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AMERICOLD

Biodiversity Development Assessment Report

FINAL

January 2023

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FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Americold

Project Director:	Rachel Musgrave
Project Manager:	Larissa Abbott
Report No.	22429/R01
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Environmental & Social Consultants

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
1	Rachel Musgrave	22/06/2022	Rachel Musgrave	22/06/2022
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3	Rachel Musgrave	19/01/2023	Rachel Musgrave	19/01/2023

Glossary

Abbreviation	Description
BAM	Biodiversity Assessment Methodology
BC Act	NSW *Biodiversity Conservation Act 2016*
BDAR	Biodiversity Development Assessment Report
BOAMs	Biodiversity Offset Assessment Management System
CAMBA	China-Australia Migratory Bird Agreement
CEEC	Critically Endangered Ecological Community
Coastal SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021, Chapter 2 Coastal Management
CM Act	NSW *Coastal Management Act 2016*
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
Development Footprint	The total impact zone associated with the Project.
DPE	NSW Department of Planning and Environment
EAH	Environment Agency Head
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EP	Endangered Population
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EES	Environment, Energy and Science Group in the Department of Planning and Environment
FM Act	NSW *Fisheries Management Act 1994* (FM Act)
GIS	Geographical Information System
IBRA	Interim Biogeographic Regionalisation for Australia (Version 7)
JAMBA	Japan-Australia Migratory Bird Agreement
Koala SEPP 2021	State Environmental Planning Policy (Biodiversity and Conservation) 2021 Chapter 3 and/or Chapter 4
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NSW	New South Wales
NV Act	NSW *Native Vegetation Act 2003*
PAH	Planning Agency Head
PCT	Plant Community Type

Abbreviation	Description
PMST	Protected Matters Search Tool
ROKAMBA	Republic of Korea-Australia Migratory Bird Agreement
SEARs	Secretary's Environmental Assessment Requirements
SSD	State Significant Development
Subject Land	The area within which all works associate with the Project will be undertaken
Strahler Stream Order	Classification system that gives a waterway an 'order' according to the number of tributaries associated with it.
TEC	Threatened Ecological Community
TBDC	Threatened Biodiversity Data Collection
VIS	Vegetation Information System
WM Act	NSW *Water Management Act 2000*

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1.0 Introduction

1.1 Overview

Americold proposes to extend to its existing temperature-controlled warehouse facility at 554-562 Reservoir Road, Prospect NSW (**Figure 1.1**). The purpose of the development is to provide additional cold storage capacity to meet existing and future predicted demand. The Proposal requires approval from the NSW Minister for Planning under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Proposal is regarded as State Significant Development (SSD).

Umwelt (Australia) Pty. Ltd. (Umwelt) has been engaged by Beca to prepare this Biodiversity Development Assessment Report (BDAR) as part of the Environmental Impact Statement (EIS) for the Proposal. The EIS has been prepared to accompany the development application for approval of the proposal and addresses the environmental assessment requirements of the Secretary's Environmental Assessment Requirements (SEARs) as issued by the NSW Department of Planning and Environment (DPE).

1.2 The Proposal

The proposed development comprises the following:

- a new 5,140m² freezer building extension and annexe to the east of the existing southern warehouse. The extension is intended to provide capacity for approximately 13,450 frozen pallets.
- a new battery storage room to enable the charging, storage and changeover of batteries used for materials handling equipment
- alterations to the site access, parking and loading arrangements including:
    - construction of a new staff and visitor site access, to eliminate traffic conflicts between heavy and passenger vehicles
    - construction of 93 new staff/visitor vehicle carparks (including three accessible spaces) to the north and east of the existing northern warehouse
    - construction of two new accessible carparks adjacent to the existing office building
    - upgrade of the existing site access road, including:
        - sealing of the southern and eastern portions of the site access road with heavy duty pavement
        - construction of new Armco barriers protecting the powerpoles to the east of the site
        - repaving of the existing car parking access
        - minor corner modifications to enhance truck turning and manoeuvrability
        - new boom gates
    - construction of a new heavy vehicle turnaround and 12 new trailer parking spots to the east of the existing northern warehouse

- a new pump house and two new firewater tanks
- a new timber pallet storage area with three-metre-high enclosure
- a new staff outdoor seating area with awning
- a new security office
- a new weighbridge
- a new satellite plant room.

1.3 Purpose and Scope of This Report

The key objective of this BDAR is to meet the requirements of the Biodiversity Assessment Method (BAM) (DPIE, 2020a), and to address the biodiversity matters raised in the SEARs (see **Table 1.1**). The Environment, Energy and Science Group (EES) in the Department of Planning and Environment (DPE) has been consulted during the assessment process, through email correspondence (See **Appendix A**). This report aims to conform to the requirements of EES and relevant guidance documents.

This BDAR also addresses the requirements detailed the submission on the SEARs made by the EES.

Table 1.1 SEARs relevant to the biodiversity assessment

Key Issue	Secretary's Environmental Assessment Requirements	Where addressed
SEARs		
9. Biodiversity	Details of the number of trees to be removed and the number of trees to be planted on the site	**Section 8.1** of the BDAR, as well as Section 7 of the EIS and the Landscape Management Plan.
	An assessment of the proposal's biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016* (BC Act), including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted.	The BDAR itself
EES Submission		
Biodiversity	1. Biodiversity impacts related to the proposed development are to be assessed in accordance with Section 7.9 of the BC Act, the BAM and documented in a BDAR. The BDAR must include information in the form detailed in the BC Act (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and BAM, including an assessment of the impacts of the proposal (including an assessment of impacts prescribed by the regulations).	The BDAR itself
	2. The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.	**Section 7.0** & **8.0** of the BDAR

Key Issue	Secretary's Environmental Assessment Requirements	Where addressed
	3. The BDAR must include details of the measures proposed to address the offset obligation as follows: • the total number and classes of biodiversity credits required to be retired for the development/project • the number and classes of like-for-like biodiversity credits proposed to be retired • the number and classes of biodiversity credits proposed to be retired in accordance with the variation rules • any proposal to fund a biodiversity conservation action • any proposal to conduct ecological rehabilitation (if a mining project) • any proposal to make a payment to the Biodiversity Conservation Fund. If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.	The BDAR as applied Appendix D: Streamlined assessment module – Planted native vegetation of the BAM, specifically D.1(5) and D.2 of Appendix D. As per the requirements of Appendix D, an offset obligation is not required to be calculated.
	4. The BDAR must be submitted with all spatial data associated with the survey and assessment as per Appendix 11 of the BAM.	Relevant spatial data has been submitted via the Biodiversity Offset Assessment Management System (BOAMs).
	5. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the BC Act.	**Section 1.4** of the BDAR

Legend

- Subject Land
- Local Government Area (LGA)
- Property Boundary
- Road
- Drainage Line

FIGURE 1.1

Location Map

Image Source: Nearmap (May 2022) Data source: NSW DFSI (2021)

1.4 Report Preparation

This Streamlined BDAR was prepared by Larissa Abbott (Senior Ecologist) and Amber Wilson (Ecologist), with review and technical direction from Rachel Musgrave (Principal Ecologist). Field surveys were undertaken by Larissa Abbott and Rachel Musgrave. The BDAR was prepared in accordance with the BAM, following the specific requirements for Streamlined Assessment - planted native vegetation module in Appendix D of the BAM. Given that it is a streamlined assessment, all components of the BAM were not required.

Table 1.2 outlines the details of the Accredited BAM Assessors involved in the survey, calculations and reporting for the Project.

Table 1.2 Accredited BAM Assessors and their Role on this Project

Name	Assessor ID	Role
Rachel Musgrave **Principal Ecologist**	BAAS18032	Project Director, field survey, review and technical input of BAM application
Larissa Abbott **Senior Ecologist**	-	Project Manager, field survey, and BDAR preparation
Amber Wilson **Ecologist**	-	BDAR preparation

1.5 Statutory Considerations

Commonwealth and State Legislation relevant to this BDAR is described in **Table 1.3**.

Table 1.3 Legislation relevant to the project

Relevant legislation	Governing Agency	Summary
Commonwealth legislation		
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Department of Climate Change, Energy, the Environment and Water (DCCEEW)	The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Commonwealth Government's primary piece of environmental legislation and is administered by the Australian Government – Department of Climate Change, Energy, the Environment, and Water (DCCEEW). It is designed to protect national environmental assets, known as matters of national environmental significance (MNES), which include threatened species of flora and fauna, endangered ecological communities, and migratory species, as well as other protected matters. It defines the categories of threat for threatened flora and fauna, identifies key threatening processes and provides for the preparation of recovery plans for threatened flora, fauna, and communities. Actions that may adversely affect MNES may be deemed to be a controlled action under the EPBC Act. The significance of the proposed action on MNES can be determined through self-assessment using *Significant Impact Guidelines 1.1 - Matters of National Environmental Significance* (Department of the Environment, Water, Heritage and the Arts, 2013). A referral is

Relevant legislation	Governing Agency	Summary
		required for proposed actions that may affect nationally listed threatened species, threatened ecological communities, and migratory species. In accordance with the Bilateral Agreement reached between the NSW and Commonwealth Governments, an EIS under the NSW *Environmental Planning & Assessment Act 1979* (EP&A Act, see below) for SSD can also be used for an EIS under the EPBC Act.
NSW Legislation		
Environmental Planning and Assessment Act 1979 (EP&A Act)	Department of Planning and Environment	The EP&A Act is the overarching planning legislation in NSW that provides for the creation of planning instruments that guide land use. The EP&A Act also provides for the protection of the environment, including the protection and conservation of native animals and plants. This includes threatened species, populations and ecological communities, and their habitats of biodiversity values as listed in the BC Act and NSW *Fisheries Management Act 1994* (FM Act). The EIS anticipated to be prepared for the Project will meet the necessary environmental assessment requirements under the relevant provisions of the EP&A Act.
Biodiversity Conservation Act 2016 (BC Act)	Department of Planning and Environment	The BC Act sets out the environmental impact assessment framework for threatened species, threatened ecological communities (TECs) and Areas of Outstanding Biodiversity Value (formerly critical habitat) for Major Projects, Part 5 activities, and local development. Sections 7.9 of the BC Act requires that an application of development under Part 4 of the EP&A Act for SSD must be accompanied by a BDAR prepared by an accredited assessor in accordance with the BAM (DPIE, 2020), unless the Planning Agency Head (PAH) and the Environment Agency Head (EAH) determine that the proposed development is not likely to have any significant impact on biodiversity values. The potential impacts associated with the Project are such that the PAH and EAH will likely consider them significant, and a BDAR will be required.
Biosecurity Act 2015	Department of Primary Industries	The *Biosecurity Act 2015* replaced the Noxious Weeds Act 1993 on 1 July 2017. The Biosecurity Act is a wide-ranging legislation that outlines the requirements of government, councils, private landholders, and public authorities in the management of biosecurity matters. Priority weeds are regulated under the Biosecurity Act with a general biosecurity duty to prevent, eliminate or minimize any biosecurity risk they may pose. Some priority weeds have additional management obligations which may apply generally, or under specific circumstances. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised as is reasonably practicable.
Coastal Management Act 2016 (CM Act)	Department of Planning and Environment	The objective of the CM Act is to manage the coastal environment in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of NSW. This legislation establishes clear outcome-orientated management objectives for each area to ensure councils apply appropriate management tools and development controls. The Subject Land contains areas mapped as being in the 'proximity to coastal wetlands'.

