HUME CITY COUNCIL

Office Use Only

Application No.: Date Lodged: / /

Application for
Planning Permit

Planning Enquiries
Phone: 03 9205 2200
Web: http://www.hume.vic.gov.au

If you need help to complete this form, read How to complete the Application for Planning Permit form.

⚠ Any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of a planning process under the *Planning and Environment Act 1987*. If you have any concerns, please contact Council's planning department.

⚠ **Questions marked with an asterisk (*) are mandatory and must be completed.**

⚠ **If the space provided on the form is insufficient, attach a separate sheet.**

Clear Form

The Land

(1) Address of the land. Complete the Street Address and one of the Formal Land Descriptions.

Street Address *

Unit No.: | St. No.: 362 & 1 | St. Name: Camp Road & Blair Street

Suburb/Locality: Broadmeadows | Postcode:3047

Formal Land Description *
Complete either A or B.

⚠ This information can be found on the certificate of title.

A Lot No.: 1 & 3[illegible] ◯ Lodged Plan ◯ Title Plan ◉ Plan of Subdivision No.: 088604 & 006943

OR

B Crown Allotment No.: | Section No.:

Parish/Township Name:

If this application relates to more than one address, please click this button and enter relevant details. Add Address

The Proposal

⚠ You must give full details of your proposal and attach the information required to assess the application. Insufficient or unclear information will delay your application.

(2) **For what use, development or other matter do you require a permit? ***

If you need help about the proposal, read: How to Complete the Application for Planning Permit Form

A permit is required for use of the site as a childcare Centre (Clause 32.08-3 and Schedule 2 to Clause 45.01)
A permit is required to construct a building or to carry out works (Clause 32.08-10 and Schedule 2 to Clause 45.01).

Provide additional information on the proposal, including: plans and elevations; any information required by the planning scheme, requested by Council or outlined in a Council planning permit checklist; and if required, a description of the likely effect of the proposal.

(3) **Estimated cost of development for which the permit is required ***

Cost $2,000,000.00 ⚠ You may be required to verify this estimate. Insert `0' if no development is proposed.

If the application is for land within **metropolitan Melbourne** (as defined in section 3 of the *Planning and Environment Act 1987*) and the estimated cost of the development exceeds $1 million (adjusted annually by CPI) the Metropolitan Planning Levy **must** be paid to the State Revenue Office and a current levy certificate **must** be submitted with the application.

Visit www.sro.vic.gov.au for information.

Existing Conditions

(4) **Describe how the land is used and developed now**

eg. vacant, three dwellings, medical centre with two practitioners, licensed restaurant with 80 seats, grazing.

1 Blair Street currently benefits from an existing single storey weatherboard dwelling with 2 small outbuildings to the rear. Several trees are also identified on the lot.
362 Camp Road is currently improved by 2 single storey dwellings and a garage with 2 crossovers both to Blair Street. Vegetation is also present primarily towards the peripheries of this lot.

Provide a plan of the existing conditions. Photos are also helpful.

Title Information

5 **Encumbrances on title** *

If you need help about the title, read: How to complete the Application for Planning Permit form

Does the proposal breach, in any way, an encumbrance on title such as a restrictrive covenant, section 173 agreement or other obligation such as an easement or building envelope?

- ◯ Yes. (If 'yes' contact Council for advice on how to proceed before continuing with this application.)
- ◉ No
- ◯ Not applicable (no such encumbrance applies).

Provide a full, current copy of the title for each individual parcel of land forming the subject site. (The title includes: the covering 'register search statement', the title diagram and the associated title documents, known as 'instruments', eg. restrictive covenants.)

Applicant and Owner Details

6 Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

Where the preferred contact person for the application is different from the applicant, provide the details of that person.

Please provide at least one contact phone number *

Owner *

The person or organisation who owns the land

Where the owner is different from the applicant, provide the details of that person or organisation.

Declaration

7 **This form must be signed by the applicant** *

Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.

I declare that I am the applicant; and that all the information in this application is true and correct; and the owner (if not myself) has been notified of the permit application.

Date: 19 Jan 2024

day / month / year

Need help with the Application?

If you need help to complete this form, read How to complete the Application for Planning Permit form
General information about the planning process is available at www.delwp.vic.gov.au/planning

Contact Council's planning department to discuss the specific requirements for this application and obtain a planning permit checklist. Insufficient or unclear information may delay your application.

8 **Has there been a pre-application meeting with a Council planning officer?**

◉ No ○ Yes

Checklist

9 **Have you:**

☑ Filled in the form completely?

☑ Paid or included the application fee?

⚠ Most applications require a fee to be paid. Contact Council to determine the appropriate fee.

📎 Provided all necessary supporting information and documents?

- ☑ A full, current copy of title information for each individual parcel of land forming the subject site
- ☑ A plan of existing conditions.
- ☑ Plans showing the layout and details of the proposal
- ☑ Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.
- ☑ If required, a description of the likely effect of the proposal (eg traffic, noise, environmental impacts).
- ☑ If applicable, a current Metropolitan Planning Levy certificate (a levy certificate expires 90 days after the day on which it is issued by the State Revenue Office and then cannot be used). Failure to comply means the application is void.

☑ Completed the relevant Council planning permit checklist?

☑ Signed the declaration (section 7)?

Lodgement

Lodge the completed and signed form, the fee payment and all documents with:

Hume City Council
PO Box 119 Dallas VIC 3047
Pascoe Vale Road Broadmeadows VIC 3047

Contact information:

Telephone: 61 03 9205 2200
Email: email@hume.vic.gov.au
DX: 94718
Translation: 03 9205 2200 for connection to Hume Link's multilingual telephone information service

Deliver application in person, by fax, or by post:

Print Form

Make sure you deliver any required supporting information and necessary payment when you deliver this form to the above mentioned address. This is usually your local council but can sometimes be the Minister for Planning or another body.

Save Form to your Computer

Save Form To

You can save this application form to your computer to complete or review later or email it to others to complete relevant sections.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 08847 FOLIO 739 Security no : 124110853767D
Produced 29/11/2023 08:54 AM

LAND DESCRIPTION

Lot 1 on Plan of Subdivision 088604.
PARENT TITLES :
Volume 04492 Folio 372 Volume 04990 Folio 928
Created by instrument D812368 25/08/1970

REGISTERED PROPRIETOR

Estate Fee Simple

[redacted]

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AX360660X 17/10/2023
PERPETUAL CORPORATE TRUST LTD

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE LP088604 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NUMBER		STATUS	DATE
AX360659G (E)	TRANSFER	Registered	17/10/2023
AX360660X (E)	MORTGAGE	Registered	17/10/2023

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

Street Address: 362 CAMP ROAD BROADMEADOWS VIC 3047

ADMINISTRATIVE NOTICES

NIL

eCT Control 18440T MSA NATIONAL
Effective from 17/10/2023

DOCUMENT END

Imaged Document Cover Sheet

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Document Type	**Plan**
Document Identification	**LP088604**
Number of Pages (excluding this cover sheet)	**1**
Document Assembled	**29/11/2023 08:54**

LP88604
EDITION 2
APPROVED 16/6/70

PLAN OF SUBDIVISION OF

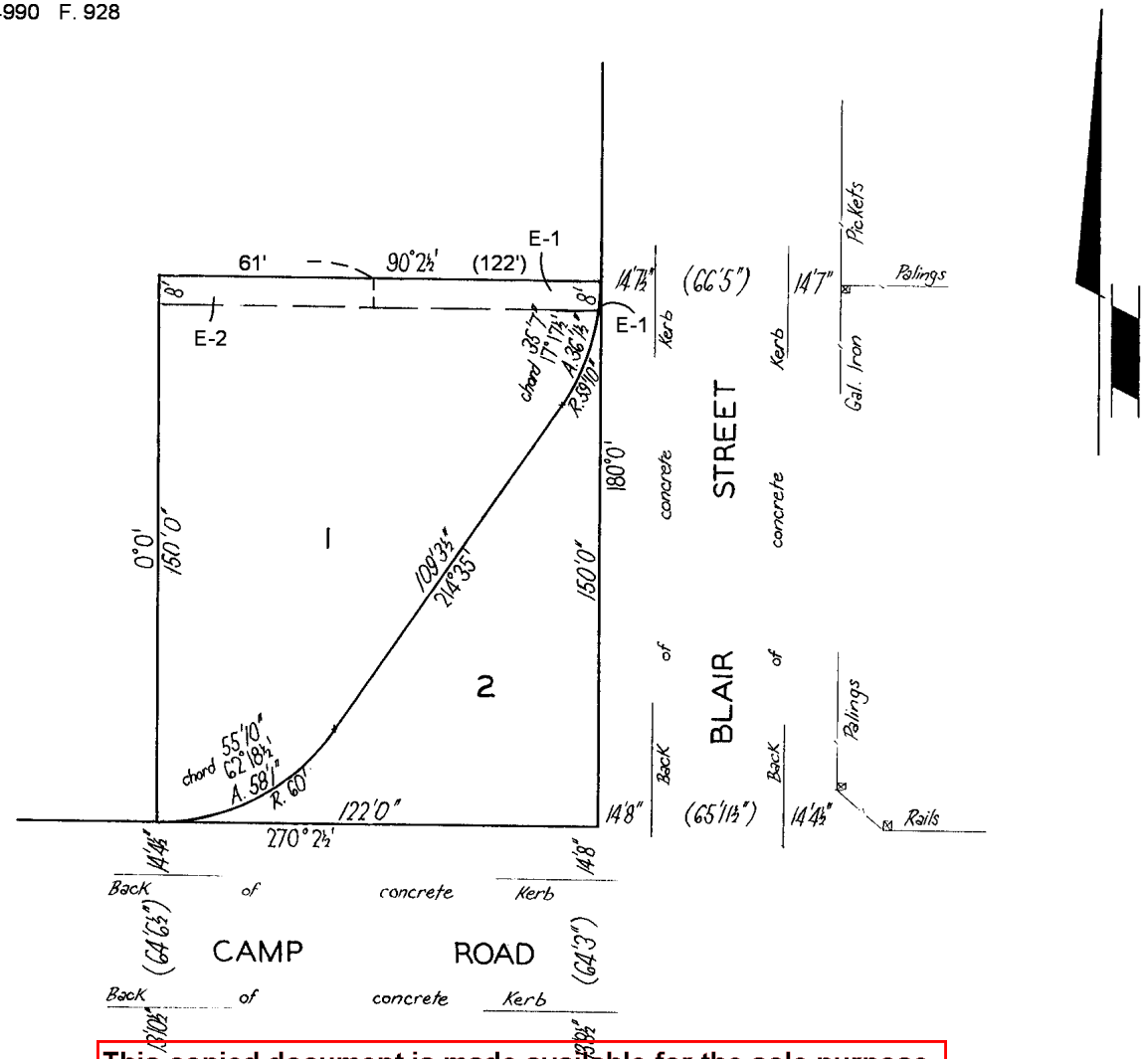
PART OF CROWN ALLOTMENT A
SECTION 11
PARISH OF WILLWILL ROOK
COUNTY OF BOURKE

APPROPRIATIONS	ENCUMBRANCES & OTHER NOTATIONS
Blue .... Drainage and Sewerage	AS TO THE LAND MARKED E-1 THE EASEMENT TO THE M.M.B.W. CREATED BY A911428 AS TO THE LAND MARKED E-2 THE EASEMENT TO THE M.M.B.W. CREATED BY A911429

Measurements are in Feet & Inches
Conversion Factor
FEET X 0.3048 = METRES

V. 4492 F. 372
V. 4990 F. 928

COLOUR CONVERSION
E-1 & E-2 = BLUE



LAND	I.D.	MODIFICATION	DEALING NUMBER	EDITION	ASSISTANT REGISTRAR OF TITLES
LOTS 1 & 2	E-1	CREATION OF EASEMENT	A911428	2	A.D.
LOT 1	E-2	CREATION OF EASEMENT	A911429	2	A.D.

REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 06754 FOLIO 653

Security no : 124110854004V
Produced 29/11/2023 09:01 AM

LAND DESCRIPTION

Lot 32 on Plan of Subdivision 006943.
PARENT TITLE Volume 03984 Folio 749
Created by instrument 1918585 16/06/1944

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
[redacted]

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AX360660X 17/10/2023
PERPETUAL CORPORATE TRUST LTD

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE LP006943 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NUMBER		STATUS	DATE
AX360659G (E)	TRANSFER	Registered	17/10/2023
AX360660X (E)	MORTGAGE	Registered	17/10/2023

----------END OF REGISTER SEARCH STATEMENT----------

Additional information: (not part of the Register Search Statement)

ADMINISTRATIVE NOTICES

NIL

eCT Control
Effective from 17/10/2023

DOCUMENT END

Imaged Document Cover Sheet

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Document Type	**Plan**
Document Identification	**LP006943**
Number of Pages (excluding this cover sheet)	**3**
Document Assembled	**29/11/2023 09:01**

PLAN OF SUBDIVISION OF
PART OF CROWN ALLOTMENT A SECTION 11
PARISH OF WILL WILL ROOK

COUNTY OF BOURKE

VOL 3984 FOL 749

Measurements are in Feet & Inches
Conversion Factor
FEET x 0.3048 = METRES

LP 6943
EDITION 5
PLAN MAY BE LODGED 23/8/16

2 SHEETS
SHEET 1

COLOUR CODE
E-1 & E-3 = BLUE
R1 & A-1 = BROWN

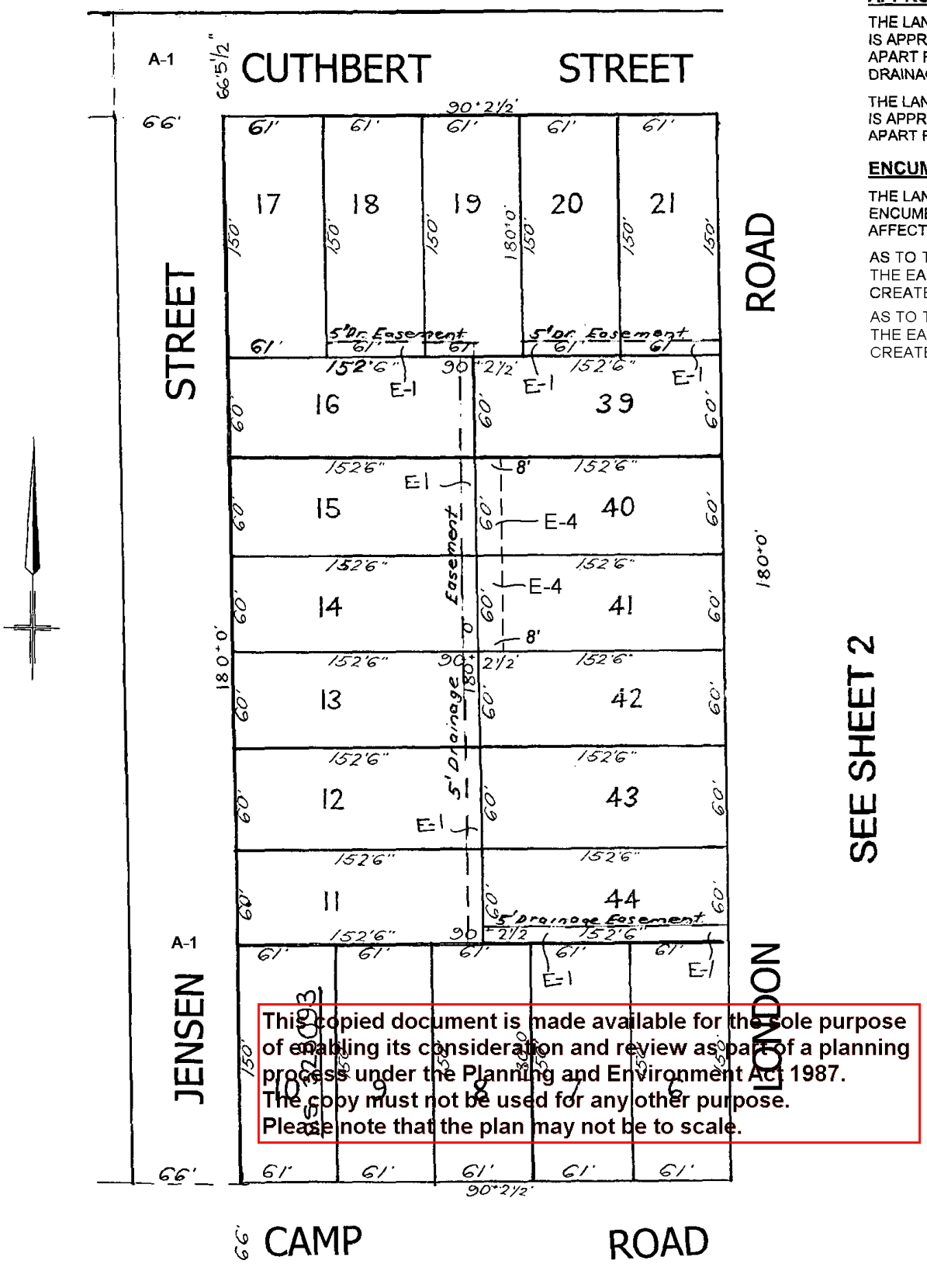
APPROPRIATIONS
THE LAND COLOURED BLUE IS APPROPRIATED OR SET APART FOR EASEMENTS OF DRAINAGE

THE LAND COLOURED BROWN IS APPROPRIATED OR SET APART FOR ROADS

ENCUMBRANCES
THE LAND MARKED E-1 & R1 IS ENCUMBERED BY ANY EASEMENTS AFFECTING THE SAME

AS TO THE LAND MARKED E-4 THE EASEMENT TO THE MMBW CREATED BY A840091

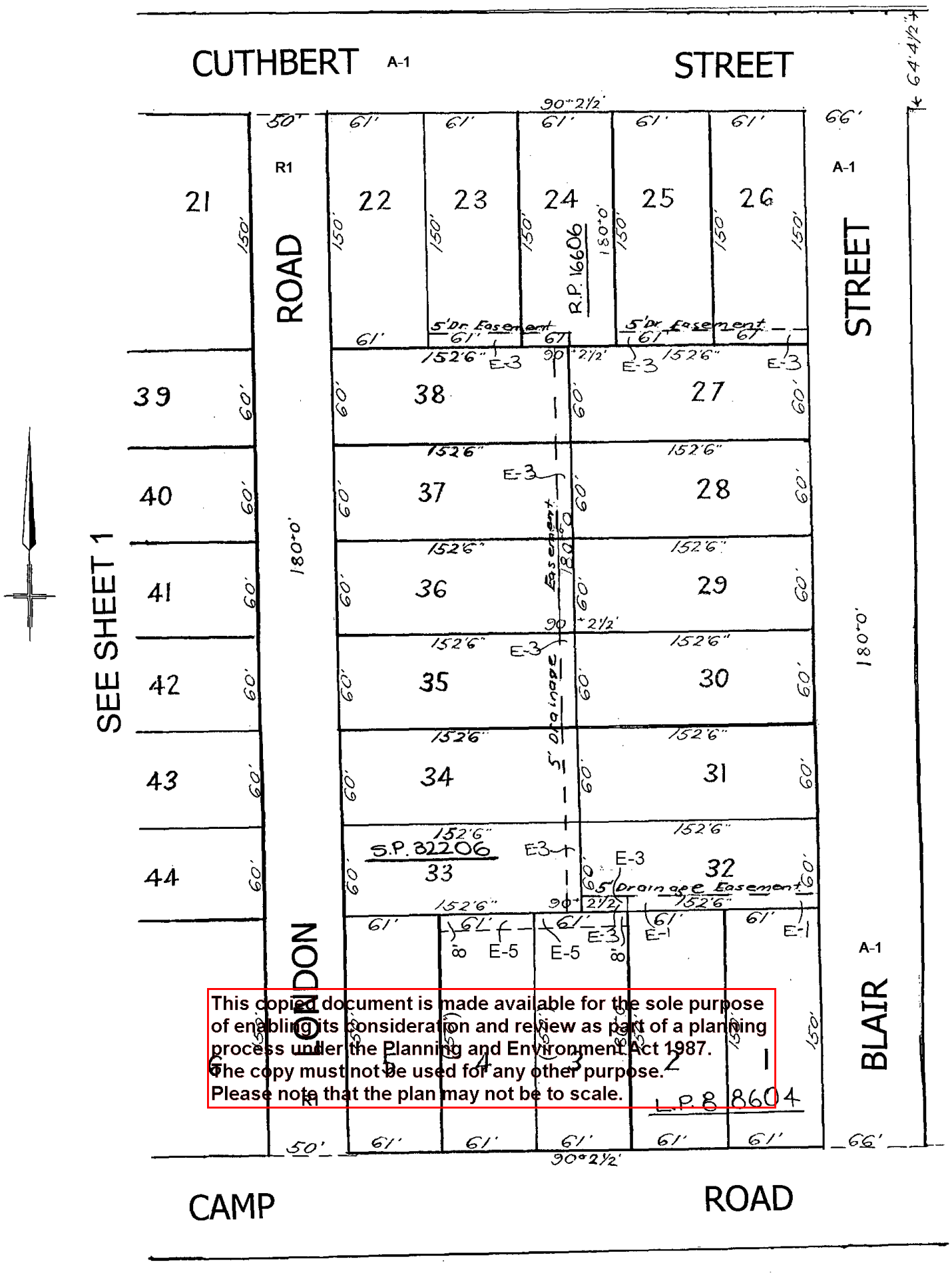
AS TO THE LAND MARKED E-5 THE EASEMENT TO M.M.B.W CREATED BY A806916



SEE SHEET 2

LP 6943

2 SHEETS
SHEET 2



MODIFICATION TABLE

RECORD OF ALL ADDITIONS OR CHANGES TO THE PLAN

PLAN NUMBER
LP 6943

AFFECTED LAND / PARCEL	LAND / PARCEL / IDENTIFIER CREATED	MODIFICATION	DEALING NUMBER	DATE	TIME	EDITION NUMBER	ASSISTANT REGISTRAR OF TITLES
		STREET NAME AMENDED FROM ROAD TO JENSON STREET & BLAIR STREET				1	
		STREET NAME AMENDED FROM BROADMEADOWS ROAD TO CAMP ROAD	GOVT.GAZ.84 P.3654			1	
THIS PLAN		**EASEMENTS ENHANCED**				2	
WARNING: THE IMAGE OF THIS PLAN/DOCUMENT HAS BEEN DIGITALLY AMENDED. NO FURTHER AMENDMENTS ARE TO BE MADE TO THE ORIGINAL PLAN/DOCUMENT.							
LOTS 40 & 41	E-4	CREATION OF EASEMENT	A840091			3	AD
LOTS 3 & 4	E-5		A806916			4	AD
ROAD	R1	EASEMENTS ENHANCED				5	AD

STATE REVENUE OFFICE

PLANNING AND ENVIRONMENT ACT 1987

Metropolitan Planning Levy (MPL)

Certificate

[redacted]

Certificate Number: MPLCERT25168

Issue Date: 12 December 2023

Expiry Date: 11 March 2024

PART 1 - APPLICANT DETAILS

Details of person who applied for this Certificate:

Name: [redacted]

Address:

PART 2 - LEVIABLE LAND DETAILS

Address of land to which the Metropolitan Planning Levy applies:

Street Address: 362 Camp RD

Broadmeadows VIC 3047

Formal Land Description:

Vol/Folio: 8847 / 739 **Lot/Plan:** **Block/Subdivision:**

Crown Reference:

Other: 1 Blair Street, Broadmeadows - Vol: 06754 Folio: 653 Lot 32 on PS006943

Municipality: Hume City Council

Estimated Cost of Development: $2,000,000

PART 3 - MPL PAYMENT DETAILS

MPL Application ID: MPL25168

MPL Paid: $2,600.00

MPL Payment Date: 30 November 2023

PART 4 - CERTIFICATION

The Commissioner of State Revenue confirms that the whole of the amount of the MPL has been paid in respect of the estimated cost of development.

Paul Broderick

Commissioner of State Revenue

PART 5 – EXPLANATORY NOTES

General

- The Metropolitan Planning Levy (MPL) is imposed for the privilege of making a leviable planning permit application.
- A leviable planning permit application is an application made to a responsible authority or planning authority under sections 47 and 96A of the *Planning and Environment Act 1987* (PEA) for a permit required for the development of land in metropolitan Melbourne, where the estimated cost of the development for which the permit is required exceeds the threshold amount (see MPL threshold amount).
- As a statutory requirement of making a leviable planning permit application, the applicant must give the responsible authority or planning authority a current MPL Certificate. The estimated cost of development stated in the MPL Certificate must be equal to or greater than the estimated cost of the development stated in the leviable planning permit application. If an applicant fails to comply with this requirement, the application for the leviable planning permit is void.
- The applicant for the leviable planning permit application is liable for the MPL.
- The Commissioner of State Revenue (Commissioner) has the general administration of the MPL.

MPL threshold amount

- The threshold amount is $1 million for the 2015-2016 financial year.
- For the financial year beginning on 1 July 2016 and each subsequent financial year, the Consumer Price Indexed (CPI) adjusted threshold amount will be calculated in accordance with section 96R of the PEA.
- On or before 31 May each year, the Commissioner must publish the CPI adjusted threshold amount for the following financial year on the SRO website.

How MPL is calculated

- The amount of MPL is $1.30 for every $1000 of the estimated cost of the development for which the leviable planning permit is required.
- If the estimated cost of the development for which the leviable planning permit is required is not a multiple of $1000, the estimated cost is to be rounded up or down to the nearest $1000 (and, if the amount by which it is to be rounded is $500, it is to be rounded up).

Notification and Payment of MPL to the Commissioner

- Before making a leviable planning permit application, the applicant must submit a completed Application for Metropolitan Planning Levy (MPL) Certificate and pay the whole MPL amount to the Commissioner. This Application must state the estimated cost of the development and any other information required by the Commissioner.
- If, after the Commissioner has issued a MPL Certificate which has not expired (see MPL Certificate), and the estimated cost of the development increases before the leviable planning permit application is made, the applicant must submit an Application for Metropolitan Planning Levy (MPL) Certificate *(Revised)* and pay the whole additional MPL amount to the Commissioner. This revised Application must state the increased estimated cost of the development and any other information required by the Commissioner.

MPL Certificate

- The Commissioner must issue a MPL Certificate if he is satisfied that the whole amount of the MPL has been paid in respect of the estimated cost of the development.
- Subject to section 96U(3) of the PEA, a MPL Certificate expires 90 days after the day on which it is issued.

Revised MPL Certificate

- The Commissioner must issue a revised MPL Certificate if:
  - the Commissioner has issued a MPL Certificate, which has not expired;
  - the estimated cost of the development increases before the application for a leviable planning permit is made; and
  - he is satisfied that the whole amount of the MPL has been paid in respect of the increased estimated cost of the development.
- The Commissioner may also issue a revised MPL Certificate to:
  - Correct any error in the information listed in the MPL Certificate (except the estimated cost of development as explained below), or
  - the estimated cost of the development stated in the MPL Certificate is different from the estimated cost of the development stated in the Application for Metropolitan Planning Levy (MPL) Certificate lodged by the applicant.
- A revised MPL Certificate expires 90 days after the day on which it is issued.

Refund of MPL

- The only circumstance under which a person who has paid a MPL is entitled to a refund is where there has been a mathematical error in calculating the amount of the MPL by reference to the estimated cost of the development stated in the original or revised Application for Metropolitan Planning Levy (MPL) Certificate. Other than that, a person who has paid a MPL is not entitled to a refund of the whole or any part of the MPL.

Certificate number

- The Certificate number is on the top right corner on the front of this Certificate.
- Quoting this Certificate number will give you access to information about this Certificate and enable you to enquire about your application by phone.
- You should quote this number in any correspondence.

