



ANNE CLEMENTS & ASSOCIATES PTY LIMITED
(ABN 41 077 242 365, ACN 077-160-939)
Environmental and Botanical Consultants
Office 2, 3 Harbourview Crescent, Milsons Point 2060
PO Box 1623, North Sydney 2059
Phone: (02) 9955 9733, Mobile: 04 2755 3362
Email: mail@acabotanic.com

6 November 2024



BDAR Waiver for Multi-level Warehouse and Distribution Centre at 130 Wentworth Avenue, Banksmeadow (Lot 11 DP 701187). State Significant Development (Application Number SSD-73846459)

Prepared by:

Dr AnneMarie Clements
Dr Anne Baumann
Tony Rodd
Caitlyn Birrell
Tim Harding

Prepared for:

ESR Developments (Australia) Pty Ltd

Document control

Version	Date	Authors	Details
1	1 November 2024	Dr AnneMarie Clements Dr Anne Baumann Tony Rodd Caitlyn Birrell Tim Harding	BDAR Waiver in response to the issued SEARs
2	6 November 2024	Dr AnneMarie Clements Dr Anne Baumann Tony Rodd Caitlyn Birrell Tim Harding	Comments addressed for Final Issue

Front cover: Photograph of the site entrance Gate 2 on Moore Street (taken by Tony Rodd on 26 August 2024).

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Declarations

i. Certification under clause 6.15 Biodiversity Conservation Act 2016

I certify that this report has been prepared based on the requirements of, and information provided under, the Biodiversity Assessment Method and clause 6.15 Biodiversity certification assessment report of the Biodiversity Conservation Act 2016 (BC Act).

Signature: 

Date: 6 November 2024

Dr AnneMarie Clements

BAM Assessor Accreditation no: BAAS17088

ii. Conflict of interest

I declare that I have considered the circumstances and there is no actual, perceived or potential conflict of interest.

This declaration has been made in the interests of full disclosure to the decision-maker. Full disclosure has also been provided to the client.

Signature: 

Date: 6 November 2024

Dr AnneMarie Clements

BAM Assessor Accreditation no: BAAS17088

iii. Details and experience of author/s and contributors

Name	Position	Tasks performed include	Relevant qualifications
Dr AnneMarie Clements	Ecologist	- report preparation - data checking - supervising survey - checking figures - review of data - cross checking specimens - cross-checking photo records and data recorded	MSc, PhD, Ecology Specialists Certified Environmental Practitioner under the EIANZ: CEnvP Registration Number E200001.
Dr Anne Baumann	Ecologist	- reviewing existing data - report preparation - document review - checking figures	PhD, BScAg, Cert IV Conservation and Land Management; Diploma in Arboriculture
Tony Rodd	Botanist	- field survey - detail observations - species identification - data review - double checking mapping	BSc, Specialist botanist with many years of experience
Tim Harding	Ecologist	- GIS mapping	BSc with ecology major.
Caitlyn Birrell	Ecologist	- GIS mapping - report preparation	Bachelor of Marine Biology with a Postgraduate Certificate in Marine Science and Management; Diploma in Life Sciences

Shortened forms

BAM	Biodiversity Assessment Method
BAM-C	Biodiversity Assessment Method Calculator
BC Act	Biodiversity Conservation Act 2016 (NSW)
BC Regulation	Biodiversity Conservation Regulation 2017 (NSW)
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offsets Scheme
CEEC	critically endangered ecological community
DBH	diameter at breast height over bark
DPIE	Department of Planning Industry and Environment
EC	ecological community listed under the EPBC Act
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EEC	endangered ecological community
HTW	high threat weed
IBRA	Interim Biogeographic Regionalisation for Australia
LLS Act	Local Land Services Act 2013 (NSW)
NSW	New South Wales
PCT	plant community type
SAII	serious and irreversible impact
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
TBDC	Threatened Biodiversity Data Collection
TEC	Threatened ecological community

1.0 Introduction

This Biodiversity Development Assessment Report (BDAR) Waiver has been commissioned by ESR Developments (Australia) Pty Ltd and prepared in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs) attached to the letter dated 30 July 2024 and in support of the State Significant Development Application (SSD-73846459) at 130 Wentworth Avenue, Banksmeadow in the Bayside Local Government Area (Figures 1a-1 to 1d-2).

The site has a total area of approximately 44,075 m² (4.4 ha).

The proposed SSDA seeks approval for the following (Figures 1f-1, 1f-2):

- Demolition of the existing buildings and hardstand;
- Site preparation works, including earthworks;
- Associated landscaping and tree removal;
- Construction of a multi-level car park;
- Construction and operation of warehouse and distribution centre within a two-storey building including ancillary office space; and
- Business identification signage and wayfinding signage.

It is noted demolition of the existing buildings is to be sought under a separate development consent.

This report addresses item 9. **Biodiversity** in the SEARs:

Issue and Assessment Requirements	Documentation
9. Biodiversity <i>Assess any biodiversity impacts associated with the development in accordance with the Biodiversity Conservation Act 2016 and the Biodiversity Assessment Method 2020, including the preparation of a Biodiversity Development Assessment Report (BDAR), unless a waiver is granted, or the site is on biodiversity certified land.</i> <i>If the development is on biodiversity certified land, provide information to identify the site (using associated mapping) and demonstrate the proposed development is consistent with the relevant biodiversity measure conferred by the biodiversity certification.</i>	<i>Biodiversity Development Assessment Report or BDAR Waiver</i>

Note: the proposed development is not on biodiversity certified land.

This BDAR Waiver has been prepared in accordance with the Department of Planning Industry & Environment (DPIE) (2019) *How to apply for a biodiversity development assessment report waiver for a Major Project Application*. Dated October 2019, with:

Tables 1 and 2 of the BDAR waiver containing the required information specified in DPIE (2019).

Appendix A of the BDAR Waiver being the Biodiversity Assessment Report (BAR) for the proposal. It is prepared in accordance with the *Biodiversity Conservation Act 2016* (BC Act) and the *Biodiversity Assessment Method 2020* (BAM) (DPIE 2020).

This report has been prepared under the supervision of an accredited BAM assessor. The assessor's details are:

Assessor name: Dr AnneMarie Clements

BAM Assessor number: 0129. NSW BAM Accreditation: BAAS17088

Ecology Specialists Certified Environmental Practitioner under the Environmental Institute of Australia and New Zealand CEnvP Program: CEnvP Registration Number E200001.

2.0 Requirements for a BDAR waiver

For proponents of State Significant Development seeking a waiver for a BDAR, the requirements are set out under section 7.9 of the *Biodiversity Conservation Act 2016* (BC Act), namely:

Section 7.9 *Biodiversity assessment for State significant development or infrastructure* states:

(1) *This section applies to—*

(a) *an application for development consent under Part 4 of the Environmental Planning and Assessment Act 1979 for State significant development, and*

....

(2) *Any such application is to be accompanied by a biodiversity development assessment report unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values.*

(3) *The environmental impact statement that accompanies any such application is to include the biodiversity assessment required by the environmental assessment requirements of the Planning Agency Head under the Environmental Planning and Assessment Act 1979.*

Table 1. Biodiversity Development Assessment Report waiver request information requirements

Administration	Details
Proponent name and contact details:	ESR Developments (Australia) Pty Ltd Level 12 135 King Street Sydney NSW 2000 Phone: (02) 9186 4700
Project ID (Information to identify which SSD or SSI project the request relates to and where the project is up to in the assessment process):	State Significant Development Application (SSD-73846459) for a proposed multi-level warehouse and distribution centre with associated car parking and landscaping.
Name and ecological qualifications of person completing Table 2:	Dr AnneMarie Clements MSc, PhD BAM Assessor Accreditation no: BAAS17088 Ecology Specialists Certified Environmental Practitioner under the EIANZ: CEnvP Registration Number E200001.
Site details	
Street address: Lot and DP: Local government area:	130 Wentworth Avenue, Banksmeadow Lot 11 DP 701187 Bayside Local Government Area
Description of existing development site, i.e. the area of land that is subject to the proposed development application:	The approximately 4.4 ha (44,075 m ²) site consists of a warehouse development used for the packing of goods, with an expanse of hardstand areas used for parking, loading / unloading and storage purposes.

Table 1 of BDAR Waiver – 130 Wentworth Avenue, Banksmeadow

If any part of the land is considered 'Category 1– exempt land' information must be provided to demonstrate how the land meets the criteria that applies to Category 1 – Exempt Land.	Category 1 – exempt land applies to Rural Land. The land is not Rural. The land is mapped on the Transitional native vegetation regulatory map viewer as <i>Land excluded from the LLS Act</i>. The Land management Code does not apply to the land.
Location map showing the development site in the context of surrounding areas and landscape features. Satellite image of site in context of adjoining sites.	Figures: <u>Site location, historic aerial photographs, topography</u> 1a-1. Site boundary overlaid on the Nearmap aerial photograph dated 15 July 2024 1a-2. Site boundary overlaid on the Nearmap aerial photograph dated 15 July 2024 – close up 1a-3. Site & Context Plan (nettletontribe, Drawing No. 14173_DA01, Issue A, dated 20.09.24) 1a-4. Native vegetation within 1.5 km buffer overlaid on the Nearmap aerial photograph dated 22 July 2024. 1b-1. Site boundary overlaid on the SIX maps topographic WMS layer 1b-2. Site boundary overlaid on the SIX maps topographic WMS layer – close up 1e. Survey Plan (Landpartners surveyors and planners, plan No. SY075900.000.1.1, dated 17/08/2023) 1943. Site boundary overlaid on the 1943 historic aerial photograph 1951-1961. Site boundary overlaid on the 1951 and 1961 historic aerial photographs (Spatial Services) 1951-1961. Site boundary overlaid on the 1951 and 1961 historic aerial photographs (Spatial Services) – close up 1971-1978. Site boundary overlaid on the 1971 and 1978 historic aerial photographs (Spatial Services)

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	1971-1978. Site boundary overlaid on the 1971 and 1978 historic aerial photographs (Spatial Services) – close up 1991-2002. Site boundary overlaid on the 1991 and 2002 historic aerial photographs (Spatial Services) 1991-2002. Site boundary overlaid on the 1991 and 2002 historic aerial photographs (Spatial Services) – close up <u>Soils and geology</u> 3a. NSW Seamless Geology - version 2.1 3b. Soil Landscapes of Sydney NSW - version 2.1 3c. Geotechnical Investigation Site Locality Plan (PSM, Dwg No, PSMS169-003R, Rev. A, dated 26 October 2023)
Site Map (to scale, ideally as a spatial shapefile).	Site Map is presented as Figures 1a-1, 1a-2, 1b-1, 1b-2.
Proposed development	
Project Description providing enough information to enable an understanding of the nature and scale of the proposed development and any associated activities (including construction etc.).	The proposed development involves construction and operation of a multi-level warehouse and distribution centre and includes the following scope of works: • Demolition of the existing buildings and hardstand; • Site preparation works, including earthworks; • Associated landscaping and tree removal; • Construction of a multi-level car park; • Construction and operation of warehouse and distribution centre within a two-storey building including ancillary office space • Business identification signage and wayfinding signage.

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Proposed Site Plans.	Figures: 1f-1. Site Plan (LOGOS Property Group, DWG No. BNKS-MAS-32, Issue B, dated 7/02/2024) 1f-2. Ground Floor W/H Floor Plan (nettletontribe, Drawing No. 14173_DA10, Issue A, dated 20.09.24)
Impacts on biodiversity values Complete Table 2 below on Biodiversity Values. For each biodiversity value, the proponent must either: • explain why the value is not relevant to the proposed development • where a biodiversity value may be relevant, provide an explanation of how impacts have been avoided and identify the likelihood and extent of any remaining impacts of the proposed development, including impacts prescribed under clause 6.1 of the BC Regulation. A biodiversity value is not relevant to a proposed development if the value is not present on the development site and there is no potential for direct or indirect impacts on the biodiversity value if it occurs off-site. Where one or more biodiversity values may be relevant to the proposed development, Table 2 is to be completed by a suitably qualified person with tertiary qualifications in natural sciences including subjects that relate to the observation and description of terrestrial biodiversity and landforms, and at	In terms of the site, details on Biodiversity values are provided in Table 2. Table 2 was completed by a suitably qualified person (Dr AnneMarie Clements MSc, PhD, BAM Assessor, Accreditation no: BAAS17088. Additional information is presented in Appendix A.

Table 1 of BDAR Waiver – 130 Wentworth Avenue, Banksmeadow

least three years of work experience in environmental assessment including field identification of plant and animal species and habitats. The person does not need to be an accredited person under the BC Act.

Attach any additional information required where biodiversity values are relevant to the site. E.g. Vegetation Map (indicating plant community types), Ecology Reports, Water Quality data, BioNet Atlas, Directory of Important Wetlands (DIWA), migratory bird flyway information.

Table 2. Impacts of the proposed development on biodiversity values

Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
Vegetation abundance – 1.4(b) BC Regulation Meaning: Occurrence and abundance of vegetation at a particular site	Where vegetation is present on the development site, provide a map on digital aerial photography or the best available imagery of the development site showing: • native vegetation (including grasslands and other non-woody vegetation types) and non-native vegetation	Potential impact on native vegetation is restricted to landscape plantings. The vegetation on the approximately 44,075 m² (4.4 ha) site at 130 Wentworth Avenue consists of 1.5 ha of 1980s landscape plantings in three distinct vegetation zones: • 0.6 ha of batter slope plantings from Wentworth Avenue supporting planted <i>Eucalyptus botryoides</i>, planted and suckering <i>Casuarina glauca</i> with <i>Corymia maculata</i> on lower batter slopes with thickets of the exotic shrub <i>Plumbago auriculata</i> and weedy grassy understorey as well as a moderately large trees of <i>Ficus rubiginosa</i> (probably from bird drop seeds). • 0.3 ha of drainage swale plantings including overhangs from the street plantings of <i>Ficus benjamina</i>, planted <i>Casuarina glauca</i>, <i>Eucalyptus botryoides</i> and the shrubs <i>Callistemon viminalis</i> and <i>Melaleuca linariifolia</i>, and weed dominated ground cover. • 0.6 ha of regularly maintained landscape plantings around the building and carpark areas with planted trees of <i>Eucalyptus grandis</i>, <i>Casuarina cunninghamiana</i>, shrubs including <i>Callistemon viminalis</i>, <i>Agave attenuata</i>, and regularly mown grass and weedy understorey. Vegetation is shown on the following figures: 4b. Site boundary overlaid on the NSW State Vegetation Type Map version C2.0M2.0 (State Government of NSW and

Table 2 of BDAR Waiver – 130 Wentworth Avenue, Banksmeadow

Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
		NSWDCCEEW 2023) 4c. Site boundary, BAM Plots, Patch locations and <i>Acacia terminalis</i> search path overlaid on the Nearmap aerial photograph dated 31 May 2023 6a. Site boundary and Vegetation Zones overlaid on the Nearmap aerial photograph dated 15 July 2024 6b. Site boundary, Vegetation and Management Zones overlaid on the Nearmap aerial photograph dated 15 July 2024 6c-1. Trees proposed to be removed and retained (Canopy Consulting 2024) 6c-2. Trees proposed to be retained and removed overlaid on the Vegetation and Management zones
	• the area of land that is directly impacted by the proposed development, including related infrastructure such as roads, pipelines, access tracks, temporary material stockpiles, asset protection zones and powerlines, if applicable.	The area of land that is directly impacted by the proposal is 0.9 ha of 1.5 ha of landscape plantings. The 0.9 ha directly impacted consists of (Figures 6a, 6b, 6c-1, 6c-2): • 0.5 ha of the 0.6 ha of the existing landscaping surrounding the existing building directly impacted; • 0.4 ha of the 0.6 ha of planted batter slope directly impacted; and • 0.1 ha of the 0.3 ha of the drainage swale plantings directly impacted. The number of trees directly impacted by the proposal is 521

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Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
		(410 tagged trees / groups) out of 798 (597 tagged trees / groups) total planted trees, with: • 157 of the 171 tagged trees / groups of trees within landscaped area to be removed; • 160 of the 301 tagged trees / groups of trees on batter slope to be removed; and • 93 of the 125 tagged trees / groups of trees from the drainage swale to be removed. [Totals for tagged trees / groups of trees are: 410 (157 + 160 + 93) of 597 (171 + 301 + 125)]
	Describe how the proposed development avoids impacts on native vegetation and identify the likelihood and extent of any remaining impacts including removal of isolated or cultivated native plants.	The proposed development avoids impacts on 0.6 ha of the 1.5 ha of planted vegetation, namely: • 0.4 ha of 0.6 ha of the batter slope plantings to be retained; • 0.1 ha of 0.3 ha of drainage swale plantings to be retained; and • 0.1 ha of 0.6 ha of landscape plantings currently surrounding the existing buildings to be retained The proposed development avoids impacts on 277 planted trees (187 tagged trees / groups) of the 798 total trees (597 tagged trees / groups), namely: • 141 (approx. 76%) of the total number of tagged trees / groups of trees (187) being retained on the batter slope along the

Table 2 of BDAR Waiver – 130 Wentworth Avenue, Banksmeadow

Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
		northern boundary; and • 32 (approx. 17%) of the total number of tagged trees / groups of trees (187) in the Moore Street frontage in / near the drainage swale. • 14 (approx. 8%) of the total number of tagged trees / groups of trees (187) within the landscaping areas along the eastern and western boundary. [Totals for tagged trees / groups of trees are: 187 (141 + 32 + 14) of 597 (171 + 301 + 125)] NA - The likelihood and extent of any remaining impacts on native vegetation from the proposed development has been assessed in terms of native fauna habitat.
Vegetation integrity 1.5(2)(a) BC Act Meaning: Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near-natural state.	Describe the vegetation integrity and any impacts on vegetation integrity of identified plant communities. For example, information on impacts from proposed development to vegetation cover, structure, condition and function. This can include details on the presence of weeds, disturbance, planted native vegetation and species and growth form diversity.	The planted vegetation was <u>not</u> able to be assigned to a Plant Community Type, using the online Plot to PCT tool. The absence of remnant native vegetation is illustrated by the recent and historical aerial photographs, biodiversity survey results and photographs of the site (Figures 1a-2, 1943-2002, in Appendix A, photographic record A-1). The vegetation was assessed as planted trees using Appendix D of the BAM (DPIE 2020).
Habitat suitability	Identify any threatened species or ecological	There are <u>no</u> threatened species or ecological communities or their

Table 2 of BDAR Waiver – 130 Wentworth Avenue, Banksmeadow

Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
1.5(2)(b) BC Act Meaning: Degree to which the habitat needs of threatened species are present at a particular site	communities or their habitat on the development site. Describe how the proposed development avoids impacts on habitat suitability and identify the likelihood and extent of any remaining impacts including the impacts of development on the following habitat of threatened species or ecological communities: 1. karst, caves, crevices, cliffs and other geological features of significance 2. rocks 3. human-made structures 4. non-native vegetation (prescribed under clause 6.1(1)(a) of the BC Regulation). Impacts may include the removal or modification (e.g. noise, light, etc.) of the habitat of threatened species or ecological communities.	habitat on the development site.
Threatened species abundance 1.4(a) BC Regulation Meaning: Occurrence and abundance of threatened species or threatened ecological communities,	Describe how the proposed development avoids impacts on threatened species abundance and identify the likelihood and extent of any remaining impacts including; • Impacts of vehicle strikes on threatened species of animals or on animals that are part of a threatened ecological community (prescribed under clause 6.1(1)(f) of the Regulation). • Impacts on threatened species, for example,	NA - The impacts of vehicle strike on threatened species - Vehicle strike is not likely to be exacerbated by the proposal. The proposal is adjoined by a high use road. NA - Impacts on threatened species, such as microbats, associated with the demolition of human-made structures – the building is <u>not</u> likely to provide habitat for bats due to the site use and regular maintenance and hygiene protocols required for food packaging and distribution facility.

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Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
or their habitat, at a particular site.	microbats, associated with the demolition of human-made structures (prescribed by 6.1 (1) a (iii) of the Regulation). - Impacts on threatened species habitat associated with non-native vegetation (prescribed by 6.1 (1) a (iv) of the Regulation). - Impacts on threatened species habitat associated with non-natural water bodies (prescribed by 6.1 (1) a (iii) of the Regulation). For example, in landfill areas, drains and brick pits.	NA - Impacts on threatened species habitat associated with non-native vegetation – the planted <i>Ficus benjamina</i> and <i>Ficus rubiginosa</i> onsite are known to provide habitat for highly mobile species including the threatened Grey headed flying fox and Possums (prey species) for Powerful Owl (<i>Ninox strenua</i>) are mainly planted close to the roadsides. There are no prescribed impacts onsite. NA - Impacts on threatened species habitat associated with non-natural water bodies, such as threatened frogs such as the green and golden bell frog – unlikely no waterbodies onsite with the nearest being approximately 800 m to the north west located at The Lakes Golf Club.
Habitat connectivity 1.4(c) BC Regulation Meaning: Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range.	Identify whether the development site contributes to habitat connectivity. Describe how the proposed development avoids impacts on habitat connectivity and identify the likelihood and extent of any remaining impacts of development on the connectivity of different areas of habitat of threatened species that facilitates the movement of those species across their range (prescribed under clause 6.1(1)(b) of the BC Regulation).	NA - There is no connectivity to adjoining native vegetation (Figure 1a-1). The nearest green space is Mutch Park NE of the site. There is a possible movement corridor through the planted canopy street trees, providing habitat connectivity as a 'stepping stone' for highly mobile threatened fauna species such as Grey headed Flying Fox and Powerful Owl (<i>Ninox strenua</i>).
Threatened species movement 1.4(d) BC Regulation	Describe how the proposed development avoids impacts on threatened species movement and identify the likelihood and extent of any remaining	NA - The site does not form part of an important movement corridor for threatened species nor likely to contribute to the lifecycle of threatened species.

Table 2 of BDAR Waiver – 130 Wentworth Avenue, Banksmeadow

Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
Meaning: Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle.	impacts of development on movement of threatened species that maintains their lifecycle (prescribed under clause 6.1(1)(c) BC Regulation).	
Flight path integrity 1.4(e) BC Regulation Meaning: Degree to which the flight paths of protected animals over a particular site are free from interference.	Identify whether flight paths of protected animals occur over the development site. Protected animals are animals of a species listed or referred to in Schedule 5 of the BC Act. They include any species of birds, mammals, amphibians or reptiles that are native to Australia or that periodically or occasionally migrate to Australia. Describe how the proposed development avoids impacts on flight path integrity and identify the likelihood and extent of any remaining impacts. Note: The impacts of wind turbine strikes on protected animals are prescribed under clause 6.1 (1) (e) of the BC Regulation. It is, therefore, unlikely that a BDAR waiver would be issued for a proposed wind farm.	From EPBC Act Policy Statement 3.21, 2017: <i>Australia is geographically and ecologically an important location for migratory shorebirds within the East Asian–Australasian flyway. The flyway stretches from Siberia and Alaska, southwards through east and south-east Asia, to Australia and New Zealand.</i> NA - The proposed development is unlikely to affect the future flight paths of protected animals. NA - The proposal is not a wind farm.
Water sustainability 1.4(f) BC Regulation Meaning: Degree to	Describe how the proposed development avoids impacts on water sustainability and identify the likelihood and extent of any remaining impacts of development on water quality, water bodies and	NA - There are no water bodies nor watercourses on or adjacent to the site (Figures 1a-1, 1a-2, 1b-1, 1b-2).

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Biodiversity value	Explain and document potential impacts including additional impacts prescribed under the <i>BC Regulation</i>	Findings
which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	hydrological processes that sustain threatened species and threatened ecological communities (including from subsidence or upsidence resulting from underground mining or other development) (prescribed under clause 6.1(1)(d) of the BC Regulation).	



ANNE CLEMENTS & ASSOCIATES PTY LIMITED
(ABN 41 077 242 365, ACN 077-160-939)
Environmental and Botanical Consultants
Office 2, 3 Harbourview Crescent, Milsons Point 2060
PO Box 1623, North Sydney 2059
Phone: (02) 9955 9733, Mobile: 04 2755 3362
Email: mail@acabotanic.com

6 November 2024



**Appendix A. Biodiversity Assessment Report for 130 Wentworth Avenue,
Banksmeadow (Lot 11, DP 701187).**

Prepared by:

Dr AnneMarie Clements
Dr Anne Baumann
Tony Rodd
Caitlyn Birrell
Tim Harding

Prepared for:

ESR Developments (Australia) Pty Ltd

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A1.0 Introduction

This Biodiversity Assessment Report forms part of the BDAR Waiver application for the State Significant Development Application for a proposed construction and operation of a multi-level warehouse and distribution centre at 130 Wentworth Avenue, Banksmeadow in the City of Bayside Local Government Area.

The biodiversity values of the land and the biodiversity impacts associated with the development have been assessed in accordance with the Biodiversity Assessment Method (BAM) (DPIE 2020).

A2.0 Relevant Biodiversity legislation

A2.1 Bayside Local Environmental Plan 2021

Under the Bayside LEP 2021, the following are mapped onsite:

Zoning – the site is located within the Bayside Local Government Area (LGA) and is zoned *E4 General Industrial*. The proposal is categorised as a warehouse or distribution centre which is permitted with consent in the E4 zone (Figure 2a). The Objectives of this zoning are:

- *To provide a range of industrial, warehouse, logistics and related land uses.*
- *To ensure the efficient and viable use of land for industrial uses.*
- *To minimise any adverse effect of industry on other land uses.*
- *To encourage employment opportunities.*
- *To enable limited non-industrial land uses that provide facilities and services to meet the needs of businesses and workers.*
- *To ensure adequate protection of industrial land and uses, in line with the strategic direction to retain and manage industrial land and land for urban services.*

The zoning of the land adjoining the site is:

Direction	Zoning
To the north	• R2 Low Density Residential (to the NW) • SP1 Special Activities - Recreation Facility (Outdoor)
To the east	E4 General Industrial
To the south	IN1 General Industrial
To the west	E4 General Industrial and further west: • IN1 General Industrial • E1 Local Centre

Lot size – the site is mapped as having a lot size of 1500 m² (0.15 ha) (Figure 2b).

Terrestrial Biodiversity – none mapped on the site. The nearest mapped area is to the northeast within the Bonnie Doon Golf Club (Figure 2c). [Note: This area was not sand mined and retained some native vegetation, see historic aerial photographs 1943 to 2003].

Acid Sulfate Soils – the site is mapped as Class 5 on the Acid sulfate soils map (Figure 2d). Clause 6 of the LEP applies.