Relevant legislation	Governing Agency	Summary
		The management objectives for the coastal wetlands area are as follows: • to protect coastal wetlands and littoral rainforests in their natural state, including their biological diversity and ecosystem integrity, • to promote the rehabilitation and restoration of degraded coastal wetlands and littoral rainforests, • to improve the resilience of coastal wetlands and littoral rainforests to the impacts of climate change, including opportunities for migration, • to support the social and cultural values of coastal wetlands and littoral rainforests, • to promote the objectives of State policies and programs for wetlands or littoral rainforest management.
State Environmental Planning Policy (Biodiversity and Conservation) 2021	Department of Planning and Environment	SEPP (Biodiversity and Conservation) 2021 commenced in March 2022 and includes a number of previous planning policies including Koala Habitat Protection 2019 and Koala Habitat Protection 2021, Chapter 3 and 4, respectively. Schedule 2 identifies the Local Government Areas (LGAs) within which the provisions of chapters 3 and 4 apply. The Subject Land occurs within Cumberland Council LGA, which is not listed on Schedule 2 of the SEPP. As such, the provisions detailed within Chapter 3 and 4 of the SEPP do not apply to the Project.
State Environmental Planning Policy (Resilience and Hazards) 2021	Department of Planning and Environment	The SEPP (Resilience and Hazards) 2021 Chapter 2 Coastal Management specifies how development proposals are to be assessed if they fall within the coastal zone. The SEPP includes mapping of the four coastal management areas that make up the coastal zone with development controls in coastal wetlands and littoral rainforest given the highest priority. The Subject Land contains areas mapped as 'proximity to coastal wetlands' with a small coastal wetland mapped to the east of Girraween Creek downstream of the Subject Land Chapter 2, Division 1, clause 2.8 of the SEPP states that: *"Development consent must not be granted to development on land identified as "proximity area for coastal wetlands" or "proximity area for littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed development will not significantly impact on:* *(a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or* *(b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest."* The Development Footprint for the Proposal is not within the proximity area and therefore any impacts are likely to be indirect impacts associated with construction and changes in surface flows. The proposal is unlikely to significantly impact the biophysical, hydrological, or ecological integrity of the adjacent coastal

Relevant legislation	Governing Agency	Summary
		wetland, or the quantity and quality of the surface and groundwater flows into the costal wetland.

1.6 Development Footprint Information

For the purposes of this report, the Subject Land refers to the entire three-hectare land parcel of 554-562 Reservoir Rd, Prospect NSW 2148, while the Development Footprint refers to all land that will be cleared/disturbed for the Proposed Development including the footprint of buildings, driveways, roads and carparks (**Figure 1.2**). While the characteristics of the wider Subject Land are discussed herein, impacts will be limited to the Development Footprint only. There is no proposal to impact the remaining areas of the Subject Land. The detailed architectural plan drawings for the proposed development are provided as **Appendix B**.

The site context information pertaining to the Development Site is summarised in **Table 1.4**.

Table 1.4 Development Footprint Location in the Landscape

Development Footprint Location in the Landscape	
IBRA Bioregion	Sydney Basin
IBRA Subregion	Cumberland
NSW (Mitchell) Landscape	Cumberland Plain
LGA	Cumberland Council
Development Footprint Area	1.88 hectares
Native Vegetation within 1500m buffer area	162.16 hectares (19.3%)
Assessment Type	Streamlined assessment module – planted native vegetation
Lot and DP	Lot 101 DP 851785
Total Lot Area (Subject Land)	6.56 hectares

1.7 Key Resources, Policies and Documents

The following key resources, policies and documents were used during the preparation of this BDAR for the Proposed Development:

- Biodiversity Assessment Method (DPIE 2020a)
- Biodiversity Assessment Method Operational Manuals (Stage 1 and Stage 2) (DPIE 2020b and DPIE 2019)
- BioNet Atlas of NSW Wildlife database and mapping tool (DPE 2022a)
- Threatened Biodiversity Data Collection (TBDC) (DPE 2022b)

- Vegetation Information System (VIS) Classification Database (DPE 2022c)
- Protected Matters Search Tool (DCCEEW 2022).

1.8 General Description of the Subject Land

The Subject Land is located in the suburb of Prospect in Western Sydney, NSW. The Subject Land is bound to the north and west by public roads, to the east by cleared and disturbed land, and to the south by industrial complexes. The locality has been heavily disturbed by urban development, comprising industrial complexed and residential areas. Prospect Reservoir is located approximately 1.6 kilometres to the south-west of the Subject Land. The catchment of Prospect Reservoir is notable for its biodiversity value containing numerous state and federally listed TECs and threatened species.

The Subject Land consists of a heavily disturbed industrial complex. The Subject Land has been previously cleared and levelled and contains no remnant native vegetation. Landscape plantings are located in the north, east, and west of the Subject Land, while the southern portion of the Subject Land contains disturbed vegetation comprising exotic grasses and environmental weeds.

FIGURE 1.2

Site Map

Image Source: Nearmap (May 2022) Data source: NSW DFSI (2021)

2.0 Survey Methods

2.1 Desktop Assessment

2.1.1 Landscape Features and Site Context

Landscape features such as IBRA bioregions, IBRA subregions and NSW Mitchell Landscape regions, native vegetation extent within a 1500 m buffer area, cleared areas, rivers, streams, wetlands and connectivity features were identified within the Subject Land where appropriate in accordance with Section 3.1.3 of the BAM (DPIE 2020a).

Determining the 'Site Context' of the Development Footprint was calculated by assessing the native vegetation cover and patch size within the Development Footprint in accordance with Section 3.2 of the BAM (DPIE 2020a).

2.1.2 Literature and Database Review

A review of documents and resources relevant to the Project was undertaken. The information obtained was used to assist in the assessment of potentially occurring threatened and migratory species, endangered populations (EPs) and TECs.

Relevant documents included:

- The Native Vegetation of the Sydney Metropolitan Area, v3.1 VIS ID 4489 (OEH 2016), accessed June 2022
- VIS Classification Database (DPE 2022c), accessed June 2022
- DCCEEW Protected Matters Search Tool for known/predicted EPBC Act-listed TECs, accessed June 2022.

2.1.3 Vegetation Assessment

The vegetation communities described within the Development Footprint assessed against D1 and D2 detailed within Appendix D: Streamlined assessment module – planted native vegetation. The dominant species within each stratum was recorded, along with details on community structure, soil, landform and distribution.

In addition, vegetation communities were compared to potential equivalent Plant Community Types (PCT) as detailed in the VIS Classification Database (DPE 2022c). The dominant and characteristic species were entered into the online plant community identification tab and an initial list of PCTs was generated. The profiles for each of the possible PCTs were then interrogated and compared with data collected onsite.

2.1.4 Threatened Species Review

A review of documents and resources relevant to the Project was undertaken. This included relevant ecological database searches. The information obtained was used to assist in the assessment of potentially occurring ecosystem-credit and species-credit species. Relevant documents and resources included:

- DPE BioNet Atlas of NSW Wildlife database and mapping tool, searched for records of threatened species (state and federal listings) within an area 10 km x 10 km surrounding the Subject Land (DPE 2022a)
- DCCEEW Protected Matters Search Tool (DCCEEW 2022) for known/predicted EPBC Act-listed species.

2.2 Field Survey

A survey of the Subject Land was undertaken on 12 May 2022. Surveys were undertaken by Principal Ecologist/BAM Accredited Assessor, Rachel Musgrave and Senior Ecologist, Larissa Abbott. Field surveys involved sampling BAM plots, habitat assessment and opportunistic observations.

2.2.1 BAM Plot-Based Survey

Two systematic 20 by 50 metre plots were sampled in each of the two vegetation zones identified, the locations of which are shown on **Figure 2.1**. The Biodiversity Assessment Method (BAM) (DPIE 2020a) plot-sampling procedure was followed. Each plot is 20 m x 50 m, which incorporates a nested 20 m x 20 m plot, 50 m central transect and five 1m x 1m sub-plots.

Legend

- Subject Land
- Development Footprint
- Floristics Plot Location
- Property Boundary
- Drainage Line

FIGURE 2.1

Field Survey Effort

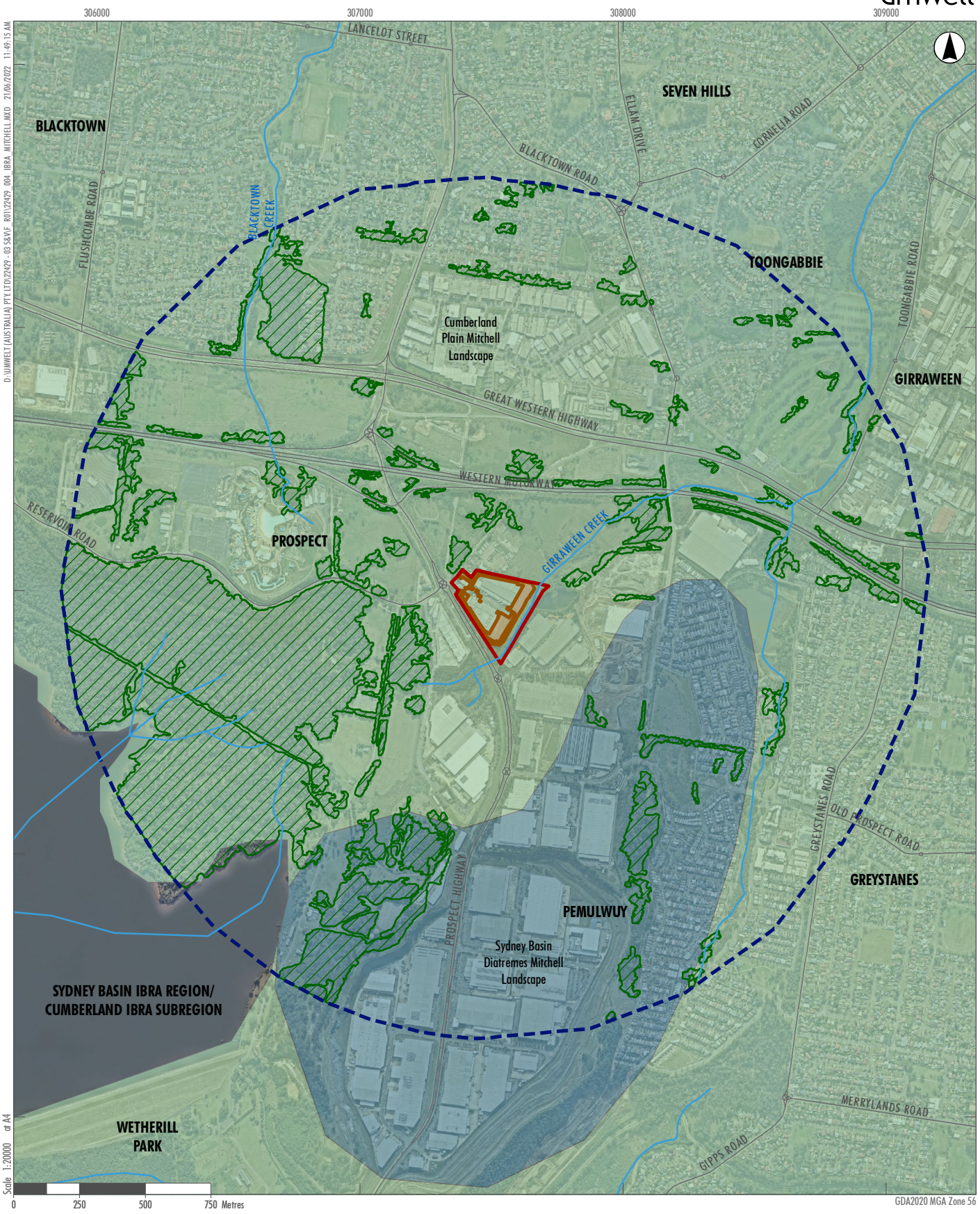
Image Source: Nearmap (May 2022) Data source: NSW DFSI (2021)

3.0 Landscape Features

The buffer area contains a range of landscape features typical of the landscapes around the Cumberland Plain. These landscape features are shown in **Figure 3.1** and **Figure 3.2** and outlined in relation to the Development Footprint in **Table 1.3** below.