For more Metropolitan Planning Levy information please contact the State Revenue Office:

Mail
State Revenue Office, GPO Box 4376, Melbourne Vic 3001

Internet www.sro.vic.gov.au
Email mpl@sro.vic.gov.au
Phone 13 21 61 (local call cost)
Fax 03 9628 6856

State Government Victoria

TOWN PLANNING REPORT

ADDRESS: 362 CAMP ROAD & 1 BLAIR STREET, BROADMEADOWS

[redacted]

DATE: 31 JANUARY 2024

[redacted]

[redacted]

Document Information

Issue Date	31 January 2024	**Prepared for**	[redacted]
Prepared by	KF	**Reviewed by**	AL
Project No.	13851	**Project Name.**	362 Camp Road & 1 Blair Street, Broadmeadows

[redacted]

[redacted]

CONTENTS

[redacted]

LIST OF FIGURES

[redacted]

1 Introduction

This report has been prepared by [redacted] on behalf of [redacted] to accompany a Planning Permit Application for the use and development of a Childcare Centre and associated signage on the land at 362 Camp Road & 1 Blair Street, Broadmeadows (the subject site).

The site is located in the General Residential Zone (schedule 1) and is affected by the Melbourne Airport Environs Overlay (Schedule 2).

It is our assessment that the proposal provides an appropriate response to the objectives of State & Local Policy and the General Residential Zone land use objectives for Broadmeadows and Hume more broadly. It is our assessment that the characteristics of the area make the site a favourable location for the proposed Childcare Centre.

In coming to this conclusion, we have considered the following key questions:

- **Planning Policy -** Does the proposal demonstrate an appropriate outcome considering the strategic planning drivers for Hume?
- **Use-** Is the use of the site for a Childcare centre appropriate in this location?
- **Built Form -** Does the design response demonstrate a high-quality built form outcome which appropriately responds to the area?
- **Amenity -** Will the proposal provide high levels of amenity?
- **Signage –** Is the proposed signage appropriate?
- **Traffic & Access -** Are the access and car parking arrangements suitable?

1.1.1 Permit Triggers

A planning permit is required under the following provisions of the Hume Planning Scheme;

- Pursuant to Clause 32.08-3 a permit is required for the use of the land as a Childcare Centre.
- Pursuant to Clause 32.08-10 a permit is required to construct a building or to construct or carry out works for a section 2 use.
- Pursuant to Clause 1.0 of Schedule 2 to Clause 45.01, a permit is required for the use of the land as an Education Centre.
- Pursuant to Clause 2.0 of Schedule 2 to Clause 45.01, a permit is required to construct a building or to construct or carry out works for any use listed in Clause 1.0.

1.1.2 Supporting Documentation

In addition to this report, this Planning Permit application is supported by the following materials:

- Planning Permit application form;
- Planning Permit Cover Letter prepared by Human Habitats;
- Certificate of Title;
- Architectural Plan package prepared by Jesse Ant Architects, dated December 2023;
- Arborist report prepared by Bluegum, dated July 2023;
- Waste Management Plan prepared by Traffic Consulting Services, dated August 2023;
- Metropolitan Planning Levy Certificate issued 12 December 2023.

2 Subject Site and Surrounding Context

2.1 The Site

The subject site is located at 362 Camp Road and 1 Blair Street Broadmeadows and is formerly identified as lot 1 of LP88604 and Lot 32 of LP6943 Respectively. The site is irregularly shaped and has an area of 1,981sqm and a primary frontage to Blair Street.

1 Blair Street currently benefits from an existing single storey weatherboard dwelling with 2 small outbuildings to the rear. Several trees are also identified on the lot.

362 Camp Road is currently improved by two single storey dwellings and a garage with two crossovers, both to Blair Street. Vegetation is also present primarily towards the peripheries of this lot.

Figure 1 – Site Aerial (subject site highlighted red). Source: Near Maps, December 2023

Figure 2 – Streetview from Blair Street

2.2 Site Interfaces

2.2.1 Northern Interface

The northern boundary of the site interfaces with 3 Blair Street which has been subdivided into 4 lots each containing a single storey brick dwelling. This style of single storey housing is observed north of the site within the General Residential Zone with much of the area consisting of smaller subdivided lots. The Warringa Crescent / Blair Street Bus Stop is also located north of the site. Other features of interest to the north include Hume

Central Secondary College as well as a Commercial 2 Zone bound by the intersection of Blair Street and Riggall Street.

2.2.2 Eastern Interface

The eastern boundary of the site adjoins Blair Street. Opposite this is 356 Camp Road whereby a Veterinary Clinic currently operates. Further east, beyond Broadmeadows Fire Station, land is primarily dominated by single storey brick dwellings, with many lots subdivided and containing multiple dwellings. Several bus stops are also present along Camp Road.

2.2.3 Southern Interface

The southern boundary of the site adjoins Camp Road and its signalised intersection with Blair Street. Camp Road is located within the TRZ2 and consists of four traffic lanes adjacent to the site. Beyond this, the style of single storey dwellings continues. The Meredith Street/Camp Road Bus stop is located adjacent to the site.

2.2.4 Western Interface

The western boundary of the site adjoins 364 Camp Road which is occupied by a single storey dwelling with generous vegetation softening views of the property. Further west along Camp Road is St Dominics Primary School and Catholic Church as well as a car wash. Broadmeadows Train Station is also located approximately 850m west of the subject site.

2.2.5 Surrounding Area

The subject site is located within a developed residential area with convenient access to a range of Public Transport options including bus routes 538, 540 and 902 and Broadmeadows Train Station which provides convenient access to Metropolitan Melbourne and Greater Victoria. The subject site is also suitably located within the Hume Principal Public Transport Network

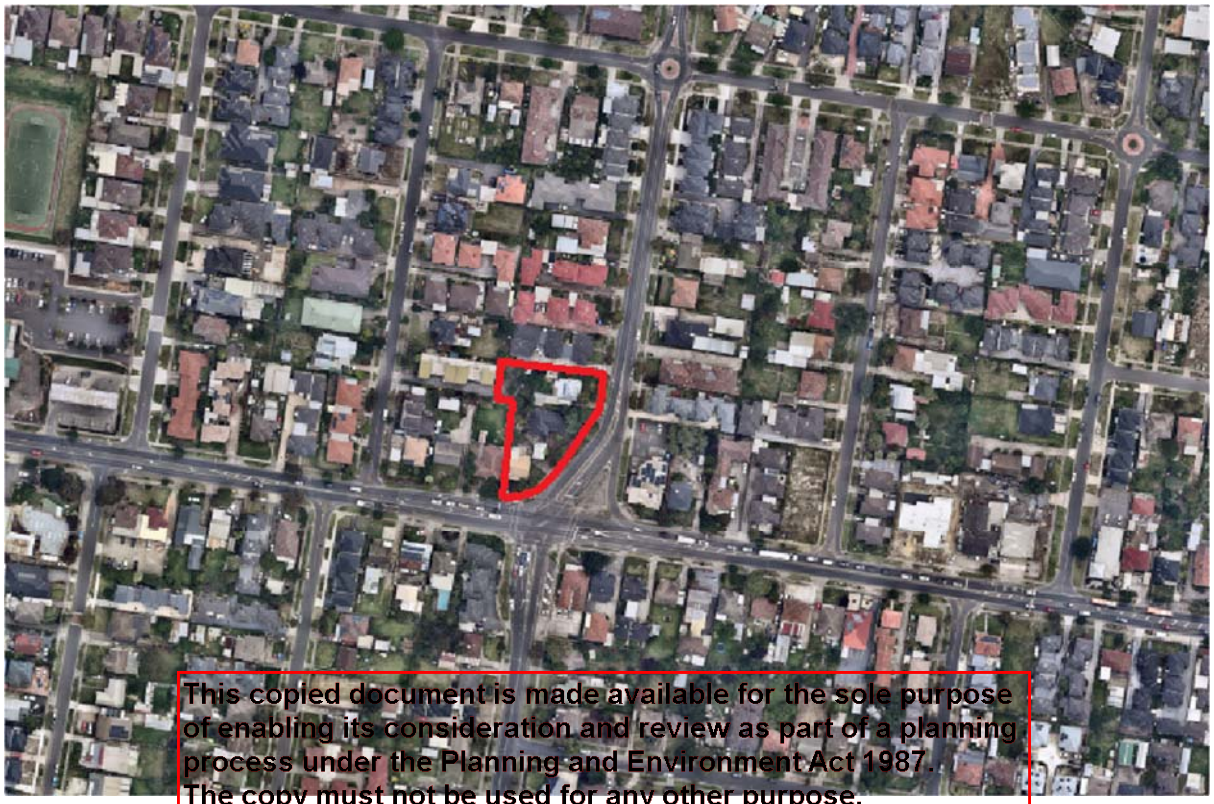


Figure 3 – Surrounding Area (Source: Nearmap, 2023)

3 The Proposal

The proposal constitutes an application for the use and development of 362 Camp Road and 1 Blair Street as a childcare centre with associated car parking space.

The proposed childcare centre is to be single storey in scale. A summary of the proposed development is as follows:

Item	Total
Ground Floor Area	555sqm
Unencumbered Play Area	623.4sqm
Children's Places	88
Car Parking	19
Children's Rooms	5

Key features include:

- A childcare centre for 88 children with associated staff facilities, cot room, kitchen, laundry, wash facilities and reception.
- Accessible via a proposed crossover to Blair Street.
- 19 on site car parks including 1 disabled parking space.
- Significant landscaping opportunities around the property boundaries.
- 6 bicycle parking facilities.

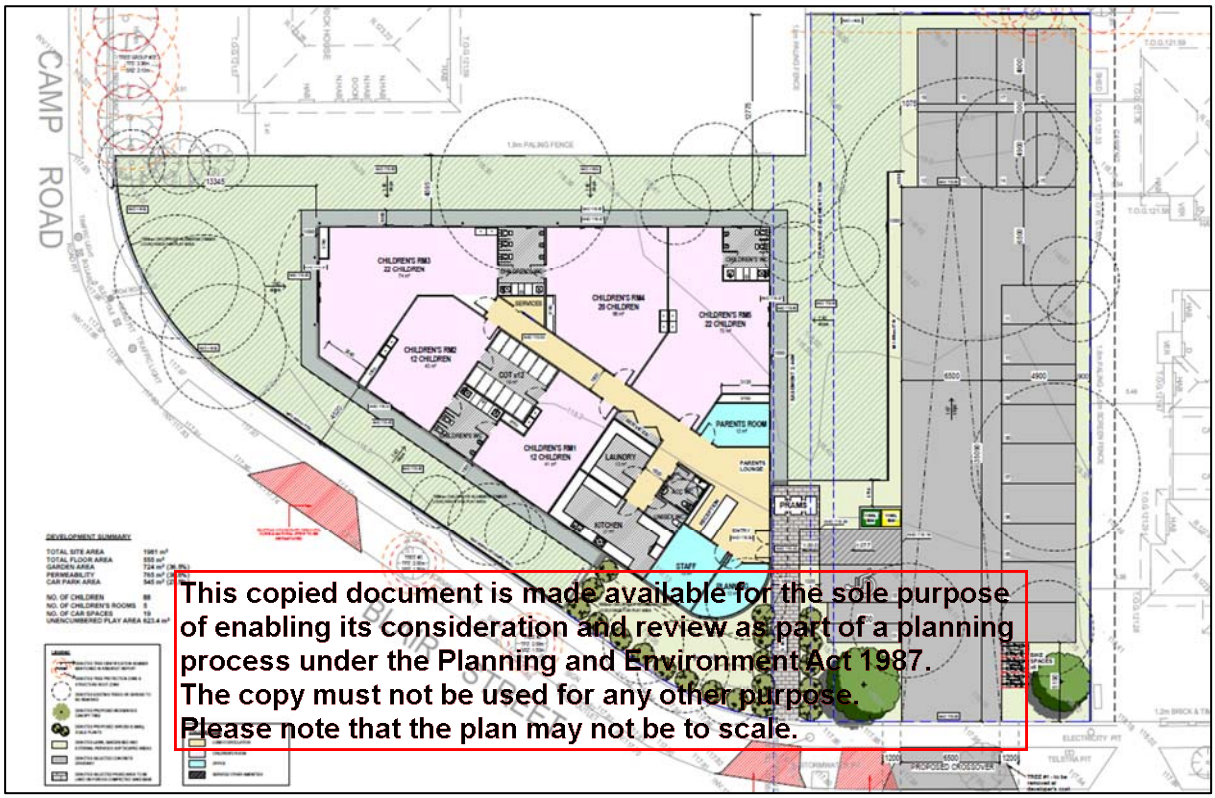


Figure 4 – Proposed Ground Floor Plan

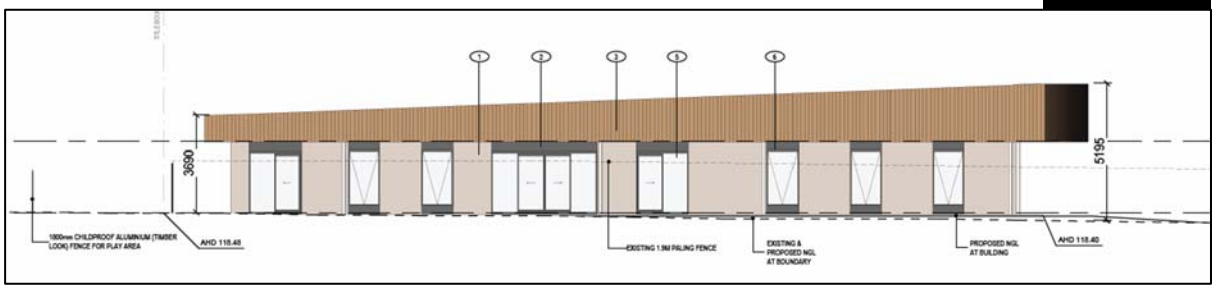


Figure 5 – Proposed Western Elevation

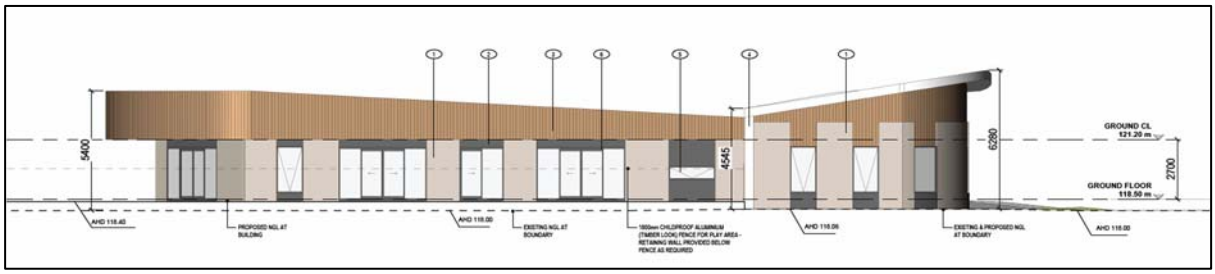


Figure 6 – Proposed Southeast Elevation

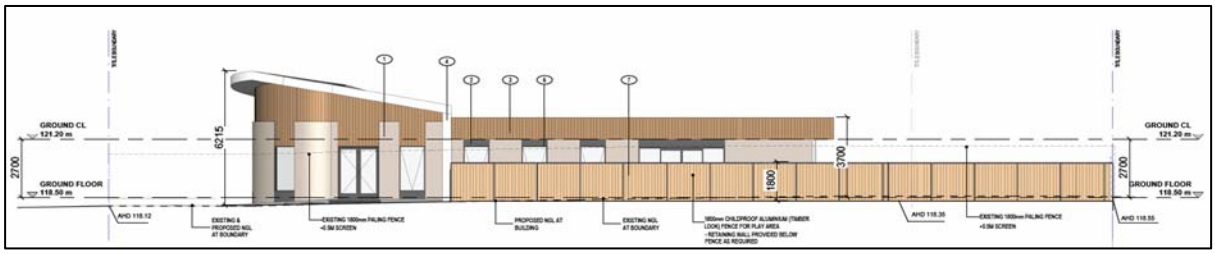


Figure 7 – Proposed Northern Elevation

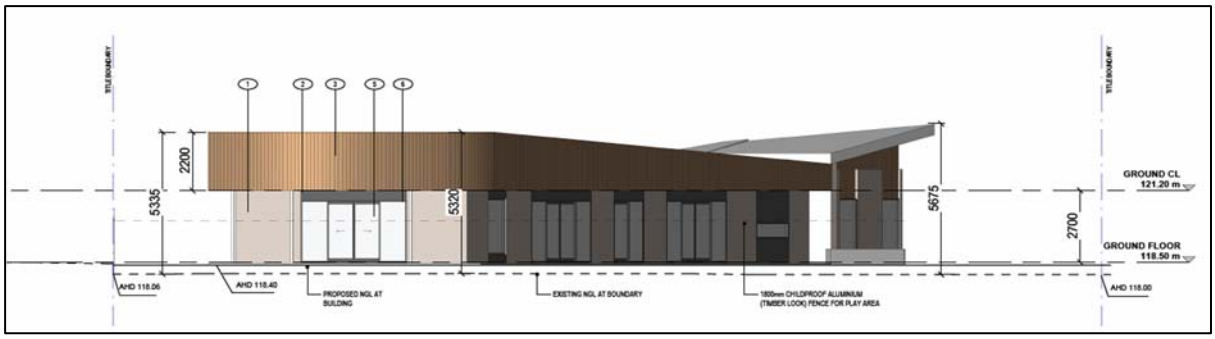


Figure 8 – Proposed Southern Elevation

[redacted]

4 Planning Policy Framework/Controls

The following planning policy is considered relevant to the assessment of the proposed development.

4.1 State and Local Planning Policy

- Clause 02.03 – Strategic Directions
- Clause 11.01 – Victoria
- Clause 11.02 – Managing Growth
- Clause 13.05 – Noise
- Clause 13.07 – Amenity, Human Health & Safety
- Clause 15.01- Built Environment
- Clause 17.01 – Employment
- Clause 19.02 – Community Infrastructure

4.2 State and Local Planning Policy Summary

- **Clause 02.03-1: Settlement:** Policy identifies Broadmeadows as a Metropolitan Activity Centre wich aims to provide access to a wide array of services to meet the needs of the community.
- **Clause 11.01-1S- Settlement:** Policy seeks to develop sustainable communities through a settlement framework offering convenient access to jobs, services, infrastructure and community facilities.
- **Clause 11.02-1S – Supply of Urban Land:** Policy seeks to identify opportunities for the consolidation, redevelopment and intensification of existing urban areas.
- **Clause 13.05-1S – Noise Management:** Policy seeks to ensure that development is not prejudiced and community amenity and human health is not adversely impacted by noise emissions.
- **Clause 13.07-1S – Land Use Compatibility:** Policy seeks to ensure that use or development of land is compatible with adjoining and nearby land uses
- **Clause 15.01-1S – Urban Design:** Policy supports developments that contribute to community and cultural life by improving the quality of living and working environments, facilitating accessibility and providing for inclusiveness.
- **Clause 15.01-1S- Building Design:** Policy seeks to ensure a comprehensive site analysis forms the starting point of the design process and provides the basis for the consideration of height, scale, massing and energy performance of new development.
- **Clause 15.01-2L-01 – Building design – Hume:** Policy encourages built form to incorporate architectural treatments and use of colours, materials and finishes that are visually interesting and engaging.
- **Clause 15.01-2L-03- Environmentally Sustainable Development – Hume:** Policy promotes development which achieve best practice in environmentally sustainable development from the design stage through to construction and operation.
- **Clause 17.01-1S – Diversified Economy:** Policy seeks to facilitate growth in a range of employment sectors, including health, education, retail, tourism, knowledge industries and professional and technical services. Policy further aims to improve access to jobs closer to where people live.
- **Clause 19.02-2S – Education Facilities:** Policy seeks to locate childcare, kindergarten and primary school facilities to maximise access by public transport and safe walking and cycling routes. Further, demographic trends, existing and future demand requirements and the integration of facilities into communities should all be considered in planning for the location of education and early childhood facilities.

4.3 General Residential Zone

The subject site is located within the General Residential Zone (Schedule 1). The purpose of this Zone is;

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To encourage development that respects the neighbourhood character of the area.*
- *To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.*
- *To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.*

Pursuant to Clause 32.08-3 a permit is required for the use of the land as a Childcare Centre.

Pursuant to Clause 32.08-10 a permit is required to construct a building or to construct or carry out works for a section 2 use.

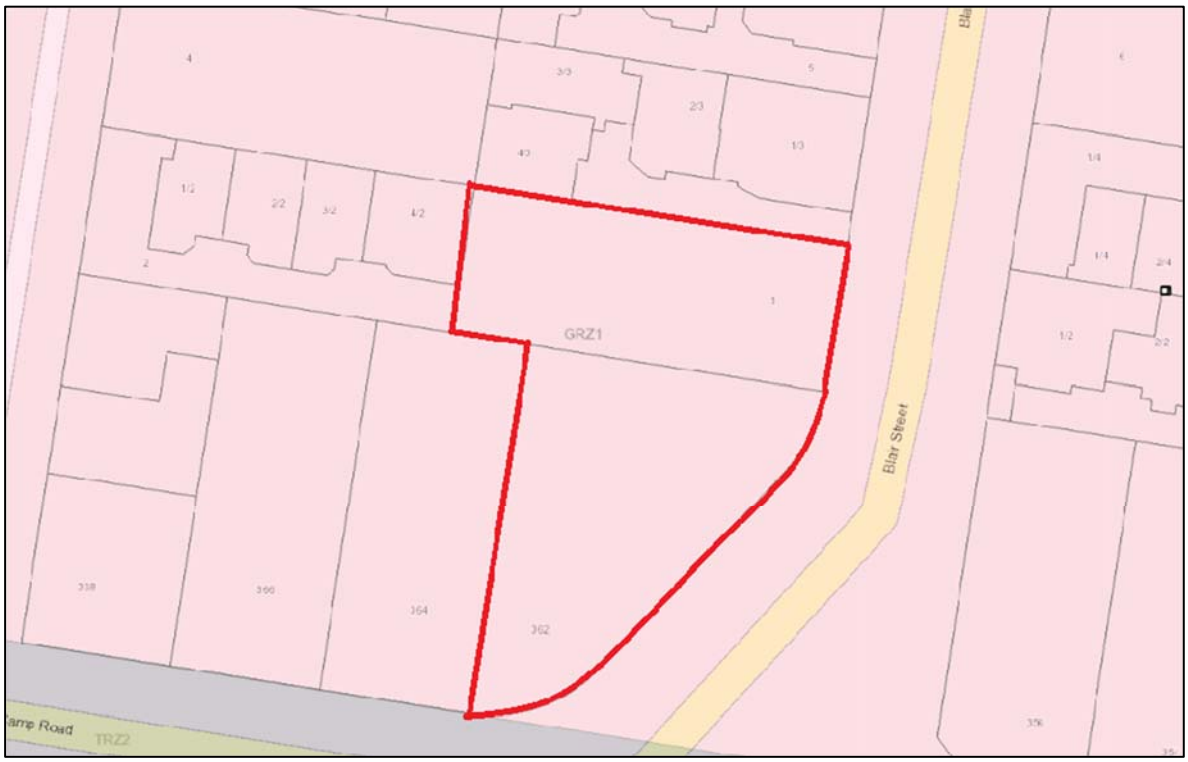


Figure 9 – General Residential Zone Map

4.4 Melbourne Airport Environs Overlay

The subject site is located within the Melbourne Airport Environs Overlay (MAEO) Schedule 2. The purpose of this Overlay is;

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To ensure that land use and development is compatible with the operation of Melbourne Airport in accordance with the relevant airport strategy or master plan, and with safe navigation for aircraft approaching and departing the airfield.*
- *To assist in shielding people from the impact of aircraft noise by requiring appropriate noise attenuation measures in dwellings and other noise sensitive buildings.*
- *To provide for appropriate levels of noise attenuation depending on the level of forecasted noise exposure.*

Pursuant to Clause 1.0 of Schedule 2 to Clause 45.01, a permit is required for the use of the land as an Education Centre.

Pursuant to Clause 2.0 of Schedule 2 to Clause 45.01, a permit is required to construct a building or to construct or carry out works for any use listed in Clause 1.0.

Pursuant to Clause 45.08-2, any building for which a permit is required under this overlay must be constructed so as to comply with any noise attenuation measures required by Section 3 of Australian Standard AS 2021-2015, Acoustics - Aircraft Noise Intrusion - Building Siting and Construction, issued by Standards Australia Limited.

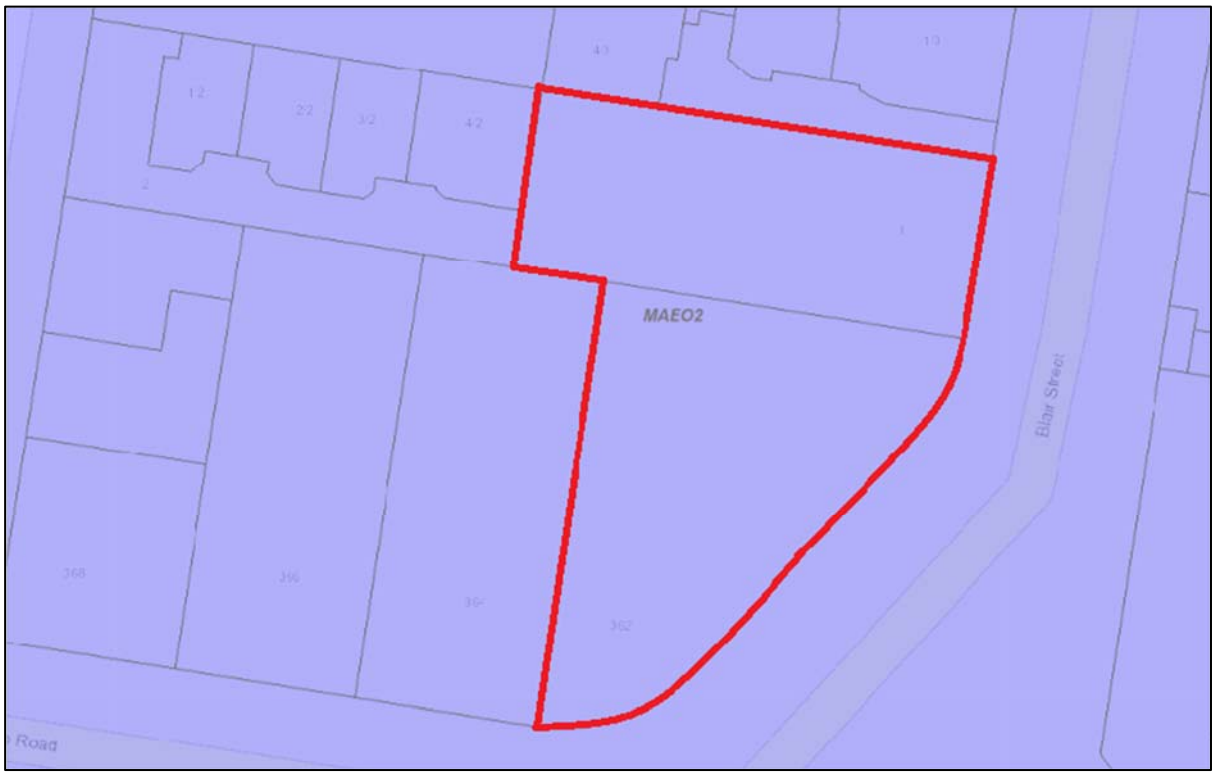


Figure 10 – Melbourne Airport Environs Overlay Map

4.5 Particular Provisions

- Clause 52.05 – Signs
- Clause 52.06 - Car Parking
- Clause 52.34 - Bicycle Parking
- Clause 65 – Decision Guidelines

5 Planning Considerations

This proposal is considered to provide an excellent response to the land use and built form aspirations of Hume. In coming to this conclusion, we have considered the following key questions:

- **Planning Policy -** Does the proposal demonstrate an appropriate outcome considering the strategic planning drivers for Hume?
- **Use -** Is the use of the site for a Childcare centre appropriate in this location?
- **Built Form -** Does the design response demonstrate a high-quality built form outcome which appropriately responds to the area?
- **Amenity -** Will the proposal provide high levels of amenity?
- **Signage –** Is the proposed signage appropriate?
- **Traffic & Access -** Are the access and car parking arrangements suitable?