(1) *The objective of this clause is to ensure that development does not disturb, expose or drain acid sulfate soils and cause environmental damage.*

(2) *Development consent is required for the carrying out of works described in the table to this subclause on land shown on the Acid Sulfate Soils Map as being of the class specified for those works.*

For class 5, the specified works are the following.

Class of land	Works
5	Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 meters Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

Flood hazard mapping – council considers the site a flood controlled lot. A flood assessment conducted by Costin Roe Consultants (2024) concluded that:

‘Council’s flood assessment confirms that the site is affected by localised ponding in the 1% AEP flood event, but not by any overland flow flooding. Additionally, council categorises flooding over the site as either flood storage, or flood fringe’

A2.2 Bayside Development Control Plan 2022 (DCP)

The Bayside Development Control Plan 2022 (DCP) was adopted by council on 22 March 2023 and came into effect on 10 April 2023. It replaces the DCPs that applied to the two former LGAs of Botany Bay and Rockdale (the *Botany Bay Development Control Plan 2013* and the *Rockdale Development Control Plan 2011*).

The DCP includes Sections to related to biodiversity, including:

Section 3.3 Energy and Environmental Sustainability states that:

*Bayside Council encourages energy and water efficient buildings. Energy efficient buildings require less energy for construction and maintenance, heating and cooling, lighting, and ventilation. A building's operating energy can be conserved through passive heating and cooling features such as insulation, double-glazing, thermal mass, **shading**, and natural ventilation.*

In Table 1: *Energy and Water Efficiency – Non-residential development*, it requires that:

Development type	Energy	Water
Industrial development over 20,000sqm GFA	Minimum 5-star Green Star rating or equivalent	Minimum 5-star Green Star rating or equivalent

Section 3.7 Landscaping, Private Open Space and Biodiversity includes:

Section 3.7.1 Landscaping requires a 10% minimum landscaped area for industrial sites.

Section 3.7.2 Planting Design and Species with objectives:

- *To ensure new landscaping is site responsive, retains trees and provides adequate and appropriate plant species.*
- *To protect existing biodiversity and habitat features within and adjacent to development sites.*

The controls associated with the objectives include:

- *A minimum of 80% of a planting scheme proposed on deep soil is to consist of native or indigenous plants. Locally indigenous species, are to be incorporated where practical and suit the microclimate conditions.*
- *For all development other than a single dwelling all tree planting within deep soil areas is native or indigenous, unless sun access is required, and then deciduous ornamental species can be included.*
- *A layered landscaping approach incorporating the following is required in large, landscaped areas, setbacks, buffer zones and interface areas:*
 - a. canopy trees for upper-level screening and softening of buildings, privacy and shade (a mixture of small to large trees can be used for different purposes but the site must contain large canopy trees*
 - b. shrubs for mid-level screening and demarcation of spaces and uses (a mixture of low to tall shrubs are to be used for different purposes)*
 - c. groundcovers for low-level screening, soil stabilisation and weed reduction.*
- *Tree species must be of a suitable scale for the development and size of buildings on a site and soften the ends and corners of buildings. A list of suitable trees and plants for residential sites can be found in this DCP.*
- *...*
- *Plant species suited to the local soils will be selected to reduce the need for large quantities of soil improvement, fertilisers or pesticides.*
- *...*

Section 3.7.5 Landscaping in carparks with objectives including:

To ensure landscaping is provided in carparks and is to:

- a. provide shade for vehicles, to reduce the heat island effect of large areas of paved surfaces, to soften the impact of large areas of paving and parking, to improve amenity and to screen car parks from the public domain;*
- b. minimise the visual impact of car parks in the streetscape and public domain; and*
- c. provide generous sized planter beds that sustain the growth of trees.*

The control associated with this objective:

For at-grade car parks 1 tree will be provided for every 5 car spaces so that at least a 50% canopy coverage of the car park at maturity is provided. Car parks will be generously landscaped.

Section 3.7.6 Biodiversity

Any development application or modification to an approved development that involves clearing of native vegetation or potential impacts to threatened species or ecological communities, will be subject to the biodiversity assessment requirements of the BC Act.

Objectives include:

Protect and enhance biodiversity through the protection and conservation of native flora and fauna, their habitats and ecological functions.

Improve the diversity and abundance of locally indigenous flora and fauna species across the local government area (LGA)

Enhance biodiversity corridors to assist existing native plant and animal communities and protect from further fragmentation to ensure there is no net loss of biodiversity values within the Bayside LGA as a result of development.

Protect remnant bushland and areas containing biodiversity value to reduce impacts of the urban heat island effect, and maintain the biodiversity across the LGA.

Controls include:

For all new residential development, mixed use and non-residential development (including commercial and industrial) that provides landscaped open space, where any part of the lot is located within the Biodiversity Map (Provided in Appendix 1 of the DCP), a landscape plan must be prepared by a suitably qualified professional such as a landscape architect or ecologist.

*All development to which this Part applies must also comply with **Section 3.8 - Tree Preservation and Vegetation Management of the DCP.***

Section 3.8 Tree Preservation and Vegetation Management. *Developments are to be designed to incorporate existing trees into the layout and design to ensure that their health is not compromised by siting structures too close to trees, including trees on adjoining properties.*

Clause 6.4 Industrial premises

Landscape objective 06 is:

To ensure industrial developments contribute to the public domain quality and improve the appearance of buildings through high quality landscaping in order to improve Bayside's canopy cover and reduce urban heat island effect.

A2.1 NSW Biodiversity Conservation Act 2016 and Regulation 2017

The Biodiversity Offsets Scheme (BOS) was established under the *Biodiversity Conservation Act 2016 (BC Act)*. It applies to native terrestrial vegetation throughout the state of NSW.

The Biodiversity Values (BV) Map identifies land with high biodiversity value, as defined by clause 7.3(3) of the *Biodiversity Conservation Regulation 2017*.

A2.1.1 Biodiversity Offsets Scheme entry

A Biodiversity Development Assessment Report (BDAR) under the *BC Act* is required, if:

- the proposal triggers the Biodiversity Offsets Scheme (BOS) threshold; or
- the proposal is likely to significantly affect threatened species based on the test of significance in section 7.3 of the *BC Act*.

The *Biodiversity Conservation Regulation 2017* sets out threshold levels for when the BOS will be triggered. The threshold has two elements:

- (a) *the clearing of native vegetation of an area declared by clause 7.2 as exceeding the threshold, or*
- (b) *the clearing of native vegetation, or other action prescribed by clause 6.1, on land included on the Biodiversity Values Map published under clause 7.3.*

The BOS clearing threshold relates to a minimum lot size under the Local Environmental Plan (Bayside LEP 2021). The site is mapped as having a lot size of 1500 m² (0.15 ha) (Figure 2b).

The clearing threshold for this site is 0.25 ha.

Minimum lot size associated with the property	Threshold for clearing, above which the Biodiversity Assessment Method (BAM) and offsets scheme apply
<1ha	0.25 ha

The site is not mapped on the BV Map (Figure 2e).

Therefore, the proposal does not trigger the BOS unless the proposed clearing of native vegetation is in excess of 0.25 ha.

A BDAR would be required, if the proposal is likely to significantly affect threatened species.

A2.2 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 2 *Vegetation in non-rural areas* is applicable to land zoned E4 – *General Industrial* in the Bayside LGA.

A2.3 NSW Rural Fires Act 1997

There is no Bushfire Prone Land map for the eastern Sydney area (NSW RFS 2023).

A3.0 Environmental setting

The approximately 4.4 ha (44,075 m²) site is on the southern side of Wentworth Avenue with entrance from the northern side of Moore Street between Baker Street to the west and Corish Circuit the east.

The site is currently used by an industrial paper and cardboard packaging company, approximately 2.9 ha of an existing warehouse; and approximately 1.4 ha of surrounding hardstand, garden beds with some tree plantings within the hardstand; and tree perimeter plantings adjoining the boundaries.

It is an irregular-shaped allotment with landform modified to create a flat platforms, with batters descending (Figures 1d-1, 1d-2):

- from Wentworth Avenue road verge (with elevation of 24 m AHD in the north-east) to the constructed level building and carpark platforms (elevation of approximately 16 m AHD); and
- from Moore Street frontage (elevation 17.5 m AHD in the south-east) to the truck ramp and loading docks on the constructed landform at approximately 16 m elevation.

The site is bounded (Figures 1a-1, 1a-2, historic aerial photographs on Figures 1943 to 2002) to:

the north	Wentworth Avenue, with Mutch Park and Bonnie Doon Golf Club further to the north. Mutch Park was formally a dredged sand extraction pit in the 1960s-
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	70s which was subsequently filled and turfed by 1991.
the east	Westfield Eastgardens shopping mall (built by 1991).
the south and west	the approximately 60 ha Botany Industrial Park (BIP), industrial land previously owned by Orica (the former ICI Australia). The BIP is known for its contaminated soils and groundwater and associated decontamination (https://botanyindustrialpark.com.au , accessed 31 May 2022).

There are no mapped watercourses onsite (Figures 1b-1, 1b-2, 1d-1, 1d-2).

A3.1 Climate

The nearest meteorological station is at Sydney Airport AMO (Station number: 66037, opened 1929), location approximately 3 km to the west. From the rainfall summary statistics for all years, the mean annual rainfall is 1092 mm and the mean monthly rainfall varied from 72 mm in July to 123 mm in March.

The lowest monthly rainfall recorded varies from 0 in July to October to 8 mm in April, and highest monthly rainfall recorded from 249 to 597 mm.

Summary statistics for all years.

Statistic	J	F	M	A	M	J	J	A	S	O	N	D	Annual
Mean	94	118	123	108	97	124	72	75	59	72	80	73	1092
Lowest	5	3	6	8	3	3	0	0	0	0	6	1	523
Median	72	88	86	81	79	100	52	46	47	48	67	65	1046
90th %ile	180	257	281	229	190	282	156	181	129	172	145	149	1511
Highest	400	597	489	476	422	466	344	397	249	271	396	359	2276

The pattern of rainfall in the past 10 years is extended periods of low rainfall separated by extreme rainfall events, with monthly rainfall >200 mm and <20 mm.

Year	J	F	M	A	M	J	J	A	S	O	N	D	Annual
Mean	94	118	123	108	97	124	72	75	59	72	80	73	1092
2015	120	48	53	344	90	95	48	60	67	29		67	
2016	263	40	156	81	13	283	114	131	68	34	27	58	1269
2017	48	158	229	94	32	114	18	27	0	60	38	52	871
2018	29	92	109	23	18	163	16	5	68	146	93	70	831
2019	73	77	198	15	8	155	39	46	84	30	24	1	749
2020	63	395	137	32	111	80	127	65	31	65	42	75	1225
2021	61	120	353	17	89	98	35	89	47	68	138	83	1198
2022	110	384	489	254	200	10	344	58	80	259	41	47	2276
2023	133	192	33	120	56	14	59	58	28	31	131	145	1001
2024	66	147	49	186	222	311	85	25	45				

At the time of surveys in August 2023 and August 2024, the vegetation did not appear water stressed and there was no standing water.

A3.2 Geology and soil landscapes

A3.2.1 Geology

The geology of the site and surrounding land is mapped at a 1:100,000 scale (Figure 3a) as Quaternary Holocene deposits (Qhd), described as:

Medium to fine-grained marine sand with podsols.

A3.2.2 Soil landscape

The soil landscape of the site and the surrounding lands is mapped at a 1:100,000 scale as *Tuggerah* (Map unit *tg*) with disturbed terrain (Map unit *xx*) to the south and to the west (Figure 3b).

The soil landscapes are described by Chapman and Murphy (1989) as:

Tuggerah

Landscape	<i>Gently undulating to rolling coastal dunefields... Extensively cleared open forest and eucalypt/apple woodland.</i>
Soils	<i>Deep (>200 cm) Podzols...on dunes and Podzols/Humus Podzol intergrades ... on swales.</i>
Limitations	<i>Extreme wind erosion hazard, non-cohesive, highly permeable soil, very low soil fertility, localised flooding and permanently high watertables.</i>

The largest example is the extensive dune system of the Botany Lowlands.

Disturbed terrain

Landscape	<i>level plain to hummocky terrain, extensively disturbed by human activity, including complete disturbance, removal or burial of soil. Local relief <10 m, slopes <30%. Landfill includes soil, rock, building and waste materials. Original vegetation completely cleared, replaced with turf or grassland.</i>
Soils	<i>turfed fill areas commonly capped with up to 40 cm of sandy loam or up to 60 cm of compacted clay over fill or waste materials.</i>
Limitations	<i>dependent on nature of fill material. Mass movement hazard, unconsolidated low wet strength materials, impermeable soil, poor drainage, localised very low fertility and toxic materials.</i>

A3.2.3 Geotechnical assessment

PSM (2023) assessed the surface and subsurface conditions of the site. The sampling onsite consisted of (Figure 3c):

- three boreholes (BH01, BH02 and BH03) drilled to a maximum depth of of 50 m;
- 10 cone penetration tests (CPT01 to CPT10); and
- two existing monitoring well (MW06, MW08).

It was found that:

- there was extensive surface cover by concrete;
- the soils encountered onsite consist of historic fill of approximately 0.3 to 3.0 m of variable thickness and composition;
- underlying is in-situ sand to approximately 43 m which overlies clay;
- a maximum depth of 50 m was drilled without encountering bedrock;

- loose alluvium was present at CPT03 and 05; and
- groundwater was observed to be approximately 4.8 m below ground level. This is corresponding to elevation of between RL 11 and 11.9 m.

From the boreholes, the soil recorded onsite close to the buildings consisted of up to 3 m depth of land fill overlying in-situ sand deposits.

A3.3 Land use

From historic aerial photographs (Figures 1943 – 2023), the site was cleared and re-contoured by 1978 for the construction of the existing warehouse. Tree planting appears to have occurred between 1984 and 1991, with tree canopy established by 1991.

	Onsite	Adjoining
1943	Scattered shrub	N: Wentworth Avenue constructed, further N cleared with patches of exposed white sand E: Cleared with patches of exposed white sand. Road network developing S: Row planting and vegetable growing further S SW: Industrial building W: Cleared with patches of exposed white sand.
1951	Similar to 1943, with E to W track across the site	N: Similar to 1943. Golf course being developed E: Cleared with patches of exposed white sand. Residential and large being constructed S: Planted trees and vegetable growing further S. W: Development continuing to occur
1961	Similar to 1951	N: Sand extraction west of the golf course NW: Residential development NE: Large building SE: Residential S: Industrial tanks development W: Industrial development continue
1971	Exposed sand close to western and northern boundary	N: Similar to 1961 E: Clearing with exposed sand on next door site and further development S: Further industrial developments W: Further developments, industrial buildings adjoining
1978	Exposed and excavated sand over most of the site	N: Water fill hole with a extraction dredge E: Adjoining site level and further development to E S: Similar to 1971 W: Similar to 1971
1984	Building constructed with some landscaped lawn.	Photograph shows the industrial land setting of the site to the S and SW and W.
1991	Same building with carparks, roads and	N: Water hole filled E: Industrial development S: Similar to 1978 with Moore Street more developed

	Onsite	Adjoining
	associated landscaping	W: Similar to 1971
2002	Similar to 1991	N: Similar to 1991 E: Similar to 1991 S: Industrial tanks demolished SW: Industrial development W: Similar to 1991

The site was cleared by 1978 for the construction of the existing warehouse. Tree planting on the batter slopes appears to have occurred between 1984 and 1991, with tree canopy established by 1991.

A3.4 Percent native vegetation cover in the assessment area

Section 4.3 of the Biodiversity Assessment Method (BAM) (DPIE 2020) states that:

For a proposal that only uses the streamlined assessment module for clearing scattered trees (Appendix B) or planted native vegetation (Appendix D), the assessor does not need to assess the percent of native vegetation cover.

Despite the proposal being assessed using Appendix D, the approximate area of native vegetation in the Assessment Area (1.5 km buffer of the site) has been calculated (Figure 1a-4) using:

- the most recent Nearmap aerial photograph; and
- the vegetation mapped on the NSW State Vegetation Type Map (DPE 2023).

It was found that there was 27 ha of native vegetation within 1.5 km of the site.

Area within 1.5 km buffer	Approximate area of native vegetation	% native vegetation cover
837 ha	27 ha	3% (Class <10%)

A3.5 Summary of landscape features

The landscape features are summarised as follows:

Landscape features	For the proposal
Percent native vegetation cover in the 1.5 km assessment area	3% Cover class <10% (Figure 1a-4)
IBRA bioregion and subregions	The site is in the Pittwater / Cumberland subregion of the Sydney Basin Bioregion (Figure 1c-1)
Rivers and streams	There are no mapped watercourses onsite (Figure 1b-2)
Wetlands within, adjacent to and downstream of the site	There are no wetlands within, adjacent to or downstream of the site (Figures 1b-1, 1b-2)
Connectivity of different areas of habitat	There is no connectivity to adjoining bushland (Figure 1a-1). The nearest green space is Mutch Park NE of the site
Karst, caves, crevices, cliffs, rocks and	Karst, caves, crevices, cliffs are not features of the site

Landscape features	For the proposal
other geological features of significance and for vegetation clearing proposals, soil hazard features	
Areas of outstanding biodiversity value occurring on the subject land and assessment area	There are no areas of outstanding Biodiversity Value occurring on the subject land
Any additional landscape features identified in any SEARs for the proposal	Secretary's Environmental Assessment Requirements (SEARs) have been issued for the proposal. There are no additional landscape features identified
NSW (Mitchell) landscape on which the subject land occurs (Mitchell 2002)	Sydney – Newcastle Barriers and Beaches (Figure 1c-2)

A4.0 Biodiversity

A4.1 Existing vegetation mapping

NSW State Vegetation Type Map (DPE 2023) maps the vegetation of the entire state of NSW. There is no vegetation mapping on the site nor within the surrounding area (Figure 4a).

DPE (2023) does not map any vegetation on the site. It maps the vegetation nearby as:

Plant Community Type (PCT)	Biometric Vegetation Type (BVT)	Location
3805	<i>Southern Sandplain Heath</i>	Offsite , remnant 'between-fairway' vegetation associated with golf clubs to the north
3806	<i>Sydney Coastal Sand Mantle Heath</i>	Offsite , remnant 'between-fairway' vegetation associated with golf clubs to the north

In conclusion, given the extent of fill on the site, the modified landform for the industrial use and the historic clearing of the entire site, there appears to be no likelihood of the occurrence of a native plant community, and hence no likelihood of an endangered ecological community.

A4.2 Onsite surveys

A4.2.1 Arborist survey

An Arboricultural Impact Assessment & Tree Protection Management Plan was prepared by Canopy Consulting dated 1 November 2024. The tree survey was conducted in July 2023. It was found that:

... the majority of trees and vegetation are likely to have been planted with seed germination and suckering likely to have occurred in the intervening period.

A total of 798 trees were assessed with 597 tagged trees / groups and the tagged locations plotted by the land surveyor (Figure 1e). Of these 597 tagged trees / groups, there were 7 exotic species, 32 Australian native species, as well as dead trees.

Of the 597 tagged trees / groups, there were:

- 56% (337) of the 597 tagged trees / groups consisting of 3 species with more than 40 tagged trees / groups recorded, namely:
 - *Casuarina glauca* (Swamp Oak) (277),
 - *Corymbia maculata* (Spotted Gum) (50 individuals), and
 - *Eucalyptus botryoides* (46 individuals);
- a total of nine species with more than 10 individuals recorded; and
- 48 dead trees.

Tree retention values recorded by the arborist were:

- 237 tagged trees / groups with high retention value (*'trees should be retained and protected'*);
- 182 tagged trees / groups with medium retention value (*'trees maybe retained and protected'*);
- 107 tagged trees / groups with low retention value (*'trees are not important for retention'*); and
- 71 tagged trees / groups with priority for removal (*'trees are considered hazardous and should be removed'*).

A4.2.2 Biodiversity survey

A4.2.2.1 Sampling methods

Vegetation on the batter slopes were considered more likely to support remnant native species and be growing on naturally occurring in-situ on sandy soils than the flat land surrounding the existing building and carparks.

The batter slopes were sampled in two BAM Plots using the *Biodiversity Assessment Methodology* 2020 (DPIE 2020) by Tony Rodd and Pauline Dever on 8 August 2023.

In addition to the BAM techniques:

- to calculate the percentage covers of species present in the 0.04 ha floristic quadrat of the BAM plots, the covers recorded in four 10 m x 10 m contiguous subquadrats were averaged and entered as BAM values (0.1 to 0.9, 1 to 4, 5, 10, 15, ... (Table A-1);
- to describe vegetation structure in the sampled vegetation, the numbers of individuals and maximum heights for species ≥ 2 m tall were recorded in the four 10 m x 10 m subquadrats (Table A-2).

At the time of August 2023 survey, tree identifications were discussed with the arborists, Kane Hollstein and Liam Strachan of Canopy Consulting, consequently the tree identifications in the arborist report are consistent with that in the BAR (data in Table A-1, photographs in Appendix A-1).

The site was revisited on 27 August 2024 by Dr AnneMarie Clements and Tony Rodd to:

- confirm the vegetation recorded in August 2023 was still present on the site; and
- document the vegetation associated with the building and adjoining the carparks and driveway.

The August 2024 re-survey described and recorded species present in Patches A to O (Figure 4c).

All sampling locations were photographed (see Appendix A-1).

A targeted search for threatened species was undertaken by Tony Rodd and Jarrad Jones on 29 August 2023 in all of the vegetated areas onsite focusing on presence of any local native species, especially the shrub *Acacia terminalis*.

The surrounds of the building and around base of trees were searched for signs of fauna occupation in particular Grey-headed Flying-fox and microbats and any evidence of fauna droppings.

Sampling locations and general location were photographed (Appendix A-1).

Nomenclature is consistent with Harden (1990-1993, 2002), Harden and Murray (2000) and subsequent taxonomic changes as published in *Telopea*, the Sydney Royal Botanic Gardens' journal of systematic botany, and in other Australian taxonomic literature. The Royal Botanic Gardens' PlantNET website (plantnet.rbgsyd.nsw.gov.au) incorporating Flora Online is the major source for updated taxonomy.

A4.2.2.2 Findings

Batter slopes

From species composition recorded in the BAM Plots, the native component was low (20% and 29%), namely:

BAM Plot	Number of species recorded				% native to total
	Total	Native to the local area	Non-local native	Exotic	
Plot 1	17	5	1	11	29% (5/17)
Plot 2	20	4	3	13	20% (4/20)
Both plots	28	7	3	18	25% (7/28)

The widest of the batter slopes was in the northeast corner (sampled in Plot 1). The vegetation of this section of the batter:

- was dominated by planted eucalypts, emerging above numerous, mostly smaller, trees of *Casuarina glauca*. These smaller *C. glauca* were likely suckers from the root systems of the original plantings of *C. glauca*;
- had extensive thickets of the exotic shrub *Plumbago auriculata*;
- had several moderately large trees of *Ficus rubiginosa*; and
- had a vigorous patch of the native vine *Cissus antarctica*.

The soils on the batter slopes are sands, with organic matter near the surface. There was no remnant vegetation on the site. The woody local native species recorded on the Batter slopes, namely *Cissus antarctica*, *Cupaniopsis anacardioides*, *Ficus rubiginosa* and *Glochidion ferdinandi*, did not appear to have been planted. These species can appear

spontaneously spread by frugivorous birds, notably Currawongs, and possibly by Grey-headed Flying-foxes.

Plot 1 - located in the least managed area of vegetation on the batter slope in the northeast corner. In the floristic quadrat, there were:

- a small number of planted eucalypts (2 non-local native *Corymbia maculata* to 20 m tall and 3 *Eucalyptus botryoides* to 18 m);
- numerous planted *Casuarina glauca* (approximately 60 trees over 2 m tall, the tallest about 15 m);
- a group of *Cupaniopsis anacardioides* saplings only about 2 m tall;
- smaller plants of *Glochidion ferdinandi*;
- the exotic shrubs / small trees *Olea europaea* subsp. *cuspidata* and *Ochna serrulata* in the understorey;
- a predominantly exotic groundlayer, with approximately 80% cover of the exotic grass *Ehrharta erecta*, followed by *Megathyrsus maximus* in one patch;
- apart from grasses it was climbing or scrambling exotics that were most evident, namely *Anredera cordifolia*, *Araujia sericifera*, *Asparagus aethiopicus* and *Rumex sagittatus*;
- only one native grass was recorded, *Oplismenus aemulus*, forming some quite large patches in the shade of trees; and
- no native forbs.

Toward the northwest corner (sampled in Plot 2), the tree canopy forms a much narrower strip, with mown grass beneath except in a narrow slope towards the road verge, apparently difficult of access for mowing.

Plot 2 - located adjoining the boundary fence in the northwest corner. The floristic quadrat largely sampled mown grass on top of a low bund. Recorded in the floristic quadrat were:

- planted scattered eucalypts (2 *Corymbia maculata* and 3 *Eucalyptus botryoides* about 10 m tall, and 3 smaller *E. robusta* up to 7 m tall);
- numerous *Casuarina glauca* with over 50 trees up to 15 m tall, though along the fence they were smaller and more crowded, possibly the result of multiplying from root suckers where the mower could not reach;
- additional small trees in the mown area being the non-local natives *Callistemon viminalis* and *Melaleuca nesophila*;
- one weed tree close to the fence, *Olea europaea* subsp. *cuspidata*; and
- groundlayer dominated by the weedy exotic grass *Ehrharta erecta* (a High Threat Weed), though with much bare soil showing beneath the trees. In the unkempt strip along the boundary fence the *Ehrharta* was overtopped in places by another weed grass *Megathyrsus maximus*, with *Asparagus aethiopicus* and *Araujia sericifera* also abundant (all High Threat Weeds), plus several other common weeds.

Patches on the batter slopes

Six vegetation patches (F, G, J, K, M, N) were surveyed in August 2024.

Patch F sampled vegetation along the south base of the batter slope in the north-west corner of the site. The patch overlapped the floristic quadrat of BAM Plot 2. It took in several planted small trees, with *Leptospermum laevigatum*, *Callistemon viminalis* and *Melaleuca*

nesophila. In one part was a dense stand of the exotic shrub *Plumbago auriculata*. Beneath the trees was mostly mown grass and some clumps of *Agapanthus praecox*.