Table 3.1 Landscape Features in the Development Footprint

Landscape Features	
IBRA Bioregion	Sydney Basin
IBRA Subregion	Cumberland
Mitchell Landscape	Cumberland Plain
Rivers, Streams, Estuaries	No Strahler streams in the Development Footprint, one second order stream (Girraween Creek) located in the subject land to the east of the Development Footprint.
Wetlands (within, adjacent to and downstream)	A small coastal wetland, identified under the State Environmental Planning Policy (Resilience and Hazards) 2021, is mapped downstream of the Subject Land to the east of Girraween Creek (refer to **Figure 3.2**). The Coastal Wetland Proximity Area to this wetland extends across a small area in the northeast corner of the Subject Land but does not intersect the Development Footprint.
Native Vegetation Cover	162 ha in the 1500 m buffer area (19%)
Areas of Geological Significance or Soil Hazard Features	No areas of geological significance identified. The Subject Land has been mapped by the Salinity Potential of Western Sydney dataset (DPE, 2002) as having an area of moderate salinity potential in the north west of the Subject Land, and area of high salinity potential in the south east of the Subject Land. An area of potentially contaminated fill and unreported/illegal dumping/spilling may occur within the south east of the subject land (Beca 2022a). The probability of acid sulfate soils within the Subject Land has been assessed as extremely low to low (Beca, 2022a).
Areas of Outstanding Biodiversity Value	None identified within the Subject Land or Development Footprint
Cleared Areas	1.71 ha
Connectivity Features	Not identified within a Priority Investment Area (OEH 2017). Not identified as an important flyway for migratory species. Connectivity is limited due to the industrial setting and high level of urban development across the locality.



Legend

- Subject Land
- Development Footprint
- 1500m Buffer of Development Footprint
- Native Vegetation
- Road
- Drainage Line

NSW (Mitchell) Landscape

- Cumberland Plain
- Sydney Basin Diatremes

FIGURE 3.1

IBRA Subregion and Mitchell Landscapes

Image Source: Nearmap (May 2022) Data source: NSW DFSI (2021)

Legend

- Subject Land
- Development Footprint
- 1500m Buffer of Development Footprint
- Coastal Wetland
- Coastal Wetland Proximity Area
- Biodiversity Values Mapping
- Road
- Drainage Line

FIGURE 3.2

Landscape Features - Biodiversity Values, Wetlands and Water

Image Source: Nearmap (May 2022) Data source: NSW DFSI (2021)

4.0 Planted Native Vegetation

4.1 Decision Tree

Survey of the Subject Land determined that the vegetation within the Development Footprint was comprised of planted native vegetation. Accordingly, Appendix D: Streamlined assessment module – Planted Native Vegetation was applied.

The assessment of planted native vegetation found that the planted native vegetation was comprised planted for functional, aesthetic, horticultural or plantation forestry purposes (D1(5)). As such, D.2 Assessment of planted native vegetation for threatened species habitat is required to be applied (note the use of Chapters 4 and 5 of the BAM are not required to be applied).

Table 4.1 below details the decision-making process as required within the D.1 Decision-making key within the BAM.

Table 4.1 Planted Native Vegetation determination as per D.1 Decision-making key within the BAM

Question		Response	Justification
D.1(1)	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?	No	Planted native vegetation does is not contiguous with any extents of remnant native vegetation, and does not contain any remnant native vegetation which can reasonably be assigned to a PCT.
D.1(2)	Is the planted native vegetation: • planted for the purpose of environmental rehabilitation or restoration under an existing conservation obligation listed in BAM Section 11.9(2.), and • the primary objective was to replace or regenerate a plant community type or a threatened plant species population or its habitat?	No	No existing conservation obligation as listed in Section 11.9(2.) of the BAM is present on the Subject Land. The vegetation planted within the Subject Land does not contain any threatened plant species, or is floristically or structurally commensurate with a PCT.
D.1(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 species recovery project • Saving our Species project • other types of government funded restoration project • condition of consent for a development approval that required those species to be planted or translocated for the purpose of providing threatened species habitat • 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	No	No species recovery projects, Saving our Species projects, or other government funded restoration projects are located on the Subject Land. The vegetation planted within the Subject Land does not contain any threatened plant species or threatened species habitat. The Subject Land is not located within or close to a mine site such that the plantings have been planted as part of a mine operations plan. The planted native vegetation is not located within a riparian buffer such that it has been established as part of a vegetation management plan required under a Controlled Activity Approval.

Question		Response	Justification
	under the BC Act or the *Native Vegetation Act 2003* (NV Act)) • ecological rehabilitation to re-establish a PCT or TEC that was, or is carried out under a mine operations plan, or • 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*)?		
D.1(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?	No	The vegetation planted within the Subject Land does not contain any threatened plant species, or is floristically or structurally commensurate with a PCT.
D.1(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?	Yes	The vegetation within the Subject Land is a mix of planted locally indigenous, native species, Australian natives, complex hybrids, and exotic species. The plants have been planted as functional landscaping within the Subject Land.

4.2 Vegetation Zones

Surveys of the Development Footprint identified two vegetation zones (refer to **Figure 4.1**):

- Planted Native Vegetation
- Weeds and Exotic Vegetation.

A description of the vegetation zone is outlined in the below tables, and a flora species list is included in **Appendix C**.

Table 4.2 Planted Native Vegetation

Vegetation Zone	Planted Native Vegetation
General Description	Occurs within and surrounding the Development Footprint (refer to **Figure 4.1**) within the north, east and western portions of the Subject land. Photos of the planted native vegetation are provided in **Photo 4.1**, **4.2** and **4.3** below.
Area in the Development Footprint (ha)	0.17 ha

Vegetation Zone	Planted Native Vegetation
Canopy Description	*Corymbia maculata* and *Eucalyptus fibrosa* are located within the Development Footprint. The Subject Land contained an open canopy comprised of *Eucalyptus tereticornis*, *Eucalyptus fibrosa, Eucalyptus crebra, and Lophostemon confertus, Corymbia maculata*.
Mid-storey Description	The Development Footprint contains *Casuarina glauca, Melaleuca stypheloides*, *Callistemon sp*., *Olea europaea* subsp. *cuspidata*, and *Phoenix canariensis*. The mid-storey within the Subject Land is relatively open, with occasional planted *Callistemon sp.*, and weedy *Olea europaea* subsp. *cuspidata*.
Ground Cover Description	Within the Development Footprint, the ground cover is comprised of *Agapanthus praecox* and *Ehrharta erecta*. Elsewhere in the Subject Land, other groundcover species included *Chloris gayana, Avena sativa, Bidens pilosa, Dichondra repens, Cynodon dactylon, Gomphocarpus fruticosus,* and *Cenchrus clandestinus*.

Table 4.3 Weeds and Exotic Vegetation

Vegetation Zone	Weeds and Exotic Vegetation
General Description	Primarily located in the east of the Subject Land and Development Footprint (refer to **Figure 4.1**). The Weeds and Exotic Vegetation Zone is comprised of mown exotic grassland located immediately behind the buildings, and environmental weeds located under the existing transmission lines. Photos of this vegetation zone are provided in **Photo 4.4** below**.**
Area in the Development Footprint (ha)	0.74 ha
Canopy Description	No canopy species are present within this vegetation zone.
Mid-storey Description	No mid-storey species are present within the Development Footprint. Within the Subject Land, mid-storey species include *Lantana camara*, *Rubus fruticosus agg*., *Cestrum parqui*, and *Olea europaea* subsp. *cuspidata.*
Ground Cover Description	Within the Development Footprint, this vegetation zone is dominated by mown exotic grasses with occasional natives. Species within this area include *Cenchrus clandestinus*, *Paspalum dilatatum*, *Chloris gayana*, *Avena sativa*, *Trifolium repens*, *Trifolium campestre*, *Medicago* sp., *Linum marginale*, *Hypericum japonicum*.

4.3 Threatened Ecological Communities

No threatened ecological communities were recorded within the Subject Land.

Photo 4.1 Planted Native Vegetation within the Development Footprint

Photo 4.2 Planted Native Vegetation within the east of the Subject Land

Photo 4.3 Planted Native Vegetation within the west of the Subject Land

Photo 4.4 Weeds and Exotic Vegetation within the east of the Subject Land

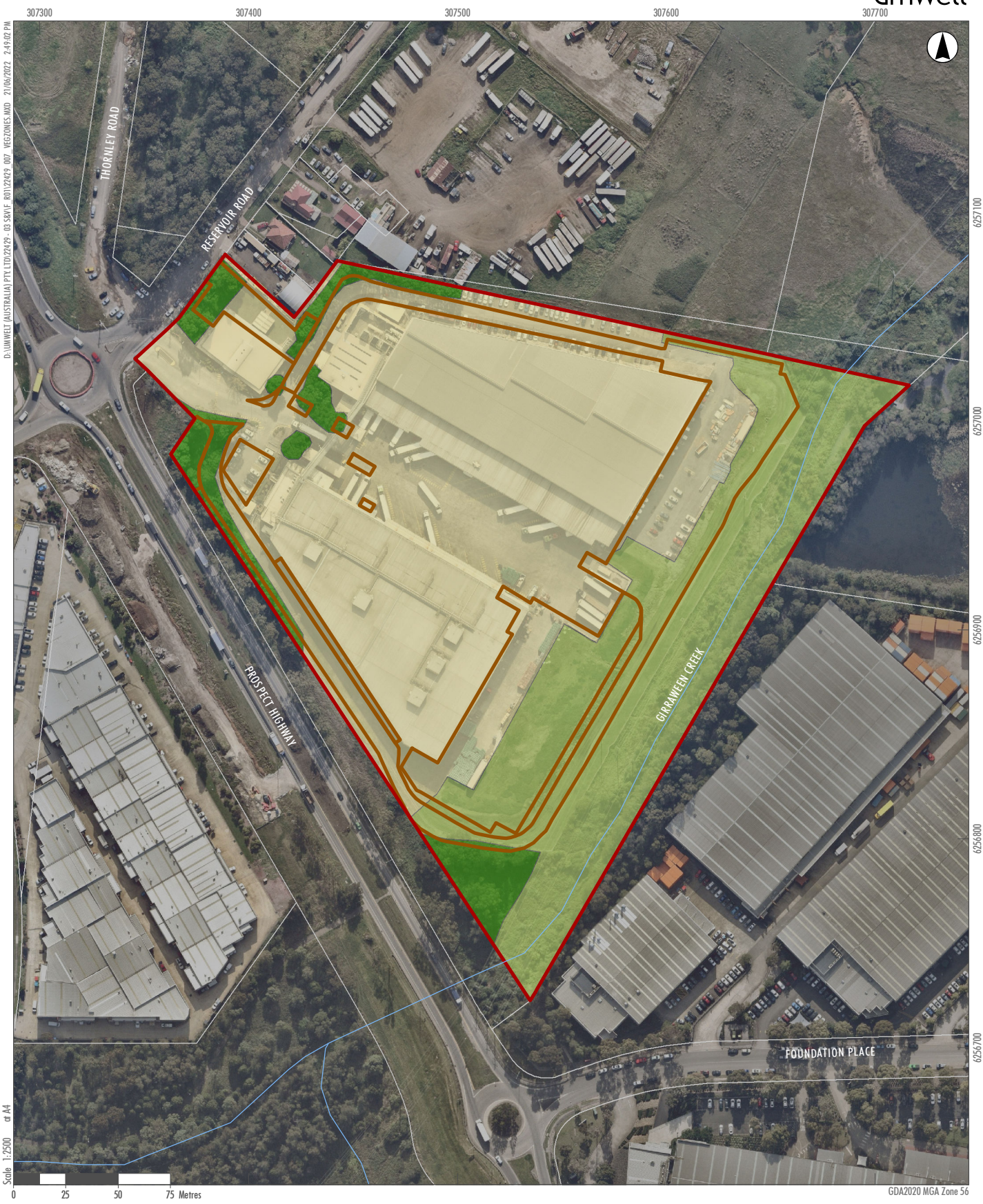


FIGURE 4.1

Vegetation Zones in the Development Footprint

Image Source: Nearmap (May 2022) Data source: NSW DFSI (2021)

5.0 Threatened Species

5.1 Presence of Threatened Species Habitat Features

Surveys focused on identifying habitat features and assessing condition of these features within and surrounding the Development Footprint on the Subject Land. The results of this assessment can be found in **Table 5.1**. No significant habitat features were identified within the Subject Land or within the Development Footprint.

