</p>

4.3.3 Native Title Act 1993

The *Native Title Act 1993* recognises and protects native title. The Act covers actions affecting native title and the processes for determining whether native title exists and compensation for actions affecting native title. It establishes the Native Title Registrar, the National Native Title Tribunal, the Register of Native Title Claims and the Register of Indigenous Land Use Agreements, and the National Native Title Register. Under the Act, a future act includes proposed public infrastructure on land or waters that affects native title rights or interest.

A search of the [Native Title Tribunal Native Title Vision](#) website was undertaken on 27 June 2024, with no Native Title holders/claimants identified.

4.4 Confirmation of statutory position

The Proposal is categorised as development for the purpose of railway infrastructure facilities and is being carried out by or on behalf of a public authority. Under section 2.92 of SEPP (Transport and Infrastructure) the Proposal is permissible without consent. The Proposal is not State significant infrastructure or State significant development. The Proposal can be assessed under Division 5.1 of the EP&A Act.

Transport is the determining authority for the Proposal. This REF fulfils Transport’s obligation under section 5.5 of the EP&A Act including to examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the activity.

5 Consultation

This chapter discusses the consultation undertaken to date for the Proposal and the consultation proposed for the future.

5.1 Consultation strategy

The community and stakeholder engagement (consultation) strategy developed to support the Proposal was prepared to foster authentic stakeholder and community relationships.

The objective of the Community and Stakeholder Engagement Strategy is to identify a broad range of stakeholders and optimal timing to engage with each stakeholder group during project development to ensure best project outcomes. Engagement on the Proposal spans from the initial early engagement period prior to development of a concept design, through to targeted engagement to seek feedback from key stakeholders, to the wider community engagement periods.

The consultation strategy that was developed, having regard to the requirements of the planning process ensures that a broad range of stakeholders including Aboriginal and Torres Strait Islander communities, local people with disability, women and girls, public transport passengers, Council, local businesses and schools, and the wider community are informed of the Proposal and have the opportunity to provide feedback at appropriate times.

The objectives of the community and stakeholder engagement (consultation) strategy are to:

- identify broad stakeholder groups and specific stakeholders to engage with
- identify at which stages engagement with each group is appropriate to facilitate implementation of feedback in project design
- ensure engagement is planned and undertaken with disability user groups and local people with disability, as well as local women and girls, to make stations more useable and safer for people with a disability and women to use
- provide accurate and timely information about the Proposal and planning approval process to relevant stakeholders
- raise awareness of the various components of the Proposal and the specialist environmental investigations
- ensure that the directly impacted community is aware of the Proposal, the planning approval process and opportunities to provide feedback throughout the project design process
- provide opportunities for stakeholders and the community to express their view, and provide local insights and knowledge which may affect the Proposal
- record the details and input from community engagement activities
- build positive relations with identified community stakeholders
- ensure a comprehensive and transparent approach with a commitment to ongoing engagement throughout the project design and delivery.

5.2 Community engagement

Before preparing the concept design for Macquarie Fields Station, Transport engaged with various stakeholder groups including people with disability, Aboriginal and Torres Strait Islander peoples and women and girls from the local community, to better understand their perceptions of safety at and around the station, as well as collaborative Connecting with Country events to understand the unique and enduring relationship between Aboriginal and Torres Strait Islander peoples and their ancestral lands, waters and natural resources.

The main elements that were incorporated into the concept design following these engagements include:

- identification of initiatives such as materials, landscaping design and art that recognise the area’s rich Aboriginal culture and heritage
- improvements to lighting on the station platforms and Railway Parade
- larger expanse of the forecourt, to improve connectivity and provide a wider access path
- improving sight lines by relocating the bin storage area
- relocated kiss and ride spaces
- proposed locations for art and heritage interpretation
- an improved pedestrian crossing
- better amenities including seating, shade and toilets.

Initial feedback on the concept design was sought from the community and key stakeholders including Council and local people with disability from 1 to 29 March 2024. The project received around 70 pieces of feedback during this early engagement period.

The feedback received from the community and key stakeholders was provided to the project team for consideration and to help inform the planning process and documentation. A summary of the issues raised by the community, and Transport’s response to these issues, is outlined in Table 5-1.

Table 5-1 Summary of issues raised by the community

Group	Issue raised	Response / where addressed in REF
Community	Support for proposed safety enhancements and suggestions for additional measures such as ticket barriers.	Additional safety enhancements would be further explored during the detailed design stage. Inclusion of ticket barriers is an operational consideration to be determined by Sydney Trains. The design would be reviewed in a security risk workshop during the detailed design stage.
	Suggestion to trim overgrown trees to improve sight lines.	Feedback has been provided to the maintenance team regarding the need to trim/prune vegetation on Railway Parade more frequently to increase visibility.
	Support for provision of additional lighting and CCTV in and around the station.	Transport is investigating lighting around the station, specifically on Railway Parade connecting passengers from the station to the commuter parking spaces. This will be addressed through the detailed design stage.

Group	Issue raised	Response / where addressed in REF
Local people with disability and carers	Consideration for the inclusion of a retail kiosk for the convenience of customers and to increase passive surveillance.	Transport will explore opportunities in the detailed design stage to future proof the station forecourt to allow for any future retail development in the precinct to be added in the future.
	Support for the designated kiss and ride zone, with a suggestion to review number of spaces and flow of traffic especially during peak periods.	The number of kiss and ride spaces would be further assessed during the detailed design stage to make sure there is adequate provision.
	Request to include accessible ramps as an alternative for access when lifts are out of service.	An accessible ramp is being provided connecting Railway Parade and Platform 2. Transport investigated provision of accessible ramps from Platform 2 to the overhead footbridge as an alternative to lift access. A compliant ramp would need to be in excess of 80 metres long, with appropriate rest landings. Provision of a ramp from the footbridge to Platform 1 (towards the city) would require further reinforcement (and bulk) due to the proximity to the freight line.
	Need to improve connectivity to the station by providing or upgrading surrounding footpaths, and requests to provide more frequent bus services connecting with train services, especially during off peak hours.	Transport notes this feedback. It has been issued to Council and the relevant services planning team at Transport for consideration.
	Length of accessible parking spaces does not cater for accessible community buses which are seven metres in length and have a hoist on the back or side of the bus.	The Proposal has been adjusted to include provision of at least one 'longer' accessible parking bay, suitable for community buses with mobility aids i.e. hoists and extendable ramps.
	Often there is landscaping or vegetation next to DDA spaces. Leave space next to DDA parking spaces so there is ample room either side of the vehicle. DDA parking spaces should have 'shared space' (loading) either side, not just one. Avoid landscaping against DDA parking spaces.	Transport notes this feedback. This is to be addressed during detailed design.

Group	Issue raised	Response / where addressed in REF
	Preference for ramp access to the station platforms as opposed to lifts as lifts can break down.	An accessible ramp is being provided connecting Railway Parade and Platform 2. Transport investigated provision of accessible ramps from Platform 2 to the overhead footbridge as an alternative to lift access. A compliant ramp would need to be in excess of 80 metres long, with appropriate rest landings. Provision of a ramp from the footbridge to Platform 1 (towards the city) would require further reinforcement (and bulk) due to the proximity to the freight line.
	Provide accessible toilets on both platforms.	Transport is proposing to provide a family accessible toilet and an ambulant toilet on Platform 2 (Platform 2 is accessible via lift and ramp). Transport has not pursued further investigation into provision of an additional accessible toilet facility on Platform 1 due to customer safety, maintenance and vandalism concerns.
Council's Youth Advisory Committee	Additional safety and security measures needed on and around the station including CCTV, lighting improvements including between the station and the Council commuter car park.	Transport would continue to work with Council to explore opportunities to enhance safety for passengers accessing the Council commuter car park (on the corner of Railway Parade and Saywell Road).
	Vegetation maintenance/removal to improve sight lines.	Feedback has been provided to the maintenance team regarding the need to trim/prune vegetation on Railway Parade more frequently to increase visibility.

In addition, Transport engaged with relevant stakeholders about the relocation of the memorial plaque which is currently located adjacent to the existing station access ramp. Consultation will continue during the detailed design and construction phases to confirm the final location of the relocated plaque.

5.3 Aboriginal community engagement

Transport engaged with Aboriginal and Torres Strait Islander peoples by undertaking collaborative Connecting with Country events to understand the unique and enduring relationship between Aboriginal and Torres Strait Islander peoples and their ancestral lands, waters and natural resources.

Engagement has included a Walk on Country on 28 February 2023 and a Dharawal Traditional Descendants and Knowledge Holders Circle meeting on 23 March 2023.

Table 5-2 Issues raised through Aboriginal community consultation

Group	Issue raised	Response / where addressed in REF
Attendees of the Walk on Country	Elders in Dharawal Country have mobility issues.	The Proposal would improve accessibility of the station in line with legislative requirements to provide fully accessible access to both Platforms from the station forecourt.
	Significance of Country and importance of protecting Aboriginal heritage.	Transport recognises the significance of Country and importance of Aboriginal heritage. As noted in Section 6.4.3, the Proposal would not result in direct impacts to Aboriginal heritage. In addition, the Proposal would include Connecting with Country design elements. The art narrative and development of heritage interpretation strategies would be further developed in the detailed design phase through engagement of the local Indigenous community and key stakeholders.
	Suggestion to include an artwork or story to reflect on the Aboriginal people who lived on the land.	The Proposal would include Connecting with Country design elements. The art narrative and development of heritage interpretation strategies would be further developed in the detailed design phase through engagement of the local Indigenous community and key stakeholders.
Dharawal Traditional Descendants and Knowledge Holders	Request that the Proposal incorporates the teaching of the Lyrebird and shares the stories of the Lyrebird on the Platform.	The Proposal would include Connecting with Country design elements to be further developed in the detailed design phase through engagement with the local Aboriginal community and key stakeholders.

Following engagement, a Connecting with Country Framework for a series of projects within the Safe Accessible Transport program, including this Proposal, was developed. This includes recommendations for future engagement to make sure input from the local Indigenous community is considered in the development of heritage interpretation strategies and the art narrative of the Proposal.

Recommendations from the Connecting with Country framework document are summarised below:

- acknowledge, care and celebrate Country and Connections with Country in the Proposal's design and construction
- acknowledge the Dharawal People and use Dharawal totem and language in the Proposal's design
- continue consultation with local knowledge holders throughout detailed design and construction of the Proposal.

Transport has also undertaken a Stage 1 Aboriginal heritage assessment for the Proposal in line with the Procedure for Aboriginal Cultural Heritage Consultation and Investigations (PACHCI) (Roads and Maritime, 2011). The stages of PACHCI are outlined in Table 5-3.

Table 5-3 Summary of Transport's Procedure for Aboriginal Cultural Heritage Consultation and Investigation

Stage	Description
Stage 1	Initial assessment by Transport.
Stage 2	Site survey and further assessment.
Stage 3	Formal consultation and preparation of a cultural heritage assessment report.
Stage 4	Implement environmental impact assessment recommendations.

The Stage 1 assessment concluded that the Proposal is unlikely to have an impact on Aboriginal cultural heritage (refer to Section 6.4). As such, the remaining stages of the procedure have not been followed.

5.4 SEPP (Transport and Infrastructure) consultation

Part 2, Division 1 of SEPP (Transport and Infrastructure) contains provisions for public authorities to consult with local Councils and other public authorities prior to the commencement of certain types of development. Sections 2.10 to 2.17 of SEPP (Transport and Infrastructure) require that public authorities undertake consultation with Councils and other agencies, when proposing to carry out development without consent.

Campbelltown City Council would be consulted about the Proposal as per the requirements of section 2.10 of SEPP (Transport and Infrastructure). Appendix A contains a SEPP (Transport and Infrastructure) consultation checklist that documents how SEPP (Transport and Infrastructure) consultation requirements have been considered.

Issues raised from this consultation and how they have been addressed for the Proposal would be outlined in the Determination Report prepared for the Proposal.

5.5 SEPP (Precincts – Western Parkland City) consultation

Appendix B contains a consultation checklist that documents that the consultation requirements of SEPP (Western Parkland City) are not required for the Proposal.

5.6 Ongoing or future consultation

At the conclusion of the public display period for this REF, Transport would acknowledge receipt of feedback from each respondent. The issues raised by the respondents would be considered by Transport before determining whether to proceed with the Proposal.

Should Transport determine to proceed with the Proposal, the Determination Report would be made available on the Transport website and would summarise the key impacts identified in this REF, demonstrate how Transport considered issues raised during the public display period, and include a summary of mitigation measures proposed to minimise the impacts of the Proposal.

Should Transport determine to proceed with the Proposal, the project team would keep the community, public transport passengers, Councils and other key stakeholders informed of the process, identify any further issues as they arise, and develop additional mitigation measures to minimise the impacts of the Proposal. The interaction with the community would be undertaken in accordance with a Community Liaison Management Plan to be developed prior to the commencement of construction.

6 Environmental assessment

This section of the REF provides a detailed description of the potential environmental impacts associated with the construction and operation of the Proposal. All aspects of the environment, potentially impacted upon by the Proposal, are considered. This includes consideration of:

- Potential impacts on matters of national environmental significance under the EPBC Act.
- The factors specified in the Guideline for Division 5.1 assessments (DPE 2022) and as required under section 171 of the Environmental Planning and Assessment Regulation 2021. The factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021 are also considered in Appendix A.
- The factors specified under 171A of the Environmental Planning and Assessment Regulation 2021 are also considered in Appendix A.

Site-specific mitigation measures are provided to mitigate the identified potential impacts.

6.1 Traffic and transport

6.1.1 Methodology

The potential traffic and transport impacts during construction and operation of the Proposal have been assessed as part of the Traffic, Transport and Access Impact Assessment (Aurecon, 2024a). This involved qualitatively assessing potential impacts on the road, public transport and active transport during construction and operation of the Proposal through:

- reviewing available traffic data, existing and future land uses, crash data, and public transport information
- identification of potential vehicle generating activities and preparing trip generation forecasts for construction vehicles
- assessing construction traffic and impacts on pedestrians, cyclists, public transport and local road network and access
- identification of mitigation measures to alleviate the identified transport, traffic and access impacts associated with construction and operation of the Proposal.

6.1.2 Existing environment

Road network

Macquarie Fields Station is accessed from Railway Parade. Other key roads that facilitate access to Macquarie Fields Station are Alexander Crescent, Atchison Road, Fields Road, and Saywell Road. Further details on these roads are outlined in Table 6-1.

Figure 3-5 shows the indicative main site access route.

Table 6-1 Summary of key roads that provide access to the Proposal area

Road	Description
Railway Parade	<p>Railway Parade is a local, two-way road with one lane per direction and a posted speed limit of 50 kilometres per hour. Along the road, there is a kiss and ride zone and a bus zone immediately outside of the station entry and an on-street commuter car park nearby dedicated to train passengers.</p> <p>Within the Proposal area, Railway Parade intersects with:</p> <ul style="list-style-type: none"> Alexander Crescent at a priority-controlled (give-way) intersection, with Railway Parade having priority over Alexander Crescent Saywell Road at a priority-controlled intersection (give-way), with Saywell Road having priority over Railway Parade.
Alexander Crescent	Alexander Crescent is a local road which loops around the north-eastern end of Railway Parade. It is a two-way road with one lane in each direction and a posted speed limit of 50 kilometres per hour. There is also a through-site link that runs from Clarence Reserve to the intersection with Clarence Street and Windsor Street which provides pedestrian access to the roads directly north-east of the station.
Saywell Road	Saywell Road is a regional road which runs in an east-west alignment. At its eastern extent it terminates at the intersection with Harold Street and Astelia Street, and at its western extent it terminates at the intersection with Atchison Road and Parliament Road. Outside of this section, it is a local road. At the local road eastern extent, it terminates at the intersection with Atchison Road and Parliament Road, and at the western extent, it terminates at the intersection with Railway Parade. It is a two-way road with one lane in each direction and has a posted speed limit of 50 kilometres per hour within the local road section and 60 kilometres per hour within the regional road section.
Atchison Road	Atchison Road is a regional road which runs in a north-south alignment. At its northern extent, it terminates before the bridge crossing Bunbury Curran Creek, and at the southern extent, it terminates at the signalised intersection with Parliament Road and Saywell Road. It is a two-way road with one lane in each direction and has a posted speed limit of 60 kilometres per hour.
Fields Road	Fields Road is a regional road which runs in a north-south alignment. At its northern extent, it terminates at the intersection with Saywell Road, and at the southern extent, it terminates at the intersection with Kings Road. It is a two-way road with one lane in each direction and has a posted speed limit of 60 kilometres per hour.

Public transport and freight

Macquarie Fields Station is located on the T8 Airport & South Line. The station has two platforms with Platform 1 services running to Central & the City Circle via Revesby and Platform 2 services running to Macarthur. Trains run typically every 15 minutes in both directions. The Southern Sydney Freight Line (SSFL) also operates past Macquarie Fields Station, however it is a freight only railway line. It operates separately from the main passenger rail line, on the western side of the rail line.

Bus services are limited surrounding Macquarie Fields Station. The 876 bus service from Macquarie Fields Station to Eucalyptus Drive (loop service) is operational on weekdays (Monday-Friday) only. It runs infrequently with services approximately every 30 minutes between 5:30–7am and 3:45–6:20pm. There are two school buses, the 3007 bus service from Macquarie Fields Station to Mount Carmel High School and the 4013 bus service from Macquarie Fields High School to Ingleburn. There are additional bus services one kilometre (15-minute walk) away from the station at the Parliament Road opposite Dale Lane bus stop.

Bus stops are provided on both sides of Saywell Road and on both sides of Fields Road. There are also bus zones provided on both sides of Atchison Road.

Active transport

There is limited walking infrastructure leading to and within the Proposal area. Pedestrian footpaths are established on the eastern side of Railway Parade, on the northern side of Saywell Road and partially along Alexander Crescent until Clarence Reserve. There is a footpath providing a through-site link connecting Alexander Crescent to the Clarence Street / Windsor Street intersection via Clarence Reserve directly east of the station. There are no dedicated cycling lanes on Railway Parade, however there are six bicycle hoops and two bicycle hire lockers outside of the station. There are on-road paths for cycling on Saywell Road, Parliament Road, Fields Road and Victoria Road which connect to cycling routes that extend south-west towards Ingleburn and north-east towards Glenfield.

Parking

Macquarie Fields Station has substantial parking within the immediate and surrounding area. There is an on-street commuter carpark with 40 car spaces including six non-compliant accessible spaces provided immediately outside of the station, along the western side of Railway Parade. A Council commuter car park with 140 car spaces is located approximately 100 metres (one-minute walk) from the station on Railway Parade between Alexander Crescent (south) and Saywell Road. A non-accessible kiss and ride zone is also provided outside of the station on Railway Parade with capacity for two vehicles.

Along the eastern side of Railway Parade between the Alexander Crescent intersections, there is generally unrestricted on-street parking available outside of the hours between 6:30-9:30am. There is unrestricted all-day parking on both sides of Railway Parade from the southern leg of the Railway Parade / Alexander Crescent (south) intersection to the cul-de-sac at Milton Park. On the broader road network, there is substantial unrestricted on-street parking along nearby streets. A review of aerial imagery between 2021 and 2024 shows on-street parking utilisation on local roads is generally low throughout the week.

6.1.3 Potential impacts

Construction

Construction traffic and parking

There is expected to be minimal impact on local traffic during construction due to the limited extent of work, and there is not expected to be any impact on the performance of the road network due to the low volume of additional vehicle trips, which are expected to occur outside of network peak periods.

During construction, up to 70 (50 light vehicle trips and 20 heavy vehicle trips) vehicle trips per day are expected during non-possession periods and up to 130 (110 light vehicle trips and 20 heavy vehicle trips) vehicle trips per day are expected during possession periods. This includes construction staff travelling to and from the Proposal area as well as movement of site material and plant and equipment. The trips by construction staff to and from the Proposal site are expected to occur outside of the road network peak periods and are not expected to have any additional impacts on the performance of the road network. Construction waste would also generate construction vehicle movements. For a conservative assessment, it is assumed that all the excavated material would be disposed of using heavy rigid trucks or truck and dog configurations, and this is likely to occur only during the early phases of construction.

Designated access routes for heavy vehicle movements would be via regional and State roads where possible. Where other roads are required, access and loading restrictions would be complied with unless specific exemptions are granted. It is not anticipated that any road upgrades would be required.

Construction vehicles would access the temporary site compound, laydown and storage areas, and rail access gates via Railway Parade. Construction vehicles entering rail access gates may need to enter and exit these gates via traffic control measures to minimise impacts on the local road

network and safety. These traffic movements are expected to be short in duration, of minor impact, and managed through the CEMP.

Full road closures are not expected, although partial road closures may be used for the movement and operation of larger equipment and work, including removal and installation of transformers and removal of trees. Temporary traffic management would also be implemented where necessary to facilitate vehicle access to and from construction sites, mobile cranes and other bulky equipment or materials. Campbelltown City Council would be consulted about any traffic changes and a traffic control plan in accordance with AS1742.3 would be prepared for approval by Council prior to construction. It is anticipated temporary traffic management and traffic changes would be for isolated periods outside of network peak hours (mitigation measure 16).

Emergency vehicle access would not be impeded or modified from the current arrangements during construction. The Contractor would notify emergency services with any changes to access for emergency vehicles during construction (mitigation measure 16). The Contractor would also consult with the local authorities and emergency services to determine the priority access routes within and surrounding the Proposal area.

There would be 15 parking spaces permanently removed (comprised of 12 in the on-street commuter car park on Railway Parade and three on-street parking spaces on the eastern side of Railway Parade), the impacts of which would commence during the construction phase and would be ongoing into operation. Due to the high availability of parking spaces near the station, this would have a minimal impact on parking near the station. Parking impacts from construction worker parking, which are estimated to be up to 20 vehicles during non-possession periods and 50 vehicles during possession periods, are expected to be low throughout the entirety of the construction period given on-street parking utilisation on nearby local roads is generally low throughout the week. Availability of parking spaces may be impacted by partial road closures of Railway Parade, including for the expansion of the station forecourt, construction of six new DDA compliant car spaces, the relocation of existing kiss and ride bays, construction of a kerb extension on the eastern side of Railway Parade, and establishment of a site compound. Mitigation measures would be implemented in accordance with the Construction Transport Management Plan (CTMP) to minimise impacts on the parking in the surrounding area.

There would be no direct impacts to point-to-point connectivity services as there are no existing taxi zones provided at or nearby the Proposal area. Taxi or ride-share services which may use the existing kiss and ride or on-street parking may be indirectly impacted by the minor impact on parking availability or temporary changes to kiss and ride locations during construction.

Public transport

Rail services would not be impacted by the construction work as rail possession periods would be used for work that would potentially impact rail services. Access to station platforms would be maintained throughout construction at all times except during possession periods, and any changes to access through the station would be adequately signposted to enable wayfinding. Platform widening would occur during rail possession periods and therefore have no impact on rail connectivity.

Bus services are not expected to be significantly impacted by the construction work. The existing 'Macquarie Fields Station, Railway Parade' bus stop would likely be temporarily relocated due to temporary partial road closures along Railway Parade to facilitate construction of the station entry/forecourt, including the installation of two accessible bus parking spaces, seating and an accessible waiting area. Changes to access would be adequately signposted to enable wayfinding, and public transport operators would be notified of all changes as per mitigation measure 16.

Active transport

Construction impacts would likely be minor for pedestrians, as access to the station would be maintained during all non-possession periods. There may be temporary changes to how pedestrians and passengers pass the station entry, rail access gates and site compound on Railway

Parade and access the station platforms, and these impacts would be managed by temporary pedestrian management measures including signage, community notifications, station announcements and traffic control where necessary. There would be temporary impacts to cycling infrastructure prior to the relocation of the two existing bicycle lockers and installation of the eight new bicycle hoops. Existing bicycle lockers and bicycle hoops may be temporarily relocated to facilitate works, however access would be maintained during construction. Cyclists may also be required to dismount at select points near construction zones, site compound, rail access gates, or on detour routes. Suitable demarcation, hoarding and fencing would be established, and pedestrians and cyclists would be required to detour from the existing pedestrian pathway. Overall, impacts on active transport are expected to be temporary and minor as alternate arrangements would be provided so that pedestrian and cyclist access is maintained during construction in a safe manner (mitigation measure 16).

Operation

The Proposal would provide an improved user experience and accessibility for pedestrians, including providing a new compliant footpath adjoining the station, new pedestrian crossing from the station forecourt, a new footbridge to improve accessibility to the station platforms, upgrade of the existing ramp and stairs providing access to the station forecourt, and a new accessible pathway through the station forecourt.

The Proposal may have minor impacts on traffic and transport as a result of the following changes:

- The new formalised pedestrian crossing at the station forecourt across Railway Parade may introduce slight delays to vehicles along Railway Parade. However, as this is a local road that is already heavily crossed by pedestrians accessing the station, any impacts on the performance of the road network would be minor.
- The Proposal would relocate the two existing bicycle lockers, to be closer to the station forecourt and provide eight new bicycle hoops south of the station forecourt. However, any impacts to cyclists would be negligible as the double-sided bicycle hoops would be able to accommodate a total of 16 bicycles and is expected to match existing usage.
- The Proposal would relocate the existing bus stop about 40 metres south-west along Railway Parade and provide additional capacity to allow for two buses, seating and accessible waiting areas at the new location. A new accessible pathway would be provided throughout the station forecourt. This is expected to improve access for commuters.
- The Proposal would result in a permanent reduction of 15 car parking spaces:
 - The Proposal would result in the permanent reduction of 12 car parking spaces to accommodate upgrades to the station forecourt including the provision of six accessible parking spaces. The reconfigured accessible parking spaces (with one longer accessible parking space to accommodate accessible community transport vehicles) would be located closer to the new lift providing an accessible path of travel to both platforms. In accordance with AS2890.5 these spaces would be angled at 90 degrees which would ease parking manoeuvres, particularly in the southbound direction.
 - The kerb extension on the east of Railway Parade to accommodate a new pedestrian crossing would remove three on-street car parking spaces.

This work would result in an overall minimal impact to commuter parking due to availability of untimed parking in the station vicinity, with no impacts to parking due to the relocation of the existing kiss and ride area.

6.1.4 Mitigation measures

Standard mitigation measures would be implemented to address traffic, transport and access impacts from the Proposal as outlined in Section 7.2, including requirements for:

- carrying out road and footpath condition surveys and reports prior to construction commencement and repairing any damage resulting from the construction of the Proposal (as detailed in mitigation measure 13)
- obtaining relevant authorisations for the proposed operational changes to Railway Parade (as detailed in mitigation measure 14).

Site specific mitigation measures to address potential traffic and transport impacts identified above are detailed in Table 6-2.

Table 6-2 Site specific traffic and transport mitigation measures

No.	Mitigation measure	Responsibility	Timing
15	The temporary partial road closures and traffic management controls on public roads around the station will be managed and implemented in accordance with the provisions of Road Occupancy Licence(s).	Contractor	Pre-construction / construction
16	Emergency services, public transport operators, and other key users will be notified in advance of all internal and external changes at the station. The public will be advised to allow additional travel time.	Transport/ Contractor	Pre-construction / construction
17	Oversized vehicle movements and routes will be confirmed in advance in consultation with NSW Police, Transport for NSW, and Campbelltown City Council. They will be scheduled with the guidance of the above authorities. Additional traffic controls such as police escorts will be used where needed or directed.	Contractor	Pre-construction / construction
18	Access to bicycle parking would be made available during construction.	Contractor	Construction

6.2 Urban design, landscape and visual amenity

6.2.1 Methodology

The potential urban design, landscape and visual amenity impacts during construction and operation of the Proposal have been assessed as part of the Landscape Character and Visual Impact Assessment (LCVIA) (Aurecon, 2024b).

The following activities were carried out as part of the LCVIA:

- contextual analysis of the Proposal area through a desktop assessment to build an understanding of the current and future land uses near the Proposal and to determine the value of the built and natural environment
- identification of landscape character zones (LCZs), largely based on land zoning within and surrounding the Proposal area, and key viewpoints from sensitive receivers likely to be impacted by the Proposal
- photographing viewpoints via a field survey on 13 June 2024
- preparation of photomontages based on the concept design to demonstrate the effect of the Proposal on key viewpoints upon opening
- assessment of landscape character and visual impacts during construction and operation of the Proposal
- development of mitigation measures to manage and minimise adverse visual impacts as a result of the Proposal.

A radius of 200 metres around the Proposal area was used to determine the LCZs and viewpoints used for the assessment. The viewpoints were selected to represent key views from sensitive receivers within and near the Proposal area and illustrate a range of receiver types, view types (including elevated, panoramic and filtered views) and viewing distances to the Proposal.

The assessment of landscape character and visual impacts is based on the following factors:

- sensitivity (how critically a change to the existing landscape setting would be regarded based on the land use of the area and the distance from where it is viewed)
- magnitude (the scale, size and character of the Proposal and its proximity to the viewer and the degree to which its affect has been mitigated).

An assessment of each LCZ and representative viewpoint has been made using these factors in line with the visual impact rating matrix included in Table 6-3.

Table 6-3 Visual impact rating matrix

Sensitivity	Magnitude				
		High	Moderate	Low	Negligible
	High	High	High-moderate	Moderate	Negligible
	Moderate	High-moderate	Moderate	Moderate-low	Negligible
	Low	Moderate	Moderate-low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

6.2.2 Existing environment

The Proposal area is located along Railway Parade in Macquarie Fields, about 33 kilometres south-west of Sydney’s Central Business District (CBD). The surrounding neighbourhood is mostly low-density residential housing, with an on-street commuter car park on Railway Parade and a Council commuter car park about 100 metres south of the Proposal area. To the north-west of the Proposal area, the Macquarie Links International Golf Club borders the rail corridor, separated by Bunbury Curran Creek. The broader suburb of Macquarie Fields includes educational institutions, recreational facilities and Glenquarie Town Centre shopping centre.

Landscape character zones

Three LCZs have been identified as part of the LCVIA (outlined in Table 6-4 and Figure 6-1).