Patch G sampled vegetation above a timber retaining wall north of the building's reception area entrance. The ground was largely covered by an extensive patch of *Plantago auriculata*, a vigorously suckering shrub from South Africa. Emerging above it were some tall trees of *Casuarina glauca* and one lower, more spreading *Ficus rubiginosa*.

Patch J sampled vegetation a little north-east of the reception area entrance, where the batter slope descended again to kerb level. The dense stand of *Plumbago auriculata* continued into this patch and also extended up the slope almost to northern boundary fence. There were scattered trees of *Casuarina glauca* of mixed height and two eucalypts, one *Corymbia maculata* and one *Eucalyptus botryoides* close to the internal road.

Patch K sampled a very weedy area of vegetation in a flatter, somewhat sheltered area at the base of the batter slope, with some large planted trees of *Casuarina cunninghamiana* as well as some *C. glauca* a little further upslope. Beneath the trees was luxuriant weed growth with *Ehrharta erecta*, *Araujia sericifera* and *Chrysanthemoides monilifera*. Some of the trees were densely festooned with *Cissus antarctica*.

Patch M sampled vegetation opposite the eastern wall of the factory where the batter narrows and descends to only 1–2 m above the level of the internal road. Back against the boundary fence was a row of tall *Casuarina glauca* while closer to the road was mainly weeds, dominated by large clumps of *Cortaderia selloana*. Also growing abundantly were *Ehrharta erecta*, *Anredera cordifolia*, *Bromus catharticus*, *Sida rhombifolia*, *Araujia sericifera*, *Tropaeolum majus* and *Solanum nigrum*.

Patch N sampled the very narrow strip of vegetation off the eastern wall where the site boundary approaches very close to the internal road. The dominant feature here was further clumps of *Cortaderia selloana* that had been slashed down not long before the survey.

In conclusion, the intensely maintained batter slope area did not have any local native remnant species present.

Patches in the regularly maintained landscape areas

The areas of regularly maintained landscape plantings with lawn mown were mainly confined to strips bordering the factory walls except for some plantings around the car parks to the north of the factory in the north-west of the site. These areas were sampled by the western section of Patch A and Patches B, C, D, E, H, I, and L.

The western section of Patch A was near the gate entrance for cars in the SW of the site. It included: the level land a planted group of approximately 20 m tall *Eucalyptus grandis* overhanging from the road reserve and six planted *Casuarina glauca* between 15 and 20 m tall in a raised bed. The *Lomandra longifolia* in the entrance island had been pruned.

Patch B sampled planted vegetation along the high west face of the building. The dominant feature was a row of very tall *Casuarina cunninghamiana*. Beneath these was a broad strip of close-mown grass, while bordering the internal road a low hedge of *Plumbago auriculata*. The mown strip included frequent weeds including *Ehrharta erecta*, *Sonchus oleraceus*, *Polycarpon tetraphyllum* and *Poa annua*. One small native annual, *Cotula australis*, was also present; it is a frequent coloniser of lawns.

Patch C sampled landscaped low mounds with close-mown grass and some shrubberies beneath taller trees. Two large *Casuarina cunninghamiana* were close to the western edge while further south against the factory wall was a large *Eucalyptus botryoides*, with some smaller exotic trees and shrubs beneath. The mown grass was mainly *Cynodon dactylon*, while a diversity of weeds were also present: in addition to those mentioned for Patch B there were recorded *Hypochaeris radicata*, *Bromus catharticus*, *Soliva sessilis*, *Taraxacum officinale*, *Cerastium glomeratum* and *Stellaria media*. The native forbs *Cotula australis* and *Oxalis perennans* were also recorded.

Patch D sampled a small shrubbery between kerbs beneath the canopy of a spreading *Ficus rubiginosa*. Planted beneath were the exotic shrubs *Murraya paniculata* and *Hibiscus rosa-sinensis* and perennials *Agave attenuata* and *Agapanthus praecox*. The ground beneath was mainly bare soil though with very sparse cover of *Ehrharta erecta* and *Cynodon dactylon*.

Patch E sampled plantings in an island bed between car park bays. Tallest trees were two *Corymbia maculata*, with smaller trees of *Banksia integrifolia* and *Acacia saligna*. The latter is a Western Australian native that has become a serious weed in NSW and is not likely to have been deliberately planted.

The rather neglected shrub plantings beneath included *Agave attenuata*, *Dracaena fragrans* and *Dracaena marginata* (all exotic). The ground was mostly bare soil but with sparse weed growth of *Ehrharta erecta* and some *Dietes grandiflora* seedlings.

Patch H sampled plantings in the eastern end of the island between two car park bays. It was dominated by a large tree of *Eucalyptus robusta* with smaller trees of *Melaleuca styphelioides* and *Jacaranda mimosifolia* beneath. The understorey included overmature plantings of the exotic shrub *Coleonema pulchellum* and sparse patches of *Agapanthus praecox* and *Dietes grandiflora* among swathes of the weed *Aparagus aethiopicus*.

Patch I sampled plantings around the entrance to the building's reception area. On either side of the entrance was a large tree of *Eucalyptus botryoides*. Beneath the eastern one was a tall *Murraya paniculata* and beneath the western one was a *Callistemon viminalis* of similar size. Plantings beneath these were sparse and included the exotics *Agave attenuata* and *Dietes grandiflora* and the non-local native *Lomandra hystrix*. Weeds were scattered through the garden beds including *Ehrharta erecta*, *Bidens pilosa*, *Asparagus aethiopicus*, *Sonchus oleraceus* and *Hypochaeris radicata*.

Patch L included rat control stations, two tanks one of which was the sprinkler water tank. The vegetation included, mown *Cerastium glomeratum*, *Dichondra repens*, *Ehrharta erecta*, *Hypochaeris radicata*, *Taraxacum officinale*, with approximately 15 m high planted *Casuarina glauca*.

In conclusion the regularly mown landscape area did not have any local native remnant species present.

Drainage swale sampled in eastern part of Patch A and in Patch O in the western end.

The eastern part of Patch A sampled the eastern extreme of the drainage swale parallel to Moore Street. The tree plantings included a spreading approximately 6 m tall *Ficus benamina*, 10 m tall *Casuarina glauca*, a 5 m tall *Eucalyptus botryoides*, 5 m tall *Pittosporum undulatum* and 5 to 6 m planted shrubs *Callistemon viminalis* and *Melaleuca*

linariifolia. The understorey was weedy with clumps of the exotic grass *Ehrharta erecta*. The planted *Lomandra longifolia* in the garden beds in the entrance road and nearby has been pruned by the maintenance staff.

Patch O sampled the garden bed along the western extreme of the building with the road higher than the building platform. The understorey included *Asparagus aethiopicus*, *Ehrharta erecta*, *Eragrostis tenuifolia*, *Lysimachia arvensis*, *Medicago* sp., *Sonchus oleraceus* and *Taraxacum officinale*.

In this drainage swale, a single individual of *Acacia terminalis* (not the threatened *Acacia terminalis* “subsp. Eastern Sydney”) and a 1 m diameter cluster of *Pterostylis pedunculata*, a common and widespread orchid in southeastern Australia that colonises disturbed areas were previously recorded in August 2023. These two native species are not of conservation significance.

The targeted search for local native species was undertaken following the recording of one *Acacia* sp. approximately 1.5 m tall growing in an overgrown garden bed on the eastern edge of the main truck exit ramp up to Moore Street in the south. This was readily identified on sight as *Acacia terminalis*, but there was a strong suspicion that it could be the subspecies *Acacia terminalis* “subsp. Eastern Sydney”, listed as endangered under both State and Commonwealth legislation (<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10028> and https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=88882).

Despite an extensive search, only one individual of *Acacia terminalis* was recorded (location shown on Figure 4c). Plants recorded growing within 5 m of the *Acacia terminalis* were planted *Callistemon citrinus*, *Dianella caerulea*, *Eucalyptus robusta* x unknown hybrid and weedy understorey species including *Megathyrsus maximus* (Guinea grass), *Asparagus africanus* (Climbing Asparagus), *Chrysanthemoides monilifera* subsp. *rotundata*, *Coprosma repens* (Mirror Bush).

A specimen was collected from this *Acacia* and submitted to the NSW National Herbarium at Mount Annan. It was determined that the specimen submitted is NOT the “subsp. Eastern Sydney” but the much more widely distributed “subsp. Glabrous form” (see identification confirmation letter from Botanic Gardens of Sydney in Appendix A-2).

Only about 3 m away from the *Acacia terminalis*, there was a large *Eucalyptus* identified as a hybrid between *E. robusta* and another *Eucalyptus* species. It is of no conservation significance.

Also in this vicinity was a colony of native Greenhood orchids in the shady edge of a drainage swale approximately 2 m from the building wall and 7 m from the southeast corner of the main building. The plants were growing as a cluster approximately 1 m in diameter in moist soil among moss and leaf litter. This orchid was identified as *Pterostylis pedunculata*, a common and widespread species in southeastern Australia that colonises disturbed areas, often appearing in shaded corners of lawns where grass is sparse. It is also of no conservation significance.

A4.3 Onsite vegetation mapping

The vegetation onsite is mainly planted. Three Vegetation Zones were identified (Figure 6a), namely:

Vegetation Zone	Area (ha) (from GIS calculations, includes overhanging canopy)
1. Landscaping	0.6 ha
2. Drainage swale plantings	0.3 ha
3. Batter slope plantings	0.6 ha
Total area with vegetation growing on and/or overhanging the site	1.5 ha

A4.4 Threatened species

A4.4.1 Threatened flora species

From the BioNet data search on 2 October 2024, there were eight (8) threatened flora species records within a 10 km x 10 km grid of the site, with the nearest recorded threatened species being *Acacia terminalis* “subsp. Eastern Sydney” (Figure 5a).

A targeted search was undertaken onsite for any local native component. A single individual of the much more widely distributed *Acacia terminalis* “subsp. Glabrous form” (see identification confirmation letter from Botanic Gardens of Sydney in Appendix A-2).

No threatened flora species were recorded on or adjacent to the site, nor considered likely to occur on the site due to the long history of cleared land and modified anthropogenic soils.

A4.4.2 Threatened fauna species

From the BioNet data search conducted on 2 October 2024, there were 58 threatened fauna species (11 mammals, 39 Birds, 5 reptiles, 2 amphibians and 1 gastropod) including 13 Migratory bird species records within a 10 km x 10 km radius of the site (Figures 5b, 5c, 5d and 5e).

There are numerous records of Grey-headed Flying-fox (*Pteropus poliocephalus*) across the local landscape. This species is known to primarily forage on eucalyptus, melaluca and banksia species.

Of the 39 bird species, there are numerous records of the migratory bird Wandering Albatross (*Diomedea exulans*) and Little Tern (*Sternula albifrons*) along the foreshore areas of Port Botany.

The nearest terrestrial reptile record is for the Loggerhead Turtle located 745 m to the north west in a residential area. The amphibian species with the most numerous records is the Green and Golden Bell Frog with most records being approximately 2.2 km to the south east at Sir Josephs Banks Park.

Of 13 Migratory bird records within the 10 km search grid (Figures 5e) the closest records were Little Tern and Latham’s Snipe at The Lake’s Golf Club, approximately 900 m north west of the centre of site.

The absence of large hollows on site means there is no breeding or nesting habitat for Glossy Black-Cockatoo onsite.

A4.5 Habitat constraints assessment

Potential threatened species habitat was systematically assessed onsite using threatened species profile information provided in BioNet and the Threatened Biodiversity Data Collection (TBDC), in conjunction with any recorded habitat features onsite:

Habitat component	Site values recorded on the subject land
Coarse woody debris	Absent.
Rock outcrops and bush rock	Absent.
Caves, crevices and overhangs	Absent.
Culverts, bridges, mine shafts, or abandoned structures	Absent.
Nectar/lerp-bearing trees	Some nectar bearing trees present such as <i>Callistemon viminalis</i> and <i>Melaleuca nesophila</i> .
Nectar-bearing shrubs	Some of the nectar bearing shrubs present onsite included <i>Callistemon viminalis</i> , <i>Plumbago auriculata</i> and <i>Melaleuca linariifolia</i> .
Koala Feed Trees	Feed trees recorded in plots include: <i>Angophora floribunda</i> , <i>Eucalyptus botryoides</i> , <i>Eucalyptus robusta</i> , <i>Corymbia maculata</i> .
Large stick nests	No large stick nests observed.
Sap and gum sources	None recorded onsite.
She-oak fruit (Glossy Black Cockatoo feed)	<i>Casuarina glauca</i> recorded in high numbers onsite and 11 trees of <i>Casuarina cunninghamiana</i> . No <i>Allocasuarina</i> spp. present.
Seed-bearing trees and shrubs	Of the planted trees and shrubs, none had edible seeds, for example <i>Callistemon viminalis</i> having tiny seeds.
Soft-fruit-bearing trees	Soft fruit bearing trees onsite included <i>Ficus benjamina</i> , <i>Ficus rubiginosa</i> and <i>Cupaniopsis anacardioides</i> .
Dense shrubbery and leaf litter	None recorded.
Tree hollows	None recorded.
Decorticating bark	None recorded.
Wetlands, soaks and streams	None recorded.
Open water bodies	None recorded
Estuarine, beach, mudflats, and rocky foreshores	Absent.

A5.0 Native vegetation, threatened ecological communities and assessment of planted trees

A5.1 Native vegetation extent

The absence of remnant native vegetation is illustrated by the recent and historical aerial photographs, biodiversity survey results and photographs of the site (Figures 1a-2, 1943-2002, data in Tables A-1, A-2, photographs in Appendix A-2). None of the trees onsite are remnant.

The majority of the site consists of maintained landscape plantings with a mown understorey.

The following outlines the naturally occurring range of the planted species recorded onsite. Many of the planted species considered non-local native have been denoted with a '#'. None of the plantings are likely to have been grown from locally collected seed.

Natural occurrence of species recorded onsite

Native and non-local native species recorded onsite	Naturally occurs (PlantNET plus other sources)
> 2 m tall	
# <i>Callistemon viminalis</i>	North from the Gloucester area. Mostly grows along watercourses; chiefly in sandstone or granite areas.
<i>Casuarina glauca</i>	In brackish situations along coastal streams, somewhat farther inland along major river valleys. Often forming pure stands. It is the dominant species in the Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions, which is regarded as likely to become extinct because of high rates of clearing for human activities.
# <i>Corymbia maculata</i>	Community dominant, in open forest on somewhat infertile and drier sites on shales and slates.
<i>Cupaniopsis anacardioides</i>	Occurs in littoral rainforest and scrub near the sea and along estuaries, north from Gerroa (Illawarra region).
<i>Eucalyptus botryoides</i>	Locally abundant, in dry sclerophyll forest or woodland on alluvial flats or old beach dunes; south from Hunter River.
<i>Eucalyptus robusta</i>	Locally abundant in heath on low swampy sites on sandy soils; north from Moruya.
# <i>Melaleuca nesophila</i>	It is native to the southwest coast of Western Australia and is now grown in areas along the south and south east coast of Australia, in addition to Tasmania.
Ground cover species	
<i>Oplismenus aemulus</i>	Usually grows in gullies and shaded forest.

A5.2 Plant community types

Vegetation within the subject land consists largely of planted trees of both native, non-local native and exotic origin.

To confirm whether vegetation onsite can be assigned to a PCT known to occur in the same IBRA subregion as the proposal, the online Plot to PCT Assignment tool was used. It is stated on the Department of Planning and Environment website (accessed August 2023) that:

The tool provides a standardised repeatable method for identifying quantitative PCTs using the floristic survey methods required under the NSW Biodiversity Assessment Method (BAM). ...

Distance to centroid values of 0.695 or less ... indicate the site meets the floristic match threshold for that PCT. This threshold value is an important metric for deciding on the best-fitting PCT.

From applying the online tool to the data recorded in BAM Plots 1 to 2, none of the vegetation recorded in the two Plots met the floristic match threshold (distance to centroid <0.695) for any PCT in NSW. The PCTs with the lowest distances to centroid for the three plots were the following:

- PCT 3987 - Far North Floodplain Paperbark-Swamp Oak Forest (known to occur in IBRA subregions Burringbar-Conondale Ranges; Clarence Lowlands);
- PCT 4016 - Clarence Floodplain Swamp Oak Forest, (known to occur in IBRA subregion Clarence Lowland)
- PCT 4026 - Estuarine Sea Rush Swamp Oak Forest, (known to occur in Coffs Coast and Escarpment; Karuah Manning; Macleay Hastings; Bateman; East Gippsland Lowlands; South East Coastal Ranges; Burringbar-Conondale Ranges; Cumberland; Illawarra; **Pittwater**; Sydney Cataract; Wyong; Yengo.

Plot	PCT Match1	Distance to centroid 1	PCT Match2	Distance to centroid2	PCT Match3	Distance to centroid3	PCT Match 4	Distance to centroid4	PCT Match5	Distance to centroid5
1	3987	0.732	4016	0.765	4026	0.796	4027	0.808	4031	0.814
2	4016	0.822	4026	0.862	4027	0.868	4028	0.874	3987	0.876

Hence, the vegetation onsite:

- is not a mosaic of planted and remnant native vegetation; and
- can not be reasonably assigned to a PCT known to occur in the same IBRA subregion as the proposal.

A5.3 Alignment with TECs

No Plant Community Types occur on the site and hence there is no alignment with any Threatened Ecological Communities nor *EPBC Act* listed Ecological Communities.

A5.4 Alignment with EPBC Act listed ECs

None. No PCTs occur on the subject land and hence no alignment with EPBC Act listed ECs.

A5.5 Threatened ecological communities

No TECs nor EPBC Act listed ECs are identified within the subject land (see below, application of decision making key from Appendix D of the BAM).

A5.6 Vegetation and Management Zones

From the assessment of the subject land, none of the vegetation onsite can be reasonably matched to any PCT, TEC nor ECs.

The vegetation onsite was assigned to three Vegetation Zones based on the areas of planted trees (Figure 6a). None of the Vegetation Zones represent vegetation that naturally occurred onsite.

The Vegetation Zones have been divided into Management Zones, based on the impact of the proposal (Figures 6a, 6b), with 0.9 ha of the 1.5 ha of planted vegetation onsite directly impacted, namely:

Vegetation Zone	Area including overhanging canopy	Management Zone (removal)	Management Zone	
			Trees retained (Tagged trees / groups)	Trees removed (Tagged trees / groups)
1. Landscaping	0.6 ha	0.5 ha	14	157
2. Drainage swale plantings	0.3 ha	0.2 ha	32	93
3. Batter slope plantings	0.6 ha	0.2 ha	141	160
Total	1.5 ha	0.9 ha	187	410

Most (0.5 ha) of the 0.9 ha directly impacted by the proposal is the existing landscaping surrounding the existing building, followed by 0.4 ha directly impacted of 0.6 ha of planted batter slope. The result of the proposal is the clearing of planted trees (Figures 6a, 6b, 6c-1, 6c-2), with:

- 410 of 597 tagged trees / groups of planted trees proposed for removal (that is 521 of 798 total number of trees), with 157 tagged trees / groups within landscaped area, 160 tagged trees / groups on batter slope and 93 tagged trees / groups removed from the drainage swale; and
- 187 tagged trees / groups of trees proposed to be retained:
 - 141 (approx. 76%) of the total number of tagged trees / groups of trees (187) being retained on the batter slope along the northern boundary; and
 - 32 (approx. 17%) of the total number of tagged trees / groups of trees (187) in the Moore Street frontage in / near the drainage swale.
 - 14 (approx. 8%) of the total number of tagged trees / groups of trees (187) within the landscaping areas along the eastern and western boundary.

The retention of the 141 tagged trees / groups of planted trees on the batter slope was a consequence of minimising the civil works in the landscaping around the perimeter of the facility, including retaining existing fencing location. On a previous proposal iteration, most of the trees were being directly impacted by foundations for a palisade fence.

A5.7 Identifying prescribed impacts

In the Chapter 6 - *Identifying prescribed additional biodiversity impacts* of the BAM (page 7), it states that:

1. Prescribed additional biodiversity impacts (prescribed impacts) must be assessed as part of the BOS, as per Clause 6.1 of the BC Regulation. Such prescribed impacts (including direct and indirect impacts) are impacts:

Prescribed impact on:	Applies to the proposal:
(a) <i>on the habitat of threatened entities including:</i>	
i. <i>karst, caves, crevices, cliffs, rocks and other geological features of significance, or</i>	No. None of these habitats occur on the site or nearby.
ii. <i>human-made structures, or</i>	No. The site is currently occupied by a warehouse development used for the food packing and distribution with strict hygiene protocols.
iii. <i>non-native vegetation</i>	Possibly. The soft fruits of planted <i>Ficus benjamina</i> and <i>Ficus rubiginosa</i> are known to provide habitat for highly mobile species including the threatened Grey headed flying fox and Possums (prey species) for the Powerful Owl (<i>Ninox strenua</i>). Of the 17 <i>Ficus rubiginosa</i> and 7 <i>Ficus benjamina</i> recorded by the arborist, are mostly planted near the roadsides.
(b) <i>on areas connecting threatened species habitat, such as movement corridors</i>	Possibly. There is a possible movement corridor through the planted canopy street trees, providing habitat connectivity as a 'stepping stone' for highly mobile threatened fauna species such as Grey headed Flying Fox and Powerful Owl (<i>Ninox strenua</i>).
(c) <i>that affect water quality, water bodies and hydrological processes that sustain threatened entities (including from subsidence or upsidence from underground mining)</i>	No. There are no waterbodies on or adjacent to the site. The nearest waterbody is approximately 800 m to the north west located at The Lakes Golf Club.
(d) <i>on threatened and protected animals from turbine strikes from a wind farm</i>	No. The proposal is not a wind farm.
(e) <i>on threatened species or fauna that are part of a TEC from vehicle strikes.</i>	No. No TECs present on the site. Vehicle strike is not likely to be exacerbated by the proposal.

None of the above items, for which prescribed additional biodiversity impacts may occur, are present on the subject land. The planted *Ficus* spp. are known to provide habitat for highly mobile species including the threatened Grey headed flying fox and Possums (prey species) for Powerful Owl (*Ninox strenua*) are mainly roadside planting. There are no prescribed impacts onsite.

Stage 2: Impact Assessment

B6.0 Avoid and minimise impacts on biodiversity values

At the times of inspection, there were no obvious signs of fauna activity onsite. There is little to no likely breeding habitat onsite due to a lack of hollow bearing trees. There is an absence of fallen branches and of litter on the ground surface.

There were no obvious dropping nor likely bat occurrence within building due to the regularly mown and trimmed vegetation onsite and adherence to hygiene protocols as the site is used as a food packaging and distribution facility.

The planted trees may provide potential foraging habitat including the following threatened fauna species:

- Grey-headed Flying-fox (*Pteropus poliocephalus*);
- Large-eared Pied Bat (*Chalinolobus dwyeri*);
- Large Bent-winged Bat (*Miniopterus orianae oceanensis*); and
- Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*); as well as
- a possible food resource for the prey species of Powerful Owl.

The extent of tree retention was increased for the proposal by minimising the civil works in the landscaping around the perimeter of the facility, including retaining existing fencing location. There is now 141 trees being retained close to the northern boundary on the batter slope. Hence, avoid and minimise impacts have been applied to the project.

B7.0 Impact assessment

B7.1 Assessment of impacts on planted trees using the BAM

The decision-making key in Appendix D of the BAM (*Streamline assessment module – Planted native vegetation* (DPIE 2020, page 75 - 78) provides a framework for the assessment of planted native vegetation. The key was applied as follows:

D.1 Decision-making key

Does the planted native vegetation occur within an area that contains a mosaic of planted and remnant native vegetation and which can be reasonably assigned to a PCT known to occur in the same IBRA subregion as the proposal?

As there is no remnant native vegetation onsite, the planted vegetation is not in an area containing a mosaic of planted and remnant native vegetation.

The response to Question 1 of the key is:

‘ii. No Go to 2.’

2. Is the planted native vegetation:

- a. planted for the purpose of environmental rehabilitation or restoration under an existing conservation obligation listed in BAM Section 11.9(2.), and**
- b. the primary objective was to replace or regenerate a plant community type or a threatened plant species population or its habitat?**

i. Yes The planted native vegetation must be assessed in accordance with Chapters 4 and 5 of the BAM.

ii. No Go to 3.

3. Is the planted/translocated native vegetation individuals of a threatened species or other native species planted/translocated for the purpose of providing threatened species habitat under one of the following:

a. a species recovery project

b. Saving our Species project

c. other types of government funded restoration project

d. condition of consent for a development approval that required those species to be planted or translocated for the purpose of providing threatened species habitat

e. legal obligation as part of a condition or ruling of court. This includes regulatory directed or ordered remedial plantings (e.g. Remediation Order for clearing without consent issued under the BC Act or the Native Vegetation Act)

f. ecological rehabilitation to re-establish a PCT or TEC that was, or is carried out under a mine operations plan, or

g. approved vegetation management plan (e.g. as required as part of a Controlled Activity Approval for works on waterfront land under the NSW Water Management Act 2000)?

i. Yes The planted native vegetation must be assessed in accordance with Chapters 4 and 5 of the BAM.

ii. No Go to 4.

4. Was the planted native vegetation (including individuals of a threatened flora species) undertaken voluntarily for revegetation, environmental rehabilitation or restoration without a legal obligation to secure or provide for management of the native vegetation?

i. Yes Go to D.2 Assessment of planted native vegetation for threatened species habitat (the use of Chapters 4 and 5 of the BAM are not required to be applied).

ii. No Go to 5.

5. Is the native vegetation (including individuals of a threatened flora species) planted for functional, aesthetic, horticultural or plantation forestry purposes? This includes examples such as: windbreaks in agricultural landscapes, roadside plantings (including street trees, median strips, roadside batters), landscaping in parks, gardens and sport fields/complexes, macadamia plantations or teatree farms?

i. Yes Go to D.2 Assessment of planted native vegetation for threatened species habitat (the use of Chapters 4 and 5 of the BAM are not required to be applied).

ii. No Go to 6.

Given that there is a “Yes” responses to Decision-making key Question 5, Section D.2 Assessment of planted native vegetation for threatened species habitat is applied.

As stated in the key, the use of Chapters 4 and 5 of the BAM are not required to be applied.

Section D.2 states that:

The assessor must assess the suitability of the planted native vegetation for use by threatened species and record any incidental sightings or evidence (e.g. scats, stick nests) of threatened species credit species (flora and fauna) using, inhabiting or being part of the planted native vegetation.