Table 5.1 Habitat Features on the Subject Land

Habitat Feature	Present on Subject Land? (Y/N)	Notes
Burrows	N	-
Caves	N	-
Claypans	N	-
Cliffs	N	-
Dunes	N	-
Epiphytes	N	-
Escarpments	N	-
Fallen/standing dead timber including logs	N	No fallen timber greater than five centimetres diameter was identified
Hollow bearing trees	N	No hollow bearing trees identified
Intertidal zones	N	-
Rocky areas	N	-
Semi-permanent/ephemeral wet areas	Y	Small 2nd order stream identified at the eastern edge of the Subject Land. Will not be impacted by the Proposal. A single temporary pool discussed further below.
Swamps	N	-
Termite mounds	N	-
Waterbodies	N	No areas of standing permanent water identified

5.2 Potential Threatened Species

Threatened Species recorded or predicted to occur within a 10 km buffer of the Subject Land were identified through a Protected Matters Search (DCCEEW 2022) and an Atlas of NSW Wildlife Search (DPE 2022a). Purely marine or pelagic species were excluded. These species were then categorised based on their likelihood of occurring on the Subject Land based on habitat features present, the results of which can be found in **Table 5.2**. Threatened species records can also be found on **Figure 5.1**.

Table 5.2 Likelihood of Occurrence of Threatened Species Predicted/Recorded in the Locality

Common Name	Scientific Name	BC Act Status	EPBC Act Status	Likelihood of Occurrence
Amphibians				
Heleioporus australiacus	Giant Burrowing Frog	V	V	Low
Litoria aurea	Green and Golden Bell Frog	E	V	Moderate
Mixophyes balbus	Stuttering Frog	E	V	Low
Birds				
Anthochaera phrygia	Regent Honeyeater	CE	CE	Low
Apus pacificus	Fork-tailed Swift		C,J,K	Low
Artamus cyanopterus cyanopterus	Dusky Woodswallow	V		Moderate
Botaurus poiciloptilus	Australasian Bittern	E	E	Low
Burhinus grallarius	Bush Stone-curlew	E		Low
Callocephalon fimbriatum	Gang-gang Cockatoo	V	E	Low
Daphoenositta chrysoptera	Varied Sittella	V		Moderate
Falco hypoleucos	Grey Falcon	E	V	Low
Falco subniger	Black Falcon	V		Low
Gallinago hardwickii	Latham's Snipe		J,K	Low
Glossopsitta pusilla	Little Lorikeet	V		Moderate
Grantiella picta	Painted Honeyeater	V	V	Low
Hieraaetus morphnoides	Little Eagle	V		Low
Hirundapus caudacutus	White-throated Needletail		V,C,J,K	Low
Lathamus discolor	Swift Parrot	E	CE	Moderate
Neophema pulchella	Turquoise Parrot	V		Low
Ninox connivens	Barking Owl	V		Low
Ninox strenua	Powerful Owl	V		Low
Pluvialis squatarola	Grey Plover		C,J,K	Moderate
Rostratula australis	Australian Painted Snipe	E	E	Moderate
Tyto novaehollandiae	Masked Owl	V		Low
Invertebrates				
Meridolum corneovirens	Cumberland Plain Land Snail	E		High
Mammals				
Chalinolobus dwyeri	Large-eared Pied Bat	V	V	Moderate
Dasyurus maculatus	Spotted-tailed Quoll	V	E	Low
Isodon obesulus obesulus	Southern Brown Bandicoot		E	Low
Falsistrellus tasmaniensis	Eastern False Pipistrelle	V		Moderate

Common Name	Scientific Name	BC Act Status	EPBC Act Status	Likelihood of Occurrence
Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	V		Moderate
Miniopterus australis	Little Bent-winged Bat	V		Moderate
Miniopterus orianae oceanensis	Large Bent-winged Bat	V		Moderate
Myotis macropus	Southern Myotis	V		Moderate
Petauroides volans	Greater Glider		V	Low
Petaurus australis australis	Yellow-bellied Glider	V	V	Low
Petrogale penicillata	Brush-tailed Rock Wallaby	E	V	Low
Phascolarctos cinereus	Koala	E	E	Low
Pseudomys novaehollandiae	New Holland Mouse		V	Low
Pteropus poliocephalus	Grey-headed Flying-fox	V	V	High
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	V		Moderate
Scoteanax rueppellii	Greater Broad-nosed Bat	V		Moderate
Flora				
Acacia bynoeana	Bynoe's wattle	V	V	Low
Acacia pubescens	Downy Wattle	V	V	Moderate
Allocasuarina glareicola		E	E	Low
Caladenia tessellata	Thick-lipped Spider Orchid	V	V	Low
Cryptostylis hunteriana	Leafless Tongue-orchid	V	V	Low
Cynanchum elegans	White-flowered Wax Plant	E	E	Low
Eucalyptus nicholii	Narrow-leaved Black Peppermint	V	V	High
Genoplesium baueri	Bauer's Midge Orchid	E	E	Low
Grevillea juniperina subsp. juniperina	Juniper-leaved Grevillea	V		Moderate
Macadamia integrifolia	Macadamia Nut		V	Moderate
Marsdenia viridiflora subsp. viridiflora	*Marsdenia viridiflora* R. Br. subsp. *viridiflora* population in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas	EP		Moderate
Melaleuca deanei	Deane's Melaleuca	V	V	Low
Persicaria elatior	Tall Knotweed	V	V	Low
Persoonia hirsuta	Hairy Geebung	E	E	Moderate
Persoonia nutans	Nodding Geebung	E	E	Low

Common Name	Scientific Name	BC Act Status	EPBC Act Status	Likelihood of Occurrence
Pimelea curviflora var. curviflora		V	V	Low
Pimelea spicata	Spiked Rice-flower	E	E	High
Pomaderris brunnea	Brown Pomaderris	E	V	Moderate
Pterostylis gibbosa	Illawarra Greenhood	E	E	Low
Pterostylis saxicola	Sydney Plains Greenhood	E	E	Low
Pultenaea parviflora		E	V	Moderate
Rhizanthella slateri	Eastern Underground Orchid	V	E	Low
Rhodamnia rubescens	Scrub Turpentine	CE	CE	Low
Rhodomyrtus psidioides	Native Guava	CE	CE	Low
Syzygium paniculatum	Magenta Lilly Pilly	E	V	High
Thesium australe	Austral Toadflax	V	V	Low

V = Vulnerable
E = Endangered
CE = Critically Endangered
C = CAMBA
J = JAMBA
K = ROKAMBA
EP = Endangered Population

Habitat features of the Subject Land include planted native vegetation, weeds and exotic vegetation including managed grass areas. A number of non-threatened bird species were observed utilising this habitat including White-faced Heron (*Egretta novaehollandiae*), Eastern Great Egret (*Ardea modesta*), Willie Wagtail (*Rhipidura leucophrys*) and Red-rumped Parrot (*Psephotus haematonotus*).

Additionally, at the time of the site assessment, several drainage lines and depressions provided temporary pools. A non-threatened frog species (*Crinia signifera*) was heard calling from two of these pools: the drainage line along the building on the western side of the development footprint (**Photo 5.1**) and a large pool of water in the elevated grass area on the southeastern side of the development footprint (**Photo 5.2).** The existing buildings were not considered to provide roosting habitat for threatened microbat species due to the lack of suitable entrance and exit points and cavities. Several of the large existing buildings on the Subject Land are freezers and where some suitable roosting habitat exists the cavities are filled with cold air from the freezers (**Photo 5.3**), deeming these areas not suitable for microbat roosting.

Photo 5.1 Drainage line adjacent to building in the west of the Development Footprint

Photo 5.2 Temporary pool in the southeast of the Development Footprint

Photo 5.3 Potential roosting habitat beneath cold storage building

5.3 Recorded Threatened Species

No threatened species were incidentally recorded within the Subject Land during the site assessment.

Legend

- Subject Land
- Development Footprint
- 1500m Buffer of Development Footprint
- Cumberland Plain Land Snail
- Dusky Woodswallow
- Eastern Coastal Free-tailed Bat
- Eastern False Pipistrelle
- Fork-tailed Swift
- Greater Broad-nosed Bat
- Green and Golden Bell Frog
- Grey-headed Flying-fox
- Large Bent-winged Bat
- Little Eagle
- Little Lorikeet
- Southern Myotis
- Swift Parrot
- Turquoise Parrot
- Varied Sittella
- White-throated Needletail
- Acacia pubescens
- Pimelea spicata
- Pultenaea parviflora
- Road
- Drainage Line

FIGURE 5.1

Threatened Species Records

Image Source: Nearmap (May 2022) Data source: NSW DFSI (2021), Atlas (2022)

6.0 Identification of Prescribed Impacts

The BC Regulation (clause 6.1) identifies actions that are prescribed as impacts to be to be assessed under the biodiversity offset scheme as follows:

- karst, caves, crevices, cliffs, rocks or other geological features of significance
- human-made structures
- non-native vegetation
- habitat connectivity
- waterbodies, water quality and hydrological processes
- wind turbine strikes (wind farm development only)
- vehicle strikes.

The relevance of these prescribed impacts in relation to the proposal are discussed in further detail **Table 6.1** below.

Table 6.1 Identification of prescribed impacts within the Subject Land

Feature	Present (Y/N)	Description of feature characteristics and location	Threatened species likely to use feature
Karst, caves, crevices, cliffs, rocks or other geological features of significance	N	N/A	Nil
Human-made structures	Y	Buildings with foundations exposed	Nil – buildings currently used for cold (frozen) storage. Temperatures under the buildings too low to support roosting microbats
Non-native vegetation	Y	Exotic grassland was found to be present within he east of the Subject Land and Development Footprint. The exotic grassland provides very little habitat value for threatened and protected species.	Nil – *Pimelea spicata* is known to occur within disturbed areas, including exotic grassland. However, no records of *Pimelea spicata* were incidentally recorded within the field surveys or BAM VI plot surveys
Habitat connectivity	N	N/A	Nil
Waterbodies, water quality and hydrological processes	N	N/A	Nil
Vehicle strikes	Y	Vehicle movements across new areas within the development site	Nil

7.0 Avoid and Minimise Impacts

7.1 Measures to Avoid Direct and Indirect Impacts

The Project will avoid direct and indirect impacts to the environment through Project location and design. These are outlined in **Table 7.1**.