Table 6-4 Landscape character zones

LCZ and representative image	Description
<p>LCZ 1 – Transport corridor Land zoning: SP2 – Infrastructure</p> 	<p>The station is located adjacent to the residential suburb of Macquarie Fields, with access via Railway Parade.</p> <p>The railway rises above the level of Railway Parade at the northern end of the station, with a grassed embankment facing Railway Parade. The covered walkways, bus shelter and pedestrian footbridge are prominent in this LCZ. The footbridge is equivalent to a three-storey building, in a suburban area with single and double storey houses.</p>
<p>LCZ 2 – Residential Land zoning: R2 – Low Density Residential</p> 	<p>Residential dwellings near the station comprise one- and two-storey dwellings with fenced and landscaped yards and private driveways in this LCZ. There are concrete footpaths and narrow grassed nature strips, with few native trees in the streetscape. Houses to the south end of Railway Parade are newer, with large two-storey dwellings on smaller sub-divided lots and less garden space.</p>
<p>LCZ 3 – Parks and recreation Land zoning: RE1 – Public Recreation, RE2 – Private Recreation, SP2 – Infrastructure (for Bunbury Curran Creek)</p> 	<p>There are two distinct components of this LCZ.</p> <p>To the north-west of the station, the Macquarie Links Golf Club is a highly maintained golf club with rows of planted native trees. The Bunbury Curran Creek traverses through the south area of the golf course as a grassed swale and culvert.</p> <p>To the south-east of the station, a creek flows between Alexander Crescent and Clarence Street. There is dense vegetation and trees, with some weeds, within the creek corridor, with some informal open spaces and walkways.</p>

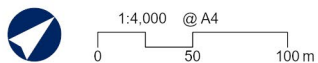
Path: C:\Users\Virgil.Robinson\Aurecon Group\526819 - Safe Accessible Transport program Planning Approvals Contractor - GIS\Pro\P526819_SATP_REF.aprx



Project No: P522314 Map Author: Virgil.Robinson Date: 8/07/2024 Revision: 0

- | | | |
|---------------|----------------------------------|------------------------------|
| Proposal area | Railway | LCZ 2 - Residential |
| Site compound | Watercourse | LCZ 3 - Parks and recreation |
| Train Station | Landscape Character Zones | |
| | LCZ 1 - Transport corridor | |

Source: Aurecon, TINSW, NSW Spatial Services (DCS), ESRI



Projection: GDA2020 MGA Zone 56

Safe Accessible Transport program - Macquarie Fields Review of Environmental Factors

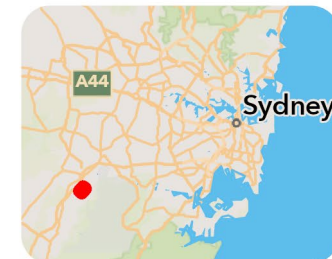



Figure 6-1: Landscape Character Zones

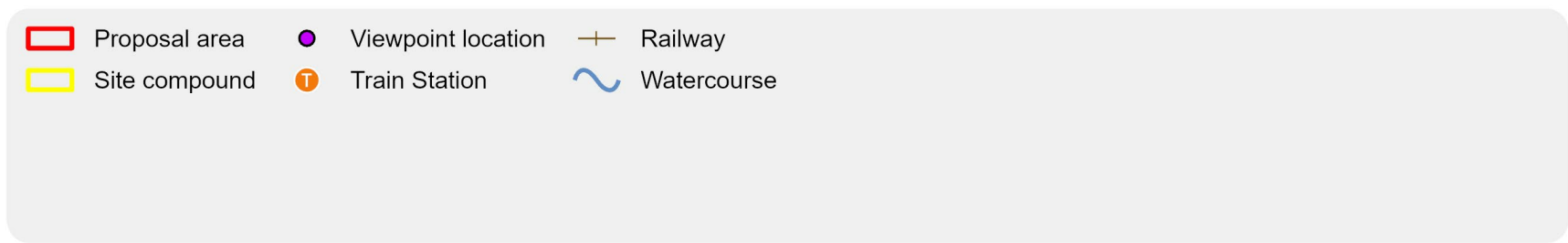
Viewpoints

Four viewpoints have been identified as part of the LCVIA (outlined in Table 6-5 and Figure 6-2).

Table 6-5 Viewpoints -existing

Viewpoint	Description
Viewpoint 1–view looking southwest from 59 Alexander Crescent, Macquarie Fields 	<p>This viewpoint faces the rail corridor, with views of the platforms, on-street commuter car park, overhead power lines, fencing and trains passing regularly. There are partial views of the station building in the distance, mostly screened by trees.</p> <p>The rail line is slightly elevated above the level of the road, with passing trains highly visible in the foreground.</p>
Viewpoint 2–view looking west from outside 276 Railway Parade, Macquarie Fields 	<p>This viewpoint faces the existing station entrance and is representative of the view of the station from nine residential dwellings on Railway Parade, opposite the station. Most of these dwellings have landscaped front yards, with trees that partially obscure views of the station. Station infrastructure visible from this location includes canopies, station access stairs and ramp and the existing footbridge. While there is some planted vegetation, it does not provide much landscape amenity, with the canopy structure more prominent.</p>

Viewpoint	Description
Viewpoint 3 –view from Railway Parade/Saywell Road looking north towards the station 	<p>This viewpoint faces the station from the Railway Parade / Saywell Road intersection and includes rail corridor fencing, on street parking, grassed nature strips, a footpath and the Council commuter car park in the foreground.</p> <p>In the distance, the existing pedestrian footbridge is partially visible. Mature scattered native trees are visible behind the rail corridor, within the Macquarie Links International Golf Club.</p>
Viewpoint 4 –view from the southern end of Platform 1 	<p>This viewpoint is from the southern end of Platform 1. It includes the railway tracks, two concrete platforms, with fencing and light poles. Tree planting screens Platform 2 from Railway Parade. The existing footbridge is visible across the railway tracks.</p> <p>A freight rail line located to the north-west is not accessible to the public. Scattered native trees are also visible in the distance beyond this track.</p>



Source: Aurecon, TfNSW, NSW Spatial Services (DCS), ESRI



Safe Accessible Transport program - Macquarie Fields Review of Environmental Factors

Figure 6-2: Viewpoint locations

6.2.3 Potential impacts

Construction

The construction of the Proposal is anticipated to result in a temporary reduction in the urban design functionality and landscape character of the station and its surrounds. Table 6-6 provides a summary of urban design and landscape character impacts during the construction of the Proposal.

Table 6-6 Construction urban design and landscape character impacts

LCZ	Sensitivity	Magnitude	Overall impact
LCZ 1 – Transport corridor	Low	High	Moderate adverse The transport corridor would be subject to temporary moderate urban and landscape character impacts during construction. Most construction work would be within the existing rail corridor, including the construction of the new pedestrian footbridge and removal of the existing pedestrian footbridge, which would result in a high magnitude of change to the urban and landscape character of this zone.
LCZ 2 – Residential	High	Low	Moderate adverse The residential areas near the Proposal would experience moderate adverse urban design and landscape character impacts, largely due to their high sensitivity to change. There would be smaller changes made along Railway Parade adjacent to the residential areas, with upgrades to the station forecourt, parking and installation of a pedestrian crossing across Railway Parade opposite the existing station entrance. The changes would have minimum impact on pedestrian accessibility, with station access to be maintained, and a low magnitude of change to Railway Parade.
LCZ 3 – Parks and recreation	High	Negligible	Negligible The parks and recreation zone would experience negligible urban and landscape character impacts during construction of the Proposal.

Construction activities would be visible in the identified viewpoints and result in temporary visual impacts during construction. Table 6-7 provides a summary of impacts to viewpoints during construction of the Proposal.

Table 6-7 Construction impacts to viewpoints

Viewpoint	Sensitivity	Magnitude	Overall impact
Viewpoint 1 – view looking southwest from 59 Alexander Crescent, Macquarie Fields	Moderate	Moderate adverse	Moderate adverse The sensitivity of this view is considered moderate as it is representative of the view from residential dwellings towards the station. Construction activities, including demolition work, extension of the existing station building and installation of the new pedestrian footbridge and lifts, would be noticeable to residential receivers near this viewpoint. The site compound would not be visible and background landscape amenity would be retained. This would result in a moderate adverse magnitude of change.
Viewpoint 2 – view looking west from outside 276 Railway Parade, Macquarie Fields	Moderate	Moderate adverse	Moderate adverse The sensitivity of this view is considered moderate as it is representative of the view from residential dwellings opposite the station. During construction, the pedestrian footbridge and some vegetation would be removed, with construction work also occurring in the station forecourt. A new footbridge and lifts would be constructed to the right of this view. Work would be behind site hoarding and partially visible to nearby residents. Access to the station would be maintained, with temporary access arrangements provided as required. This would result in a moderate adverse visual impact.
Viewpoint 3 – view from Railway Parade/Saywell Road looking north towards the station	Moderate	Moderate adverse	Moderate adverse The sensitivity of this view is considered moderate as it is representative of the view from residential dwellings towards the station. During construction, the site compound would be within the rail corridor in the foreground of this view. Construction vehicles and equipment, site offices and laydown areas would be established and surrounded by site hoarding, which would be visible from this viewpoint. This would result in a moderate adverse magnitude of change for residents.
Viewpoint 4 – view from the southern end of Platform 1	Low	Moderate adverse	Moderate-low adverse The sensitivity of this view is considered low as it would be the view of customers temporarily waiting on Platform 1. During construction, the existing pedestrian footbridge visible in the foreground would be removed and the new pedestrian footbridge would be constructed in the background. There would also be platform resurfacing work visible from this viewpoint. This would result in a moderate adverse magnitude of change in this viewpoint.

Operation



The operation of the Proposal would include a new pedestrian footbridge including lifts, the upgraded station interchange facilities and upgrades to the station building and platforms. Table 6-8 provides a summary of the urban and landscape character impacts from operation of the Proposal.

Table 6-8 Operational urban design and landscape character impacts

LCZ	Sensitivity	Magnitude	Overall impact
LCZ 1 – Transport corridor	Low	Low beneficial	<p>Low beneficial</p> <p>The transport corridor would be subject to a low beneficial magnitude of change due to the Proposal as it would:</p> <ul style="list-style-type: none"> • upgrade the station forecourt including improved footpaths, accessible parking, kiss and ride spaces and bus stop, improving pedestrian access to the station • increase canopy cover along the platforms • improve lighting levels underneath canopies • improve wayfinding throughout the station. <p>This combined with the low sensitivity would result in an overall low beneficial impact to this LCZ.</p>
LCZ 2 – Residential	High	Negligible	<p>Negligible</p> <p>The Proposal would not alter the urban form or landscape character of residential areas surrounding the station. As such, it would result in negligible urban and landscape character impacts.</p>
LCZ 3 – Parks and recreation	High	Negligible	<p>Negligible</p> <p>The Proposal would not alter the urban form or landscape character of the parks and recreation areas surrounding the station. As such, it would result in negligible urban and landscape character impacts.</p>

Table 6-9 provides a summary of operational impacts to the identified viewpoints. The photomontages of the Proposal from assessed viewpoints included in Table 6-9 are indicative and subject to detailed design.

Table 6-9 Operational impacts to viewpoints

Viewpoint	
Viewpoint 1 –view looking southwest from 59 Alexander Crescent, Macquarie Fields	
Existing viewpoint	Operational viewpoint
	
<p>Overall impact</p> <p>Sensitivity: Moderate</p> <p>Magnitude: Moderate adverse</p> <p>Visual impact: Moderate adverse impact</p> <p>The sensitivity of this view is considered moderate as it is representative of the view from residential dwellings towards the station.</p> <p>The new pedestrian footbridge and lift shafts would be prominent in this view. The station forecourt would also be more visible, with vegetation removal between the existing station building and Railway Parade.</p>	

Viewpoint

Viewpoint 2 – view looking west from outside 276 Railway Parade, Macquarie Fields

Existing viewpoint



Operational viewpoint



Overall impact

Sensitivity: Moderate

Magnitude: Low beneficial

Visual impact: Moderate-low beneficial impact

The sensitivity of this view is considered moderate as it is representative of the view from residential dwellings opposite the station.

While the station forecourt and entrance in this view would be like the existing, it would have a more modern and open appearance enhanced with landscape planting. Despite being a slightly larger structure, it would have a low beneficial magnitude of change.

The upgrade, whilst providing slightly larger structure is of an improved design aesthetic which is considered a low beneficial improvement. The foreground view would remain to be dominated by the station structures and is considered a low magnitude of change.

Viewpoint

Viewpoint 3 – view from Railway Parade/Saywell Road looking north towards the station

Existing viewpoint



Operational viewpoint

Note: due to there being negligible visual impacts, a photomontage has not been prepared for this viewpoint.

Overall impact

Sensitivity: Moderate
Magnitude: Negligible
Visual impact: Negligible impact

The sensitivity of this view is considered moderate as it is representative of the view from residential dwellings towards the station. Upon completion of construction, the site compound and nature strip would be reinstated. The views towards the station would be similar to the existing views and the new pedestrian footbridge would have a negligible visual impact at this distance.

Viewpoint

Viewpoint 4 – view from the southern end of Platform 1

Existing Viewpoint



Operational viewpoint



Overall impact

Sensitivity: Low

Magnitude: Low beneficial

Visual impact: Low beneficial impact

The sensitivity of this view is considered low as it would be the view of customers temporarily waiting on Platform 1.

The station upgrades visible from the platform include the new pedestrian footbridge, new canopies, extensions to the station building, platform resurfacing and new lighting. While these are similar to the existing rail and station infrastructure, they would have a contemporary design, including use of brick, steel and glass materials. (subject to detailed design).

6.2.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise potential impacts to urban design, landscape and visual amenity and maximise opportunities to improve the urban design and form of the Proposal. This would include requirements to prepare an Urban Design and Landscape Plan (UDLP) and develop a lighting scheme for the Proposal prior to design finalisation.

In addition, the site-specific urban design, landscape and visual amenity mitigation measures outlined in Table 6-10 would be implemented.

Table 6-10 Site specific urban design, landscape and visual amenity mitigation measures

No.	Mitigation measure	Responsibility	Timing
24	Opportunities to include public art (including Indigenous artwork) to enhance community ownership and appreciation of the area's history or cultural connections will be considered during detailed design.	Transport / Contractor	Detailed design
25	During detailed design, opportunities to plant street trees on the northern side of Railway Parade would be investigated to improve streetscape amenity.	Transport / Contractor	Detailed design

6.3 Noise and vibration

6.3.1 Methodology

The potential noise and vibration impacts during construction and operation of the Proposal have been assessed as part of the Noise and Vibration Impact Assessment (SLR, 2024).

The noise and vibration assessment included:

- unattended noise monitoring within and surrounding the Proposal area in June 2024 at the locations shown in Figure 6-3
- defining noise catchment areas (NCAs) based on areas with similar land uses and locations as shown in Figure 6-3
- determining criteria for the potential noise impacts from the Proposal based on the background noise levels measured during unattended noise monitoring
- assessment of worst-case noise impacts at surrounding receivers during the following construction work scenarios:
 - Site establishment and enabling works and demobilising site compounds and work areas (W.001)
 - Vegetation clearing (W.002)
 - Main work – excavation and piling works (W.003)
 - Main work – concrete work around footbridge (W.004)
 - Main work – installation of new footbridge, lift and stairs (W.005)
 - Decommissioning – removal of stairs and footbridge (W.006)
 - Main work – platform works – including resurfacing (W.007)
 - Main work – installation of new platform canopies (W.008)

- Main work – station building modifications (W.009)
- Main work – station access works, footpaths etc (W.010)
- Main work – electrical upgrades (W.011)
- Finishing works – landscaping and furniture (W.012)
- Site compound – general operation (W.013)
- assessment of potential vibration impacts using the *Transport Construction Noise and Vibration Guideline (Public Transport Infrastructure)* (Transport, 2023c) (CNVG) minimum working distances for cosmetic damage and human comfort
- a qualitative assessment of potential noise impacts during operation of the Proposal.

6.3.2 Existing environment

Macquarie Fields Station is in a suburban area, with residential and commercial receivers nearby (refer to Figure 6-3). The closest receivers are residential receivers in Macquarie Fields to the south-east of the station, including receivers on Railway Parade immediately opposite the station. The closest commercial receivers are in Ingleburn, to the south-west of the Proposal area, separated by the railway tracks.

The results of the unattended noise monitoring are included in Table 6-11. The measured existing noise levels are representative of receivers potentially most affected by the Proposal.

Table 6-11 Summary of unattended noise monitoring results

ID	Address	Measured noise level (dBA)					
		Background noise (RBL)			Average noise (L _{Aeq})		
		Day	Evening	Night	Day	Evening	Night
L01	286 Railway Parade, Macquarie Fields	41	41 ¹	40	57	57	56
L02	12 Macquarie Links Drive, Macquarie Fields	42	42 ¹	39	51	50	49

Note 1: The evening RBL has been reduced to match the daytime RBL due to the measured evening RBL being higher than the daytime, as per the NSW Environment Protection Authority's Noise Policy for Industry.



Figure 6-3 Noise catchment areas, receivers and noise monitoring locations (SLR, 2024)

6.3.3 Potential impacts

Construction

Noise impacts during construction have been assessed at sensitive receivers during each construction work scenario outlined in the Noise and Vibration Impact Assessment (SLR, 2024). Impacts have been assessed based on the magnitude of exceedance of noise management levels (NML) identified for standard daytime hours and out of hours work periods. Table 6-12 outlines the NMLs for the Proposal, which have been defined based on the rating background level (RBL) identified during on-site monitoring. Table 6-13 outlines NML exceedances for the different scenarios based on the Transport CNVG perception categories.

Table 6-12 Construction noise management levels

NCA	Receiver type	Noise Management Level (L _{Aeq(15minute)} – dBA)				Sleep disturbance screening criteria (L _{Amax})
		Standard daytime hours (RBL +10 dB)	Out of Hours (RBL + 5 dB)			
			Daytime	Evening	Night	
NCA01	Residential	51	46	46	45	55
NCA02	Residential	52	47	47	44	54
All	Commercial	70 (when in use)				n/a
All	Industrial	75 (when in use)				n/a
All	Educational	55 (external noise level, when in use)				n/a
All	Place of worship	55 (external noise level, when in use)				n/a
All	Child care	50 (external noise level, when in use)				n/a

Table 6-13 NML exceedance levels for construction

Transport CNVG perception categories	NML exceedance	
	Daytime – standard construction hours	Out of hours period
Noticeable	N/A	1–5dBA
Clearly audible	1–10dBA	6–15dBA
Moderately intrusive	11–20dBA	16–25dBA
Highly intrusive	>20dBA	>25dBA

Detailed results of NML exceedances predicted for residential and other sensitive receivers are outlined in Table 17 of the Noise and Vibration Impact Assessment (SLR, 2024). A summary of the assessment outcomes is provided within this section.

During construction, noise impacts are predicted to be the highest when noise intensive equipment is in use and work is near sensitive receivers. These worst-case impacts are, however, generally limited to a relatively small number of the nearest residential receivers and it is predicted this scenario would only occur for a relatively short period. There would often be times where noise impacts are much lower, or noise levels are relatively low and no impacts would occur. Receivers further away from the work would experience lower noise impacts due to increased distance.

During standard daytime hours:

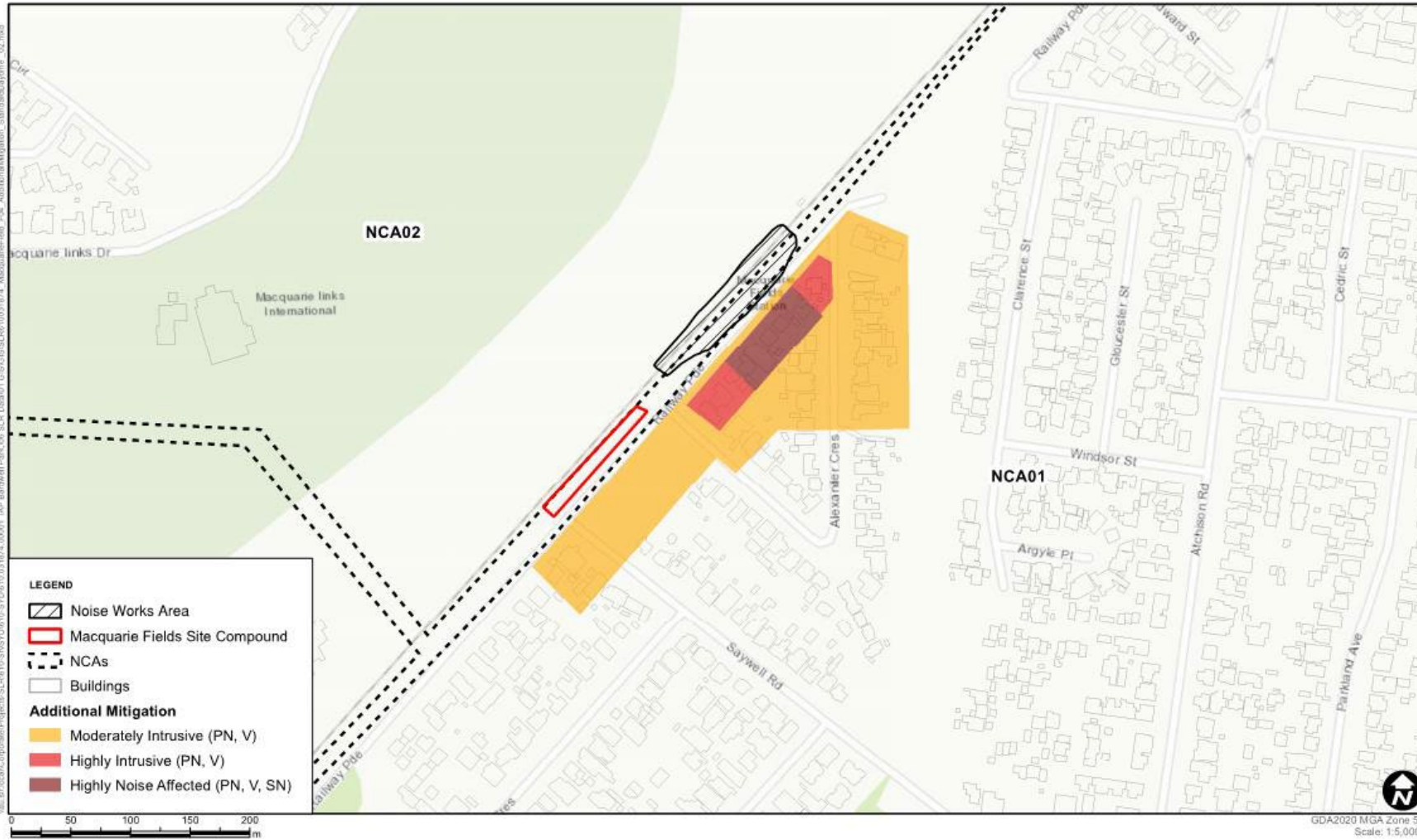
- The highest noise impacts are predicted during 'Vegetation clearing' (W.002) and 'Main work- station access works, footpaths etc' (W.010) at the residential receivers to the south-east of the Proposal area in NCA01, due to the use of noise intensive equipment such as chainsaws, chippers, jackhammers or concrete saws.
- During the 'Vegetation clearing' (W.002) scenario, up to five receivers are predicted to be Highly Noise Affected (noise levels greater than 75 dBA) when chainsaws and chippers are being used. These receivers are located on Railway Parade immediately opposite the Proposal area.
- Seven receivers in NCA01 would experience 'highly intrusive' noise impacts during 'Vegetation clearing' (W.002) and one receiver in NCA01 would experience 'highly intrusive' noise impacts during 'Main work- station access works, footpaths' (W.010).
- 'Clearly audible' to 'moderately intrusive' impacts would occur at the closest residential receivers to the Proposal area during all work scenarios.
- Lower noise impacts would be experienced by residential receivers to the north-west in NCA02.

Figure 6-4 shows receivers that would experience 'moderately intrusive' or 'highly intrusive' noise impacts and receivers that would be Highly Noise Affected during daytime construction work. These receivers would be eligible for consideration of additional mitigation measures, subject to confirmation during detailed design.

Noise impacts during evening and night-time work (i.e. out of hours work) are predicted to be increased compared to daytime work due to more stringent criteria. Residential receivers within NCA01 are expected to experience 'moderately intrusive' impacts during evening construction work. As noted in Section 3.3.3, night-time work is expected to occur during four rail possession periods across four weekends during the construction period. During night-time periods:

- Up to three residential receivers are predicted to experience 'highly intrusive' impacts when noise intensive equipment is in use during the 'Main work- excavation and piling work' (W.003) and 'Main work- platform works, resurfacing' (W.007) scenarios. These receivers are located on Railway Parade to the south-east of the Proposal area in NCA01.
- 'Moderately intrusive' night-time impacts are predicted at residential receivers within about 150 metres of the Proposal area, beyond which the noise impacts experienced by residential receivers would be 'clearly-audible' or 'noticeable'.
- The sleep disturbance screening criterion (55 dBA L_{Amax} for NCA01) is likely to be exceeded when night-time work occurs near residential receivers in NCA01 where 'moderately intrusive' and 'highly intrusive' night-time impacts have been predicted.

Figure 6-5 shows receivers that would experience noise impacts during night-time construction work. These receivers would be eligible for consideration of additional mitigation measures, subject to confirmation during detailed design.



Note: PN = Periodic notification, V= Verification monitoring, SN= Specific Notification.

Figure 6-4 Summary of noise impacts and recommended mitigation –standard daytime hours (SLR, 2024)



Note: PN = Periodic notification, V= Verification monitoring, SN= Specific notification, RO= Respite offer, RP= Respite period, DR= Duration respite, AA= Alternative accommodation.

Figure 6-5 Summary of noise impacts and recommended mitigation – night-time hours (SLR, 2024)

All 'other sensitive' receivers (i.e. non-residential land uses) are predicted to comply with the adopted noise criteria during all construction activities.

The Proposal is expected to require up to 15 heavy vehicle deliveries per day during peak construction periods (being rail possession periods), with fewer deliveries required outside of rail possession periods. The relatively small number of construction vehicles is not expected to have a significant impact on existing road traffic noise levels and therefore is not anticipated to exceed the adopted traffic noise criteria.

Minimum working distances for vibration intensive equipment have been determined in line with the Transport CNVG and are as follows for a vibratory roller, which is considered the main potential source of vibration during construction:

- cosmetic damage – 20 metres
- human comfort – 100 metres.

Figure 6-6 shows buildings within these minimum working distances.

Cosmetic damage impacts are not expected during construction as all residential receiver buildings are outside the minimum working distance for cosmetic damage (being 20 metres for a vibratory roller). Some residential receivers near the Proposal area on Railway Parade, Alexander Crescent and Saywell Road are within the human comfort minimum working distance (being 100 metres for a large vibratory roller). Occupants of affected buildings may be able to perceive vibration impacts at times when vibration intensive equipment is in use. Where impacts are perceptible, they would likely only be apparent for relatively short durations when vibration intensive equipment is in use.



Figure 6-6 Construction vibration minimum working distances (SLR, 2024)

Operation

The dominant source of existing noise within and near the Proposal area is the existing rail network. As the Proposal would not increase the number of trains travelling through the station each day, it is not expected to increase noise generated by trains on the rail network.

While the Proposal would introduce new station infrastructure such as new lifts, stairs and a ramp, these items are not anticipated to generate substantial noise and vibration. In addition, the potential noise from any increase in patronage of the station due to an increase in accessibility would be insignificant when compared to the existing ambient noise environment.

As such, the Proposal is not anticipated to result in operational noise and vibration impacts.

6.3.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise potential noise and vibration impacts of the Proposal. This would include preparation and implementation of a construction noise and vibration management plan (CNVMP), identifying relevant additional mitigation measures from the Transport CNVG to minimise predicted noise and vibration impacts to nearby sensitive receivers. These additional measures that may be considered depending on the level of impacts expected in accordance with the Transport CNVG may include letterbox notifications or phone calls, verification of noise and vibration levels, respite periods, and alternative accommodation, and would be confirmed by the Contractor during preparation of the CNVMP.

In addition, the site-specific noise mitigation measure outlined in Table 6-14 would be implemented.

Table 6-14 Site specific noise and vibration mitigation measures

No.	Mitigation measure	Responsibility	Timing
32	Where noise intensive equipment is to be used near sensitive receivers in NCA01, it is recommended that the work is scheduled for daytime hours. Where this is not possible, then the work shall be scheduled in accordance with the <i>Construction noise and vibration guideline (public transport infrastructure)</i> (Transport for NSW, 2023c) 5.1.2 OOHW hierarchy, and completed as early as possible in each work shift to minimise the potential for night-time impacts.	Contractor	Construction

6.4 Aboriginal cultural heritage

6.4.1 Methodology

Transport prepared a Stage 1 assessment (Transport for NSW, 2024) in line with the PACHCI to assess the risk of potential impacts on Aboriginal cultural heritage from the Proposal. This included a search of the Aboriginal Heritage Information Management System (AHIMS) on 6 March 2024 and a search of the National Native Title Register on 27 June 2024.

6.4.2 Existing environment

The AHIMS search revealed no Aboriginal heritage sites within or near the Proposal area. Additionally, the search of the National Native Title Register returned no results for the Proposal area.

The Proposal is located in an urban environment area that has been highly modified from previous construction of the station. Therefore, it is considered unlikely that any Aboriginal heritage items would be located in the vicinity of the Proposal due to the history of disturbance.

6.4.3 Potential impacts

Construction

Construction of the Proposal would involve some minor excavation work, as outlined in Section 3.3. Ground disturbing work has the potential to impact Aboriginal heritage sites, if present.

However, given no known Aboriginal heritage sites are located within or near the Proposal area and the potential for unknown items to be present is considered low due to past disturbance, the Proposal is considered unlikely to harm Aboriginal cultural heritage during construction.

Operation

No impacts to Aboriginal cultural heritage items are expected as a result of the operation of the Proposal.

6.4.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise potential impacts to Aboriginal cultural heritage from the Proposal. This would include implementation of an Unexpected Heritage Finds procedure if any previously unidentified or unexpected potential Aboriginal objects (including skeletal remains) are discovered during construction as per standard mitigation measure 33.

6.5 Non-Aboriginal heritage

6.5.1 Methodology

Desktop searches of non-Aboriginal (historic) heritage registers were carried out for the suburb of Macquarie Fields on 21 March 2024 and suburb of Macquarie Links on 9 July 2024 for the following databases to identify potential listed historic heritage items within or near the Proposal area:

- World Heritage List
- Commonwealth Heritage List
- National Heritage List
- State Heritage Register (SHR)
- TAHE Section 170 Heritage and Conservation Register
- Campbelltown LEP
- Register of the National Estate.

6.5.2 Existing environment

The desktop searches identified that there are no listed historic heritage items within the Proposal area. The three closest listed historic heritage items near the Proposal area are as follows:

- Macquarie Fields (Bunbury Curran Ck No2) Underbridge (SHI# 4805742), which is listed on the TAHE Section 170 heritage and conservation register, is located in the rail corridor about 140 metres north-east of the Proposal area
- Macquarie Field House (SHR#00424), which is listed on the State Heritage Register, is located about 320 metres north of the Proposal area
- Glenfield (Bunbury Curran Ck No1) Underbridge (SHI# 4805733), which is listed on the TAHE Section 170 heritage and conservation register, is located in the rail corridor about 915 metres north-east of the Proposal area.

6.5.3 Potential impacts

Construction

As there are no known historic heritage items in close proximity to the Proposal, it is unlikely that the Proposal would result in any physical, visual or potential impacts to any non-Aboriginal heritage items.

Operation

No impacts to non-Aboriginal heritage items are expected as a result of operation of the Proposal.

6.5.4 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise potential impacts to non-Aboriginal heritage from the Proposal. This would include implementation of an Unexpected Heritage Finds procedure if any previously unidentified or unexpected potential non-Aboriginal heritage items (including skeletal remains) are discovered during construction as per standard mitigation measure 33.

6.6 Socio-economic

6.6.1 Methodology

A desktop review of the socio-economic characteristics of the Proposal area and its surrounds was carried out to inform an assessment of potential socio-economic impacts during construction and operation. This included a review of existing social infrastructure in the vicinity of the Proposal area, 2021 Census data from the Australian Bureau of Statistics (ABS) for the suburb of Macquarie Fields, and Transport's Transport Performance and Analytics patronage data for Macquarie Fields Station (Transport, 2023d).