5.1 Planning Policy

We submit that the proposal responds well to the key policy drivers of the Hume Planning Scheme as follows:

- Clause 02.03 (Strategic Directions) and Clause 11.02 (Managing Growth) seek to ensure land is used efficiently and to serve the community. The provision of a childcare centre across the two subject lots will provide a vital service in a key location for the community and assist in ensuring the site is used most effectively.
- Clause 11.01 (Victoria), Clause 17.01 (Employment) and Clause 19.02 (Community Infrastructure) seek to facilitate infrastructure in the area that will assist in meeting the needs of the community. The provision of a childcare centre will provide a vital service for the community of Broadmeadows and Hume more broadly as well as proving employment opportunities to assist in strengthening the local economy. The subject site is proximate to a range of public transport options including bus routes and Broadmeadows Train Station, making it highly accessible for the community.
- Clause 13 (Environmental risks and Amenity) of the Hume Planning Scheme seeks to ensure that developments do not detrimentally impact nearby properties and the surrounding area. The proposed development is located within the Hume Principle Public Transport Network and thus the proposed childcare centre will not result in any noise detriment abnormal to that already experienced along Camp Road and Blair Street. Further suitable noise attenuation measures are incorporated into the design of the development where required. The provision of landscaping softens views onto the development and will assist in assimilating the childcare centre with the surrounding environment. The proposed childcare centre is capable of meeting all car parking needs on site and is highly compatible with the surrounding residential land uses, providing a vital community service in a highly accessible location.
- Clause 15.01 (Built Environment) seeks to ensure development incorporates high quality and sustainable designs. The proposed Childcare Centre features a high quality and visually interesting design achieved through a variated colours and materials schedule incorporating elements such as render, cladding and glazing. Ample landscaping will assist in softening views onto the development and assimilating the built form with the character of the surrounding General Residential Zone. Further, the scale and massing of the site is considered appropriate in the context of the surrounding area. The development incorporates environmentally sustainable design elements and efficient waste management strategies assisting to reduce environmental impacts.

The proposal responds well to State and Local policy, which encourages appropriately sited and designed developments in existing areas within Broadmeadows.

5.2 Use

The use of land for a Childcare centre is considered appropriate at this location. State and Local planning policy encourage the provision of said uses, with a childcare centre being consistent with the following objective of the General Residential Zone;

> *"To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations."*

Accordingly, it is considered that the proposed Childcare centre, which provides an early learning facility that responds to community needs is an appropriate use under the Zone.

Further, the development exhibits the following qualities making its location within a residential area appropriate:

- The site provides direct access to Blair Street and is situated at its intersection with Camp Road which are both within the Hume East Principle Public Transport Network and are capable of carrying increased traffic volumes.
- The childcare centre will not result in any adverse amenity impacts on the surrounding area.
- The scale and intensity of the development will be complementary to the residential character of the surrounding area.
- The centre will provide amenity and services catering towards a demand for early education centres in the area.

The following table describes how the proposed development meets the decision guidelines of the General Residential Zone for non-residential use and development.

Decision Guideline	Response
Whether the use or development is compatible with residential use.	The proposed Childcare is compatible with residential uses as it provides a service beneficial to the local community.
Whether the use generally serves local community needs.	A Childcare will serve local community needs in an area anticipated to experience population growth, which is likely to put strain on these existing Childcare services.
The scale and intensity of the use and development.	The proposed Childcare will be capable of accommodating up to 88 children. It will be able to absorb much of the surrounding population who require Childcare services.
The design, height, setback and appearance of the proposed buildings and works.	The proposal provides for an architectural form and materiality which matches the character of the area and which appropriately responds to each interface. The proposal is at a scale and built form character that could otherwise be contemplated on the site if it were a residential development.
The proposed landscaping.	The proposal provides high quality landscaping within the site and along the perimeter. This will deliver an attractive development that compliments the streetscape character of the area.
The provision of car and bicycle parking and associated accessways.	Car parking and bicycle facilities have been provided appropriately to satisfy the proposed demand generated by the use. These provisions satisfy the requirements of the Hume Planning Scheme

[redacted]

Decision Guideline	Response
Any proposed loading and refuse collection facilities.	Th proposed waste collection areas will be sufficient for the needs of the childcare centre. This area will be appropriately maintained to avoid detracting from the visual amenity of the site.
The safety, efficiency and amenity effects of traffic to be generated by the proposal.	All car parking and access areas have been designed to be shared, slowing moving areas that prioritise both driver and pedestrian safety.

5.3 Built Form

The proposed development is located within the General Residential Zone. The existing neighbourhood character and land use has been a major consideration when designing the built form, and siting of the development to minimise potential for negative amenity impacts on adjacent properties.

The scale of the building footprint is appropriate in the neighbourhood context. Built form is setback a minimum of 4.5m metres from Blair Street and 13.3m from Camp Road. Appropriate fencing coupled with these generous setbacks will assist in eliminating any negative amenity impacts such as privacy concerns. Further the provision of landscaping around the proposed built form and car parking area will soften views from the public roadway.

The visual amenity of the neighbourhood has also been considered through the provision of front and side setbacks with generous landscaping, dedicated garden space and opportunities for the planting of new canopy trees. These elements support and enhance the existing and preferred neighbourhood character, integrating the proposed development with the streetscape.

5.4 On Site Amenity

The proposed development features excellent on-site amenity features able to be enjoyed by both staff and children. The proposal includes the following key features that demonstrate excellent internal amenity within the Childcare centre:

- Childcare centres have a per child indoor (minimum 3.25 square metres) and outdoor (minimum of 7 square metres) play space requirement, the proposal provides for an area of 3.36 square metres of indoor play space per child and 7.08 square metres of outdoor play space per child, which is above the required minimum;
- The outdoor play area will feature a variety of landscape features designed to both create a sense of openness and stimulate children's senses and creativity. Locating the play area around the building creates a sense of openness that can also be enjoyed by those indoors;
- The proposed development has taken into consideration the accessibility of those with limited mobility and includes features such as disabled access car parking and bathroom facilities.
- Disabled car parking spaces are provided within close proximity to the main entry; and
- Each classroom has direct access to bathrooms which will be fitted to meet children's needs (where possible).

5.5 Signs

Standard signage needed for business identification will be fixed to the building. This will be applied for at a later stage.

5.6 Traffic and Access

The proposed traffic and access arrangements are considered to be appropriate. Entrance to the site is provided via a single crossover from Blair Street to the car parking area, which ensures sufficient space for vehicle manoeuvring. This will allow vehicles to safely enter and exit in a forward direction and the provided splay areas will ensure driver and pedestrian safety.

5.6.1 Clause 52.06 – Car Parking

The Car Parking requirements are identified in Clause 52.06 of the Hume Planning Scheme. The subject site is located with the Principle Public Transport Network (PPTN), as such column B rates have been applied.

The Car Parking requirements for the Childcare Centre development are as follows;

Use	Child Capacity	Statutory Parking Rate	Total Required	Total Provided
Childcare Centre	88	0.22 car parks per child	88*0.22=19.36	19

A total of 19 car spaces, including 1 disabled access space, are to be provided on the site, thus complying with the statutory car parking requirements of the Hume Planning Scheme. The car parking area has been designed to be a shared, slow-moving space allowing for pedestrians and vehicles to move through the area safely at the same time.

The car park is appropriately designed and complies with Clause 52.06-9 in the following ways:

- The crossover is provided with a corner splay in accordance with Clause 52.06-9.
- All accessways are well in excess of the 6m wide standard.

Car parking is set behind appropriate landscaping to soften and obscure views from the public realm and with opportunities for canopy trees to provide shade to the car parking area.

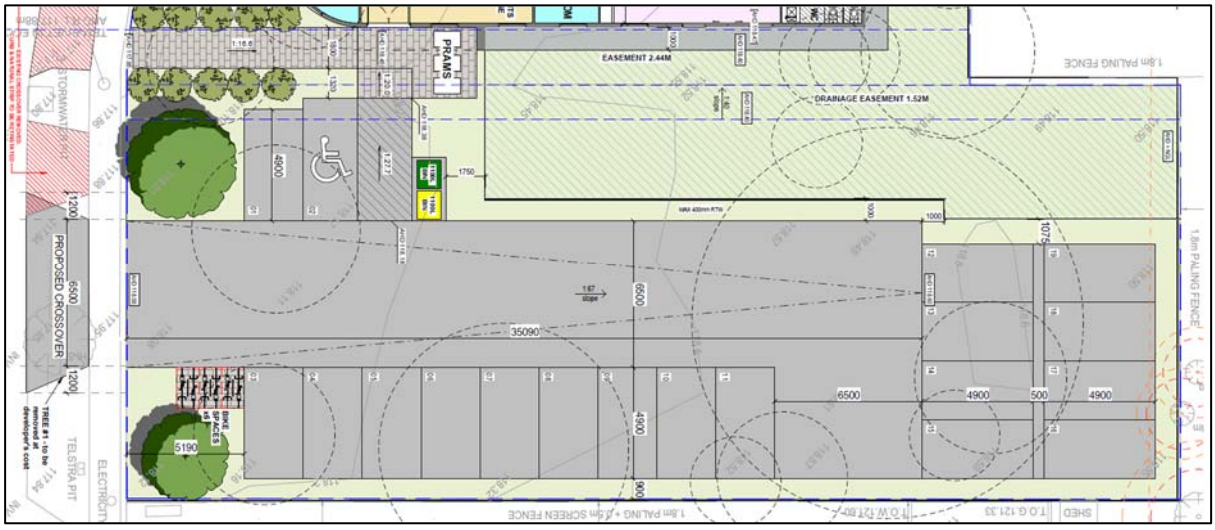


Figure 11 – Proposed car parking arrangement.

5.7 Bicycle Facilities

The bicycle parking requirements for the subject site are identified in Clause 52.34 of the Hume Planning Scheme. The Planning Scheme does not specifically refer to Childcare Centre bicycle parking requirements, however, six bicycle parking spaces are provided for the development within the car parking area. We consider this an appropriate design response for the proposed development.

5.8 Waste Management

Both general waste and recycling bins will be provided. These bins are proposed to be located in a dedicated waste area adjacent to the car parking area. This space will be appropriately maintained and screened to improve visual amenity. Collection is proposed via a private Contractor.

The following bin capacities will be provided to sufficiently service the operations of the Childcare Centre;

- 1 x 1100L General Waste Bin
- 1 x 1100L Recycling Bin

The waste management strategies provided are considered appropriate for the proposed development. Please refer the Waste Management Plan prepared by Frater Consulting Services for further detail.

5.9 Vegetation

Vegetation is present primarily towards the peripheries of the site, however for the most efficient use of the site a number of trees require removal. Trees 9, 13, 14 and 24, as identified in the Arboriculture report prepared Blue gum, are of medium retention value and are proposed to be removed. All other trees requiring removal were identified as of low retention value. No trees of high retention value are identified on the site, however, trees 2, 3, and 34-37 are to be retained. As no Environmental Overlay, Local Law or Native Vegetation Precinct Plan applies to the subject site, a permit is not required for the removal of these trees. Further, pursuant to Clause 52.17 a permit is not required to lop native vegetation on land with an area of less than 0.4 hectares. The proposal involves significant landscaping opportunities around the perimeter of the site to ensure the softening of the development and assimilation with prevailing character of the area. Please refer to the Arborist report prepared by Bluegum for further detail.

[redacted]

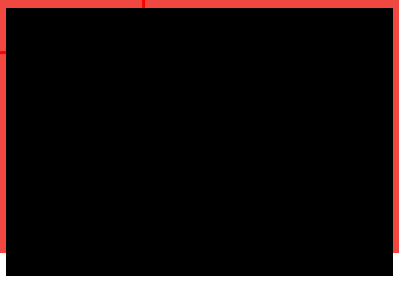
6 Conclusion

Upon review of all relevant planning policy, we submit that the proposed development will deliver a positive outcome for the following key reasons:

- The proposed development is consistent with the relevant purpose, objectives and decisions of the Hume Planning Scheme;
- The proposed landscaping and built form setbacks will provide a suitable interface to the streetscape and adjoining properties;
- The proposed layout and access arrangements are designed to operate safely and efficiently;
- The proposal will not unreasonably affect the amenity of neighbouring dwellings; and
- The proposal provides a high level of amenity for future residents and patrons of the Childcare centre.

For the reasons outlined in this report, we believe the proposal should be supported subject to standard conditions.

[redacted]



Proposed one single-storey childcare centre

362 CAMP RD & 1 BLAIR ST, BROADMEADOWS

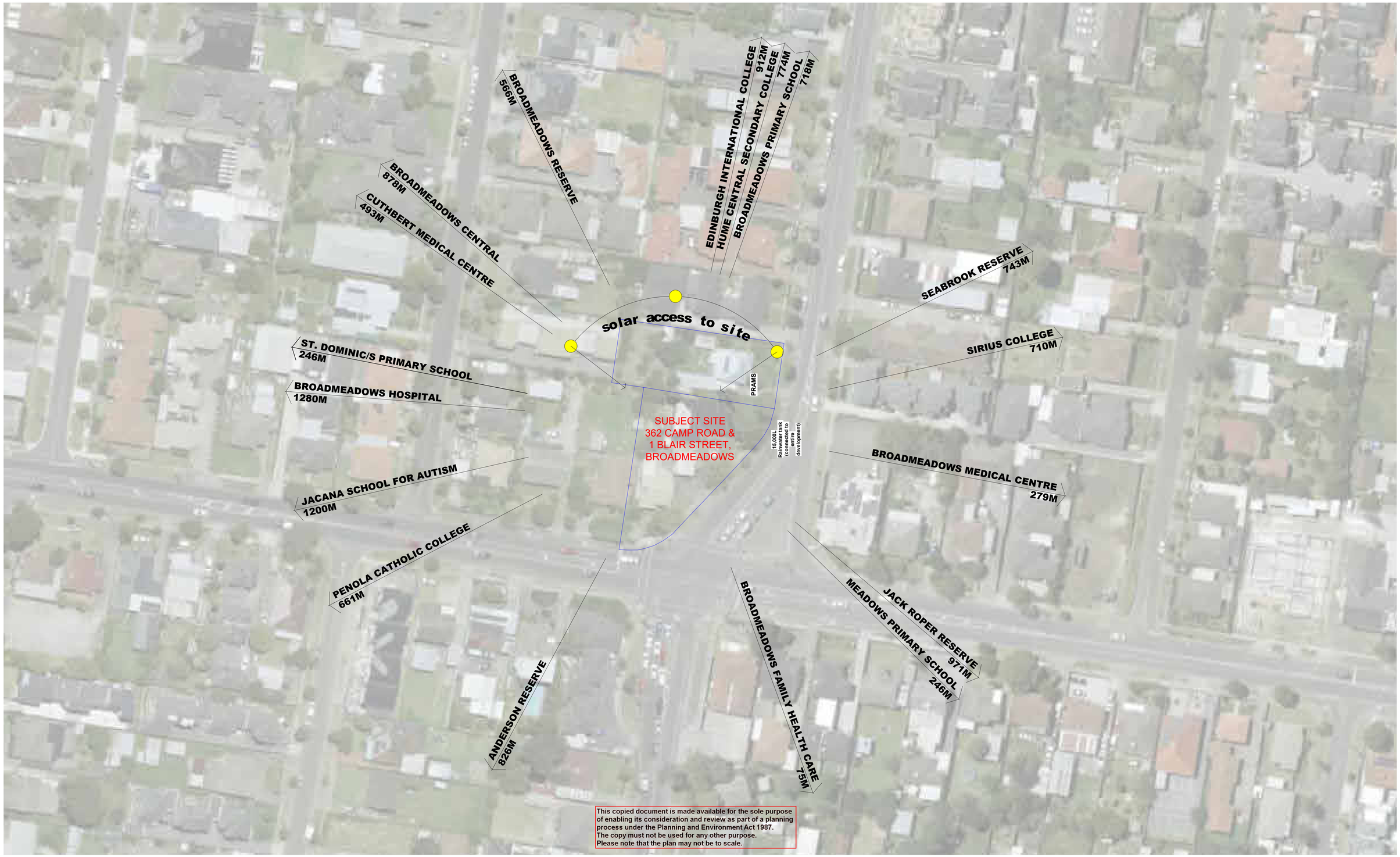
TOWN PLANNING DRAWING LIST

TP00	COVER SHEET
TP01	SITE LOCATION PLAN
TP02	NEIGHBOURHOOD CHARACTER
TP03	DESIGN RESPONSE
TP04	DEMOLITION PLAN & EXISTING STREETSCAPES
TP05	PROPOSED STREETSCAPES
TP06	GROUND FLOOR PLAN
TP07	ROOF PLAN
TP08	ELEVATIONS
TP09	ELEVATIONS
TP10	SHADOW DIAGRAMS
TP11	SHADOW DIAGRAMS

[redacted]

ARCHITECT PRIOR TO WORKS COMMENCING.

Sheet Tittle: COVER SHEET			Drawing Number TP00
Date 30/07/24	Scale @A1		Revision F
Drawn QD	Checked AL/ JW		



1 SITE LOCATION PLAN
1 : 500

[redacted]

N

Sheet Tittle: SITE LOCATION PLAN		Drawing Number TP01
Date 30/07/24	Scale 1 : 500@A1	Revision F
Drawn QD	Checked AL/ JW	

1 NEIGHBOURHOOD CHARACTER
1 : 300

N

Sheet Tittle: NEIGHBOURHOOD CHARACTER		Drawing Number TP02
Date 30/07/24	Scale 1 : 300@A1	Revision F
Drawn QD	Checked AL/ JW	

1 DESIGN RESPONSE
1 : 300

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N

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Date: 30/07/24	Scale: 1 : 300@A1	Revision: F
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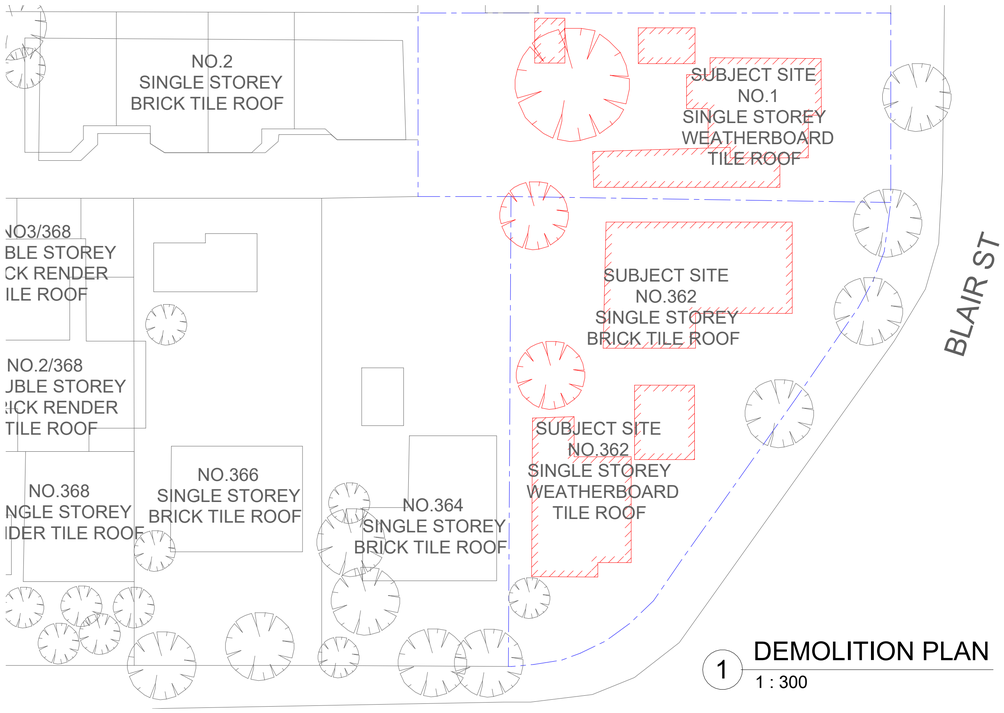
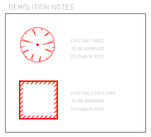
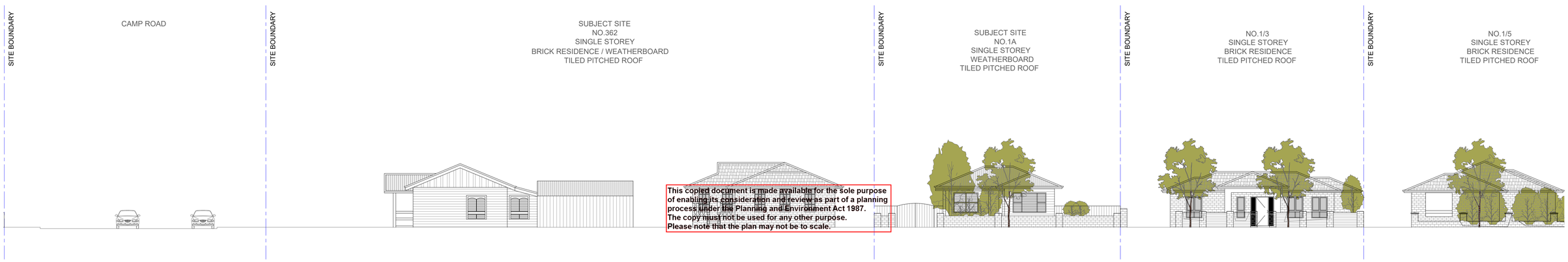


1 DEMOLITION PLAN
1 : 300





2 EXISTING STREETSCAPE
1 : 150

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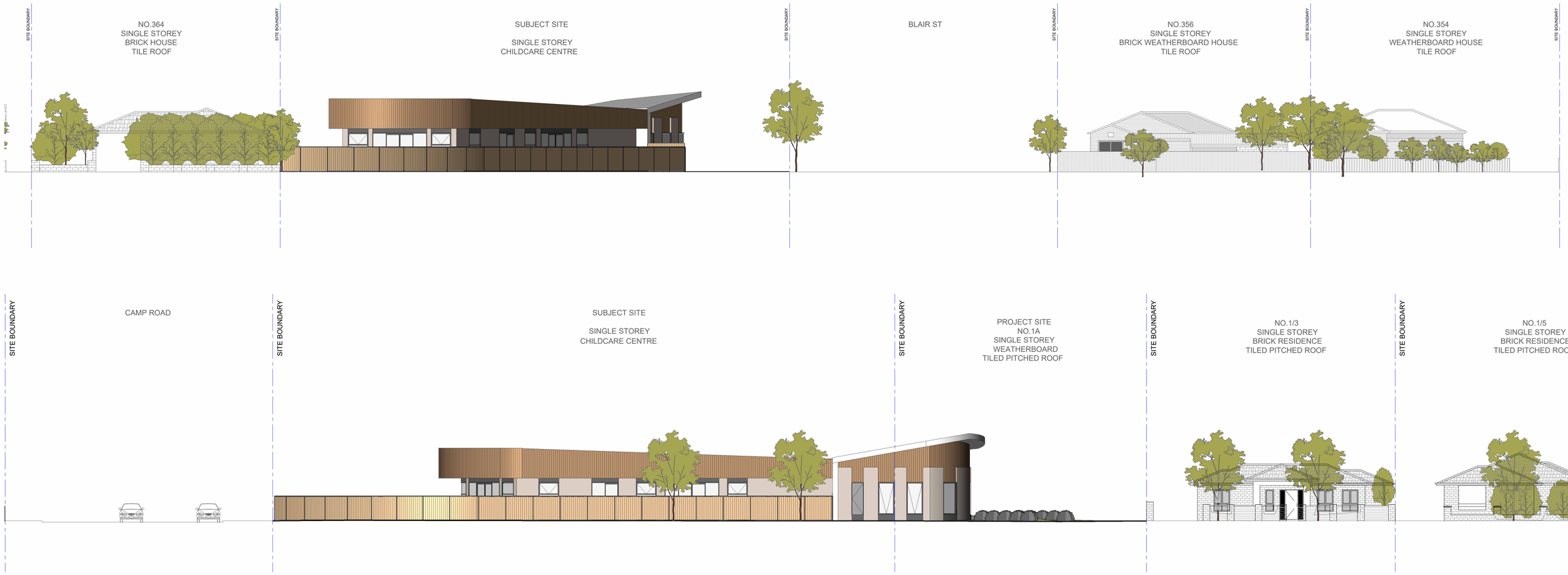
Sheet Tittle: DEMOLITION PLAN & EXISTING STREETSCAPES		**Drawing Number** TP04
Date 30/07/24	**Scale** As indicated@A1	**Revision** F
Drawn QD	**Checked** AL/ JW	



1 PROPOSED STREETSCAPES

1 : 150

[redacted]

ARCHITECT PRIOR TO WORKS COMMENCING.

