APPENDIX C – Ecological Assessment

12 July 2022

Jason Ambler
Environment and Sustainability
Transport for Tomorrow
231 Elizabeth Street
SYDNEY NSW 2000

Dear Jason

Re: Ecological assessment for the South Coast Power Upgrades

Project no. 37042

Biosis Pty Ltd was commissioned by Transport for Tomorrow on behalf of Transport for New South Wales (NSW) to complete ecological assessments to describe the ecological values and constraints associated with the proposed upgrades to the Illawarra railway in the Wollongong region, NSW.

Biosis understands that Transport for Tomorrow proposes to upgrade rail infrastructure of the Illawarra Railway in three locations; Kembla Grange, Croome and Albion Park (the project) (Appendix 1; Figure 1). These upgrades will occur in the railway corridor (the study area) and require direct impacts to vegetation and minor filling works (Appendix 1; Figure 2). The project is to be assessed under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and these investigations will be used to inform the *Review of Environmental Factors* (REF) being prepared for the proposed works.

The objective of these flora and fauna assessments is to determine the presence of any threatened ecological communities (TECs) within the study areas and, where applicable, assess the impacts of the project on any threatened species, populations and/or ecological communities (entities), or their habitat, listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Biodiversity Conservation Act 2016* (BC Act) and *Fisheries Management Act 1994* (FM Act).

Background

The surrounding land in these areas facilitates a range of land uses, however the primary land zones include R2 – Low Density Residential, IN1 – General Industrial, IN2 – Light Industrial and IN3 - Heavy Industrial and consists of significant industrial infrastructure and cleared land. Minor patches of fragmented vegetation exists outside the study areas, providing a low level of connectivity to the vegetation within the study areas. A summary of the three study areas is demonstrated in Table 1.

Table 1 Summary of study areas

Summary of project areas	Local Government Area (LGA)	Study Area (hectares)
Kembla Grange	Wollongong	6.1
Croome	Shellharbour	0.2

Summary of project areas	Local Government Area (LGA)	Study Area (hectares)
Albion Park	Shellharbour/Wollongong	10.3

All three study areas encompass sections of the Illawarra Railway, are zoned as SP2 – Infrastructure under their respective LEPs.

Method

Database and literature review

Prior to completing the field investigation, information provided by Transport for Tomorrow as well as other key information was reviewed, including:

Commonwealth Department of Agriculture, Water and Environment (DAWE) Protected Matters Search Tool for matters protected by the EPBC Act.

NSW Environment, Energy and Science (EES) BioNet Atlas of NSW Wildlife, for items listed under the BC Act.

- The NSW Department of Primary Industries (DPI) Spatial Data Portal for FM Act listed threatened species, populations and communities.
- NSW DPI *Biosecurity Act 2015* for priority listed weeds for the South East Local Land Services (LLS) area.
- EES Vegetation Information System (VIS) mapping including Southeast NSW Native Vegetation Classification and Mapping (DPIE 2010).

The implications for the project were assessed in relation to key biodiversity legislation and policy including:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- *Biodiversity Conservation Act 2016* (BC Act).
- *Local Land Services Act 2013* (LLS Act).
- *National Parks and Wildlife Act 1974* (NPW Act).
- *Water Management Act 2000* (WM Act).
- *Biosecurity Act 2015* (Biosecurity Act).
- *Wollongong Local Environmental Plan 2009* (LEP).
- *Wollongong Development Control Plan 2009* (DCP).
- *Shellharbour Local Environmental Plan 2013* (LEP).
- *Shellharbour Development Control Plan 2013* (DCP).

Field investigation

A field investigation of the study areas was undertaken on 11 April 2022 by Paul Price (Technical Lead – Botany) and Rosie Gray (Botanist). Vegetation within the three study areas were surveyed using the random meander technique (Cropper 1993) over five person hours.

General classification of native vegetation in NSW used in this report is based on the classification system in Keith (2004) which uses three groupings of vegetation: vegetation formation, vegetation class and vegetation type, with vegetation type the finest grouping. The grouping referred to in this report is Plant Community Type (PCT) as defined by the Biodiversity Assessment Method (BAM) (DPIE 2020).

The vegetation types, within the study areas, were stratified into PCTs broadly based on previous vegetation mapping, and the vegetation boundaries marked with a hand-held GPS in the field. Appropriate PCTs were selected on the basis of species composition and structure, known geographical distribution, landscape position, underlying geology, soil type, and any other diagnostic features.

A habitat-based assessment was completed to determine the presence of suitable habitat for threatened species previously recorded (EES 2022) or predicted to occur (Commonwealth of Australia 2022) within 5 kilometres. This list was filtered according to species descriptions, life history, habitat preference and soil preference to determine those species most likely to be present within the study area.

Results

Albion Park

The Albion Park study area is located approximately seventeen kilometres from Wollongong Central Business District (CBD), in an urban area predominantly utilised for industrial and residential land uses. The study area encompasses the rail corridor (Photo 1) of which consist of primarily cleared and highly disturbed vegetation (Appendix 1; Figure 2.1). Four waterways are present within this study area, including; Wollingurry Creek (2nd Strahler Order), Macquarie Rivulet (5th Strahler Order), an unmapped unnamed creek and Albion Creek (2nd Strahler Order). The minor unmapped creek facilitates the growth of freshwater native vegetation (Photo 2) and is intermittently connected to Macquarie Rivulet.

Regional soil landscape mapping indicates that the Albion Park study area occurs on the Disturbed Terrain landscape and on the Fairy Meadow landscape (described above) of the Wollongong-Port Hacking 1:100,000 sheet map (Hazelton & Tille 1990). The Disturbed Terrain soil landscape has been disturbed by human activity to a depth of at least one metre. The original soil has been removed or highly degraded and the original vegetation is completely cleared.

Croome

The Croome study area is located approximately 18 kilometres from Wollongong Central Business District (CBD), adjacent to the Princes Highway in a rural area predominantly utilised for industrial and residential land uses. The study area encompasses the railway corridor and consists of cleared and highly disturbed vegetation (Photo 3) (Appendix 1; Figure 2.9).

Regional soil landscape mapping indicates that the study area occurs on the Shellharbour landscape of the Wollongong-Port Hacking 1:100,000 sheet map (Hazelton & Tille 1990). The Shellharbour soils landscape consists of rolling low hills with long sideslopes and wide drainage plains on Budgong Sandstone (red brown and grey volcanic sandstones). Soils include deep Prairie Soils on upper slopes, Brown Krasnozems on midslopes and Red Podzolic Soils and Prairie Soils occur on lower slopes and alluvial plains. The land use is primarily agricultural and urban subdivisions and vegetation consists of tall open-forest and closed-forests that have been extensively cleared.

Kembla Grange

The Kembla Grange study area is located approximately 9 kilometres from Wollongong Central Business District (CBD), in a rural area predominantly utilised for industrial and recreational activities. The study area encompasses the railway corridor and stretches from Kembla Grange Station to Mullet Creek (Appendix 1;

Figure 2.10). The rail corridor consists of cleared, planted and highly disturbed vegetation, with significant patches of weeds including Lantana *Lantana camara.* There are two bridges within the rail corridor in which two minor creeks run through; an unnamed ephemeral 2nd strahler order creek that is located in the middle of the study area and an unmapped water course located in the north of the study area that is subject to vegetation clearance (Photo 4). Small pockets of native freshwater vegetation surround these creeks.

Regional soil landscape mapping indicates that the study area occurs on the Fairy Meadow landscape of the Wollongong-Port Hacking 1:100,000 sheet map (Hazelton & Tille 1990). The Fairy Meadow soils landscape consists of gently undulating alluvial plains, floodplains, valley flats and terraces under the Illawarra Escarpment with Quaternary sediments (quartz sand, lithic fluvial sand, silt and clay. Soils include moderately deep Alluvial loams and Siliceous Sands n terraces and Prairie Soils and Yellow Podzolic Soils on drainage plains. The land use is primarily residential, industrial and commercial and vegetation consists of low open-forest and woodlands that have been extensively cleared and are highly fragmented. The composition of the soil is highly influential on the vegetation communities observed.