6.6.2 Existing environment

Macquarie Fields is a mostly residential suburb with some commercial, recreation and educational facilities. The section of Macquarie Fields near the Proposal area is almost exclusively residential. The closest residential properties to the Proposal are located immediately opposite Macquarie Fields Station on Railway Parade. There are very few businesses close to the Proposal, with no retail or shopfront businesses within 400 metres of the Proposal area. There is the potential for some businesses to be operated from within residential dwellings.

One bus route (route 876) regularly services the station and connects south-eastern parts of Macquarie Fields with the station. This increases the accessibility of the station to residents and commuters accessing the station from other parts of Macquarie Fields. There is a commuter car park managed by Campbelltown City Council between Railway Parade, Saywell Road and Alexander Crescent.

The closest school to the station is Macarthur Adventist College, which is 500 metres north-east of the Proposal area and so is within walking distance of the station. James Meehan High School, Eden College, Guise Public School and Curran Public School are all near stops on the 876 bus route. Staff, parents and students at these schools may use the bus connection to access the station.

A review of the Australian Bureau of Statistics 2021 Census data indicates the suburb of Macquarie Fields has a population of 14,023 people, with a median age of 36 years. Of the employed people within Macquarie Fields, 10.3 per cent use public transport to get to work (with 7.3 per cent travelling by either train or both a train and a bus). According to Transport Performance and Analytics data (Transport, 2023d), the average daily patronage at Macquarie Fields Station in 2023 was 830 customers.

The station also features a memorial plaque adjacent to the existing station access ramp. The memorial plaque has local ties to the community and has social significance for members of the community.

The Macquarie Links International Golf Club is on the north-western side of the station, however there is no public access to the station from the golf club. Public access to the station is only from Railway Parade. The closest recreational space is Clarence Reserve, about 200 metres south-east of the station on Clarence Street. There are large areas of recreational facilities in the south-west of the suburb, including Milton Park, Macquarie Fields Leisure Centre, Macquarie Fields Fitness and Indoor Sports Centre, Bob Prenter Reserve and Bensley Road Reserve.

The Glenquarie Town Centre shopping centre is about one kilometre east of the station on the corner of Victoria Road, Brooks Street and Harold Street. The centre features a range of shops, including supermarkets, department stores, cafes, health and beauty stores, a medical centre and other retail stores. There is also a row of shops on Saywell Street near Fields Road.

6.6.3 Potential impacts

Construction

The construction phase of the Proposal has the potential to result in minor, short-term impacts to customers, pedestrians, nearby residential receivers and motorists due to:

- Temporary disruptions to pedestrian and traffic flow as a result of the temporary partial road closures on Railway Parade and Alexander Crescent to facilitate work to the station forecourt, on-street commuter car park on Railway Parade and kerb ramp upgrades. Pedestrian and traffic movement along these roads would be maintained throughout construction, including regular bus services to the station. Pedestrian access to the station would also be maintained throughout construction, except during possession periods when the station would be closed to the public.
- Minor traffic impacts associated with the delivery of plant and equipment to the station via trucks. These deliveries are expected to occur outside of peak periods so would result in a minor, localised impact near the Proposal area.
- Temporary closure of the station building including the toilet. The impacts to customers would be minimised by the installation of a temporary toilet.
- Temporary amenity impacts due to:
 - Construction activities that use noise or vibration intensive equipment for residential receivers along Railway Parade opposite the station.
 - Noisy work required outside of standard construction hours, which may have adverse impacts on the health and wellbeing of residents.
 - Visual impacts of construction site hoarding, plant and machinery, including lighting for nightwork. This would impact those living near or visiting the Proposal area.
 - Air quality impacts, including an increase in dust levels from vegetation removal and excavations. This may result in nearby residents avoiding using their private residential outdoor spaces, the community avoiding social infrastructure, and impacts to passengers travelling to and from the station. Dust generating activities would not be carried out during windy weather to minimise impacts to nearby receivers.

The memorial plaque would also be temporarily removed from the station precinct during construction to prevent it from being damaged. It would be relocated to be adjacent to the main entrance stairs, subject to further stakeholder consultation during the detailed design stage.

Operation

The operation of the Proposal is anticipated to result in positive socio-economic impacts. These would be associated with:

- Improved access to Macquarie Fields Station for all customers as a result of the installation of the lifts, platform regrading and installation of tactiles, and improved accessibility in the station forecourt due to upgrades to the bus stop, accessible parking spaces, kiss and ride spaces and bicycle parking. This would make the station more accessible for customers travelling from other parts of Macquarie Fields via bus, those with a disability or lower mobility, people with luggage and prams, and customers partially commuting via bicycle.
- Improved customer amenity and facilities at the station, including a family accessible toilet, unisex ambulant toilet, an accessible water refill station, improved CCTV, improved signage and wayfinding, upgrades to the station public address (PA) system and new lighting. This would make the station more inclusive for a broader range of customers and improve amenity and safety at the station.
- Potential increased use of public transport to and from Macquarie Fields Station for people with a disability or lower mobility, people with prams (as about seven per cent of the Macquarie Fields population is aged 0-4 years) and those travelling with luggage. As a result, the Proposal is likely to encourage a broader range of customers to use the station.
- The memorial plaque would be permanently relocated to be adjacent to the main entrance stairs, subject to further stakeholder consultation during the detailed design stage. This would result in positive long-term impacts as the relocation would be carried out in consultation with relevant stakeholders and would allow the plaque's social significance for members of the community to continue to be acknowledged and recognised.

6.6.4 Mitigation measures

Most of the Proposal's socio-economic impacts during the construction phase of the Proposal are anticipated to be managed through standard mitigation measures, which are included in Section 7.2. These include the development of a Community Liaison Management Plan, feedback forums and complaints management procedures. The traffic, noise and vibration, visual and air quality mitigation measures outlined in Section 7.2 would also minimise the Proposal's socio-economic impacts.

One additional site-specific mitigation measure has been identified for the memorial plaque to inform its relocation, as outlined in Table 6-15.

Table 6-15 Site specific socio-economic mitigation measures

No.	Mitigation measure	Responsibility	Timing
40	Transport will carry out further stakeholder consultation during detailed design to confirm final location of the relocated memorial plaque.	Transport	Detailed design

6.7 Biodiversity

6.7.1 Methodology

A desktop review was undertaken to assess potential biodiversity impacts from construction and operation of the Proposal. The following database searches were also carried out to inform potential biodiversity values within the Proposal area:

- BioNet Atlas of NSW Wildlife (EHG, 2024a)
- BioNet Vegetation Classification (EHG, 2024b)
- Protected Matters Search Tool (PMST) (Commonwealth DCCEEW, 2024a)
- Sharing and Enabling Environmental Data (SEED) Portal, the following datasets were consulted: NSW State Vegetation Type Map NSW Extant PCT (DPE, 2023)
- Biodiversity Values Map (NSW DCCEEW, 2024)
- Fisheries NSW Spatial Data Portal (DPI, 2024)
- National Flying-fox monitoring viewer (Commonwealth DCCEEW, 2024b)

A site visit was undertaken by a suitably qualified arborist on 11 June 2024 to assess the potential impacts to trees within the Proposal area for the purpose of an Arboricultural Impact Assessment (Allied Tree Consultancy, 2024). Groundcover, shrub species and habitat features were not assessed during the survey. Given the limited extent of impacts expected from the Proposal, no specific ecological field surveys have been conducted.

6.7.2 Existing environment

The vegetation on either side of the station varies as follows:

- South-east: The environment along Railway Parade within south-east boundary of the Proposal area has been highly modified and is presumed to be planted.
- North-west: The Macquarie Links International Golf Club located to the north-west of the station outside the Proposal area has vegetation characterised as native vegetation and is less urbanised than the Railway Parade side of the Proposal.

The closest waterway to the Proposal area is Bunbury Curran Creek which is about 100 metres from the Proposal area to the north-west. Macquarie Links Lake and an unnamed tributary of Bunbury Curran Creek are also both within about 300 metres of the Proposal.

Tree species within and adjacent to Proposal area

The tree species observed by the arborist within and adjacent to the Proposal area during the field survey are as follows (refer to the Arboricultural Impact Assessment):

- Weeping Red Bottlebrush (*Melaleuca viminalis*) – native species
- Chinese Tallow (*Triadica sebifera*) – exotic species
- Lilly Pilly (*Syzygium smithii*) – native species
- African Olive (*Olea europaea* subsp. *cuspidata*) – exotic species (priority weed)

The arborist survey confirmed none of the identified trees or large shrubs present within the Proposal area are listed threatened species.

No Weeds of National Significance (WoNS) have been identified in the Proposal area (Allied Tree Consultancy, 2024). However, the arborist identified a Priority Weed (for the City of Campbelltown), African Olive (*Olea europaea* subsp. *cuspidata*).

Threatened flora and fauna within and adjacent to Proposal area

The database searches provide an indication of what species and communities may be present, nearby, or, in the case of fauna, utilising the available environment within the Proposal area.

SEED State Vegetation Type Map NSW

A review of the SEED State Vegetation Type Map NSW extant plant community type (PCT) (DPE, 2023) on 18 June 2024 indicates no known PCT occurs within the Proposal area (refer Figure 6-7). Vegetation within the Proposal area and along Railway Parade are likely planted.

Outside the Proposal area, there is a small patch mapped as PCT 3320 Cumberland Shale Plains Woodland immediately north of the Proposal area and a patch of PCT 4024 Cumberland Blue Box Riverflat Forest around 30 metres east from the Proposal area.

These PCTs have associated threatened ecological communities (TECs) as follows:

- PCT 3320 – Cumberland Shale Plains Woodland
 - Cumberland Plain Woodland in the Sydney Basin Bioregion (Critically Endangered Ecological Community (CEEC) under the BC Act)
 - Shale Gravel Transition Forest in the Sydney Basin Bioregion (Endangered Ecological Community (EEC) under the BC Act)
 - Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC under the EPBC Act)
- PCT 4024 – Cumberland Blue Box Riverflat Forest
 - River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (EEC under the BC Act)
 - River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria (CEEC under the EPBC Act).

The EPBC Act PMST search was conducted on 18 June 2024 for a 10 kilometre locality surrounding the Proposal area (Appendix C – EPBC Act PMST Search Results). The PMST report identified 12 TECs, 34 threatened flora species and 67 threatened fauna species that may occur within the Proposal area.

Bionet Atlas Search

The BioNet Atlas search of records for the last 20 years was conducted on 16 June 2024 for a 10 kilometre locality surrounding the Proposal area (Appendix D – BioNet Search Results). The search identified known records of 18 threatened flora species and 32 threatened fauna species within the locality. No threatened species records were located within the Proposal area. The nearest known records of threatened species include:

- Downy Wattle (*Acacia pubescens*), recorded in 2019 about one kilometre from the Proposal area
- Grey-headed Flying Fox (*Pteropus poliocephalus*), recorded within 100 metres of the Proposal area in 2016 with several more records between 2014 and 2023
- Koala (*Phascolarctos cinereus*) recorded on several occasions within one kilometre of the Proposal area between 2004 and 2022.

The closest BioNet records to the Proposal are shown in Figure 6-7. The species listed below have been recorded within two kilometres of the Proposal:

- Fork-tailed Swift (*Apus pacificus*)
- Little Eagle (*Hieraaetus morphnoides*)
- Grey Plover (*Pluvialis squatarola*)
- Powerful Owl (*Ninox strenua*)
- Large Bent-winged Bat (*Miniopterus orianae oceanensis*)
- Cumberland Plain Land Snail (*Meridolum corneovirens*).

It is possible that Microchiropteran bat species may be using the human made structures within the Proposal area (such as the existing footbridge and station canopies). The species listed below have been recorded in the wider locality on BioNet (Appendix D – BioNet Search Results):

- Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*)
- Eastern Coastal Free-tailed Bat (*Micronomus norfolkensis*)
- Large-eared Pied Bat (*Chalinolobus dwyeri*)
- Eastern False Pipistrelle (*Falsistrellus tasmaniensis*)
- Southern Myotis (*Myotis macropus*)
- Greater Broad-nosed Bat (*Scoteanax rueppellii*)
- Little Bent-winged Bat (*Miniopterus australis*)
- Large Bent-winged Bat (*Miniopterus orianae oceanensis*).

National Flying-fox monitoring map

The closest nationally important flying-fox camp is located in Macquarie Fields about 500 metres from the Proposal area, near the unnamed tributary from Bunbury Curran Creek. A total of 194 records of the Grey-headed Flying Fox have been recorded within the 10 kilometre locality. Despite there being records of the Grey-headed Flying Fox nearby and a camp located within 500 metres of the Proposal area, the species is unlikely to utilise the Proposal area. This is due to the limited availability of suitable foraging trees, the high disturbance and urbanisation of the Proposal area, and the abundance of surrounding native vegetation closer to the Macquarie Links International Golf Club.

Biodiversity Values Map

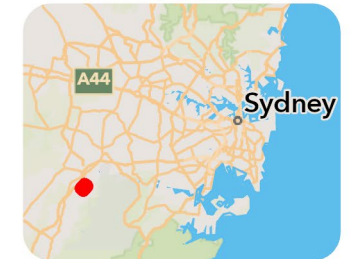
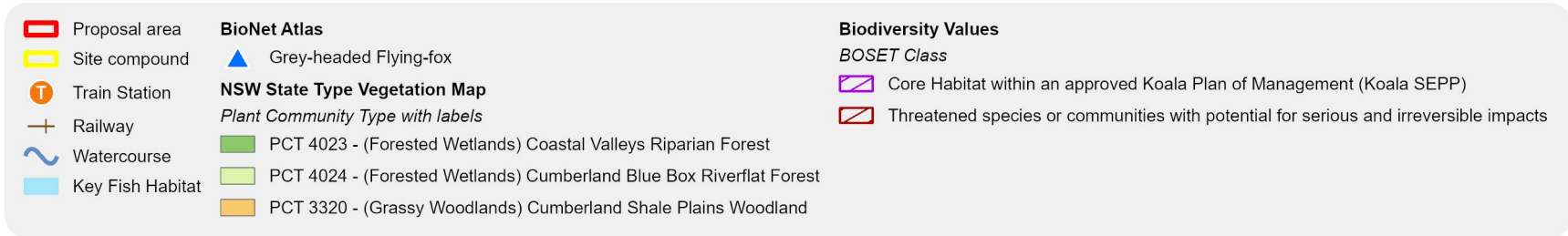
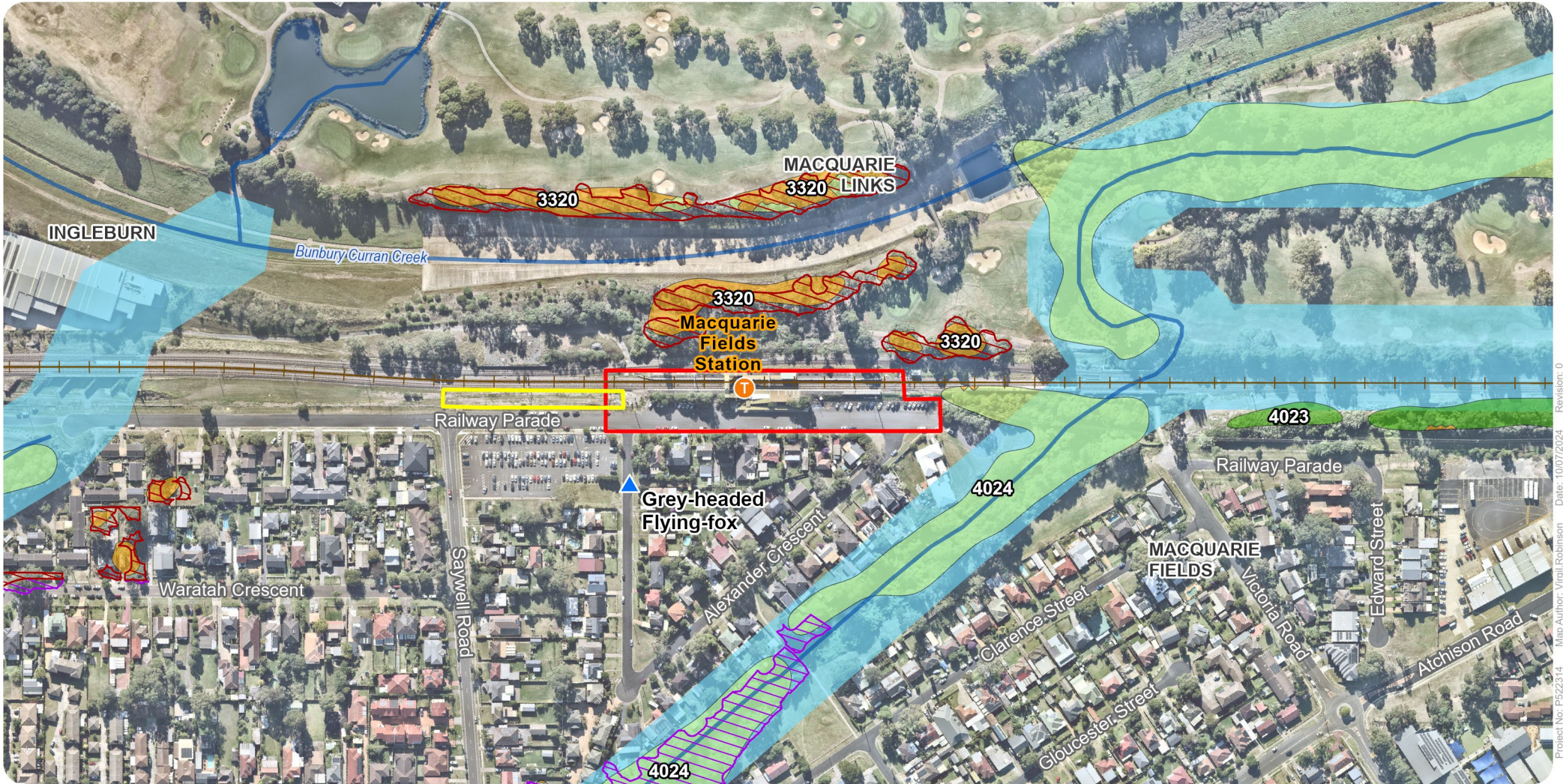
A review of the Biodiversity Values Map on 18 June 2024 indicates that no biodiversity values are mapped within the Proposal area (NSW DCCEEW, 2024). The following biodiversity values are mapped adjacent to the Proposal area:

- “Threatened species or communities with potential for serious and irreversible impacts” mapped 50 metres to the north-west of the Proposal.
- “Core Habitat within an approved Koala Plan of Management (Koala SEPP currently part of the *Biodiversity Conservation SEPP 2021*)” mapped 200 metres to the south-east of the Proposal.

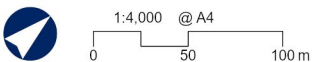
The Biodiversity Values nearby the Proposal are shown in Figure 6-7.

Key Fish Habitat

Key Fish Habitat is mapped within 200 metres of the Proposal (DPI, 2024). At the closest point, the Key Fish Habitat aligns with Bunbury Curran Creek and its unnamed tributary. ‘Poor’ Freshwater Fish Community is mapped along Bunbury Curran Creek within close proximity to the Proposal.



Source: Aurecon, TfNSW, DPHI, NSW Spatial Services (DCS), ESRI



Projection: GDA2020 MGA Zone 56

Safe Accessible Transport program - Macquarie Fields Review of Environmental Factors

Figure 6-7: Biodiversity existing environment

6.7.3 Potential impacts

Construction

The Proposal would require the removal of six trees as summarised in Table 6-16. The removal of six trees along Railway Parade is not expected to have a substantial impact on the overall ecological values of the area as they would not result in the loss of a naturally occurring plant community. The vegetation to be removed at this location can be categorised as urban native/exotic.

No large habitat trees would be cleared. The Proposal would only involve clearing six trees that do not form part of nearby wildlife corridors. Therefore, the tree removal would not bisect an existing patch of native vegetation and would only marginally reduce wildlife connectivity. The arborist assessed trees and woody vegetation over three metres in height, excluding exempt species (i.e. priority weeds).

Table 6-16 Tree removal (Allied Tree Consultancy, 2024)

Tree ID	Scientific name	Common name	Diameter at Breast Height (DBH) (m) of each leader (where trees are forked)	Location	Native, amenity tree or weed	Condition
1	<i>Triadica sebifera</i>	Chinese Tallow	0.47	Railway Parade	Amenity tree	Tree is poorly suited to the location - tree conflicts with adjacent structures, fencing, power pole and power line.
2	<i>Melaleuca viminalis</i> (Formerly <i>Callistemon viminalis</i>)	Weeping Red Bottlebrush	0.18 0.17	Railway Parade	Native amenity tree	Tree is poorly suited to the location. Composed of two leaders, extending from a small stem.
3	<i>Triadica sebifera</i>	Chinese Tallow	0.40 0.18	Railway Parade	Amenity tree	This is two trees sharing a common root mass. This tree is impacting surrounding structures and the covered seating area. This tree is poorly suited to the location.
4	<i>Syzygium smithii</i> (Formerly <i>Acmena smithii</i>)	Lilly Pilly	0.14 0.13 0.13	Railway Parade	Native amenity tree	This is two trees side by side sharing a common root mass and has been repeatedly pruned (hedged) to conform to its surrounds. However, ongoing conflicts are evident.
5	<i>Triadica sebifera</i>	Chinese Tallow	0.30	Railway Parade (eastern side)	Amenity tree	This tree has succumbed to repeated lopping for powerline clearance.
A	<i>Olea europaea</i> subsp. <i>cuspidata</i>	African Olive	0.25	Railway Parade (between Tree 1 and 2)	Weed	Campbeltown City Council considers African Olive a priority weed. Based on the exempt status discussed in the Arboricultural impact assessment, an assessment of this tree has not been undertaken. This tree is considered an exempt species under the provisions of the local Council Tree Preservation Order.

The vegetation that requires removal as part of the Proposal is presented on Figure 6-8.

Although small or difficult to identify threatened flora species that may be impacted by the Proposal have not been identified through a site visit, clearing is limited to six trees located in an already disturbed environment. As such, impacts to threatened biodiversity (i.e. TECs, threatened species and their habitat) is unlikely to occur. Mitigation measures (detailed in Table 7-1) would be implemented to further minimise the potential for impact including pre-clearing survey requirements and an unexpected finds protocol if threatened species are identified. Provided mitigation measures are adhered to, there is expected to be a minor negative impact on native vegetation from the Proposal.

As no vegetation removal is proposed at the temporary site compound, no biodiversity impacts are expected at this location provided standard mitigation measures are adhered to.

Vegetation removal and offsetting would be undertaken in accordance with the *Transport Tree and hollow replacement guidelines* (Transport, 2023b), as detailed in Section 6.7.5, and in consultation with Campbelltown City Council for any trees on council land.

The Urban Design Plan (Jacobs, 2023b) indicates that predominantly native and Indigenous plant species would be selected for replacement vegetation, which would be confirmed during detailed design. The inclusion of planting established native vegetation within the vicinity of the Proposal would have a marginally positive impact as it would enhance biodiversity values in the area. The removal of a priority weed and offsetting with native trees would also contribute positively to biodiversity values.

Native and exotic fauna would likely incidentally use the vegetation within the Proposal area. The two threatened fauna species regularly recorded near the Proposal area are the Grey-headed Flying-fox and the Koala. None of the trees proposed to be removed are considered a 'primary food tree', 'secondary food tree' or 'supplementary species' for Koalas as per the EHG (2024c) Koala habitat and feed trees webpage. The National Recovery Plan for the Grey-Headed Flying Fox (DAWE, 2021) states the importance of maintaining winter and spring feed trees where foraging during these months is usually inadequate. No important winter and spring shrubs or trees would be removed for the Proposal. Therefore, vegetation removal is not expected to impact foraging for the Grey-headed Flying Fox or Koala.

Threatened and other native microchiropteran bat species may be impacted by the removal of human made structures (such as the existing pedestrian footbridge and station canopies) which may be utilised as roosting habitat. Fatality of individuals may occur if no mitigation is implemented prior to work commencing. Impacts would likely be more substantial if work is undertaken in winter as many microbats will torpor/hibernate through winter (notably the Eastern False Pipistrelle and Large-eared Pied Bat). Provided standard mitigation measures are adhered to, no substantial impacts are expected to the surrounding Biodiversity Values (shown on Figure 6-7). However, if the design changes and these areas are expected to be impacted, further assessment may be required.

The biodiversity values that are expected to be impacted by the Proposal are limited in extent. Therefore, provided mitigation measures are adhered to, BC Act Tests of Significance and EPBC Act Assessments of Significance are not considered required. The Proposal is expected to have a minor negative impact on fauna which may include threatened fauna, provided mitigation measures are adhered to.

Indirect impacts

The Proposal may indirectly impact the establishment and spread of weeds due to soil disturbance, excavation, and equipment use that could carry weed propagules. These effects might occur within the Proposal area and adjoining regions mapped as Cumberland Shale Plains Woodland and Cumberland Bluebox Riverflat Forest. If mitigation measures are not implemented, negative impacts from weeds could extend beyond the direct area of vegetation removal. However, any potential effects on adjacent native vegetation from weed establishment are likely to align with the existing use of the station (e.g. maintenance and regular train movement along the corridor). While

the Proposal does not intersect with any waterways, there are waterways (including Key Fish Habitat) downslope of the Proposal. Standard erosion and sedimentation mitigation measures would be implemented to minimise potential impacts to nearby waterways. Further assessment on potential hydrology and flooding impacts and mitigation measures have been provided in Section 6.9.

Construction equipment, vehicle, plant and increased personnel may generate a temporary increase in noise, dust and vibration around the Proposal area. Fauna, notably any fauna using habitat on the Golf Club side of the Proposal, may be disrupted during construction and leave the area either temporarily or permanently. As work would predominately be undertaken during standard construction hours (with some night works), impacts from increased light pollution are expected to be minor.

Operation

The operation of the Proposal would be largely consistent with the existing use of the station. Increased lighting from the Proposal and an increase in the number of customers using the station due to its improved accessibility is not expected to result in any substantial impacts to native fauna. Further, there may be potential positive benefits to flora and fauna with the additional plantings as required by the *Transport Tree and hollow replacement guidelines* (Transport, 2023b).

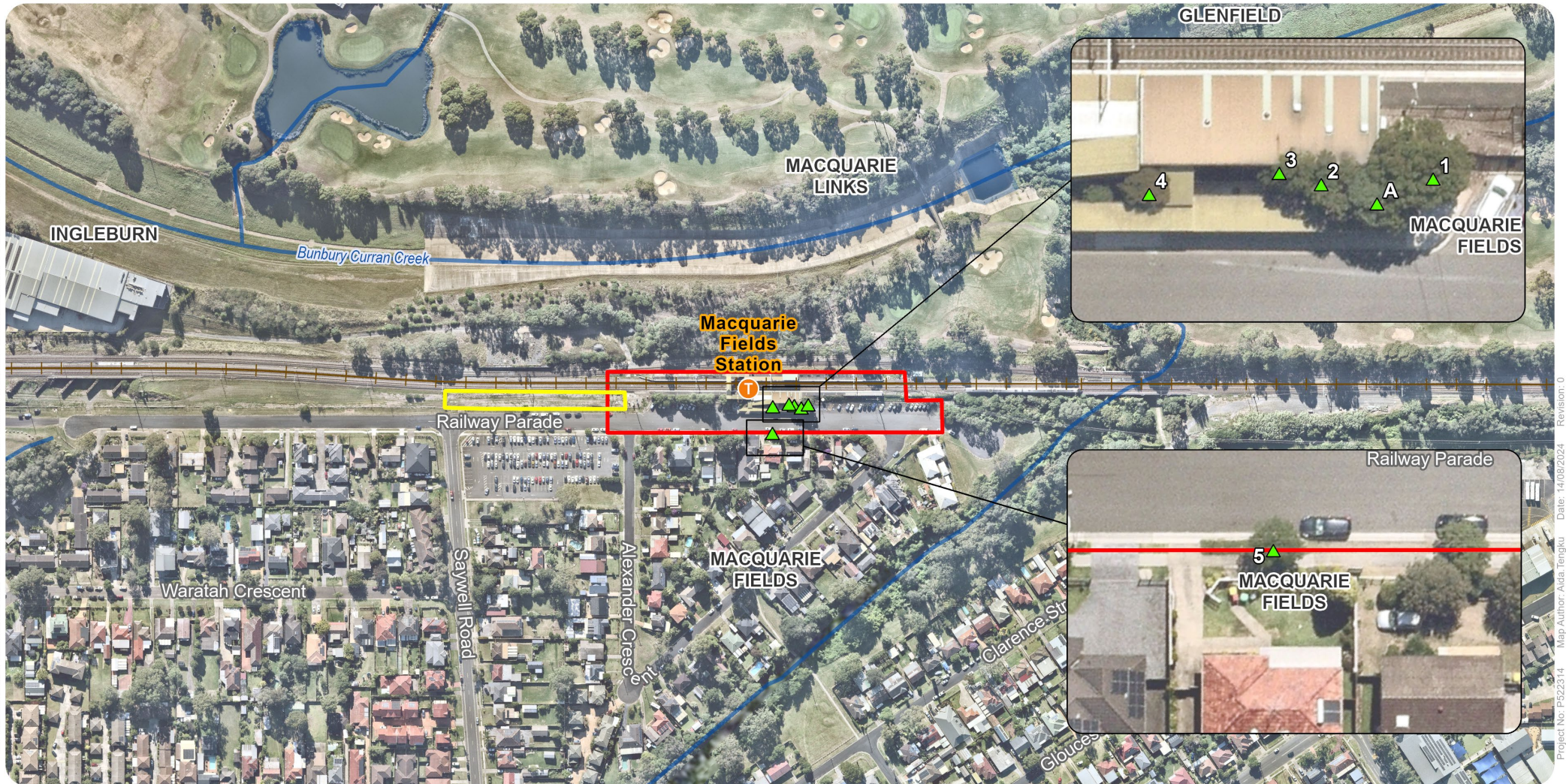
Key Threatening Processes

Key Threatening Processes are listed under Schedule 4 of the BC Act and EPBC Act. There are no relevant Key Threatening Processes that have the potential to affect biodiversity values within the Proposal area. The proposed vegetation removal is not of a scale to cause significant impacts.

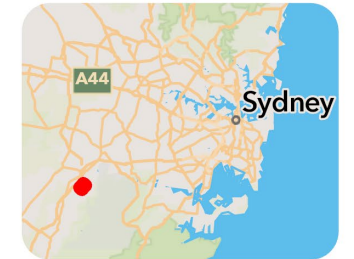
Conclusion on significance of impacts

The Proposal is not likely to significantly impact threatened species or ecological communities or their habitats, within the meaning of the *Biodiversity Conservation Act, 2016* or *Fisheries Management Act 1994* and therefore a *Species Impact Statement* or Biodiversity Development Assessment Report is not required.

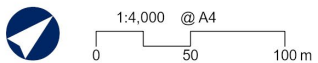
The Proposal is not likely to significantly impact threatened species, ecological communities or migratory species, within the meaning of the EPBC Act.



- Proposal area
- ▲ Tree to be removed
- + Railway
- Site compound
- T Train Station
- ~ Watercourse



Source: Aurecon, TfNSW, NSW Spatial Services (DCS), ESRI



Projection: GDA2020 MGA Zone 56

Safe Accessible Transport program - Macquarie Fields Review of Environmental Factors

Figure 6-8: Vegetation removal

6.7.4 Mitigation measures

Several mitigation measures would be implemented to avoid, minimise and offset potential impacts to biodiversity in accordance with Transport guidelines. Standard mitigation measures include protection of trees and vegetation to be retained through temporary protection measures, including tree protection zones and clearly marking exclusion zones and clearing limits. Other standard mitigation measures to address biodiversity impacts are identified in Section 7.2, including those in relation to noise, dust and vibration.