Sheet Tittle: PROPOSED STREETSCAPES		Drawing Number TP05
Date 30/07/24	Scale 1 : 150@A1	Revision F
Drawn QD	Checked AL/ JW	

CAMP ROAD

BLAIR STREET

TREE GROUP #37
TPZ: 3.36m
SRZ: 2.10m

0.7m BRICK FENCE

BRICK HOUSE

HAB | N.HAB | DOOR | N.HAB | N.HAB | HAB

T.O.G.121.57

T.O.G.121.59

R.123.28

R.123.22

1.8m PALING FENCE

1.9m PALING FENCE

EXTERNAL WATER POINT & POWER POINT

MIN 1.8M HIGH (ABOVE NGL) ACOUSTIC FENCE ALONG THE SITE'S SIDE

1800mm CHILDPROOF ALUMINIUM (TIMBER LOOK) FENCE FOR PLAY AREA

DRAINAGE EASEMENT 1.52M

EASEMENT 2.44M

MAX 400mm RTW

MAX 400mm RETAINING WALL

1800mm CHILDPROOF ALUMINIUM (TIMBER LOOK) FENCE FOR PLAY AREA

EXISTING CROSSOVER REMOVED. CURB & NATURAL STRIP TO BE RETINSTATED

TRAFFIC LIGHT

ROAD PIT

BOLLARD

ELEC POLE

SIGN

STORMWATER PIT

EXTERNAL WATER POINT & POWER POINT

TREE #3
TPZ: 2.00m
SRZ: 1.50m

TREE #2
TPZ: 2.00m
SRZ: 1.53m

15,000L Rainwater tank (connected to entire development)

CHILDREN'S RM1
22 CHILDREN
72.1 m²

CHILDREN'S RM2
22 CHILDREN
72.3 m²

CHILDREN'S RM3
12 CHILDREN
39.2 m²

CHILDREN'S RM4
12 CHILDREN
39.1 m²

CHILDREN'S RM5
20 CHILDREN
65.1 m²

CHILDREN'S WC

STORAGE/ PREP

SERVICES

COT x8

KITCHEN
20.5 m²

DRY STORE
4.5 m²

ACC WC

LAUNDRY
11.6 m²

PARENTS ROOM
9.6 m²

PARENTS LOUNGE

RECEPTION

WC

ENTRY

ENTRY MAT

STAFF
16.0 m²

PLANNING
12.2 m²

PRAMS

BIKE SPACES x6

1100L BIN

1100L BIN

STAFF ONLY PARKING

SHED

CARPORT

HAB

VER

D

T.O.G.121.76

T.O.G.121.33

T.O.G.121.58

T.O.G.121.60

T.O.G.121.29

T.O.G.121.47

R.123.35

R.122.91

R.122.32

T.O.G.121.28

CARP

1.8m PALING + 0.5m SCREEN FENCE

1.2m BRICK & TIMBE

ELECTRICITY PIT

TELSTRA PIT

TREE #1 - to be removed at developer's cost

EXISTING CROSSOVER REMOVED. CURB & NATURAL STRIP TO BE RETINSTATED

PROPOSED CROSSOVER

DEVELOPMENT SUMMARY

TOTAL SITE AREA	1981 m²
TOTAL FLOOR AREA	544.2 m²
GARDEN AREA	714 m² (36.0%)
PERMEABILITY	756.5 m² (38.2%)
CAR PARK AREA	520.6 m² (26.3%)
NO. OF CHILDREN	88
NO. OF CHILDREN'S ROOMS	5
NO. OF CAR SPACES	19
UNENCUMBERED PLAY AREA	620.0 m²

LEGEND

- (TREE#) — DENOTES TREE IDENTIFICATION NUMBER MENTIONED IN ARBORIST REPORT
- DENOTES TREE PROTECTION ZONE & STRUCTURE ROOT ZONE
- DENOTES EXISTING TREES OR SHRUBS TO BE REMOVED
- DENOTES PROPOSED INDIGENOUS CANOPY TREE
- DENOTES PROPOSED SHRUBS & SMALL SCALE PLANTS
- DENOTES LAWN, GARDEN BED AND EXTERNAL PERVIOUS SOFTSCAPED AREAS
- DENOTES SELECTED CONCRETE DRIVEWAY
- DENOTES SELECTED PAVED AREA TO BE LAND ON POROUS COMPACTED SAND BASE
- DENOTES SELECTED CARPARK AREA TO DIVER TO THE PROPSOED RAINGARDENS

COLOUR CODE

- LOBBY/ CIRCULATION
- CHILDREN'S ROOM
- OFFICE
- SERVICE/ OTHER AMENITIES
- Acoustic wall between rooms

SMP INITIATIVES

Water & Stormwater Management

- Mark-up showing roof catchment area to be diverted to the Rainwater tank - If required, the use of charged pipe system will be explicitly acknowledged on the drawings and charged pipes will not be running underneath the building footprint.
- Location of the proposed 2.2m2 of raingarden treating part of the parking area- The raingarden can be separated and location should be chosen in accordance with civil/drainage engineer and landscape consultant (minimum 300mm away from boundary or structural footings and LPOD location consideration)
- Use of native or drought tolerant species for landscaped area. Watering will not be required after an initial period when plants are getting established. If irrigation is required, it will be connected to rainwater tanks.
- WELS rating for water fittings/fixtures (refer to report) - Fixtures (e.g. dishwasher) provided as part of base building work have to be chosen within one WELS star of best available at the time of purchase.

Energy Efficiency

- Note showing commitment to exceeding section J energy efficiency requirement of NCC 2022
- Note showing the maximum illumination power density (W/m2) of the development meet the requirements in NCC 2022
- Lighting sensors for external lighting (motion detectors, timers etc.)
- 5kW Solar PV system on the roof of the development
- Fossil-fuel free development

Indoor Environment Quality

- Note showing commitment to Outside Air Fan in all regular use spaces providing O/A rates
- 100% above minimum from AS1668AND O/A provision to ensure CO2 concentration remains below 650ppm

Transport

- Bike space location for employees within the development (6 bike spaces) Minimum one Electric vehicle charging infrastructure provision (Level 2-32amp)

Urban Ecology

- Extent of vegetated areas shown around the site (includes lawn)

Sheet Tittle: GROUND FLOOR PLAN		Drawing Number: TP06
Date: 30/07/24	Scale: 1 : 100@A1	Revision: F
Drawn: QD	Checked: AL/ JW	

CAMP ROAD

BLAIR STREET

1.8m PALING FENCE

1.9m PALING FENCE

0.7m BRICK FENCE

364 BRICK HOUSE

R:123.28

R:123.22

T.O.G:121.57

T.O.G:121.59

HAB

N.HAB

DOOR

8.91

3.41

SHED

CARPORT

T.O.G:121.76

T.O.G:121.33

T.O.W:121.60

T.O.G.121.5

3.54

EASEMENT 1.52m

EASEMENT 2.44m

1.8m PALING + 0.5m SCREEN FENCE

T.O.G:121.47

5.46

T.O.G:121.29

3.99

T.O.G:121.28

ENTIRE ROOF AREA
RUNOFF OF 670.7m2 WILL
BE DIVERTED INTO
RAINWATER TANKS

10°

3°

TRAFFIC LIGHT

BOLLARD

ROAD PIT

ELEC POLE

STAY FOR POLE

TRAFFIC LIGHT

STORMWATER PIT

SIGN

PROP OUTLET

ELECTRICITY PIT

TELSTRA PIT

Ht-4m

Ht-2m

Ht-3m

Ht-5m

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19

Sheet Tittle: ROOF PLAN		Drawing Number: TP07
Date: 30/07/24	Scale: 1 : 100@A1	Revision: F
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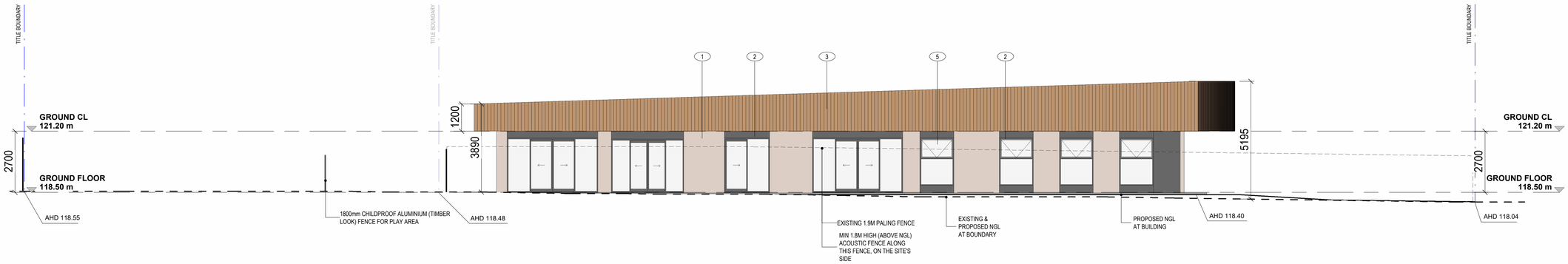


1 WEST ELEVATION

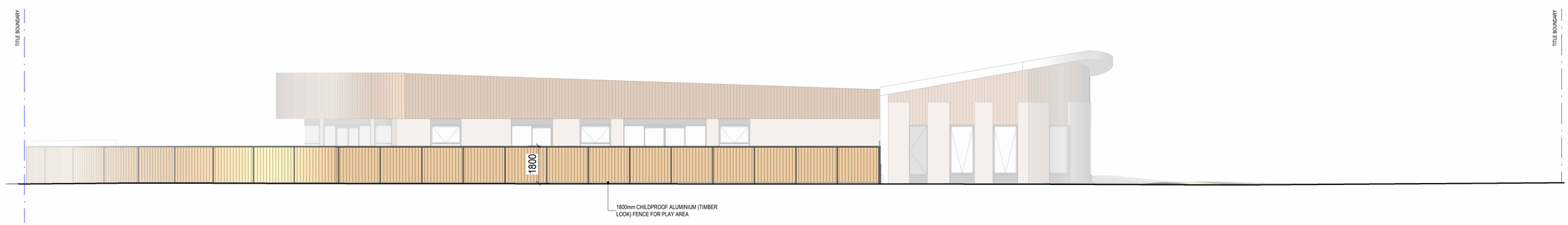
1 : 100

MATERIAL SCHEDULE

1. RENDER FINISH - COLORBOND 'DUNE' (or similar)
2. RENDER FINISH - COLORBOND 'MONUMENT' (or similar)
3. WALL CLADDING - TIMBER LOOKING
4. RENDER FINISH - DULUX VIVID WHITE (or similar)
5. CLEAR GLAZING
6. POWER COATED WINDOW & DOOR FRAMES - COLORBOND 'MONUMENT' (or similar)
7. ALUMINIUM (TIMBER LOOK) CSP FENCE

2 SOUTH-EAST ELEVATION

1 : 100



3 SOUTH-EAST ELEVATION - Front fence

1 : 100

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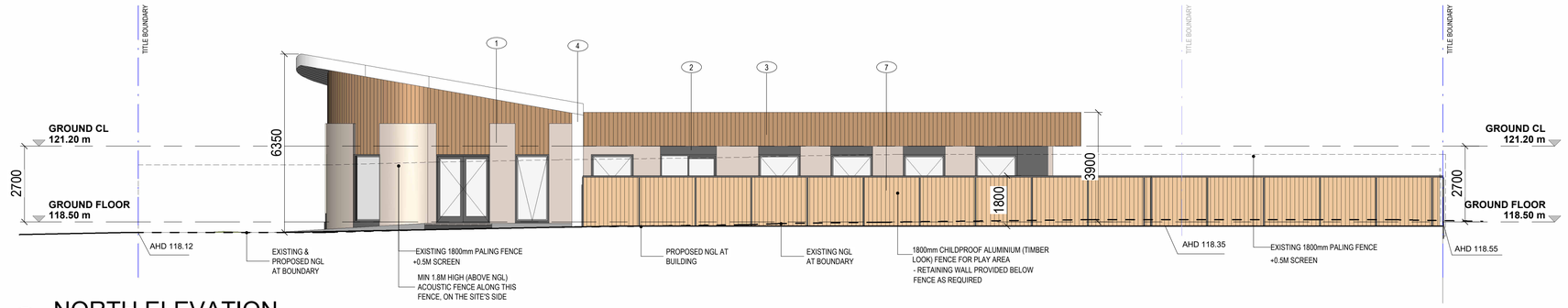
Date 30/07/24	Scale 1 : 100@A1	Revision F
Drawn QD	Checked AL/ JW	

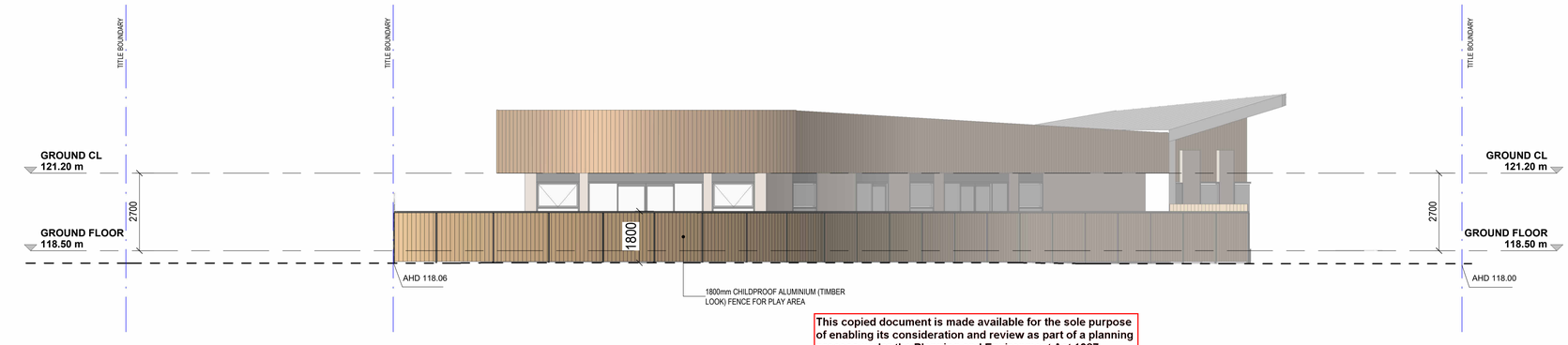


1 NORTH ELEVATION

1 : 100

2 SOUTH ELEVATION

1 : 100



3 SOUTH ELEVATION - Fence

1 : 100

MATERIAL SCHEDULE

1. RENDER FINISH - COLORBOND 'DUNE' (or similar)
2. RENDER FINISH - COLORBOND 'MONUMENT' (or similar)
3. WALL CLADDING - TIMBER LOOKING
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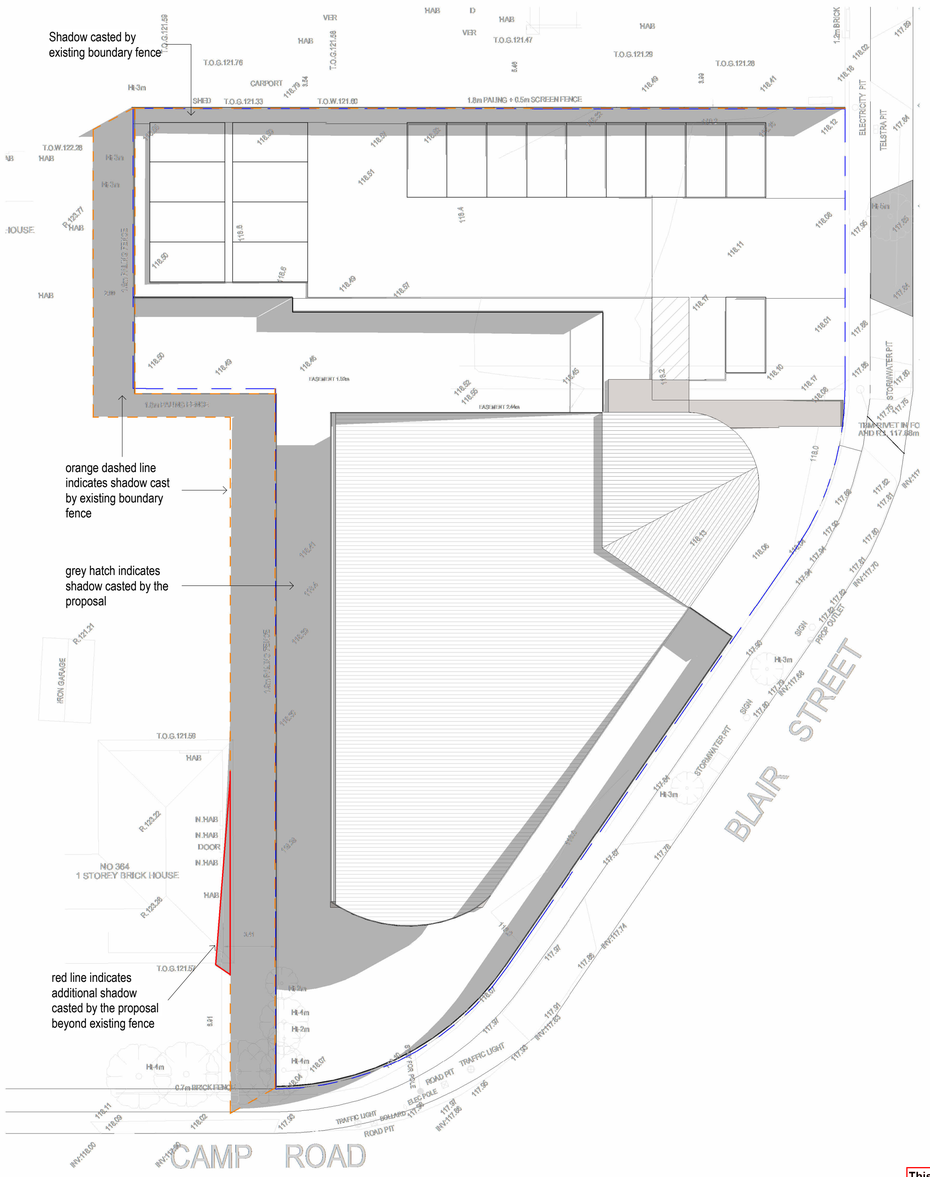
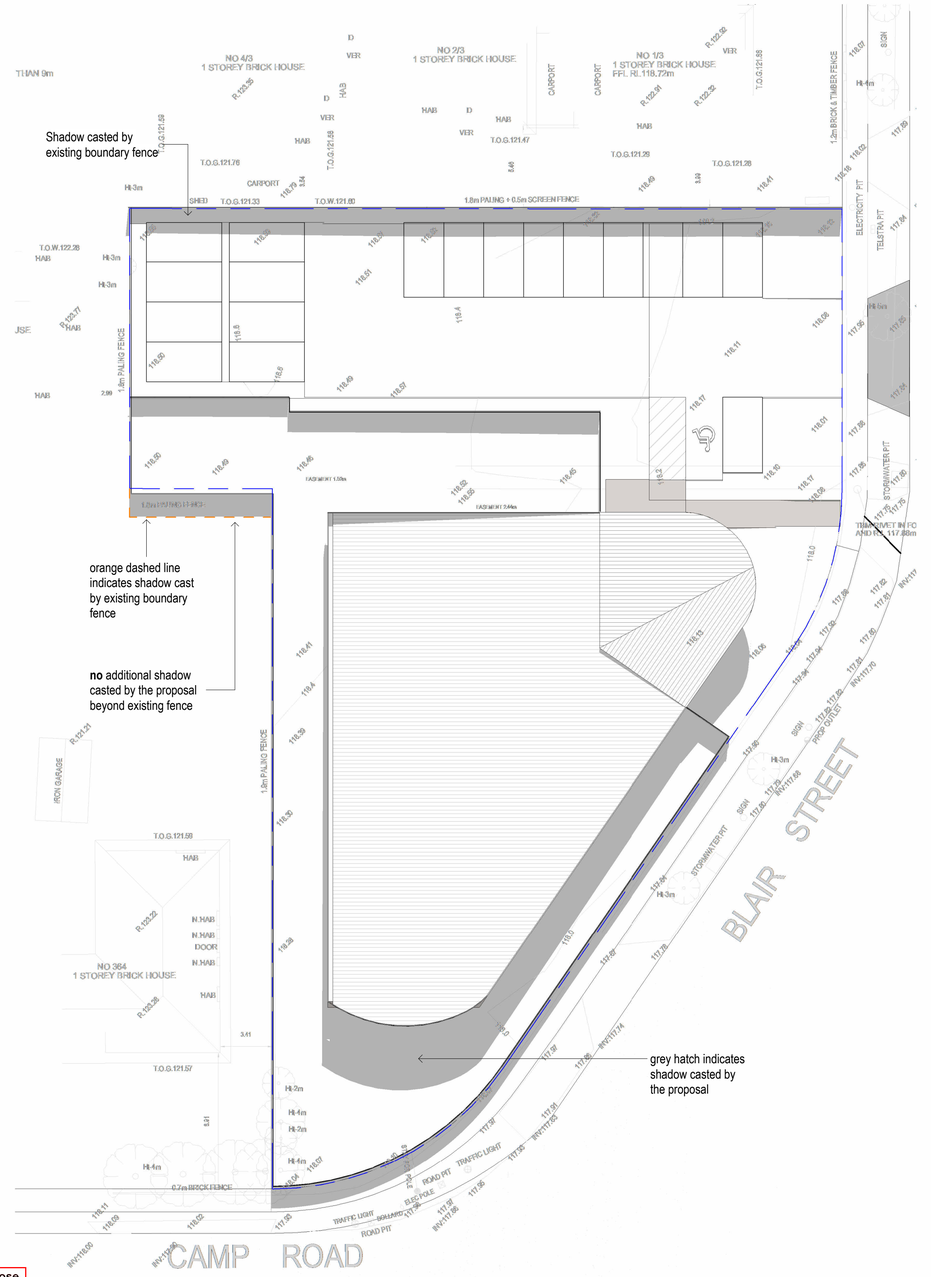
5. CLEAR GLAZING
6. POWER COATED WINDOW & DOOR FRAMES - COLORBOND 'MONUMENT' (or similar)
7. ALUMINIUM (TIMBER LOOK) CSP FENCE

Sheet Tittle: ELEVATIONS		**Drawing Number** TP09
Date 30/07/24	**Scale** 1 : 100@A1	**Revision** F
Drawn QD	**Checked** AL/ JW	



1 SHADOW_SEP 22 9AM

1 : 200



2 SHADOW_SEP 22 12PM

1 : 200

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	Date 30/07/24	**Scale** 1 : 200@A1	**Revision** F
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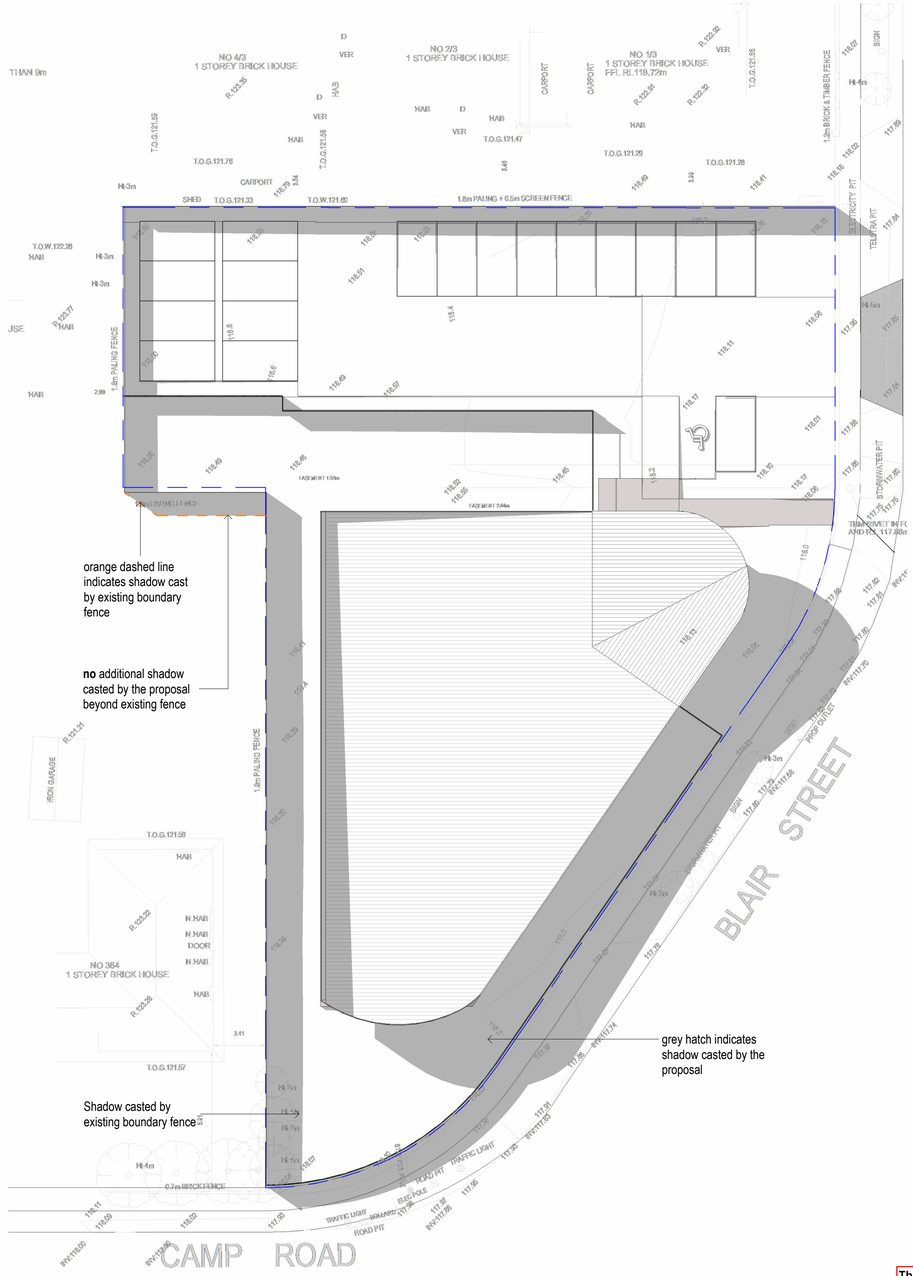


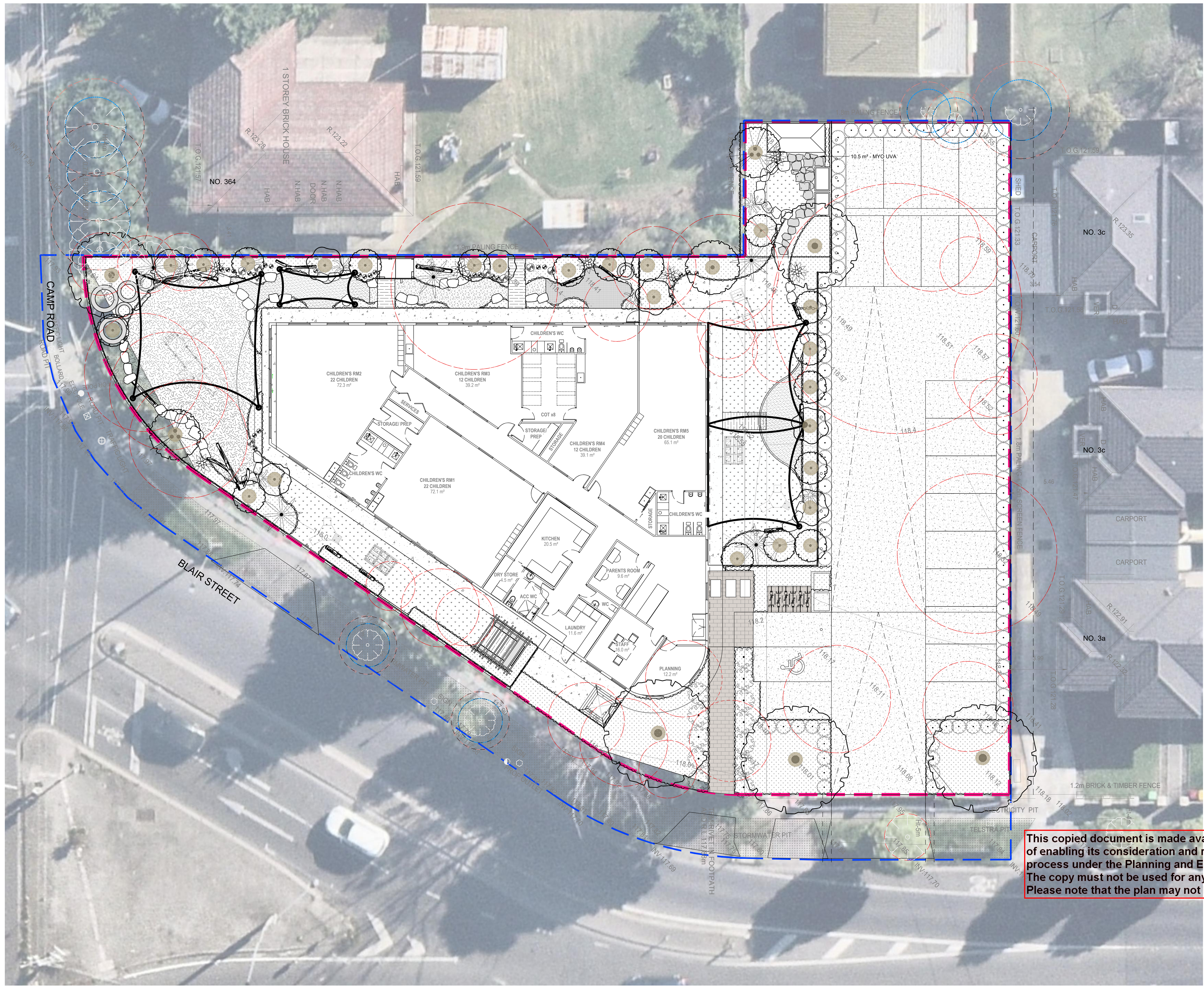
1 SHADOW_SEP 22 3PM

1 : 200

Sheet Tittle: SHADOW DIAGRAMS		**Drawing Number** TP11
Date 30/07/24	**Scale** 1 : 200@A1	**Revision** F
Drawn QD	**Checked** AL/ JW	

362 CAMP ROAD, BROADMEADOWS
Landscape Detailed Design Package

LISTS OF DRAWINGS:



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LANDSCAPE GENERAL NOTES

PRELIMINARIES

NOTE: THIS LANDSCAPE PLAN MUST BE READ IN CONJUNCTION WITH THE APPROPRIATE
STATUTORY APPROVALS AND AUSTRALIAN STANDARDS

GENERAL

- THE LANDSCAPE PLANS SHOULD BE READ IN CONJUNCTION WITH THE CIVIL PLANS, STRUCTURAL PLANS, SERVICE PLANS AND SURVEY PREPARED FOR THE PROPOSED DEVELOPMENT.
- ALL SERVICES INCLUDING EXISTING DRAINAGE SHOULD BE ACCURATELY LOCATED PRIOR TO THE COMMENCEMENT OF LANDSCAPE INSTALLATION. ANY PROPOSED TREE PLANTING WHICH FALLS CLOSE TO SERVICES WILL BE RELOCATED ON SITE UNDER THE INSTRUCTION OF THE LANDSCAPE ARCHITECT.
- INSTALLATION OF CONDUIT FOR REQUIRED IRRIGATION, ELECTRICAL AND OTHER SERVICES SHALL BE COMPLETED PRIOR TO THE COMMENCEMENT OF HARDSCAPE WORKS AND HARDSTAND POURS.
- ANOMALIES THAT OCCUR IN THESE PLANS SHOULD BE BROUGHT TO OUR IMMEDIATE ATTENTION.
- WHERE AN AUSTRALIAN STANDARD APPLIES FOR ANY LANDSCAPE MATERIAL TESTING OR INSTALLATION TECHNIQUE, THAT STANDARD SHALL BE FOLLOWED.
- PLANTING SHOWN REFLECTS THE DESIGN INTENT, EXACT NUMBERS AND LOCATIONS WILL REQUIRE CONFIRMATION ON SITE BY THE SUPERINTENDENT. ANY CHANGES TO BE MADE TO THE LANDSCAPE PLAN MUST BE APPROVED BY THE LANDSCAPE ARCHITECT AND SUPERINTENDENT.
- ALL LANDSCAPE PLANS PRESENTED ASSUME THAT ALL BASE AND SURVEY INFORMATION IS ACCURATE AND TO SCALE. THE CONTRACTOR SHALL CHECK LANDSCAPE PLANS PRESENTED FOR ANY DISCREPANCIES WITH THE EXISTING SITE CONDITIONS OR OTHER DRAWINGS PRESENTED PRIOR TO ANY CONSTRUCTION WORK TAKING PLACE. IF DISCREPANCIES DO OCCUR THESE SHALL BE HIGHLIGHTED AT ONCE TO THE SUPERINTENDENT PRIOR TO ANY CONSTRUCTION WORK TAKING PLACE. DIMENSIONS TAKE PRECEDENCE.