Vegetation communities

Prior to the field investigation, Biosis confirmed that various native vegetation communities including TECs have been mapped in the broader landscape (Tozer 2003, EES 2022), these include:

- *Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions* (Endangered, BC Act).
- *Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion* (Endangered, BC Act).
- *Illawarra and south coast lowland forest and woodland ecological community* (Critically Endangered Ecological Community, EPBC Act).
- Urban Native and Exotic.

A key focus of the field investigation was to assess the vegetation of the study areas against the final determinations for the above listed TECs to determine presence or absence.

The vegetation of the study areas comprised of two plant community types (PCTs), PCT 1071 *Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion* and Urban Native and Exotic (Appendix 1; Figure 2). The structure, floristic composition and condition of these communities are described in Table 2. A list of flora and fauna recorded within the study area as well as associated photos are provided in Appendix 2, Appendix 3 and Appendix 4.

Table 2 Ecological Communities within the study area

Community	Description
PCT 1071 *Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion*	This community exists in a moderate condition in two separate patches in the Kembla Grange study area. These patches exist in unmapped minor water courses adjacent to the Illawarra Railway. This community is also present in a moderate condition in an unmapped minor creek in the Albion Park study area. This PCT is dominated by Broadleaf Cumbungi *Typha orientalis* and *Schoenoplectus validus* with some exotics such as Crofton Weed *Ageratina adenophora* on the fringes in the Kembla Grange study area. In the Albion Park study area, the PCT consists of Broadleaf Cumbungi *Typha orientalis* and Common Reed *Phragmites australis,* with some Swamp Oak *Casuarina glauca* growing on the fringes. **TEC Listing:** **BC Act:** *Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* (Endangered). The species and

Community	Description
	assemblage are consistent with the NSW Scientific Committee – final determination (NSW Scientific Committee 2004). **EPBC Act:** Not Listed.
Urban Native and Exotic	This community exists in all three study areas, except where PCT 1071 exists. This vegetation type consists of a mid-storey with exotic species such as Lantana *Lantana camara* and Blackberry *Rubus fruticosus.* The ground cover layer represented a greater variety including exotics Kikuyu *Cenchrus clandestinus* and Paspalum *Paspalum dilatatum* and occurring less natives such as Kangaroo Grass *Themeda triandra.*

A list of flora and fauna recorded within the study area as well as associated photos are provided in Appendix 2, Appendix 3 and Appendix 4.

Threatened species

Background searches identified 30 threatened flora species and 70 threatened fauna species recorded (EES 2022) or predicted to occur (Commonwealth of Australia 2022) within 5 kilometres of the study area. Those species considered most likely to have habitat within the study area based on the background research are as follows:

Flora

- Illawarra Greenhood *Pterostylis gibbosa* (Endangered, EPBC Act and BC Act).
- Illawarra Irene *Irenepharsus trypherus* (Endangered, EPBC Act and BC Act).
- Illawarra Socketwood *Daphnandra johnsonii* (Endangered, EPBC Act and BC Act).
- Illawarra Zieria *Zieria granulata* (Endangered, EPBC Act and BC Act).
- *Pimelea curviflora* var. *curviflora* (Vulnerable, EPBC Act and BC Act).
- *Solanum celatum* (Endangered, BC Act).
- Spiked Rice-flower *Pimelea spicata* (Endangered, EPBC Act and BC Act).
- White-flowered Wax Plant *Cynanchum elegans* (Endangered, EPBC Act and BC Act).

Fauna

- Australian Painted Snipe *Rostratula australis* (Endangered, EPBC Act and BC Act).
- Green and Golden Bell Frog *Litoria aurea* (Endangered, EPBC Act and BC Act).
- Grey-headed Flying-fox *Pteropus poliocephalus* (Vulnerable, EPBC Act and BC Act).
- Microchiropteran species:
  - Eastern Coastal Free-tailed Bat *Micronomus norfolkensis* (Vulnerable, BC Act).
  - Eastern False Pipistrelle *Falsistrellus tasmaniensis* (Vulnerable, BC Act).
  - Greater Broad-nosed Bat *Scoteanax rueppellii* (Vulnerable, BC Act).
  - Large Bent-winged Bat *Miniopterus orianae oceanensis* (Vulnerable, BC Act).
  - Large-eared Pied Bat *Chalinolobus dwyeri* (Vulnerable, EPBC Act and BC Act).
  - Little Bent-winged Bat *Miniopterus australis* (Vulnerable, BC Act).

- Southern Myotis *Myotis macropus* (Vulnerable, BC Act).
- Yellow-bellied Sheathtail-bat *Saccolaimus flaviventris* (Vulnerable, BC Act).

An assessment of the habitat values of the study area is provided in Table 2 for threatened flora species and Table 3 for threatened fauna species.

Table 2 Assessment of habitat for threatened flora species

Species	Local distribution and habitat requirements	Likelihood of occurrence or impact
Illawarra Greenhood *Pterostylis gibbosa*	This species has been recorded approximately 4.5 km from the Albion Park and Croome study areas. This species is a deciduous terrestrial orchid that is found growing amongst grasses on flat or gently sloping land in woodland.	Habitat requirements of this species are not present within the study areas and direct impacts in the form of vegetation clearance will not occur in this species' preferred habitat.
Illawarra Socketwood *Daphnandra johnsonii*	This species has been recorded approximately 1 km from the Albion Park and Croome study areas. It is a rainforest tree that occurs near creeks and in disturbed areas along the margins of Dry Rainforest, Subtropical Rainforest and North Coast Wet Sclerophyll Forests.	Habitat requirements of this species are present within the study areas, however direct impacts in the form of vegetation clearance will not occur in this species' preferred habitat.
Illawarra Zieria *Zieria granulata*	This species has been recorded approximately 1 km from the Albion Park and Croome study areas. It is a tall, bushy shrub found growing on ridges and rocky outcrops, as well as disturbed roadsides along a variety of woodland and rainforest communities.	Habitat requirements of this species are present within the study areas, however direct impacts in the form of vegetation clearance will not occur in this species' preferred habitat.
Pimelea curviflora* var. *curviflora	This species has been recorded approximately 4 km from the Albion Park study area. It is a small to medium sized shrub that grows on ridgetops and upped slopes amongst grasses ad sedges in a variety of forest and woodland communities.	Habitat requirements of this species are present within the study areas in the sections containing sedges and grasses, however the vegetation communities that it typically occurs in do not exist in the study areas. Additionally, field survey did not detect this species within the study area. Furthermore, this species flowers between October and May causing it to be more conspicuous during field surveys.
Solanum celatum	This species has been recorded approximately 2 km from the Kembla Grange study area. It is a medium sized erect shrub found growing on hills, slopes and disturbed sites, typically in sclerophyll forest and rainforest communities.	Habitat requirements of this species are present within the study areas in the form of disturbed sites and slopes however the vegetation communities that it typically occurs in do not exist in the study areas.

Species	Local distribution and habitat requirements	Likelihood of occurrence or impact
Spiked Rice-flower ***Pimelea spicata***	This species has been recorded approximately 1 km from the Albion Park and Croome study areas. It is a small erect or spreading shrub that grows on well-structured clay soils in a variety of grasslands and woodland communities.	Habitat requirements of this species are not present within the study areas and direct impacts in the form of vegetation clearance will not occur in this species' preferred habitat. Additionally, field survey did not detect this species within the study area.
White-flowered Wax Plant ***Cynanchum elegans***	Has been recorded approximately 600 m from the Albion Park and Croome study areas, and 1 km from Kembla Grange. The White-flowered Wax Plant usually occurs on the edge of dry rainforest vegetation as well as in a range of other plant community types.	Habitat requirements of this species are present along the boundaries of the study areas, however direct impacts in the form of vegetation clearance will not occur in this species' preferred habitat. Field survey did not detect this species within the study area. Additionally, this species flowers between August and May making them more conspicuous and easier to locate during field survey.

Based on the size of the study area, the survey effort is considered comprehensive to assess the presence of the flora species outlined in Table 2. Taking all of these factors into consideration, there is a low likelihood of occurrence for the above listed species or threatened flora generally.