Additional site specific mitigation measures to manage potential biodiversity impacts from the Proposal are provided in Table 6-17.

Table 6-17 Site specific biodiversity mitigation measures

No.	Mitigation measure	Responsibility	Timing
46	<p>A Flora and Fauna Management Sub-plan shall be prepared as part of the CEMP in accordance with the <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a). It will include, but is not limited to:</p> <ul style="list-style-type: none">Plans showing areas to be cleared and areas to be protectedPre-clearing survey requirementsUnexpected finds protocolWeed and pathogen management protocols. <p>Staff on site will need to be inducted so that there is an awareness for potential threatened species and their habitat and so that they can appropriately safeguard, manage and relocate any fauna if found during surveys.</p>	Contractor	Pre-construction Construction
47	<p>Measures to avoid and/or minimise the removal of native vegetation and/or habitat removal will be investigated during detailed design and implemented where feasible. During vegetation removal, unnecessary removal of groundcover will be avoided where feasible.</p>	Contractor	Detailed design Pre-construction
48	<p>Pre-clearance surveys shall be undertaken by a suitably qualified ecologist at a minimum for microbats in accordance with <i>Guide 1: Preclearing process</i> in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a). If fauna is encountered, this will be undertaken in accordance with <i>Guide 9: Fauna handling</i> in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a).</p>	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
49	Should fauna be encountered during the work, Transport's <i>Guide 9: Fauna handling in Transport's Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a) shall be applied. In the event that threatened species are encountered, Transport's unexpected finds procedure would be followed in accordance with <i>Guide 1: Preclearing process in Transport's Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a).	Contractor	Construction

6.7.5 Biodiversity offsets

Significant impacts are not expected to occur on any nationally or state listed threatened species or ecological communities, therefore offsets would not be necessary in accordance with the Biodiversity Assessment Method and no Biodiversity Offset Strategy would be required.

In accordance with Table 6-18, due to the removal of two small trees and four medium trees (none of which are hollow bearing trees), a total of 20 replacement trees are required to be planted for the Proposal.

This includes the African Olive which Campbelltown City Council considers to be a priority weed species. The African Olive DBH was recorded as 25 centimetres. Therefore, it is considered to be a 'medium tree' requiring four trees to be planted in its removal.

Table 6-18 Tree and Hollow Replacement Guidelines (Transport, 2023b) - replacement requirements

Tree size	Tree replacement requirements
Very large (DBH over 100 cm)	Plant minimum 16 trees
Large (DBH between 50 and 100 cm)	Plant minimum eight trees
Medium (DBH between 20 and 50cm)	Plant minimum four trees
Small (DBH between 5 and 20cm)	Plant minimum two trees
Hollow	Three artificial hollows for every occupied hollow removed

6.8 Contamination, landform, geology and soils

6.8.1 Methodology

The assessment of potential contamination within the Proposal area was informed by a Preliminary Site Investigation (PSI) that was carried out for the Proposal by Cardno (now Stantec) (2022a). The primary objective of the PSI was to assess whether soil contamination has the potential to exist on site and whether further investigation is needed to determine the extent of any contamination. The PSI included a site investigation with limited intrusive sampling of three geotechnical boreholes, one on the north-western side of Platform 1 and two adjacent to the on-street commuter car park on Railway Parade.

A desktop review was also carried out to determine the landform, geology and soil characteristics of the Proposal area and its surrounds including a review of relevant geology, soils and contamination databases.

6.8.2 Existing environment

Macquarie Fields Station is at the boundary of Ashfield Shale of the Wianamatta Group and Hawkesbury Sandstone. It is located at the boundary of Luddenham Erosional and South Creek Alluvial soil landscapes. Luddenham Erosional landscape generally comprises undulating to rolling low hills on Wianamatta Group shales, often associated with Minchinbury Sandstone. South Creek Alluvial landscape is generally floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain (Stantec, 2022b).

A review of the NSW EPA Contaminated Land Register (2024b) and List of Notified Sites (2024a) on 28 June 2024 indicated that the Proposal area is not listed as a contaminated site, nor has the site been subject to any regulation under the *Contaminated Land Management Act 1997*. The closest site to the Proposal on the Contaminated Land Register is Denham Court Caravan Park and Service Station, which is approximately three kilometres west. The closest site to the Proposal on the List of Notified Sites, for which regulation under the *Contaminated Land Management Act 1997* is not required, is Caltex Service Station approximately 1.3 kilometres east.

A search of the eSPADE mapping identified that Macquarie Fields Station is not located on mapped areas of acid sulfate soils (NSW DCCEEW, 1998).

Macquarie Fields Station has been in operation since 1949, however has undergone alterations since then. Alterations to the station building from the 1970s to 2000s have the potential to lead to contamination. The PSI identified the following potential sources of contamination within the Proposal area:

- historical use of uncontrolled fill material in the rail corridor
- historical railway activities including infrastructure.

Based on these sources, potential contaminants within the Proposal area are:

- those associated with railway yards, as identified by Australian Standard AS 4482. 1-2005 – *Guide to the investigation and sampling of sites with potentially contaminated soils – Non-volatile and semi-volatile compounds*, including:
 - hydrocarbons
 - arsenic
 - phenolics
 - heavy metals
 - nitrates and ammonia
 - hazardous building materials (including asbestos, lead paint, polychlorinated biphenyls and synthetic mineral fibres).
- those associated with uncontrolled fill material, including:
 - total petroleum hydrocarbons
 - benzene, toluene, xylene and naphthalene
 - polycyclic aromatic hydrocarbons
 - heavy metals
 - asbestos containing materials
 - organochloride and organophosphate pesticides.

No exceedances of the adopted Tier 1 human health and ecological criteria for commercial/ industrial land use were identified from the soil samples analysed during the PSI for the contaminants of potential concern tested. In addition, no asbestos was detected within any sample.

6.8.3 Potential impacts

Construction

During construction of the Proposal, excavation and other earthwork for construction of the new lift shafts and platform canopy footings, removal of the existing footbridge, kerb modifications and trenching for electrical upgrades would result in the greatest levels of ground disturbance.

Appropriate controls would be implemented to minimise potential for these activities to result in erosion and sedimentation impacts from exposed soil and any stockpiled material, including potential increases in sediment loads entering the stormwater system. This would include implementation of standard mitigation measures as outlined in the 'Blue Book' - *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004).

Excavation work has the potential to expose contaminants which could present a health risk to construction workers and station customers if not adequately managed. The exposure of contaminants would also present an environmental risk associated with contaminants entering nearby waterways via the stormwater network. The Proposal also has the potential to disturb hazardous substances, such as asbestos or lead paint (subject to a hazardous building material survey), from the proposed work within the station building. There is the potential for construction activities to result in the contamination of soil through accidental fuel or chemical spills from construction plant and equipment. However, these potential contamination impacts would be managed with the implementation of standard mitigation measures outlined in Section 7.2.

Operation

Operation of the Proposal is not expected to result in any notable impacts to contamination, geology and soils.

6.8.4 Mitigation measures

Standard mitigation measures that would be implemented to address contamination, landform, geology and soil impacts are detailed in Section 7.2. This includes erosion and sediment control measures, measures for the storage and use of hazardous materials, a hazardous materials survey prior to construction and measures to manage potential contamination or asbestos identified during construction.

6.9 Hydrology and flooding

6.9.1 Methodology

A desktop review of the Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan (Stewart, 2019) was carried out for the concept design of the Proposal to identify existing flood behaviour and the potential impacts of the Proposal on flood conditions. These results were used to inform the drainage and stormwater requirements of the concept design.

Information on groundwater within the Proposal area was also obtained from data collected during borehole drilling and from a monitoring well installed during an intrusive geotechnical investigation carried out for the Proposal (Stantec, 2022b).

6.9.2 Existing environment

Macquarie Fields Station is located between Bunbury Curran Creek (approximately 80 metres to the west) and an unnamed tributary of Bunbury Curran Creek (the former main Bunbury Curran Creek channel, approximately 130 metres to the east) in Macquarie Fields.

Based on the Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan, the maximum flood depth at the station is expected to be approximately 0.3 metres at Railway Parade in the probable maximum flood (PMF) event. Existing built areas of the station

appear to be outside the PMF extent. The northern end of both Platforms is conservatively assumed to be partially within the 1% Annual Exceedance Probability (AEP) flood extent based on the mapping in the Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan.

The groundwater level encountered during borehole drilling was (Stantec, 2022b):

- below 4.2 metres at Borehole 1, which was located near the existing accessible parking spaces to the north of the station entrance
- below three metres at Borehole 2, which was located in the parking spaces south of the proposed bicycle hoops
- below 2.7 metres at Borehole 3, which was located on Platform 1 south of the existing footbridge.

The standing groundwater level recorded on 3 November 2022 in the monitoring well installed at Borehole 1 was 7.2 metres below ground level.

6.9.3 Potential impacts

Construction

There is potential for erosion and sediment impacts to nearby waterways, namely Bunbury Curran Creek and the unnamed tributary of Bunbury Curran Creek given their proximity to proposed activities that would disturb soil during construction (including excavation work during construction of the footbridge foundations and lifts). This impact would be most likely to occur during a high rainfall event that would increase water flows through the Proposal area. This impact would be minimised through implementation of erosion and sediment controls during construction as per standard mitigation measure 52 outlined in Section 7.2. As such, any residual impact following implementation of mitigation measures would be minor and localised.

In a high rainfall event, there is potential that flooding may disrupt construction activities. During a 1% AEP flood event, there may be impacts to the northern end of both platforms. Weather forecasts would be regularly monitored during construction. If the potential for flooding within the Proposal area is identified, work would cease and equipment and materials would be removed from areas susceptible to flooding prior to the flood event. Other parts of the Proposal area and site compound are outside the 1% AEP flood extent, meaning that it is unlikely that there would be substantial flood impacts in these areas during 1% AEP flood event.

Accidental spills or inadequate fuel and chemical storage practices may result in localised contamination of local water quality. This impact would be minimised through implementation of mitigation measures for the storage and use of hazardous materials, and controlled refuelling of plant and equipment. As such, any impacts on water quality from spills or chemical storage are expected to be minor and localised.

As platform foundations are expected to be 1.6 metres deep at selected locations, the lift shafts expected to be 1.4 metres deep and pile caps expected to be between one and three metres deep, the Proposal is unlikely to intercept groundwater during most earthworks and excavation activities. Minor volumes of groundwater may enter deeper excavations if earthworks extend into the groundwater table. While this could lead to leaching of pollutants to groundwater, large volumes of dewatering or groundwater extraction is unlikely to be required. Should groundwater be encountered during excavation, it would be managed in accordance with Transport and NSW EPA guidelines.

Operation

The Proposal would result in minor adjustments to stormwater drainage, including provision of new stormwater drainage connections from the new canopies and connecting new kerbs along Railway Parade to the existing drainage system. As these connections would generally be providing like-

for-like connections to the existing stormwater drainage network, the upgrades are not expected to substantially increase the volume of water entering the local stormwater drainage network.

Regrading and resurfacing of the platforms and the regrading of Railway Parade are not expected to have a significant impact on hydrology or flooding. This is because regrading work would be relatively minor and limited to levelling out footpaths and platforms in areas where the existing surfaces are currently steeper than legislative accessibility requirements.

Widening of Platform 1 may cause a minor loss of flood storage from the increased hardstand area and associated runoff. However given the limited extent of the widening, any changes to the existing flooding patterns at the station are expected to be minor.

The Proposal is anticipated to have little impact on the hydrology of the surrounding area and would not lead to a substantial increase in impervious surfaces. Impacts on hydrology and flooding would be limited to the minor changes to stormwater drainage, regrading and widening of Platform 1.

No impacts to groundwater are expected during operation of the Proposal.

6.9.4 Mitigation measures

Standard mitigation measures would be implemented to address potential hydrology, flooding impacts surface water and groundwater impacts as detailed in Section 7.2. This would include procedures for appropriate storage and use of hazardous materials, refuelling of vehicles and flood management during construction.

In addition, site specific mitigation measures to confirm and manage potential impacts on flooding from the Proposal are included in Table 6-19.

Table 6-19 Site specific hydrology mitigation measures

No.	Mitigation measure	Responsibility	Timing
57	Weather forecasts will be regularly monitored during construction. If the potential for flooding within the Proposal area is identified, work will cease and equipment and materials would be removed from areas susceptible to flooding.	Contractor	Construction

6.10 Greenhouse gas

6.10.1 Methodology

Transport generally utilises the Transport Carbon Tool for tracking and reporting carbon throughout design and construction phases of project development. The Transport Carbon Tool has been designed to help standardise greenhouse gas assessment and reporting throughout project delivery. The tool assesses scope 1, scope 2 and scope 3 emissions. The three scopes as defined by the National Greenhouse Emissions Reporting Scheme (Clean Energy Regulator, 2023) are described in Table 6-20.

Table 6-20 Greenhouse Gas (GHG) emission scopes

Emission	Definition
Scope 1	Scope 1 GHG emissions are the emissions released to the atmosphere as a direct result of an activity, or series of activities at a facility level related to the Proposal. Scope 1 emissions are sometimes referred to as direct emissions.
Scope 2	Scope 2 GHG emissions are the emissions released to the atmosphere from the indirect consumption of an energy commodity. For example, 'indirect emissions' come from the use of electricity produced by the burning of coal in another facility.
Scope 3	Scope 3 GHG emissions are indirect GHG emissions other than scope 2 emissions that are generated in the wider economy. They occur as a consequence of activities of a facility, but from activities not owned or controlled by the facility's business, for example the extraction and production of purchased materials.

The GHG emissions from construction of the Proposal would be assessed using the Transport Carbon Tool in detailed design and construction.

6.10.2 Existing environment

The transport sector accounts for 19 per cent of NSW's greenhouse gas emissions. Although 77 per cent of the transport sector emissions are associated with users of the road network, Transport's direct operations account for only five per cent of the sector emissions.

6.10.3 Potential impacts

Construction

The construction of the Proposal would result in the generation of GHG emissions through:

- minor vegetation removal of six trees between Railway Parade and the station, reducing the carbon sequestration capacity of the local environment
- the decomposition of green waste and mulch, releasing carbon dioxide
- direct emissions of carbon dioxide, methane and nitrous oxide from the use plant and equipment emitting exhaust fumes
- production and use of materials that have high embodied energy content such as concrete and steel.

Most of these emissions would be Scope 1 emissions from diesel consumption for site vehicles and mobile site and equipment.

It is noted that Sydney Trains network operates with net zero emissions from electricity consumption. Electricity sourced from the network during construction would result in lower levels of generation of GHG emissions. In addition, the Proposal would be designed to improve energy efficiency of the station, including through lighting design and use of energy efficient equipment (where possible).

Operation

The operation of the Proposal would result in the generation of GHG emissions through maintenance of the Proposal which includes infrastructure and pavement repairs and fuel use for the operation of the plant and equipment to perform the maintenance activities.

6.10.4 Mitigation measures

Opportunities to reduce emissions associated with both construction and operation will be investigated and implemented throughout detailed design and construction. Standard mitigation measures to address greenhouse gas impacts are identified in Section 7.2, including the requirement to carry out a carbon footprint exercise during detailed design using Transport Carbon Tool.

6.11 Climate resilience

6.11.1 Methodology

Transport's climate change risk assessment approach is outlined in Table 6-21 below.

Table 6-21 Climate change risk assessment approach (Transport for NSW)

Type	Assessment step	Mitigation measures
Climate risk pre-screening	Pre-screening	The first stage of the pre-screening process determines whether the project is likely to be impacted by climate change, through assessing historical and current exposure.
	Risk screening	The second stage of screening aims to identify potential exposure to relevant future climate change impacts.
	Risk assessment	Formulate the risk scenarios using the relationships identified in the pre-screening and risk screening stage. Each risk scenario is then analysed in detail by assigning a 'likelihood' and 'consequence' rating. Existing controls/standards should be identified and residual risk ratings selected.
Detailed climate risk assessment and evaluation (undertaken where the screening identifies extreme, very high or high risks)	Risk evaluation	The purpose of risk evaluation is to identify which of the risks require treatment. Treatments designed to mitigate the risks should be applied to residual risks evaluated as extreme or high. Risks evaluated as negligible or low do not require any further consideration.
	Risk treatment / adaptation	Involves the development of risk treatments that can reduce the residual risk rating so that at a minimum, no high, very high, or extreme risks remain after an adaptation pathway has been identified.

A Detailed Climate Change Risk Assessment has been undertaken for the Proposal which followed the approach outlined in Table 6-21 to determine the climate-related risks for the Proposal.

6.11.2 Existing environment

Globally average air temperature has warmed by over 1.2 ± 0.1 °C since records began in 1850 (based on 2020 data). Despite La Niña cooling conditions, 2020 was one of the three warmest years on record and the last decade is the warmest on record.

Increasing global mean temperatures and changes to the average climate system, driven primarily by higher carbon dioxide levels due to human influence, lead to higher frequency and intensity of extreme weather events globally and in Australia. Significantly, the projected recurrence and intensity of extreme weather events can occur much faster and have a more significant impact than changes to the average climate system state.

In Australia, nine out of the top ten warmest years ever recorded have occurred since 2005, with 2019 marking the warmest year on record for NSW. Penrith in western Sydney reached 48.9 °C on the 4th of January 2020, the highest observed in an Australian metropolitan area.

Climate change has impacted Australia and NSW by increasing the severity and frequency of heatwaves, bushfires, extreme rainfall, flooding and landslides, drought, and extreme winds and cyclones.

In summer, Macquarie Fields experiences extreme heat with several days per year above 40°C. This is linked to its inland location in Western Sydney away from cooling coastal breezes, and an enhanced urban heat island effect due to a lack of green space and high coverage of heat-absorbing surfaces such as asphalt and concrete. While Macquarie Fields Station is not situated in bush fire prone land, dense bushland near Long Point about three kilometres south-east of the Proposal area presents a severe bushfire risk. In addition, flash flooding can occur near the station with little prior warning. Climate change projections for Macquarie Fields indicate that it is projected to experience hotter temperatures, more frequent extreme temperatures, heavier rainfall during extreme events, more time spent in drought, and more extreme wind speeds.

6.11.3 Potential impacts

Construction

The potential impacts of climate change are expected to be minimal due to the relatively short timeframe of the construction phase of the Proposal, as described in Section 3. For this reason, a risk assessment for the construction phase of the Proposal is not warranted.

Transport standard risk management controls carried out during construction would be sufficient to manage any risk associated with current climatic conditions.

Operation

The frequency and severity of climate risks to the Proposal is dependent on the climate variables detailed in Section 6.11.2. Adaptations developed during detailed design would be implemented to build resilience to climatic variables that may affect the performance, operating life and/ or use of the Proposal infrastructure. This includes consideration of measures to improve the Proposal's resilience to more frequent extreme temperatures, rainfall and wind speeds.

6.11.4 Mitigation measures

Standard mitigation measures to address climate resilience impacts are identified in Section 7.2. This would include appointment of a Sustainability Officer to oversee implementation of sustainability objectives for the Proposal and development of a Sustainability Management Plan (SMP) to detail the approach to managing sustainability requirements and opportunities during design and construction.

6.12 Other impacts

The following section describes other impacts that may occur when constructing and operating the Proposal.

6.12.1 Existing environment and potential impacts

Table 6-22 summarises other potential impacts of the Proposal including waste and resource use, air quality and hazards and risks.

Table 6-22 Other potential impacts

Environmental factor	Existing environment	Potential impacts
Waste and resource use	Macquarie Fields Station currently contains general waste bins and recycling bins on each platform. There is a bin storage area accessible off Railway Parade on the south-eastern side of the station. Waste is removed from site by licenced waste contractors and disposed of at licenced waste facilities.	<p>Construction</p> <p>During construction of the Proposal, the following waste streams are anticipated to be generated:</p> <ul style="list-style-type: none"> • excavated material • demolition waste (bricks, concrete, steel) • electrical wiring and conduit waste • packaging from the delivery of materials • green waste • general waste from construction workers. <p>As is outlined in Section 3.2.3, waste would be reused or recycled where possible. Standard mitigation measures to address waste and resource use impacts are identified in Section 7.2, including the development of a Waste Management Plan.</p> <p>Operation</p> <p>The Proposal is not anticipated to result in increased waste during operation. Bins would be reinstated as required on the platforms. The bin storage area would be relocated to an out of sight location below Platform 2. This would allow for improved waste management practices for all users of the station.</p>

Environmental factor	Existing environment	Potential impacts
Air quality	<p>Based on the existing land uses surrounding the Proposal, the existing air quality is characteristic of an urban environment with transport emission influences. The Proposal is located within the Sydney South West monitoring region, with the closest air quality monitoring station to the Proposal being the Liverpool air quality monitoring station (located about seven kilometres north). A search of air quality data on 2 July 2024 at the Liverpool monitoring station shows mostly 'good' air quality in relation to particulate matter (PM), nitrogen dioxide, carbon monoxide, ozone and sulphur dioxide, with some 'fair' measurements for PM2.5 (particulate matter less than 2.5 micrometres in diameter) in June 2024 and 'fair' or 'poor' measurements for PM10 (particulate matter less than 10 micrometres in diameter) in June 2024.</p> <p>Potentially affected receivers within the vicinity of the Proposal include:</p> <ul style="list-style-type: none">passengers at Macquarie Fields Stationlocal residentsusers of the Macquarie Links International Golf Clubpedestrians walking along Railway Parade and other nearby streets.	<p>Construction</p> <p>Construction activities for the Proposal may result in the generation of dust and emissions from:</p> <ul style="list-style-type: none">loading and transfer of materials from trucksuse of on-site machinery and vehiclesexcavation of the new lift shafts and platform canopy footings, removal of the existing footbridge, kerb modifications and trenching for electrical upgradesplatform building modifications and platform regrading. <p>However, construction of the Proposal would have minimal air quality impacts as it would not involve extensive excavation and any dust or emissions are anticipated to be localised, minor and short-term in duration. Appropriate localised measures would be implemented to manage dust impacts from excavations.</p> <p>Operation</p> <p>Overall impacts of air quality during the operation of the Proposal are considered minimal as the Proposal would not result in a significant change in land use.</p> <p>Standard mitigation measures, which outlines measures to be incorporated into the CEMP to manage air quality impacts, are identified in Section 7.2.</p>

Environmental factor	Existing environment	Potential impacts
Hazard and risk	<p>The Proposal area is not located on land mapped as bushfire prone. The nearest section of bushfire prone land mapped by the NSW Rural Fire Service is about 100 metres north-east of the Proposal area, which is mapped as Vegetation Category 2 (low risk) and Vegetation Buffer.</p> <p>As noted in Section 3.5, utilities including water and communications services pass through the Proposal area.</p> <p>Existing hazards at Macquarie Fields Station include the potential for customers to fall from the platform onto the railway tracks and hazards associated with pedestrians walking along Railway Parade near moving vehicles.</p> <p>The existing steep and non-compliant ramp access to Platform 2, stair only access to Platform 1, and the uneven platform grade presents hazards for customers with accessibility needs.</p>	<p>Construction</p> <p>Construction activities that may increase bushfire risk during construction include mulch stockpiling, hot work such as welding and fuel/chemical storage. As these activities would occur within the Proposal area and site compound away from bushfire prone land, and there is no contiguous vegetated connection to bushfire prone land, the Proposal is not expected to result in bushfire impacts. There may also be temporary disruption to utilities during construction if relocation is required. This would be managed in consultation with utility providers to minimise disruptions to customers.</p> <p>Operation</p> <p>The operation of the Proposal would reduce safety hazards for customers with accessibility needs. The construction of lift access and the new ramp would improve safe access to the station for all customers, while the regrading of the platforms would reduce existing risks for customers with accessibility needs during operation of the Proposal. The new pedestrian crossing across Railway Parade would improve safety for pedestrians crossing the road, particularly during peak periods at the station when there are move vehicle movements on Railway Parade. Other Proposal features such as platform TGSIs, hearing induction loops and the extension of canopies to the boarding assistance zones would also reduce safety risks for customers with accessibility needs.</p> <p>The Proposal would not result in permanent changes to bushfire impacts or ongoing utilities during operation.</p> <p>Standard mitigation measures to address hazards and risk impacts would be incorporated into the CEMP, as outlined in Section 7.2.</p>

6.12.2 Mitigation measures

Standard mitigation measures outlined in Section 7.2 would be implemented to minimise impacts to waste and resource use, air quality and hazards and risk as part of the Proposal.

6.13 Cumulative impacts

6.13.1 Study area

The cumulative impact assessment has considered projects within the suburb of Macquarie Fields.

6.13.2 Broader program of work

Cumulative impacts occur when two or more projects are carried out concurrently and in close proximity to one another. The impacts may be caused by both construction and operational activities and can result in a greater impact to the surrounding area than would be expected if each project was undertaken in isolation. Multiple projects undertaken at a similar time/similar location may also lead to construction fatigue, particularly around noise, traffic and air quality impacts, if not appropriately managed.

The nearest stations proposed for upgrade as part of the Safe Accessible Transport program are Bardwell Park Station (located around 23 kilometres north-east), Lewisham Station (located around 26 kilometres north-east) and Chester Hill Station (located around 16 kilometres north-east).

6.13.3 Other projects and developments

A search of the Department of Planning and Environment's Major Projects Register, Sydney and Regional Planning Panel Development and Planning Register, and Campbelltown City Council Development Application Register on 3 July 2024 identified no projects with the potential for cumulative impacts alongside the Proposal within Macquarie Fields.

The Traffic, Transport and Access Impact Assessment (Aurecon, 2024a) completed for this Proposal identified a future project outside Macquarie Fields. Glenfield Waste Services Resource Recovery Facility (SSD-6249) is approximately five kilometres north-east of the Proposal and has been proposed since 2015. The project has not yet been approved and construction timeframe is not yet confirmed. No cumulative impacts are anticipated given unconfirmed project timing and its distance from the Proposal.

6.13.4 Mitigation measures

Standard mitigation measures to address cumulative impacts are identified in Section 7.2. The potential cumulative impacts associated with the Proposal would be further considered as the design develops and as further information regarding the location and timing of potential developments is released. Appropriate mitigation strategies would be incorporated into the CEMP.

7 Environmental management

This chapter describes how the Proposal would be managed to reduce potential environmental impacts during detailed design, construction and operation. A framework for managing potential impacts is provided. A summary of site-specific environmental mitigations is provided and the licence and/or approval requirements required prior to construction are listed.

7.1 Environmental management plans (or system)

Mitigations measures have been identified in the REF in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the Proposal. Should the Proposal proceed, these mitigations measures would be incorporated into the detailed design and applied during the construction and operation of the Proposal.

A Construction Environmental Management Plan (CEMP) would be prepared to describe the mitigations measures identified. The CEMP would provide a framework for establishing how these measures would be implemented and who would be responsible for their implementation.

The CEMP would be prepared prior to construction of the Proposal and must be reviewed and certified by the TE&SR, prior to the commencement of any on-site works. The CEMP would be a working document, subject to ongoing change and updated as necessary to respond to specific requirements. The CEMP would be developed in accordance with the specifications set out in Section 7.2.

7.2 List of mitigation measures

Mitigation measures outlined in this REF would be incorporated into the detailed design phase of the Proposal and during construction and operation of the Proposal, should it proceed. These mitigation measures would minimise any potential adverse impacts arising from the proposed works on the surrounding environment. The mitigation measures are listed in Table 7-1.