PROTECTION OF ADJACENT FINISHES

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT DAMAGE TO ALL OR ANY ADJACENT FINISHES BY PROVIDING ADEQUATE PROTECTION TO THESE AREA / SURFACES PRIOR TO THE COMMENCEMENT OF THE WORKS.

PROTECTION OF EXISTING TREES

EXISTING TREES IDENTIFIED TO BE RETAINED SHALL BE DONE SO IN ACCORDANCE WITH NATSPEC GUIDE 2 "A GUIDE TO ASSESSING TREE QUALITY" AND AS 4970, 2009. PROTECTION OF TREES ON DEVELOPMENT SITES. WHERE GENERAL WORKS ARE OCCURRING AROUND SUCH TREES, OR PRUNING IS REQUIRED, A QUALIFIED ARBORIST SHALL BE ENGAGED TO OVERSEE SUCH WORKS AND MANAGE TREE HEALTH.
EXISTING TREES DESIGNATED ON THE DRAWING FOR RETENTION SHALL BE PROTECTED AT ALL TIMES DURING THE CONSTRUCTION PERIOD. ANY SOIL WITHIN THE DRIP-LINE OF EXISTING TREES SHALL BE EXCAVATED AND REMOVED BY HAND ONLY. NO STOCKPILING SHALL OCCUR WITHIN THE ROOT ZONE OF EXISTING TREES TO BE RETAINED.

ANY ROOTS LARGER IN DIAMETER THAN 50MM SHALL ONLY BE SEVERED UNDER INSTRUCTION BY A QUALIFIED ARBORIST. ROOTS SMALLER THAN 50MM DIAMETER SHALL BE CUT CLEANLY WITH A SAW.

TEMPORARY FENCING SHALL BE INSTALLED AROUND THE BASE OF ALL TREES TO BE RETAINED PRIOR TO THE COMMENCEMENT OF LANDSCAPE WORKS. WHERE POSSIBLE THIS FENCING WILL BE LOCATED AROUND THE DRIP LINE OF THESE TREES, OR A MINIMUM OF 3M FROM THE TRUNK. THE FENCING SHALL BE MAINTAINED FOR THE FULL CONSTRUCTION PERIOD.

EROSION AND POLLUTION CONTROL

THE CONTRACTOR SHALL TAKE ALL PROPER PRECAUTIONS TO PREVENT THE EROSION OF SOIL FORM THE SUBJECT SITE. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL BARRIERS AND AS REQUIRED BY COUNCIL, AND MAINTAIN THESE BARRIERS THROUGHOUT THE CONSTRUCTION PERIOD. NOTE THAT THE SEDIMENT CONTROL MEASURES ADOPTED SHOULD REFLECT THE SOIL TYPE AND EROSION CHARACTERISTICS OF THE SITE.

EROSION & POLLUTION CONTROL MEASURES SHALL INCORPORATE THE FOLLOWING:

- CONSTRUCTION OF A SEDIMENT TRAP AT THE VEHICLE ACCESS POINT TO THE SUBJECT SITE
- SEDIMENT FENCING USING A GEOTEXTILE FILTER FABRIC IN THE LOCATION INDICATED ON THE EROSION CONTROL PLAN OR AS INSTRUCTED ON SITE BY THE LANDSCAPE ARCHITECT.
- EARTH BANKS TO PREVENT SCOUR OF STOCKPILES
- SANDBAG KERB SEDIMENT TRAPS
- STRAW BALE & GEOTEXTILE SEDIMENT FILTER
- EXPOSED BANKS SHALL BE PEGGED WITH AN APPROVED JUTE MATTING IN PREPARATION FOR MASS PLANTING

SOIL WORKS

MATERIALS

SPECIFIED SOIL CONDITIONER (GENERALLY TO IMPROVE SITE SOIL)
THE SPECIFIED SOIL CONDITIONER FOR SITE TOP-SOIL IMPROVEMENT SHALL BE AN ORGANIC MIX, EQUAL TO "BOTANY HUMUS", AS SUPPLIED BY AN APPROVED SUPPLIER. NOTE THAT FOR SITES WHERE SOIL TESTING INDICATES TOXINS OR EXTREMES IN PH, OR SOILS THAT ARE EXTREMELY POOR, ALLOW TO EXCAVATE AND SUPPLY 300MM OF IMPORTED SOIL MIX.

NEW GARDENS & PROPOSED PLANTING
NEW GARDEN AND PLANTING AREAS SHALL CONSIST OF A 50/50 MIX OF CLEAN SITE SOIL (REFER D) AND IMPORTED "ORGANIC GARDEN MIX" AS SUPPLIED BY AN APPROVED SUPPLIER. ALL MIXES ARE TO COMPLY WITH AS 4419 SOILS FOR LANDSCAPING & GARDEN USE, & AS 4454 COMPOSTS, SOIL CONDITIONERS & MULCHES.

SPECIFIED SOIL MIX - TURF
THE SPECIFIED SOIL MIX FOR ALL TURF AREAS SHALL BE A MIN (150MM FOR INSTANT TURF AND 50MM FOR HYDROSEEDED) LAYER OF IMPORTED SOIL MIX CONSISTING OF 80% WASHED RIVER SAND (REASONABLY COARSE), AND 20% COMPOSTED ORGANIC MATTER EQUIVALENT TO MUSHROOM COMPOST OR SOIL CONDITIONER, OR OTHER APPROVED LAWN TOP DRESS.

SITE TOPSOIL
SITE TOPSOIL IS TO BE CLEAN AND FREE OF UNWANTED MATTER SUCH AS GRAVEL, CLAY LUMPS, GRASS, WEEDS, TREE ROOTS, STICKS, RUBBISH AND PLASTICS, AND ANY DELETERIOUS MATERIALS AND MATERIALS TOXIC TO PLANTS. THE TOPSOIL MUST HAVE A PH OF BETWEEN 5.5 AND 7. USE 100% IMPORTED SOIL MIX WHEN SITE WHEN SITE TOPSOIL RUNS OUT.

INSTALLATION

a) TESTING
ALL TESTING IS TO BE CONDUCTED IN ACCORDANCE WITH AS1289 METHODS FOR TESTING SOILS FOR ENGINEERING PURPOSES. SITE SOIL SHALL BE GIVEN A PH TEST PRIOR TO MODIFYING TO ENSURE CONDITIONS ARE APPROPRIATE FOR PLANTING AS STATED ABOVE. TESTS SHALL BE TAKEN IN SEVERAL AREAS WHERE PLANTING IS PROPOSED, AND THE PH SHALL BE ADJUSTED ACCORDINGLY WITH SULPHUR OR LIME TO SUIT.

b) SET OUT OF INDIVIDUAL TREES & MASS PLANTING AREAS
ALL INDIVIDUAL TREE PLANTING POSITIONS AND AREAS DESIGNATED FOR MASS PLANTING SHALL BE SET OUT WITH STAKES OR ANOTHER FORM OF MARKING, READY FOR INSPECTION AND APPROVAL. LOCATE ALL SERVICES.

c) ESTABLISHING SUBGRADE LEVELS
SUBGRADE LEVELS ARE DEFINED AS THE FINISHED BASE LEVELS PRIOR TO THE PLACEMENT OF THE SPECIFIED MATERIAL (I.E. SOIL CONDITIONER). THE FOLLOWING SUBGRADE LEVELS SHALL APPLY:

- MASS PLANTING BEDS - 300MM BELOW EXISTING LEVELS WITH SPECIFIED IMPORTED SOIL MIX.
- TURF AREAS - 150MM BELOW FINISHED SURFACE LEVEL.

NOTE THAT ALL SUBGRADES SHALL CONSIST OF A RELATIVELY FREE DRAINING NATURAL MATERIAL, CONSISTING OF SITE TOPSOIL PLACED PREVIOUSLY BY THE CIVIL CONTRACTOR. NO BUILDERS WASTE MATERIAL SHALL BE ACCEPTABLE.

d) SUBGRADE CULTIVATION
CULTIVATE ALL SUBGRADES TO A MINIMUM DEPTH OF 150MM IN ALL PLANTING BEDS AND ALL TURF AREAS, ENSURING A THOROUGH BREAKUP OF THE SUBGRADE INTO A REASONABLY COARSE TILTH. GRADE SUBGRADES TO PROVIDE FALLS TO SURFACE AND SUBSURFACE DRAINS, PRIOR TO THE PLACEMENT OF THE FINAL SPECIFIED SOIL MIX.

e) DRAINAGE WORKS
INSTALL SURFACE AND SUBSURFACE DRAINAGE WHERE REQUIRED AND AS DETAILED ON THE DRAWING. DRAIN SUBSURFACE DRAINS TO OUTLETS PROVIDED, WITH A MINIMUM FALL OF 1:100 TO OUTLETS AND / OR SERVICE PITS.

f) PLACEMENT AND PREPARATION OF SPECIFIED SOIL CONDITIONER & MIXES.

- TREES IN TURF & BEDS - HOLES SHALL BE TWICE AS WIDE AS ROOT BALL AND MINIMUM 100MM DEEPER - BACKFILL HOLE WITH 50/50 MIX OF CLEAN SITE SOIL AND IMPORTED "ORGANIC GARDEN MIX" BY AN APPROVED SUPPLIER.
- MASS PLANTING BEDS - INSTALL SPECIFIED SOIL CONDITIONER TO A COMPACTED DEPTH OF 100MM

PLACE THE SPECIFIED SOIL CONDITIONER TO THE REQUIRED COMPACTED DEPTH AND USE A ROTARY HOE TO THOROUGHLY MIX THE CONDITIONER INTO THE TOP 300MM OF GARDEN BED SOIL. ENSURE THOROUGH MIXING AND THE PREPARATION OF A REASONABLY FINE TILTH AND GOOD GROWING MEDIUM IN PREPARATION FOR PLANTING.

- TURF AREAS - INSTALL SPECIFIED SOIL MIX TO A MINIMUM COMPACTED DEPTH OF 50-150MM. PLACE THE SPECIFIED SOIL MIX TO THE REQUIRED COMPACTED DEPTH AND GRADE TO REQUIRED FINISHED SOIL LEVELS, IN PREPARATION FOR PLANTING AND TURFING.

PLANTING

GRASS

kIKUYU GRASS (*Cenchrus clandestinus*). SHALL BE USED WHERE EVER NEW TURF IS NEEDED, UNLESS OTHERWISE ADVISED BY LANDSCAPE ARCHITECT.

TURF SHALL FREE FROM ALL PESTS, DISEASES, WEEDS AND OTHER PLANT MATTER.

GRASS / REINSTATEMENT

1. GRASSED AREAS ADJACENT TO THE PROPOSED WORKS ARE TO BE RE-SEEDED / MADE GOOD AS REQUIRED. SEED MIX TO BE CONFIRMED ON SITE AND MATCH EXISTING. GRASS SEED IS MIXED AND APPLIED AT THE RATES IN ACCORDANCE WITH THE SUPPLIERS SPECIFICATIONS AND GUIDELINES
2. TOPSOIL IS TO BE BROUGHT TO A FINE TILTH BEFORE RESEEDING COMMENCES. THE TOPSOIL SURFACE SHALL BE FREE OF WEEDS, LARGE STONES AND OTHER DEBRIS. TOPSOIL SHALL BE INSPECTED BY THE SUPERINTENDENT PRIOR TO SPRIGGING.
3. ALL AREAS TO BE RESEEDED WITH APPROVED GRASS SEED MIX TO ACHIEVE A DENSE GRASS. ALL SEEDED AREAS TO HAVE AN EVEN COVER AND BE FREE FROM ANY BARE PATCHES.
4. THE CONTRACTOR MUST SUBMIT A MAINTENANCE SCHEDULE/REGIME FOR THE DURATION OF THE WORKS (INCLUDING ANY MAINTENANCE OR DEFECT LIABILITY PERIODS) TO SUPPORT THE ESTABLISHMENT OF GRASS TO A 'SECOND CUT', INCLUDING BUT NOT LIMITED TO MOWING, WATERING AND WEEDING OF ALL NATURE STRIP AND LANDSCAPE AREAS INCLUDED OR AFFECTED BY THE WORKS.

TREES:

PLANT STOCK QUALITY CONTROL NOTES:

- SPECIMENS ARE VIGOROUS, WELL ESTABLISHED AND HARDENED OFF.
- PLANT STOCK AND SOIL IS TO BE FREE FROM DISEASE AND PESTS (INCLUDING FIRE ANTS).
- WATER TREE THOROUGHLY TO ELIMINATE AIR POCKETS

SPECIMENS HAVE THE ABILITY TO BE TRUNKED;

- THIS IS SPECIES DEPENDENT.
- WITH 25LT STOCK, A CLEAR TRUNK OF .5M CAN BE EXPECTED.
- WITH 45LT STOCK 1M IS ACCEPTABLE.

SPECIMENS SHOULD BE OF GOOD MATURITY IN RELATION TO THE SPECIFIED CONTAINER SIZE;

- THE CANOPY IS NOT SO HEAVY IN RELATION TO THE CONTAINER SIZE THAT THE POT CANNOT REMAIN UPRIGHT. ALL SPECIMENS MUST PASS THE 'BERNLEY TEST';
- SELECTED SPECIES ARE TO REMAIN FIRM WITHIN THE POT, WHEN MOVED BY ROCKING THE TRUNK, CAUSING THE WHOLE POT TO MOVE FIRMLY WITH THE TREE,
- IF THE TREE TRUNK CAN BE MOVED WITHIN THE ROOT BALL THE TREE IS TO BE REJECTED.

SPECIMENS MUST HAVE GOOD ROOT DEVELOPMENT WITH ROOTS EXTENDING TO THE BOTTOM AND OUTSIDE OF THE CONTAINER WITHOUT MATTING OR CIRCLING AT THE BASE OR SIDE OF THE POT.

ROOTS MUST NOT BE STICKING ABOVE THE POTTING MIX. THERE MUST BE NO KINKING, 'J' ROOTS OR CIRCLING AT THE POT SURFACE.

SPECIMENS MUST NOT BE TIP PRUNED.

TREE PLANTING NOTES:

EXCAVATE THE TREE PLANTING HOLE 3 TIMES THE WIDTH OF THE ROOT BALL.

ENSURE THE CENTRE OF THE HOLE RETAINS ENOUGH FIRM GROUND ON WHICH TO REST THE BASE OF THE ROOT BALL TO PREVENT SUBSIDING OVER TIME. CULTIVATE THE SUB-GRADE AROUND THE OUTER AREAS OF THE HOLE TO 150mm.

WHERE REQUIRED, INSTALL ROOT BARRIER TO MANUFACTURER'S SPECIFICATION.

FILL THE HOLE WITH WATER AND LET DRAIN THOROUGHLY PRIOR TO PLANTING. SET THE TREE VERTICAL, PROUD OF THE ADJACENT TURF AND WITH ITS CENTRAL LEADER IN TACT. THE TOP OF THE ROOTBALL SHOULD FINISH PROUD OF THE ADJACENT GROUND LEVEL.

BACKFILL WITH SITE SOIL MIXED 50150 WITH IMPORTED SOIL, TO CREATE A SHALLOW WELL AROUND THE TRUNK.

APPLY 500glm' OF GRANULAR DYNAMIC LIFTER (OR APPROVED EQUIVALENT). THOROUGHLY MIX TO A DEPTH OF 200mm. DO NOT APPLY FERTILSER TO DRY SOILS.

INSTALL 2 No. HARDWOOD STAKES 1800 X 25 X 25mm DRIVEN INTO FIRM SUB-GRADE. DO NOT PENETRATE ROOT BALL.

POSITION THE TREE SO THAT THE BRANCHES DO NOT RUB AGAINST THE HARDWOOD STAKES.

LOCATE FIGURE '8' HESSIAN TIES AT j OF TREE HEIGHT TO ALLOW THE TREE TO MOVE 30° IN EITHER DIRECTION FROM VERTICAL, AND RETURN TO AN UPRIGHT POSITION. ATTACH TIES WITH GALVANISED NAILS OR STAPLES.

UNDERSTOREY SHRUBS / GROUNDCOVERS TO BE INSTALLED MIN. 500mm FROM TREE TRUNK. REFER TO LCC STANDARD DETAIL 3 TYPICAL DETAIL - GROUNDCOVER / SHRUB DETAIL ON THIS SHEET.

ENSURE MULCH IS 100mm CLEAR OF TREE TRUNK AND 25mm CLEAR OF PLANT STEMS.

MAINTENANCE NOTES:

STAKE REMOVAL AS NECESSARY DUE TO PARTICULAR GROWTH HABITS, OTHERWISE REMOVE ST AKES AT THE END OF THE SPECIFIED MAINTENANCE PERIOD.

PRUNING BEFORE OFF MAINTENANCE MAY BE REQUIRED. WATER AS SPECIFIED DURING AN ESTABLISHMENT PERIOD OF ONE FULL SEASON (SIX MONTHS) TO ENSURE THAT PLANTS ARE SUFFICIENTLY ESTABLISHED AND 'HARDENED OFF'. REQ

GROUNDCOVER / SHRUBS PLANTING:

CULTIVATE AREA TO 200mm DEPTH.

APPLY 300mm DEPTH ORGANIC TOPSOIL, AS SPECIFIED TO ALL PLANTING AREAS. CENTRALLY MOUNDED TO ALLOW RUNOFF. MOUND SOIL IN GARDEN BED TO ENABLE WATER RUNOFF. ENSURE MOUNDING TRANSITIONS ARE SMOOTH.

WHERE REQUIRED, INSTALL ROOT BARRIER TO MANUFACTURER'S SPECIFICATION.

APPLY 500glm' OF GRANULAR DYNAMIC LIFTER (OR APPROVED EQUIVALENT). THOROUGHLY MIX TO A DEPTH OF 200mm.

EXCAVATE PLANT HOLE TO 300mm DEPTH. FILL PLANT HOLES WITH WATER AND LET DRAIN THOROUGHLY PRIOR TO PLANTING.

APPLY A SLOW RELEASE FERTILISER SUCH AS MUL TICOTE 8 (OR APPROVED EQUIVALENT) AT THE RATE OF 30g/PLANT TO MANUFACTURERS SPECIFICATIONS. DO NOT APPLY FERTILISER TO DRY SOIL.

SET SHRUB OR GROUNDCOVER VERTICALLY ON MOUNDED SOIL WITH SMALL WELL AROUND STEM.

SPREAD 100mm DEPTH ORGANIC MULCH AS SPECIFIED. ENSURE MULCH STAYS 25mm CLEAR OF PLANT STEM.

MAINTENANCE NOTES:

WATER AS SPECIFIED DURING AN ESTABLISHMENT PERIOD OF ONE FULL SEASON (SIX MONTHS) TO ENSURE THAT PLANTS ARE SUFFICIENTLY ESTABLISHED AND 'HARDENED OFF.

CONSOLIDATION AND MAINTENANCE

GENERAL

THE CONSOLIDATION AND MAINTENANCE PERIOD SHALL BE 24 MONTHS (OR 2 SUMMERS) BEGINNING FROM THE APPROVED COMPLETION OF THE SPECIFIED CONSTRUCTION WORK (PRACTICAL COMPLETION). A QUALIFIED LANDSCAPE MAINTENANCE CONTRACTOR SHALL UNDERTAKE THE REQUIRED LANDSCAPE MAINTENANCE WORKS. CONSOLIDATION AND MAINTENANCE SHALL MEAN THE CARE AND MAINTENANCE OF CONTRACTED WORKS BY ACCEPTED LANDSCAPING OR HORTICULTURAL PRACTICES, ENSURING THAT ALL PLANTS ARE IN OPTIMUM GROWING CONDITIONS AND APPEARANCE AT ALL TIMES, AS WELL AS RECTIFYING ANY DEFECTS THAT BECOME APPARENT IN THE CONTRACTED WORKS.

THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS WHERE AND AS REQUIRED:

1. WATERING ALL PLANTING AND LAWN AREAS / IRRIGATION MAINTENANCE TO ENSURE STRONG PLANT GROWTH.
2. CLEARING LITTER AND OTHER DEBRIS FROM LANDSCAPED AREAS.
3. REMOVING WEEDS WITHIN LAWNS AND GARDEN BEDS, PRUNING AND GENERAL PLANT MAINTENANCE.
4. REPLACEMENT OF DAMAGED, STOLEN OR UNHEALTHY PLANTS.
5. MAKE GOOD AREAS OF SOIL SUBSIDENCE OR EROSION.
6. TOPPING UP/ RE-MULCHING TO MAINTAIN SPECIFIED MULCH DEPTHS
7. PRUNING OF TREES AND SHRUBS AS REQUIRED
8. SPRAY / TREATMENT FOR INSECT AND DISEASE CONTROL.
9. SPRAY / TREATMENT FOR INSECT AND DISEASE CONTROL.
10. FERTILIZING WITH APPROVED FERTILIZERS AT CORRECT RATES.
11. MOWING LAWNS & TRIMMING EDGES EACH 14 DAYS IN SUMMER OR 18 DAYS IN WINTER
12. TOPDRESSING AND RE-SEEDING GRASS AREAS
13. PEST AND DISEASE CONTROL
14. MAINTENANCE OF TIMBER TREE STAKES AND TIES FOR ADVANCED TREES
15. REMOVAL OF TREE GUARDS AND STAKES
16. MAINTENANCE OF ALL FURNITURE / FITTINGS INCLUDING GRAFFITI REMOVAL / RE-APPLICATION OF TIMBER PRESERVATIVE, GENERAL MAINTENANCE ETC.
17. MAINTENANCE OF ALL PAVING, RETAINING AND HARDSCAPE ELEMENTS.
18. MONITORING OF PRE-EXISTING TREES AND UNDERTAKE ANY REQUIRED REMEDIAL WORKS.

ON THE COMPLETION OF THE MAINTENANCE PERIOD, THE LANDSCAPE WORKS SHALL BE INSPECTED AND AT THE SATISFACTION OF THE SUPERINTENDENT OR LANDSCAPE ARCHITECT, THE RESPONSIBILITY WILL BE SIGNED OVER TO THE CLIENT.

MAINTENANCE OF A GARDEN AREA

A GARDEN AREA IS MAINTAINED DURING THE MAINTENANCE PERIOD BY:

a. WATERING, MOWING, WEEDING, FERTILISING, CONTROLLING PESTS AND DISEASES, RETURFING, RESEEDING, RE-STAKING AND TYING, REPLANTING, RE-MULCHING, CULTIVATING, PRUNING, AERATING, RENOVATING, TOP DRESSING AND KEEPING THE LANDSCAPE AREA NEAT AND TIDY;
b. REPLACING A FAILED, DAMAGED OR STOLEN PLANT WITH A PLANT OF THE SAME SIZE AND SPECIES AND EQUAL TO THE SIZE OF A SIMILAR PLANT AT THE TIME OF REPLANTING;
c. WATERING EACH PLANT AS NECESSARY FROM THE DATE OF PLANTING TO MAINTAIN CONTINUING HEALTHY STRESS FREE GROWTH;
d. MAINTAINING A MULCHED AREA BY KEEPING THE AREA CLEAN AND TIDY AND REINSTATING THE MULCH AS NECESSARY;
e. ADJUSTING AND REPLACING A STAKE AND A TIE AS REQUIRED;
f. REMOVING A STAKE AS A PLANT BECOMES ESTABLISHED AND NO LONGER NEEDS SUPPORT UNLESS THE STAKE IS FOR A STREET TREE OR A MARKER STAKED PLANT;
g. ADJUSTING ANY UNEVEN SETTLING OR SLUMPS BY LIFTING THE MULCH, ADDING OR REMOVING APPROVED SOIL AND REPLACING THE MULCH TO THE REQUIRED LEVEL;
h. CARRYING OUT SUCH OTHER ACTIVITIES AS ARE NECESSARY TO ENSURE COMPLIANCE WITH THIS STANDARD SPECIFICATION;
i. KEEPING MULCH CLEAR OF PLANT STEMS TO PREVENT DAMAGE TO PLANTS.