Table 3 Assessment of habitat for threatened fauna species

Habitat feature	Threatened fauna association	Likelihood of occurrence or impact
Roosting trees	Grey-headed flying foxes *Pteropus poliocephalus* are known to inhabit canopy species such as Eucalypts and roost close to water sources within riparian corridors. However, Eucalypts were not recorded in any of the three study areas. *Casuarina glauca* trees were present in Albion Park which may provide sub optimal transient habitat for the Grey-headed Flying-fox.	Three juvenile *Casuarina glauca* individuals are likely to be removed as a result of the works at Albion Park (Witten 2022). Based on the transient nature of the Grey-headed Flying-fox there is unlikely to be a direct impact to these species. Therefore, this species will not require further assessment.

Habitat feature	Threatened fauna association	Likelihood of occurrence or impact
Man-made structures	The buildings and culverts that are present within the study areas may provide potential roosting habitat for the eight Microchiropteran species: • Eastern Coastal Free-tailed Bat • Eastern False Pipistrelle *Falsistrellus tasmaniensis* • Greater Broad-nosed Bat *Scoteanax rueppellii* • Large Bent-winged Bat *Miniopterus orianae oceanensis* • Large-eared Pied Bat *Chalinolobus dwyeri* • Little Bent-winged Bat *Miniopterus australis* • Southern Myotis *Myotis macropus* • Yellow-bellied Sheathtail-Bat *Saccolaimus flaviventris*	The buildings and culverts will not be directly impacted by these works therefore there is a low likelihood of impact and these species will not require further assessment.
Aquatic Vegetation	Two unmapped minor water courses with native vegetation consisting of moderate condition PCT 1071 are present within the Kembla Grange study area. Another unmapped minor creek with moderate condition PCT 1071 is also present within the Albion Park study area. These native aquatic vegetation and water courses may provide sub optimal habitat for the Green and Golden Bell Frog *Litoria aurea* and the Australian Painted Snipe *Rostratula australis*.	There are no records within 5 km of the Kembla Grange and the Albion Park study areas for either of these species. However, there are records within 5km of the Croome study area. No water courses exist within this study area, however there is a mapped unnamed 3rd Strahler Order creek that lies adjacent to the southern boundary of the study area. Due to there being no vegetation clearance or direct impacts within this study area, there is a low likelihood of impact to these species and no further assessment is required.

Based on the size of the study area, the survey effort is considered comprehensive to assess habitat presence for the species outlined in Table 3. Taking all of these factors into consideration, there is a low likelihood of impact for the above listed nomadic species.

Priority weeds

Three priority weeds for the South East LLS region, which includes the Wollongong and Shellharbour LGAs, have been recorded in the study areas, and are listed in Table 4, along with their associated Biosecurity Duty in accordance with the Biosecurity Act.

The Biosecurity Act provides for the identification, classification and control of priority weeds with the purpose of determining if a biosecurity risk is likely to occur. A priority weed is any weed identified in a local strategic plan, for a region that includes that land or area, as a weed that is or should be prevented, managed, controlled or eradicated in the region.

The General Biosecurity Duty as outlined in the Biosecurity Act states:

> *All plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity*

risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.

Table 4 Priority weeds within the study areas

Scientific name	Common name	Relevant biosecurity duty
Lantana camara	Lantana	Regional Recommended Measure Exclusion zone: whole region excluding the core infestation area of Eurobodalla, Kiama, Shellharbour, Wollongong and the Shoalhaven local government area north of the Lantana Containment Line at 35'11"42 S *Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core area: Land managers reduce impacts from the plant on priority assets.*
Rubus fruticosus	Blackberry	General Biosecurity Duty All species in the *Rubus fruiticosus* species aggregate have this requirement, except for the varietals Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree
Senecio madagascariensis	Fireweed	General Biosecurity Duty Regional Recommended Measure Exclusion zone: whole of region except the core infestation area of Wollongong, Kiama, Shellharbour, Eurobodalla, Shoalhaven, Bega Valley and Wingecaribee councils Whole region: Land managers should mitigate the risk of new weeds being introduced to their land. The plant should not be bought, sold, grown, carried or released into the environment. Exclusion zone: The plant should be eradicated from the land and the land kept free of the plant. Core area: Land managers reduce impacts from the plant on priority assets.

To prevent biosecurity impacts from occurring as a result of the presence of the above listed priority weeds within the study area, all practical steps should be taken to control and eradicate the weeds from the study area as per the relevant biosecurity duties outlined above, or prior to or during any future vegetation removal.

Impact assessment

The proposed upgrades to the Illawarra Railway within the three study areas involve the following impacts to ecological features:

- Clearance of 0.01 hectares of *Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* (Endangered, BC Act) TEC from the Kembla Grange study area (Appendix 1; Figure 2.12).

- Clearance of 0.03 hectares of *Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* (Endangered, BC Act) TEC from the Albion Park study area (Appendix 1; Figure 2.5).
- Minor infilling works within the unmapped waterway in the Albion Park study area (Appendix 1; Figure 2.5).

Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act is the Australian Government's key piece of environmental legislation. The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (NES) protected under the Act. Under the EPBC Act, activities that have potential to result in significant impacts on Matters of NES must be referred to the Commonwealth Minister for the Environment and Energy for assessment.

No threatened ecological communities or threatened species listed under the EPBC Act were recorded or assessed to have a medium or greater potential to occur within the study area. Therefore, assessments against the Significant Impact Criteria (2013) were not prepared and consequently a significant impact is not likely to result from the project.

On the basis of criteria outlined in Commonwealth of Australia (2013) it is considered unlikely that a significant impact on a Matter of NES would result from the project and therefore a referral of the proposed action to the Australian Government Minister for the Environment is not required.

State Environmental Planning Policies

SEPP (Biodiversity and Conservation) 2021

Chapter 4 - SEPP Koala Habitat Protection 2021

This SEPP only applies to 'development' under Part 4 of the NSW EP&A Act, and specifically excludes Part 5 'activities, therefore is not applicable.

SEPP (Resilience and Hazards) 2021

Chapter 2 – SEPP Coastal Management 2021

Macquarie Rivulet and Wollingurry Creek within the Albion park study area are mapped as Coastal Wetlands under the *Coastal Wetlands and Littoral Rainforests Area Map* as defined by Chapter 2 section 2.4 clause 2 of the SEPP (Resilience and Hazards) 2021. The proposed HV poles are not located within these mapped Coastal Wetlands, however four poles are within the 'proximity areas' of the mapped coastal wetlands. Chapter 2 section 2.8 states:

1. *'Development consent must not be granted to development on land identified as "proximity area for coastal wetlands" or "proximity area for littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed development will not significantly impact on—*
    a) *the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or*
    b) *the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest.'*

It is anticipated that the proposed HV poles within the proximity areas are not likely to significantly impact the ecological values of the coastal wetlands as defined above in section 2.8 clause 1 (a) and (b).

Biodiversity Conservation Act 2016

One Threatened ecological community listed under the BC Act occurs within the study areas: at both Kembla Grange and Albion Park. Tests of Significance have been prepared for threatened entities that are deemed likely to be subject to negative impacts (Appendix 5) and concluded that a significant impact was not likely to result from the project due to negligible impacts on vegetation within a highly degraded environment that is unlikely to result in a significant impact.

Tests of Significance indicate that a significant effect is not likely to result from the proposal. A Species Impact Statement is therefore not required.

Water Management Act 2000

Two unmapped and four mapped waterways occur within the study areas. As a public authority, Transport for NSW does not need to obtain a controlled activity approval from the Natural Resources Access Regulator for any controlled activities that it carries out in, on or under waterfront land.

Fisheries Management Act 1994

The FM Act provides for the protection and conservation of aquatic species and their habitat throughout NSW. Impacts to threatened species, populations and communities, and critical habitats listed under the FM Act must be assessed in accordance with Part 7A of the Act which includes an assessment of significant effect on threatened entities, or their habitats.

'Water land' is defined under the FM Act as land submerged by water: whether permanently or intermittently, or, whether forming an artificial or natural body of water, and includes wetlands and any other land prescribed by the FM Regulations as water land. Therefore, the waterways present in the Kembla Grange and Albion Park study areas are subject to regulations and guidelines provided by the FM Act.

Key fish habitat identified by the DPI spatial data portal is mapped within Macquarie Rivulet which intersects the Albion Park study area. No records of threatened aquatic species have been recorded within 5 kilometres of the study areas on the BioNet Atlas of NSW. The field investigation identified a high degree of weed ingress and modification. No suitable habitat for threatened aquatic species was identified. Therefore, no threatened aquatic entities listed under the FM Act are likely to occur or be impacted by the proposed works within the study areas.