Table 7.1 Measures to avoid direct and indirect impacts

Feature	Description
Project Location	The proposed expansion is to be located on an existing brownfield site with a history of previous disturbance and industrial land use practices. As such, no remnant native vegetation is proposed to be removed.
Project Design	The Development Footprint has been located within areas containing existing infrastructure, and within areas containing weedy and exotic vegetation (i.e., Weeds and Exotic Vegetation Zone). The small areas of existing planted native vegetation are already subject to edge effects and low connectivity. The design has avoided planted native vegetation along the western boundary of the Subject Land, as well as immediately north-west of the existing buildings. Furthermore, the design has avoided impacts within the riparian zone of Girraween Creek, under the transmission lines.

7.2 Measures to Avoid Prescribed Impacts

As discussed in **Section 6.0**, the Project is not anticipated to have any prescribed impacts. However, Beca has sought to avoid and minimise potential impacts to the ecological values of the Subject Land primarily through Project location and design, as outlined in **Table 7.2**.

Table 7.2 Measures to avoid prescribed impacts

Feature	Description
Project Location	The proposed expansion is to be located on an existing brownfield site with a history of previous disturbance and industrial land use practices. As such, no remnant native vegetation is proposed to be removed.

Feature	Description
Project Design	The Development Footprint has been located within areas containing existing infrastructure, and within areas containing weedy and exotic vegetation (ie. Weeds and Exotic Vegetation Zone). The small areas of existing planted native vegetation are already subject to edge effects and low connectivity. The design has avoided planted native vegetation along the western boundary of the Subject Land, as well as immediately north-west of the existing buildings. Furthermore, the design has avoided impacts within the riparian zone of Girraween Creek, under the transmission lines. A Storm Water Management Plan has been prepared for the Project and includes: • Design for an onsite detention tank to limit storm waterflow leaving the property to pre-developed levels for storms up to the 1% Annual Exceedance Probability (AEP) event. • A new pit and pipe system with sufficient capacity to collect and convey runoff from the development in 5% AEP storm events. • Overland flow paths that have the capacity to safely convey the 1% AEP flows that exceed capacity of the system around the proposed buildings in such a manner that flows do not encroach on adjacent properties.

7.3 Summary of Proposed Mitigation Measures

A number of safeguards and management measures have been identified to minimise adverse environmental impacts which could potentially arise from the proposed Project.

The following specific control measures are considered to be integral to the mitigation of impacts on the biodiversity features of the Development Footprint and surrounds. Control measures include:

- demarcation of operational area boundaries
- providing appropriate environmental management measures as part of the operations to minimise the potential for indirect impacts including:
    - water management systems that seek to minimise the potential for damage to flora and fauna habitats
    - erosion and sedimentation control
    - waste management systems
    - dust and air quality control measures.

Each of these control measures will contribute to the maintenance of habitat quality in and adjacent to the Development Footprint. **Table 7.1** outlines the avoidance and minimisation measures proposed for the Project including the timing, action, outcome and responsibility of these measures.

Table 7.3 Avoidance and Minimisation Measures

Measure	Timing	Responsibility	Proposed Technique	Outcome
Location and design of facilities away from biodiversity features	Project design	N/A	N/A	• Focus impacts on areas of low biodiversity value.
Demarcation of approved operational boundaries	Prior to construction and during construction activities	Site Manager	• Establish construction fencing around Development Footprint.	• Minimisation of unnecessary impacts to surrounding vegetation and habitats.

Hydrology, coastal processes and water quality management measures	Pre-construction and during construction activities	Contractor	• Erosion and sediment control measures are to be implemented and maintained to:
			  ○ prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets
			  ○ reduce water velocity and capture sediment on site
			  ○ minimise the amount of material transported from site to surrounding pavement surfaces.
			• Fuels or chemicals will be stored, handled and disposed of to meet relevant standards. Bunded or contained areas and a spill kit will be provided as appropriate by the Contractor.
			• The storage of large quantities of fuels on or around the compound or laydown areas will generally be avoided and vehicles and equipment will be refuelled off site.
			• An Emergency Spill Response Plan will be prepared as part of the Construction Environmental Management Plan (CEMP). This plan would include as a minimum: measures to avoid spills, clean-up procedures, recording and notification procedures, and requirements for storage of hazardous materials.
				• Minimisation of the potential for altered water movement or drainage patterns to cause sediment or contaminated substances to impact upon flora and fauna habitats in areas in or surrounding the Development Footprint.

Measure	Timing	Responsibility	Proposed Technique	Outcome
Erosion and sediment control	Pre-construction and during construction activities	Contractor	• All construction works to be undertaken within the lot boundary. • An Erosion and Sediment Control Plan (included as part of the Stormwater Management Plan) has been designed in accordance with the Landcom/Department of Housing Managing Urban Stormwater, Soils and Construction Guidelines (the Blue Book) and will be endorsed by an appropriately qualified erosion and sediment control specialist. • Erosion and sediment controls are to be checked and maintained on a regular basis (including the clearing of sediment from behind barriers) and records kept and provided upon request. • Erosion and sediment control measures are not to be removed until the proposed Project is complete, and areas stabilised.	• Minimisation of potential erosion and sediment impacts to the surrounding environment, particularly in regard to adjacent stream.
Waste management systems	During construction	Contractor	• If contaminated areas are encountered during construction, appropriate control measures will be implemented to manage the immediate risks of contamination as outlined in the Preliminary Site Investigation Report. All other works that may impact on the contaminated area will cease until the nature and extent of the contamination has been confirmed and any necessary site-specific controls or further actions identified in consultation with the Project Manager. • Mitigation measures to reduce the potential for dryland salinity development on-site will be incorporated such as minimising groundwater impact, minimising vegetation removal, and corrosion protection if required.	• Minimise potential for waste or contamination to impact surrounding environment or degrade habitat for flora and fauna.

Measure	Timing	Responsibility	Proposed Technique	Outcome
Dust and air quality controls	During construction	Contractor	• Measures to be used to minimise or prevent air pollution and dust (including watering and covering exposed areas). • Areas that generate dust are to be managed to suppress dust emissions.	• Minimise potential for elevated dust or poor air quality as a result of construction to impact upon the health of fauna or condition of the environment immediately adjacent the Development Footprint.

8.0 Impact Summary

8.1 Direct Impacts

The development of the Project will result in negligible direct impacts on biodiversity values. Direct impacts include the loss of planted native vegetation and exotic vegetation as a result of ground disturbance associated with building extensions and alterations to site access. The Development Footprint does not contain any significant habitat features such as hollow-bearing trees, nests or burrows.

It is anticipated that between 3-5 trees (mature height >3.0 m) will be removed prior to construction to allow for upgraded access to the site. Approximately 92 trees are currently proposed to be planted, however the Landscape Management Plans are undergoing updates at the time of writing. Updates to this plan may change these numbers.

Table 8.1 below outlines the direct impacts on vegetation, which totals approximately 0.91 ha. The final Development Footprint is the same as that shown in **Figure 1.2**. Avoidance and mitigation measures associated with minimising the impacts of these direct impacts are discussed in **Section 7.0** above.

Table 8.1 Direct Impacts of the Project on Biodiversity Features

Vegetation Zone	Area in the Development Footprint (ha)
Planted Native Vegetation	0.17
Weeds and Exotic Vegetation	0.74
TOTAL	**0.91**

8.2 Indirect Impacts

The Project is not expected to result in any additional indirect impacts on the biodiversity values of the Subject Land or surrounding lands. No substantial indirect impacts are expected to occur in relation to connectivity, corridors, habitat fragmentation or light emissions. However, some minor indirect impacts associated with noise, dust and weeds may occur during the construction and operation of the Project. These are discussed below.

No indirect impact zones have been identified for this Project and as such, no figure showing areas of indirect impacts has been provided and no credits have been generated for indirect impacts.

8.2.1 Noise

Noise impacts have the potential to adversely impact native species. Potential impacts include:

- noise disturbing the roosting and foraging behaviour of fauna species
- noise reducing the occupancy of areas of suitable habitat.

Details of the noise controls that will be implemented as part of the Project will be outlined in the Noise and Vibration Assessment.

In regard to potential impacts on biodiversity, there will be no substantial change to noise impacts given that the Project is and adjacent to existing roads in a highly urbanised industrial area with existing noise impacts.

8.2.2 Dust

Dust emissions have the potential to adversely impact native species during ground disturbing works. Potential impacts include dust covering vegetation thereby potentially reducing vegetation health and growth. The design of the Project will include measures to minimise the potential for adverse dust impacts.

Any impacts resulting from dust are not expected to be of any level of significance in relation to threatened species, populations and communities.

8.2.3 Weeds

Weed species could be inadvertently brought into the Subject Land with construction equipment or could invade naturally through removal of native vegetation.

There will be no substantial change to impacts from weeds, apart from the removal of some exotic vegetation as part of the Development Footprint. Existing weed cover is not expected to increase substantially as a result of the Project. Any additional impacts resulting from weeds are not expected to be of any level of significance in relation to threatened species, populations and communities.

8.3 Prescribed Impacts

No impacts are expected to occur to threatened species or community habitat associated with karst, caves, crevices, cliffs and other geological features of significance, rocks or human-made structures within the Development Footprint.

Important connectivity and movement habitat is unlikely to be substantially impacted by the Project. The Project proposes to impact areas in and adjacent to existing cleared areas and will not result in severing any major fauna movement habitat which would result in the loss of connectivity in the wider landscape or movement important for threatened species to maintain their life cycle.

The Project would increase the area of impermeable surfaces within the Subject Land in the catchment of the mapped ‘proximity of coastal wetlands area’. However, the Project design includes the inclusion of measures to limit stormwater flow leaving the property, such as on onsite detention tank and overland flow paths. Furthermore, mitigation and control measures would be implemented to manage risks of contamination and to reduce the potential for dryland salinity. As such, no impacts on water quality or hydrological processes on the coastal wetland and habitats that sustain threatened species and threatened ecological communities are likely to occur.