MAINTENANCE OF A TREE

A TREE IS MAINTAINED DURING THE MAINTENANCE PERIOD BY:

a. REPLACING A FAILED, DAMAGED OR STOLEN PLANT WITH A PLANT OF THE SAME SIZE AND SPECIES AND EQUAL TO THE SIZE OF A SIMILAR PLANT AT THE TIME OF REPLANTING;
b. WATERING EACH PLANT AS NECESSARY FROM THE DATE OF PLANTING TO MAINTAIN CONTINUING HEALTHY STRESS FREE GROWTH;
c. MAINTAINING A MULCHED AREA BY KEEPING THE AREA CLEAN AND TIDY AND REINSTATING THE MULCH AS NECESSARY;
d. REGULARLY REMOVING WEEDS;
e. ADJUSTING AND REPLACING A STAKE AND A TIE AS REQUIRED;
f. ADJUSTING ANY UNEVEN SETTLING OR SLUMP BY LIFTING THE MULCH, ADDING OR REMOVING THE APPROVED TOPSOIL AND REPLACING THE MULCH TO THE REQUIRED LEVEL;
g. REMOVING THE LOWER BRANCHES OF A TREE PLANTED IN A ROAD AREA AS NECESSARY;
h. FERTILISING AND SPRAYING THE TREE AS NECESSARY TO ENSURE HEALTHY GROWTH;
i. PRUNING A STREET TREE IN ACCORDANCE WITH AS 4373-1996 PRUNING OF AMENITY TREES.

IF TREE SURGERY IS REQUIRED TO BE CARRIED OUT ON AN EXISTING RETAINED TREE, A TRANSPLANTED TREE, A NEWLY PLANTED TREE, OR A DAMAGED TREE, THE TREE SURGERY IS PERFORMED BY A QUALIFIED TREE SURGEON.

MAINTENANCE OF A GRASSED AREA

1. A GRASSED AREA IS MAINTAINED DURING THE MAINTENANCE PERIOD BY:
   (A) MOWING GRASS TO 50mm HEIGHT WHEN GRASS HAS GROWN NO HIGHER THAN 75mm AND REMOVING GRASS CLIPPINGS FROM THE LANDSCAPE AREA OR AS OTHERWISE APPROVED BY THE LOCAL GOVERNMENT;
   (B) APPLYING WATER AT REGULAR INTERVALS TO ENSURE ONGOING HEALTHY GROWTH.

REQUIRED STANDARDS

AS 2303:2018 • TREE STOCK FOR LANDSCAPE USE.
AS 4970, 2009. PROTECTION OF TREES ON DEVELOPMENT SITES.
AS 4419:2003 • SOILS FOR LANDSCAPING AND GARDEN USE.
AS 1289.0:2014 • METHODS OF TESTING SOILS FOR ENGINEERING PURPOSES DEFINITIONS AND GENERAL REQUIREMENTS.
AS 4454:2012 • COMPOSTS, SOIL CONDITIONERS AND MULCHES

[redacted]

LEGEND

- SITE BOUNDARY
- EXTENT OF WORKS
- DRAINAGE EASEMENT
- TREES TO BE PROTECTED & RETAINED
  AS PER BLUEGUM ARBORIST REPORT VER: 07/23
- TREE PROTECTION ZONE (TPZ)
  AS PER BLUEGUM ARBORIST REPORT VER: 07/23
- STRUCTURAL ROOT ZONE (SRZ)
  AS PER BLUEGUM ARBORIST REPORT VER: 07/23
- T3 — TREES TO BE REMOVED
  AS PER BLUEGUM ARBORIST REPORT VER: 07/23
- PROPOSED TREES WITH 1m DIA MULCH RING
  REFER TO PROPOSED PLANT SCHEDULE (PL_502)
  REFER TO TYPICAL DETAIL 01/DT_961
- PROPOSED REINSTATEMENT GRASSING TO VERGE
  LOCAL FESCUE SPECIES TO MATCH EXISTING TO COUNCIL APPROVA
  REFER TO TYPICAL DETAILS XX/XXXX
- PROPOSED MULCHED GARDEN BED PLANTING
  REFER TO PROPOSED PLANT SCHEDULE (PL_502)
  AND SPECIFICATION. REFER TO TYPICAL DETAILS 02 & 03 DT_961
- RAISED GARDEN BEDS
  REFER TO PROPOSED PLANT SCHEDULE FOR FURTHER DETAIL
  AND SPECIFICATION. REFER TO TYPICAL DETAIL 04/DT_961
- P1 — PROPOSED PERMEABLE CONCRETE FOOTPATH
  REFER TO TYPICAL DETAIL 01/DT_901
- P2 — PROPOSED ARTIFICIAL GRASS SURFACING
  REFER TO TYPICAL DETAIL 04/DT_901
- P3 — PROPOSED ORGANIC SOFTFALL MULCH SURFACE
  REFER TO TYPICAL DETAIL 05/DT_901
- P4 — PROPOSED HARDWOOD TIMBER DECKING
  REFER TO TYPICAL DETAIL 10/DT_901
- P5 — PROPOSED WASHED SAND
  SAND PIT 450 MIN DEPTH
  REFER TO TYPICAL DETAIL 06/DT_901
- P6 — PROPOSED NATURAL STONE CRAZY PAVING
  REFER TO TYPICAL DETAIL 03/DT_901
- P7 — PROPOSED ENTRANCE PAVING
  (BY OTHERS)
- P8 — PROPOSED CAR PARK SURFACING
  BY OTHERS
- PROPOSED TIMBER EDGE
  REFER TO TYPICAL DETAIL 07 & 08 DT_901
- PROPOSED NATURE PLAY
  PLAY EQUIPMENT TO FUTURE DETAIL DESIGNED
  BY PLAYSPACE CONSULTANT
  REFER TO TYPICAL DETAIL 01, 02 & 03/DT_951
- PROPOSED RECYCLED TYRES
  PLAY EQUIPMENT TO FUTURE DETAIL DESIGNED
  BY PLAYSPACE CONSULTANT
- RECYCLED CLASS 1 HARDWOOD WHARF TIMBERS (300-400mm DIAMETER) PREPARED FOR USE BY CHILDREN
  REFER TO TYPICAL DETAIL 06/DT_951
- ROCK EDGE
  REFER TO TYPICAL DETAIL 01/DT_951
- ROCK SEAT - SAWN FLAT TOPS
  - SAWN FLAT TOP, WEATHERED IMPORTED BOULDERS CAREFULLY AND SECURLY SET ⅓ RD INTO SUBGRADE TO BEST NATURAL ASPECT
  REFER TO TYPICAL DETAIL 02/DT_951
- TIMBER LOG EDGE / SEAT
  REFER TO TYPICAL DETAIL 06/DT_951
- SENSORY ELEMENTS
  PLAY EQUIPMENT TO FUTURE DETAIL DESIGNED
  BY PLAY SPACE CONSULTANT
  REFER TO TYPICAL DETAILS DRAWING DT_952

- INDICATIVE PLAY EQUIPMENT
  PLAY EQUIPMENT TO FUTURE DETAIL DESIGNED
  BY PLAY SPACE CONSULTANT
- SHADE SAILS (SHOWN INDICATIVELY)
  TO FUTURE DETAIL DESIGNED
  BY PLAY SPACE CONSULTANT


STAFF ONLY PARKING
CHILDREN'S RM1 22 CHILDREN 72.1 m²
CHILDREN'S RM2 22 CHILDREN 72.3 m²
CHILDREN'S RM3 12 CHILDREN 39.2 m²
CHILDREN'S RM4 12 CHILDREN 39.1 m²
CHILDREN'S RM5 20 CHILDREN 65.1 m²
CHILDREN'S WC
COT x8
STORAGE/ PREP
SERVICES
STORAGE
KITCHEN 20.5 m²
DRY STORE 4.5 m²
ACC WC
LAUNDRY 11.6 m²
PARENTS ROOM 9.6 m²
RECEPTION
STAFF 16.0 m²
PLANNING 12.2 m²
PARENTS LOUNGE
ENTRY
PRAMS
BIKE SPACES x6
1100L BIN
CAMP ROAD
BLAIR STREET
NO. 364
STOREY BRICK HOUSE
NO. 3c
NO. 3a
CARPORT
1.8m PALING FENCE
1.9m PALING FENCE
1.8m PALING + 0.5m SCREEN FENCE
MIN 1.8M HIGH (ABOVE NGL) ACOUSTIC FENCE ALONG THE SITE'S SIDE
TREE GROUP #37 TPZ: 3.36m SRZ: 2.10m
TREE #3 TPZ: 2.00m SRZ: 1.50m
TREE #2 TPZ: 2.00m SRZ: 1.53m
EXISTING CROSSOVER REMOVED. CURB & NATURAL STRIP TO BE REINSTATED
MAX 400mm RETAINING WALL
EXTERNAL WATER POINT & POWER POINT
1 - EUC BAU
1 - ACA PEN
1 - BRA FLO
1 - LAG LIP
1 - VIM JUN
1 - HAK FRA
1 - COR DFP
1 - AGA ATT
1 - DOR EXC
1 - ALO SLS
1 - CER EAS
1 - WAT FLO
1 - EUC COL
1 - EUC MEL
10.5 m² - MYO UVA
(18) CHR CLU
(18) POA TUS
(18) WES NZA
(53) CHR CLU
(53) POA TUS
(53) WES NZA
(17) RHO IPM
(6) RHO IPM
(7) RHO IPM
(4) RHO IPM
(12) RHO IPM
(10) RHO IPM
(16) ALY HGL
(16) BUD ZFA
(16) PEN OIA
(17) ALY HGL
(17) BUD ZFA
(17) PEN OIA
(101) BAN BLC
(101) CAS COU
(101) JUN PR4
(5) BAN BLC
(5) CAS COU
(5) JUN PR4
(11) CIS PRO
(11) PYC GLO
(11) SAL YCL
(43) COR BLG
(43) TUL VIO
(43) MYO UVA
(19) COR BLG
(19) TUL VIO
(19) MYO UVA
(35) COR BLG
(35) TUL VIO
(35) MYO UVA
(59) COR BLG
(59) TUL VIO
(59) MYO UVA
(72) COR BLG
(72) TUL VIO
(72) MYO UVA
7 - COR WH3
5 - COR WH3
9 - NAN MO2
10 - NAN MO2
82 - SYZ PIN
ELECTRICITY PIT
TELSTRA PIT
TRAFFIC LIGHT
BOLLARD
SIGN

[redacted]

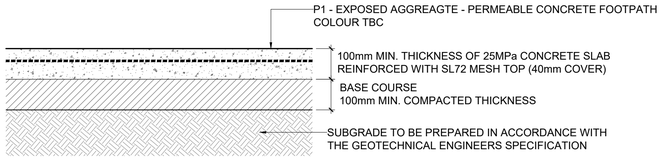
PROPOSED PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONTAINER SIZE	CONTAINER TYPE	CALIPER (DBH)	INSTALL HT.	SIZE (H X W)	QTY
EXOTIC TREES								
	CER EAS	Cercis canadensis / Eastern Redbud Multi-trunk	P 45lt	Pot	20mm cal.	1.5m-2.0m	5m x 5m	2
	LAG LIP	Lagerstroemia indica x fauriei 'Lipan' / Lipan Crape Myrtle	P 45lt	Pot	20mm cal.	1.5m-2.0m	4m x3m	4
		SUBTOTAL:						6
INDIGENOUS TREES								
	EUC BAU	Eucalyptus baueriana thalassina / Werribee Blue Gum	P 45lt	Pot	20mm cal.	1.5m-2.0m	12m x 8m	2
	EUC COL	Eucalyptus leucoxylon connata / Connata Yellow Gum	P 45lt	Pot	20mm cal.	1.5m-2.0m	12m x 10m	2
	EUC MEL	Eucalyptus melliodora / Yellow Box	P 45lt	Pot	20mm cal.	1.5m-2.0m	15m x 8-15m	1
		SUBTOTAL:						5
NATIVE TREES								
	ACA PEN	Acacia pendula / Weeping Myall	P 45lt	Pot	20mm cal.	1.5m-2.0m	4m x 3m	3
	BRA FLO	Brachychiton populneus x acerifolius 'Bella Donna' / Bella Donna Bottle Tree	P 45lt	Pot	20mm cal.	1.5m-2.0m	5-6m x 3-4m	4
	COR DFP	Corymbia citriodora 'Dwarf Pink' / Dwarf Lemon Scented Gum	P 45lt	Pot	20mm cal.	1.5m-2.0m	7m x 3m	5
	HAK FRA	Hakea francisiana / Grass-leaf Hakea	P 45lt	Pot	20mm cal.	1.5m-2.0m	5m x 3m	4
	VIM JUN	Viminaria juncea / Australian Broom	P 45lt	Pot	20mm cal.	1.5m-2.0m	2.5m x 2.5m	4
	WAT FLO	Waterhousea floribunda / Weeping Lilly Pilly	P 45lt	Pot	20mm cal.	1.5m-2.0m	8m x 5m	1
		SUBTOTAL:						21

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONTAINER SIZE	CONTAINER TYPE	SIZE (H X W)	QTY
LARGE SHRUBS						
	ALY HGL	Alyogyne huegelii / Blue Hibiscus	P 140mm	Pot	1-2m x 1-2.5m	36
	BUD ZFA	Buddleja davidii 'Buzz' / Butterfly Bush	P 140mm	Pot	1m x 1m	36
	COR WH3	Correa alba / White Correa	P 140mm	Pot	1.5m x 1.5m (Trimmed)	12
	DOR EXC	Doryanthes excelsa / Gymea Lily	P 300mm	Pot	1.5m x 1.5m	6
	NAN MO2	Nandina domestica 'Moon Bay' / Moon Bay Heavenly Bamboo	P 140mm	Pot	0.6-1m x 0.6-1m	19
	SYZ PIN	Syzygium australe 'Pinnacle' / Pinnacle Lilly Pilly	P 140mm	Pot	6-10m x 1-1.5	82
		SUBTOTAL:				191
LOW SHRUBS						
	BAN BLC	Banksia blechnifolia / Ground Banksia	P 140mm	Pot	0.5m x 2-4m	106
	COR BLG	Correa glabra 'Ivory Lantern' / Ivory Lantern Rock Fuchsia	P 140mm	Pot	0.5m x 0.5m	156
	JUN PR4	Juniperus squamata 'Prostrata' / Prostrata Juniper	P 140mm	Pot	0.4m x 1m	106
	SAL YCL	Salvia chamaedryoides 'Marine Blue' / Germander Sage	P 140mm	Pot	0.3-0.6m x 0.5m	11
	WES NZA	Westringia fruticosa 'Low Horizon' / Coast Rosemary	P 140mm	Pot	0.3m x 0.7m	64
		SUBTOTAL:				443
PERENNIALS						
	CAS COU	Casuarina glauca 'Cousin It' / Cousin It Swamp Oak	P 140mm	Pot	0.3m x 1.5m	106
	CHR CLU	Chrysocephalum semipapposum / Clustered Everlasting	P 140mm	Pot	0.5m x 0.5m	64
	CIS PRO	Cistus salviifolius 'Prostratus' / Sageleaf Rockrose	P 140mm	Pot	1.2m x 2-3m	11
	PEN OIA	Pennisetum alopecuroides 'Nafray' / Fountain Grass	P 140mm	Pot	0.6m x 0.6m	36
	POA TUS	Poa labillardieri / Tussock Grass	P 140mm	Pot	1m x 0.8m	64
	PYC GLO	Pycnosorus globosus / Drumsticks	P 140mm	Pot		11
	RHO IPM	Rhodanthe anthemoides 'Southern Star' / Paper Daisy	P 140mm	Pot		57
	TUL VIO	Tulbaghia violacea / Society Garlic	P 140mm	Pot	0.5m x 0.5m	156
		SUBTOTAL:				505
SUCCULENTS						
	AGA ATT	Agave attenuata / Foxtail Agave	P 300mm	Pot	1m x 1.5m	7
	ALO SLS	Aloe arborescens `Spineless` / Spineless Torch Aloe	P 300mm	Pot	3m x 3m	5
		SUBTOTAL:				12

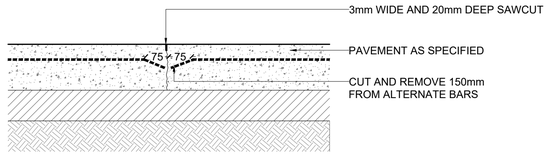
SYMBOL	CODE	BOTANICAL / COMMON NAME	CONTAINER SIZE	CONTAINER TYPE	SPACING	SIZE (H X W)	QTY
LOW GROUND COVERS							
	MYO UVA	Myoporum parvifolium purpurea / Purple Trailing Myoporum	P 140mm	Pot		0.15m x 1-5m	166.5 m²
		SUBTOTAL:					166.5 m²

NOTE: PLANTS ARE SHOWN AS 75% OF THEIR MATURE WIDTH FOR EACH SPECIES AS PER PERMIT CONDITION 4 /P25822



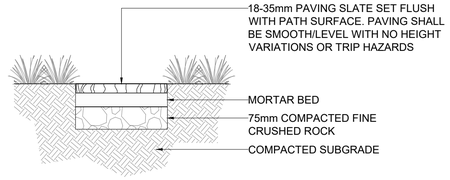
1 DT_901 P1 - EXPOSED AGGREGATE PERMEBALE CONCRETE NON-TRAFFICKABLE PAVEMENT DETAIL
SCALE 1:10

PAVEMENT DESIGN BASED ON THE FOLLOWING ASSUMPTIONS:
- NON REACTIVE SUBGRADE

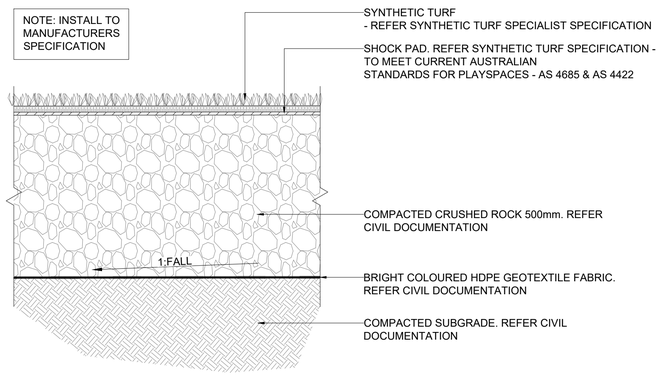


2 DT_901 FOOTPATH - SAWCUT JOINT DETAIL
SCALE 1:10

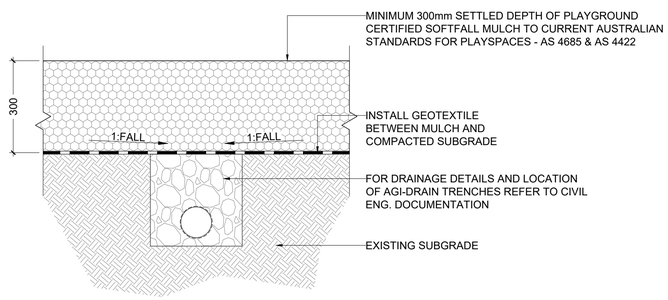
NOTE:
- JOINT TO BE SAWN AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY THAT IT WILL NOT BE DAMAGED BY SAWING (MAX 24HRS)
- REFER SPECIFICATION NOTES FOR JOINT SPACINGS (2m UNO)



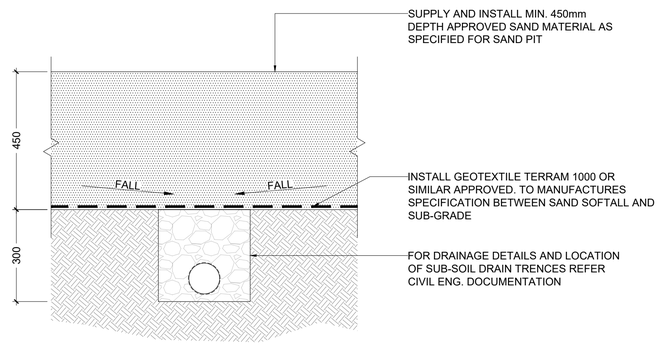
3 DT_901 P6 - STEPPING STONES IN GARDEN BED
SCALE 1:10



4 DT_901 P2 - SYNTHETIC TURF
SCALE 1:10

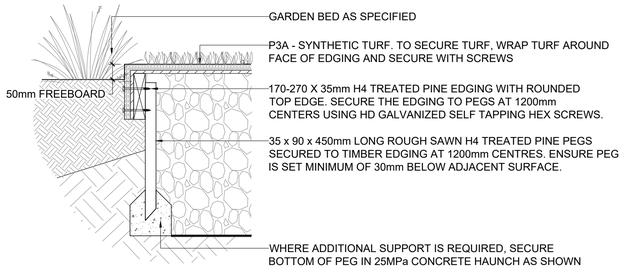


5 DT_901 P3 - PLAYGROUND MULCH
SCALE 1:10

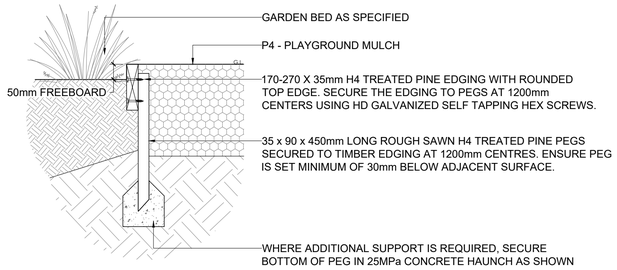


6 DT_901 P5 - WASHED SAND
SCALE 1:10

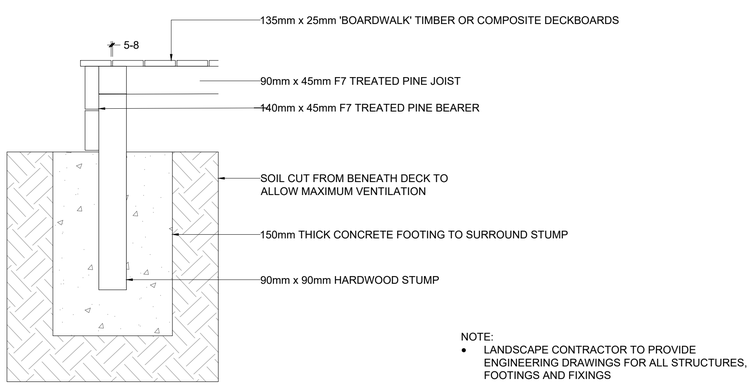
TIMBER EDGING NOTES:
- TIMBER EDGING TO BE SECURED AT 1.2m CENTRES TO PEGS WITH HD GALVANIZED SELF TAPPING SCREWS.
- PEGS SHALL BE 30mm BELOW THE TOP OF EDGING.
- JOINTS SHALL BE MADE BY BRIDGING THE ABUTTING LENGTHS WITH AN ADDITIONAL SECTION OF EDGING SET 50mm BELOW THE TOP OF THE ABUTTING LENGTHS PEG SHALL BE NO MORE THAN 300mm EACH SIDE OF THE JOIN.
- SCREW THE TWO LENGTHS TOGETHER OR BUTT-JOINT THE ENDS.
- ALL CORNERS TO BE MITRE CUT TO FORM A TIGHT JOIN. USE FOUR BOLTS PER UPRIGHT CONNECTION.



7 DT_901 E1 - TIMBER EDGE - SYNTHETIC TURF INTERFACE TYPICAL DETAIL
SCALE 1:10



8 DT_901 E1 - TIMBER EDGE - PLAYGROUND MULCH INTERFACE TYPICAL DETAIL
SCALE 1:10

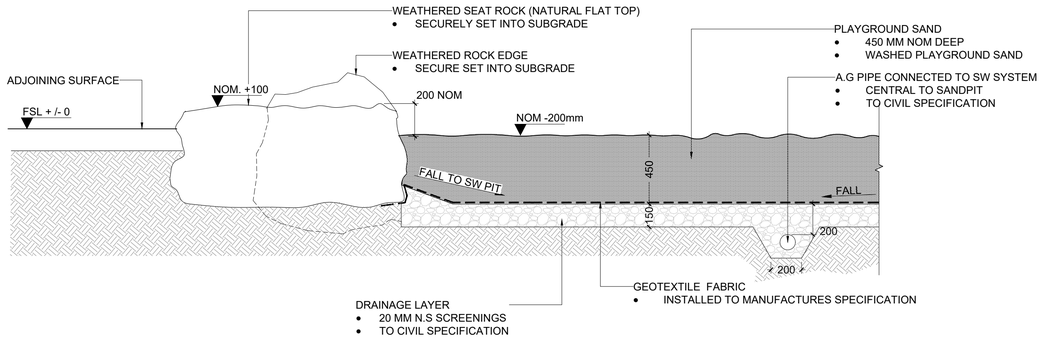


NOTE:
- LANDSCAPE CONTRACTOR TO PROVIDE ENGINEERING DRAWINGS FOR ALL STRUCTURES, FOOTINGS AND FIXINGS

10 DT_901 P4 - HARDWOOD TIMBER DECKING - TYPICAL DETAIL
SCALE 1:10

WEATHERED SITE ROCK

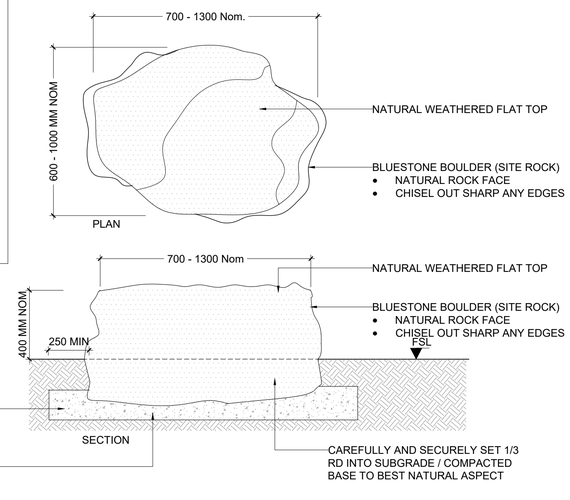
- ENSURE THERE ARE NO CREVICES OR SHARP PROTRUSIONS.
- SECULREY SET MIN 1/2 INTO SUBGRADE TO BEST NATURAL ASPECT
- GARDEN ROCK EDGE CAN BE A MIX OF SMALLER FLAT TOP SITE ROCKS (NOM. 400 X 400MM TO 600 X 600MM) AND LARGER FLAT TOP SITE ROCKS (NOM. 600 X 600MM TO 1000 X 1200MM).
- HEIGHT OF GARDEN ROCK EDGE CAN VARY FROM 200 - 350MM NOM. ABOVE FINISHED LEVEL.
- ROCKS TO BE BUTT JOINTED AS CLOSE AS POSSIBLE TO MINIMISE GAPS BETWEEN ROCKS TO AVOID ANY POSSIBLE FOOT ENTRAPMENT. ALL GAPS POSING POTENTIAL ENTRAPMENT HAZARD TO BE CONCRETED WITH BEIGE COLOUR CONCRETE TO MATCH ROCK COLOUR.
- ANY SHARP EDGES SHALL BE CHISELLED OUT.
- ROCKS ABUTTING SOFTFALL AREA TO HAVE DEFINED VERTICAL EDGE TO PROVIDE A NEATLY FINISH EDGE TO SOFTFALL.
- ROCK EDGES TO BE ORIENTED TO BEST MATCH DRAWINGS AND NO. OF ROCKS TO BE MAINTAINED AS PER DRAWINGS.