The project will not result in impacts to fish passage, and assessment by NSW Fisheries is not required.

The minor filling works in the unmapped creek in the Albion Park study area are considered 'reclamation work' under Part 7 Protection of aquatic habitats Division 3 Dredging and reclamation (FM Act). Reclamation work is defined in section 198A of the FM Act as work that involves:

a) *'using any material (such as sand, soil, silt, gravel, concrete, oyster shells, tyres, timber or rocks) to fill in or reclaim water land, or*

b) *depositing any such material on water land for the purpose of constructing anything over water land (such as a bridge), or*

c) *draining water from water land for the purpose of its reclamation.'*

The proposed works involve using filling material to infill a minor section of the creek and as the creek is intermittently connected to a natural water body, the proposed works meet the definition of '*reclamation work'* in section 198A of the FM Act.

As the proposed minor infilling works meet the definition of '*reclamation work*', the circumstances in which a public authority (other than local authority) may carry out dredging or reclamation will need to be considered (Section 199). This section states:

1. *'A public authority (other than a local government authority) must, before it carries out or authorises the carrying out of dredging work or reclamation work—*
    a) *give the Minister written notice of the proposed work, and*
    b) *consider any matters concerning the proposed work that are raised by the Minister within 21 days after the giving of the notice (or such other period as is agreed between the Minister and the public authority).*
2. *Any such public authority is to notify the Minister of any dredging work or reclamation work that it proposes to carry out or authorise despite any matter raised by the Minister. The Minister may, within 14 days after being so notified, refer any dispute to the Minister responsible for the public authority. If the dispute cannot be resolved by those Ministers, it is to be referred to the Premier for resolution.*
3. *In this section, public authority includes the Minister administering the Crown Land Management Act 2016.'*

However, as the reclamation work is minor and is not within mapped Key Fish Habitat the proposed work is not required to be submitted to the Minister for consultation (pers.comms NSW Fisheries (7 June 2022).

The FM Act provides for the protection of mangroves and other marine vegetation under Part 7 Protection of aquatic habitats Division 4 Protection of mangroves and certain other marine vegetation. A permit is required to harm marine vegetation as stated in section 205 Marine Vegetation-regulation of harm. 'Marine vegetation' is defined in section 205 of Division 4 Part 7 of the FM Act. This section states:

1. *'This section applies to—*
    a) *mangroves, or*
    b) *seagrasses, or*
    c) *any other marine vegetation declared by the regulations to be marine vegetation to which this section applies, but does not apply to protected marine vegetation under section 204A.'*

'Harm' to marine vegetation is defined in section 204 of Division 4 Part 7 of the FM act. This section states:

1. *'In this Division—*

***Harm**, in relation to marine vegetation, means to gather, cut, pull up, destroy, poison, dig up, remove, injure, prevent light from reaching or otherwise harm the marine vegetation, or any part of it.'*

However, as no marine vegetation is proposed by these works to be harmed or removed a permit is not required under the FM Act.

Coastal Management Act 2016

The Coastal Management Act 2016 (CM Act) provides for the protection and management of coastal wetlands and littoral rainforests. Coastal wetlands and littoral rainforests are identified by Chapter 2 Coastal management of the SEPP (Resilience and Hazards) 2021. The Macquarie Rivulet and part of the Wollingury Creek are mapped as coastal wetlands under this SEPP and are located within the Albion Park study area. There are no mapped littoral rainforests in any of the study areas.

The CM Act outlines the requirement for Coastal Management Programs (CMP) to manage coastal zones (coastal wetlands and littoral rainforests) in section 23 of Part 3. The Albion Park study area is included within the Lake Illawarra Coastal Management Program 2020 – 2030 (2020). This program states that controls on development apply to this management area and are set out in section 2.8 of Chapter 2 of the SEPP (Resilience and Hazards) 2021.

Biodiversity Offsets Scheme

The proposed works does not trigger the Biodiversity Offset Scheme (BOS) under the BC Act as described in Table 5 below, and consideration of the BOS is not warranted, and a Biodiversity development Assessment report (BDAR) is not required.

Table 5 Biodiversity Offset Scheme assessment

BOS Trigger	Yes/No	Justification
Clearing threshold	No	Not applicable for Part 5 assessments.
BV Map	No	Not applicable for Part 5 assessments.
Significant impact	No	The project is unlikely to result in a significant impact on threatened species, populations or communities listed under the BC Act.

Recommendations

Given there are requirements for removal of native vegetation for the project, the focus of the recommendations is to minimise disturbance to any surrounding native vegetation and fauna habitat. These recommendations are:

- To the fullest extent practicable, minimise disturbance to any native vegetation surrounding the study area.
- Where possible, any trees to be retained should be protected in accordance with Australian Standard AS4970 – 2009 Protection of trees on development sites, during construction, operation and decommissioning of the site compound.
- In the unlikely event that unexpected threatened species are identified during the project, works should cease and an ecologist contacted.
- Soil transportation should be minimised within, into or out of the study area to reduce the spread of weeds.
- Three priority weeds within the South East LLS were identified within the study area (Table 4). Appropriate measures should be implemented to minimise the spread of these species.
- Appropriate erosion and sediment control measures should be installed at all sites to avoid sedimentation of receiving water bodies or other indirect impacts to surrounding biodiversity values.
- In the unlikely event that hollow-bearing trees are to be removed, it is to be completed in a two-stage process:
  - Stage 1: All surrounding vegetation to be cleared and grubbed.
  - Stage 2: 24 to 48 hours later (or in accordance with approval docs) the hollow-bearing trees to be inspected by an ecologist. If resident fauna is observed, the hollow section is to be lowered to the ground and the animal allowed to move on of its own volition. If injured, the fauna to be taken to a WIRES carer or appropriate veterinarian for care.

I trust that this advice is of assistance to you however please contact me if you would like to discuss any elements of this ecological advice further.

Yours sincerely

Rosie Gray

Botanist

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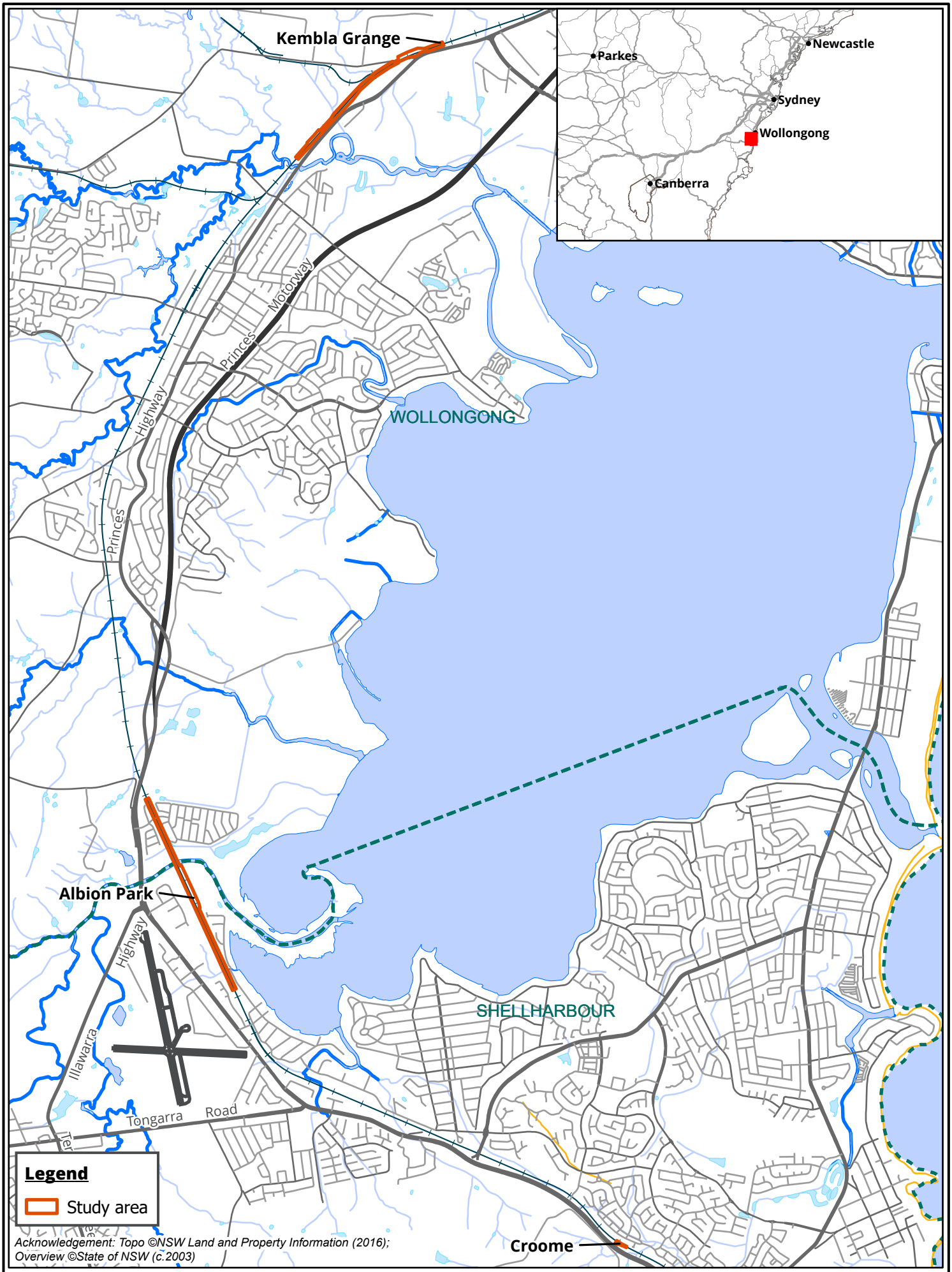
Appendices