*If there is evidence that threatened species are using the planted native vegetation as habitat, the assessor must apply Section 8.4 of the BAM to mitigate and manage impacts on these species. **Species credits are not required to offset the proposed impacts.***

At time of the BAM survey, the site was assessed for suitability of the planted native vegetation for use by threatened species. It was found that there were:

- no hollow-bearing trees;
- no incidental sightings nor droppings; and
- no evidence of threatened fauna onsite such as scats, stick nests.

No remnant native vegetation was recorded onsite, nor expected on this historically cleared land. However, the mainly planted canopy trees may provide potential foraging habitat for the following threatened fauna species:

- Grey-headed Flying-fox (*Pteropus poliocephalus*) foraging for nectar and pollen produced by the planted trees. They are known to eat the blossoms of Eucalypts, *Callistemon* species and the fruits of *Ficus rubiginosa* and *F. benjamina* (Benson and McDougall 1998), these species have been recorded onsite; and
- Powerful Owl (*Ninox strenua*) possibly foraging for prey species such as possums.

The proposal impacts foraging habitat with the removal of approximately 166 of the (tagged / groups) planted *Casuarina* spp. (note: *Casuarina* spp. is not preferred food resource for the Glossy Black Cockatoo, nor food resource for the above species), 123 (tagged / groups) of the planted flowering Eucalypt spp., and 18 of the 24 (tagged / groups) planted *Ficus* spp onsite (Figures 1f-1, 1f-2, 6c-1, 6c-2), namely:

Species	Total (tagged trees / groups)	To be retained (tagged trees / groups)	To be removed (tagged trees / groups)
<i>Angophora floribunda</i>	2	1	1
<i>Banksia integrifolia</i>	5	-	5
<i>Casuarina cunninghamiana</i>	11	-	11
<i>Casuarina glauca</i>	277	122	155
<i>Corymbia citriodora</i>	6	1	5
<i>Corymbia maculata</i>	50	5	45
* <i>Cupresseus sempervirens</i> 'Stricta'	1	1	0
<i>Eucalyptus botryoides</i>	46	4	42
<i>Eucalyptus botryoides</i> x <i>saligna</i>	3	-	3
<i>Eucalyptus microcorys</i>	6	3	3
<i>Eucalyptus robusta</i>	21	2	19
<i>Eucalyptus grandis</i>	6	3	3
<i>Eucalyptus globulus</i> subsp. <i>maidenii</i>	1	-	1
<i>Eucalyptus</i> sp.	2	1	1

Dead tree	48	-	48
<i>Ficus benjamina</i>	7	4	3
<i>Ficus rubiginosa</i>	17	2	15
<i>Lophostemon confertus</i>	2	1	1
* <i>Olea europaea subsp. cuspidata</i>	5	1	4
<i>Podocarpus elatus</i>	3	1	2
* <i>Schinus areira</i>	3	-	3
Total	522	152	370

* = Exotics

The proposal removes some of the 1980s planted landscaping. The extent of removal is unlikely to significantly impact the foraging habitat of threatened species given the close proximity to planted canopy street trees along Wentworth Avenue, possibly Mutch Park and 'between fairway' vegetation of the golf course north and north east of the site respectively.

No ecosystem credits nor species credits are required to offset proposed impacts on the planted vegetation.

B8.0 Mitigating and managing impacts

It is stated in Section D.2 of Appendix D of the BAM that:

If there is evidence that threatened species are using the planted native vegetation as habitat, the assessor must apply Section 8.4 of the BAM to mitigate and manage impacts on these species.

The site currently supports an industrial food packaging operation with strict hygiene protocols. There is no native remnant vegetation onsite, except one individual of the non-threatened *Acacia terminalis* subspecies.

The site was cleared by 1978 for the construction of the existing warehouse. Tree planting on the batter slopes appears to have occurred between 1984 and 1991, with tree canopy established by 1991.

At the time of inspection, there were no obvious signs of fauna activity onsite. There is little to no likely breeding habitat onsite due to a lack of hollow bearing trees. The building is not likely to provide roosting habitat for bats due to the site use and maintenance required for food packaging and distribution facility.

It is recommended that the local native species be used in the landscaping especially food sources for the Grey-headed Flying-fox and for the prey species (mainly possums) for the Powerful Owl.

References

Existing reports prepared

The other documentation submitted with the proposed development that is relevant to biodiversity used in the preparation of this BAR includes:

Canopy Consulting (2024) *Arboricultural Impact Assessment & Tree Protection Management Plan*. Prepared by Senior Consulting Arborist, Kane Hollstein. Version 1. Dated 1 November 2024. Prepared for Logos Property.

PSM (2023) *Geotechnical Due Diligence Report for 2 Moore St Banksmeadow*. Ref No. PSM5169-003R. Dated 27 October 2023. Prepared for Logos Property.

Costin Roe Consultants (2023) *Civil Engineering Report Incorporating Water Cycle Management Strategy*. Draft _A. Dated 1 October 2024. Prepared for Logos Property.

Literature considered

Benson D and McDougall L (1998) Ecology of Sydney plant species. Part 6: Dicotyledon family Myrtaceae. *Cunninghamia* Volume 5(4), 808-987.

Department of Planning, Industry and Environment (DPIE) (2020) *Biodiversity Assessment Method*. Dated October 2020.

Harden GJ (1990-93, 2002) *Flora of New South Wales*. Volumes 1 to 4. University of New South Wales Press, Kensington.

Harden GJ and Murray LJ (2000) Supplement to Flora of New South Wales. Volume 1. University of New South Wales Press, Kensington.

Mitchell PB (2002) *Descriptions for NSW (Mitchell) Landscapes*. Published by Department of Planning, Industry and Environment.

Online Maps and data include from:

Bayside City Council's website

Biodiversity Values Map

Bureau of Meteorology

NearMap aerial photographs

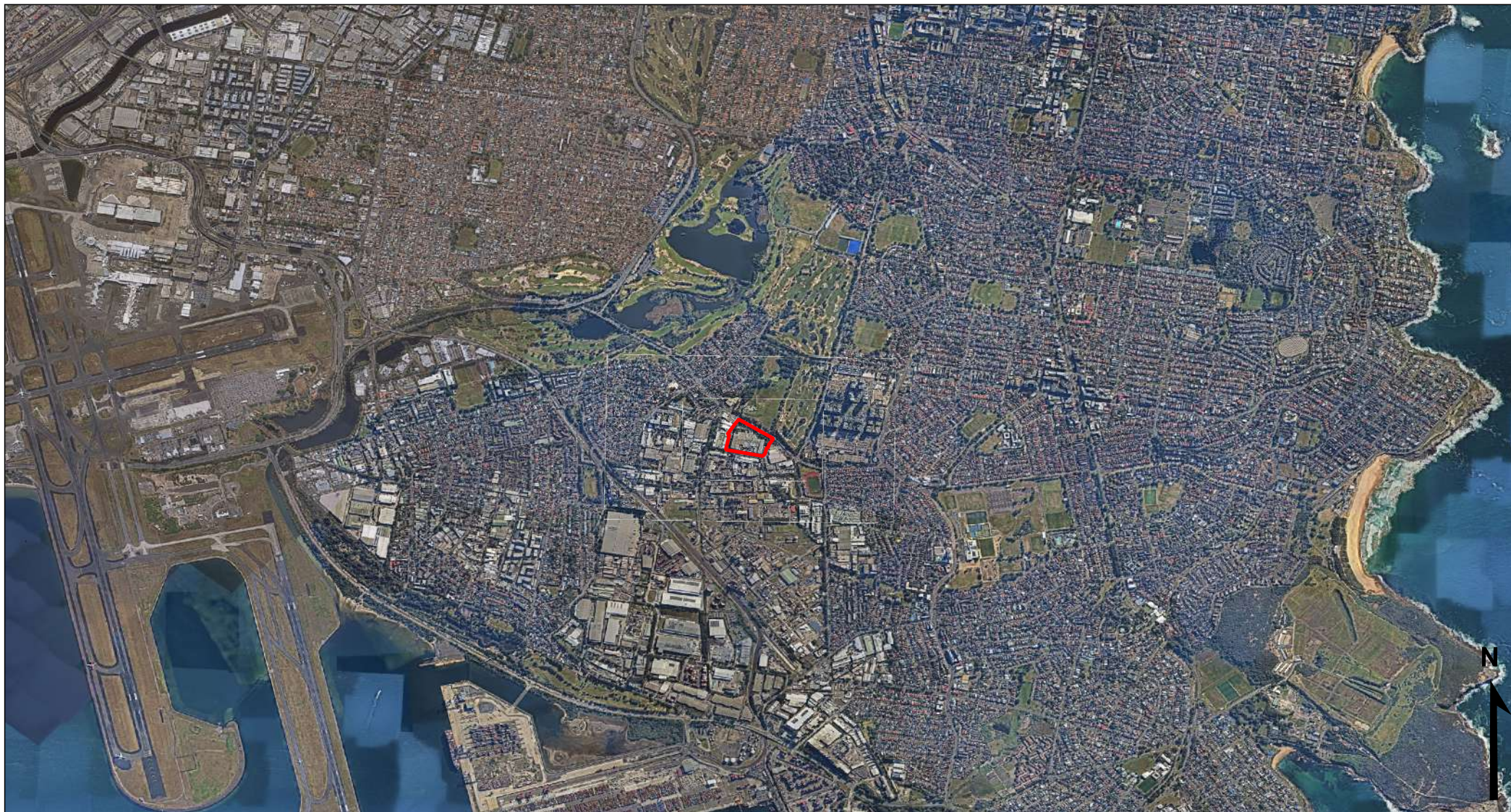
NSW FloraOnline - PlantNET

DPIE Website

Spatial Services

Seed Portal – NSW Government

Figures



Date created: 20-08-2024

 Site boundary

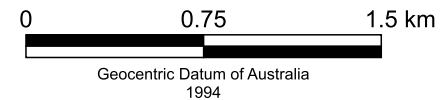


Figure 1a-1.
Site boundary overlaid on the Nearmap aerial photograph dated 15 July 2024



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 20-08-2024

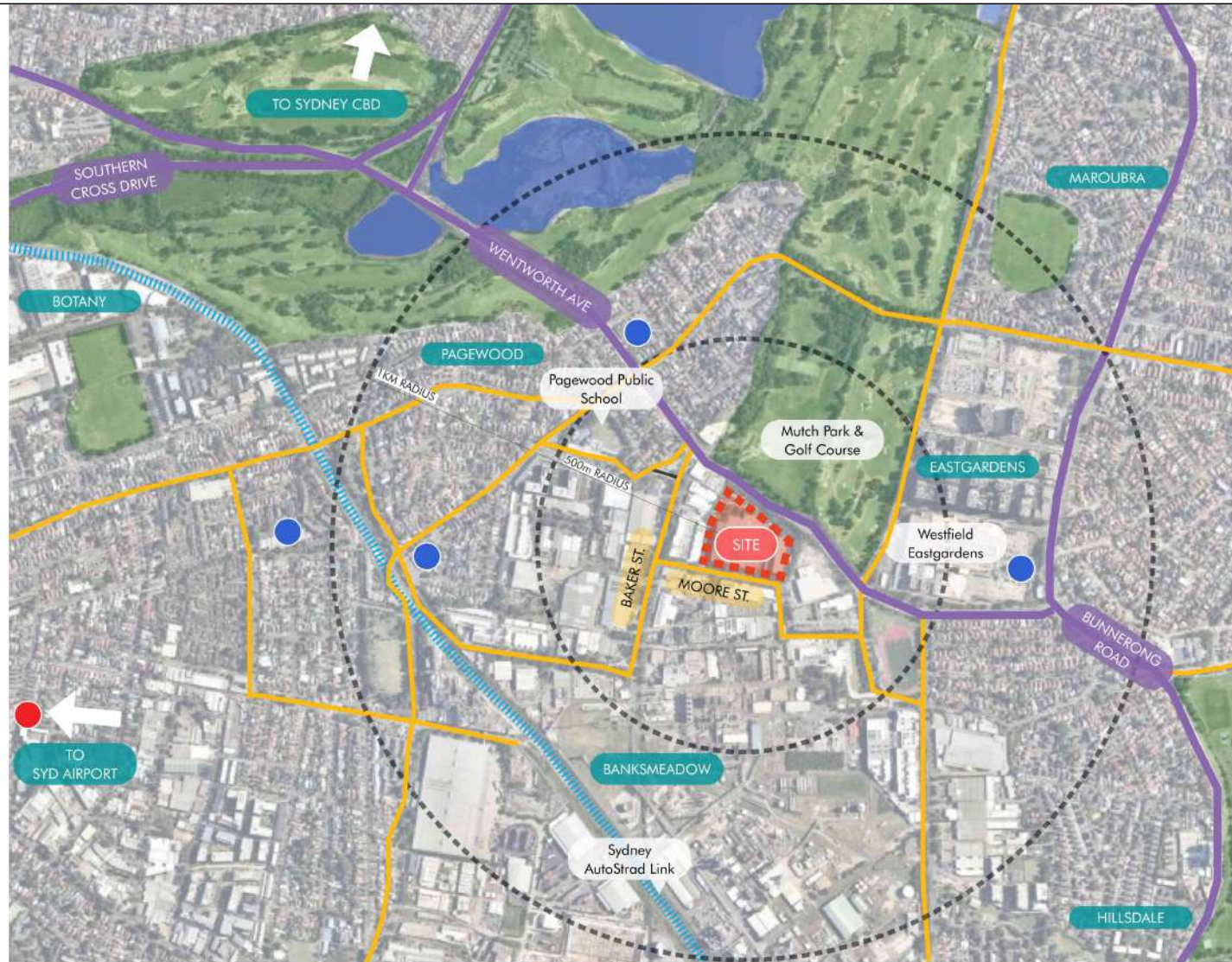


Site boundary

0 100 200 m

Geocentric Datum of Australia
1994

Figure 1a-2.
Site boundary overlaid on the Nearmap aerial photograph dated 15 July 2024 - close up



LOCAL SITE CONTEXT



SYDNEY WIDE CONTEXT

The site is located within the suburb of Banksmeadow under the Sydney Local Government Area of Bayside Council and is approximately 11 km south of Sydney CBD, and 4 km East of Sydney Airport.

Located with two frontages on Moore Street and Wentworth Avenue, the site is in the process of becoming well connected with right turn off signalised vehicular access on The Northern corner of the intersection of Baker Street & Wentworth Avenue.

Significant Roads in the greater context include Wentworth Avenue to the North which intersects Bunnerong Road to the North East and also intersects Southern Cross Drive to the North West.

The site is situated within close proximity to Bus Stops, Mutch Park & Golf Course as well Westfield Eastgardens Shopping Centre.



Client



Project Name
ESR BANKSMEADOW ESTATE

Project Address
130 WENTWORTH AVENUE, BANKSMEADOW
LOT 11 DP 701187

Rev	Description	Issued	Date
1	ISSUED FOR PERMIT		20.09.24

Drawing Title
SITE & CONTEXT PLAN

Date: 20.09.24 Sheet Size: A1 Scale: N.T.S.
Drawing Number: 14173_DA01 Issue: A

nettletontribe

Figure 1a-3.
Site & Context Plan (nettletontribe, Drawing No. 14173_DA01, Issue A, dated 20.09.24)



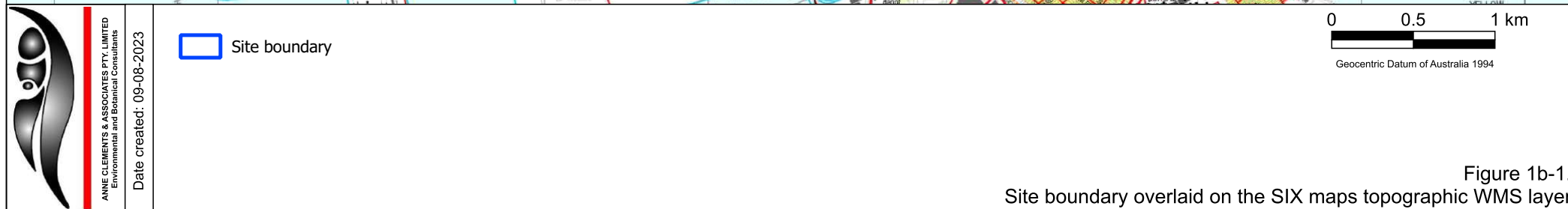
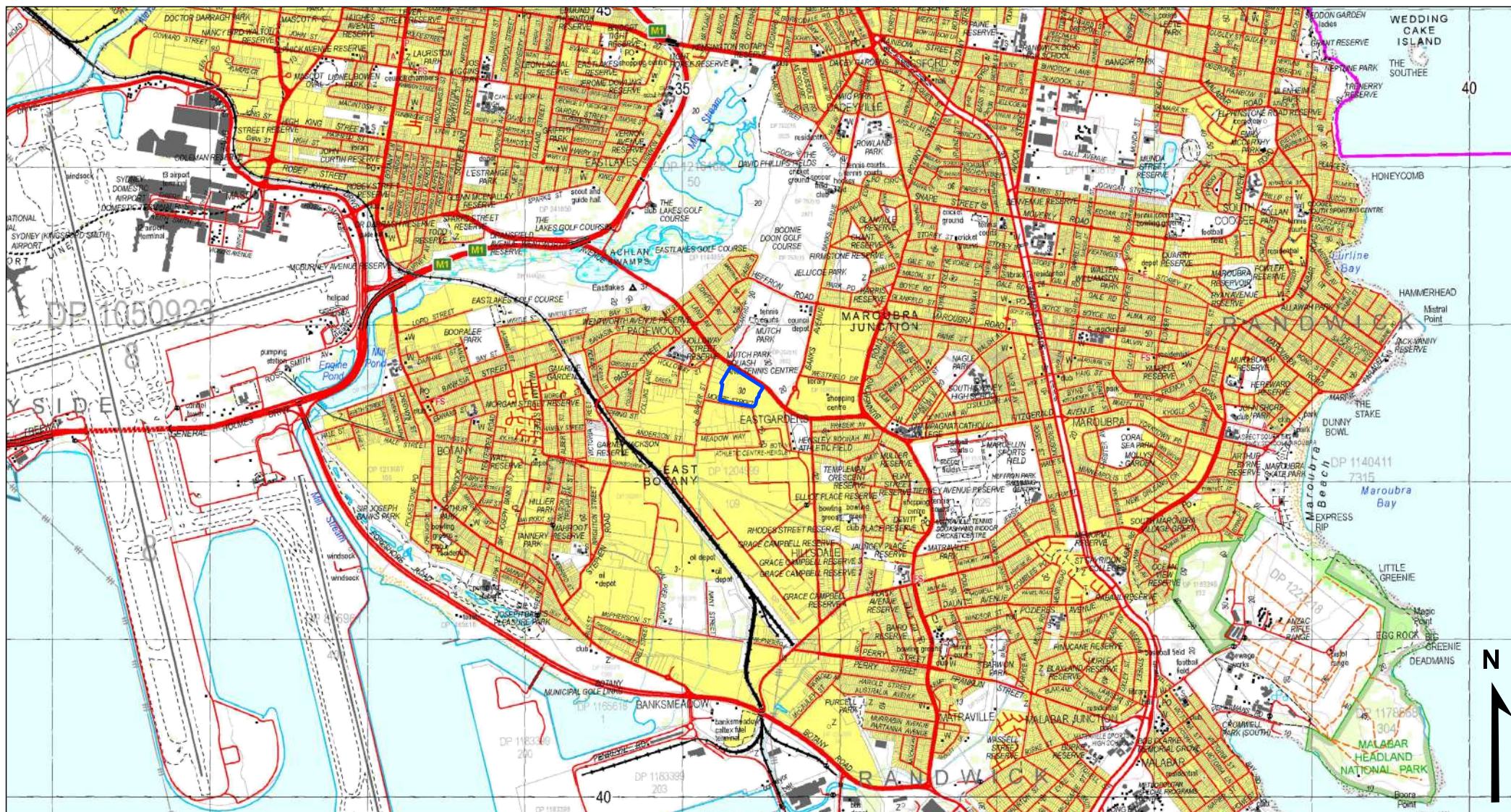
ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

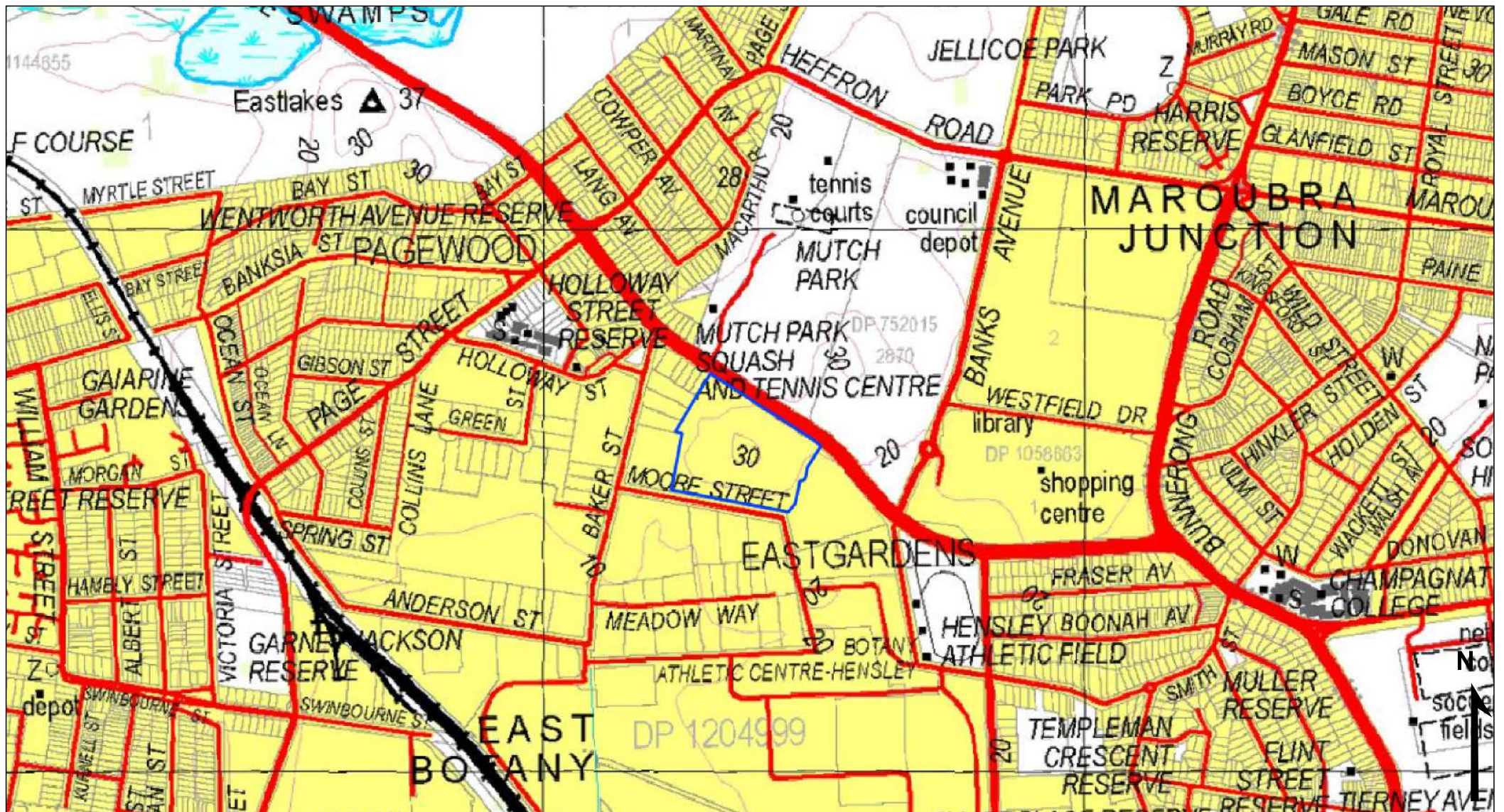
Date created: 03-10-2024

- Site boundary
- 1.5 km buffered zone (837 ha)
- Native Vegetation (27 ha, 3%)

0 250 500 m
Geocentric Datum of Australia
1994

Figure 1a-4.
Native vegetation within 1.5 km buffer overlaid
on the Nearmap aerial photograph dated 15 July 2024.