9.0 References

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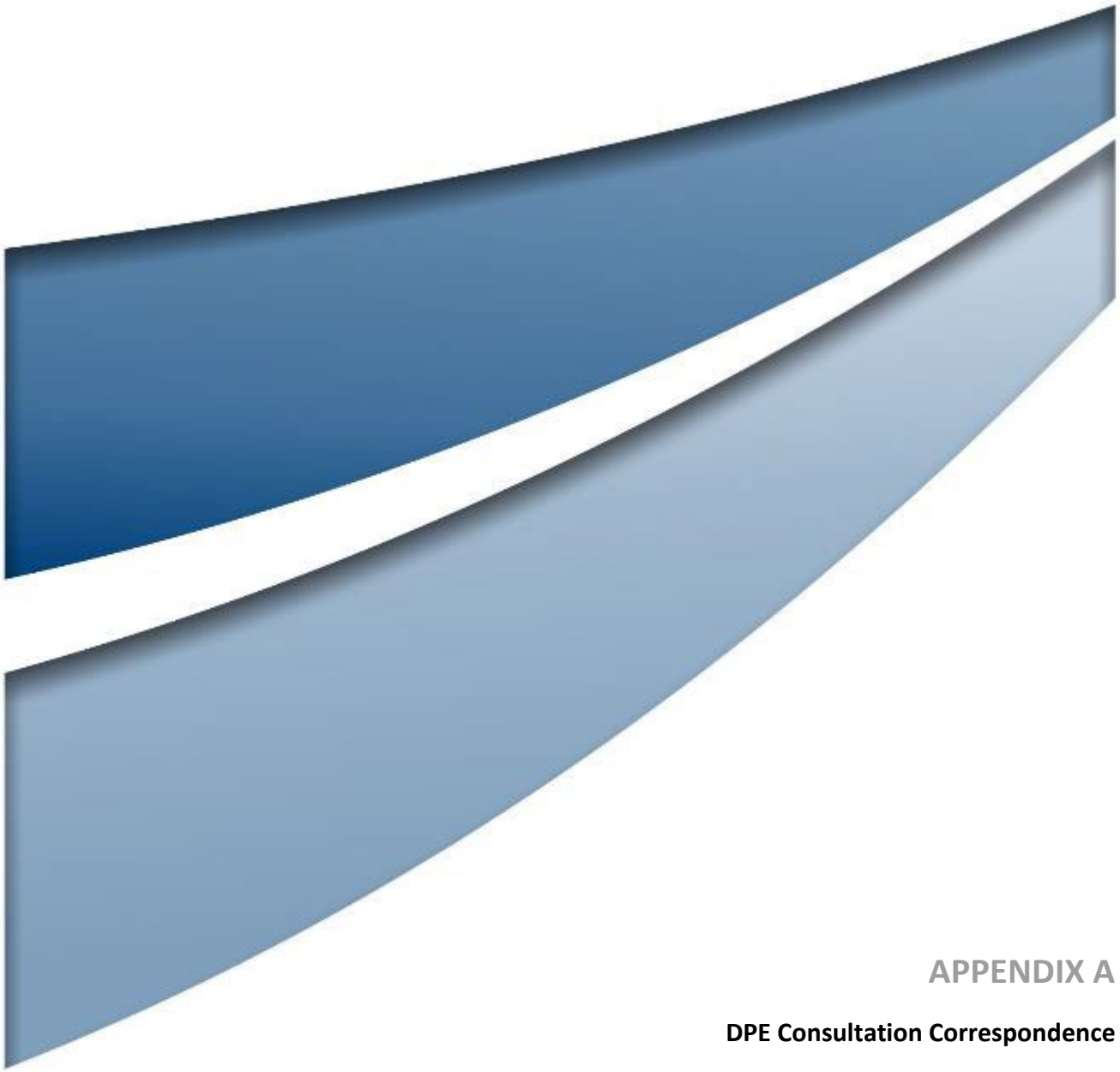

APPENDIX A

DPE Consultation Correspondence

Amber Wilson

From: Susan Harrison <Susan.Harrison@environment.nsw.gov.au>
Sent: Thursday, 19 May 2022 10:32 AM
To: Larissa Abbott
Cc: Rachel Musgrave; Joanna Bakopanos; OEH ROG Greater Sydney Region Planning Unit Mailbox
Subject: Request for meeting re: Americold Prospect expansion project (SSD- 9577613)

Hello Larissa,

Apologies for not responding earlier. I returned from leave on Monday and missed your email. I have included an mailbox email address above which will assist in the planning team being able to respond more promptly if you any further queries.

Table 12, Appendix C of BAM sets out when the Small area module can be used. If you have a question regarding the application of BAM please send an email and we'll see if we can answer it that way. Otherwise, we will review the BDAR when it submitted.

Thank you
Susan

Susan Harrison
Senior Team Leader Planning, Greater Sydney

Biodiversity and Conservation | Department of Planning and Environment
T 02 9995 6864 | **E** susan.harrison@environment.nsw.gov.au
Level 6, 4 Parramatta Square, Parramatta
www.dpie.nsw.gov.au

From: Larissa Abbott <LAbbott@umwelt.com.au>
Sent: Thursday, 19 May 2022 10:08 AM
To: Susan Harrison <Susan.Harrison@environment.nsw.gov.au>
Cc: Rachel Musgrave <rmusgrave@umwelt.com.au>; Joanna Bakopanos <Joanna.Bakopanos@planning.nsw.gov.au>
Subject: FW: Request for meeting re: Americold Prospect expansion project (SSD- 9577613)

Hi Susan,

Just a follow up to see if you can please send through your availability for a meeting as requested below.

Greatly appreciated.

Regards,

Larissa Abbott
Senior Ecologist

Umwelt (Australia) Pty Limited

Mobile: 0476 760 974
Phone: 1300 793 267

Please note: My working days are Monday- Thursday 9:30-3pm.
If you require urgent assistance outside these hours please call my mobile.

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From: Larissa Abbott
Sent: Monday, 16 May 2022 1:17 PM
To: Susan.harrison@environment.nsw.gov.au
Cc: Rachel Musgrave <rmusgrave@umwelt.com.au>
Subject: FW: Request for meeting re: Americold Prospect expansion project (SSD- 9577613)

Hi Susan,

I've been given your contact details from Joanna as I'd like to set up a meeting to discuss a project we're working on (Americold Prospect Expansion SSD- 9577613).

Ideally the meeting will be this week (16-20 May). We'll provide project information, a summary of the biodiversity values at the site, impacts and our approach to the BDAR. The outcome of the meeting will be to gain some consensus on our approach which is currently a streamlined assessment: Small Area BDAR.

Can you please let me know if you have availability this week and if not your next earliest time?

Kind regards,

Larissa Abbott
Senior Ecologist

Umwelt (Australia) Pty Limited
Mobile: 0476 760 974
Phone: 1300 793 267

Please note: My working days are Monday- Thursday 9:30-3pm.
If you require urgent assistance outside these hours please call my mobile.

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From: Joanna Bakopanos <Joanna.Bakopanos@planning.nsw.gov.au>
Sent: Monday, 16 May 2022 1:07 PM
To: Larissa Abbott <LAbbott@umwelt.com.au>
Cc: Rachel Musgrave <rmusgrave@umwelt.com.au>
Subject: RE: Request for meeting re: Americold Prospect expansion project (SSD- 9577613)

Hi Larissa,
Can I suggest you reach out to Susan Harrison who is the Senior Team Leader in the BCD Division in the first instance and then she can advise.
I don't think I need to be at the meeting at this stage if it is largely to discuss technical matters.

Suasn's email is:
Susan.harrison@environment.nsw.gov.au

Regards
Joanna

From: Larissa Abbott <LAbbott@umwelt.com.au>
Sent: Monday, 16 May 2022 12:35 PM
To: Joanna Bakopanos <Joanna.Bakopanos@planning.nsw.gov.au>
Cc: Rachel Musgrave <rmusgrave@umwelt.com.au>
Subject: RE: Request for meeting re: Americold Prospect expansion project (SSD- 9577613)

Hi Joanna,

Yes, if you can please let me know who the BCD contact is that would be great. When i set up a meeting with them do you want to attend as well?

We're proposing a streamlined assessment: Small Area BDAR.

Thanks,

Larissa Abbott
Senior Ecologist

Umwelt (Australia) Pty Limited
Mobile: 0476 760 974
Phone: 1300 793 267

Please note: My working days are Monday- Thursday 9:30-3pm.
If you require urgent assistance outside these hours please call my mobile.

From: Joanna Bakopanos <Joanna.Bakopanos@planning.nsw.gov.au>
Sent: Monday, 16 May 2022 10:40 AM
To: Larissa Abbott <LAbbott@umwelt.com.au>
Cc: Rachel Musgrave <rmusgrave@umwelt.com.au>
Subject: RE: Request for meeting re: Americold Prospect expansion project (SSD- 9577613)

HI Larissa,
That's fine, however, is this something that you may wish to be discussing with the Biodiversity and Conservation Division of the Department?
Are you proposing a full BDAR or are you looking to seek a waiver?
Regards
Joanna

Joanna Bakopanos
Team Leader, Industry Assessments
Planning and Assessment | Department of Planning and Environment
T 02 9274 6387 | **E** joanna.bakopanos@planning.nsw.gov.au
4 Parramatta Square, 12 Darcy Street | Locked Bag 5022 | Parramatta NSW 2124
www.dpie.nsw.gov.au
Please note, I do not work Wednesdays

From: Larissa Abbott <LAbbott@umwelt.com.au>
Sent: Monday, 16 May 2022 10:32 AM
To: Joanna Bakopanos <Joanna.Bakopanos@planning.nsw.gov.au>
Cc: Rachel Musgrave <rmusgrave@umwelt.com.au>
Subject: Request for meeting re: Americold Prospect expansion project (SSD- 9577613)

Hi Joanna,

I've been forwarded your details as an alternative DPE contact for the Americold Prospect expansion project (SSD-9577613) as I believe David Koppers is away until the end of the month.

Umwelt has been engaged by Beca on behalf of Americold Pty Ltd to undertake the BDAR to support the EIS for the project.

We'd like to set up a meeting, ideally for this week (16-20 May) to discuss the biodiversity values at the site, impacts and our approach to the BDAR.

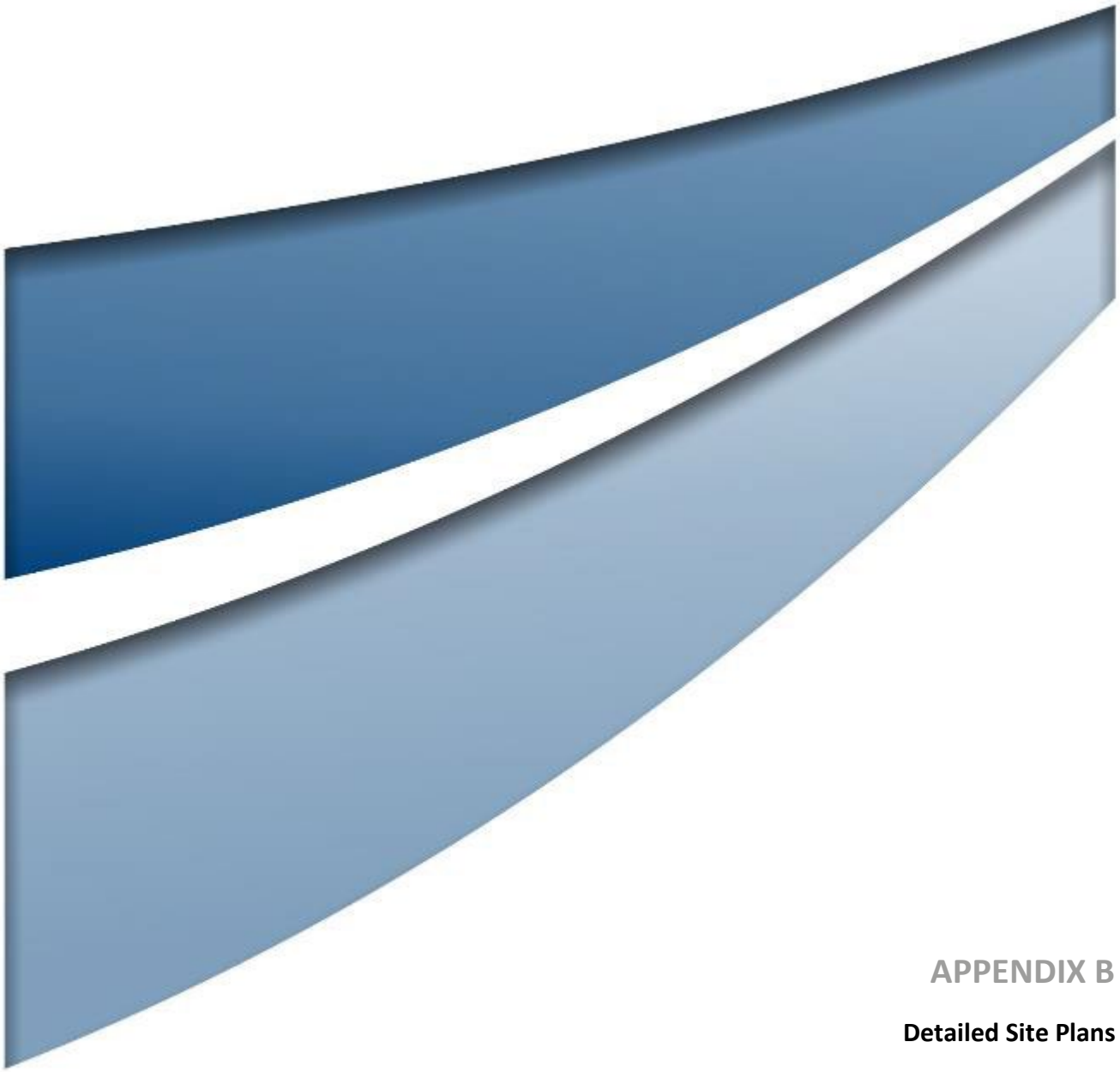
Can you please let me know if you have availability this week and if not your next earliest time?