Appendix 1 Figures



biosis

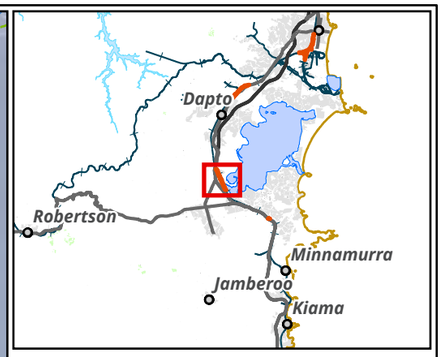
Figure 1 Location of the study area

Matter: 37042,
Date: 21 June 2022,
Drawn by: JB, Checked by: RG, Last edited by: jbeckius
Location:P:\37000s\37042\Mapping\37042_SouthCoast_PowerUpgrades

0 500 1,000 1,500 2,000
Metres

N

Scale 1:50,000 @ A4, GDA 1994 MGA Zone 56



Legend

- Study area
- Vegetation clearing
- Work areas
- Minor infill works
- HV Poles
- Access tracks

Plant Community Type

- Urban Native/Exotic
- 1071 - Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion, Moderate

Figure 2.1 Albion Park Ecological values of the study area

0 80 160 240 320 400

Metres

Scale: 1:10,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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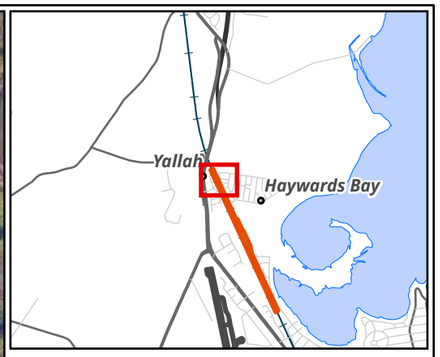

Legend

- Study area
- HV Poles
- Access tracks

Plant Community Type

- Urban Native/Exotic

Figure 2.2 Albion Park Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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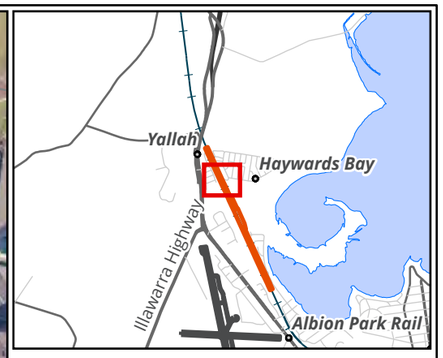

Legend

- Study area
- HV Poles
- Access tracks

Plant Community Type

- Urban Native/Exotic

Figure 2.3 Albion Park Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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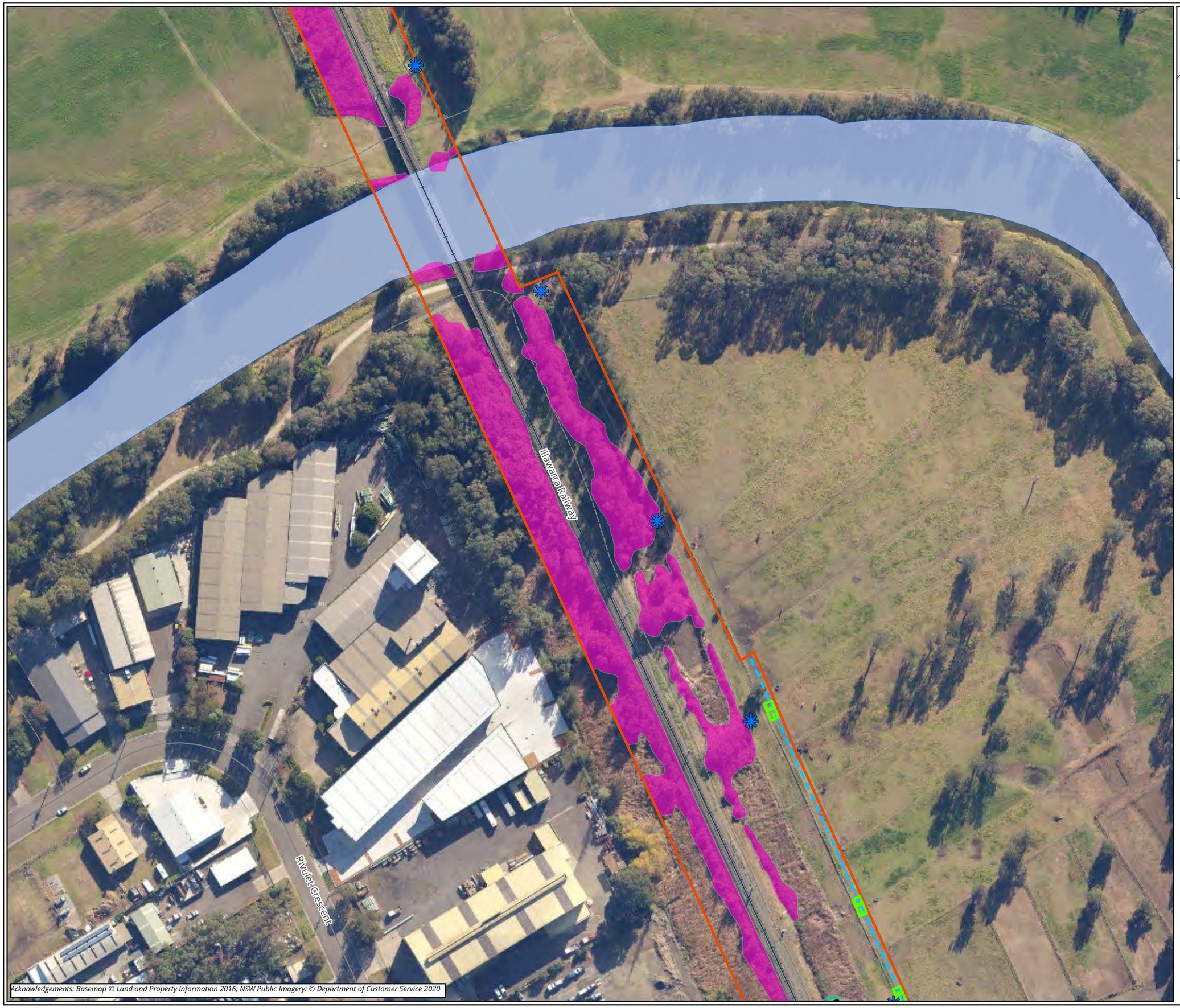