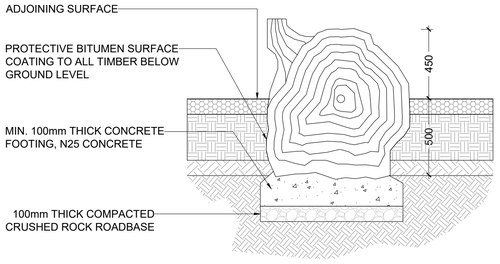
1 DT_951 WEATHERED ROCK EDGE / SAND PIT DETAIL
SCALE 1:20

ROCK SEAT

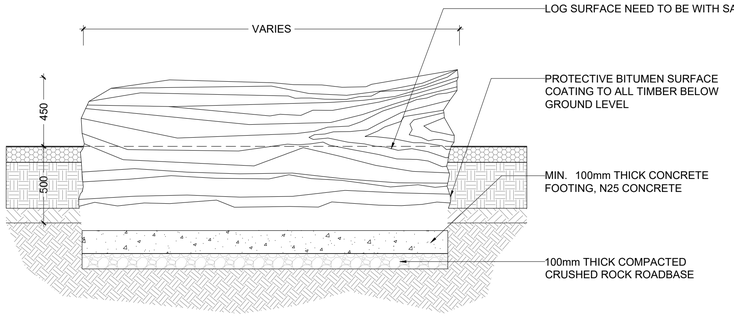
- ROCK SEATS ARE SPECIFIED TO BE BETWEEN 600X700X600 HIGH AND 1000X1300X600 HIGH WITH A FLAT TOP AND ROUNDED EDGES. AS A GENERAL RULE, ROCKS THAT HAS A FLAT TOP SURFACE TO ALLOW MIN. 2-3 KIDS TO SEAT ON TOGETHER AND A VERTICAL SIDE THAT ALLOW THEIR FEET TO BE PLACED COMFORTABLY WILL BE A GOOD SUITABLE ROCK SEAT.
- HEIGHT OF ROCK SEATS FROM FINISHED LEVEL CAN VARY FROM 300 - 400MM NOMINAL. IF REQUIRED TO ACHIEVE APPROPRIATE HEIGHT, SEAT ROCKS CAN BE LIFTED TO HAVE LESS THAN 1/3 OF TOTAL DEPTH IN GROUND.
- ENSURE THERE ARE NO CREVICES OR SHARP PROTRUSIONS. ANY SHARP EDGES TO BE CHISELLED OUT.
- MIN. 800 - 900MM NOM. GAP BETWEEN ROCK SEATS AND PRECAST SEATS ARE TO BE PROVIDED.
- MIN. 1M GAP TO BE PROVIDED IN ANY ONE GAP BETWEEN ROCKS.
- ROCK SEATS TO BE ORIENTED TO BEST MATCH DRAWINGS AND NO. OF ROCKS TO BE MAINTAINED AS PER DRAWINGS. DO NOT OBSTRUCT ANY POSSIBLE THOROUGHFARE INFRONT OF DOORWAYS.
- CONCRETE SURFACE TO BE BUTT JOINTED TO ROCKS AND NEATLY FINISHED WITHOUT 'ABLEFLEX'.



2 DT_951 SEAT ROCK BOULDER - NATURAL WEATHERED FLAT TOP
SCALE 1:20

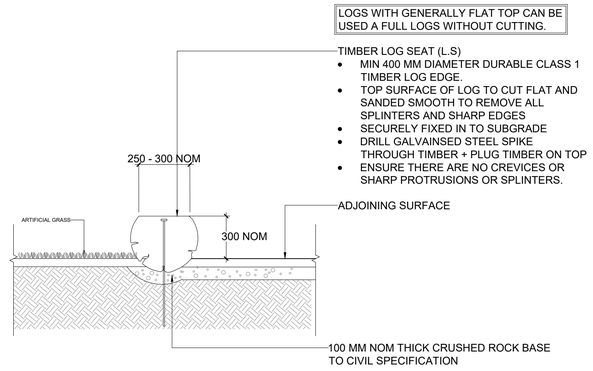


3 DT_951 TREE LOG SECTION
SCALE 1:20

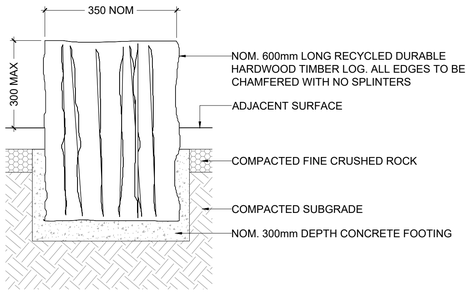


4 DT_951 TREE LOG SECTION
SCALE 1:20

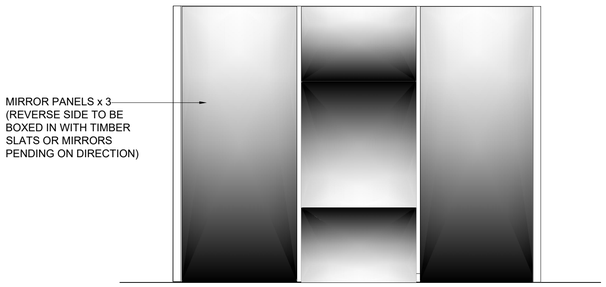
LOGS WITH GENERALLY FLAT TOP CAN BE USED A FULL LOGS WITHOUT CUTTING.



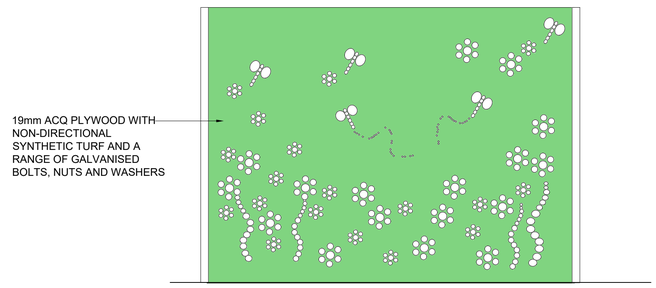
5 DT_951 TIMBER LOG SEAT (L.S)
SCALE 1:20



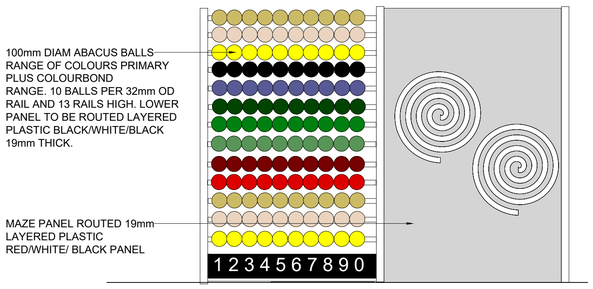
6 DT_951 TIMBER LOG ROUND
SCALE 1:10



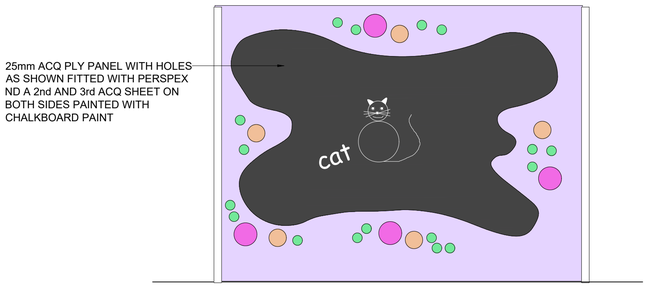
WAVY MIRRORS



SYNTHETIC TURF WITH DETAIL

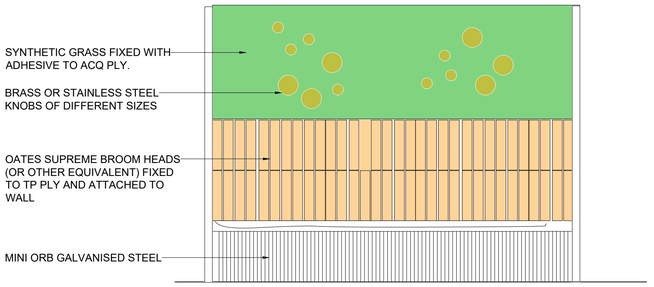


ABACUS DETAILS AND MAZE ROUTED

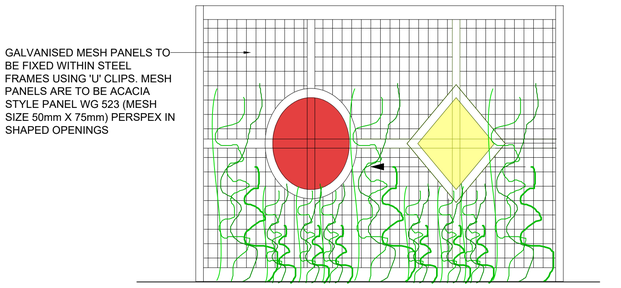


NOTE: PANEL TO BE LOCATED WITHIN UNDERCOVER AREAS ONLY

BLACKBOARD



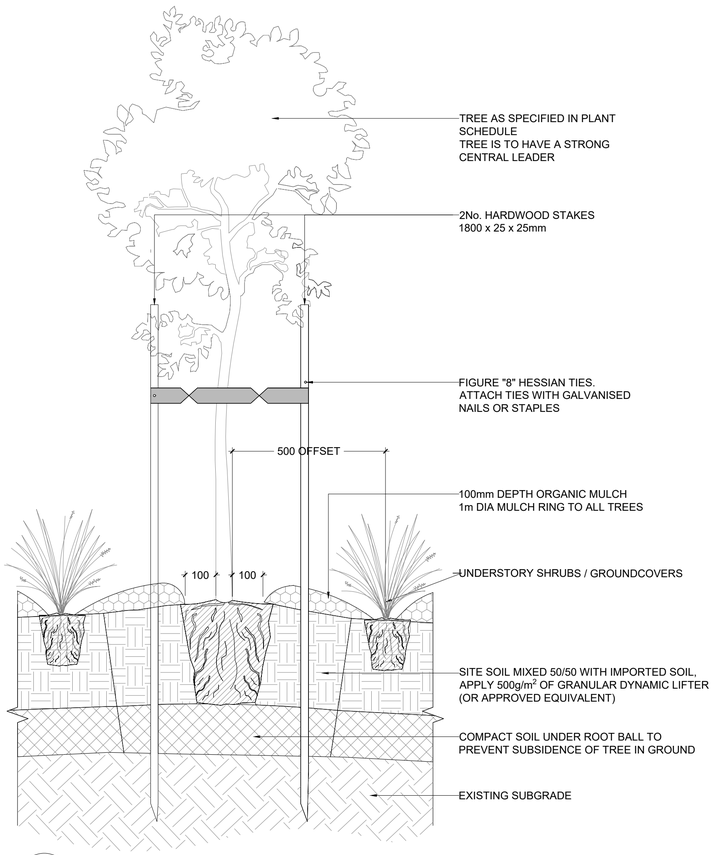
MULTIPLE TEXTURES



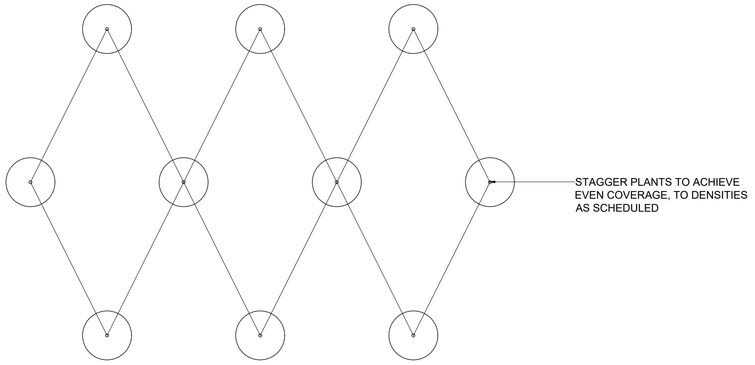
MESH FENCE (IN/BESIDE GARDEN)

1
DT_952

SENSORY PANEL OPTIONS
SCALE 1:20

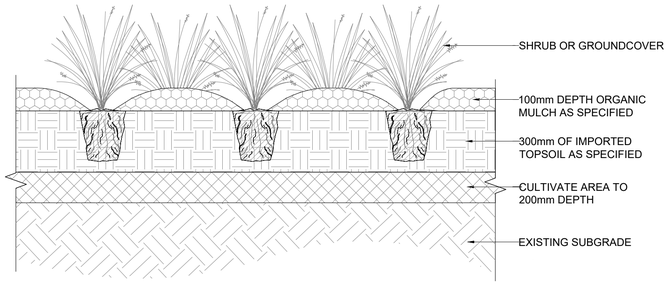


1 DT_961 TYPICAL DETAIL- TREE PLANTING IN GARDEN
SCALE 1:10

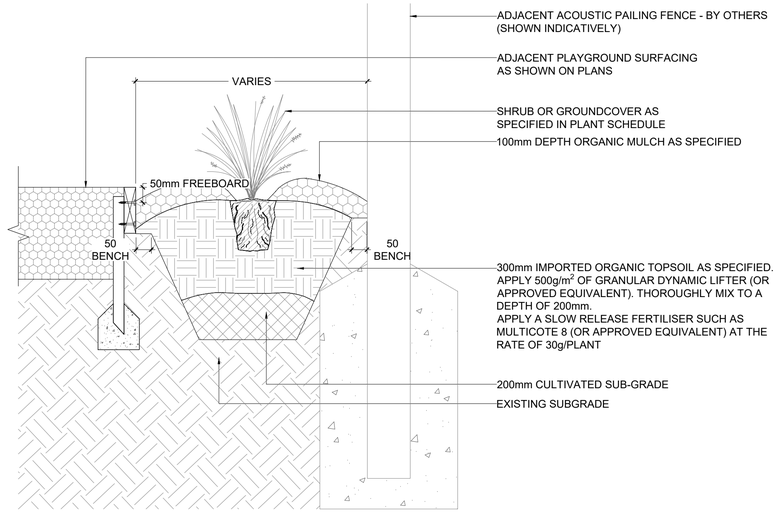


PLAN VIEW - SETOUT

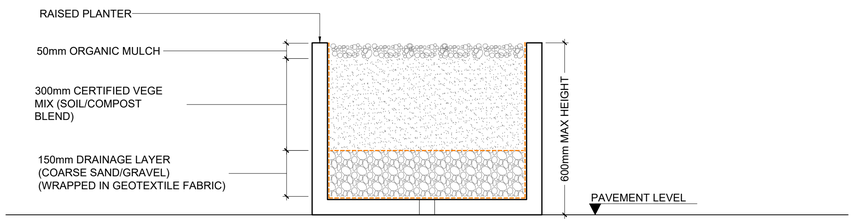
2 DT_961 TYPICAL DETAIL - GROUNDCOVER/SHRUB PLANTING SET OUT
SCALE 1:10



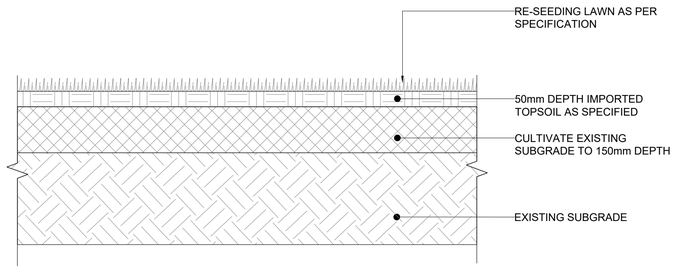
PLANTING NOTES:
1. REMOVE WEEDS BY HAND AND FOLLOW UP WITH SPOT TREATING WEEDS WITH ORGANIC WEED KILLER
2. WATER SOIL THOROUGHLY FOR 2 DAYS BEFORE PLANTING
3. LOOSELY CULTIVATE SOIL AND COMBINE 50MM DEPTH OF ORNAMENTAL ORGANIC MULCH
4. DIG A HOLE TWICE THE WIDTH AND ON HALF THE DEPTH OF THE POT SIZE
5. FILL THE HOLE WITH WATER BEFORE PLANTING AND ALLOW TO DRAIN THOROUGHLY
6. PLACE THE PLANT IN THE HOLE AND BACKFILL WITH FRESH TOPSOIL. PLANTS SHOULD BE PLACED SO THAT THE TOP OF THE ROOTBALL IS THE SAME LEVELS AS THE FINISHED SOIL LEVEL AND THAT THE SOIL OR MULCH SHOULD NOT COVER THE PLANTS STEM, TO AVOID CROWN POT. MOULD A DEPRESSION AROUND THE BASE OF THE PLANT TO ACT AS A RESERVOIR.
7. SPREAD WITH 75mm LAYER OF FINE EUCY MULCH AND WATER DEEPLY AFTER PLANTING
8. IF PLANTING IS TALLER THAN 1M, SUPPORT PLANT WITH 750MM LONG X25X25MM HARDWOOD STAKE TIED WITH JUTE WEBBING TIES
9. GARDEN BEDS TO BE WELL DRAINED WITH GEO-FABRIC SOCKED AGRICULTURAL DRAINS WITH SCREENINGS SURROUNDING. CONNECTED TO SILT PIT PRIOR TO STORMWATER SYSTEMS.



3 DT_961 TYPICAL DETAIL· GROUNDCOVER/SHRUB PLANTING
SCALE 1:10



4 DT_961 TYPICAL RAISED VEGETABLE GARDEN
SCALE 1:10



5 DT_961 TYPICAL - RE-SEEDING GRASS
SCALE 1:10

GRASS NOTES:
1. SOIL TEST TO BE SOUGHT BY CONTRACTOR TO DETERMINE ADDITIVE TYPE AND QUANTITIES
2. GRADE TO ACHIEVE DESIRED LEVEL AND ENSURE POSITIVE DRAINAGE.
3. ENSURE PREPARED SOIL LEVEL IS 25mm BELOW ADJACENT SURFACE LEVEL TO ENSURE LEVEL FINISH

Sustainability Management Plan

362 Camp Road & 1 Blair Street, Broadmeadows VIC

31/07/2024

[redacted]

Sustainability Management Plan (SMP)
Proposed Childcare Facility Development

Table of Contents

DOCUMENT VERSION

Version	Date	Change Log	Author	Review
0	05/06/24	Issued for Client Review	JC	DG
1	17/07/24	Updated as per client's comments	JC	-
2	29/07/24	Updated as per design change	JC	-
3	31/07/24	Design adjustment	JC	-

INITIATIVES TO BE MARKED ON DRAWINGS

Water & Stormwater Management

- Mark-up showing roof catchment area to be diverted to the Rainwater tank – If required, the use of charged pipe system will be explicitly acknowledged on the drawings and charged pipes will not be running underneath the building footprint.
- Location and size of each Rainwater tank proposed
- Note showing connection to the toilets.
- Mark-up showing roof catchment area to be diverted to raingarden and type of raingarden selected (in-ground)
- Location of the proposed 2.2m^2 of raingarden treating part of the parking area - The raingarden can be separated and location should be chosen in accordance with civil/drainage engineer and landscape consultant (minimum 300mm away from boundary or structural footings and LPOD location consideration)
- Mark-up showing the 107m^2 of the carpark area to divert to the proposed raingardens
- Note showing use of native or drought tolerant species for landscaped area. Watering will not be required after an initial period when plants are getting established. If irrigation is required, it will be connected to rainwater tanks.
- Note showing WELS rating for water fittings/fixtures (refer to report) – Fixtures (e.g. dishwasher) provided as part of base building work have to be chosen within one WELS star of best available at the time of purchase.

Energy Efficiency

- Note showing commitment to exceeding section J energy efficiency requirement of NCC 2022
- Note showing the maximum illumination power density (W/m^2) of the development meets the requirements in NCC 2022
- Lighting sensors for external lighting (motion detectors, timers etc.)
- 5kW Solar PV system on the roof of the development
- Fossil-fuel free development

Indoor Environment Quality

- Note showing commitment to Outside Air Fan in all regular use spaces providing O/A rates 100% above minimum from AS1668 AND O/A provision to ensure CO2 concentration remains below 650ppm

Transport

- Bike space location for employees within the development (6 bike spaces)
- Minimum one Electric vehicle charging infrastructure provision (Level 2 – 32amp)

Urban Ecology

- Show the extent of vegetated areas around the site (including lawn)

INTRODUCTION

[redacted] have been engaged to undertake a Sustainability Management Plan for the proposed childcare development located at 362 Camp Road & 1 Blair Street, Broadmeadows. This has been prepared to address the Hume City Council's sustainability requirements especially Clause 22.21 *Environmentally Sustainable Development* of the local planning policy as requested in the RFI dated 29 April 2024.

Within Clause 22.21, Hume City Council has identified the following key categories to be addressed

- Energy Performance;
- Water Resources;
- Stormwater Management;
- Indoor Environment Quality;
- Building Materials;
- Construction, Building & Waste Management;
- Transport; and
- Urban Ecology / Innovation.

The site has been assessed using the BESS tool. BESS was developed by an association of councils led by the Merri-bek City Council. This tool assesses the energy and water efficiency, thermal comfort and overall environmental sustainability performance of new buildings or alterations. It was created to demonstrate how new development can meet sustainability requirements as part of a planning permit application for the participating council.

Each target area within the BESS tool generally receives a score of between 1% and 100%. A minimum score of 50% is required for the energy, water, stormwater and IEQ areas. An overall score of 50% represents 'Best Practice' while a score over 70% represents 'Excellence'. The result of the BESS assessment is included in Appendix F.

The Stormwater Treatment Objective – Relative Measure (STORM) calculator, which addresses stormwater quality considerations, has been used for the development to ensure that stormwater management best practice requirements have been achieved. The result of the STORM assessment is included in Appendix A.

SITE DESCRIPTION

The proposed site is located at 362 Camp Road & 1 Blair Street, Broadmeadows. The 1,981m^2 site is currently occupied by three single-story buildings which are proposed to be demolished prior to the construction of the development. It is located approximately 18kms north of the Melbourne CBD.

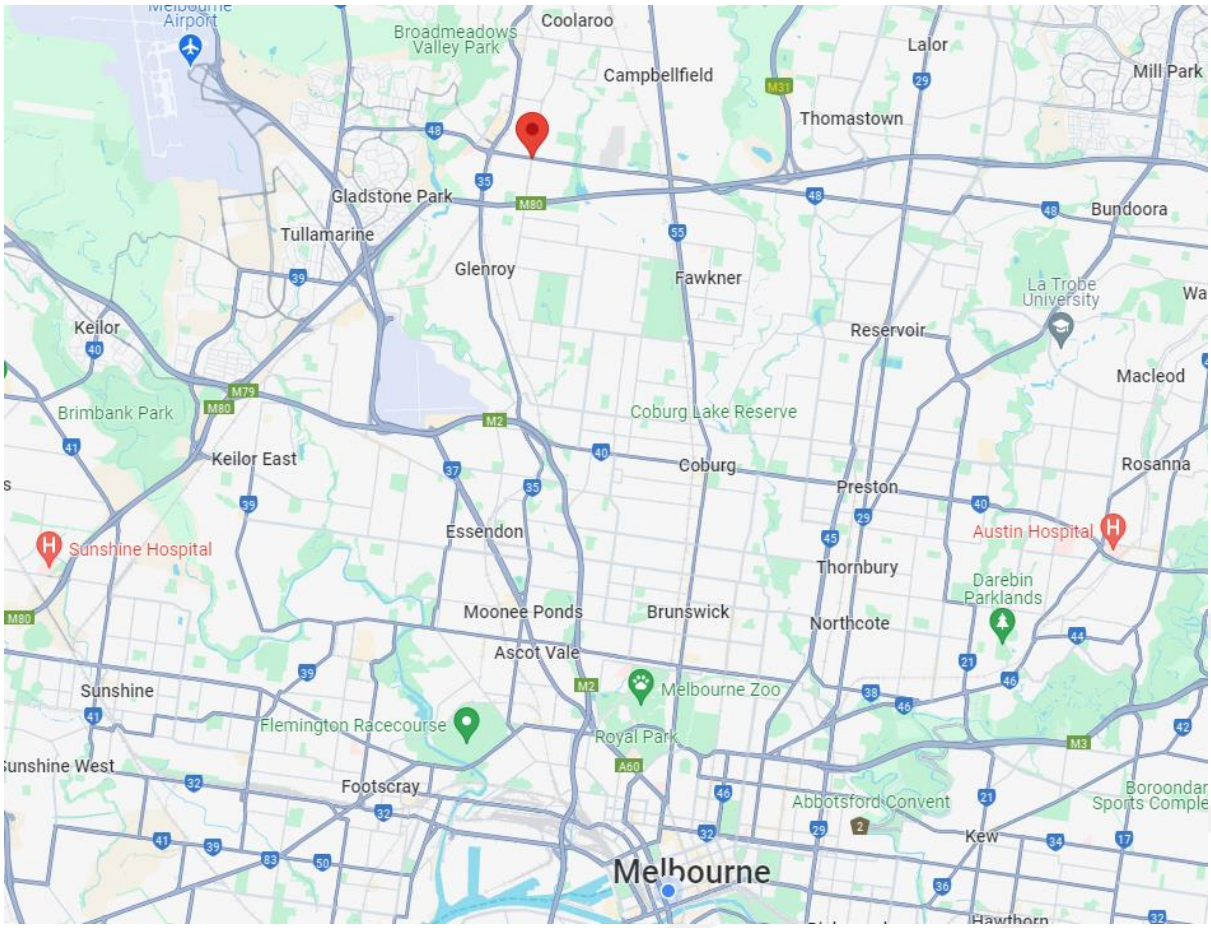


Figure 1: Location of the proposed childcare in Broadmeadows with relation to Melbourne CBD (Source: Google Maps)

PROPOSED DEVELOPMENT

The proposal consists of development of the site into a single-storey childcare facility to accommodate up to 88 children. The area of the site is approximately 1,981m^2. The facility will include five children's rooms, a laundry, staff room, kitchen, offices as well as large outdoor play area on ground.

ENERGY EFFICIENCY

Energy and its key elements should be integrated into the design of the proposed development. These elements contribute to reducing greenhouse gas emissions by utilising energy efficient appliances, energy conservation measures and renewable energy.

Energy Efficiency

Prior to the building construction stage of the project, a section J (NCC 2022) DTS assessment will occur with the following commitments:

- 10% improvement on floor and ceiling insulation level requirement from NCC 2022;
- Wall and glazing performance to be in line with DTS requirements;
- Heating/cooling system to be chosen within one star of the best available product in the range at the time of purchase or COP/EER 85% or better than most efficient equivalent capacity unit available if no star rating is available; and
- Water heating system to be chosen within one star of the best available product in the range at the time of purchase or 85% or better than most efficient equivalent capacity unit available if no star rating is available.

Alternatively, prior to the building construction stage of the project, energy modelling will occur with the aim of exceeding requirement of NCC 2022, using an NCC JV3 modelling process. This will be achieved through the use of high-performance building fabric and glazing, low energy lighting and building services. **The reference building model will include the minimum improvement committed above for floor and ceiling.** This method will allow for flexibility in for glazing performance. Results in BESS using JV3 approach would yield a slightly lower score under BESS Energy 1.1 however our BESS assessment has been prepared to ensure that energy section and overall compliance is maintained.

During the building construction stage of the project, energy modelling will occur with the aim of exceeding requirement of NCC 2022, using a NCC JV3 modelling process. This will be achieved through the use of high-performance building fabric and glazing, low energy lighting and building services.

Heating and Cooling Systems

To reduce the energy consumption heating and cooling will be provided by energy efficient air conditioners (chosen within one star of the best available product in the range at the time of purchase or COP/EER 85% or better than most efficient equivalent capacity unit available if no star rating is available).

Hot Water Heating

Hot water will be provided with efficient electric heat pump hot water system for the development.

Fossil Fuel-Free Development

No gas connection will be provided for the development. This will reduce reliance on fossil fuel and will be in line with local and state targets of decarbonisation.

Lighting

The maximum illumination power density (W/m^2) of the development will meet NCC 2022 requirements in by the use of LED throughout the development. **Lighting levels will not exceed 4.5 W/m^2 for all office, staff and childcare rooms.**

Lighting Sensors

Common areas and transient spaces will be controlled using occupancy sensor and/or daylight sensors. Ventilation in these areas will be controlled using timers and other sensors.