Table 7-1 Mitigation measures

No.	Mitigation measure	Responsibility	Timing
General			
1.	<p>Construction Environmental Management Plan</p> <p>A Construction Environmental Management Plan (CEMP) shall be prepared and implemented prior to the commencement of construction which addresses the following matters, as a minimum:</p> <ul style="list-style-type: none"> a) project risk assessment including environmental aspects and impacts b) high level traffic and pedestrian management (noting a separate Traffic Management Plan (TMP) may be required subject to other Transport requirements) c) urban design, landscape character and visual amenity d) noise and vibration management, including traffic noise generated by the Proposal e) water and soil management (including flood and high rainfall event management) f) air quality management (including dust suppression) g) Aboriginal and non-Aboriginal heritage management h) biodiversity management i) storage and use of hazardous materials j) contaminated land management (including acid sulfate soils) k) weed management l) waste management m) bushfire risk n) environmental incident reporting and management procedures o) non-compliance and corrective/preventative action procedures p) details of approvals, licences and permits required to be obtained under any other legislation for the Proposal. <p>The CEMP shall:</p> <ul style="list-style-type: none"> i. detail how the Contractor shall comply with the Conditions of Approval, mitigation measures, conditions of any licences, permits or other approvals issued by government authorities for the Proposal, all relevant legislation and regulations, and accepted best practice management ii. comply with the relevant requirements of <i>Environmental Management Plan Guideline – Guideline for Infrastructure Projects</i> (NSW Department of Planning Industry and Environment, 2020) 	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
	<p>iii. include an environmental compliance matrix for the Proposal (or such stages of the Proposal as approved by the Transport Environment and Sustainability Representative (TESR)) that details compliance with all relevant conditions and mitigation measures</p> <p>iv. include an Environmental Policy.</p> <p>The CEMP shall be reviewed and updated at six monthly intervals (unless otherwise approved with the TERS) and in response to any actions identified as part of the TERS's review of the document or in response to scope changes or modifications. Updates to the CEMP shall be made within seven days of the completion of the review or receipt of actions identified in the Transport review of the document.</p> <p>The CEMP must be approved by the DES or delegate prior to the commencement of construction and following review, and be implemented for the construction.</p>		
2.	<p>Environmental Controls Map</p> <p>An Environmental Controls Map (ECM) shall be prepared in accordance with Transport's Environmental controls map guideline (Transport, 2023) prior to the commencement of construction for implementation for the construction. The ECM is to be approved by the TERS and may be prepared in stages, as set out in the CEMP.</p> <p>A copy of the ECM shall be submitted to the TERS for review and written approval in accordance with mitigation measure 4.</p> <p>The ECM shall be prepared as a map – suitable for enlargement to both A0 and A3 sizes to be mounted on the wall of a site office and included in site inductions, supported by relevant written information.</p> <p>Updates to the ECM shall be made within seven days of the completion of the review or receipt of actions identified by any TERS audit of the document and submitted to the TERS for written approval.</p>	Contractor	Pre-construction
3.	<p>Site Induction</p> <p>Prior to the commencement of construction, all contractors will be inducted on the key project environmental and sustainability risks, procedures, mitigation measures and conditions of approval. The induction shall be given by the Environmental Personnel and as a minimum will include:</p> <ul style="list-style-type: none"> • details of the approved ECM as required by mitigation measure 2 and where the ECM is located on site, and a briefing on the CEMP as required by mitigation measure 1 • information on the protection measures to be implemented to protect vegetation, penalties for breaches and location of areas of sensitivity • preliminary identification of Aboriginal cultural heritage material. This training will include information such as the importance of Aboriginal cultural heritage material and places to the Aboriginal community, as well as the legal implications of removal, disturbance and damage to any Aboriginal cultural heritage material and sites. <p>A heritage induction informing contractors of the location of known heritage items and guidelines to follow if unanticipated heritage items or deposits are located during construction.</p>	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
4.	<p>Transport Environmental Management Approvals</p> <p>Requirements for documents, plans or programs which must be reviewed and approved by the TESR (including the CEMP) are outlined in the mitigation measures. All reviews and approvals associated with these mitigation measures shall meet the following requirements (unless otherwise approved by the TESR or DES or if specifically noted in a mitigation measure):</p> <ul style="list-style-type: none"> a) completed consultation with government agencies and relevant service/utility providers and evidence of consultation submitted with the plan b) a copy of the plan submitted to the TESR for review at least 21 days prior to commencement of Construction or the related works being commenced c) any comments made by the TESR in accordance with b) must be adequately addressed prior to submission for approval d) a copy of the plan submitted to the TESR to obtain written approval from the DES at least five days prior e) periodic review and update of the plan submitted to the TESR for written approval <p>Construction must not commence until the DES has provided written approval of the plan/s.</p>	Contractor	Pre-construction
5.	<p>Environment Personnel</p> <p>Suitably qualified and experienced environmental management personnel shall be available and be responsible for implementing the environmental objectives for the Proposal, including undertaking regular site inspections, preparation and implementation of environmental documentation and ensuring the Proposal meets the requirements of the Environmental Management System (EMS).</p> <p>Details of the environmental personnel, including relevant experience, defined responsibilities and resource allocation throughout the Proposal (including time to be spent on-site/off-site) are to be submitted for the written approval of the DES, at least 21 days prior to commencement of construction of the Proposal (or such time as otherwise approved by the DES).</p> <p>Any adjustments to environmental resource allocations (on-site or off-site) are to be approved by the DES.</p>	Contractor	Pre-construction and construction
6.	<p>Service Relocation</p> <p>Service relocation will be undertaken in consultation with the relevant authority. Existing services and exclusion zones shall be identified on the ECM and on site to avoid direct impacts during construction.</p>	Contractor	Pre- construction and construction
7.	<p>Detailed Design Validation</p> <p>A detailed design validation report (DDVR) for the Proposal shall be prepared and submitted at each design stage to detail how compliance is achieved against:</p> <ul style="list-style-type: none"> • the final Proposal description • all design mitigation measures detailed in the REF • any conditions of approval in the determination report for the Proposal. <p>A final DDVR shall accompany the Approval for Construction (or equivalent) submission.</p> <p>The Proponent shall:</p> <ul style="list-style-type: none"> a) submit a copy of the DDVR to the TESR for review b) update and submit a DDVR revision at each design stage or as required, including as the design progresses 	Contractor	Pre-construction and following each design phase

No.	Mitigation measure	Responsibility	Timing
	<p>c) the TESR is to be given a minimum period of seven days to review and provide any comments to the Proponent in relation to the DDVR.</p> <p>Upon completion of the final TESR review period a copy of the DDVR will be submitted to the DES (or nominated delegate) for written approval. The DDVR will be submitted to Transport for review and Confirmation that the design achieves compliance.</p>		
8.	<p>Environmental Incident Procedure</p> <p>Where non-compliances or incidents arise, an event report must be completed in the Transport incident management system and returned to the Principal's Representative in accordance with 'EMF-EM-PR-0001 Environmental Incident Procedure'.</p>	Contractor	Construction
9.	<p>Proposal Modifications</p> <p>Any modifications to the Proposal (as defined in this REF and/or future Determination Report), requiring an amendment REF (as determined by the TESR), will be subject to further assessment and approval by Transport. This assessment will need to demonstrate that any environmental impacts resulting from the modifications have been mitigated. The further assessment must be submitted and approved prior to commencement of works relating to the modification.</p>	Contractor	As required
10.	<p>Proposal Changes</p> <p>Any modifications to the Proposal (as defined in this REF and/or future Determination Report), which may be amended by a consistency assessment (as determined by the TESR), if approved, will be subject to further assessment and approval by Transport. This assessment will need to demonstrate that any environmental impacts resulting from the change have been minimised. The further assessment must be submitted to Transport six weeks prior to commencement of works relating to the modification.</p>	Contractor	As required
11.	<p>Modification/Change Register</p> <p>A project modification/change register shall be created and maintained throughout the project to identify project changes or modifications. The register will be updated and submitted at each design stage or as required, including as the design progresses. The register will be submitted to TESR for review of changes and direction on the approval pathway these changes or modifications should apply.</p>	Contractor	As required
12.	<p>Construction Environmental Compliance Report</p> <p>A Construction Environmental Compliance Report (CECR) for the Proposal shall be prepared which addresses the following matters:</p> <ul style="list-style-type: none"> a) compliance with the Construction Environmental Management Plan (CEMP) and these conditions b) compliance with any approvals or licences issued by relevant authorities for the construction of the Proposal c) implementation and effectiveness of environmental controls (the assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP) d) environmental monitoring results, presented as a results summary and analysis e) details of the percentage of waste diverted from landfill and the percentage of spoil beneficially reused f) number and details of any complaints, including summary of main areas of complaint, actions taken, responses given and intended strategies to reduce recurring complaints (subject to privacy protection) 	Contractor	Pre-construction and construction

No.	Mitigation measure	Responsibility	Timing
	<p>g) details of any review and amendments to the CEMP resulting from construction during the reporting period</p> <p>h) any other matter as requested by the DES.</p> <p>The CECR shall:</p> <p>i. be submitted to the TESR for review. Be submitted to the DES for written approval upon completion of the TESR review period.</p> <p>The first CECR shall be submitted to the TESR four weeks prior to construction commencing and will include a pre-construction environmental compliance matrix for the Proposal that details compliance with all relevant conditions and mitigation measures. The succeeding CECRs shall be submitted at six monthly intervals for the construction and be submitted within four weeks of expiry of that period (or at any other time interval approved by the DES). The final CECR shall detail compliance with all Conditions of Approval, licences and permits required to be obtained under any other legislation for the Proposal. Each revision of the CECR shall be submitted to the TESR for review and written approval in accordance with mitigation measure 4.</p>		
Traffic and transport			
13.	<p>Road Condition Reports</p> <p>Prior to construction commencement, road condition surveys and reports on the condition of roads and footpaths to be affected by construction shall be prepared and provided to Transport for information. Any damage resulting from the construction of the Proposal, aside from that resulting from normal wear and tear, shall be repaired at the Contractor's expense.</p>	Contractor	Pre-construction and post-construction
14.	<p>Authorisation for Road Use</p> <p>Relevant authorisation(s) from the appropriate road authority will be obtained for the proposed operational changes to Railway Parade, such as changes to parking, bus stops, pedestrian crossing arrangements and signage.</p>	Contractor	Operation
15.	The temporary partial road closures and traffic management controls on public roads around the station will be managed and implemented in accordance with the provisions of Road Occupancy Licence(s).	Contractor	Pre-construction / construction
16.	Emergency services, public transport operators, and other key users will be notified in advance of all internal and external changes at the station. The public will be advised to allow additional travel time.	Transport/ Contractor	Pre-construction / construction
17.	Oversized vehicle movements and routes will be confirmed in advance in consultation with NSW Police, Transport for NSW, and Campbelltown City Council. They will be scheduled with the guidance of the above authorities. Additional traffic controls such as police escorts will be used where needed or directed.	Contractor	Pre-construction / construction
18.	Access to bicycle parking would be made available during construction.	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
Urban design, landscape and visual amenity			
19.	<p>Urban Design and Landscape Plan</p> <p>An Urban and Landscape Design Plan (UDLP) shall be prepared by the Contractor, in consultation with Council and other asset owners, and submitted to Transport for written approval by the Urban Design Public Transport and Precincts team, prior to finalisation of the detailed design. The UDLP shall:</p> <ol style="list-style-type: none"> demonstrate a robust understanding of the precinct through a comprehensive site analysis, including connectivity with street networks, mode change locations, active transport, and pedestrian movement identify opportunities and constraints establish precinct specific principles to guide and test design options consider Crime Prevention Through Environmental Design (CPTED) principles, including night-time safety of customers and the community, and the safety of station staff. be aligned with the “TAP Urban Design Plan Guidelines (Draft 2018)” and “Around the Tracks - urban design for heavy and light rail (Dec 2016 Interim Issue)”. consider opportunities for: <ol style="list-style-type: none"> Connecting with Country integrated heritage interpretation and adaptive reuse public art safety improvements specify opportunities for community feedback and engagement on design elements address Transport Sustainable Design Guideline evidence requirements be prepared by a suitably qualified and experienced urban design professional <p>The UDLP is to include a Public Domain Plan for the preferred design option and will provide analysis of the:</p> <ol style="list-style-type: none"> landscape design approach including design of pedestrian and bicycle pathways, street furniture, interchange facilities, new planting and integration of any artwork Materials Schedule including materials and finishes for proposed built works, colour schemes, paving and lighting types for public domain, fencing and landscaping an Artist’s Impression or Photomontage to communicate the proposed changes to the precinct <p>The following design guidelines are available to assist and inform the UDLP:</p> <ul style="list-style-type: none"> TAP Urban Design Plan, Guidelines, Transport NSW, Draft 2018 Commuter Car Parks, Urban Design Guidelines, Transport for NSW, Interim 2017 Managing Heritage Issues in Rail Projects Guidelines, Transport for NSW, Interim 2016 Creativity Guidelines for Transport Systems, Transport for NSW, Interim 2016 Water Sensitive Urban Design Guidelines (Transport for NSW June 2023) <p>The UDLP is to be submitted to Transport and written approval by the Urban Design Public Transport and Precincts team.</p>	Contractor	Prior to design finalisation

No.	Mitigation measure	Responsibility	Timing
20.	<p>Transport's Design Review Panel</p> <p>At 30% design stage, the design will be presented to Transport's Design Review Panel. Transport's Design Review Panel is an independent, multi-disciplinary panel of eminent experts who provide impartial design review and recommendations. This will contribute to achieving design excellence in respect to place making, built form, urban and landscape design and Connecting with County aspects of the project.</p>	Contractor	Prior to design finalisation
21.	<p>Lighting Scheme</p> <p>A lighting scheme for the construction and operation of the Proposal is to be developed by a suitably qualified lighting designer and prepared in accordance with relevant standards. The lighting scheme shall address the following as relevant, but not limited to:</p> <ul style="list-style-type: none"> a) consideration of lighting demands of different areas b) consideration of outcomes of Safer Cities consultation (where applicable) c) strategic placement of lighting fixtures to maximise ground coverage d) use of LED lighting e) meet benchmark requirements of IS Essentials f) demonstrate that light spill and glare has been minimised to sensitive receivers by directing lighting into the station/car park/other infrastructure type g) control systems for lighting that dim or switch-off lights settings according to the amount of daylight the zone is receiving h) motion sensors to control low traffic areas i) allowing the lighting system to use low light or switch off light settings while meeting relevant lighting Standards requirements, and j) ensuring security and warning lighting is not directed at neighbouring properties. <p>The proposed lighting scheme is to be submitted to Transport's technical team for acceptance prior to design finalisation.</p>	Contractor	Prior to design finalisation
22.	<p>Worksite Compounds and Hoardings</p> <p>Worksite compounds will be screened for the construction with shade cloth that has Transport for NSW branding, unless approved otherwise by the Transport Community and Stakeholder Engagement Manager, to minimise visual impacts from key viewing locations. Temporary hoardings, barriers, traffic management and signage will be removed as soon as practicable and safety requirements allow. This material should comply with <i>The Infrastructure Project Style Guide November 2022</i> (Transport for NSW, 2022).</p> <p>Work will be conducted behind temporary hoardings/screens wherever practicable. The installation of construction hoarding will take into consideration the location of residential receivers to ensure that 'line of sight' is broken, where feasible.</p> <p>Inclusion of public art or heritage information on site hoarding will be considered to connect the construction work areas with the local community.</p>	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
23.	Graffiti and Advertising Hoardings, site sheds, fencing, acoustic walls around the perimeter of the site, and any structures built as part of the Proposal shall be maintained free of graffiti, or any advertising not authorised by Transport, during the construction period. Graffiti and unauthorised advertising shall be removed or covered within the following timeframes unless otherwise approved by Transport: <ul style="list-style-type: none"> a) offensive graffiti will be removed or concealed within 24 hours b) highly visible (yet inoffensive) graffiti will be removed or concealed within a week c) graffiti that is neither offensive or highly visible will be removed or concealed within a month d) any unauthorised advertising material will be removed or concealed within 24 hours. 	Contractor	Construction
24.	Opportunities to include public art (including Indigenous artwork) to enhance community ownership and appreciation of the area's history or cultural connections will be considered during detailed design.	Transport / Contractor	Detailed design
25.	During detailed design, opportunities to plant street trees on the northern side of Railway Parade will be investigated to improve streetscape amenity.	Transport / Contractor	Detailed design
Noise and vibration			
26.	Construction Noise and Vibration Prior to commencement of construction, a Construction Noise and Vibration Management Plan (CNVMP) shall be prepared and implemented in accordance with the requirements of the EPA's <i>Interim Construction Noise Guideline</i> (Department of Environment and Climate Change, 2009), Transport's <i>EMF-NV-GD-0060 Construction noise and vibration guideline (public transport infrastructure)</i> (Transport for NSW, 2023c) and the Noise and Vibration Impact Assessment for the Proposal (SLR, 2024). The CNVMP shall include, but not be limited to: <ul style="list-style-type: none"> a) details of construction activities and an indicative schedule for construction b) identification of construction activities that have the potential to generate noise and/or vibration impacts on surrounding land uses, particularly sensitive noise receivers c) detail what reasonable and feasible actions and measures shall be implemented to minimise noise impacts (including those identified in the REF) d) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise and vibration complaints e) an Out of Hours Work Protocol (OOHWP) for the assessment, management and approval of works outside the standard construction hours identified in mitigation measure 28 of this approval, including a risk assessment process which deems the out of hours activities to be of low, medium or high environmental risk, is to be developed. All out of hours works are subject to written approval by the DES or as approved by EPA (where relevant to the issuing of an EPL). The OOHWP should be consistent with the Transport <i>Construction noise and vibration guideline (public transport infrastructure)</i> (Transport NSW, 2023c) f) a description of how the effectiveness of actions and measures shall be monitored during the proposed works, identification of the frequency of monitoring, the locations at which monitoring shall take place, recording and 	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
	<p>reporting of monitoring results and if any exceedance is detected, the manner in which any non-compliance shall be rectified</p> <p>The CNVMP shall consider and outline measures to reduce the noise and vibration impacts from construction activities. Where practicable at source measures including by construction planning/staging and equipment selection shall be prioritised over at receiver measures. Reasonable and feasible mitigation measures include:</p> <ul style="list-style-type: none"> regularly training workers and contractors (such as at the site induction and toolbox talks) on the importance of minimising emissions and how to use equipment in ways to minimise noise and vibration avoiding any unnecessary emissions when carrying out manual operations and when operating plant ensuring spoil is placed and not dropped into awaiting trucks or other plant/vehicles avoiding/limiting simultaneous operation of noisy or vibratory plant and equipment within discernible range of a sensitive receiver where practicable switching off any equipment not in use for extended periods e.g. heavy vehicles engines will be switched off whilst being unloaded avoiding deliveries at night/evenings or other sensitive times wherever practicable no idling of delivery trucks ensuring truck drivers are informed of designated vehicle routes, parking locations and acceptable delivery hours for the site minimising talking loudly; no swearing or unnecessary shouting, or loud stereos/radios onsite; no dropping of materials from height where practicable, no throwing of metal items and slamming of doors maximising the offset distance between noisy or vibratory plant and sensitive receivers and maintaining safe working distances for workers directing noise-emitting plant away from sensitive receivers regularly inspecting and maintaining plant to avoid increased noise levels from rattling hatches, loose fittings etc use of quieter and less vibration emitting construction methods where feasible and reasonable non-tonal movement alarms (or an equivalent mechanism) fitted and used on all construction vehicles and mobile plant regularly used on-site (i.e. greater than one day) and for any out of hours work. 		
27.	<p>Property Condition Surveys</p> <p>The purpose of a property condition survey is to provide a clear record for comparison in case landowners have concerns about damage to property which they feel may have been caused as a result of construction work.</p> <p>Subject to landowner agreement, property condition surveys shall be completed prior to the commencement of piling, excavation or bulk fill or any vibratory impact works including jack hammering and compaction (Designated Works).</p> <p>Surveys are to be offered to owners of:</p> <ol style="list-style-type: none"> all buildings/structures/roads within a distance of 50 metres from the edge of the Designated Works (measured in a straight line) all heritage listed buildings and other sensitive structures within 150 metres from the edge of the Designated Works. <p>Surveys are to be undertaken prior to the commencement of the Designated Works and again immediately upon completion of the Designated Works.</p>	Contractor	Pre-construction and post-construction

No.	Mitigation measure	Responsibility	Timing
	<p>Owners of assets to be surveyed are to be contacted via letter at least 14 days prior to the intended commencement of property condition surveys. Letters of offer are to include the scope and methodology of the survey, and the process for making a claim regarding property damage should post-work property condition surveys confirm damage at the fault of the project.</p> <p>Property condition surveys need not be undertaken if a risk assessment indicates that selected buildings/structures/roads identified in (a) and (b) will not be affected as determined by a qualified geotechnical and construction engineering expert with appropriate registration on the National Professional Engineers Register prior to commencement of Designated Works and provided to Transport. Evidence of a risk assessment must be provided to Transport for agreement prior to commencement of Designated Works.</p> <p>A copy of the survey(s) shall be given to each affected owner and Transport. A register of all properties surveyed shall be maintained.</p> <p>Any damage to buildings, structures, lawns, trees, sheds, gardens, etc. as a result of construction activity direct and indirect (i.e. including vibration and groundwater changes) shall be rectified at no cost to the owner(s).</p>		
28.	<p>Standard Construction Hours</p> <p>Construction activities shall be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays except for the following works which are permitted outside these standard hours:</p> <ul style="list-style-type: none"> a) any works which do not cause noise emissions to be more than 5dBA higher than the rating background level (RBL) at any nearby residential property and/or other noise sensitive receivers b) out of hours work identified and assessed in the REF or the approved OOHWP c) the delivery of plant, equipment and materials which is required outside these hours as requested by police or other authorities for safety reasons and with suitable notification to the community as approved by the DES d) Emergency Work to avoid the loss of lives, property and/or to prevent environmental harm e) any other work as approved by the DES and considered essential to the Proposal, or as approved by EPA (where an EPL is in effect). 	Contractor	Construction
29.	<p>Special Audible Characteristics Activities</p> <p>As per the <i>Construction noise and vibration guideline (public transport infrastructure)</i> (Transport for NSW, 2023c), construction activities with special audible characteristics will be limited to standard hours, and start no earlier than 8am unless otherwise approved by the DES in accordance with the Transport Construction Noise and Vibration Strategy.</p> <p>Rock breaking or hammering, jack hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel and any other activities which result in impulsive or tonal noise generation shall not be undertaken for more than three continuous hours, followed by a minimum one hour respite period, unless otherwise approved to by the DES.</p> <p>Note. <i>Special audible characteristics</i> refers to noise with characteristics that can cause annoyance and disturbance, containing noticeable factors such as tonality, low frequency noise, impulsive or intermittent noise events. These characteristics may not be considered noisy in a quantitative sense.</p>	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
30.	<p>Vibration Criteria</p> <p>To avoid structural impacts as a result of vibration or direct contact with structures, the proposed work will be undertaken in accordance with the safe work distances outlined in the Noise and Vibration Impact Assessment (SLR, 2024). Where these distances cannot be met vibration trials and attended vibration monitoring of the trials will be undertaken in order to assess and mitigate vibration impacts.</p> <p>Vibration resulting from construction and received at any structure outside of the Proposal shall be limited to:</p> <ul style="list-style-type: none"> a) for structural damage vibration –British Standard BS 7385-2:1993 <i>Evaluation and measurement for vibration in buildings Part 2</i> and/or German Standard DIN 4150:Part 3 – 1999: <i>Structural Vibration in Buildings: Effects on Structures</i> b) for human exposure to vibration – the acceptable vibration values set out in the <i>Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006)</i> which includes British Standard BS 6472-2:1992 <i>Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)</i>. <p>The Proposal also must address IS Essentials Env-3 Vibration level 1 criteria.</p> <p>These limits apply unless otherwise approved by the DES through the CEMP</p>	Contractor	Construction
31.	<p>Piling</p> <p>Wherever practical, piling activities shall be completed using non-percussive piles. If percussive piles are proposed to be used, written approval of the DES shall be obtained prior to commencement of piling activities.</p>	Contractor	Construction
32.	<p>Where noise intensive equipment is to be used near sensitive receivers in NCA01, it is recommended that the work is scheduled for daytime hours. Where this is not possible, then the work shall be scheduled in accordance with the <i>Construction noise and vibration guideline (public transport infrastructure)</i> (Transport for NSW, 2023c) 5.1.2 OOHW hierarchy, and completed as early as possible in each work shift to minimise the potential for night-time impacts.</p>	Contractor	Construction
Heritage Management			
33.	<p>Unexpected Heritage Finds</p> <p>If previously unidentified or unexpected Aboriginal objects or non-Aboriginal heritage/archaeological items are uncovered during construction, the procedures contained in Transport's <i>Unexpected Heritage Items Procedure</i> (Transport for NSW, 2024) will be followed, and work within the vicinity of the find will cease immediately. The TESR shall be immediately notified to co-ordinate a response, which may include direction to seek appropriate advice from a suitably qualified and experienced Heritage Advisor.</p> <p>in consultation with Heritage NSW). (Works in the vicinity of the find shall not re-commence until written approval to recommence has been received from the DES. The event must be reported in Transport incident management system as a report only event in accordance with the Transport Environmental Incident Guideline.</p> <p>If human remains are found, work shall cease in the vicinity of the find, the site must be secured and the NSW Police and/or Heritage NSW notified. Where required, approvals for archaeological investigations, which may include an Aboriginal Heritage Impact Permit, will be obtained prior to work recommencing at the location. A discovery of suspected human remains greater than 100 years old is an archaeological case and is not subject to the requirements of NSW Coroners Act 2009.</p>	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
Socio-economic			
34.	Local Goods and Services Sustainability criteria for the Proposal will be established to encourage the Contractor to purchase goods and services locally, helping to ensure the local community benefits from the construction of the Proposal.	Contractor	Pre-construction
35.	Public Feedback The public display process will be used to facilitate opportunities for the community and stakeholders to have input into the Proposal, where practicable. Community and stakeholder feedback is welcomed throughout the project's design and construction stages, via the project website, email address or project Infoline.	Transport	Pre-construction
36.	Website Project information shall be made available to members of the public, either on dedicated pages on the Transport/Project website or details provided as to where/if hard copies of this information may be accessed. Project information to be provided includes: <ul style="list-style-type: none"> a) a copy of the documents referred to under Condition 1 of any future approval b) 24 hour contact telephone number for information and complaints. All documents uploaded to the website must be compliant with the Web Content Accessibility Guidelines Version 2.2.	Transport	Pre-construction
37.	Community Liaison Management Plan A Community Liaison Management Plan (CLMP) shall be prepared and implemented to engage with government agencies, relevant Councils, landowners, community members and other relevant stakeholders (such as Aboriginal stakeholders, local business chambers, utility and service providers, bus companies, Taxi Council and businesses). The CLMP shall comply with the obligations of these conditions and should include, but not necessarily be limited to: <ul style="list-style-type: none"> a) a comprehensive, project-specific analysis of stakeholders, issues and proposed strategies to manage issues through the duration of the Proposal b) details of the communication tools (traditional and digital) and activities that will be used to inform and engage with the community and stakeholders c) a program for the implementation of community liaison activities relating to key construction tasks and milestones with strategies for minimising impacts and informing the community d) policies and procedures for handling community complaints and enquiries, including the Contractor's nominated 24 hour contact for management of complaints and enquiries e) analysis of other major projects/influences in the area with the potential to result in cumulative impacts to the community and strategies for managing these. The CLMP shall be prepared to the satisfaction of the relevant Community and Place Director (or nominated delegate) prior to the commencement of construction, and is to be reviewed and revised six-monthly during the construction of the Proposal.	Contractor	Pre-construction and construction

No.	Mitigation measure	Responsibility	Timing
38.	<p>Community Notification and Liaison</p> <p>The local community shall be advised of any activities related to the Proposal with the potential to impact upon them.</p> <p>Prior to any site activities commencing and throughout the Proposal duration, the community is to be notified of works to be undertaken, the estimated hours of construction and details of how further information can be obtained (i.e. contact telephone number/email, website, newsletters etc.) including the 24-hour construction response line number.</p> <p>Construction-specific impacts including information on traffic changes, parking changes, access changes, detours, services disruptions, public transport changes, high noise generating work activities and work required outside the nominated working hours shall be advised to the local community at least seven days prior to such works being undertaken or other period as approved to by the relevant Community and Place Director. Notifications are to be distributed via letterbox and/or email as agreed with the impacted stakeholders.</p>	Contractor	Pre-construction and construction
39.	<p>Complaints Management</p> <p>A 24-hour construction response line number shall be established and maintained for the construction.</p> <p>Details of all complaints received during construction, including complaints received in person and via email, are to be recorded on a project-specific complaints register, which is sent to the Principal Contractor daily upon receipt of a complaint. A verbal response to phone enquiries to acknowledge receipt of the complaint, and to confirm what action is proposed to be undertaken to resolve the issue (where possible), is to be provided to the complainant within two hours during all times construction is being undertaken and within 24 hours during non-construction times (unless the complainant agrees otherwise). A verbal response to written complaints (email/letter) should be provided within 48 hours of receipt of the communication where telephone details are provided or known. A detailed written response is to be provided to the complainant within 7 calendar days for verbal and/or written complaints.</p> <p>Information on all complaints received during the previous 24 hours shall be forwarded to the TESR and Community and Place team each working day.</p>	Contractor	Construction
40.	Transport will carry out further stakeholder consultation during detailed design to confirm final location of the relocated memorial plaque.	Transport	Detailed design
Biodiversity			
41.	<p>Removal of Trees or Vegetation</p> <p>A Tree and Hollow Replacement Plan is to be prepared in accordance with Transport's <i>Tree and Hollow Replacement Guideline</i>.</p> <p>Trees and vegetation nominated to be removed in Arboricultural Impact Assessment Report (Allied Tree Consultancy, 2024) will be clearly demarcated onsite prior to construction, to avoid unnecessary vegetation removal. Landowners consent will be obtained prior to vegetation removal, should TAHE not be the landowner.</p> <p>Trees and vegetation to be retained will be protected through temporary protection measures discussed in mitigation measures below.</p> <p>Separate approval, in accordance with Transport's EMF-EM-TT-0144 Removal or trimming of vegetation application, is required for the trimming, cutting, pruning or removal of all trees or vegetation where the impact has not already been identified in the REF or Determination Report for the Proposal. The trimming, cutting, pruning or removal of trees or vegetation shall be undertaken in accordance with the mitigation measures.</p>	Contractor	Design and Construction

No.	Mitigation measure	Responsibility	Timing
42.	<p>Biodiversity Management</p> <p>Construction of the Proposal must be undertaken in accordance with Transport's <i>Biodiversity Policy</i> (Transport for NSW 2022), including the Transport's <i>Biodiversity Assessment Guideline</i> (Transport for NSW 2022), Transport's <i>No net loss guidelines</i> (Transport for NSW, 2022) and Transport's <i>Tree and hollow replacement guidelines</i> (Transport for NSW, 2022b).</p>	Contractor	Construction
43.	<p>Tree and Vegetation Damage</p> <p>In the event of any tree or vegetation to be retained becoming damaged during construction, the Contractor will immediately notify the Transport Project Manager and TESR to coordinate the response which may include contacting an arborist to inspect and provide advice on remedial action, where possible.</p> <p>Where arborist advice indicates that a tree or vegetation may be at risk of failure due to project works the priority should be to retain and protect the tree or vegetation. Following completion of construction the arborist should reassess the tree and their advice followed. Where tree or vegetation removal is required, replacement must be in accordance with the Transport's Biodiversity Policy (Transport for NSW 2022).</p>	Contractor	Construction
44.	<p>Weed Control</p> <p>Weed control measures, consistent with Transport's <i>Biodiversity Policy</i> (Transport for NSW, 2022) and the <i>Pesticides Regulation 2017</i>, will be developed and implemented as part of the CEMP to manage the potential dispersal and establishment of weeds during the construction phase of the Proposal. This will include the management and disposal of weeds in accordance with the <i>Biosecurity Act 2015</i>.</p>	Contractor	Construction
45.	<p>Replanting Program</p> <p>Any vegetation removal shall be offset in accordance with Transport's <i>Biodiversity Policy</i> (Transport for NSW 2022). All vegetation planted on-site is to consist of locally native species, unless otherwise approved by the DES, following consultation with the relevant Council, where relevant, and/or the owner of the land upon which the vegetation is to be planted.</p> <p>A replanting strategy and maintenance schedule of offsetting on and offsite is to be provided to the TESR for review and approval at least four weeks prior to the commencement of replanting.</p> <p>All vegetation will be maintained for at least 12 months following completion of construction or following planting (whichever ends last) (unless approved by the TESR).</p>	Contractor	Construction and operation
46.	<p>A Flora and Fauna Management Sub-plan shall be prepared as part of the CEMP in accordance with the <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a). It will include, but is not limited to:</p> <ul style="list-style-type: none"> Plans showing areas to be cleared and areas to be protected Pre-clearing survey requirements Unexpected finds protocol Weed and pathogen management protocols. <p>Staff on-site will need to be inducted so that there is an awareness that native vegetation associated with TECs occur near the Proposal area. Implementation of biodiversity protocols to be implemented so that unexpected biodiversity finds can be appropriately safeguarded and managed.</p>	Contractor	Pre-construction / Construction