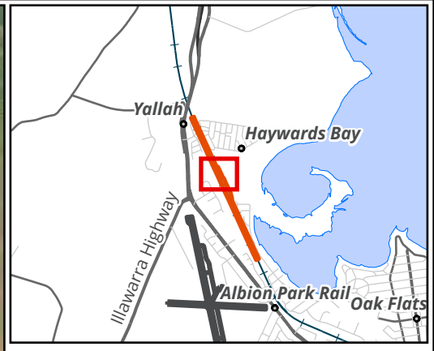

Legend

- Study area
- Vegetation clearing
- Work areas
- HV Poles
- Access tracks

Plant Community Type

- Urban Native/Exotic
- 1071 - Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion, Moderate

Figure 2.4 Albion Park Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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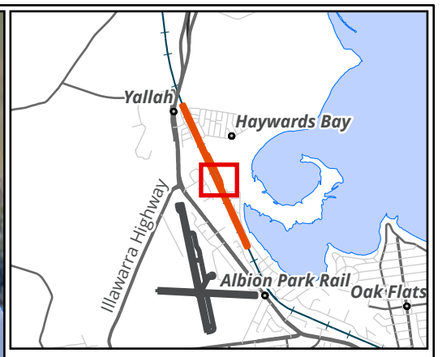

Legend

- Study area
- Vegetation clearing
- Work areas
- Minor infill works
- HV Poles
- Access tracks

Plant Community Type

- Urban Native/Exotic
- 1071 - Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion, Moderate

Figure 2.5 Albion Park Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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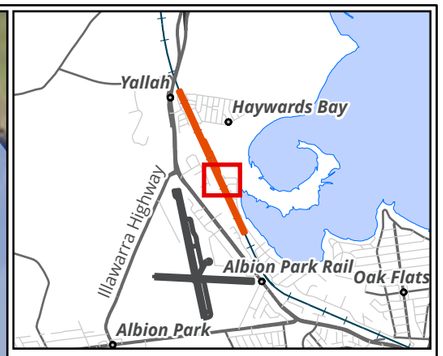

Legend

- Study area
- Vegetation clearing
- Work areas
- Minor infill works
- HV Poles
- Access tracks

Plant Community Type

- Urban Native/Exotic
- 1071 - Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion, Moderate

Figure 2.6 Albion Park Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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biosis

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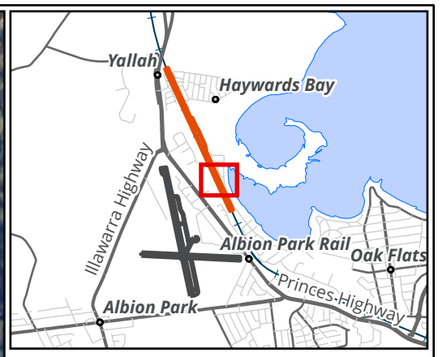

Legend

- Study area
- HV Poles

Plant Community Type

- Urban Native/Exotic

Figure 2.7 Albion Park Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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biosis

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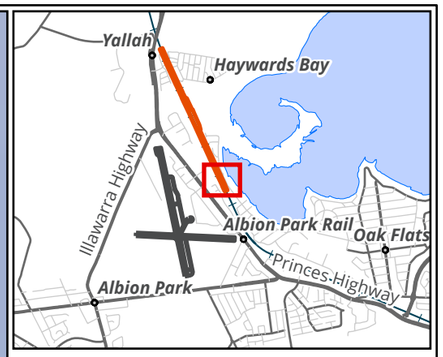

Legend

- Study area
- HV Poles

Plant Community Type

- Urban Native/Exotic

Figure 2.8 Albion Park Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

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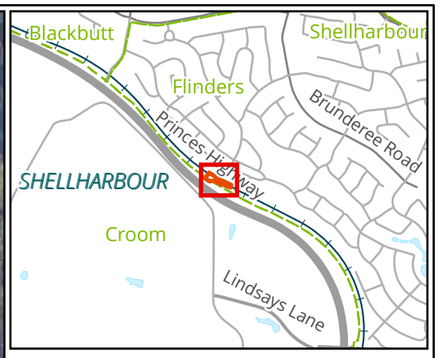

Legend

- Study area
- Anchor Weight Adjustment

Plant Community Type

- Urban Native/Exotic

Figure 2.9 Croome Ecological values of the study area

0 4 8 12 16 20

Metres

Scale: 1:500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

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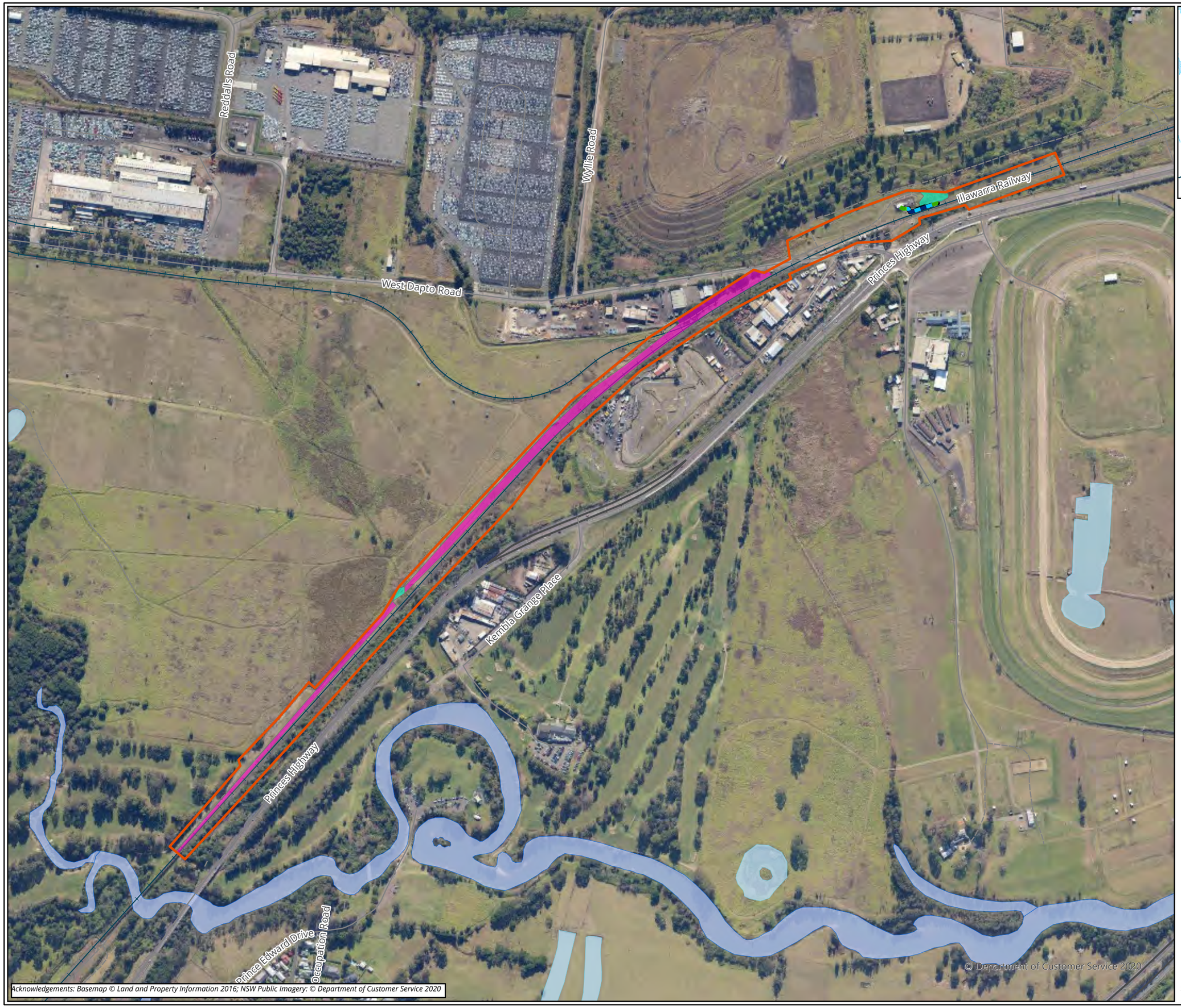