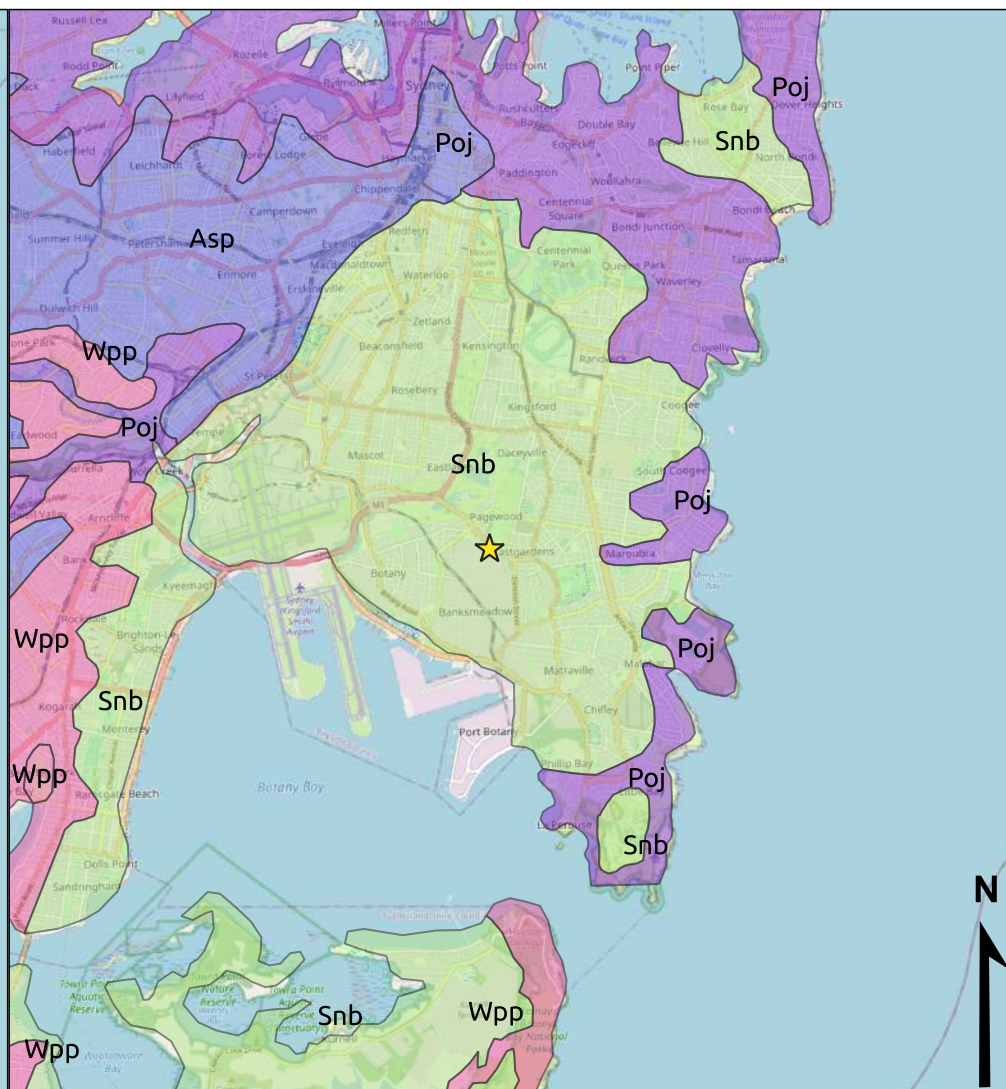
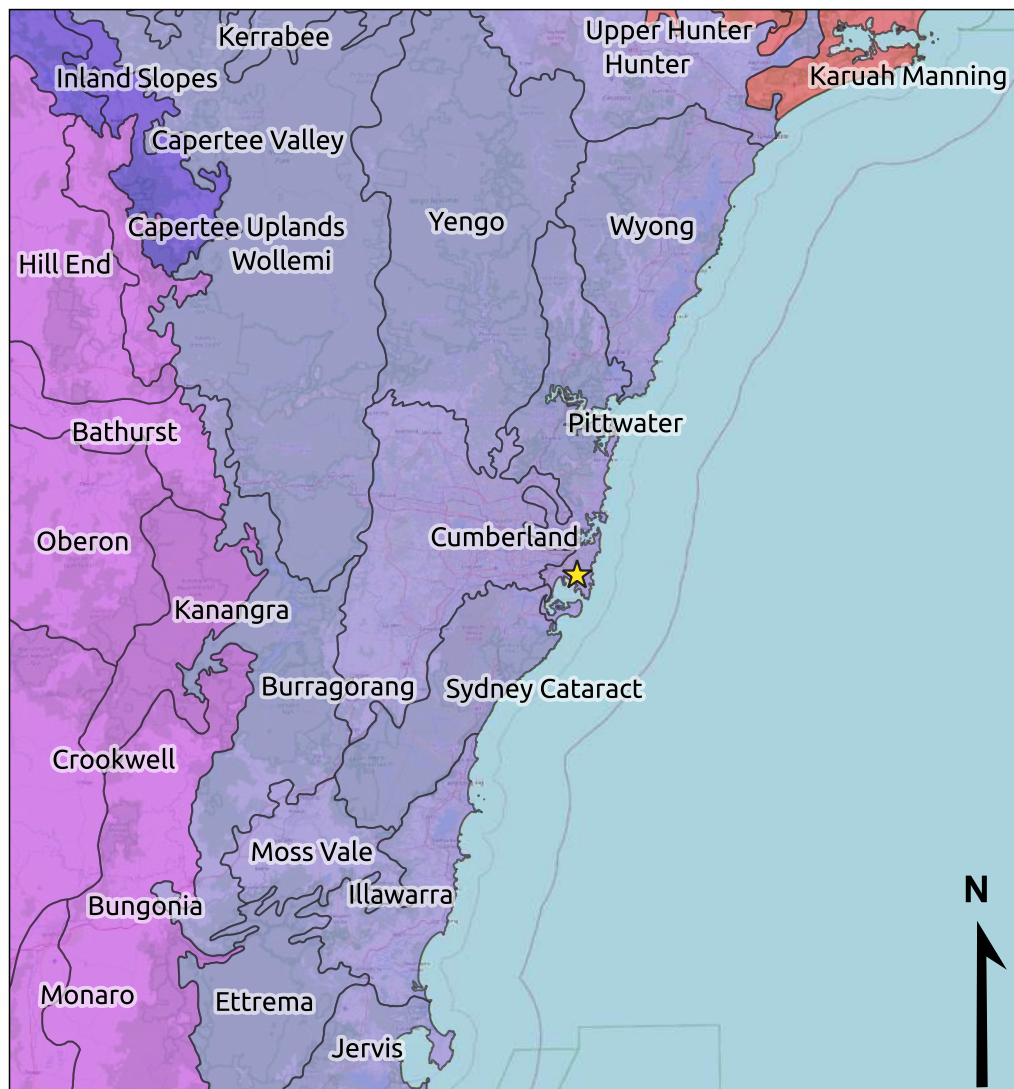
Date created: 09-08-2023

 Site boundary

0 250 500 m

Geocentric Datum of Australia 1994

Figure 1b-2.
Site boundary overlaid on the SIX maps topographic WMS layer - Close up



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 10-08-2023

-  Site Location
-  NSW North Coast
-  NSW South Western Slopes
-  South Eastern Highlands
-  Sydney Basin

0 20 40 km

Geocentric Datum of Australia 1994

Figure 1c-1.
Site location overlaid on the IBRA subregions map - version 7

-  Site location
-  Ashfield Plains
-  Port Jackson Basin
-  Sydney - Newcastle Barriers and Beaches
-  Woronora Plateau

Figure 1c-2.
Site location overlaid on the NSW Mitchell Landscapes - version 3.1



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 20-11-2023

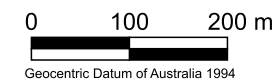
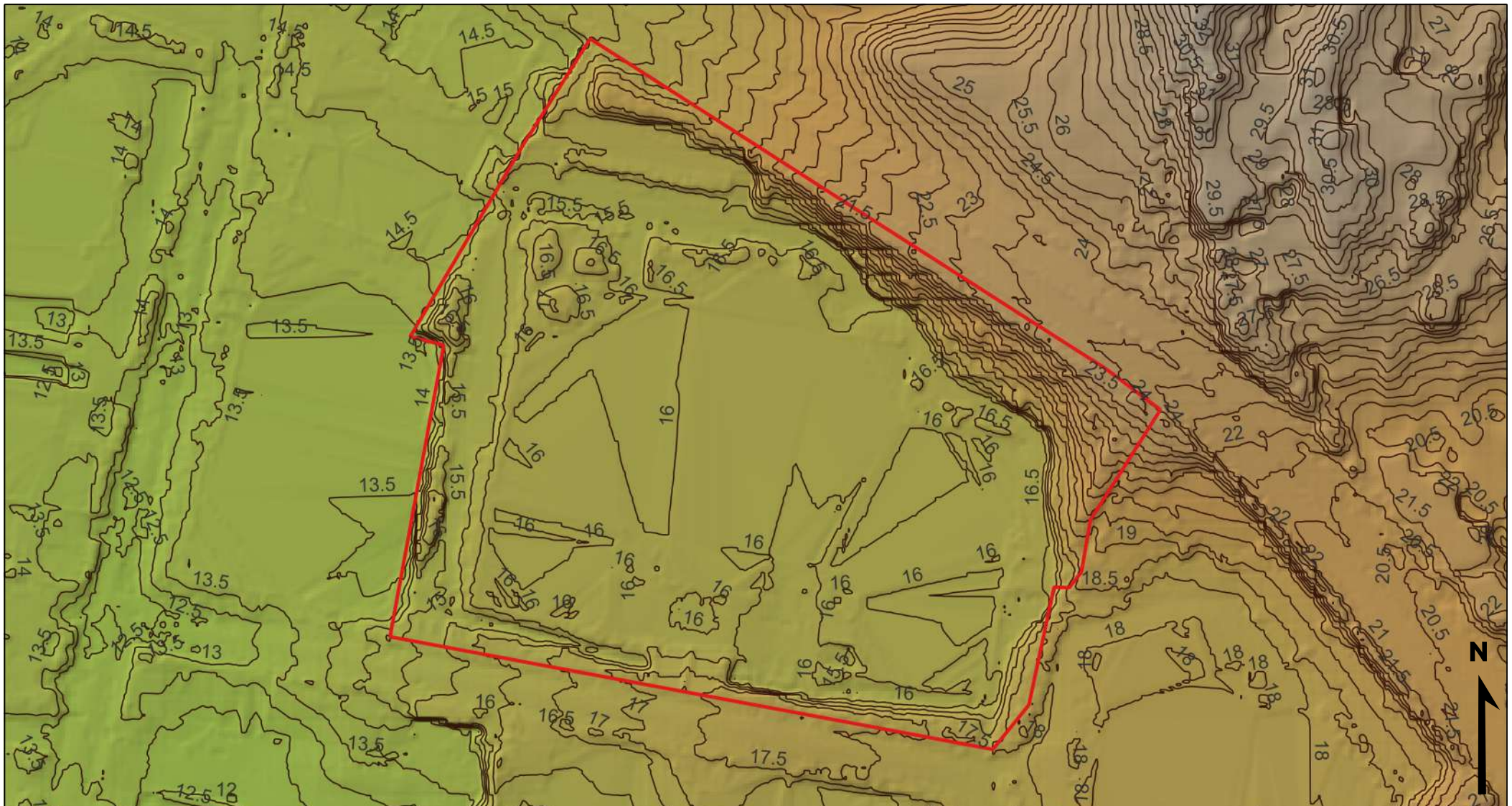


Figure 1d-1.
Site boundary overlaid on the Sydney 1 Metre DEM LiDAR dated May 2020 (Spatial Services, ELVIS)



Date created: 03-11-2023

- | | |
|--|--|
| Site boundary | 20m |
| 0.5 m contour | 30m |
| 0m | 40m |
| 10m | |

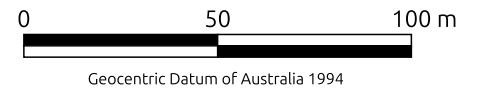


Figure 1d-2.
Sydney 1 Metre DEM LiDAR dated May 2020 (Spatial Services, ELVIS) - close up

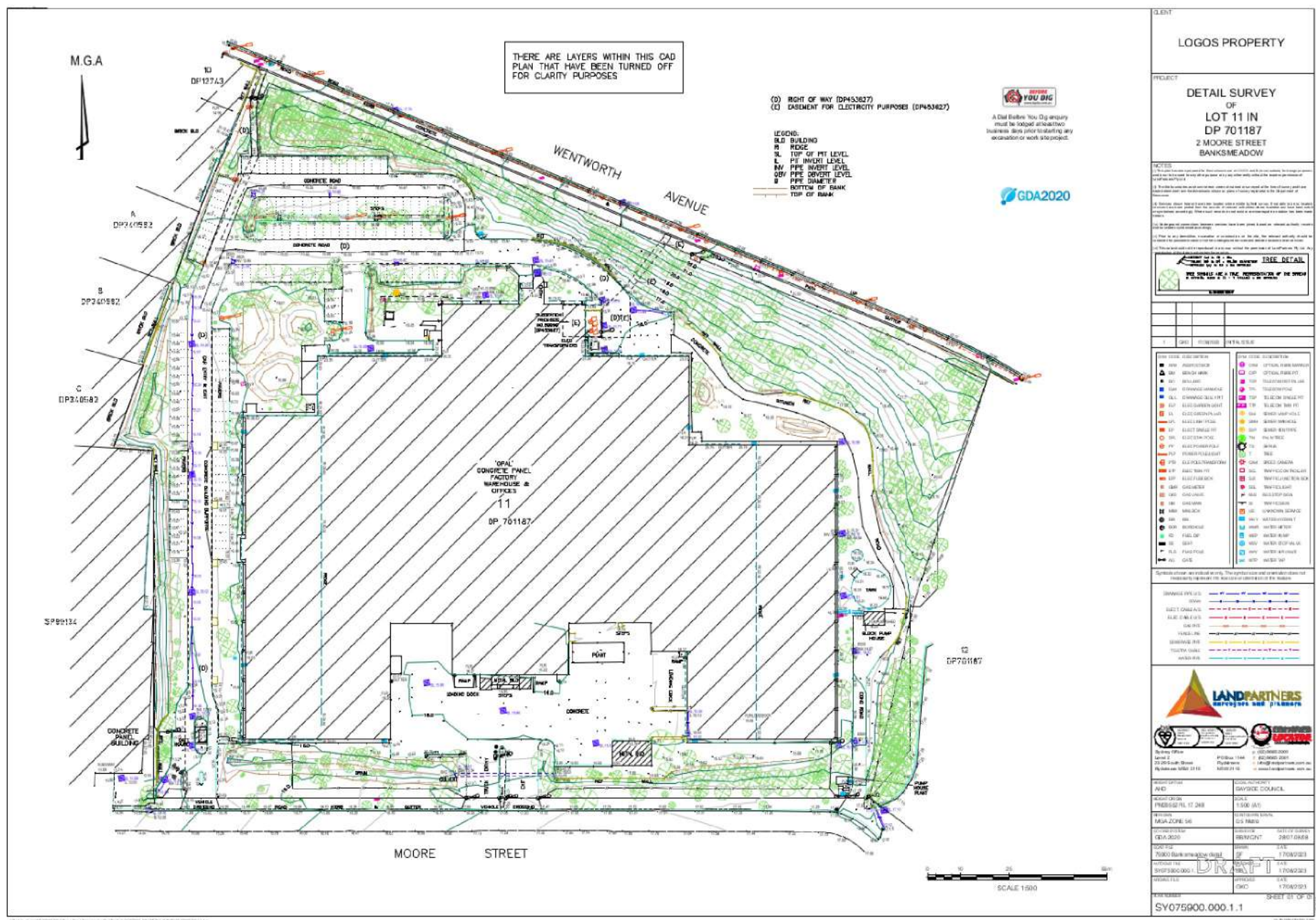
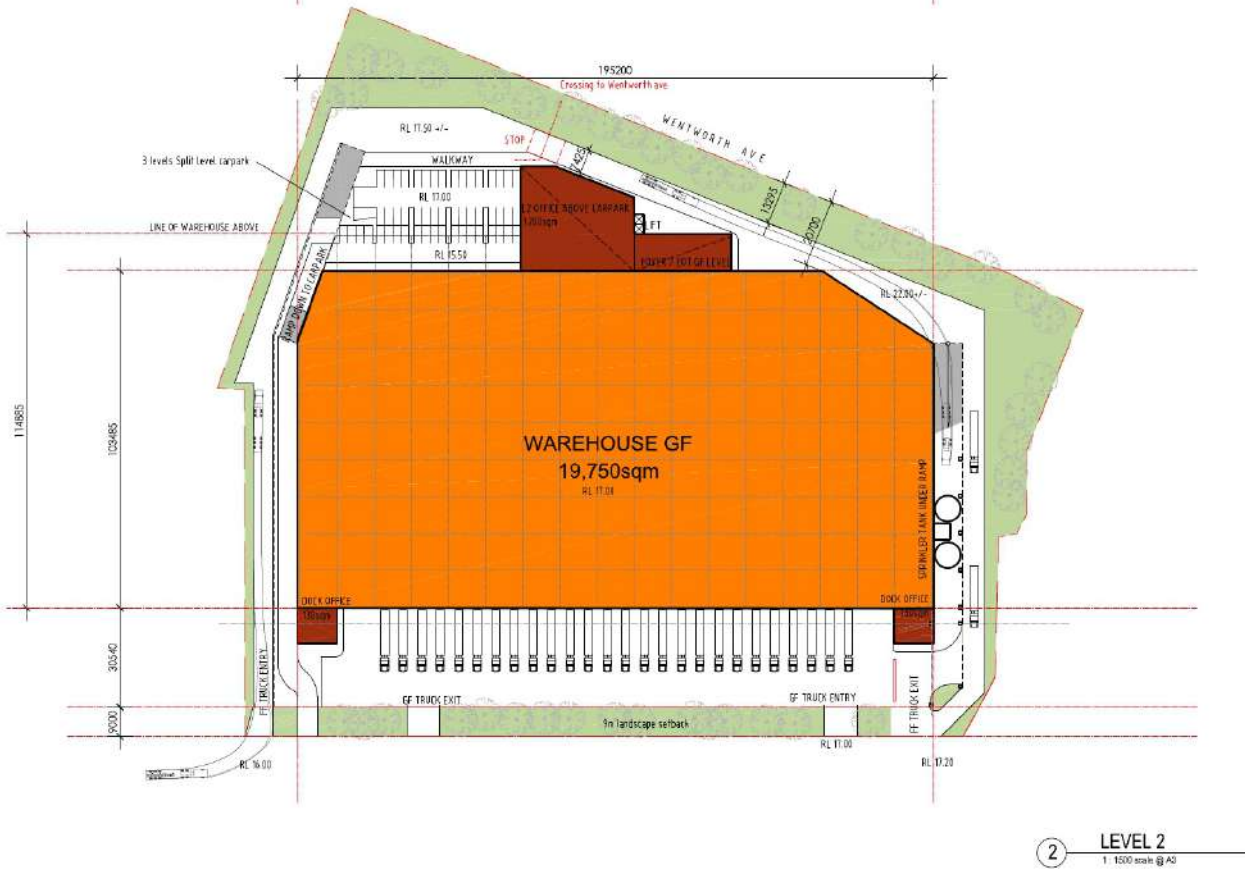


Figure 1e.
Survey Plan (Landpartners surveyors and planners, plan No. SY075900.000.1.1, dated 17/08/2023)

SCHEDULE OF AREAS

	Foyer + EOT	WH	Dock office	Office	
GF	340	21,050	260	1,200	
FF		19,750	260	1,200	
TOTAL	340	40,800	520	2,400	44,060 sqm
	1%	94%		5%	
* EOT = End of trip					



LOGOS

LOGOS PROPERTY GROUP
140, GARDNER - 11th Floor
Sydney NSW 2000
T +61 2 9107 3800

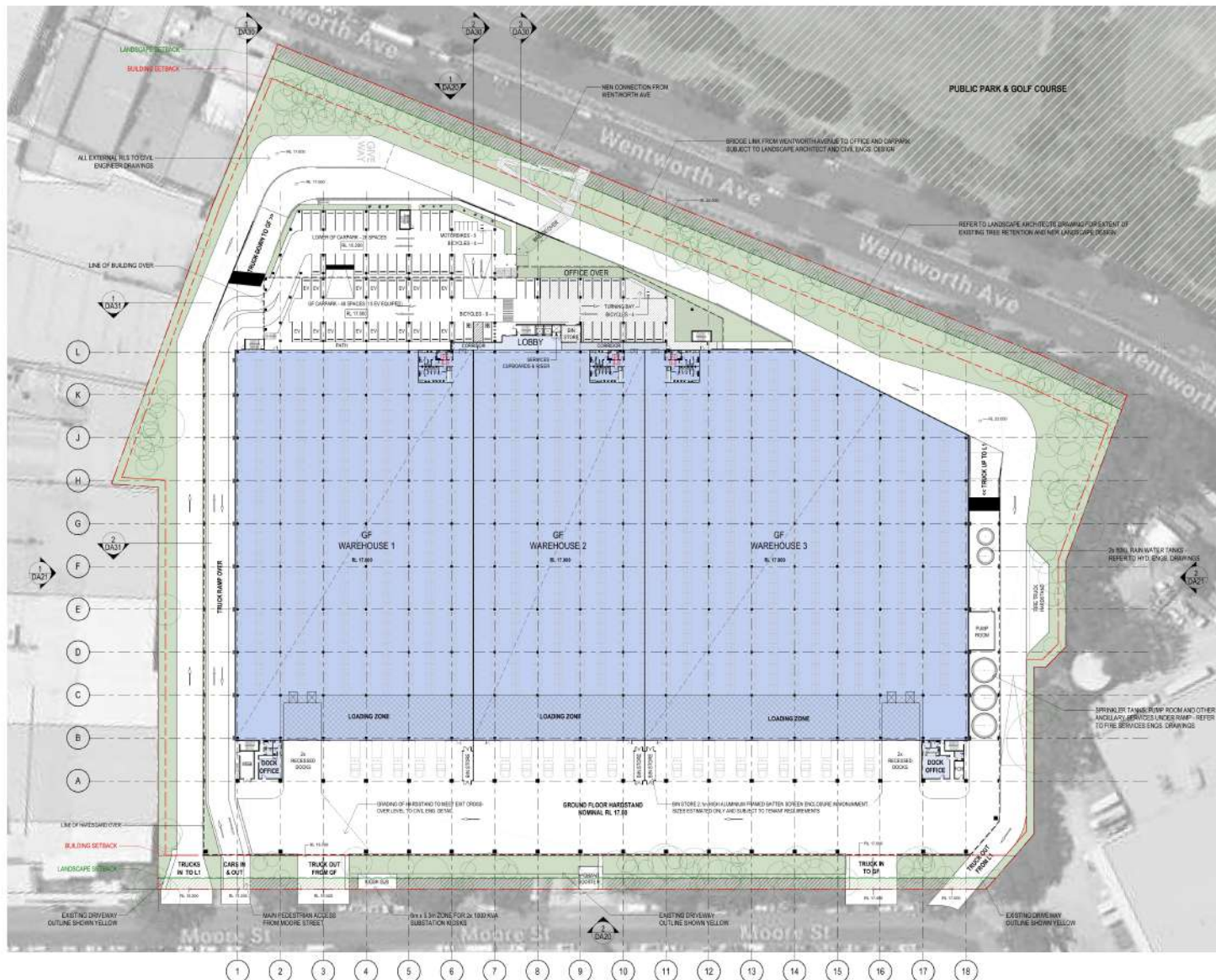
BANKSMEADOW ESTATE
PROPOSED WAREHOUSE DISTRIBUTION & OFFICE FACILITIES
Moore Street and Baker Street, Banksmeadow, NSW

Project

Drawing title: Scheme 1

Drawn	Check	Rev	Project manager	Issued	Scale
1/1/2024	1/1/2024	01	01/01/2024	01/01/2024	1:1500

Figure 1f-1.
Site Plan (LOGOS Property Group, DWG No. BNKS-MAS-32, Issue B, dated 7/02/2024)



SITE INFORMATION

TOTAL SITE AREA:	44,875 m ²
DEVELOPABLE SITE AREA: (EXCLUDES PRIMARY FRONTAGE LANDSCAPE SETBACK ZONES)	42,432 m ²

GROSS FLOOR AREA - GFA

NAME	AREA
LEVEL 0F WH / CARPARK	94.6 m ²
DOCK OFFICE	95.4 m ²
DOCK OFFICE	5.9 m ²
GF WAREHOUSE 1	5940.0 m ²
GF WAREHOUSE 2	4183.8 m ²
GF WAREHOUSE 3	7521.0 m ²
LOBBY & CORRIDOR	143.9 m ²
	17162.1 m ²

LEVEL 1 CARPARK	56.3 m ²
LOBBY	56.3 m ²

LEVEL 2 CARPARK & OFFICE	
EOT	52.8 m ²
L2 OFFICE 1	375.9 m ²
L2 OFFICE 2	412.2 m ²
LOBBY	56.8 m ²
	902.6 m ²

LEVEL 1 WH / LEVEL 3 OP & OFFICE	
DOCK OFFICE	79.7 m ²
DOCK OFFICE	79.7 m ²
L1 WAREHOUSE 1	8273.1 m ²
L1 WAREHOUSE 2	8632.0 m ²
L1 WAREHOUSE 3	4909.2 m ²
L3 OFFICE 1	491.1 m ²
L3 OFFICE 2	419.4 m ²
LOBBY & CORRIDOR	177.8 m ²
	20059.0 m ²

LEVEL 4 OFFICE	
OFFICE	914.1 m ²
	914.1 m ²

LEVEL 5 OFFICE	
OFFICE	914.1 m ²
	914.1 m ²

TOTAL GFA PROPOSED	40784.3 m ²
--------------------	------------------------

CAR PARKING

CAR PARKING RATES:	
- WAREHOUSE	1000 m ² (GLA)
- OFFICE	140 m ² (GLA)

- TOTAL REQUIRED:	223
- WAREHOUSE	136
- OFFICES (INCL. DOCK OFFICES)	87

TOTAL PROVIDED:	242
(ACC. SPACES @ 1 PER 90 CAR SPACES)	(INCL. 6 ACC. SPACES)
(EV EQUIPPED SPACES @ 20% OF TOTAL)	(INCL. 48 EV SPACES)

MOTOR BIKE PARKING

MOTOR BIKE PARKING RATE:	1 PER 15 CAR PARKING SPACES
TOTAL REQUIRED:	17
TOTAL PROVIDED:	17

BICYCLE PARKING

BICYCLE PARKING RATE:	1 PER 600 m ² GFA
TOTAL REQUIRED:	68
TOTAL PROVIDED:	68

NOTES

1. REFER TO AREA PLANS FOR DETAIL GROSS FLOOR AREA INCLUSIONS AND BREAKDOWN
2. REFER TO LANDSCAPE ARCHITECTS DOCUMENTATION FOR DETAILED LANDSCAPE DESIGN
3. REFER TO CIVIL ENGINEERS DOCUMENTATION FOR DETAILED CIVIL DESIGN INCLUDING RETAINING WALL, LOCATIONS AND ALL PROPOSED EXTERNAL LEVELS
4. REFER TO TRAFFIC ENGINEERS REPORT FOR DETAILED ANALYSIS OF TRUCK TURNING MANOEUVERS