Kind regards,

Larissa Abbott
Senior Ecologist

Umwelt (Australia) Pty Limited
Mobile: 0476 760 974
Phone: 1300 793 267

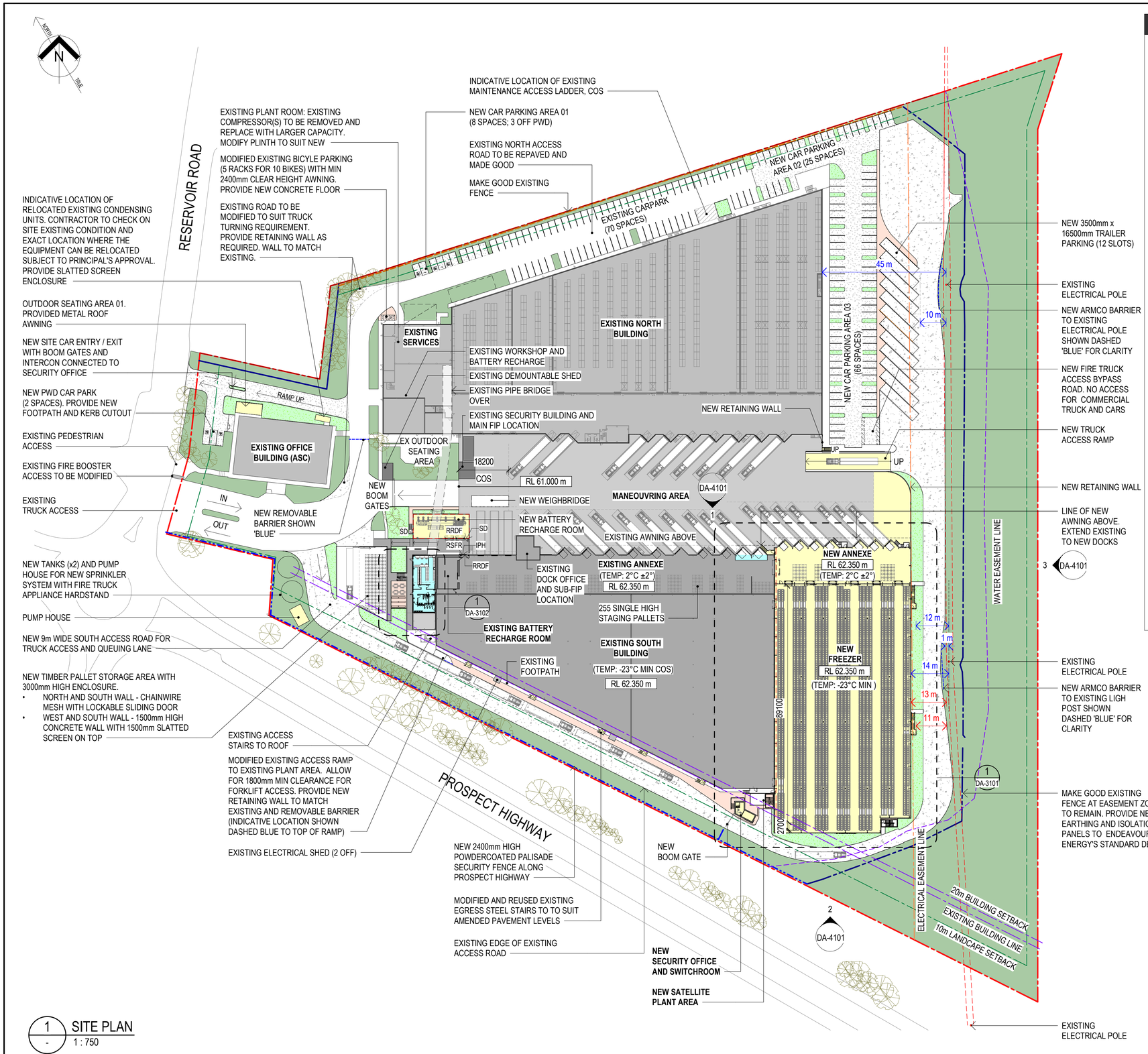
Please note: My working days are Monday- Thursday 9:30-3pm.
If you require urgent assistance outside these hours please call my mobile.



APPENDIX B

Detailed Site Plans

Drawing Plotted: 28/06/2022 10:18:17 PM



1 / - SITE PLAN
1 : 750

DEVELOPMENT CALCULATIONS

TOTAL SITE AREA (APPROX. m²)	**65,662 m²**
SITE COVERAGE AREA	**24,987m²**
EFFICIENCY	**38 %**
TOTAL BUILDING AREA	**24,722 m²**
EFFICIENCY	**38 %**
LANDSCAPE AREA	**18,350 m²**
EFFICIENCY	**28%**
BUILDING AREA BREAKDOWN (APPROX. m²)	
NORTH BUILDING (INC. SERVICES ROOMS)	**10,350 m²**
SOUTH BUILDING	**13,637 m²**
EX FREEZER AND ANNEXE (INCL. DOCK OFFICE) 7,845 m²	
EX OFFICE REFURB , 2 LEVELS 340 m²	
EX PLANT ROOM 47 m²	
NEW DEVELOPMENT 5,405 m²	
EXISTING OFFICE BUILDING (ASC)	**735 m²**
NEW DEVELOPMENT FLOOR AREA (APPROX. m²)	**5,405 m²**
NEW SOUTH BUILDING EXPANSION	5,140 m²
NEW SOUTH FREEZER 4,435 m²	
NEW ANNEXE 705 m²	
NEW DOCK TO EXISTING ANNEXE (2 off)	36 m²
NEW SECURITY OFFICE AND SWITCHROOM	24 m²
NEW BATTERY RECHARGE ROOM	175 m²
NEW PUMP HOUSE	30 m²
NEW SATELLITE PLANT AREA	**60 m²**
NEW TIMBER PALLET ENCLOSURE	**415 m²**
NEW COVERED OUTDOOR SEATING AREAS	**125 m²**
AWNING TO NEW LOADING DOCKS	**140 m²**
NEW HEAVY DUTY PAVEMENT	**6,300 m²**
NEW ASPHALT PAVEMENT	**3,100 m²**
NEW HARDSTAND EXPANSION INC. RAMP	**575 m²**
EXISTING LANDSCAPE AREA	**16,800m²**
NEW LANDSCAPE AREA	**1,550 m²**
CAR PARKING	**171**
EXISTING CARPARK	70
PWD PARKING	5
NEW CARPARK	96
EXISTING BICYCLE PARKING	**10**

NOTES:
1. GROSS FLOOR AREA MEASUREMENT
   - TOTAL FLOOR SPACE MEASURED FROM THE INSIDE FACE OF THE EXTERIOR WALLS AND CENTRELINE OF INTERIOR WALLS
2. ALL AREAS ARE APPROXIMATE.

GENERAL NOTES

1. IF THE CONTRACTOR FINDS ANY INCONSISTENCY, ERROR OR OMISSION IN THE DOCUMENTS, OR BETWEEN DOCUMENTS, THE ARCHITECT MUST BE NOTIFIED.
2. INTERNAL EGRESS TO BE FURTHER ASSESSED AFTER CONFIRMATION OF RACKING LAYOUT.
3. BACKGROUND EQUIPMENT AND RACKING LAYOUT SHOWN INDICATIVE. EQUIPMENT/ VENDOR LAYOUT SUBJECT TO CHANGE DEPENDING ON APPROVED VENDOR LAYOUT.
4. SITE BOUNDARY AND EASEMENT ZONES BASED ON SITE SURVEY FILE "SY074943.000.3.1" RECEIVED FROM LAND PARTNERS ON 11/08/2020.
5. EXISTING BUILDING LAYOUT BASED ON DRAWING RECEIVED FROM AMERICOLD ON 05/06/2020.
6. FOR DETAILED EXTERNAL LEVELS AND LOCATION OF RETAINING WALLS REFER TO CIVIL DRAWINGS.
7. INDICATIVE ZONE FOR IN-GROUND WEIGHBRIDGE LOCATION SHOWN FOR REFERENCE ONLY. EXACT WEIGHBRIDGE DIMENSION AND SETOUT TO FINALIZED ON DETAILED DESIGN STAGE.
8. REFER TO LANDSCAPE DRAWING FOR DETAILED LOCATION OF NEW TREES AND DETAILED LANDSCAPE SCOPE.
9. DO NOT SCALE DRAWINGS
10. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE

SITE LEGEND

- SITE BOUNDARY
- BOUNDARY EASEMENT / ELECTRICAL EASEMENT LINE
- LANDSCAPE SETBACK LINE
- NEW SECURITY FENCE - 2400MM HIGH PALISADE FENCE
- EXISTING FENCE TO REMAIN AND MADE GOOD.
- EXISTING SECURITY FENCE LINE
- EXISTING BLOCK WALL FENCE
- FIRE RATED WALLS (FRL 120/120/120)
- EXISTING BUILDING AND STRUCTURES
- NEW BUILDING AND STRUCTURES
- EXISTING TO BE MODIFIED
- EXISTING LANDSCAPE ZONE
- NEW LANDSCAPE ZONE
- NEW HEAVY DUTY PAVEMENT
- ASPHALT PAVEMENT
- EXISTING VEGETATION

EASEMENT NOTES

- DRAIN WATER EASEMENT
- ELECTRICAL POWER LINES
- 1 m — 'RED' DIMENSION DENOTES APPROXIMATE DISTANCE FROM ELECTRICAL POWER LINE TO EXTERNAL FACE OF WALL / STAIRS
- 1 m — 'BLUE' DIMENSION DENOTES APPROXIMATE DISTANCE FROM CENTRELINE OF THE NEAREST ELECTICAL POLE TO EXTERNAL FACE OF WALL / STAIRS

FOR APPROVAL
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C	ISSUED FOR DEVELOPMENT APPLICATION	DM	BT	AM	28.06.22
B	ISSUED FOR DEVELOPMENT APPLICATION - DRAFT	DM	BT	AM	25.05.22
A	ISSUED FOR PRICING	DM	BT	AM	11.05.22

Original Scale (A1) As indicated Reduced Scale (A3)

Design	D.MCNAMARA	11.05.22
Drawn	R. HANDAYANI	11.05.22
Dsg Verifier	M. WARNE	11.05.22
Drg Check	D. MCNAMARA	11.05.22