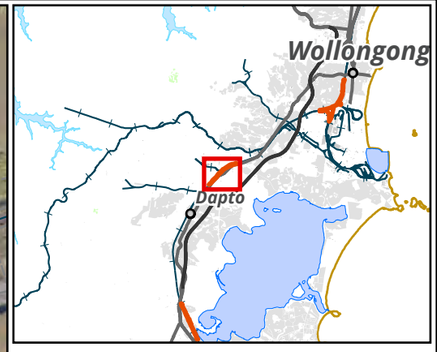

Legend

- Study area
- Clearing
- Proposed GST
- Proposed conduit

Plant Community Type

- 1071 - Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion, Moderate
- Urban Native/Exotic

Figure 2.10 Kembla Grange Ecological values of the study area

0 60 120 180 240 300 N

Metres

Scale: 1:6,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

biosis

Matter: 37042, Date: 07 July 2022,
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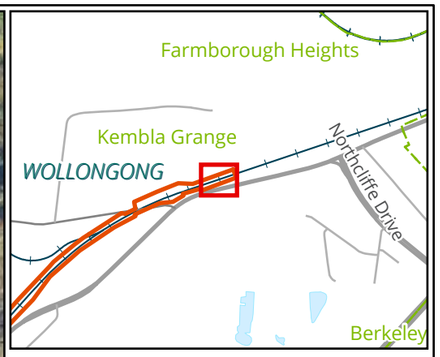

Legend

Study area

Figure 2.11 Kembla Grange Ecological values of the study area

0 5 10 15 20 25 N

Metres

Scale: 1:500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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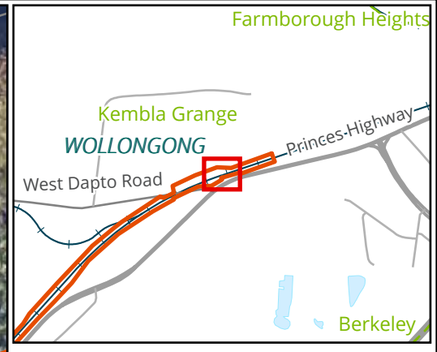
Acknowledgements: Basemap © Land and Property Information 2016; NSW Public Imagery: © Department of Customer Service 2020



Legend

- Study area
- Clearing
- Proposed GST
- Proposed conduit

Plant Community Type

- 1071 - Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion, Moderate

Figure 2.12 Kembla Grange Ecological values of the study area

0 5 10 15 20 25 N

Metres

Scale: 1:500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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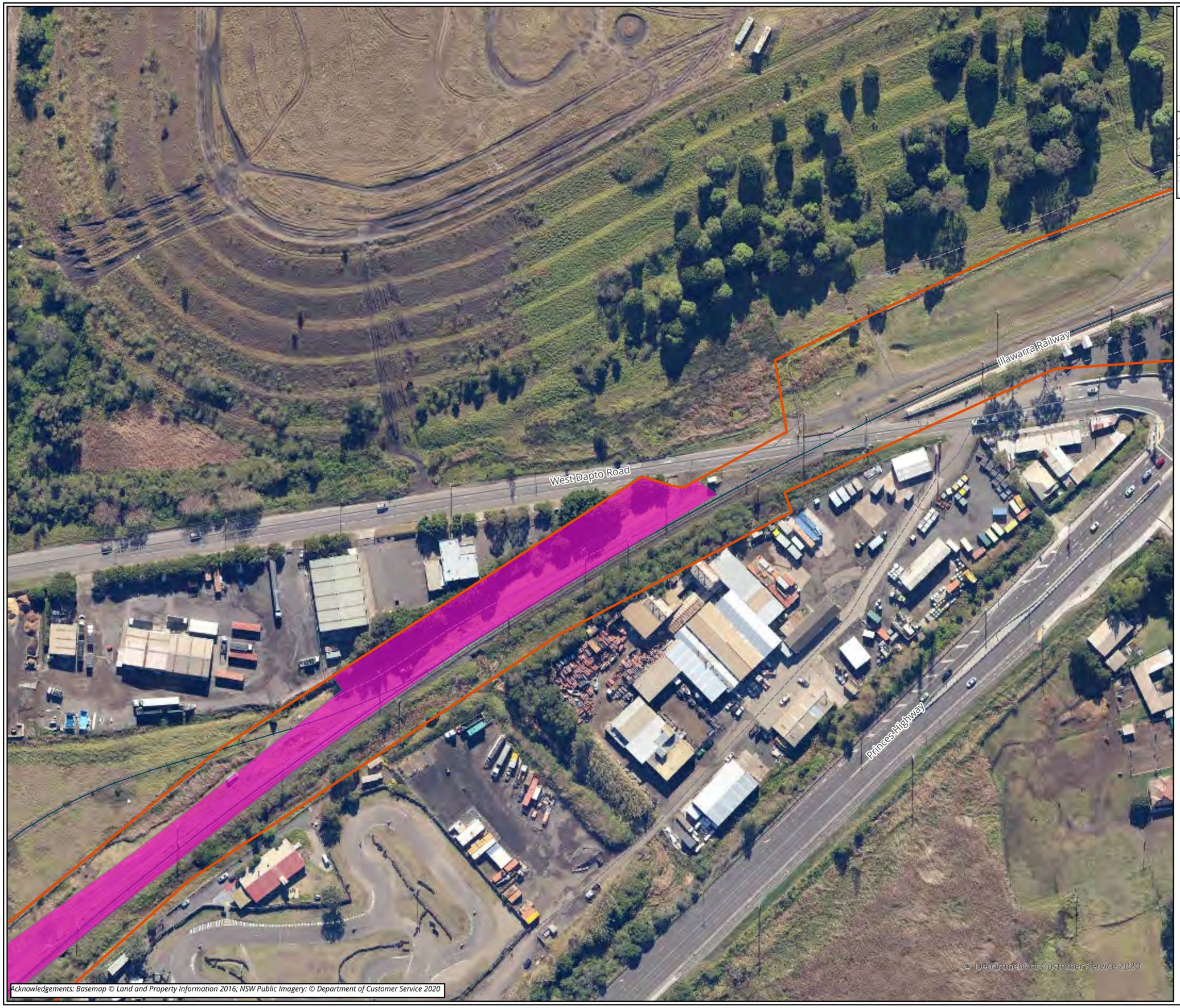

Legend

Study area

Plant Community Type

Urban Native/Exotic

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

Acknowledgements: Basemap © Land and Property Information 2016; NSW Public Imagery: © Department of Customer Service 2020

Figure 2.13 Kembla Grange Ecological values of the study area

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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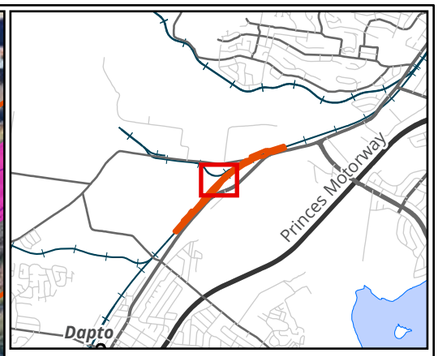

Legend

Study area

Plant Community Type

Urban Native/Exotic

Figure 2.14 Kembla Grange Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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Legend

Study area

Plant Community Type

1071 - Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin Bioregion, Moderate

Urban Native/Exotic

Figure 2.15 Kembla Grange Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
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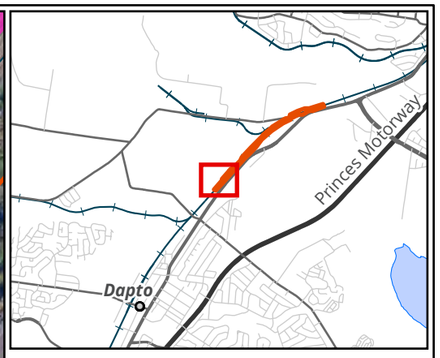

Legend

Study area

Plant Community Type

Urban Native/Exotic

Figure 2.16 Kembla Grange Ecological values of the study area

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 37042, Date: 07 July 2022,
Drawn by: JB, Checked by: RG, Last edited by: jtownsend
Layout: KG_F2_EcoValues
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Appendix 2 Photos

Photo 1 **Urban Native and Exotic and culvert within the Albion Park study area.**