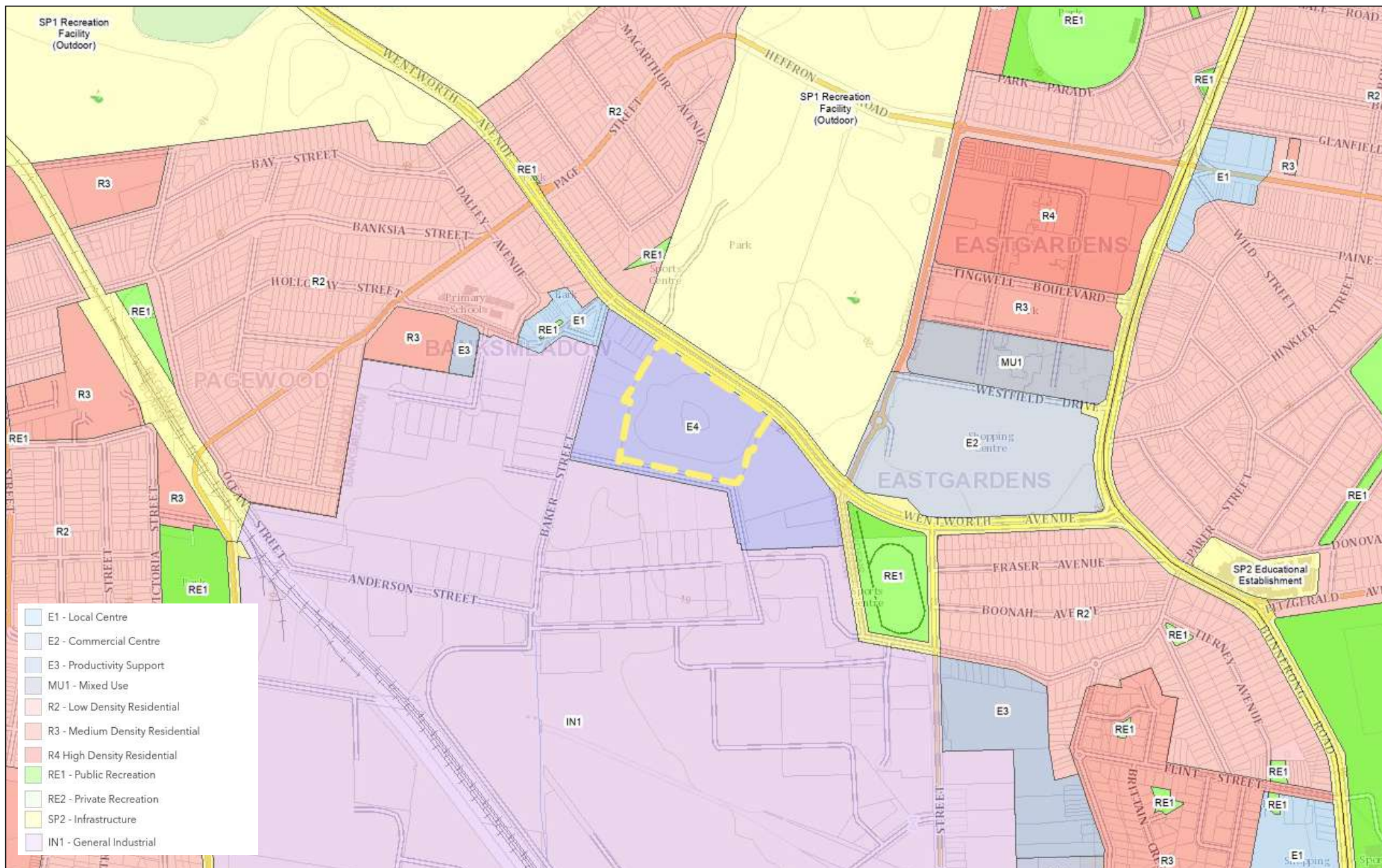
Client
Project Name
ESR BANKSMeadow ESTATE
Project Address
130 WENTWORTH AVENUE, BANKSMeadow
LOT 11 DP 701187

Rev	Description	Date
1	ISSUED FOR PERMIT	20.09.24

Drawing Title:
GROUND FLOOR W/H FLOOR PLAN
Date:
20.09.24
Sheet Size:
A1
Scale:
1:500
Drawing Number:
14173_DA10
Issue:
A

nettletontribe

Figure 1f-2.
Ground Floor W/H Floor Plan (nettletontribe, Drawing No. 14173_DA10, Issue A, dated 20.09.24)



 Site boundary

Figure 2a.
Site boundary overlaid on Bayside Local Environmental Plan 2021 - Land Zoning Map

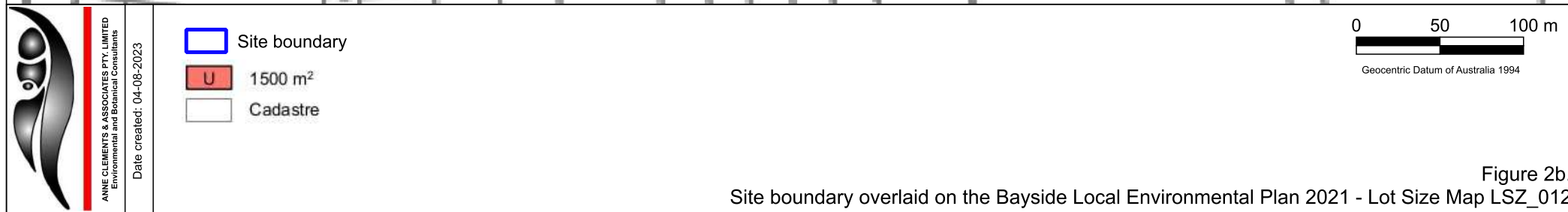


Figure 2b.
Site boundary overlaid on the Bayside Local Environmental Plan 2021 - Lot Size Map LSZ_012



- Site boundary
- Biodiversity

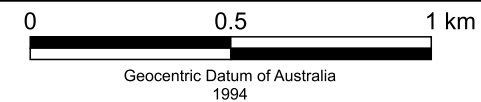
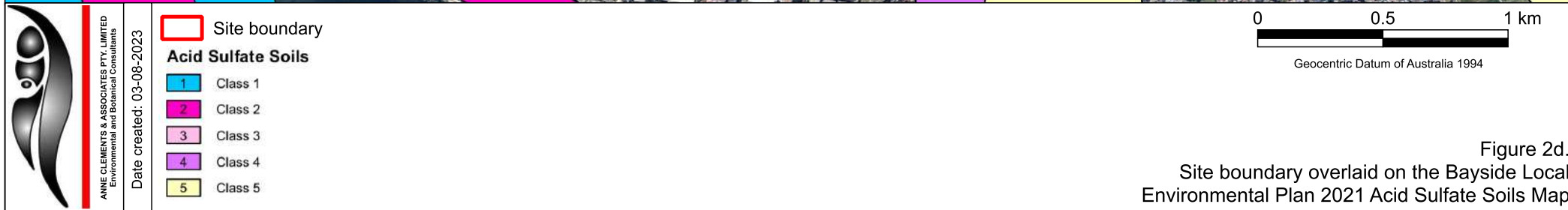
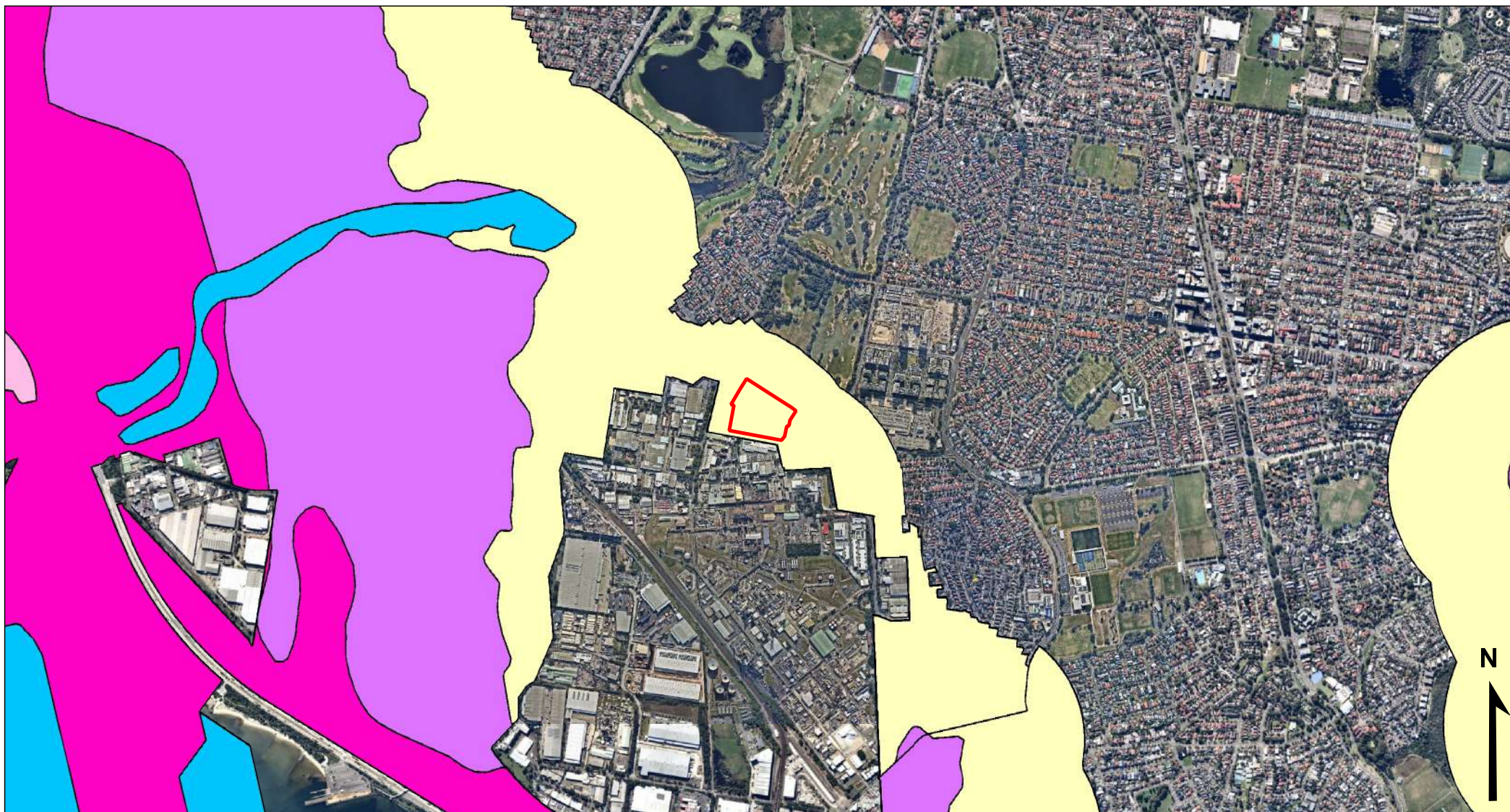


Figure 2c.
Site boundary overlaid on Bayside Local Environmental Plan 2021 – Terrestrial Biodiversity Map



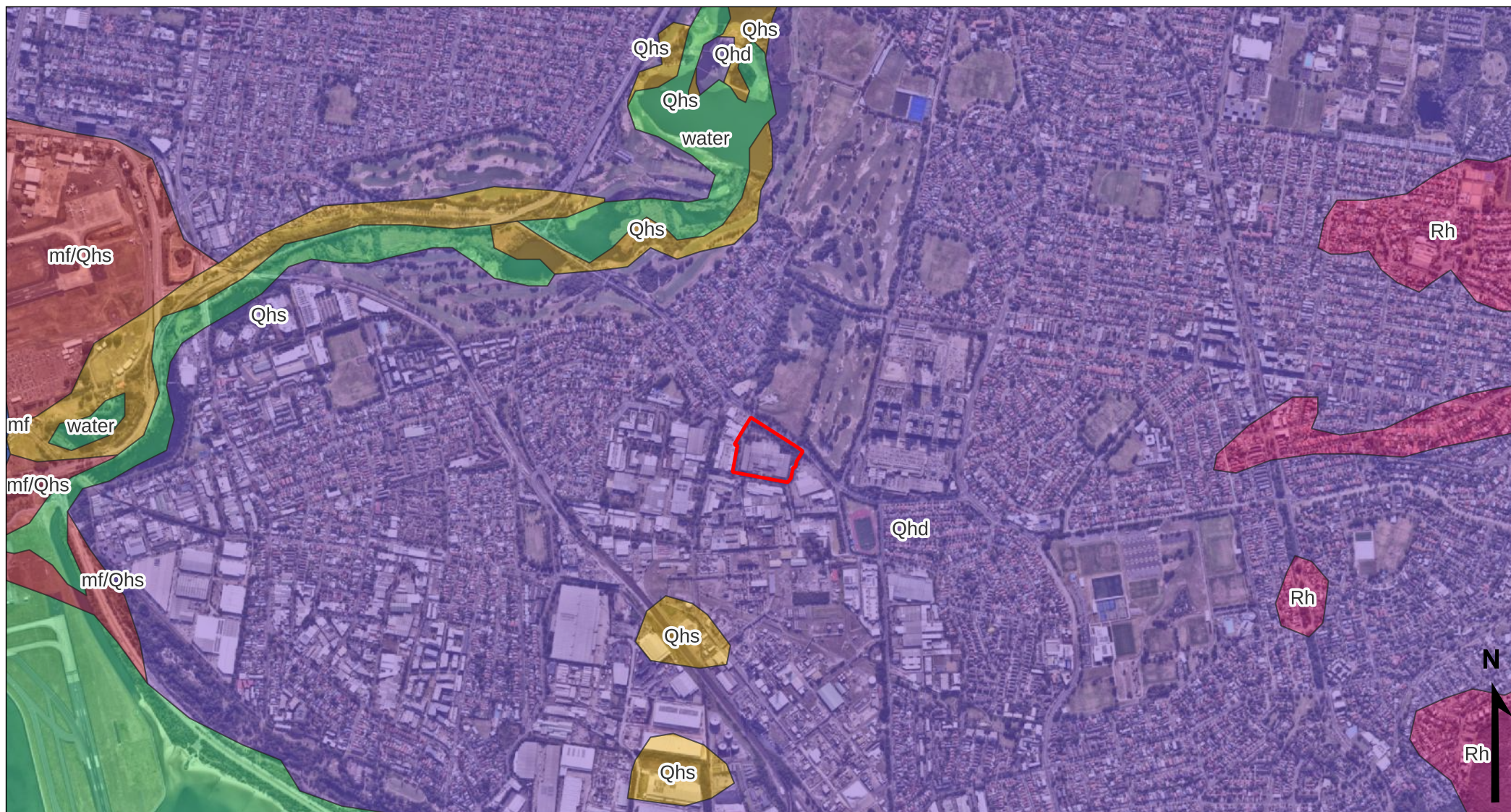


Date created: 21-08-2024

- Site boundary
- Biodiversity Values v16

0 0.5 1 km
Geocentric Datum of Australia
1994

Figure 2e.
Site boundary overlaid on the Biodiversity Values Map - version 16



Date created: 04-08-2023

Site boundary

mf - Man-made fill

mf/Qhs

Qhd - Medium to fine-grained marine sand with podsols

Qhs - Peat, sandy peat, and mud.

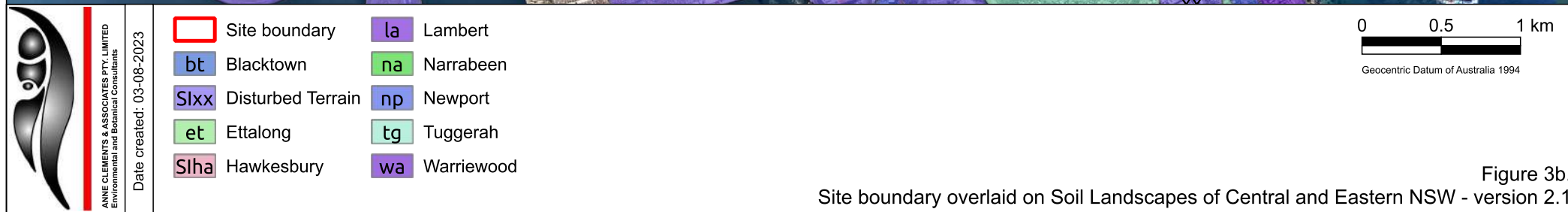
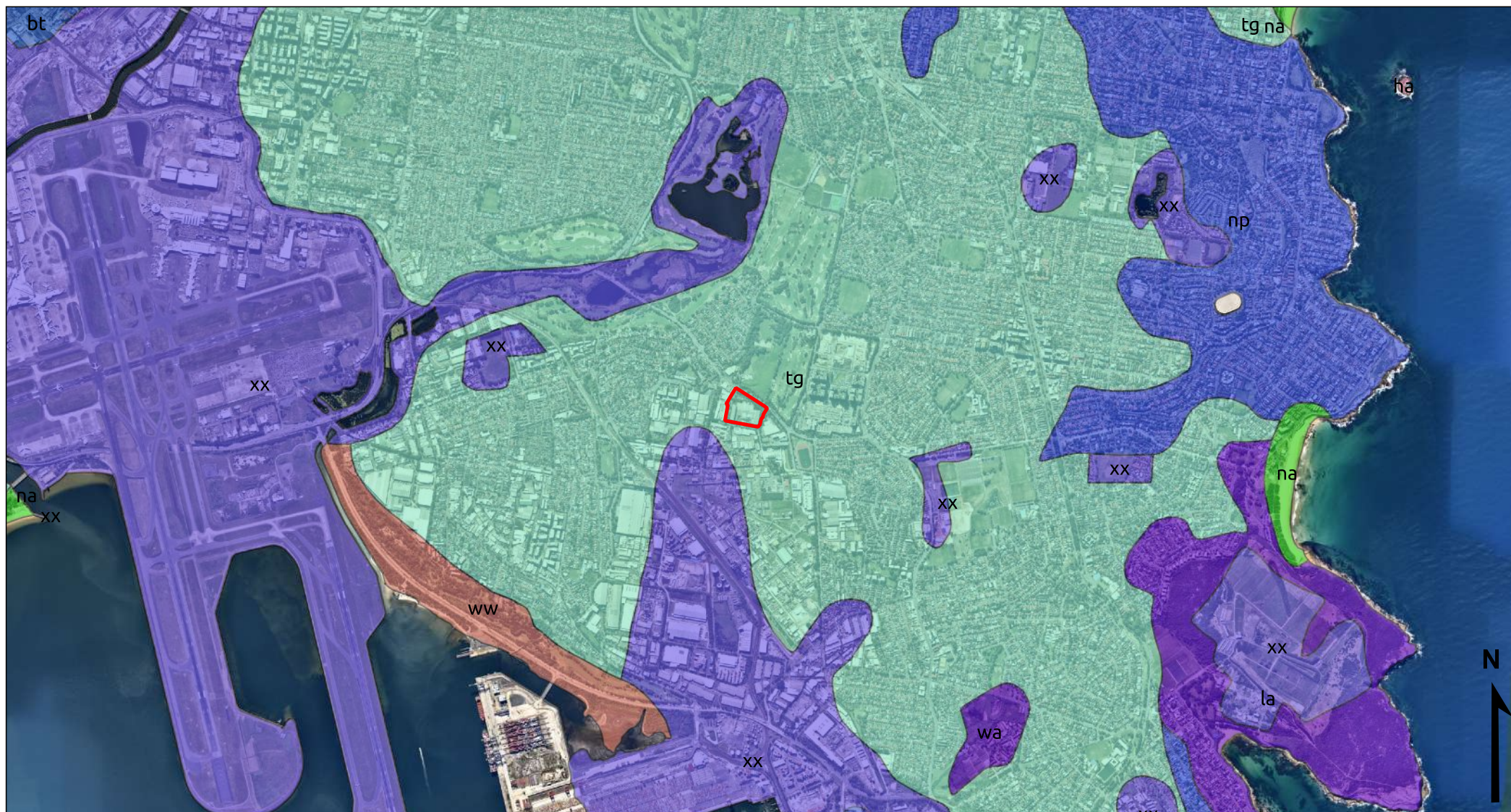
Rh - Medium to coarse grained quartz sandstone, very minor shale and laminate lenses

water

0 0.5 1 km

Geocentric Datum of Australia 1994

Figure 3a.
Site boundary overlaid on the Geology of the
Sydney 1:100,000 Sheet 9130 (Herbert 1983)



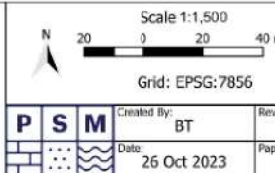


Legend

- Approximate Testing Locations
- Approximate Site boundary
 -  Boreholes
 -  Accessible Monitoring Wells
 -  CPTs

NOTES:

1. Aerial Photo sourced from Nearmaps dated 06/09/2023



LOGOS Property
2 Moore Street, Banksmeadow

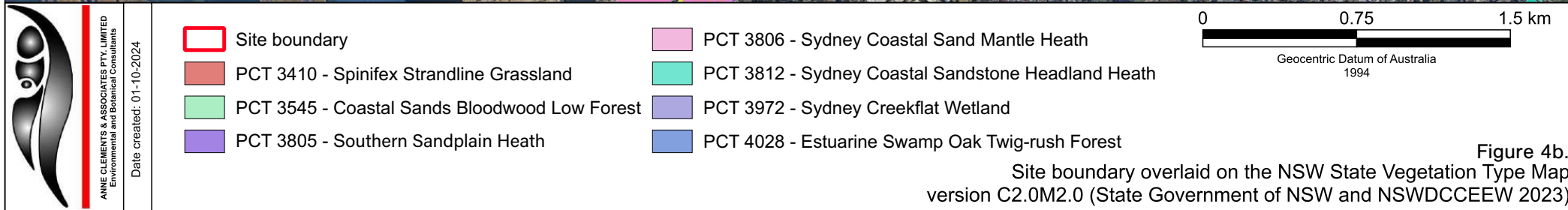
DUE DILIGENCE GEOTECHNICAL
INVESTIGATION
SITE LOCALITY PLAN

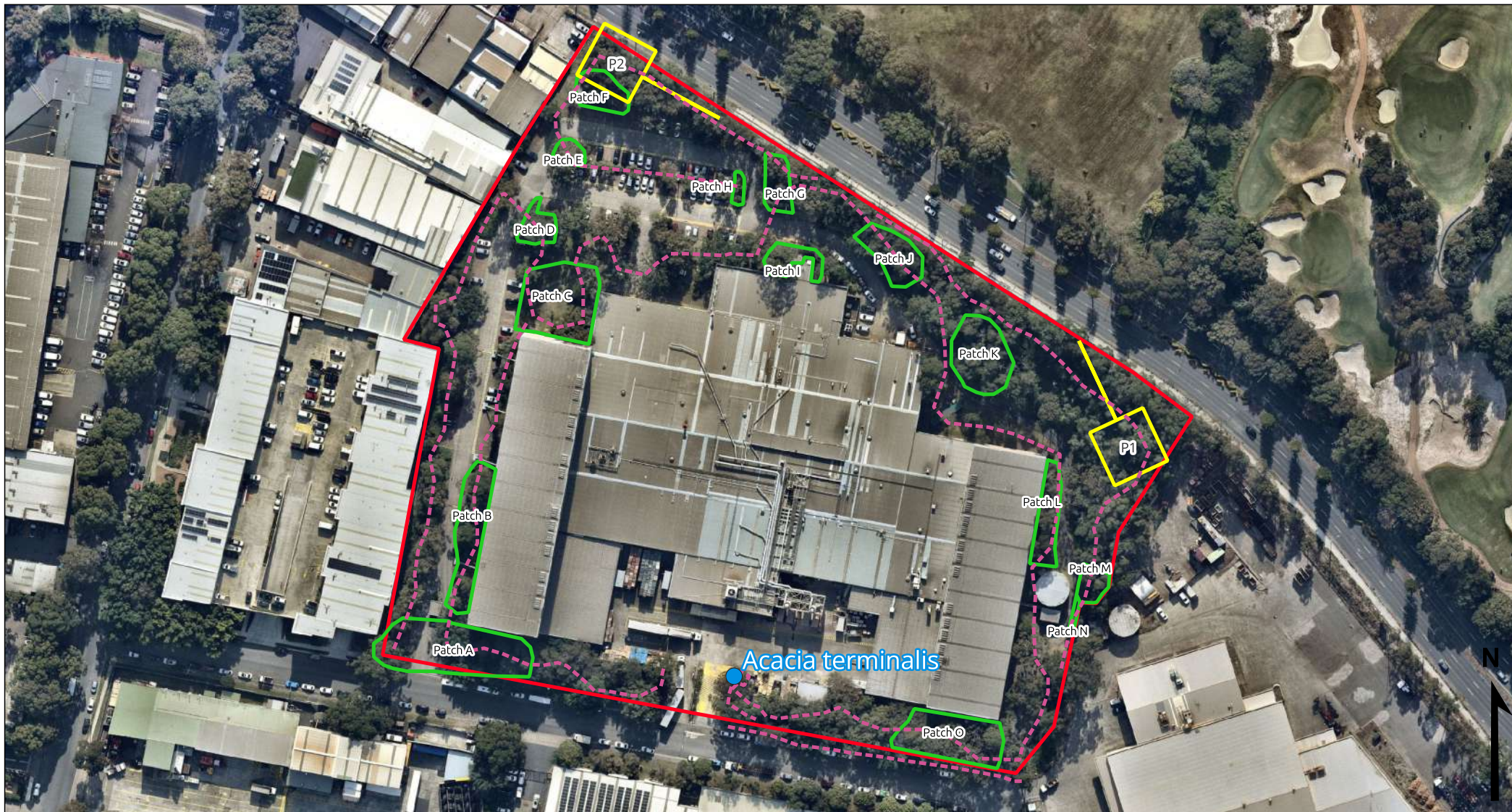
PSM5169-003R

FIGURE 1

Figure 3c.
Geotechnical Investigation Site Locality Plan (PSM, Dwg No, PSMS169-003R, Rev. A, dated 26 October 2023)







ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 01-10-2024

- Site boundary
- BAM Plot
- Patches A to O
- *Acacia terminalis* subsp. Eastern Sydney
- *A. terminalis* search path