No.	Mitigation measure	Responsibility	Timing
47.	Measures to avoid and/or minimise the removal of native vegetation and/or habitat removal will be investigation during detailed design and implemented where feasible. During vegetation removal, unnecessary removal of groundcover will be avoided where feasible.	Contractor	Detailed design / Pre-construction
48.	Pre-clearance surveys shall be undertaken by a suitably qualified ecologist at a minimum for microbats in accordance with Guide 1: Preclearing process in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a). If fauna is encountered, this will be undertaken in accordance with Guide 9: Fauna handling in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a).	Contractor	Pre-construction
49.	Should fauna be encountered during the work, Transport's Guide 9: Fauna handling in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a) shall be applied. In the event that threatened species are encountered, Transport's unexpected finds procedure would be followed in accordance with Guide 1: Preclearing process in Transport's <i>Biodiversity Management Guideline EMF-BD-GD-0039</i> (Transport, 2024a).	Contractor	Construction
50.	Tree Protection Zones Tree Protection Zones (TPZs) would be established around trees to be retained, as nominated in the Arborist Assessment (Allied Tree Consultancy, 2024) or as required to protect vegetation. Tree protection would be undertaken in accordance with AS 4970-2009 <i>Protection of Trees on Development Sites</i> and would include exclusion fencing of TPZs. The tree dripline may be used as a guide for protecting trees where an exclusion zone is not established by an arborist/ecologist. Should the approved development be altered by a post-approval assessment, consideration of any additional TPZs beyond those identified in the Arborist Assessment (Allied Tree Consultancy, 2024) would be required and may need to be supported by additional or addendum arboricultural advice.	Contractor	Construction
Soils and water			
51.	Storage and Use of Hazardous Materials Construction hazard and risk issues associated with the use and storage of hazardous materials shall be addressed through risk management measures, which shall be developed prior to construction as part of the overall CEMP, in accordance with relevant EPA guidelines, Transport's <i>EMF-EM-GD-0137 Chemical storage and spill response guidelines</i> (Transport for NSW, 2023) and Australian and ISO standards. These measures shall include: <ul style="list-style-type: none"> a) the storage of hazardous materials, and refuelling/maintenance of construction plant and equipment are to be undertaken in clearly marked designated areas designed to contain spills and leaks b) spill kits, appropriate for the type and volume of hazardous materials stored or in use, to be readily available and accessible to construction workers. Kits are to be kept at hazardous materials storage locations, in site compounds and on specific construction vehicles. Where a spill to a watercourse is identified as a risk, spill kits are to be kept in close proximity to potential discharge points in support of preventative controls c) all hazardous materials spills and leaks to be reported to site managers and actions to be immediately taken to remedy spills and leaks d) training in the use of spill kits to be given to all personnel involved in the storage, distribution or use of hazardous materials. 	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
52.	<p>Erosion and Sediment Control</p> <p>Soil and water management measures shall be prepared, implemented and maintained for the mitigation of water quality impacts during construction of the Proposal in accordance with <i>Managing Urban Stormwater: Soils and Construction Volume 14th Edition</i> (Landcom, 2004). The following are required, based on the amount of disturbance proposed:</p> <ul style="list-style-type: none"> soil and water management measures included on the ECM and in the CEMP for less than 250m² of disturbance erosion and sediment control plan (ESCP) for between 250-2,500m² of disturbance soil and water management plan (SWMP) for over 2,500m² of disturbance <p>Management measures will be established prior to any clearing, grubbing or site establishment activities and will be maintained and regularly inspected (particularly following rainfall events) to ensure their ongoing functionality. At a minimum inspection will occur monthly and will be reported in the inspection report. Management measures will be maintained until the work is complete and areas are stabilised. The management measures shall be reviewed and updated throughout construction so they remain relevant to the activities being undertaken.</p>	Contractor	Pre-construction and construction
53.	<p>Vehicle Maintenance</p> <p>Vehicles and machinery will be properly maintained and routinely inspected to minimise the risk of fuel/oil leaks. Construction plant, vehicles and equipment will also be refuelled offsite, or in a designated refuelling area.</p>	Contractor	Construction
54.	<p>Pollution Incident</p> <p>In the event of a pollution incident, work will cease in the immediate vicinity and the Contractor will immediately notify the Transport Project Manager and TESR in accordance with the Transport Environmental Incident Procedure (EMF-EM-PR-0001). The EPA will be notified, in accordance with Part 5.7 of the POEO Act.</p>	Contractor	Construction
55.	<p>Existing Drainage</p> <p>The existing drainage systems will remain operational throughout the construction phase and will not be worsened or damaged by construction.</p>	Contractor	Construction
56.	<p>Groundwater</p> <p>Should groundwater be encountered during excavation work, groundwater will be managed in accordance with the requirements of the <i>Waste Classification Guidelines</i> (EPA, 2014) and Transport's <i>Water Discharge and Reuse Guideline</i> (Transport for NSW, 2019).</p>	Contractor	Construction
57.	<p>Weather forecasts will be regularly monitored during construction. If the potential for flooding within the Proposal area is identified, work will cease and equipment and materials will be removed from areas susceptible to flooding.</p>	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
Air quality			
58.	<p>Minimising Impacts to Air Quality</p> <p>To minimise air quality impacts and the generation of dust from construction activities, the following measures will be implemented:</p> <ul style="list-style-type: none"> • plant and machinery will be switched off when not in use, and not left idling • vehicle and machinery movements during construction will be restricted to designated areas and sealed/compacted surfaces where practicable • apply water (or alternate measures) to exposed surfaces (e.g. unpaved roads, stockpiles, hardstand areas and other exposed surfaces) • cover stockpiles when not in use • appropriately cover loads on trucks transporting material to and from the construction site and securely fix tailgates of road transport trucks prior to loading and immediately after unloading • prevent mud and dirt being tracked onto sealed road surfaces • details on how methods for management of emissions will be incorporated into project inductions, training and pre-start/toolbox talks • details for procedure to ensure plant and machinery are regularly checked and maintained in a proper and efficient condition • details for how the Proposal addresses IS Essential benchmark criteria <p>These methods are to be identified in the CEMP.</p>	Contractor	Pre-construction and construction
Waste and contamination			
59.	<p>Waste Management Plan</p> <p>The CEMP (or separate Waste Management Plan, if necessary) must address waste management and will at a minimum:</p> <ul style="list-style-type: none"> • identify all potential waste streams associated with the work and outline methods of disposal of waste that cannot be reused or recycled at appropriately licensed facilities • apply the waste hierarchy to resource output streams and justification provided • detail other onsite management practices such as keeping areas free of rubbish • specify controls and containment procedures for hazardous waste and asbestos waste • outline the reporting regime for collating construction waste data • identify risk and opportunities associated with resources outputs and implement measures to minimise resource outputs during design, construction and operation • develop project performance targets for resource outputs for the delivery phase • identify opportunities to beneficially reuse resource outputs • develop a management plan for resource outputs and implement design phase actions. 	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
60.	<p>Hazardous Materials Survey</p> <p>A Hazardous Materials Survey in accordance with AS 2601 (2001) <i>Demolition of Structures</i> shall be undertaken by an appropriately qualified environmental scientist prior to the removal of the existing footbridge and station building modifications.</p> <p>Subsequent removal of any hazardous material is to be undertaken in accordance with applicable EPA, SafeWork NSW and Safe Work Australia guidelines.</p>	Contractor	Pre-construction
61.	<p>Contamination Investigation</p> <p>Prior to construction, an investigation of the Proposal site shall be undertaken by a suitably qualified Environmental Consultant, in accordance with the level of assessment and requirements stipulated by the <i>National Environment Protection (Assessment of Site Contamination) Amendment Measure (NEPM) 2013</i>. The assessment shall also be generally undertaken in accordance with:</p> <ul style="list-style-type: none"> a) Contaminated Sites - Sampling Design Guidelines (EPA, 2022) b) AS 4482 (2005) Guide to the investigation and sampling of sites with potentially contaminated soil. <p>The investigation report shall be prepared in accordance with the <i>Guidelines for Consultants Reporting on Contaminated Sites</i> (Office of Environment and Heritage, 2011) and shall also include a preliminary waste classification in accordance with the <i>Waste Classification Guidelines</i> (EPA, 2014).</p> <p>Specific requirements for further investigation (including requirements for a Site Auditor), remediation or management of any contamination shall be included in the CEMP (or supporting Contamination Management Plan) as appropriate.</p> <p>Note: Nothing in this condition removes any obligation to adhere to the requirements under the <i>NSW Contaminated Land Management Act 1997</i> (or other legislation).</p>	Contractor	Pre-construction
62.	<p>Unidentified Contamination (Other Than Asbestos)</p> <p>If previously unidentified contamination (excluding asbestos) is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and report prepared to determine the nature, extent and degree of any contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA guidelines, including the <i>Guidelines for Consultants Reporting on Contaminated Sites</i> (Office of Environment and Heritage, 2011). The event must be reported in Transport incident management system as a report only event in accordance with the Transport Environmental Incident Procedure.</p> <p>A copy of any contamination report shall be submitted to the TESR for review in accordance with mitigation measure 4. The DES shall determine whether consultation with the relevant Council and/or EPA is required prior to continuation of construction within the affected area.</p>	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
63.	<p>Asbestos Management</p> <p>If previously unidentified asbestos contamination is discovered during construction, work in the affected area must cease immediately, and an investigation must be undertaken and a report prepared to determine the nature, extent and degree of the asbestos contamination. The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA, Safe Work Australia and SafeWork NSW guidelines and include the proposed methodology for the remediation of the asbestos contamination. Remediation activities must not take place until receipt of the investigation report. The event must be reported in Transport incident management system as a report only event in accordance with the Transport Environmental Incident Procedure.</p> <p>Works may only recommence upon receipt of a validation report from a suitably qualified contamination specialist that the remediation activities have been undertaken in accordance with the investigation report and remediation methodology.</p> <p><i>Note: In circumstances where both previously unidentified asbestos contamination and other contamination are discovered within a common area, nothing in these conditions shall prevent the preparation of a single investigation report to satisfy the requirements of both mitigation measure 62 and mitigation measure 63.</i></p>	Contractor	Construction
64.	<p>Spoil Reuse, Removal and Classification</p> <p>All excavated spoil suitable for reuse will be reused on site and distributed as approved by the TESR. The quantity and locations for reuse of excavated material will be further reviewed and confirmed with the TESR during construction.</p> <p>All spoil to be removed from site will be tested to confirm the presence of any contamination. Any contaminated spoil will be disposed of at an appropriately licensed facility.</p> <p>All spoil and waste must be classified in accordance with the <i>Waste Classification Guidelines Part 1: Classifying waste</i> (EPA, 2014) prior to disposal.</p>	Contractor	Construction
65.	<p>Concrete Washout</p> <p>Any concrete washout will be established and maintained in accordance with Transport's <i>EMF-EM-GD-0145 Concrete washout guideline</i> (Transport for NSW, 2023) with details included in the CEMP and location marked on the ECM.</p>	Contractor	Construction
66.	<p>Mulch and landscaping</p> <p>1. Mulch used in landscaping must, to the extent possible, be derived from trees, shrubs and any other vegetative material that is approved by the Principal for use as mulch, removed during the clearing and grubbing works on the Site. If the mulch produced in this way is insufficient or not available, make up the shortfall by using imported hardwood chip that complies with Australian Standard AS 4454, the EPA Mulch Order 2016 and Mulch Exemption 2016. Imported hardwood chip must also comply with the following requirements:</p> <ul style="list-style-type: none"> a) hardwood chip must only be derived from waste hardwood timber. Woodchip derived from trees which have been specifically harvested for that purpose will not be accepted under any circumstances b) the material must comprise hardwood chips with not more than 5% fines by volume, and must not contain any bark c) the average size of the woodchip must be approximately 30 mm x 20 mm x 5 mm and the maximum length of chip must not exceed 50 mm d) hardwood chip must be free of soil, weeds, stones, vermin, insects or other foreign material. 	Contractor	Construction

No.	Mitigation measure	Responsibility	Timing
	<p>2. Prior to procuring, the Contractor must provide in writing to the Principal the source of mulch, as well as a sample of mulch and product documentation demonstrating compliance, for approval or for other quality assurance diligence and surveillance purposes.</p> <p>3. Prior to importing, the Contractor must ensure all imported mulch is visually inspected at the supplier's premises, with samples collected and tested in accordance with AS 4454. The Contractor must track batches of mulch to ensure the same mulch inspected and tested is delivered to site.</p> <p>4. During unloading and land application, the Contractor must ensure that a suitably qualified expert visually inspects each load of mulch for compliance. All visual inspections of mulch must be documented and include as a minimum:</p> <ul style="list-style-type: none"> a) location, date, and time of inspection b) name of inspector c) product name, supplier name, volume of material d) photographs of material inspected e) sample collection details (when applicable). 		
Sustainability, climate change and greenhouse gases			
67.	<p>Sustainable Design Guidelines</p> <p>Detailed design of the Proposal will be undertaken in accordance with the <i>Transport Sustainable Design Guidelines – Version 4.0</i> (Transport for NSW, 2017) and is to target a gold rating and achieve a minimum silver rating.</p>	Contractor	During design
68.	<p>Carbon Footprint Exercise</p> <p>The detailed design process will undertake a compliant carbon footprinting exercise in accordance with the <i>Transport Carbon Tool</i> or other approved modelling tools. The carbon footprint will to be used to inform decision making in design and construction.</p>	Contractor	During design
69.	<p>Sustainability Officer</p> <p>A suitably qualified and experienced Sustainability Officer shall be appointed who is responsible for implementing the sustainability objectives for the Proposal, in line with the Proposal's overarching Project Sustainability Plan.</p> <p>Details of the Sustainability Officer including defined responsibilities, duration and resource allocation throughout the appointment are to be submitted to the satisfaction of the Director of Sustainability prior to the preparation of the Sustainability Management Plan.</p>	Contractor	Pre-construction

No.	Mitigation measure	Responsibility	Timing
70.	<p>Sustainability Management Plan</p> <p>A Sustainability Management Plan (SMP) which details the approach to managing sustainability requirements and opportunities during design and construction shall be prepared. The SMP shall include the following as a minimum:</p> <ul style="list-style-type: none"> a) a completed electronic checklist demonstrating compliance with the <i>Transport Sustainable Design Guidelines Version 4.0</i> (ST-114) b) a statement outlining the Construction Contactor's own corporate sustainability policies, obligations, goals, targets and commitments c) a description of the processes and methodologies for encouraging and identifying innovative sustainability outcomes on the Proposal, and the areas targeted for innovative sustainable solutions to be explored and/or implemented on the Proposal. d) the approach to the identification of opportunities to reduce carbon emissions, energy use and embodied lifecycle impacts of the Proposal. This should include a summary of initiatives proposed for implementation to meet energy and carbon management objectives and targets e) the approach to sustainable procurement including how procurement processes have taken in to account the principles of <i>ISO 20400: 2017 – Sustainable Procurement</i> in the selection of all materials, products and services f) a description of the processes, standards and procedures for undertaking climate change risk assessments and strategies for mitigation of risks associated with climate change and extreme weather events. <p>A copy of the SMP shall be submitted to the Director of Sustainability at least 30 days prior to the commencement of construction, for written approval (or such time as is otherwise approved by the Director).</p>	Contractor	Pre-construction
Cumulative impacts			
71.	<p>Ongoing Cumulative Impacts</p> <p>The potential cumulative impacts associated with the Proposal will be further considered as the design develops and as further information regarding the location and timing of potential developments is released. Environmental management measures will be developed in the CEMP, and implemented as appropriate. The CEMP will capture how the known cumulative impacts will be managed with the community and key stakeholders.</p>	Contractor	Pre-construction

7.3 Licensing and approvals

Table 7-2 Summary of licensing and approvals required

Instrument	Requirement	Timing
<i>Roads Act 1993</i> (s138)	A Road Occupancy Licence (ROL) for road work and temporary partial road closures on Railway Parade.	Pre-construction

8 Sustainability

8.1 Sustainability policy context

Consistent with the Future Transport Strategy, Transport is committed to managing impacts on the environment and operating in an environmentally sustainable manner. These commitments are set out in the Transport [Environment and Sustainability Policy \(Transport, 2020\)](#) and Transport [Net Zero and Climate Change Policy \(Transport, 2023e\)](#).

The Proposal has been developed and would be delivered in accordance with Transport's policies and the [Transport Sustainability Plan \(Transport, 2021\)](#).

8.2 Sustainability issues, opportunities and initiatives

The material sustainability issues and opportunities for the Proposal have been considered in the development of the sustainability objectives in Section 2.3.3, the sustainability initiatives and the consideration of a sustainability rating as described in Section 8.3.

This Section also identifies how the Proposal has responded to the Transport for NSW [Sustainability Plan \(Transport, 2021\)](#) and sets out initiatives and recommendations for the Proposal. Sustainability objectives are outlined in Section 2.3.3.

Table 8-1 Sustainability objectives and initiatives for the Macquarie Fields Station Upgrade

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
Respond to climate change	Climate resilience	<ul style="list-style-type: none"> Undertake a Climate Risk Assessment in line with Transport's Climate Risk Assessment Guidelines. Eliminate all 'very high' and 'high' climate risks identified in the Climate Risk Assessment. 	<ul style="list-style-type: none"> A Detailed Climate Risk Assessment and Report has been prepared for the Proposal. All identified 'very high' and 'high' climate risks have been mitigated to an acceptable level (refer to Section 6.11).
	Energy and carbon	<ul style="list-style-type: none"> Implement opportunities to use renewable energy or low carbon energy during construction and operations. Reduce construction related GHG emissions from the Proposal baseline GHG footprint established using the Transport Carbon Tool. 	<ul style="list-style-type: none"> Low carbon materials will be investigated in detailed design including higher supplementary cementing material concretes. Fossil fuel free construction will be investigated and viable opportunities implemented. Value engineering will look for opportunities to reduce material volumes.
Protect and enhance biodiversity	Biodiversity management	<ul style="list-style-type: none"> Report on steps taken to avoid, minimise and mitigate impacts of the Proposal on native flora and fauna and any biosecurity risks arising from the Proposal within three months from the end of construction or as agreed. Report on how no net loss of remnant native vegetation and trees with amenity values has been achieved through biodiversity offsetting and amenity tree replacement within three months from the end of construction or as agreed. 	<ul style="list-style-type: none"> The Proposal would minimise impacts to native flora and fauna through the removal of only six trees along Railway Parade during construction. Opportunities for new tree plantings/landscaping and replacing impacted trees have been considered. The Urban Design Plan (Jacobs, 2023b) indicates that predominantly native and Indigenous plant species would be selected. While the Proposal does not intersect with any waterways, there are waterways (including Key Fish Habitat) downslope of the Proposal. Standard erosion and sedimentation mitigation measures would be implemented to minimise potential impacts to nearby waterways. 20 trees would be planted to offset the removal of six trees as part of the Proposal.

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
Improve environmental outcomes	Water cycle management	<ul style="list-style-type: none"> Demonstrate that opportunities to reduce potable water use during construction have been implemented. 	<ul style="list-style-type: none"> Initiatives to reduce potable water usage would be explored during the detailed design phase. Initiatives could include: <ul style="list-style-type: none"> incorporating water sensitive urban design principals water efficient fittings choosing native plant species that remove the need for irrigation.
	Circular economy	<ul style="list-style-type: none"> Maximise use of recycled materials. 	<ul style="list-style-type: none"> Retaining existing structures where possible. Opportunities to use materials with high recycled content investigated. Investigate opportunities to reuse materials on site.
Respect heritage and culture	Aboriginal engagement	<ul style="list-style-type: none"> Demonstrate alignment with the Transport Aboriginal Culture and Heritage Framework. 	<ul style="list-style-type: none"> The Proposal has been designed in line with Connecting with Country design principles, which forms a key purpose of Transport's Aboriginal Culture and Heritage Framework. Aboriginal engagement has been carried out as part of design development, which included a walk on Country and a Dharawal Traditional Descendants and Knowledge Holders Circle meeting. Engagement with local Knowledge Holders would be ongoing through design development to ensure the project design responds to local history.
Align spend and impact	Sustainable leadership	<ul style="list-style-type: none"> Establish systems and processes to ensure sustainability (environmental, social and economic) criteria are assessed in the procurement of goods and services. 	<ul style="list-style-type: none"> The procurement of goods and services would be carried out during the detailed design phase/once the Contractor is onboarded. Sustainability criteria would be incorporated at these later stages.

Sustainability focus areas	Issue	Objectives	Initiatives (how is the project responding)
Empower customers to make sustainable choices	Liveable places	<ul style="list-style-type: none"> The Proposal should include provisions for walking and cycling. 	<ul style="list-style-type: none"> The Proposal would provide an improved user experience and accessibility for pedestrians, including through the provision of a new pedestrian crossing from the station forecourt, a new footbridge to improve accessibility to the station platforms, upgrade of the existing ramp and stairs providing access to the station forecourt, and a new accessible pathway through and across the station forecourt. The Proposal would relocate the two existing bicycle lockers to be closer to the station forecourt and provide eight new bicycle hoops south of the station forecourt. The double-sided bicycle hoops would be able to accommodate a total of 16 bicycles and are expected to match existing usage.

8.3 Sustainability rating

The Macquarie Fields Station Upgrade would apply the following Sustainability rating tool at the detailed design phase:

- *Transport Sustainable Design Guidelines v 4.0* (2017) – the Proposal is aiming to achieve a minimum silver rating.

To deliver effective sustainability initiatives, the delivery Contractor would be responsible for ensuring requirements are embedded into the design, procurement, costing, construction, and maintenance and reported regularly to Transport.

Transport would ensure requirements are included in relevant contracts for the works and manage the ongoing inclusion and monitor outcomes of sustainability across the project lifecycle.

9 Conclusion

This chapter provides the justification for the Proposal taking into account its biophysical, social and economic impacts, the suitability of the site and whether or not the Proposal is in the public interest. The Proposal is also considered in the context of the objectives of the EP&A Act, including the principles of ecologically sustainable development as defined in section 193 of the Environmental Planning and Assessment Regulation 2021.

9.1 Justification

The Proposal is considered to be consistent with a number of strategies and plans, including:

- Future Transport Strategy (Transport, 2022a)
- NSW Disability Inclusion Action Plan (2021-2025) (NSW Government, 2021)
- A Metropolis of Three Cities: Greater Sydney Region Plan (Greater Sydney Commission, 2018a)
- Western City District Plan (Greater Sydney Commission, 2018b)
- State Infrastructure Strategy 2022-2042: Staying Ahead (Infrastructure NSW, 2022)
- Macquarie Fields Precinct Plan (Department of Planning and Environment, 2017)
- Campbelltown Local Strategic Planning Statement (Campbelltown City Council, 2020)
- Campbelltown Residential Development Strategy (Campbelltown City Council, 2013).

The Proposal would meet the key strategic objectives within the above strategies and plans, as outlined in Section 2.1.

The Proposal forms part of the Safe Accessible Transport program. This program is designed to drive a stronger customer experience outcome, with improvements made to amenity, access and safety. The Proposal aims to deliver improved connectivity between modes including greater opportunities for active transport, encourage greater public transport use by providing safe and welcoming spaces, and better integration of interchanges within the communities they serve.

9.1.1 Social factors

Construction of the Proposal would result in minor temporary social impacts through disruptions to pedestrian and traffic flow caused by temporary alternate access arrangements to the station and temporary amenity impacts due to noise, dust and visual changes from construction activities. These impacts would be minimised through implementation of standard mitigation measures.

Over the long-term, the Proposal would provide social benefits to the Macquarie Fields community and the wider public transport customer network through improved accessibility. This would be as a result of the installation of the lifts, platform regrading, resurfacing and installation of TGSIs and improved accessibility in the station forecourt, including upgrades to the bus stop, accessible parking, kiss and ride parking and bicycle parking. Customer amenity and safety would also be improved through provision of the new family accessible toilet and unisex ambulant toilet, improved CCTV, improved signage and wayfinding, upgrades to the station PA system and new lighting. The Proposal is anticipated to result in an overall improved experience for passengers using the station and the public transport network.

9.1.2 Biophysical factors

The Proposal would result in the removal of six trees along Railway Parade. In accordance with Transport's *Tree and Hollow Replacement Guidelines* (Transport, 2023b), a total of 20 trees would be planted for the Proposal. This is anticipated to result in minimal impacts to the overall ecological values of the area. Provided standard mitigation measures are in place, no substantial impacts to threatened flora or threatened ecological communities are expected. Native and exotic fauna would likely incidentally use vegetation within the Proposal area, however the vegetation removal would not impact foraging for fauna species. The operation of the Proposal is not anticipated to result in significant impacts to biodiversity.

During construction, there is potential for erosion and sediment to impact Bunbury Curran Creek and the unnamed tributary of Bunbury Curran Creek given their proximity to the Proposal. There is also potential impact from accidental spills or inadequate fuel and chemical storage practices resulting in localised contamination of water quality. These impacts would be minimised through implementation of erosion and sediment controls and procedures managing the storage and use of hazardous materials including fuels. There would also be minor air quality impacts as a result of dust produced from excavation work and minor additional exhaust fumes from construction vehicles. The operation of plant and equipment would result in increases in exhaust emissions, however these impacts are anticipated to be localised, short-term and minor.

9.1.3 Economic factors

The Proposal would result in improved access to Macquarie Fields Station, which would in turn improve access for all customers to the public transport network, in particular for people with a disability or lower mobility and people with prams and luggage. Accessible transport enables people with disability to participate fully in their community and the economy. A safe, equitable and integrated transport network is important in enabling people across the state to travel safely and confidently to work, appointments, holidays, events, and to visit friends and family.

9.1.4 Public interest

The Proposal would be in the public interest as it would result in accessibility improvements to Macquarie Fields Station, which would improve the ability for all customers to use the public transport network. The construction of the lifts to the platforms, platform regrading work, accessibility improvements at station interchange facilities and construction of the family accessible toilet and unisex ambulant toilet would achieve these outcomes. In addition, safety and amenity improvements at Macquarie Fields Station, including improved CCTV, improved signage and wayfinding, upgrades to the station PA system and new lighting, would provide benefits to all customers using the station.

9.2 Objects of the EP&A Act

Table 9-1 Objects of the *Environmental Planning and Assessment Act 1979*

Instrument	Requirement
1.3(a) To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources.	<p>The Proposal would promote the social and economic welfare of the community through improved accessibility at Macquarie Fields Station for people with a disability or lower mobility and people with prams and luggage. Socio-economic impacts have been assessed in Section 6.6.</p> <p>Development of the Proposal has considered potential impacts to all environmental resources that may be affected by the Proposal, including air, water, land and biodiversity. The Proposal would, where feasible, limit its use of natural and artificial resources and would source materials and product locally where possible.</p>
1.3(b) To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.	The Proposal has considered relevant economic, environmental and social considerations in Chapter 6. Ecologically sustainable development is considered further in Section 9.2.1. Potential impacts have been minimised through design and would be further mitigated through implementation of the mitigation measures outlined in Section 7.2.
1.3(c) To promote the orderly and economic use and development of land.	The Proposal is required to improve the accessibility of Macquarie Fields Station, including the station forecourt. The Proposal would provide for orderly economic use and development of the land for the Macquarie Fields community and station customers, particularly as it involves the upgrade of existing rail infrastructure.
1.3(d) To promote the delivery and maintenance of affordable housing.	Not relevant to the Proposal.
1.3(e) To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.	The Proposal would require removal of six trees, which is anticipated to result in minimal impacts to the overall ecological values of the area. An additional 20 trees would be planted in accordance with Transport's <i>Tree and Hollow Replacement Guidelines</i> (Transport, 2023b). The Proposal would not result in significant impacts to threatened species, ecological communities or their habitats. These impacts would be effectively managed through the implementation of mitigation measures outlined in Section 6.7.4 and offset through the planting of additional trees.
1.3(f) To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).	An assessment of potential impacts to Aboriginal heritage and non-Aboriginal heritage is provided in Section 6.4 and Section 6.5 respectively. The Proposal is unlikely to result in impacts to both Aboriginal cultural heritage and non-Aboriginal heritage. Despite this, an Unexpected Heritage Finds procedure would be implemented if any previously unidentified or unexpected heritage items are discovered during construction.

Instrument	Requirement
1.3(g) To promote good design and amenity of the built environment.	A landscape character and visual impact assessment has been prepared for the Proposal which outlines the urban design and landscape strategy for the proposal (refer to Section 6.2). The strategy aims to facilitate an integrated urban design and engineering design outcome for the Proposal.
1.3(h) To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants.	The Proposal would involve upgrades to the station building, including a new family accessible toilet, unisex ambulant toilet and station storage facilities. Reconfiguration of the station building would improve accessibility for all customers, improving health and safety outcomes for staff and customers using the station.
1.3(i) To promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State.	Transport is responsible as the determining authority for this Proposal under Division 5.1 of the EP&A Act.
1.3(j) To provide increased opportunity for community participation in environmental planning and assessment.	Consultation with the community and relevant government agencies has been carried out during the development of the Proposal. Details on this consultation can be found in Chapter 5. There would be further opportunities for the public to comment on the Proposal during the public display of the REF.

9.2.1 Ecologically sustainable development

Ecologically sustainable development (ESD) is development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. The principles of ESD have been an integral consideration throughout the development of the project.

ESD requires the effective integration of economic and environmental considerations in decision-making processes. The four main principles supporting the achievement of ESD as per the EPA Act are discussed below. Further information on consideration of sustainability issues, opportunities and initiatives is provided in Section 3.2.3 and Chapter 8.

The precautionary principle

The precautionary principle deals with reconciling scientific uncertainty about environmental impacts with certainty in decision-making. It provides that where there is a threat of serious or irreversible environmental damage, the absence of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation.

This principle was considered during route options development (refer to Chapter 2). The precautionary principle has guided the assessment of environmental impacts for this REF and the development of mitigation measures.

The precautionary principle was applied to the Proposal in the following ways:

- Issues that may cause serious or irreversible environmental damage as a result of the Proposal and where there is scientific uncertainty as to the nature of the damage have been identified.
- The best-available technical information, environmental standards and measures have been used to minimise environmental risks.
- Preferred site locations/footprints that minimise vegetation clearance, with particular consideration of sensitive areas, was selected.
- Conservative 'worst case' scenarios were considered while assessing environmental impact.
- Specialist studies were incorporated to gain a detailed understanding of the existing environment.

A number of mitigation measures have been proposed in Section 7.2 to minimise potential impacts and to respond to areas of scientific uncertainty. These mitigation measures would be implemented prior to and during construction, as well as during operation of the Proposal to make sure the Proposal achieves a high-level of environmental performance.

Intergenerational equity

Social equity is concerned with the distribution of economic, social and environmental costs and benefits. Inter-generational equity introduces a temporal element with a focus on minimising the distribution of costs to future generations.

The Proposal forms part of the Safe Accessible Transport program, which aims to make public transport safe, inclusive and easy to use for all passengers, especially people with a disability, older people, people with prams or luggage and others who may be experiencing mobility problems. The Proposal would improve the accessibility of the station in line with the requirements of the DDA and the DSAPT. It would improve accessibility and safety at Macquarie Fields Station for current and future generations, which would allow for all customers to access the public transport network from Macquarie Fields more easily.

Should the Proposal not proceed, the principle of intergenerational equity may be compromised, as future generations would not benefit from improved accessibility and safety at the station. This would mean that customers with accessibility needs would be limited in their ability to access goods and services via the public transport network.

Conservation of biological diversity and ecological integrity

The Proposal would result in minimal impacts to biological diversity and ecological integrity. Six trees would be removed as part of the Proposal. The removal of these trees would be offset through the planting of 20 trees, in accordance with the Transport *Tree and hollow replacement guidelines* (Transport for NSW, 2023b). The Proposal is not anticipated to result in significant impacts to threatened species or threatened ecological communities.

Improved valuation, pricing and incentive mechanisms

The principle of internalising environmental costs into decision making requires consideration of all environmental resources that may be affected by the carrying out of a project, including air, water, land and living things.

Environmental issues were considered as key matters in the initial design process and in the economic and financial feasibility assessments for the Proposal. The value placed on environmental resources is demonstrated in the extent of the planning and environmental investigations outlined in Chapter 6, and in the design of the mitigation measures described in Section 7.2. Implementation of these mitigation measures would result in an economic cost to Transport, which would be included in both the capital and operating cost of the Proposal.

In addition, the value of the Proposal to the community in terms of improved safety and accessibility has been recognised during development of the Proposal as the Proposal would improve accessibility for all users of Macquarie Fields Station.

9.3 Conclusion

The proposed accessibility upgrades at Macquarie Fields Station is subject to assessment under Division 5.1 of the EP&A Act. The REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity.

This has included consideration (where relevant) of conservation agreements and plans of management under the NPW Act, biodiversity stewardship sites under the BC Act, wilderness areas, areas of outstanding value, impacts on threatened species and ecological communities and their habitats, and other protected fauna and native plants. It has also considered potential impacts to matters of national environmental significance listed under the EPBC Act.