Photo 2 **Moderate condition PCT 1071 within the unmapped waterway present in the Albion Park study area.**

Photo 3 **Cleared vegetation facing south at the Croome study area.**

Photo 4 **Moderate condition PCT 1071 within the unmapped waterway that flows under the Illawarra Railway at the northern end of the Kembla Grange study area.**

Appendix 3 Flora

Flora species recorded from the study areas

Table A. 1 Flora species recorded by Biosis, 11/04/2022

Status	Scientific name	Common name
Native species		
	Casuarina glauca	Swamp Oak
	Phragmites australis	Common Reed
	Schoenoplectus validus	
	Themeda triandra	Kangaroo Grass
	Typha orientalis	Broadleaf Cumbungi
Exotic species		
	Ageratina adenophora	Crofton Weed
	Bidens pilosa	Cobbler's Pegs
	Cenchrus clandestinus	Kikuyu Grass
	Foeniculum vulgare	Fennel
*	*Lantana camara*	Lantana
	Paspalum dilatatum	Paspalum
*	*Rubus fruticosus*	Blackberry
*	*Senecio madagascariensis*	Fireweed
	Solanum mauritianum	Wild Tobacco Bush
	Trifolium repens	White Clover

* indicates a priority weed under the South East LLS

Appendix 4 Fauna

Fauna species recorded from the study area

Table A. 2 Fauna species recorded by Biosis, 11/04/2022

Status	Scientific name	Common name
Birds		
O	*Cacatua galerita*	Sulphur-crested Cockatoo
O	*Gymnorhina tibicen*	Australian Magpie
W	*Manorina melanocephala*	Noisy Miner

O = observed, W = heard call, F = scratchings.

Appendix 5 Tests of Significance

The following section provides for Tests of Significance according to the five factors outlined in Section 7.3 of the BC Act for all species listed as a medium likelihood or greater in Appendix 3 and 4.

***Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* - Endangered Ecological Community (EEC)**

Freshwater Wetlands on Coastal floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions is listed as an EEC under the BC Act. This community comprises of predominantly dense grassland or sedgeland vegetation, with few woody species. Dominant species include large emergent sedges such as *Baumea articulata,* grasses including Water Couch *Paspalum distichum* and emergent herbs such as Water Primrose *Ludwigia peploides* subsp. *montevidensis.* This EEC is associated with coastal areas that are subject to periodic flooding and standing freshwater and is known to be highly modified and cleared. Typically occurs on silts, muds or loam soils in low-lying areas in a variety of freshwater water bodies.

Freshwater Wetlands on Coastal Floodplains within the study areas

Freshwater Wetlands on Coastal Floodplains aligns with PCT 1071 in moderate condition within the Kembla Grange and Albion Park. A total of 0.13 hectares of Freshwater Wetlands on Coastal Floodplains occurs within the Kembla Grange impact area and 0.10 hectares within the Albion Park impact area. Vegetation clearance of this EEC is proposed to occur in these impact areas and will therefore be subject to assessment under the BC Act.

The proposed works will result in the removal of 0.01 hectares of Freshwater Wetlands on Coastal Floodplains from Kembla Grange and 0.03 hectares from Albion Park.

For this assessment, the local occurrence of Freshwater Wetlands on Coastal Floodplains comprises all PCT 1071 mapped within the Kembla Grange and Albion Park study areas and any patches that occur in the vicinity up to 100-200 metres across the largely cleared industrial and agricultural landscape that could be subject to indirect impacts associated with loss of connectivity. An assessment of the impacts of this vegetation in accordance with the *Threatened species test of significance* is included in Table A.1.

Table A.1 Test of Significance for Freshwater Wetlands on Coastal Floodplains

Test of Significance for Freshwater Wetlands on Coastal Floodplains
In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.
Not applicable, not a threatened species.

Test of Significance for Freshwater Wetlands on Coastal Floodplains

In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

The local occurrence of Freshwater Wetlands on Coastal Plains is considered to comprise the areas directly impacted by the project, and the areas potentially indirectly impacted through increased fragmentation and isolation. This can be broadly defined as the patch of the community that occurs within the study area and extends into adjacent vegetation in a contiguous manner, including patches that occur in the vicinity up to 100 – 200 metres that are considered to be connected via lack of barriers for movement of genetic material.

The project will result in the removal or modification of a cumulative total of 0.04 ha. This includes 0.01 ha of Freshwater Wetlands on Coastal Plains from Kembla Grange. Therefore, removal of habitat will occur as a result of the proposed works however the extent of this vegetation clearance is minor considering it represents 30% of the existing patch of Freshwater Wetlands on Coastal Plains in the study area. Additionally, the project will also result in the removal of 0.03 ha of the EEC from the Albion Park study area. The extent of this habitat removal is also considered minor as it represents 3% of the existing patch of Freshwater Wetlands on Coastal Plains in the study area. The majority of this EEC will not be directly impacted by these proposed works in both study areas. Therefore, as native vegetation removal is minor it is unlikely that the proposed works will affect the extent of the EEC such that it is likely to be placed at risk of extinction.

Freshwater Wetlands on Coastal Floodplains is generally present in low condition and has been extensively cleared in the Illawarra Plain with an estimated 100 ha occurring in the Illawarra Plain (NSW Scientific Committee 2004). It occurs in a fragmented landscape where introduced vegetation cover is significant and intensive land clearing has taken place over the past 150 years. The Clearing for the project is unlikely to further reduce species diversity and simplify community structure more broadly, as the community already occurs in a patchy and edge effected state. The adjacent areas of the community within the broader area will remain intact and are unlikely to suffer substantial changes in species composition. The vegetation to be directly removed does not comprise any ecological components critical to the survival of the EEC in the locality.

In relation to the habitat of a threatened species or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

The project will result in the removal or modification of a cumulative total of 0.04 ha. This includes 0.01 ha of Freshwater Wetlands on Coastal Plains from Kembla Grange. Therefore, removal of habitat will occur as a result of the proposed works however the extent of this vegetation clearance is minor considering it represents 30% of the existing patch of Freshwater Wetlands on Coastal Plains in the study area. The majority of this EEC will not be directly impacted by these proposed works. Additionally, The project will also result in the removal of 0.03 hectares of the EEC from the

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Albion Park study area. The extent of this habitat removal is also considered minor as it represents 3% of the existing patch of Freshwater Wetlands on Coastal Plains in the study area and the majority of this EEC will not be directly impacted. These vegetation patches exist in a highly modified and disturbed area due to existing adjacent to railway infrastructure in an extensively cleared landscape. Edge effects resulting from the fragmented landscape within which it occurs impact upon these EEC patches. These patches are already isolated by past clearing and industry and only minor areas of these patches will be directly impacted by the proposed works, therefore this habitat will not be subjected to significant increases in fragmentation or isolation. Areas of contiguous vegetation to that being removed will be retained, and the nature of this impact will not substantially reduce the habitat available to the EEC in the locality, nor will it result in isolation or fragmentation of habitats. The area of habitat to be impacted by the proposed works is not considered important to the long term survival of Freshwater Wetlands on Coastal Floodplains in the locality.
Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).
To date no AOBVs have been declared within the project's impact area.
Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.
The proposed works have the potential to result in the following key threatening process which is listed under the Schedule 4 of the BC Act, and to which are considered relevant to Freshwater Wetlands on Coastal Plains: • Clearing of native vegetation. Clearing of native vegetation will occur, however given areas of Freshwater Wetlands on Coastal Floodplains to be impacted by the proposal are small in nature,, the project is unlikely to increase the impact of any key threatening processes.
Conclusion.
The proposed works are unlikely to significantly impact Freshwater Wetlands on Coastal Floodplains for the following reasons: • The proposed works are localised and the study area has already been exposed to a number of disturbances which are unlikely to be further exacerbated by the proposed works. • The extent of native vegetation removal is minor and only the necessary sections of this EEC will be subjected to vegetation clearance and the majority of this EEC in the study area will not be removed. • The proposed works are unlikely to significantly alter floristic or structural diversity of the EEC within the study area, particularly given a portion of the impacts are limited to partial clearance, the level of existing modification from existing land uses and fragmented landscape. • The localised nature of the proposed works will not significantly trigger or exacerbate any key threatening processes. Application of the BOS or preparation of a SIS is therefore not required.