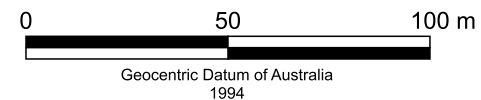
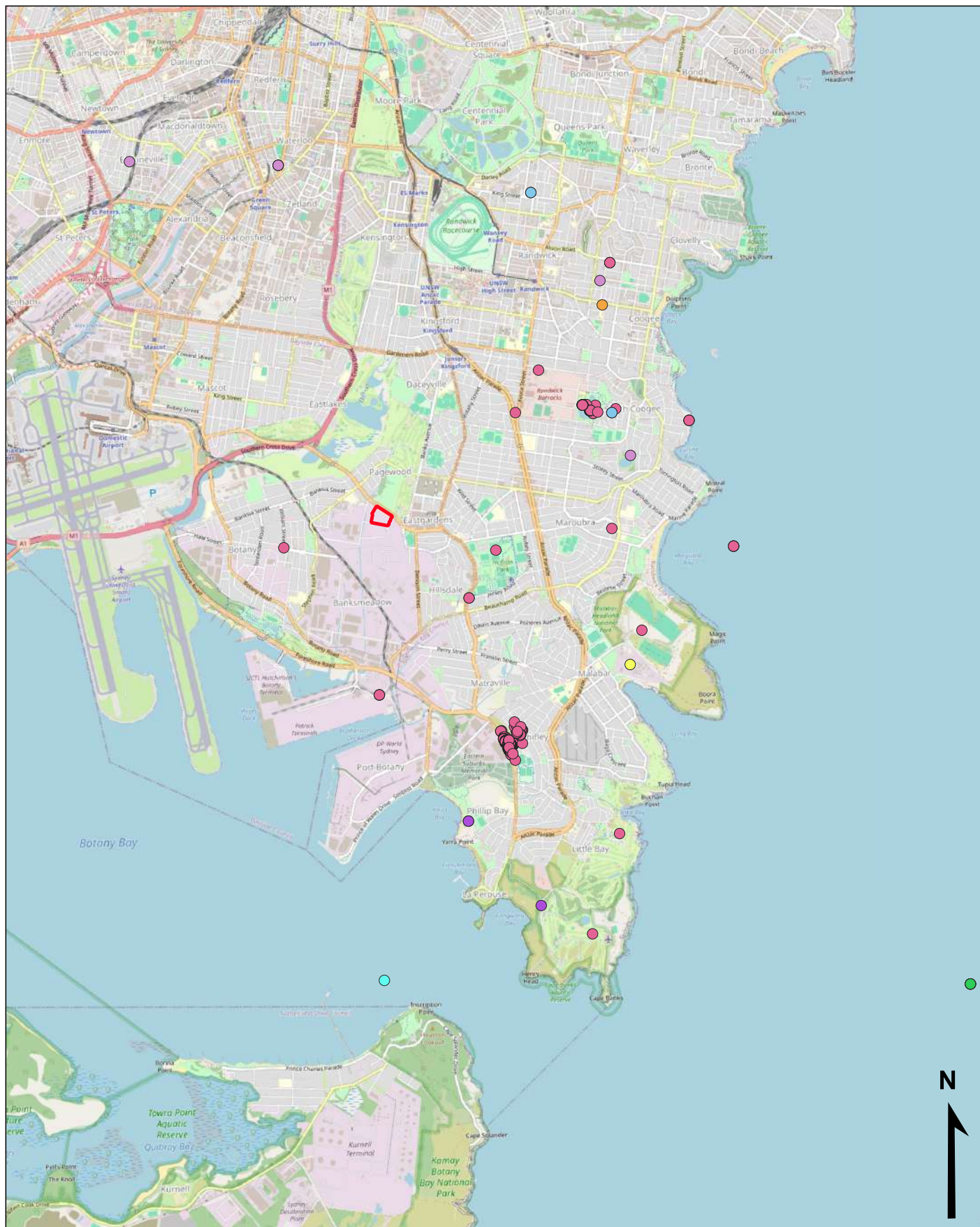


Figure 4c.
Site boundary, BAM Plots, Patch locations and *Acacia terminalis* search path overlaid on the Nearmap aerial photograph dated 31 May 2023



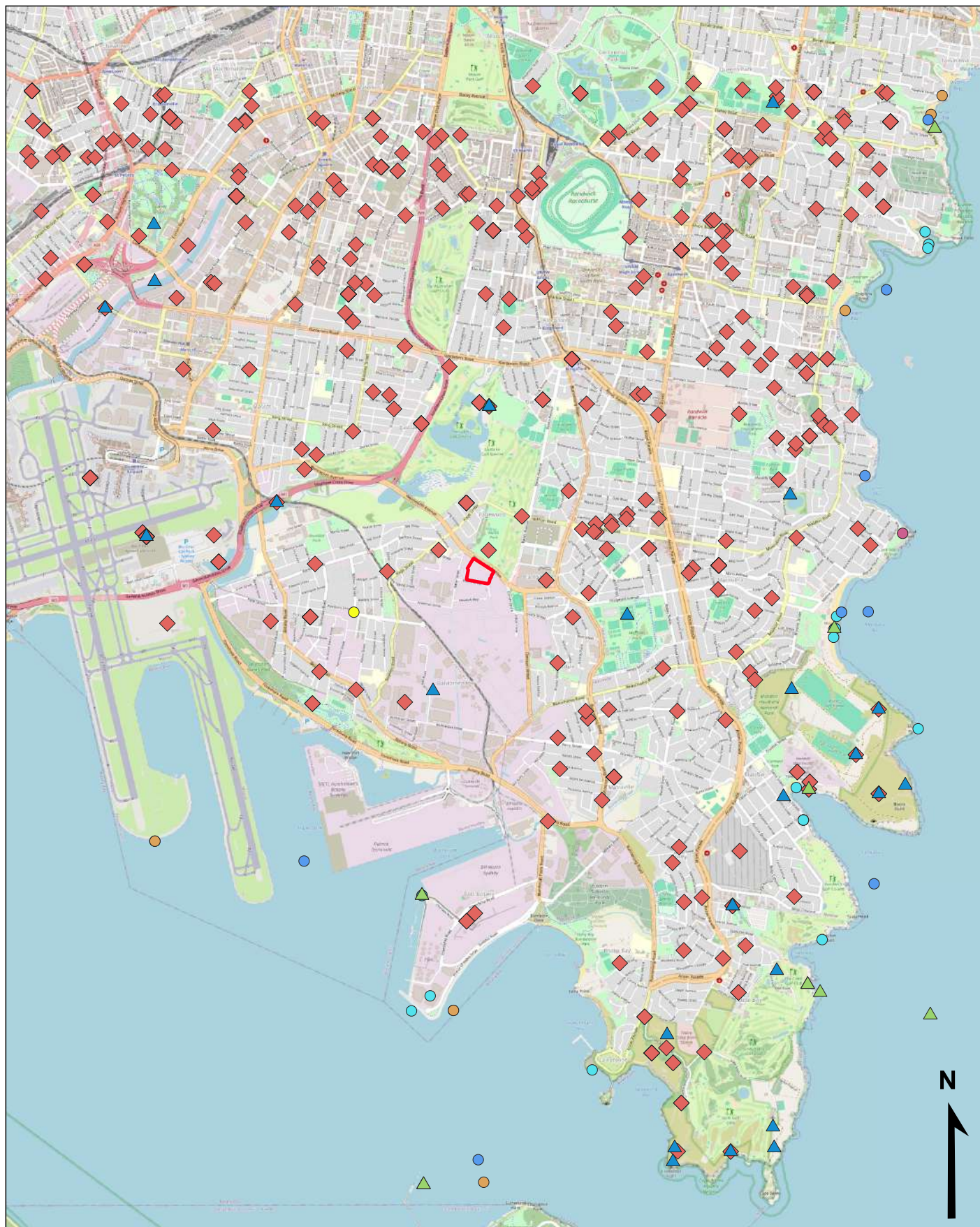
ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 02-10-2024

- | | |
|--|---|
| Site boundary | ● <i>Persoonia hirsuta</i> |
| ● <i>Callistemon linearifolius</i> | ● <i>Senecio spathulatus</i> |
| ● <i>Eucalyptus nicholii</i> | ● <i>Syzygium paniculatum</i> |
| ● <i>Eucalyptus scoparia</i> | ● <i>Acacia terminalis</i> subsp. Eastern Sydney |
| ● <i>Genoplesium baueri</i> | |

0 1 2 km
Geocentric Datum of Australia
1994

Figure 5a.
Site boundary and Bionet records of threatened
flora species overlaid on the Google Street Map imagery



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 02-10-2024

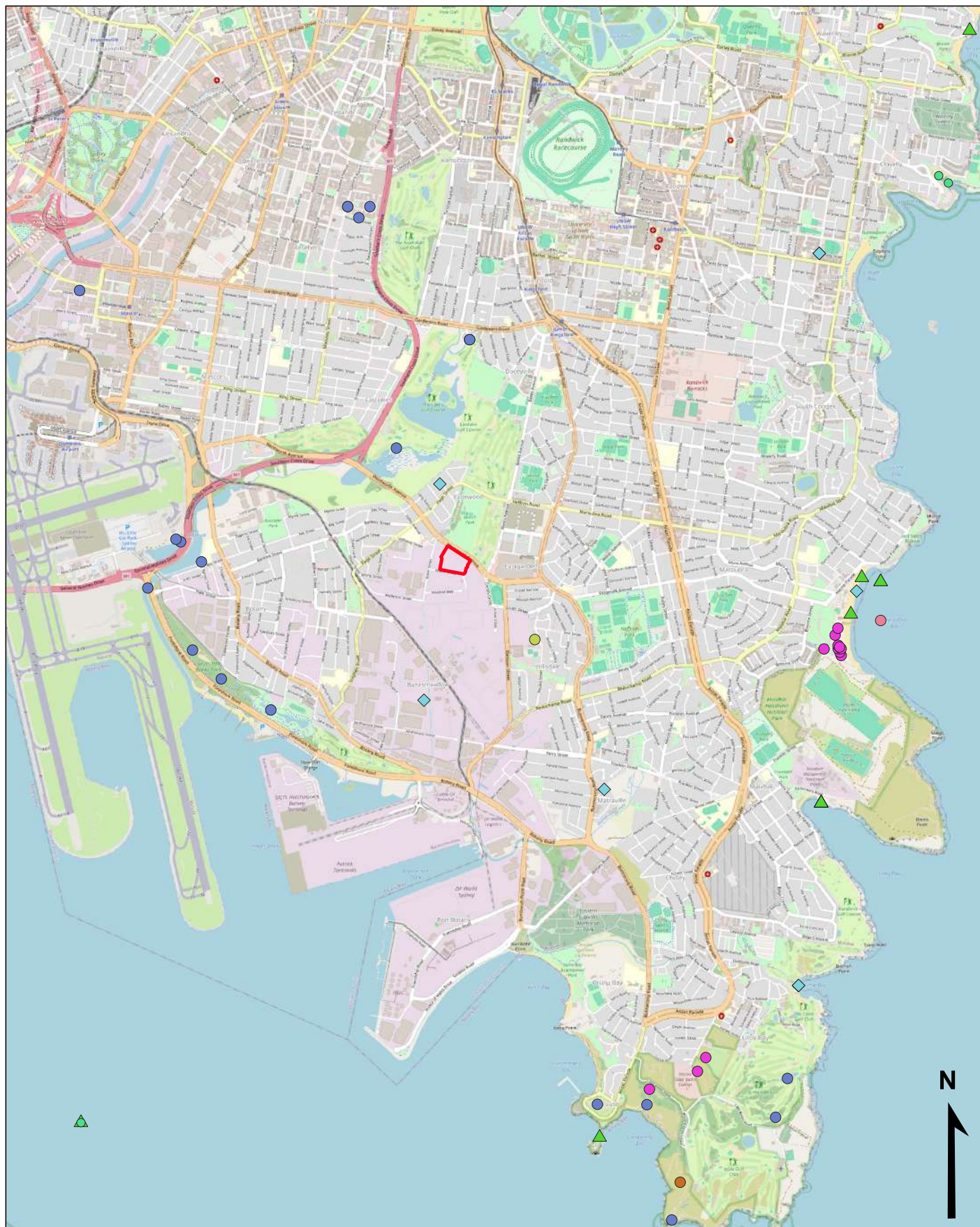
- | | |
|--|--|
| Site boundary | ▲ Large Bent-winged Bat |
| ▲ Australian Fur-seal | ● New Zealand Fur-seal |
| ● Blue Whale | ◆ Southern Myotis |
| ● Dugong | ● Southern Right Whale |
| ● Eastern Pygmy-possum | ● Yellow-bellied Sheathtail-bat |
| ◆ Grey-headed Flying-fox | ● Koala |

0 0.75 1.5 km
Geocentric Datum of Australia
1994

Figure 5b.
Site boundary and Bionet records of threatened
mammal species overlaid on the Google Street Map imagery



Figure 5c.
Site boundary and Bionet records of threatened
bird species overlaid on the Google Street Map imagery



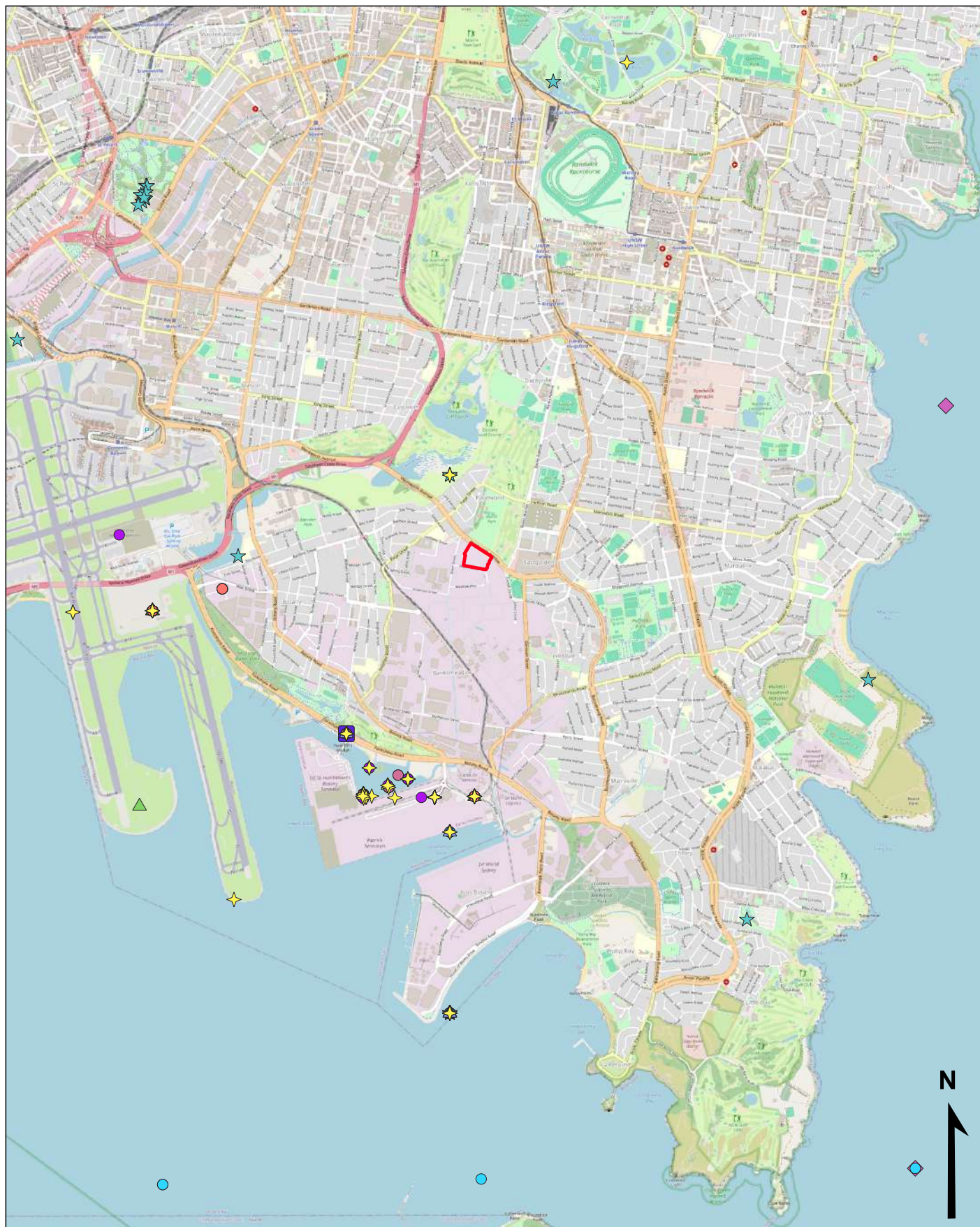
ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 02-10-2024

- | | |
|--|---|
| Site boundary | ◆ Loggerhead Turtle |
| ● Green and Golden Bell Frog | ● Maroubra Woodland Snail |
| ▲ Green Turtle | ● Rosenberg's Goanna |
| ● Hawksbill Turtle | ● Wallum Froglet |
| ● Leatherback Turtle | |

0 0.75 1.5 km
Geocentric Datum of Australia
1994

Figure 5d.
Site boundary and Bionet records of threatened reptile and amphibian and gastropod species overlaid on the Google Street Map imagery



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 02-10-2024

- | | |
|---|--|
| Site boundary | Greater Sand-plover |
| ● Black-tailed Godwit | ★ Latham's Snipe |
| ★ Broad-billed Sandpiper | ▲ Lesser Sand-plover |
| ● Curlew Sandpiper | ★ Little Tern |
| ● Eastern Curlew | ● Red Knot |
| ◆ Flesh-footed Shearwater | ● Sanderling |
| ● Great Knot | ▲ Terek Sandpiper |

0 1 2 km
Geocentric Datum of Australia
1994

Figure 5e.
Site boundary and Bionet records
of threatened migratory bird species
overlaid on the Google Street Map imagery



ANNE CLEMENTS & ASSOCIATES PTY. LIMITED
Environmental and Botanical Consultants

Date created: 09-10-2024

Site boundary

Vegetation Zones

Batter slope plantings

Drainage swale plantings

Landscaping

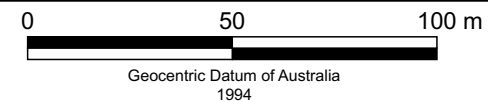


Figure 6a.
Site boundary and Vegetation Zones overlaid on the Nearmap aerial photograph dated 15 July 2024

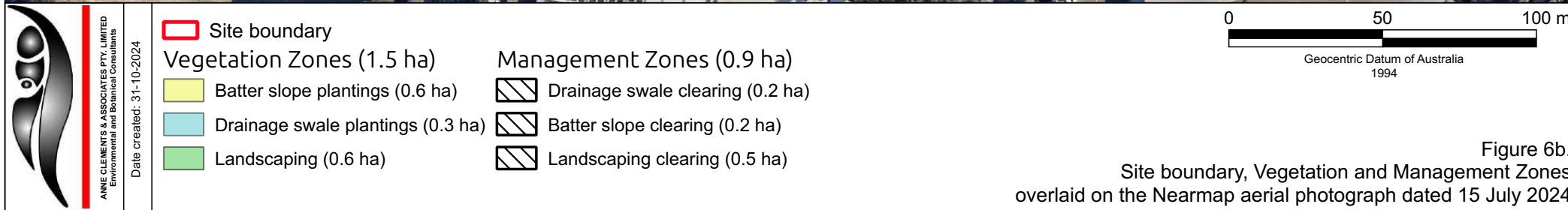
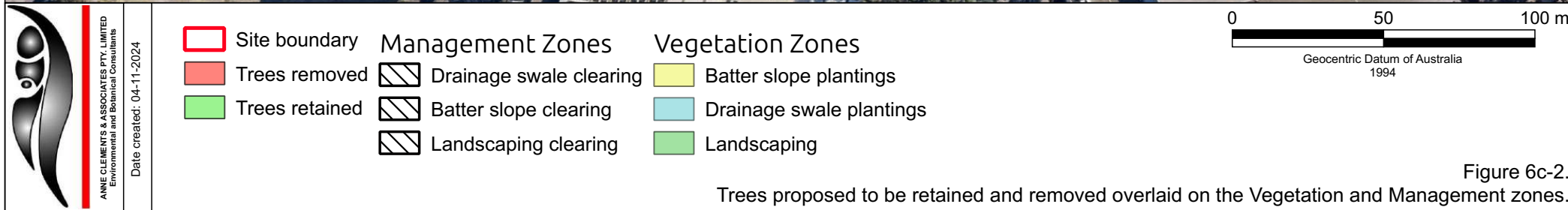
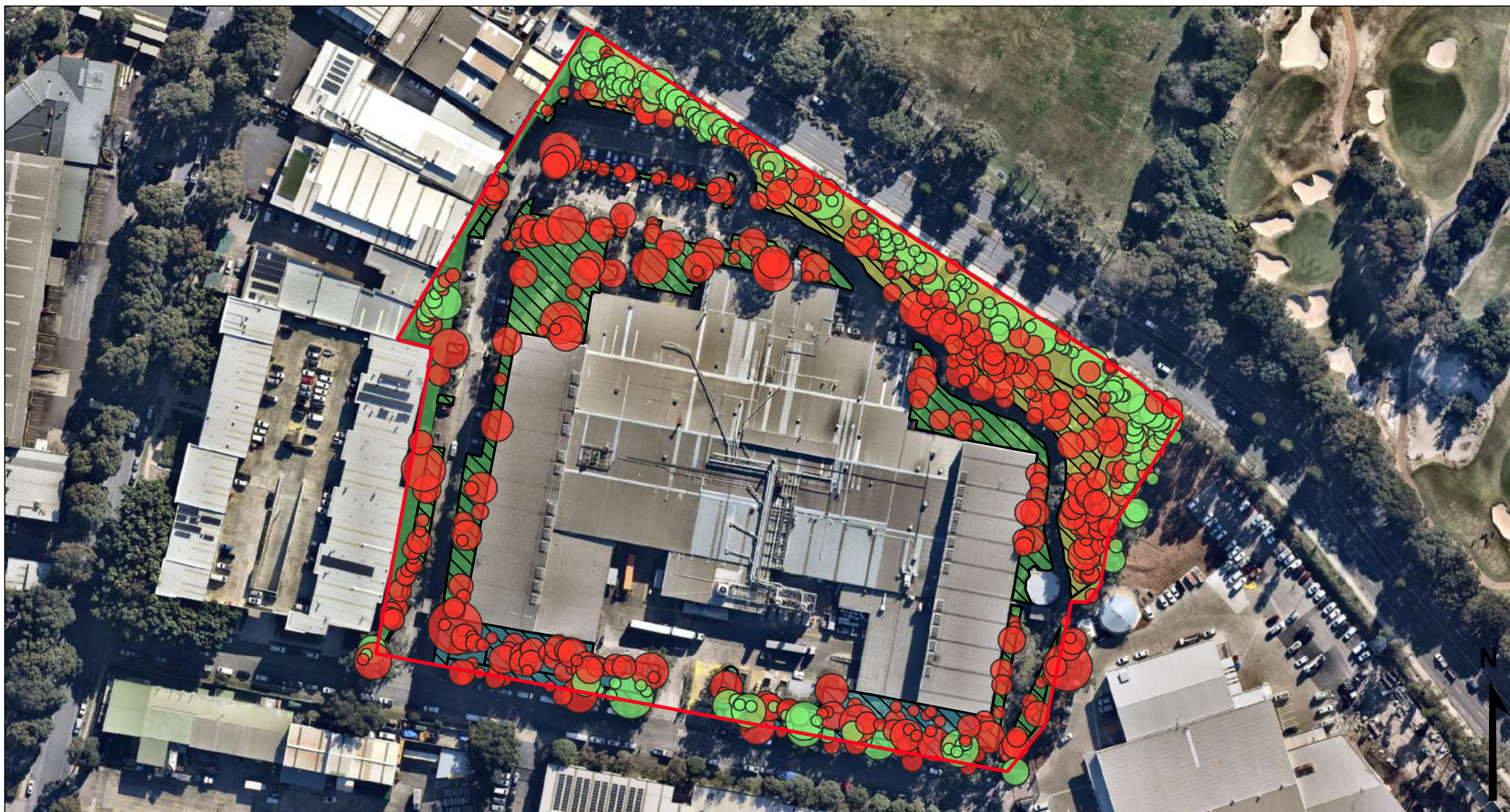


Figure 6b.
Site boundary, Vegetation and Management Zones
overlaid on the Nearmap aerial photograph dated 15 July 2024



Figure 6c-1.
Trees proposed to be removed and retained (Canopy Consulting 2024)



Tables A-1, A-2 referred to in Appendix A

Table A-1. Cover of species recorded in 2 BAM Plots

Species	BAM Plot	
	1	2
Tree (TG)		
<i>Angophora floribunda</i>		0.8
<i>Casuarina glauca</i>	15	20
<i>Cupaniopsis anacardioides</i>	1	
<i>Eucalyptus botryoides</i>	3	10
<i>Eucalyptus robusta</i>		3
<i>Glochidion ferdinandi</i>	0.8	
Grass & grasslike (GG)		
<i>Oplismenus aemulus</i>	15	
Non-local Native		
<i>Callistemon viminalis</i>		3
<i>Corymbia maculata</i>	5	3
<i>Melaleuca nesophila</i>		2
High Threat Weeds		
<i>Anredera cordifolia</i>	1	
<i>Araujia sericifera</i>	2	0.5
<i>Asparagus aethiopicus</i>	0.3	3
<i>Bidens pilosa</i>	0.5	
<i>Ehrharta erecta</i>	80	50
<i>Megathyrsus maximus</i>		10
<i>Ochna serrulata</i>	0.5	0.1
<i>Rumex sagittatus</i>	1	
Exotic		
<i>Agapanthus praecox</i>		0.5
<i>Bromus catharticus</i>	0.1	
<i>Galium aparine</i>	0.1	
<i>Hypochaeris radicata</i>		0.1
<i>Lantana montevidensis</i>		1
<i>Olea europaea</i> subsp. <i>cuspidata</i>	0.5	1
<i>Plumbago auriculata</i>		1
<i>Solanum nigrum</i>	0.1	0.1
<i>Sonchus oleraceus</i>		0.1
<i>Taraxacum officinale</i>		0.1

Table A-2. Number and height of individuals >2 m tall in 10 m x 10 m subquadrats

Botanical name	Subquadrat 1		Subquadrat 2		Subquadrat 3		Subquadrat 4	
	Number	Height	Number	Height	Number	Height	Number	Height
Plot 1								
<i>Casuarina glauca</i>	16	12 m	20	15 m	9	15 m	10	15 m
NLN <i>Corymbia maculata</i>	2	20 m						
<i>Cupaniopsis anacardioides</i>							7	2 m
<i>Eucalyptus botryoides</i>	1	12 m	1	10 m			1	18 m
* <i>Ochna serrulata</i>							1	2 m
* <i>Olea europaea</i> subsp. <i>cuspidata</i>	1	3 m						
Plot 2								
NLN <i>Callistemon viminalis</i>			6	4 m	2	3 m	1	2 m
<i>Casuarina glauca</i>	26	15 m	13	13 m	3	10 m	3	10
NLN <i>Corymbia maculata</i>					2	10 m		
<i>Eucalyptus botryoides</i>			3	9 m				
<i>Eucalyptus robusta</i>	1	6 m			1	3 m	1	7 m
NLN <i>Melaleuca nesophila</i>							1	5 m
* <i>Olea europaea</i> subsp. <i>cuspidata</i>			1	4 m				

NLN = non-local native

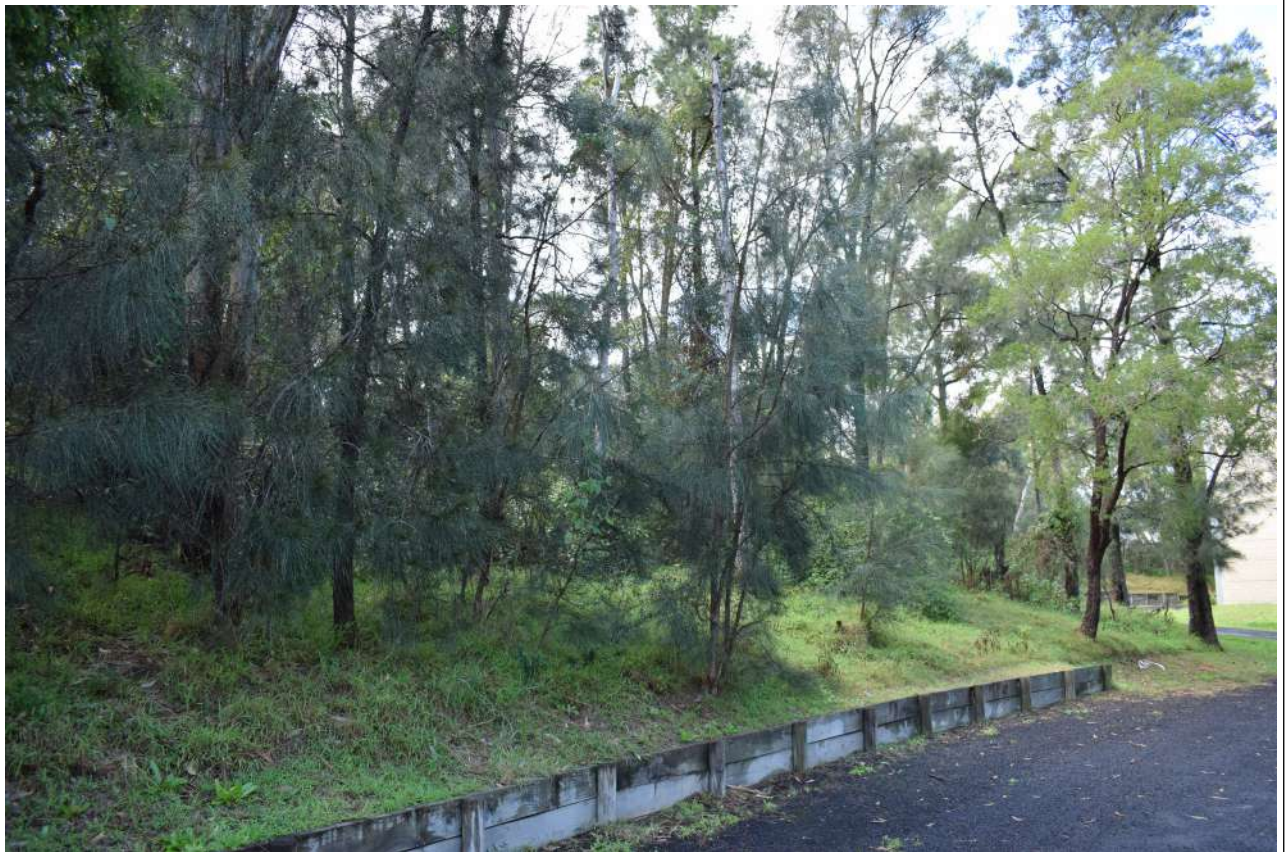
* = Exotic

Appendices A-1, A-2 referred to in Appendix A

Appendix A-1

Photographic record of species recorded on 8, 29 August 2023 and 27 August 2024

Appendix A-1. Photographic record of species recorded on 8, 29 August 2023 and 27 August 2024



Vegetation on batter slope near BAM Plot 1.