A number of potential environmental impacts from the Proposal have been avoided or reduced during the concept design development and options assessment. The Proposal, as described in the REF, best meets the project objectives but would still result in some impacts on traffic and transport, urban and landscape character and visual amenity, noise and vibration, socio-economic factors and biodiversity. These impacts would largely be temporary adverse impacts limited to the construction phase of the Proposal. Mitigation measures as detailed in this REF would ameliorate or minimise these expected impacts. The Proposal would also improve accessibility and safety at Macquarie Fields Station, including in the station forecourt, and allow all customers to more easily access the wider public transport network from the station. On balance, the Proposal is considered justified and the following conclusions are made.

9.3.1 Significance of impact under NSW legislation

The Proposal would be unlikely to cause a significant impact on the environment. Therefore, it is not necessary for an environmental impact statement to be prepared nor approval to be sought from the Minister for Planning under Division 5.2 of the EP&A Act. A Biodiversity Development Assessment Report or Species Impact Statement is not required. The Proposal is subject to assessment under Division 5.1 of the EP&A Act. Consent from Council is not required.

9.3.2 Significance of impact under Australian legislation

The Proposal is not likely to have a significant impact on matters of national environmental significance nor the environment of Commonwealth land within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). A referral to the Australian Department of Climate Change, Energy, the Environment and Water is not required.

10 Certification

I certify that I have reviewed and endorsed the contents of this REF and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under Section 170 of the EP&A Regulation, and the information is neither false nor misleading. I accept it on behalf of Transport for NSW.

Name: Zoe McLaughlin
Position: Manager, Environment and Planning
Company name: Aurecon Australasia Pty Ltd
Date: 22/08/2024

I have reviewed and accept the contents of this REF and that it is a true account of the Proposal.

Name: Jaafar Reslan
Position: Project Manager
Transport region/program: Transport for NSW
Date: 22/08/2024

11 EP&A Regulation publication requirement

Table 11-1 EP&A Regulation publication requirement

Requirement	Yes/No
Does this REF need to be published under section 171(4) of the EP&A Regulation?	Yes

12 References

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Terms and acronyms used in this REF

Terms and acronyms used in this REF

Term / Acronym	Description
AEP	Annual Exceedance Probability
AHIMS	Aboriginal Heritage Information Management System
APS	Access to Premises (Disability Standards)
ASS	Acid Sulfate Soils
AusLink	Mechanism to facilitate cooperative transport planning and funding by Commonwealth and state and territory jurisdictions
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
CBD	Central Business District
CCTV	Closed Circuit Television
CECR	Construction Environmental Compliance Report
CEEC	Critically Endangered Ecological Communities
CEMP	Construction environmental management plan
CERT	Carbon Estimate Reporting Tool
CLM Act	<i>Contaminated Land Management Act 1997</i>
CLMP	Contaminated Land Management Plan
Commonwealth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
CNVG	Construction Noise and Vibration Guideline (Public Transport Infrastructure)
CNVMP	Construction Noise and Vibration Management Plan
CPTED	Crime Prevention Through Environmental Design
CTMP	Construction Traffic Management Plan
DBH	Diameter at Breast Height
DBYD	Dial Before You Dig
DDA	<i>Disability Discrimination Act 1992 (Cwlth)</i>
DES	Director Environment and Sustainability (or nominated delegate)
DPE	Former NSW Department of Planning and Environment, now split into DPHI and NSW DCCEEW
DPHI	Department of Planning, Housing and Infrastructure
DSAPT	<i>Disability Standards for Accessible Public Transport (2002)</i>
ECM	Environmental Control Map
EEC	Endangered Ecological Communities
EIA	Environmental impact assessment
EMS	Environmental Management System
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i> . Provides the legislative framework for land use planning and development assessment in NSW
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i> . Provides for the protection of the environment, especially matters of national environmental significance, and provides a national assessment and approvals process
EPL	Environment Protection Licence
ESCP	Erosion and sediment control plan
ESD	Ecologically sustainable development. Development which uses, conserves and enhances the resources of the community so that ecological processes

Term / Acronym	Description
	on which life depends, are maintained and the total quality of life, now and in the future, can be increased
EWP	Elevated Work Platform
FM Act	<i>Fisheries Management Act 1994 (NSW)</i>
GHG	Greenhouse gas
Heritage Act	<i>Heritage Act 1977 (NSW)</i>
HV	High Voltage
LALC	Local Aboriginal Land Council
LCVIA	Landscape Character and Visual Impact Assessment
LCZ	Landscape Character Zone
LEP	Local Environmental Plan. A type of planning instrument made under Part 3 of the EP&A Act.
LGA	Local Government Area
MNES	Matters of national environmental significance under the <i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
NCA	Noise Catchment Area
NML	Noise Management Level
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NSW DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
OEH	Formerly NSW Office of the Environment and Heritage
OHWS	Overhead Wire Structure
OOHW	Out of hours work
PA system	Public Address system
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigations
PCT	Plant Community Type
PEA Act	<i>Protection of the Environment Administration Act 1991.</i>
PM	Particulate matter
PMF	Probably Maximum Flood event
PMST	Protected Matters Search Tool
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
the Proposal	The Macquarie Fields Station Upgrade, as described in Chapter 3.
PSI	Preliminary Site Investigation
RBL	Rating background level
Roads Act	<i>Roads Act 1993</i>
RMS	Former NSW Roads and Maritime Services, now Transport for NSW
ROL	Road Occupancy Licence
SEPP	State Environmental Planning Policy. A type of planning instrument made under Part 3 of the EP&A Act.
SEPP (Biodiversity and Conservation)	State Environmental Planning Policy (Biodiversity and Conservation) 2021
SEPP (Planning Systems)	State Environmental Planning Policy (Planning Systems) 2021
SEPP (Western Parkland City)	State Environmental Planning Policy (Precincts – Western Parkland City) 2021
SEPP (Resilience and Hazards)	State Environmental Planning Policy (Resilience and Hazards) 2021
SEPP (Transport and Infrastructure)	State Environmental Planning Policy (Transport and Infrastructure) 2021

Term / Acronym	Description
SHR	State Heritage Register
SMP	Sustainability Management Plan
the station	Macquarie Fields Station
SWMP	Soil and Water Management Plan
TAP	Transport Access Program
TAHE	Transport Asset Holding Entity
tCO _{2-e}	Tonnes of carbon dioxide equivalence
TESR	Transport Environment and Sustainability Representative
TGSI	Tactile Ground Surface Indicators (“tactiles”)
TMP	Traffic Management Plan
TPZ	Tree Protection Zone
Transport	Transport for NSW
UDLP	Urban Design and Landscape Plan
WARR	<i>Waste Avoidance and Recovery Act 2001</i>
WM Act	<i>Water Management Act 2000 (NSW)</i>
WoNS	Weeds of National Significance

Appendix A - Consideration of section 171(2) factors, section 171A factors and matters of national environmental significance and Commonwealth land

Consideration of section 171(2) factors

In addition to the requirements of the Guideline for Division 5.1 assessments (DPE 2022) as detailed in the REF, the following factors, listed in section 171(2) of the Environmental Planning and Assessment Regulation 2021, have also been considered to assess the likely impacts of the Proposal on the natural and built environment.

Factor	Description of impact	Duration and extent
a) Environmental impact on the community.	There would be some temporary impacts to the community during the construction phase in relation to traffic, noise, access and visual amenity. During operation, the Proposal would result in benefits associated with accessibility improvements at Macquarie Fields Station and no operational amenity impacts. Mitigation measures outlined in Section 7.2 would be implemented to manage and minimise any adverse impacts.	Short-term, minor adverse impacts. Long-term positive impacts.
b) The transformation of the locality.	The Proposal would introduce new visible elements to the station precinct, including the new pedestrian footbridge and lift shafts, modifications to the station forecourt and extensions to the station building. These new elements would have a visual impact, however they would be consistent with the features of a railway facility and would not lead to a major transformation of the locality. Design criteria has informed the Proposal's design to minimise any transformation of the wider locality.	Long-term, minor adverse impacts.
c) Any environmental impact on the ecosystems of the locality.	Six trees would be removed along Railway Parade during the construction phase of the Proposal, however this is not expected to have a substantial impact on the overall ecological values of the area as they would not result in the loss of naturally occurring plant communities. No large habitat trees would be cleared. The Proposal does not bisect an existing patch of native vegetation; therefore the tree removal would only marginally reduce wildlife connectivity. Offset plantings of 20 trees would be carried out as per Transport's <i>Tree and Hollow Replacement Guidelines</i> (Transport, 2023b).	Short-term, minor adverse impacts.
d) Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality.	The Proposal would result in the introduction of new visible elements to the station precinct (including the new pedestrian footbridge and lift shafts, modifications to the station forecourt and extensions to the station building) which would have a visual impact but would not result in a major impact on the landscape character of the locality.	Long-term, minor adverse impacts.

Factor	Description of impact	Duration and extent
e) Any effect on any locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations.	<p>The Proposal would result in a positive contribution to the area as it would provide equitable access to Macquarie Fields Station and improve the amenity of the station for all customers.</p> <p>There are no known historic heritage items in close proximity to the Proposal, meaning it is unlikely that the Proposal would result in any physical, visual or potential impacts to any non-Aboriginal heritage items. Construction of the Proposal would involve some minor excavation work, however given no known Aboriginal heritage sites are located within or near the Proposal area and the potential for unknown items to be present is considered low due to past disturbance, the Proposal is considered unlikely to harm Aboriginal cultural heritage during construction</p>	Long-term, positive impacts.
f) Any impact on the habitat of protected fauna (within the meaning of the <i>Biodiversity and Conservation Act 2016</i>).	The Proposal would not have any impact on the habitat of protected fauna.	Nil
g) Any endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air.	The Proposal is unlikely to endanger any species of animal, plant or other form of life, whether living on land, in water or in the air.	Nil
h) Any long-term effects on the environment	The Proposal would result in minor long-term visual impacts as a result of the introduction of prominent new features, including the new pedestrian footbridge and lift shafts, however these elements would be consistent with the features of a railway facility. The Proposal would not result in adverse long-term traffic, noise, heritage, socio-economic, biodiversity, contamination or flooding impacts. The improved accessibility at Macquarie Fields Station as a result of the Proposal would result in long-term positive impacts.	<p>Long-term, positive impacts.</p> <p>Long-term, minor adverse impacts.</p>
i) Any degradation of the quality of the environment.	The Proposal is unlikely to result in any degradation of the quality of the environment.	Nil

Factor	Description of impact	Duration and extent
j) Any risk to the safety of the environment.	The Proposal is unlikely to cause any pollution or safety risks to the environment provided management and mitigation measures outlined in Section 7.2 are implemented. Specific management measures have been included to manage risks associated with the storage and use of hazardous materials during construction and additional investigations have been recommended to confirm the presence of asbestos within existing station infrastructure.	Short-term, minor adverse impacts.
k) Any reduction in the range of beneficial uses of the environment.	The Proposal is unlikely to result in any reduction in the range of beneficial uses of the environment.	Nil
l) Any pollution of the environment.	The Proposal would result in some noise, vibration, greenhouse gas and dust emissions during the construction phase. These would be minimised through the implementation of measures included in Section 7.2.	Short-term, minor adverse impacts.
m) Any environmental problems associated with the disposal of waste	The Proposal is unlikely to cause any environmental problems associated with the disposal of waste. Transport would carry out the Proposal having regard to the requirements of the WARR Act and a site-specific Waste Management Plan would be prepared as part of the CEMP. Mitigation measures would be implemented to ensure waste is reduced, reused or recycled where practical.	Short-term, negligible impacts.
n) Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply.	The Proposal is unlikely to increase demands on resources that are, or are likely to become, in short supply.	Nil
o) The cumulative environmental effect with other existing or likely future activities.	A search of the NSW Major Projects website and the Campbelltown City Council Development Application Register revealed no projects with the potential for cumulative impacts alongside the Proposal. As such, the Proposal is unlikely to have any significant adverse cumulative impacts.	Nil
p) Any impact on coastal processes and coastal hazards, including those under projected climate change conditions.	The Proposal would not affect or be affected by any coastal processes or hazards, including those under projected climate change conditions.	Nil

Factor	Description of impact	Duration and extent
q) Applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1	Strategic plans relevant to the Proposal which have been considered in this REF (refer to Section 2.1) include: <ul style="list-style-type: none"> • Future Transport Strategy • NSW Disability Inclusion Action Plan (2021-2025) • A Metropolis of Three Cities – Greater Sydney Region Plan • Western City District Plan • Building Momentum – State Infrastructure Strategy 2022 – 2042. 	Nil
r) Other relevant environmental factors	In considering the potential impacts of this Proposal, all relevant environmental factors have been considered (refer to Chapter 6 of this REF).	Nil

Consideration of section 171A factors – activities in catchments

SEPP (Biodiversity and Conservation) – Chapter 6 (Water Catchments)

Chapter 6 (Water Catchment) of SEPP (Biodiversity and Conservation) relates to the use of land within regulated catchments. In these catchments Transport is required to consider the environmental impact of activities to which Division 5.1 of the EP&A Act applies before carrying out the activity.

The four regulated catchments are:

- the Sydney Drinking Water Catchment,
- the Sydney Harbour Catchment,
- the Georges River Catchment,
- the Hawkesbury-Nepean Catchment.

In undertaking an activity in a regulated catchment Transport must satisfy sections 6.6(2), 6.7(2), 6.8(2) and 6.9(2) and consider environmental impacts listed in sections 6.6(1), 6.7(1), 6.8(1) and 6.9(1) of State Environmental Planning Policy (Biodiversity and Conservation) 2021. This includes specific consideration of water quality and quantity, aquatic ecology, flooding, and recreation and public access.

Water quality and quantity

Table C1 Water quality and quantity considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
The project must be satisfied the below before undertaking the activity:		
6.6(2)(a)	The effect on the quality of water entering a natural waterbody would be as close as possible to neutral or beneficial	<p>There is potential for erosion and sediment to impact nearby waterways (namely Bunbury Curran Creek and its unnamed tributary given their proximity) from activities that disturb soil during construction (including excavation work during construction of the footbridge foundations and lifts). These impacts would be most likely to occur during a high rainfall event that would increase water flows through the Proposal area. However, impacts would be minimised through the implementation of erosion and sediment controls during construction as per mitigation measure 52 outlined in Section 7.2. As such, any residual impact following implementation of mitigation measures would be as close as possible to neutral.</p> <p>There is also potential impact from accidental spills or inadequate fuel and chemical storage practices resulting in localised contamination of local water quality. However, this impact would be minimised through implementation of mitigation measure 51, which provides for the storage and use of hazardous materials, including requirements for spill kits. As such, any impacts on water quality to spills or chemical storage are expected to be as close as possible to neutral.</p>
6.6(2)(b)	The impact on water flow in a natural waterbody would be minimised	The Proposal is not anticipated to result in significant increases in runoff volumes compared to the existing scenario. Regrading at bus stops, kiss and ride spaces and the new DDA compliant parking spaces has been designed to facilitate stormwater drainage, meaning the Proposal would not result in large influxes of water to nearby waterways and would therefore have negligible impacts on the water flow of nearby natural waterbodies.

Section	Factor	Impact/Comment
The project must consider the below before undertaking the activity:		
6.6(1)(a)	Consider whether the development would have a neutral or beneficial effect on the quality of water entering a waterway	There is potential for erosion and sediment to impact nearby waterways (namely Bunbury Curran Creek and its unnamed tributary given their proximity) from activities that disturb soil during construction (including excavation work during construction of the footbridge foundations and lifts). These impacts would be most likely to occur during a high rainfall event that would increase water flows through the Proposal area. However, impacts would be minimised through the implementation of erosion and sediment controls during construction as per mitigation measure 52 outlined in Section 7.2. As such, any residual impact following implementation of mitigation measures would be as close as possible to neutral.
6.6(1) (b)	Consider whether the development would have an adverse impact on water flow in a natural waterbody,	The Proposal is not anticipated to result in significant increases in runoff volumes compared to the existing scenario. Regrading at bus stops, kiss and ride spaces and the new DDA compliant parking spaces has been designed to facilitate stormwater drainage, meaning the Proposal would not result in large influxes of water to nearby waterways and would therefore have negligible impacts on the water flow of nearby natural waterbodies.
6.6(1) (c)	Consider whether the development would increase the amount of stormwater run-off from a site,	The Proposal is not anticipated to result in significant increases in stormwater runoff volumes compared to the existing scenario. Regrading at bus stops, kiss and ride spaces and the new DDA compliant parking spaces has been designed to facilitate stormwater drainage.
6.6(1) (d)	Consider whether the development would incorporate on-site stormwater retention, infiltration or reuse,	Permeable pavers would be used where possible in the station forecourt to allow water to drain in rainfall events. This would reduce standing water, cool surfaces and increase water capture for plants. In addition, a potable water use hierarchy would be implemented for the construction phase. This would include the intention to reuse on-site stormwater where possible.

Section	Factor	Impact/Comment
6.6(1) (e)	Consider the impact of the development on the level and quality of the water table,	The Proposal is unlikely to intercept groundwater during most earthworks and excavation activities. Minor volumes of groundwater may enter deeper pile cap excavations, if earthworks extend into the groundwater table. While this could lead to leaching of pollutants to groundwater, large volumes of dewatering or groundwater extraction is unlikely to be required. Should groundwater be encountered during excavation, it would be managed in accordance with Transport and NSW EPA guidelines (in line with mitigation measure 56).
6.6(1) (f)	Consider the cumulative environmental impact of the development on the regulated catchment,	No nearby projects with the potential for cumulative impacts alongside the Proposal have been identified (refer to Section 6.13). As such, it is considered that cumulative flooding, surface water and groundwater impacts on the Georges River Catchment are unlikely.
6.6(1) (g)	Consider whether the development makes adequate provision to protect the quality and quantity of ground water.	Minor volumes of groundwater may enter deeper pile cap excavations, if earthworks extend into the groundwater table. While this could lead to leaching of pollutants to groundwater, large volumes of dewatering or groundwater extraction is unlikely to be required. Should groundwater be encountered during excavation, it would be managed in accordance with Transport and NSW EPA guidelines (in line with mitigation measure 56). As such, it is considered that the Proposal makes adequate provision to protect the quality and quantity of groundwater.

Aquatic ecology

Table C2 Aquatic ecology considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
The project must satisfied of the below before undertaking the activity:		
6.7(2)(a)	The direct, indirect or cumulative adverse impact on terrestrial, aquatic or migratory animals or vegetation will be kept to the minimum necessary for the carrying out of the development	The Proposal would likely involve the removal of six trees along Railway Parade. This is not expected to have a substantial impact on the overall ecological values of the area as they would not result in the loss of naturally occurring plant community. Given

Section	Factor	Impact/Comment
		clearing is limited to six trees located in an already disturbed environment, the likelihood of impacts to threatened biodiversity (i.e. TECs, threatened species and their habitat) is minimised. Impacts to aquatic biodiversity would be minimised through the implementation of standard erosion and sediment control measures (refer to mitigation measure 52) and the Proposal has been deemed as not likely to significantly impact migratory species within the meaning of the EPBC Act.
6.7(2)(b)	The development will not have a direct, indirect or cumulative adverse impact on aquatic reserves	While the Proposal does not intersect with any waterways, there are waterways (including Key Fish Habitat) downslope of the Proposal. Standard erosion and sedimentation mitigation measures would be implemented to minimise potential impacts to nearby waterways (refer to mitigation measure 52).
6.7(2)(c)	If a controlled activity approval under the <i>Water Management Act 2000</i> or a permit under the <i>Fisheries Management Act 1994</i> is required in relation to the clearing of riparian vegetation – the approval or permit has been obtained	The Proposal would not require the clearing of riparian vegetation. On this basis a controlled activity permit under the <i>Water Management Act 2000</i> and a permit under the <i>Fisheries Management Act 1994</i> would not be required.
6.7(2)(d)	The erosion of land abutting a natural waterbody or the sedimentation of a natural waterbody will be minimised	Erosion and sedimentation impacts would be minimised through the implementation of erosion and sediment controls during construction as per mitigation measure 52 outlined in Section 7.2.
6.7(2)(e)	The adverse impact on wetlands that are not in the coastal wetlands and littoral rainforests area will be minimised.	The Proposal would not impact wetlands.
The project must consider the below before undertaking the activity:		
6.7(1)(a)	Consider whether the development will have a direct, indirect or cumulative adverse impact on terrestrial, aquatic or migratory animals or vegetation	The Proposal would likely involve the removal of six trees along Railway Parade. This is not expected to have a substantial impact on the overall ecological values of the area as it would not result in the loss of naturally occurring plant community. Given clearing is limited to six trees located in an already disturbed environment, the likelihood of impacts to threatened biodiversity (i.e. TECs, threatened species and their habitat) is minimised. Impacts to aquatic biodiversity would be

Section	Factor	Impact/Comment
		minimised through the implementation of standard erosion and sediment control measures (refer to mitigation measure 52) and the Proposal has been deemed as not likely to significantly impact migratory species within the meaning of the EPBC Act.
6.7(1) (b)	Consider whether the development involves the clearing of riparian vegetation and, if so, whether the development will require — (i) a controlled activity approval under the <i>Water Management Act 2000</i> , or (ii) a permit under the <i>Fisheries Management Act 1994</i>	The Proposal would not require the clearing of riparian vegetation. On this basis a controlled activity permit under the <i>Water Management Act 2000</i> and a permit under the <i>Fisheries Management Act 1994</i> would not be required.
6.7(1) (c)	Consider whether the development will minimise or avoid — (i) the erosion of land abutting a natural waterbody, or (ii) the sedimentation of a natural waterbody	Erosion and sedimentation impacts would be minimised through the implementation of erosion and sediment controls during construction as per mitigation measure 52 outlined in Section 7.2.
6.7(1) (d)	Consider whether the development will have an adverse impact on wetlands that are not in the coastal wetlands and littoral rainforests area	The Proposal would not impact wetlands.
6.7(1) (e)	Consider whether the development includes adequate mitigations and rehabilitation measures to protect aquatic ecology	Given impacts to aquatic ecology would be limited to potential runoff impacts, measures to protect aquatic ecology as part of the Proposal would include erosion and sediment control measures included in mitigation measure 52.
6.7(1) (f)	Consider if the development site adjoins a natural waterbody — whether additional measures are required to ensure a neutral or beneficial effect on the water quality of the waterbody. Example — Additional measures may include the incorporation of a vegetated buffer between the waterbody and the site.	There is potential for erosion and sediment to impact nearby waterways (namely Bunbury Curran Creek and its unnamed tributary given their proximity) from activities that disturb soil during construction (including excavation work during construction of the footbridge foundations and lifts). However, impacts would be minimised through the implementation of erosion and sediment controls during construction as per mitigation measure 52 outlined in Section 7.2. Implementation of these measures would ensure impacts on nearby water quality would be as close as possible to neutral. Additional mitigation measures are not proposed.

Flooding

Table C3 Flooding considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
The project must satisfied of the below before undertaking the activity:		
6.8(2)(a)	On flood liable land in a regulated catchment, the development will not – If there is a flood, result in a release of pollutants that may have an adverse impact on the water quality of a natural waterbody, or	There is the potential for accidental spills or inadequate fuel and chemical storage practices to result in localised contamination of local water quality during flooding events. However, this impact would be minimised through implementation of mitigation measure 51, which provides for the storage and use of hazardous materials, including requirements for spill kits. As such, any impacts on water quality as a result of spills or chemical storage are expected to be minor and localised. In addition, refuelling of plant and equipment would occur offsite or in designated areas designed to contain spills, which would further minimise potential water quality impacts during flood events. Weather forecasts would be regularly monitored during construction. If the potential for flooding within the Proposal area is identified, work would cease and equipment and materials would be removed from areas susceptible to flooding.
6.8(2)(b)	On flood liable land in a regulated catchment, the development will not – have an adverse impact on the natural recession of floodwaters into wetlands and other riverine ecosystems.	The Proposal is not anticipated to have an adverse impact on the natural recession of floodwaters into wetlands or other riverine ecosystems.
The project must consider the below:		
6.8(1)	Consider the likely impact of the development on periodic flooding that benefits wetlands and other riverine ecosystems	The Proposal is not anticipated to have an impact on periodic flooding that benefits wetlands and other riverine ecosystems.

Recreation and public access

Table C4 Recreation and public access considerations, SEPP (Biodiversity and Conservation)

Section	Factor	Impact/Comment
The project must satisfied of the below before undertaking the activity:		
6.9(2)(a)	The development will maintain or improve public access to and from natural waterbodies for recreational purposes, including fishing, swimming and boating, without adverse impact on natural waterbodies, watercourses, wetlands or riparian vegetation	The Proposal would not impact access to and from natural waterbodies for recreational purposes, including fishing, swimming and boating.
6.9(2)(b)	New or existing points of public access between natural waterbodies and the site of the development will be stable and safe	The Proposal would not result in the establishment of new points of public access to natural waterbodies and there are no existing points of public access between Macquarie Fields Station and a natural waterbody.
6.9(2)(c)	If land forming part of the foreshore of a natural waterbody will be made available for public access as a result of the development but is not in public ownership — public access to and use of the land will be mitigated.	Land forming part of the foreshore of a natural waterbody would not be made available for public access as a result of the Proposal.
The project must consider the below before undertaking the activity:		
6.9(1)(a)	Consider the likely impact of the development on recreational land uses in the regulated catchment	The Proposal would not result in impacts on nearby recreational land uses, including the nearby Macquarie Links International Golf Club or nearby parks and reserves.
6.9(1)(b)	Consider whether the development would maintain or improve public access to and around foreshores without adverse impact on natural waterbodies, watercourses, wetlands or riparian vegetation	The Proposal would not impact public access to and around foreshores.

Matters of National Environmental Significance and Commonwealth land

Under the environmental assessment provisions of the EPBC Act, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered to assist in determining whether the Proposal should be referred to the Australian Department of Climate Change, Energy, the Environment and Water.

Factor	Impact
a Any impact on a World Heritage property?	Nil
b Any impact on a National Heritage place?	Nil
c Any impact on a wetland of international importance?	Nil
d Any impact on a listed threatened species or communities? Provided mitigation measures are adhered to, the Proposal is expected to have a minor negative impact on fauna, which may include threatened fauna.	No significant impact on threatened species would occur as a result of the Proposal, provided appropriate mitigation measures are implemented.
e Any impacts on listed migratory species?	Nil
f Any impact on a Commonwealth marine area?	Nil
g Does the Proposal involve a nuclear action (including uranium mining)?	Nil
h Additionally, any impact (direct or indirect) on the environment of Commonwealth land?	Nil

Appendix B - Statutory consultation checklists

SEPP (Transport and Infrastructure)

Certain development types

Development type	Description	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Car Park	Does the Proposal include a car park intended for the use by commuters using regular bus services?	No	Local council and the occupiers of adjoining land	Section 2.110
Bus Depots	Does the project propose a bus depot?	No	Local council and the occupiers of adjoining land	Section 2.110

Development within the Coastal Zone

Development type	Description	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Development with impacts on certain land within the coastal zone	Is the Proposal within a coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?	No	Local council	Section 2.14

Note: See interactive map at [Planning Portal NSW spatial viewer -find a property](#). Note the coastal vulnerability area has not yet been mapped.

Note: a certified coastal zone management plan is taken to be a certified coastal management program.

Council related infrastructure or services

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Stormwater	Are the works likely to have a <i>substantial</i> impact on the stormwater management services which are provided by council?	No	Local council	Section 2.10
Traffic	Are the works likely to generate traffic to an extent that would <i>strain</i> the capacity of the existing road system in a local government area?	No	Local council	Section 2.10

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Sewerage system	Would the works involve connection to a council owned sewerage system? If so, would this connection have a <i>substantial</i> impact on the capacity of any part of the system?	No	Local council	Section 2.10
Water usage	Would the works involve connection to a council owned water supply system? If so, will this require the use of a <i>substantial</i> volume of water?	No	Local council	Section 2.10
Temporary structures	Would the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, would this cause more than a <i>minor</i> or <i>inconsequential</i> disruption to pedestrian or vehicular flow?	No	Local council	Section 2.10
Road & footpath excavation	Would the works involve more than <i>minor</i> or <i>inconsequential</i> excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?	Yes	Local council	Section 2.10

Local heritage items

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Local heritage	Is there is a local heritage item (that is not also a State heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential?	No	Local council	Section 2.11

Flood liable land

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Flood liable land	Are the works located on flood liable land? If so, would the works change flood patterns to more than a <i>minor</i> extent?	No	Local council	Section 2.12
Flood liable land	Are the works located on flood liable land? (to any extent). If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance?	Yes	State Emergency Services Email: rra@ses.nsw.gov.au	Section 2.13

Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the manual entitled Floodplain Development Manual: the management of flood liable land published by the New South Wales Government.