Client: americold

Project: PROSPECT SOUTH EXPANSION
560 RESERVOIR RD PROSPECT NSW 2148, AUSTRALIA

Title: SITE PLAN

Discipline: ARCHITECTURAL

Drawing No.: 2527456-DA-0501

Rev.: C

DO NOT SCALE FOR SET OUT DIMENSIONS

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ORIGINAL IN COLOUR

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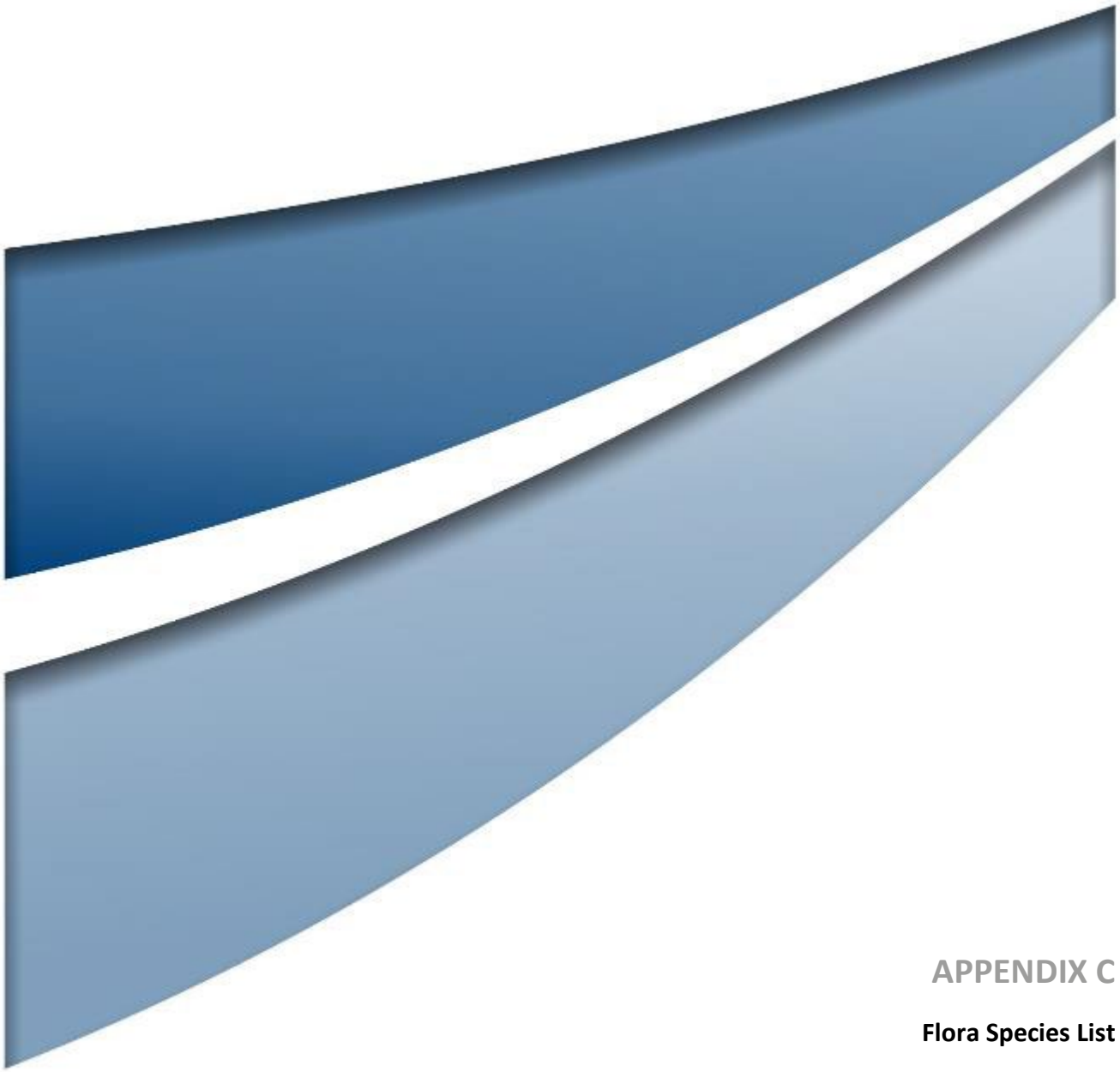
Document No. BIM 360://2527456 - Prospect South Expansion/2527456-DA-R20-BUILDING.rvt



APPENDIX C

Flora Species List

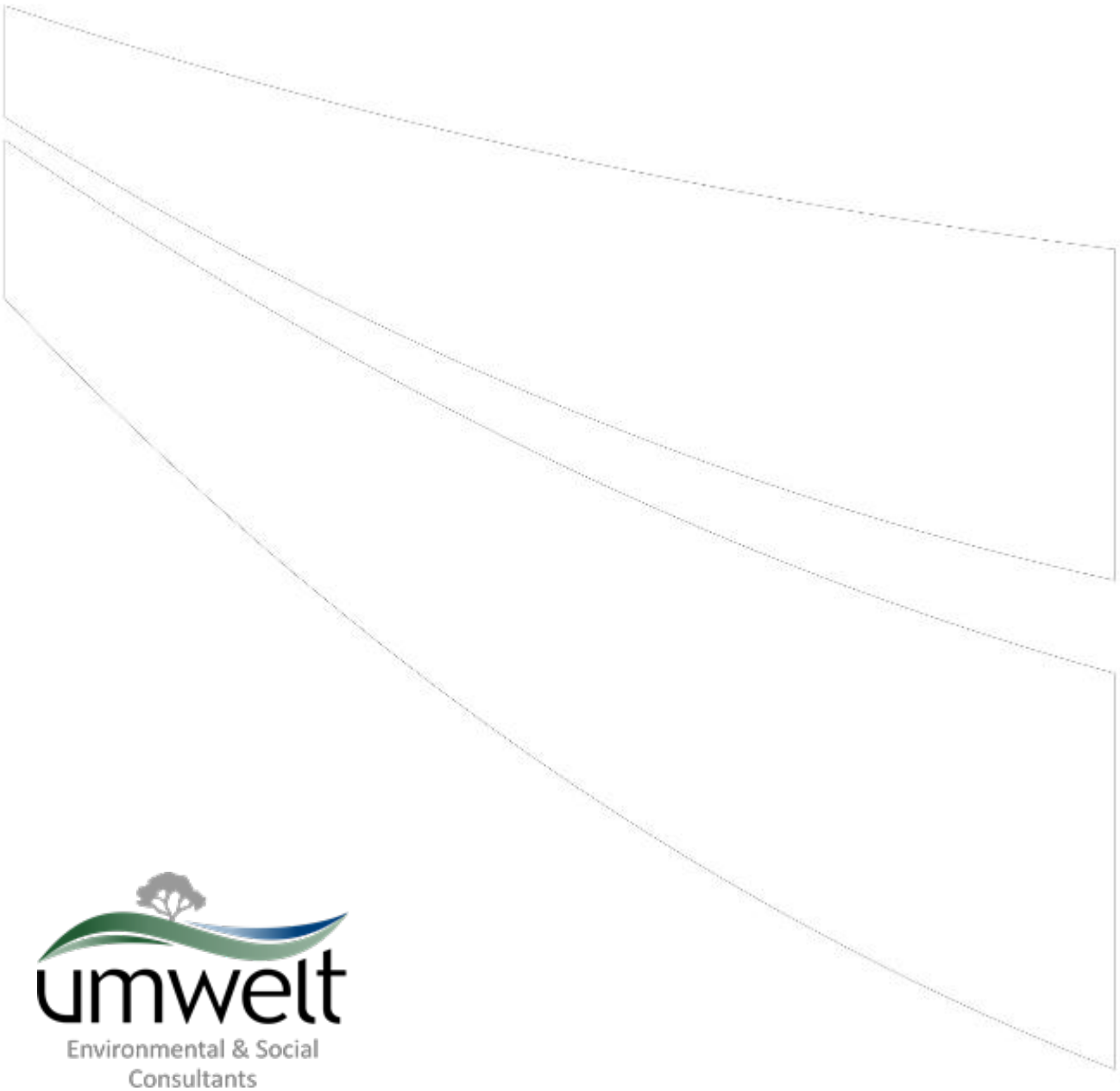
Table C-1 Flora Species List

Growth Form	Scientific Name	Common Name	Plot 1		Plot 2	
			Percent Cover	Abundance	Percent Cover	Abundance
Tree	*Eucalyptus fibrosa*	Red ironbark	0	0		
Tree	*Eucalyptus tereticornis*	Forest red gum	10	1		
Tree	*Lophostemon confertus*	Brush box	20	17		
Shrub	*Callistemon* sp.		10	15		
Grass & Grasslike	*Chloris truncata*	Windmill grass	0	0	2	500
Grass & Grasslike	*Cynodon dactylon*	Couch	0.1	25	20	1000
Grass & Grasslike	*Cyperus* sp. 1				2	500
Grass & Grasslike	*Cyperus* sp. 2				0.2	50
Grass & Grasslike	*Cyperus* sp. 3				0.1	10
Grass & Grasslike	*Digitaria* sp.		0.1	150		
Forb	*Cyclospermum leptophyllum*	Slender celery	0.1	75	10	1000
Forb	*Dianella caerulea*	Blue flax-lily	0.1	3		
Forb	*Dichondra repens*	Kidney weed	0.1	10		
Forb	*Gomphocarpus fruticosus*	Balloon cotton	0.1	25		
Forb	*Oxalis perennans*		0.5	150		
Forb	*Portulaca oleracea*	Pigweed	0.2	100		
Forb	*Stachys arvensis*	Stagger weed	0.5	50		
Forb	*Hypericum japonicum*				0.3	150
Forb	*Linum marginale*	Native flax			0.1	10
Forb	*Trifolium dubium*	Yellow suckling clover			15	1500
Int1roduced	**Araujia sericifera*	Moth vine	0.1	10		

Growth Form	Scientific Name	Common Name	Plot 1		Plot 2	
			Percent Cover	Abundance	Percent Cover	Abundance
Introduced	**Asparagus asparagoides*	Bridal creeper	0.1	1		
Introduced	**Asparagus plumosus*	Climbing asparagus fern	0.1	1		
Introduced	*Aster* sp.				0.1	25
Introduced	*Avena sativa*	Oats	0.3	65		
Introduced	**Bidens pilosa*	Cobbler's pegs	0.1	10		
Introduced	*Cenchrus clandestinus*	Kikuyu	0.1	25	10	500
Introduced	**Chloris gayana*	Rhodes grass	20	1000	0.1	10
Introduced	*Conyza bonariensis*	Flaxleaf fleabane	0.5	100	0.1	25
Introduced	**Eragrostis curvula*	African lovegrass			0.5	25
Introduced	*Fumaria* sp.		0.1	100		
Introduced	*Hypochaeris radicata*	Cats ear			0.1	10
Introduced	*Lotus subbiflorus*	Hairy birds-foot trefoil			10	1000
Introduced	*Lysimachia arvensis*	Scarlet pimpernel	0.1	25	0.1	25
Introduced	*Modiola caroliniana*	Red-flowered mallow	0.5	75	0.1	50
Introduced	**Olea europaea* subsp. *cuspidata*	African olive	0.5	5		
Introduced	**Paspalum dilatatum*	Paspalum			10	500
Introduced	*Plantago lanceolata*	Lamb's tongues	0.1	25		
Introduced	*Poa annua*	Winter grass	0.1	25		
Introduced	**Senecio madagascariensis*	Fireweed	0.1	15		
Introduced	*Sida rhombifolia*	Paddy's lucerne	0.1	10		
Introduced	*Solanum nigrum*	Blackberry nightshade	0.1	5		
Introduced	*Sonchus oleraceus*	Common sowthistle	0.1	75	0.1	5
Introduced	*Trifolium repens*	White clover			30	2000

Growth Form	Scientific Name	Common Name	Plot 1		Plot 2	
			Percent Cover	Abundance	Percent Cover	Abundance
Introduced	*Trifolium* sp.		0.1	25		

* high threat weed



umwelt
Environmental & Social Consultants

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