BAM Plot 1 – 0 m on tape looking northwest with non-local native *Corymbia maculata* to the left of tape.



BAM Plot 1 – Looking south towards property boundary.



BAM Plot 1 – Note very high ground cover of *Ehrharta erecta*.



BAM Plot 1 – Looking north along property boundary.



BAM Plot 1 – 20 m on tape looking southeast.



BAM Plot 1 – 20 m on tape looking northeast.



BAM Plot 1 – end of tape looking southeast with *Casuarina glauca* and fallen logs.



BAM Plot 1 – end of tape looking northwest. Note numerous juvenile *Casuarina glauca* and high groundcover of *Ehrharta erecta*.



BAM Plot 1 – *Eucalyptus botryoides*.



BAM Plot 1 – High threat weed *Anredera cordifolia* with aerial tubers, climbing up a shrub.



BAM Plot 1 – Exotic climber *Araujia sericifera* at the base of a *Casuarina glauca*.



BAM Plot 1 – High threat weed *Rumex sagittatus* (*Acetosa sagittata* is a synonym).



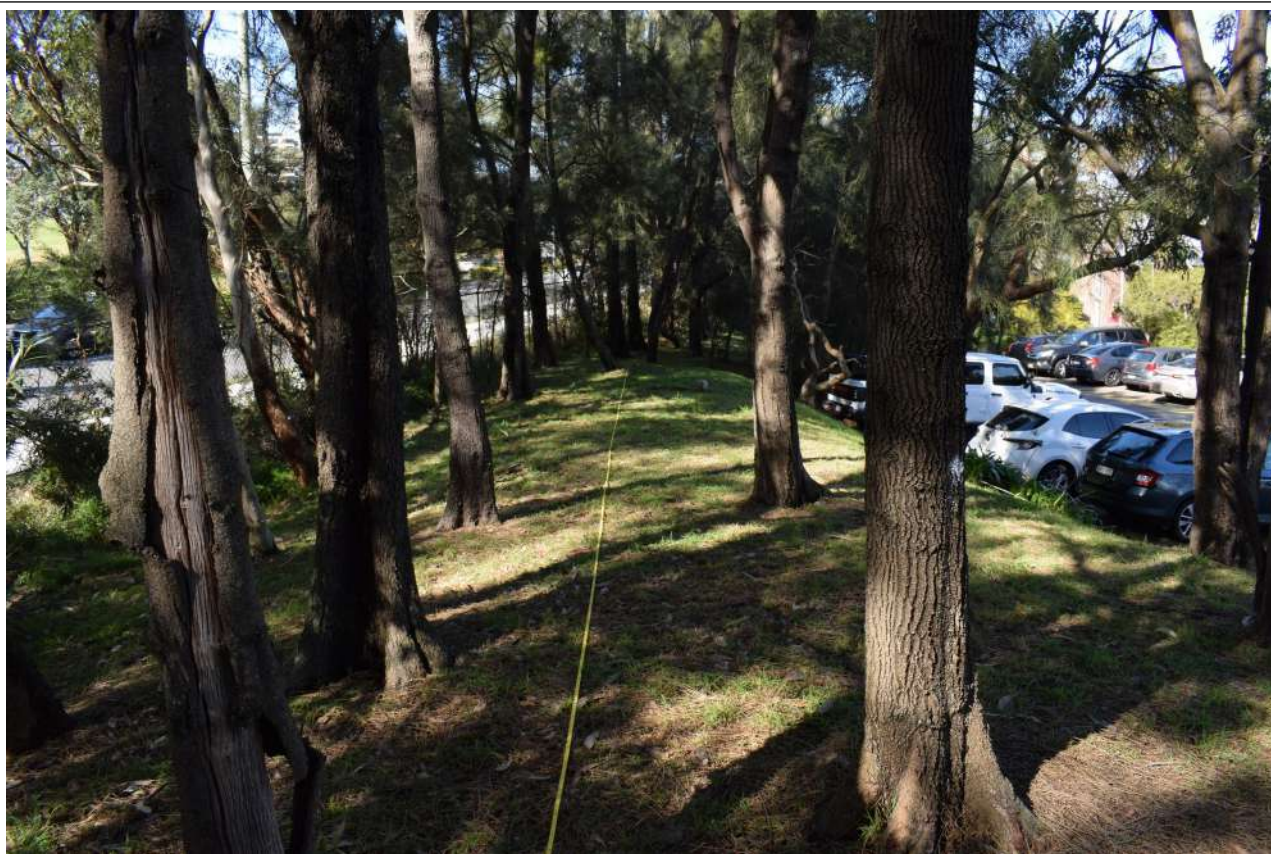
BAM Plot 1 – soil scratch c. 10 cm deep – fine sand with high organic matter content.



BAM Plot 2 – 0 m on tape looking southeast along top of bank adjoining Wentworth Avenue boundary near northwest corner of site.



BAM Plot 2 – 20 m on tape looking northwest.



BAM Plot 2 – 20 m on tape looking southeast. All trees are *Casuarina glauca*.



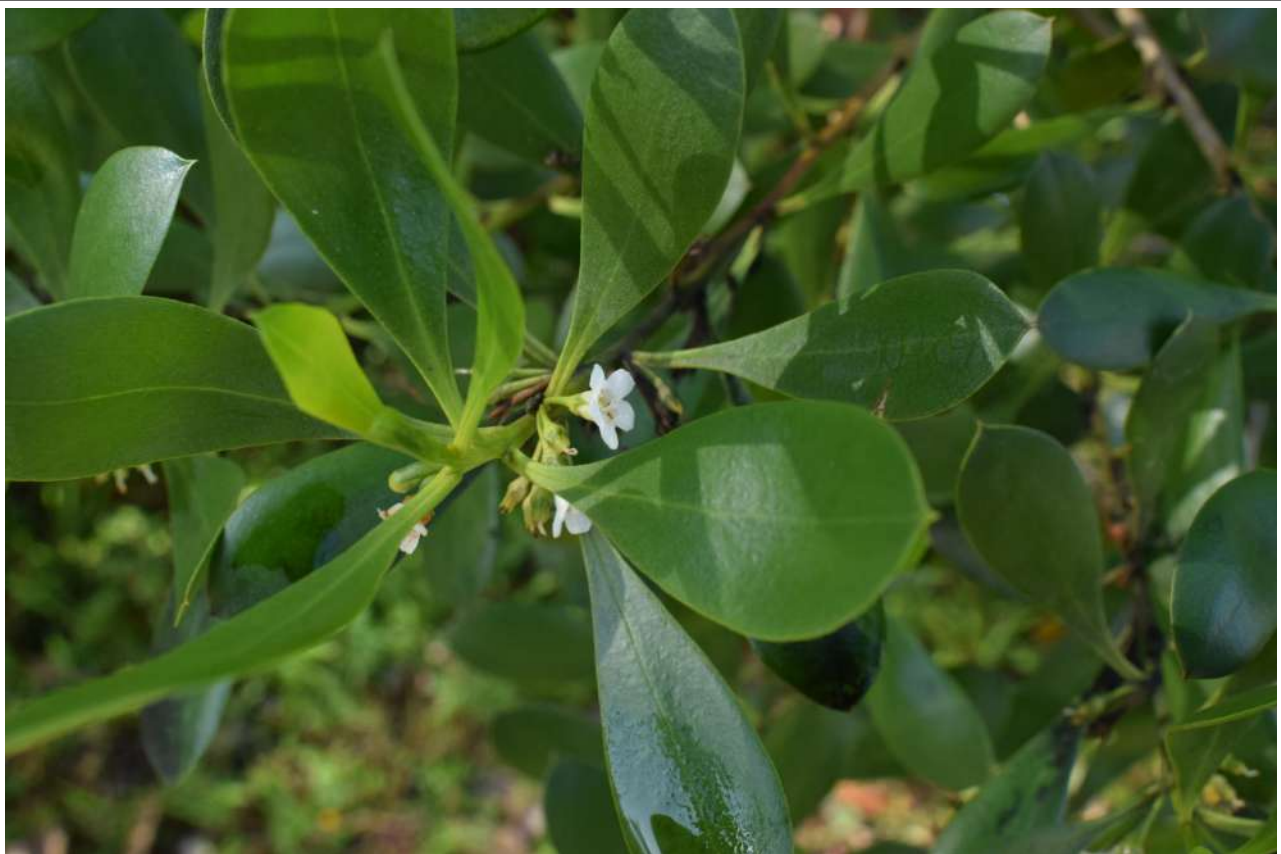
BAM Plot 2 – 50 m on tape looking northwest. All trees visible are *Casuarina glauca*.



BAM Plot 2 – Planted *Melaleuca nesophila* near start of tape.



BAM Plot 2 – Exotic weed grass *Megathyrsus maximus* abundant along northern boundary.



Local native *Myoporum boninense* subsp. *australe* planted near visitors' parking area. Natural occurrences of this species are nearly all within 0.5 km of salt water.



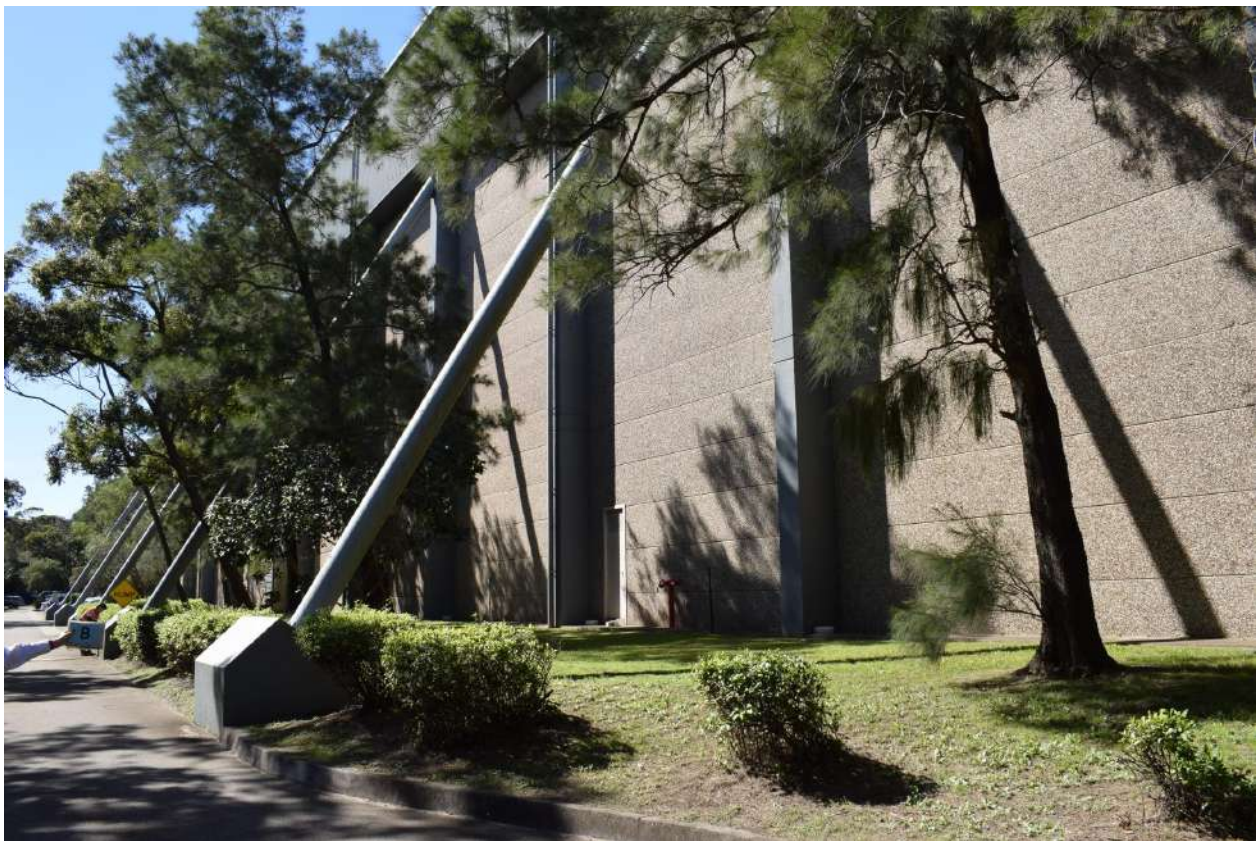
Exotic *Schinus molle* (left) and *Casuarina cunninghamiana* planted against west wall of main building.



Acacia binervia planted against west boundary fence.



Patch A – Front entrance, SW of site. Planted *Ficus benjamina*, and pruned *Lomandra longifolia*.



Patch B – Located along the west face of the building. Row of tall *Casuarina cunninghamiana* beneath trees is a mown grass and road bordering *Plumbago auriculata*.



Patch C – Landscaped low mounds with close-mown grass and some shrubberies beneath taller trees. Two large *Casuarina cunninghamiana* and *Eucalyptus botryoides* in background.



Patch D – Shrubby between kerbs beneath a spreading *Ficus rubiginosa*. Exotic shrubs include *Murraya paniculata* and *Hibiscus rosa-sinensis* and perennials *Agave attenuata* and *Agapanthus praecox*.



Patch E –Tallest trees were two *Corymbia maculata*, with smaller trees of *Banksia integrifolia* and *Acacia saligna*.



Patch F – several planted small trees, with *Leptospermum laevigatum*, *Callistemon viminalis* and *Melaleuca nesophila*. Beneath the trees was mostly mown grass and some clumps of *Agapanthus praecox*.



Patch G – Located above a timber retaining wall north of the building's reception area entrance. Groundcover largely consisted of *Plantago auriculata*. Trees include, *C. glauca* and *Ficus rubiginosa*.



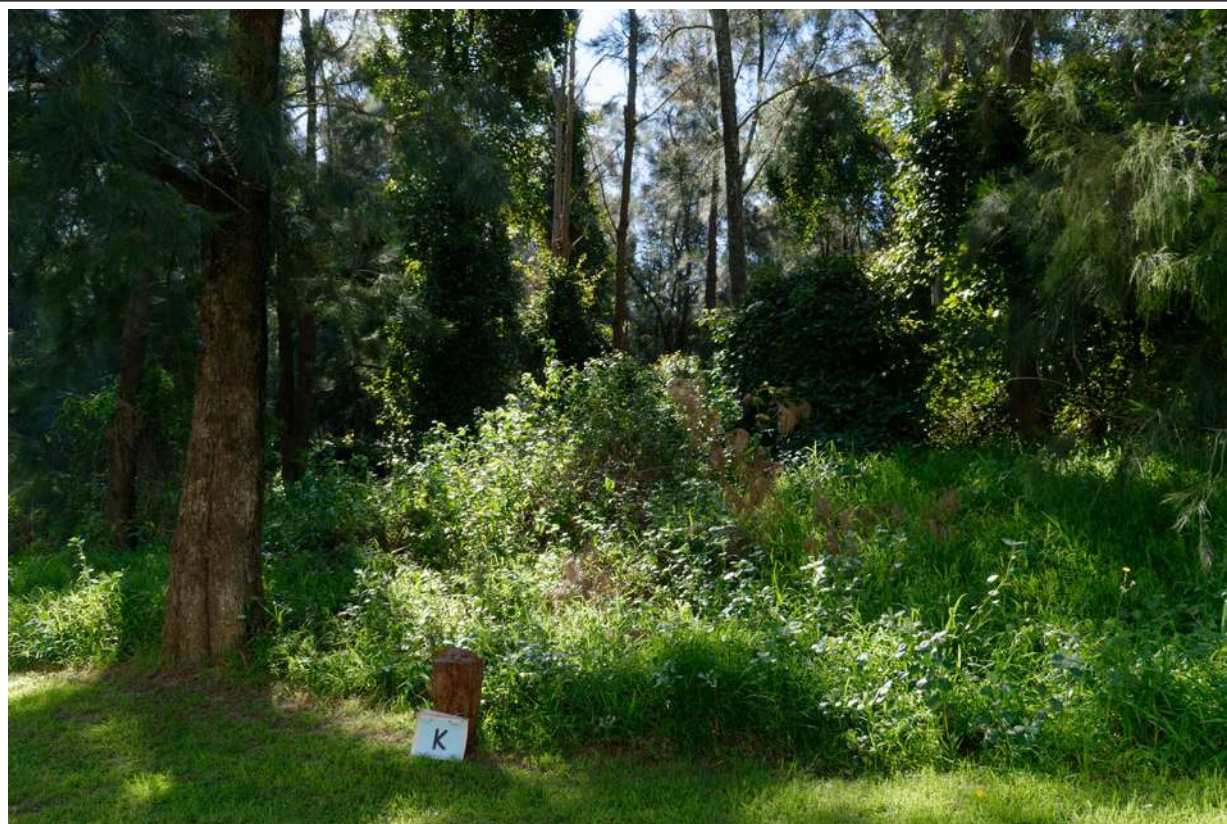
Patch H – In the eastern end of the island between two car park bays. Dominated by a large tree of *Eucalyptus robusta* with smaller trees of *Melaleuca styphelioides* and *Jacaranda mimosifolia* beneath.



Patch I – Located at the entrance to the building's reception area. *Eucalyptus botryoides* on either side of entrance. Weeds scattered around garden beds. Exotics pictured include *Agave attenuata*, *Dietes grandiflora* and non-local native *Lomandra hystrix*.



Patch J – On batter slope a little north-east of the reception area entrance, with a dense stand of *Plumbago auriculata* and scattered trees of *Casuarina glauca* and *Corymbia maculata* and one *Eucalyptus botryoides*.



Patch K – Located in a sheltered area at the base of the batter slope. Some large planted trees of *C. cunninghamiana* as well as some *C. glauca*. Weeds include *Ehrharta erecta*, *Araujia sericifera* and *Chrysanthemoides monilifera*.



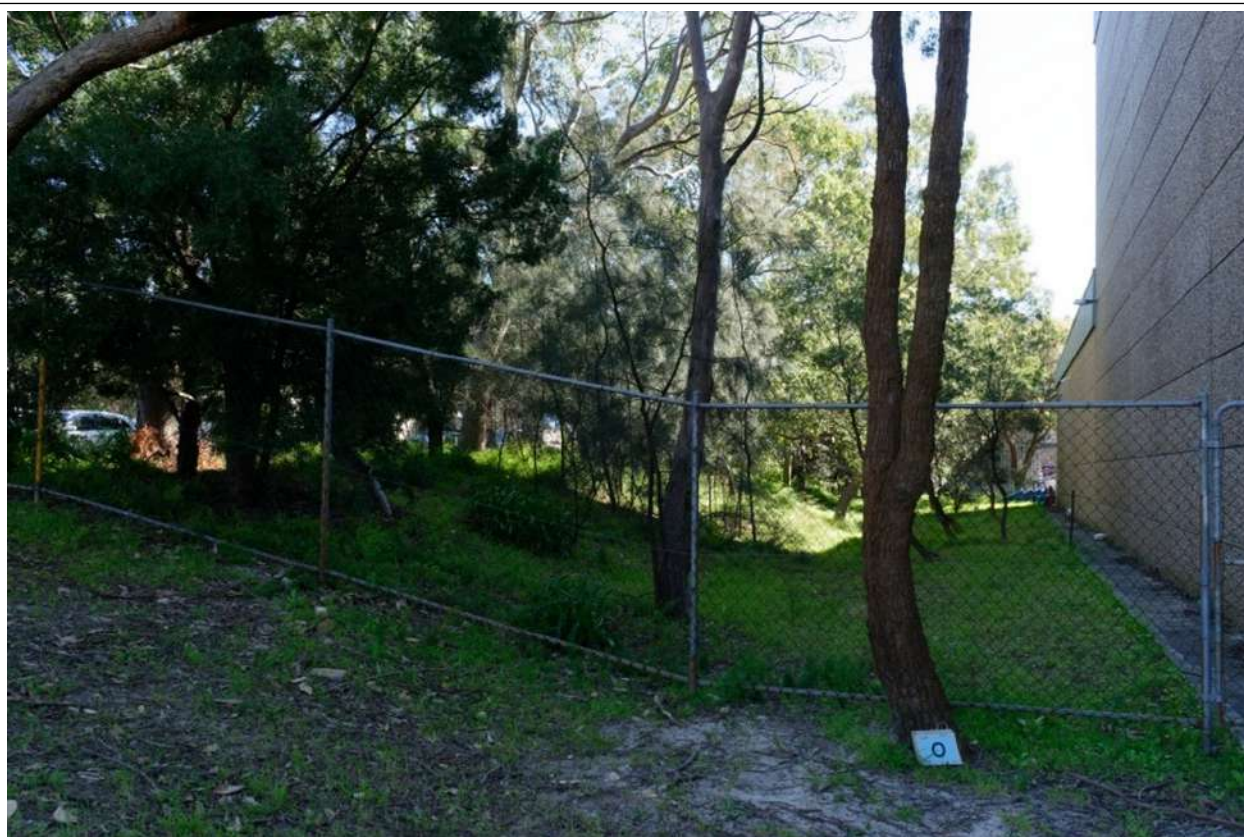
Patch L – Eastern side of building. Mown *Cerastium glomeratum*, *Dichondra repens*, *Ehrharta erecta*, *Hypochaeris radicata*, *Taraxacum officinale*, with approximately 15 m high planted *C. glauca*.



Patch M – Opposite the eastern wall of the factory where the batter narrows



Patch N – Narrow strip of vegetation off the eastern wall. The dominant feature here was further clumps of *Cortaderia selloana* has been slashed down not long before site visit.



Patch O sampled in the drainage swale, The understorey included *Asparagus aethiopicus*, *Ehrharta erecta*, *Eragrostis tenuifolia*, *Lysimachia arvensis*, *Medicago* sp., *Sonchus oleraceus* and *Taraxacum officinale*.

Appendix A-2

Identification confirmation letter from Botanic Gardens of Sydney dated 7 November 2024



National Herbarium of New South Wales

Mr Tony RODD
Anne Clements & Associates Pty
Limited
PO Box 1623
North Sydney, NSW 2059

BIS Enquiry No: 22377
Botanical.Is@botanicgardens.nsw.gov.au
Ph. No: (02) 4631 5135
Date: 7th November 2023

Dear Tony,

Re: plant specimens submitted for identification

Your specimens have been determined as the following:

- 1312 - *Eragrostis tenuifolia* – det. P.C. Jobson, 30th Oct 2023
- 1313 - *Pultenaea parviflora* – conf. A.E. Orme, 24th Oct 2023
- 1314 - *Dillwynia tenuifolia* – conf. A.E. Orme, 24th Oct 2023
- 1315 – *Durringtonia paludosa* – conf. A.E. Orme, 24th Oct 2023
- 1316 – *Acacia terminalis* subsp. **Glabrous form (M.Hancock 94)** – det. A.E. Orme, 27th Oct 2023

Thank you for your enquiry.

Yours sincerely,

Andrew Orme
Identification Technical Officer
Botanical Identification Service



visit NSW Flora Online at plantnet.rbgsyd.nsw.gov.au
to help you identify the plants of New South Wales



The Botanical Identification Service email address is Botanical.Is@botanicgardens.nsw.gov.au
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