Public authorities other than councils

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
National parks and reserves	Are the works adjacent to a national park or nature reserve, or other area reserved under the <i>National Parks and Wildlife Act 1974</i> , or on land acquired under that Act?	No	Environment and Heritage Group, NSW DCCEW	Section 2.15(2)(a)
National parks and reserves	Are the works on land in Zone E1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?	No	Environment and Heritage Group, NSW DCCEW	Section 2.15(2)(b)
Navigable waters	Do the works include a fixed or floating structure in or over navigable waters?	No	Transport for NSW - Maritime	Section 2.15(2)(c)
Artificial light	Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)	No	Director of the Siding Spring Observatory	Section 2.15(2)(d)

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP (Transport and Infrastructure) Section
Defence communications buffer land	Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in section 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011)	No	Secretary of the Commonwealth Department of Defence	Section 2.15(2)(e)
Mine subsidence land	Are the works on land in a mine subsidence district within the meaning of the <i>Mine Subsidence Compensation Act 1961</i> ?	No	Mine Subsidence Board	Section 2.15(2)(f)
Willandra Lakes region world heritage property	Is the development on, or reasonably likely to have an impact on, a part of the Willandra Lakes Region World Heritage Property?	No	The World Heritage Advisory Committee and Heritage NSW	Section 2.15(2)(g)
Western Parkland City land	Is the development within a Western City operational area specified in Schedule 2 of the <i>Western Parkland City Authority Act 2018</i> , with a capital investment value of \$30 million or more?	No	The Western Parkland City Authority constituted under that Act. Email: planningreferral@wpca.sydney Note: It is recommended to confirm email address with WPCA prior to consultation.	Section 2.15(2)(h)

SEPP (Precincts – Western Parkland City) 2021

Development type	Potential impact	Yes / No	If 'yes' consult with	SEPP section
Clearing native vegetation	Do the works involve clearing native vegetation (as defined in the <i>Local Land Services Act 2013</i>) on land that is not subject land (as defined in cl 17 of schedule 7 of the <i>Threatened Species Conservation Act 1995</i>)?	No, the Proposal is not within the South West Growth Centre and therefore this section of the SEPP does not apply.	Department of Planning, Housing and Infrastructure	Section 3.24

Appendix C – EPBC Act PMST Search Results



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 18-Jun-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	12
Listed Threatened Species:	102
Listed Migratory Species:	38

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	966
Commonwealth Heritage Places:	2
Listed Marine Species:	47
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	48
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Castlereagh Scribbly Gum and Agnes Banks Woodlands of the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In feature area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In buffer area only
Coastal Upland Swamps in the Sydney Basin Bioregion	Endangered	Community likely to occur within area	In feature area
Cooks River/Castlereagh Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In feature area
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest	Critically Endangered	Community likely to occur within area	In feature area
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area	In feature area
Shale Sandstone Transition Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In feature area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only
Turpentine-Ironbark Forest of the Sydney Basin Bioregion	Critically Endangered	Community likely to occur within area	In buffer area only
Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion	Endangered	Community may occur	In buffer area only within area
Western Sydney Dry Rainforest and Moist Woodland on Shale	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area	In feature area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
Erythroriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat known to occur within area	In feature area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area	In buffer area only
FROG			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat known to occur within area	In feature area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area	In feature area
Litoria littlejohni Northern Heath Frog, Littlejohn's Tree Frog [64733]	Endangered	Species or species habitat may occur within area	In buffer area only
Litoria watsoni Southern Heath Frog, Watson's Tree Frog [91509]	Endangered	Species or species habitat may occur within area	In buffer area only
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
INSECT			
Austrocordulia leonardi Sydney Hawk Dragonfly [84741]	Endangered	Species or species habitat known to occur within area	In feature area
MAMMAL			
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat may occur within area	In buffer area only
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	In feature area
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In feature area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Acacia baueri subsp. aspera [18662]	Endangered	Species or species habitat may occur within area	In buffer area only
Acacia bynoeana Bynoe's Wattle, Tiny Wattle [8575]	Vulnerable	Species or species habitat may occur within area	In feature area
Acacia pubescens Downy Wattle, Hairy Stemmed Wattle [18800]	Vulnerable	Species or species habitat known to occur within area	In feature area
Acacia terminalis subsp. Eastern Sydney (G.P.Phillips 126) listed as Acacia terminalis subsp. terminalis MS			In buffer area only
Sunshine Wattle (Sydney region) [91564]	Endangered	Species or species habitat may occur within area	
Allocasuarina glareicola [21932]	Endangered	Migration route known to occur within area	In feature area
Astrotricha crassifolia Thick-leaf Star-hair [10352]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat may occur within area	In feature area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat known to occur within area	In buffer area only
Eucalyptus benthamii Camden White Gum, Nepean River Gum [2821]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Genoplesium baueri Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid [7528]	Endangered	Species or species habitat known to occur within area	In feature area
Grevillea parviflora subsp. parviflora Small-flower Grevillea [64910]	Vulnerable	Species or species habitat known to occur within area	In feature area
Haloragis exalata subsp. exalata Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Hibbertia puberula subsp. glabrescens [86645]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Leucopogon exolasius Woronora Beard-heath [14251]	Vulnerable	Species or species habitat known to occur within area	In feature area
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Melaleuca deanei Deane's Melaleuca [5818]	Vulnerable	Species or species habitat known to occur within area	In feature area
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Persoonia hirsuta Hairy Geebung, Hairy Persoonia [19006]	Endangered	Species or species habitat known to occur within area	In feature area
Persoonia nutans Nodding Geebung [18119]	Endangered	Species or species habitat known to occur within area	In feature area
Pimelea curviflora var. curviflora [4182]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pimelea spicata Spiked Rice-flower [20834]	Endangered	Species or species habitat known to occur within area	In feature area
Pomaderris brunnea Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pterostylis gibbosa Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood [4562]	Endangered	Species or species habitat may occur within area	In feature area
Pterostylis saxicola Sydney Plains Greenhood [64537]	Endangered	Species or species habitat known to occur within area	In feature area
Pultenaea aristata [18062]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pultenaea parviflora [19380]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thelymitra kangaloonica Kangaloon Sun Orchid [81861]	Critically Endangered	Species or species habitat may occur within area	In feature area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat may occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat may occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat may occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Hoplocephalus bungaroides Broad-headed Snake [1182]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

SHARK

Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
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Listed Migratory Species [[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche eremita Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Migratory Marine Species			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat may occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area	In buffer area only
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands

[Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Commonwealth Bank of Australia		
Commonwealth Land - Commonwealth Bank of Australia [12162]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [12173]	NSW	In buffer area only
Commonwealth Land - Commonwealth Bank of Australia [12174]	NSW	In buffer area only
Commonwealth Trading Bank of Australia		
Commonwealth Land - Commonwealth Trading Bank of Australia [13347]	NSW	In buffer area only
Commonwealth Land - Commonwealth Trading Bank of Australia [13346]	NSW	In buffer area only
Communications, Information Technology and the Arts - Australian Postal Corporation		
Commonwealth Land - Australian Postal Commission [13350]	NSW	In buffer area only
Commonwealth Land - Australian Postal Commission [12153]	NSW	In buffer area only
Commonwealth Land - Australian Postal Corporation [12176]	NSW	In buffer area only
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [12152]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13340]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13358]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13866]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12177]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13455]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12178]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [12151]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Commission [13882]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Australian Telecommunications Commission [13883]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [13503]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [13343]	NSW	In buffer area only
Commonwealth Land - Australian Telecommunications Corporation [12175]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [15733]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [15703]	NSW	In buffer area only
Commonwealth Land - Telstra Corporation Limited [15966]	NSW	In buffer area only
Defence		
Commonwealth Land - Defence Service Homes Corporation [13869]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [12168]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [12167]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13879]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13870]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13873]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13872]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13871]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13876]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13877]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13874]	NSW	In buffer area only
Commonwealth Land - Defence Service Homes Corporation [13875]	NSW	In buffer area only
Defence - EAST HILLS BARRACKS - OP SAFE HAVEN [10191]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10200]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10198]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10197]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10192]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10195]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Defence - INGLEBURN AREA (Bardia Barracks) [10199]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10194]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10196]	NSW	In buffer area only
Defence - INGLEBURN AREA (Bardia Barracks) [10193]	NSW	In buffer area only
Defence - MOOREBANK AREA INC SME [10205]	NSW	In buffer area only
Defence - Suite 8, Library Plaza [10230]	NSW	In buffer area only
Defence - WET BRIDGING SITE - CASULA [10211]	NSW	In buffer area only
Defence - Defence Housing Authority		
Commonwealth Land - Defence Housing Authority [15637]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16550]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13831]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13431]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15922]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13835]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13448]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13834]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13449]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13833]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13446]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13832]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13447]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13422]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16027]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16026]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13837]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13428]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13430]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13723]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15800]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15803]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15802]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13735]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16086]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16087]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13722]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15324]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15801]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13730]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16088]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16083]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16085]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13734]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13737]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13736]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13731]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13665]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15783]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13403]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13801]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15598]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16553]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16552]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15488]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16554]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13843]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15921]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16555]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13838]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13664]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15693]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15320]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15580]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16302]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15691]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13739]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13738]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15498]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13733]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13732]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16551]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15490]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15491]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15492]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15493]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15495]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16437]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13815]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13751]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13750]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13406]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15552]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15553]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15550]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15551]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15582]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13470]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15581]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16438]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15584]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15558]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15583]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15559]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13369]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13697]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15585]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13696]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15786]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13800]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15766]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15767]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15762]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13559]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15763]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13558]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13979]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13551]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13405]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13550]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15782]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13553]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13552]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13555]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13638]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13554]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13639]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15768]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15769]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15764]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15765]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13443]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13444]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13445]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13814]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15557]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15781]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13440]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15780]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13441]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15668]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15785]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15554]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15784]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15555]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15787]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15556]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13631]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13829]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13632]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13411]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13637]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13557]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13630]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13556]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13458]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13414]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15664]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13415]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13633]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13412]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15789]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13413]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12197]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13416]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13417]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13635]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13636]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12179]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13634]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13688]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13720]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13721]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13521]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13522]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13681]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13680]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13683]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13726]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13727]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13724]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13725]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13781]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15571]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13827]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13345]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13520]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13780]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16353]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15479]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15478]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13419]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13344]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15814]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13684]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13687]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13729]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13577]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13685]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13578]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15464]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13699]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15549]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13579]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13693]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13690]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13439]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13695]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15153]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13692]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13728]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13438]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13694]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13686]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13533]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15467]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15462]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15463]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13354]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13355]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15788]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13418]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13978]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15597]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16341]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13546]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13547]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13544]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13545]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13429]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13853]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13852]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13855]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13854]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13857]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13856]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15496]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13502]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15494]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15497]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13543]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16521]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13851]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13424]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13427]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13541]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13425]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13420]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13423]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13426]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13421]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13523]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13527]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13526]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13525]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15470]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13850]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15578]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13529]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13528]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12188]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16187]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16186]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13515]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13517]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12186]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12181]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15816]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13513]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15811]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12195]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15817]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13806]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15815]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13689]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15810]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15813]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13818]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13799]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13542]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15665]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13867]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [12182]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13605]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15326]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13601]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13540]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13511]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15162]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15163]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13830]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15615]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13762]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16001]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16000]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13759]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13608]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13609]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13606]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16007]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15804]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15805]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15806]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15807]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16003]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16002]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16005]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15809]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13353]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15998]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13452]	NSW	In feature area
Commonwealth Land - Defence Housing Authority [15997]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13453]	NSW	In feature area
Commonwealth Land - Defence Housing Authority [13804]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13599]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15999]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13598]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13667]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13666]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13497]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13496]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13356]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13357]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15468]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15469]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15990]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15991]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12185]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13518]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13514]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15996]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15995]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15994]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15993]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15992]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15871]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15870]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15877]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12187]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15878]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15875]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15876]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13516]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15874]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13745]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13668]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12183]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16291]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13512]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13744]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15873]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13510]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13749]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13748]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13661]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13660]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13663]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13662]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13742]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13743]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13740]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13741]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13349]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [16181]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12184]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16183]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16180]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16185]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16182]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13571]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13570]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13476]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13477]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13474]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13475]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13378]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13379]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13457]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13808]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15568]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13597]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13596]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13591]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13459]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13593]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13592]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13454]	NSW	In feature area
Commonwealth Land - Defence Housing Authority [13712]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13713]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15158]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13718]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13710]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13711]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13399]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13719]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15316]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15843]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15319]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15828]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13398]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15829]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15317]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13573]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13498]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13574]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12140]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13575]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13490]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13491]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13572]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12142]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13494]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13495]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13492]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13493]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15825]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15577]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15826]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15471]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15579]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15824]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15821]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15573]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15822]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15574]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15827]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15575]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15820]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15173]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16503]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16502]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15823]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15172]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13396]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15473]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15472]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13390]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13790]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13391]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15456]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15457]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15454]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13394]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15146]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13392]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14635]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13393]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13791]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14634]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16478]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13677]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14639]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14638]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15474]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15455]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15458]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13798]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13675]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16479]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13676]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15466]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15170]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15171]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13499]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15174]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12141]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15175]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15812]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15770]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15477]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15771]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15476]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15772]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15475]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15773]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15774]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13655]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15775]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13658]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13654]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16506]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13361]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16507]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13363]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16505]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13594]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16508]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16509]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15323]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13659]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13595]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13348]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15322]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13793]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16522]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13792]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15321]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13364]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [14636]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13365]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16523]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13366]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13367]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14637]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13583]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13580]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13581]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13586]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13351]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13600]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13582]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13401]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13402]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13400]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13747]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13819]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13404]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13562]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13746]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13563]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16355]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13485]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13486]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13487]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16354]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13480]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13484]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13584]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13585]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13587]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13588]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13481]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13589]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13460]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13565]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13564]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13569]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13568]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13561]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13560]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13567]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13566]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13647]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13389]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13640]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13643]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12172]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13644]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13451]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13646]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13488]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13641]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13489]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13763]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13760]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13761]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13645]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13388]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13381]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13380]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13383]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13382]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13385]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13384]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13387]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13386]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16515]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13483]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13482]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13478]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13370]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13794]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13371]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15565]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13603]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13377]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15854]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15567]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16538]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15566]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16539]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13796]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16537]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13649]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13648]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13642]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16517]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16514]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16516]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16511]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16510]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16513]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16512]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16519]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14642]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14641]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13479]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12150]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13524]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13472]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13519]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15853]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15852]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15576]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13812]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15851]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15989]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15850]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15988]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15859]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15858]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16004]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15985]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15986]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15987]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15980]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15981]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15982]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15983]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13549]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15984]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13769]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13768]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13473]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13767]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13766]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13765]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13764]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13450]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13785]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13786]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13787]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13788]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15855]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13782]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13783]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13784]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15145]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15856]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13810]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13811]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15857]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15147]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16504]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13789]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15149]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15148]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13817]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15844]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15845]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15842]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15159]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13652]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13771]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13653]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13508]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13715]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15846]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13714]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15847]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13656]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13657]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13650]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13773]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13651]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13679]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13716]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13717]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13772]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13774]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13775]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13776]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13777]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13671]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13779]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13673]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15325]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13674]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15794]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15795]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15798]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15799]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15790]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15791]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15796]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15797]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15849]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [15151]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15152]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15841]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15154]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15840]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15157]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15150]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15155]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15156]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13678]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12196]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13698]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12193]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12190]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12191]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13770]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13410]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13509]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16352]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12194]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13507]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13505]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13973]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13975]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13974]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13977]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13976]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13778]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13590]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13672]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13795]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13506]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15819]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15818]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13604]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13500]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13607]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13807]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13437]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15836]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13434]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15837]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16546]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15838]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15839]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13433]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13539]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15834]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13436]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15835]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13535]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13536]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13432]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13534]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13709]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13708]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13701]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13700]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16544]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16547]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13707]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13373]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15480]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13705]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13706]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13844]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13703]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15481]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13704]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16488]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16489]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13702]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13840]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13841]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13842]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15489]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13435]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [14640]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13758]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13504]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15561]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13409]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13532]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15160]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13836]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13501]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15167]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15164]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13531]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15161]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13530]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15166]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15832]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15831]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15830]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15165]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16560]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13576]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13548]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15833]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13624]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15867]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15866]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15865]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15864]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15868]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15869]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13368]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13682]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12189]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13813]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16518]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13372]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13627]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13626]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13625]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13376]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15562]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13802]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15560]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15776]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13755]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13754]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13757]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13756]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13828]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15168]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13622]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12198]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15860]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15861]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15862]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15863]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15778]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15777]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13628]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15779]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15848]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13629]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13621]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13620]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12137]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12136]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13809]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16364]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13616]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13617]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13614]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13615]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13612]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13613]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13610]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13752]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13753]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13619]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13618]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16487]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16480]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15487]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12138]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12139]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16365]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Defence Housing Authority [13805]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13839]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13374]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13602]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16541]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [12192]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16542]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16545]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16540]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16543]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16548]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [16549]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13611]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13816]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15680]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15141]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13471]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15667]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15666]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15808]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15144]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13670]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13375]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15142]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [15143]	NSW	In buffer area only
Commonwealth Land - Defence Housing Authority [13797]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13359]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - Director of War Service Homes [12180]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13868]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13881]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13880]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13456]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12169]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12171]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [12170]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13884]	NSW	In buffer area only
Commonwealth Land - Director of War Service Homes [13878]	NSW	In buffer area only
Education, Science and Training - Australian Nuclear Science and Technology Organisation		
Commonwealth Land - Australian Nuclear Science & Technology Organisation [12143]	NSW	In buffer area only
Commonwealth Land - Australian Nuclear Science & Technology Organisation [15916]	NSW	In buffer area only
Unknown		
Commonwealth Land - [15169]	NSW	In buffer area only
Commonwealth Land - [15694]	NSW	In buffer area only
Commonwealth Land - [12919]	NSW	In buffer area only
Commonwealth Land - [15692]	NSW	In buffer area only
Commonwealth Land - [16066]	NSW	In buffer area only
Commonwealth Land - [13442]	NSW	In buffer area only
Commonwealth Land - [15663]	NSW	In buffer area only
Commonwealth Land - [13821]	NSW	In buffer area only
Commonwealth Land - [13824]	NSW	In buffer area only
Commonwealth Land - [13826]	NSW	In buffer area only
Commonwealth Land - [13823]	NSW	In buffer area only
Commonwealth Land - [13825]	NSW	In buffer area only
Commonwealth Land - [13822]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [13691]	NSW	In buffer area only
Commonwealth Land - [15465]	NSW	In buffer area only
Commonwealth Land - [16188]	NSW	In buffer area only
Commonwealth Land - [12920]	NSW	In buffer area only
Commonwealth Land - [12925]	NSW	In buffer area only
Commonwealth Land - [12926]	NSW	In buffer area only
Commonwealth Land - [12923]	NSW	In buffer area only
Commonwealth Land - [12921]	NSW	In buffer area only
Commonwealth Land - [12922]	NSW	In buffer area only
Commonwealth Land - [12924]	NSW	In buffer area only
Commonwealth Land - [16006]	NSW	In buffer area only
Commonwealth Land - [13352]	NSW	In buffer area only
Commonwealth Land - [13803]	NSW	In buffer area only
Commonwealth Land - [15872]	NSW	In buffer area only
Commonwealth Land - [13669]	NSW	In buffer area only
Commonwealth Land - [15318]	NSW	In buffer area only
Commonwealth Land - [13397]	NSW	In buffer area only
Commonwealth Land - [13395]	NSW	In buffer area only
Commonwealth Land - [13820]	NSW	In buffer area only
Commonwealth Land - [16303]	NSW	In buffer area only
Commonwealth Land - [13360]	NSW	In buffer area only
Commonwealth Land - [13362]	NSW	In buffer area only
Commonwealth Land - [16520]	NSW	In buffer area only
Commonwealth Land - [15140]	NSW	In buffer area only
Commonwealth Land - [13407]	NSW	In buffer area only
Commonwealth Land - [13467]	NSW	In buffer area only
Commonwealth Land - [13461]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [13885]	NSW	In buffer area only
Commonwealth Land - [13408]	NSW	In buffer area only
Commonwealth Land - [15792]	NSW	In buffer area only
Commonwealth Land - [15793]	NSW	In buffer area only
Commonwealth Land - [13462]	NSW	In buffer area only
Commonwealth Land - [13538]	NSW	In buffer area only
Commonwealth Land - [13537]	NSW	In buffer area only
Commonwealth Land - [13623]	NSW	In buffer area only
Commonwealth Land - [16184]	NSW	In buffer area only

Commonwealth Heritage Places [Resource Information]			
Name	State	Status	Buffer Status
Historic			
Old Army / Internment Camp Group Holsworthy	NSW	Listed place	In buffer area only
Indigenous			
Cubbitch Barta National Estate Area	NSW	Listed place	In buffer area only

Listed Marine Species [Resource Information]			
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna grisea as Puffinus griseus			
Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In buffer area only
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Sterna striata White-fronted Tern [799]		Migration route may occur within area	In feature area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche bulleri platei as Thalassarche sp. nov.			
Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche eremita			
Chatham Albatross [64457]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida			
Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris			
Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Thalassarche salvini			
Salvin's Albatross [64463]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche steadi			
White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Tringa nebularia			
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Reptile			
Caretta caretta			
Loggerhead Turtle [1763]	Endangered	Species or species habitat may occur within area	In buffer area only
Chelonia mydas			
Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dermochelys coriacea			
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Eretmochelys imbricata			
Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Natator depressus			
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Edmondson	Regional Park	NSW	In buffer area only
Gandangara	State Conservation Area	NSW	In buffer area only
Kemps Creek	Nature Reserve	NSW	In buffer area only
Leacock	Regional Park	NSW	In buffer area only

Nationally Important Wetlands			[Resource Information]
Wetland Name		State	Buffer Status
Voyager Point		NSW	In buffer area only

EPBC Act Referrals					[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status	
Riverlands Shared Pathway	2023/09665		Completed	In buffer area only	

Controlled action				
Airds and Bradbury Renewal Project	2011/6169	Controlled Action	Post-Approval	In buffer area only
construction of a regional scale stormwater detention basin, spillway and outlet	2011/5819	Controlled Action	Post-Approval	In buffer area only
Emerald Hills residential & commercial estate development, Camden Valley Way, Leppington, NSW	2013/6999	Controlled Action	Post-Approval	In buffer area only
Glenfield Waste Services recycling facility, Glenfield, NSW	2015/7529	Controlled Action	Assessment Approach	In buffer area only
Lot 102, Prestons ??? Industrial Warehouse Space	2021/9010	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Lyn Parade Extension	2004/1392	Controlled Action	Post-Approval	In feature area
Moorebank Avenue Realignment	2020/8839	Controlled Action	Post-Approval	In buffer area only
Moorebank Intermodal Terminal Facility	2011/6229	Controlled Action	Post-Approval	In buffer area only
Moorebank Intermodal Terminal Project	2011/6086	Controlled Action	Post-Approval	In buffer area only
Residential subdivision Lot 400 Strathyre Road, Prestons, NSW	2015/7627	Controlled Action	Post-Approval	In buffer area only
Sale of surplus land at Ingleburn	2007/3567	Controlled Action	Post-Approval	In buffer area only
South Sydney Freight Rail Line	2005/2393	Controlled Action	Post-Approval	In feature area
Urban & recreational Development (El Caballo Blanco, Gledswood & Lakeside), Gledswood, NSW	2013/6979	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Blair Athol Residential Subdivision	2001/198	Not Controlled Action	Completed	In buffer area only
Boral Moorebank Quarry Rehabilitation	2000/115	Not Controlled Action	Completed	In buffer area only
Claymore Urban Renewal Project	2011/6204	Not Controlled Action	Completed	In buffer area only
Clearance of 6.3ha of Cumberland Plain Woodland for industrial subdivision cnr of Old Walgrove and W	2004/1445	Not Controlled Action	Completed	In buffer area only
construction of a road linking Newbridge Road and Nuwarra Road	2004/1843	Not Controlled Action	Completed	In feature area
Construction of Pipelines and Reservoirs at Ingleburn Army Camp as Part of the H	2009/4844	Not Controlled Action	Completed	In buffer area only
Demobilisation of Lot 3001, Moorebank Intermodal Terminal, Liverpool, Sydney	2014/7152	Not Controlled Action	Completed	In buffer area only
Demolition and replacement of footbridge	2002/643	Not Controlled Action	Completed	In buffer area only
Development of a car & truck parking area at the Boral site	2011/6134	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Development of a residential subdivision	2010/5731	Not Controlled Action	Completed	In buffer area only
Electricity Substation at Old Wallgrove Road	2005/2220	Not Controlled Action	Completed	In buffer area only
Extension to Lucas Heights production building	2003/1114	Not Controlled Action	Completed	In buffer area only
gas main installation from Eastern Creek to Erskine Park	2005/2235	Not Controlled Action	Completed	In buffer area only
Georges River Program 2	2003/999	Not Controlled Action	Completed	In buffer area only
Green Valley NSW residential developmemt	2003/1236	Not Controlled Action	Completed	In buffer area only
Greenway Park Stage 3 residential subdivision	2004/1622	Not Controlled Action	Completed	In feature area
Holsworthy Redevelopment Project Program of Works	2004/1391	Not Controlled Action	Completed	In buffer area only
Hoxton Park Residential development	2011/6103	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Lucas Heights Resource Recovery Park Projects, Illawarra Highway, Lucas Heights NSW	2015/7432	Not Controlled Action	Completed	In buffer area only
Playing Field Upgrade Cedar Road	2011/5950	Not Controlled Action	Completed	In buffer area only
Residential Development in Edmonston Park	2009/4832	Not Controlled Action	Completed	In buffer area only
Residential Subdivision Braidwood Drive	2011/5940	Not Controlled Action	Completed	In buffer area only
Shipment of Spent Nuclear Fuel to USA	2007/3672	Not Controlled Action	Completed	In buffer area only
Staged Revelopment of Riverlands Golf Club Site	2008/4464	Not Controlled Action	Completed	In buffer area only
Sydney Primary Loop Gas Pipeline	2006/2622	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Widening of the M5 Southwest Motorway	2010/5665	Not Controlled Action	Completed	In buffer area only
Wonderland Business Park Precinct, Stage 1, Lot D1	2004/1626	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Moorebank Units Relocation Project, Holsworthy Training Area, NSW	2012/6462	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Transport of OPAL Spent Fuel to France in 2018 and 2025	2016/7841	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Referral decision				
Claymore Urban Renewal Project	2011/6162	Referral Decision	Completed	In buffer area only
Northern Expansion of the Camden Gas Project	2012/6638	Referral Decision	Completed	In feature area
Bioregional Assessments			[Resource Information]	
SubRegion	BioRegion	Website	Buffer Status	
Sydney	Sydney Basin	BA website	In feature area	

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Appendix D – BioNet Search Results

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Threatened (listed on BC Act 2016) ,Commonwealth listed ,CAMBA listed ,JAMBA listed or ROKAMBA listed Entities in selected area [North: -33.93 West: 150.83 East: 150.93 South: -34.03] recorded since 01 Jan 2004 until 16 Jun 2024
Report generated on 16/06/2024 10:26 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Animalia	Amphibia	Hylidae	3166	<i>Litoria aurea</i>		Green and Golden Bell Frog	E1,P	V	2	
Animalia	Aves	Apodidae	0335	<i>Apus pacificus</i>		Fork-tailed Swift	P	C,J,K	1	
Animalia	Aves	Accipitridae	0226	<i>Haliaeetus</i>		White-bellied Sea-Eagle	V,P		7	
Animalia	Aves	Accipitridae	0225	<i>Hieraetus</i>		Little Eagle	V,P		11	
Animalia	Aves	Accipitridae	0230	^^ <i>Lophoictinia</i>		Square-tailed Kite	V,P,3		2	
Animalia	Aves	Burhinidae	0174	<i>Burhinus grallarius</i>		Bush Stone-curlew	E1,P		2	
Animalia	Aves	Charadriidae	0136	<i>Pluvialis squatarola</i>		Grey Plover	P	C,J,K	2	
Animalia	Aves	Scolopacidae	0158	<i>Tringa nebularia</i>		Common Greenshank	P	C,J,K	1	
Animalia	Aves	Cacatuidae	0268	^^ <i>Callocephalon fimbriatum</i>		Gang-gang Cockatoo	E1,P,3	E	1	
Animalia	Aves	Cacatuidae	8862	^ <i>Calyptorhynchus lathamii lathamii</i>		South-eastern Glossy Black-Cockatoo	V,P,2	V	3	
Animalia	Aves	Psittacidae	0260	<i>Glossopsitta pusilla</i>		Little Lorikeet	V,P		23	
Animalia	Aves	Psittacidae	0309	<i>Lathamus discolor</i>		Swift Parrot	E1,P	CE	17	
Animalia	Aves	Psittacidae	0302	^^ <i>Neophema</i>		Turquoise Parrot	V,P,3		1	
Animalia	Aves	Strigidae	0248	^^ <i>Ninox strenua</i>		Powerful Owl	V,P,3		12	
Animalia	Aves	Tytonidae	0250	^^ <i>Tyto</i>		Masked Owl	V,P,3		1	
Animalia	Aves	Meliphagidae	0603	^ <i>Anthochaera</i>		Regent Honeyeater	E4A,P,2	CE	1	
Animalia	Aves	Meliphagidae	8303	<i>Melithreptus gularis gularis</i>		Black-chinned Honeyeater (eastern subspecies)	V,P		2	
Animalia	Aves	Neosittidae	0549	<i>Daphoenositta chrysoptera</i>		Varied Sittella	V,P		21	
Animalia	Aves	Artamidae	8519	<i>Artamus cyanopterus</i>		Dusky Woodswallow	V,P		6	
Animalia	Aves	Petroicidae	0380	<i>Petroica boodang</i>		Scarlet Robin	V,P		5	
Animalia	Mammalia	Phascolarctidae	1162	<i>Phascolarctos cinereus</i>		Koala	E1,P	E	377	
Animalia	Mammalia	Petauridae	1137	<i>Petaurus</i>		Squirrel Glider	V,P		1	
Animalia	Mammalia	Pteropodidae	1280	<i>Pteropus</i>		Grey-headed Flying-fox	V,P	V	194	
Animalia	Mammalia	Emballonuridae	1321	<i>Saccolaimus flaviventris</i>		Yellow-bellied Sheath-tail-bat	V,P		5	
Animalia	Mammalia	Molossidae	1329	<i>Micronomus norfolkensis</i>		Eastern Coastal Free-tailed Bat	V,P		32	
Animalia	Mammalia	Vespertilionidae	1353	<i>Chalinolobus dwyeri</i>		Large-eared Pied Bat	V,P	E	2	
Animalia	Mammalia	Vespertilionidae	1372	<i>Falsistrellus tasmaniensis</i>		Eastern False Pipistrelle	V,P		10	
Animalia	Mammalia	Vespertilionidae	1357	<i>Myotis macropus</i>		Southern Myotis	V,P		31	
Animalia	Mammalia	Vespertilionidae	1361	<i>Scoteanax rueppellii</i>		Greater Broad-nosed Bat	V,P		23	
Animalia	Mammalia	Miniopteridae	1346	<i>Miniopterus</i>		Little Bent-winged Bat	V,P		4	
Animalia	Mammalia	Miniopteridae	3330	<i>Miniopterus orianae oceanensis</i>		Large Bent-winged Bat	V,P		43	
Animalia	Gastropoda	Camaenidae	1006	<i>Meridolum</i>		Cumberland Plain Land Snail	E1		102	
Plantae	Flora	Apocynaceae	10896	<i>Marsdenia viridiflora subsp. viridiflora</i>		Marsdenia viridiflora R. Br. subsp. viridiflora population in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government	E2		8	
Plantae	Flora	Dilleniaceae	14735	<i>Hibbertia fumana</i>			E4A		1104	
Plantae	Flora	Dilleniaceae	11422	<i>Hibbertia puberula</i>			E1		873	
Plantae	Flora	Dilleniaceae	13902	<i>Hibbertia sp.</i>			E4A	CE	1	
Plantae	Flora	Ericaceae	2618	<i>Leucopogon</i>		Woronora Beard-heath	V	V	1	

Plantae	Flora	Ericaceae	9569	<i>Leucopogon fletcheri</i> subsp.		E1		1	
Plantae	Flora	Fabaceae (Faboideae)	3008	<i>Pultenaea pedunculata</i>	Matted Bush-pea	E1		2	
Plantae	Flora	Fabaceae (Mimosoideae)	3728	<i>Acacia bynoeana</i>	Bynoe's Wattle	E1	V	159	
Plantae	Flora	Fabaceae (Mimosoideae)	3860	<i>Acacia pubescens</i>	Downy Wattle	V	V	289	
Plantae	Flora	Myrtaceae	4007	<i>Callistemon linearifolius</i>	Netted Bottle Brush	V,3		1	
Plantae	Flora	Myrtaceae	4293	<i>Syzygium</i>	Magenta Lilly Pilly	E1	V	2	
Plantae	Flora	Orchidaceae	9615	<i>Pterostylis</i>	Sydney Plains Greenhood	E1,P,2	E	91	
Plantae	Flora	Proteaceae	10009	<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flower Grevillea	V	V	1316	
Plantae	Flora	Proteaceae	9680	<i>Macadamia</i>	Macadamia Nut		V	1	
Plantae	Flora	Proteaceae	5458	<i>Persoonia</i>	Hairy Geebung	E1,P,3	E	1	
Plantae	Flora	Proteaceae	5467	<i>Persoonia nutans</i>	Nodding Geebung	E1,P	E	327	
Plantae	Flora	Rhamnaceae	5573	<i>Pomaderris</i>	Brown Pomaderris	E1	V	7	
Plantae	Flora	Thymelaeaceae	6190	<i>Pimelea spicata</i>	Spiked Rice-flower	E1	E	3	

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