Solar PV System

A 5kW solar photovoltaic for renewable energy generation will be installed on the roof of the development. This will off-set a portion of greenhouse gas emissions and energy use for the project (lighting, pumps etc.).

Solar PV system could be provided by Solar Battery Group. Solar Battery Group is a market leading solar PV and solar battery company that provides end-to-end services. For more information, please see Appendix E.

WATER EFFICIENCY & STORMWATER MANAGEMENT

Water saving use and reuse and its key elements should be integrated into the design of the proposed development. These principles contribute to reducing the water demand in addition to promoting water reuse. Stormwater management and its key elements should be integrated into the design of the proposed development. These principles contribute to ensuring natural systems are protected and enhanced whilst promoting on-site retention and aims to reduce runoff or peak flows.

Water Efficient Fittings

The development will include efficient fittings and fixtures to reduce the volume of mains water used in the development. The following WELS star ratings will be specified;

- Toilets – 4 Star;
- Taps (bathroom and kitchen) – 5 Star; and,
- Dishwasher – 5 Star.

Rainwater Collection & Use

Rainwater runoff from the entire roof areas will be collected and stored in rainwater tanks[1] with a total effective capacity of 15,000L for the development.

If required, a charged pipe system or multiple tanks will be installed to collect water from the entire roof of the development.

In the case of a charged pipe system, the charged pipes will not be running underneath the building footprint (slab) and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.

Rainwater collected will be used for toilet flushing throughout the development. These initiatives will reduce significantly the stormwater impacts of the development and help achieve compliance with the STORM calculator (See Appendix A).

Stormwater Treatment - Raingardens

Part of the parking area runoff will be diverted towards a minimum of 2.2m^2 of raingarden before being released at the legal point of discharge.

This will treat the stormwater runoff from part of parking area by filtering coarse pollutants before releasing the outflows to the legal point of discharge on site (See Appendix A for details).

The raingardens could be implemented within the landscaped areas adjacent to the selected parking area and will be installed at least 300mm away from boundary or structural footings. Exact location should be confirmed with civil/ drainage engineer and landscape consultant. The raingardens treating the parking area can be installed in-ground.

Water Efficient Appliances

All appliances provided in the development as part of the base building work (e.g. dishwasher) will be chosen within one WELS star of the best available.

Water Efficient Landscaping

Native or drought-tolerant plants will be implemented for the landscaped areas on site. Use of water or irrigation will not be required after an initial period when plants are getting established. If irrigation is required, it will be connected to rainwater tanks.

INDOOR ENVIRONMENT QUALITY

Indoor Environment Quality and its key elements should be integrated into the design of the proposed development. These elements play a significant role in the health, wellbeing and satisfaction of the development occupants. Facilitating a good (IEQ) design provides a naturally comfortable indoor environment and less dependence on building services such as, artificial lighting, mechanical ventilation and heating and cooling device.

Volatile Organic Compounds

All paints, adhesives and sealants and flooring will have low VOC content. Alternatively, products will be selected with no VOCs. Paints such as eColour, or equivalent should be considered. Please refer to Appendix D for VOC limits.

Formaldehyde Minimisation

All engineered wood products will have 'low' formaldehyde emissions, certified as E0 or better. Alternatively, products will be specified with no Formaldehyde. Products such as ecological panel – 100% post-consumer recycled wood (or similar) will be considered for use within the development. Please refer to Appendix D for formaldehyde limits.

Daylight Levels

Daylight penetration will be enhanced with the use of light internal colours to improve daylight reflection. All children's room will be provided with large windows. The depth of most room from a window will be limited and multiple windows on different façade will be implemented wherever possible which will allow for large amount of daylight to penetrate the rooms.

Please refer to Appendix C for daylight Hand Calculation showing compliance with best practice requirements.

Mechanical Ventilation – Improved Outside Air Rates

All children's rooms will be provided with O/A fans, which will commit to provide a 100% increase on O/A provision from AS1668.

Additionally, O/A will be provided in the children's rooms to ensure that the CO2 concentration remains below 650 ppm.

The design should also allow for cross-flow ventilation wherever possible, as it will reduce the need for mechanical ventilation. To enable natural ventilation, openable windows will be specified throughout the children's rooms. Child Rooms 3 and 5 will have access to crossflow ventilation.

The kitchen will be provided with appropriate fans and mechanical ventilation.

CONSTRUCTION, BUILDING & WASTE MANAGEMENT

Building Management and its key elements will be integrated into the design of the proposed development. These principles contribute to ensuring efficient and effective on-going building performance. Waste management and its key elements will be integrated into the design of the proposed development. These principles contribute to ensuring minimal waste is transported to landfill by means of disposal, recycling and on-site waste storage and/or collection methods.

Metering and Monitoring

The childcare will be separately metered for potable water and energy. Effective metering ensures that tenants are responsible for their consumption, and they can reduce their consumption.

Construction Waste Management

A waste management plan will be introduced to all on-site staff at a site orientation session to ensure that the waste generated on site is minimised and disposed of correctly. A minimum 80% of all construction waste generated on site will be reused or recycled.

Construction Environmental Management

The builder will identify environmental risks related to construction and include management strategies such as maintaining effective erosion and sediment control measures during construction and operation and ensure that appropriate staging of earthworks (e.g. avoid bare earthworks in high-risk areas of the site during dominant rainfall period).

Operational Waste

A dedicated storage area will be provided on the ground floor. The storage area will be sufficiently sized to accommodate the general and recycling waste. Recycling facilities will be as conveniently accessible as the general waste facilities.

Universal Access

The development will be designed for universal access in accordance with AS1428.2 to allow persons with limited mobility to enter and use the premises.

TRANSPORT

Bicycle Parking

Employees will be able to store their bicycle within the childcare facility. A minimum of six spaces will be provided for the development.

BUILDING MATERIALS

Materials selection should be integrated into the design of the proposed development. The criteria for appropriate materials used are based on economic and environmental cost.

Timber

All timber used in the development will be Forest Stewardship Council (FSC) or Program for the Endorsement of Forest Certification (PEFC) certified or recycled / reused.

Flooring

Wherever possible, flooring will be selected from products/materials certified under any of the following:

- Carpet Institute of Australia Limited, Environmental Certification Scheme (ECS) v1.2;
- Global GreenTag - https://www.globalgreentag.com/; and/or
- Good Environmental Choice (GECA).

Joinery

Where possible, joinery will be manufactured from materials/products certified under any of the following:

- Global GreenTag - https://www.globalgreentag.com/; and/or
- Good Environmental Choice (GECA); and/or
- The Institute for Market Transformation to Sustainability (MTS) Sustainable Materials Rating Technology standard Version 4.0 –SmaRT 4.0.

The use of Ecological Panel (or equivalent) will be investigated, which is created from 100% post-consumer recycled products.

Steel

Wherever possible, steel for the development will be sourced from a Responsible Steel Maker[2]. Reinforcing steel for the project will be manufactured using energy reducing processes commonly used by large manufacturers such as Bluescope or OneSteel.

[redacted]

URBAN ECOLOGY

In highly urbanised environments, such as metropolitan Melbourne, it is important to recognise the importance of maintaining and increasing the health of our urban ecosystems to improve living conditions not only for the fauna but also ourselves. We can improve our urban ecosystem through the incorporation of vegetation through landscaping for both new and existing developments.

Landscaping

The landscaping onsite will provide the occupants with a pleasant surrounding environment. The design will incorporate a mix of native species to help maintain local biodiversity.

Insulant ODP

All thermal insulation used in the development will not contain any ozone-depleting substances and will not use any in its manufacturing.

IMPLEMENTATION & MONITORING

The proposed development will meet the best practice requirement of the City of Hume through the different initiatives describe in this report such as thermally efficient building envelope, efficient air conditioning and hot water system and sustainable materials. An appropriate implementation and monitoring of the initiatives outlined within this report will be required.

Implementation of the ESD initiatives outlined in this report requires the following processes:

- Full integration with architectural plans and specifications
- Full integration with building services design drawings and specifications
- Endorsement of the ESD Report with town planning drawings
- ESD initiatives to be included in plans and specifications for building approval

[redacted]

APPENDIX A – WSUD REPORT / STORM ASSESSMENT

New development must comply with the best practice performance targets for suspended solids, total phosphorous and total nitrogen, as set out in the Urban Stormwater Best Practice Environmental Management Guidelines, Victoria Stormwater Committee 1999. Currently, these water quality performance targets require:

- Suspended Solids - 80% retention of typical urban annual load.
- Total Nitrogen - 45% retention of typical urban annual load.
- Total Phosphorus - 45% retention of typical urban annual load.
- Litter - 70% reduction of typical urban annual load.

The STORM tool, an industry-accepted tool, was used to assess the development and ensure that the best practice targets described above are met. A minimum compliance score of 100% is required to achieve for the development.

Site Delineation

For the purpose of the assessment, the development has been delineated into the following surface types:

- Site area of 1,981m^2;
- Roof area runoff of 670.7m^2 which will be diverted into rainwater tank(s);
- Part of the carpark area of 107m^2 which will be designed to divert towards raingardens;
- Permeable area (excluding car spaces) of 756.5m^2 comprised of landscaped area and the entire exposed ground floor play area; and
- Remainder of impervious areas of 446.8m^2 around the site comprised of untreated carpark/driveway area.

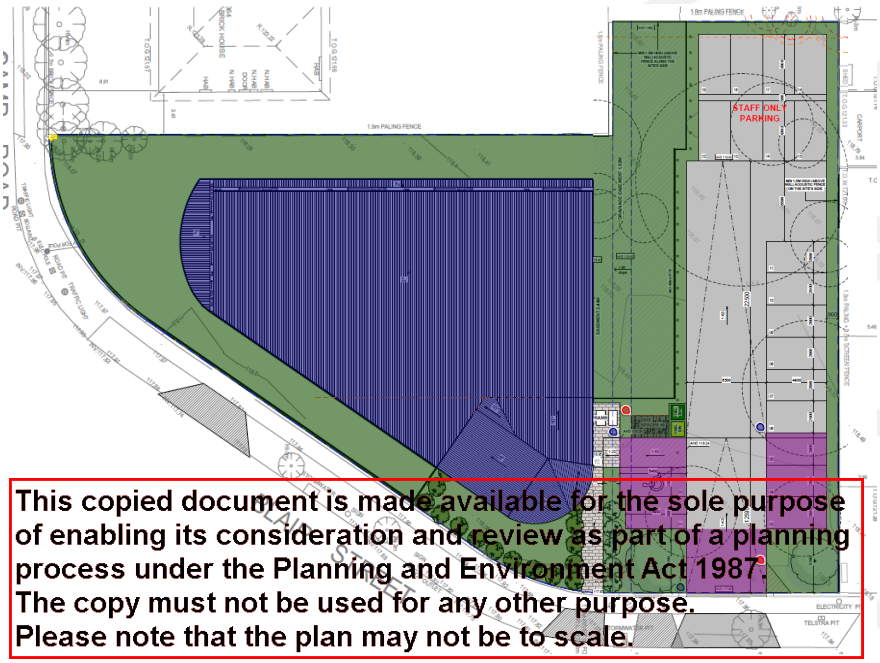


Figure 2: Roof catchment (blue)to RWT, exposed car park area (purple) to Raingardens & permeable areas (green)

Stormwater initiatives

Rainwater Tank
(Rainwater tank for toilet flushing)

The roof catchment area of 670.7m^2 (as described above) will be diverted to rainwater tank(s) with a total effective capacity of 15,000L for the childcare. The rainwater collected will be used for toilet flushing in the development.

If required, a charged pipe system or multiple tanks will be installed to collect water from part of the roof of the development.

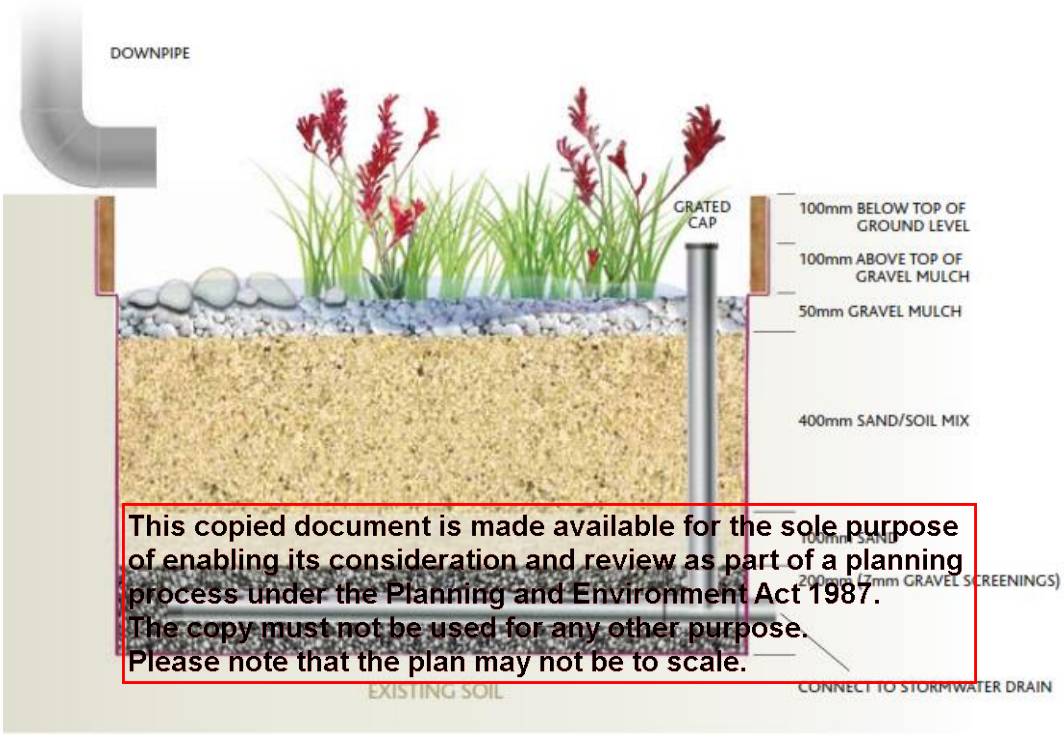
In the case of a charged pipe system, the charged pipes will not be running underneath the slab and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.

Raingarden

Part of the carpark area runoff of 107m^2 will be diverted towards a minimum of 2.2m^2 of raingarden before being released at the legal point of discharge.

The raingardens will be implemented within the landscaped areas adjacent to carpark area and will be installed at least 300mm away from boundary or structural footings. The raingardens treating the carpark area can be installed in-ground

Outflows from the raingardens will be released at the legal point of discharge on site. The raingarden will help reducing the coarse and fine sediment level in the outflows. For more information on how to build raingarden, please visit
https://www.melbournewater.com.au/sites/default/files/INGROUND.pdf



The remainder of impervious areas will directly be released at the legal point of discharge on site. Permeable areas are excluded from the STORM assessment.

It should be noted that permeable areas have been maximised in the development which will reduce the overall stormwater outflows from the site. Vegetated areas are provided in the proposed development reducing the heat island effect and improving the local habitat.

Stormwater Results

The initiatives and areas described above have been applied to the STORM calculator and the proposed development has achieved a score of 101%.

Melbourne Water STORM Rating Report

TransactionID:	0
Municipality:	HUME
Rainfall Station:	HUME
Address:	362 Camp Road & 1 Blair Street
	Broadmeadows
	VIC 3047
Assessor:	[redacted]
Development Type:	Commercial/Retail
Allotment Site (m2):	1,981.00
STORM Rating %:	101

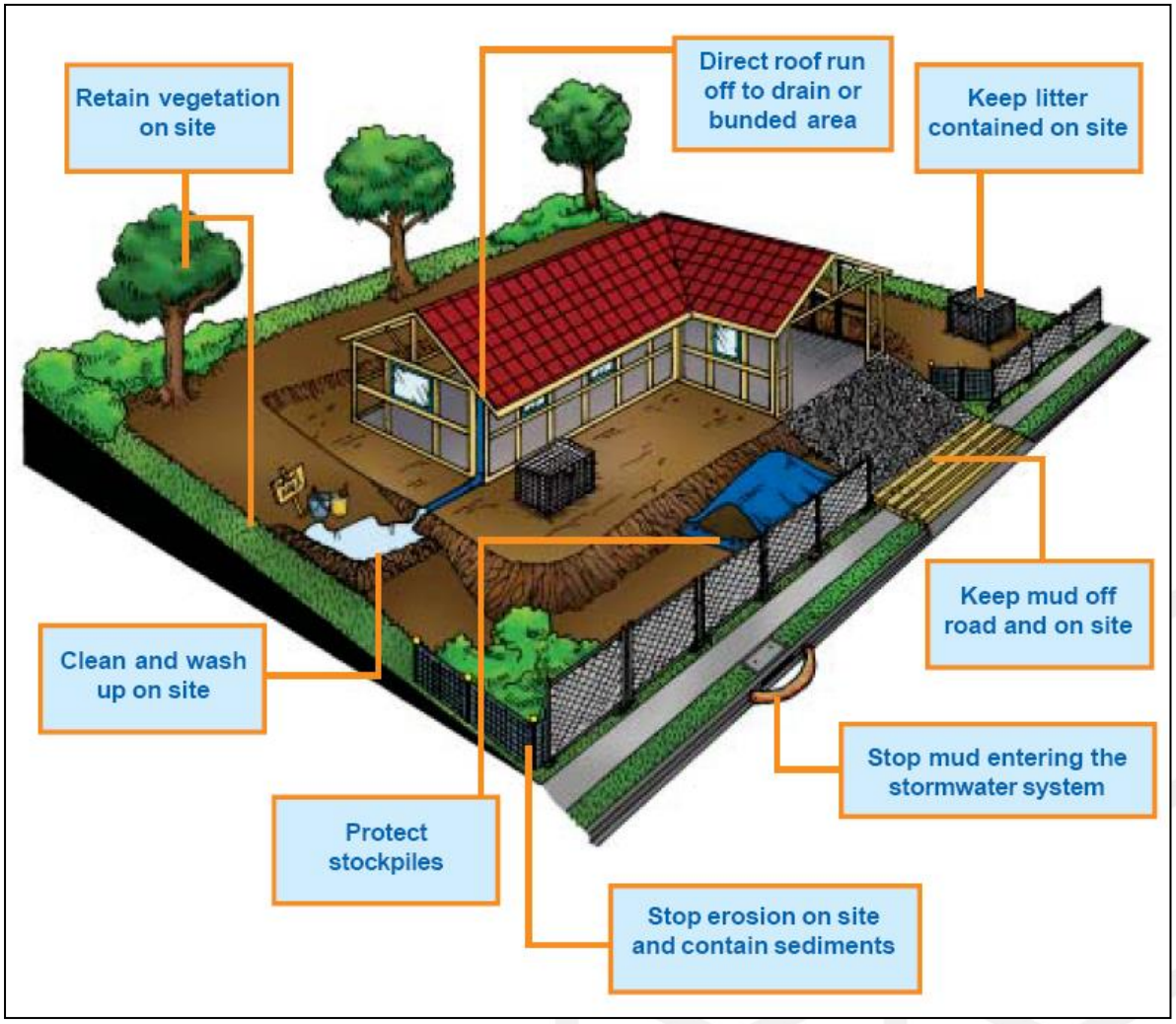
Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof to RWT	670.70	Rainwater Tank	15,000.00	90	163.80	80.00
Driveway to RG	107.00	Raingarden 300mm	2.20	0	130.70	0.00
Other Impervious	446.80	None	0.00	0	0.00	0.00

It should be noted that the entire development is connected to the rainwater tank. Occupancy has been based on the number of child places within the development.

88 child places will be provided for the childcare facility. 90 has been input in STORM as is the closest number available.

Stormwater Management at Construction Site

To manage stormwater management in the construction stage, measures will be put in place to minimise the likelihood of contaminating stormwater. This will mean ensuring buffer strips are in place, sediment traps are installed, and the site will be kept clean from any loose rubbish. The builder will follow the process outlined in "Keeping Our Stormwater Clean – A Builder's Guide" by Melbourne Water.



Copies of "Keeping Our Stormwater Clean – A Builder's Guide" can be downloaded from the following website.

https://www.clearwatervic.com.au/resource-library/guidelines-and-strategy/keeping-our-stormwater-clean-a-builders-guide.php

APPENDIX B – WSUD MAINTENANCE & INSTALLATION

Installation

Rainwater Tank(s)

The rainwater tank(s) will be installed above ground. Its manufacturer or material has not been nominated. It will be installed with a mesh insect cover over the inlet pipe to ensure the tank does not become a breeding ground for pests. Mesh needs to be installed over overflow pipes and if a manhole is present it needs to be properly sealed.

Please refer to the architectural drawings for the location of the rainwater tank.

Pumps

The pumps required either to divert the stormwater runoff to the rainwater tank or to distribute the collected water to the end uses (toilets) will be required to be installed as per the chosen manufacturer specifications.

Raingarden

The building of a raingarden, should be designed by the landscape architect and in accordance with the Melbourne Water "Building an inground raingarden", "Building an infiltration raingarden", or "Building a planter box raingarden" document/s https://www.melbournewater.com.au/sites/default/files/INGROUND.pdf.
All layers should be installed as specified and commissioning (drainage tests, running water through the raingarden) should occur prior to building sign off.

Inspection Requirements

Rainwater Tanks

Inspections of roof areas and gutters leading to the tank should take place every 6 months. Rainwater in the tanks should be checked every 6 months for mosquito infestation.

The rainwater tank should be examined every 2 years for sludge build up.

Ensure the monitoring system (be it digital or a simple float system) is functioning properly by checking the water level in the rainwater tanks.

Pumps

The pumps required will be required to be routinely inspected by listening for the day-to day operation of the pumps. Unusual noise or no noise should be investigated. Inspection should occur as per the chosen manufacturer specifications.

Raingarden

Raingardens should be inspected for damage after large storm events (48.2mm in one hour is considered a large storm event in Melbourne – 1 in 100 year storm) and should be inspected when garden maintenance occurs onsite (e.g. 3-monthly).

A full inspection of the raingarden should occur annually for a flow test, to identify any plant replacement requirements and whether silt build up has occurred.

Inspections roof areas and gutters leading to the raingarden should take place every 6 months.

Clean Out / Maintenance Procedure

Rainwater Tank, Roof and Gutters

Rainwater tanks will require the roof and gutters onsite to be maintained; gutters should be checked, maintained and cleaned every six months to avoid blockages from occurring. If a leaf blocking system is installed this can be completed annually.

Any trees onsite should be maintained every 6 months with branches overhanging the roof removed.

Water ponding in gutters should be avoided as this provides a breeding ground for mosquitos; tanks should also not become breeding grounds for mosquitoes. If mosquitoes are detected in the tank remedial steps need to occur to prevent breeding. If mosquitoes or other insects are found in rainwater tanks, the point of entry should be located and repaired. As well as preventing further access, this will prevent the escape of emerging adults. Gutters should be inspected to ensure they do not contain ponded water, and be cleaned if necessary.

Please refer to https://www.health.vic.gov.au/sites/default/files/2022-11/Keeping-your-rainwater-tank-safe-from-mosquitos.pdf for more information on mosquito control.

Rainwater tanks should be checked by regular maintenance person every 3-6 months to ensure that connection to the building is maintained and there are no blockages.

A simple way to ensure the tank is operating as intended would be through the installation of a smart monitoring device (e.g. OneBox®). These systems allow users to operate tanks remotely from internet or smartphone, monitor and control the tanks in real time, allow automatic release of stored water prior to storm events, alert users if there is any blockage and view tank history and usage patterns.

Alternatively, onsite tank gauges can help those familiar with the tank know if the tank is not working correctly.

Pumps

Maintenance should occur as per the chosen manufacturer specifications. All strainers and filters should be cleaned every 6 months. Good quality pump should provide trouble free service for up to 10 years.

Raingarden

The following maintenance schedule for raingarden has been sourced from *WSUD Maintenance Guidelines* by Melbourne Water.

Item	What to check for	Action	Frequency
Civil components – Raingarden			
Inlet	No evidence of erosion, blockage, damage or standing water.	Clear inlet of accumulated sediment or debris. Eroded areas should be locally re-profiled or reinforced, and re-planted if necessary. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if the erosion is either recurring or severe.	Storm events 3 months
Outlet	No evidence of erosion, blockage, damage or standing water Outlet freely draining.	Clear outlet of accumulated sediment or debris. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if standing (backwatering into the raingarden) is present.	Storm events 3 months
Other structures	No evidence of erosion and damage to other structures, e.g. pits, pipes, access ramps, walls and rock protection.	Repair minor damage to structures. Eroded areas should be repaired (reinforced). This may involve minor re-profiling or re-planting works. For severe damage, i.e. where flows have scoured down the side of a structure refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*.	3 months
Batters and bunds	No evidence of erosion.	Eroded areas should be locally re-profiled or reinforced, and re-planted if necessary.	Annually
Hydraulic conductivity	Filter media is draining freely. No water ponded on the surface of the raingarden for more than 12 hours after rainfall.	If water is ponded on the surface of the raingarden for more than 12 hours after rainfall, refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*. Note: the disposal of raingarden filter material must comply with EPA Victoria guidelines for the disposal of contaminated soil (Appendix C).	Storm events
Sediment accumulation	Sediment forebay less than 75% full. No major sediment accumulation on surface of the raingarden.	Clean out accumulated sediment from the sediment forebay. Accumulated sediment to be removed from the surface of the raingarden and the system replanted as required.	Annually
Filter media surface	No surface scour, depressions.	Filter surface to be repaired. This may involve evening out the surface, importing additional filter media and replanting.	3 months
Fine sediment surface crust	No impermeable or clayey surface on the filter media. No major surface crusting (<3mm depth across less than 10% of the filter area is permissible).	Repair surface layer by scarify filter media surface, re-profiling and re-establishing vegetation, if required. If the problem persists refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*.	3 months
Mulch layer	Even depth and distribution of the mulch layer. Surface of the mulch layer is at least 100 mm below the top of the outflow pit. Mulch is not touching the plant stems	Re-distribute or replace mulch that has been washed out or displaced. This may involve retaining mulch using jute mats or nets. Remove mulch that is touching plant stems.	3 months
Algal or moss growth	No major algal growth (less than 10% of raingarden area is permissible). No moss growth.	If significant patches of algal growth or moss persist across the surface of the raingarden (i.e. greater than 10% of the surface) then refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*.	3 months
Inspection opening	Water level is below filter media layer. No sediment accumulation in underdrain system.	Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if standing water is present Flush the underdrain system using low pressure water jet to remove accumulated sediment.	Annually

Vegetation cover – filter media	Greater than 90% vegetation cover. Plants healthy, free from disease and vigorously growing.	Remove any dead or diseased vegetation. Replant individual bare patches (greater than 5% of the area) using either new plants or by dividing and translocating existing plants. If bare areas represent greater than 30% of the raingarden area, refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*.	3 months
Vegetation cover – batters	Continuous vegetation cover along the lower batter. Greater than 90% vegetation cover. Plants healthy, free from disease and vigorously growing.		Annually
Weeds – filter media – batters	Less than 10% of the filter media surface area and batters covered in weeds.	Physically remove weeds from filter media surface and batters. Do not use herbicides as these may harm the desirable raingarden vegetation and contaminate the filter media. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if weed ingress is a persistent problem (i.e. weed coverage is persistently greater than 30%).	3 months
Litter	Filter media surface and batters free of litter (i.e. less than 1 piece litter per 4m^2).	Remove all litter and excessive debris	3 months
Pests	No damage by pest animals and insects.	Seek specialist advice if persistent insect damage is observed. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if there is evidence of pest animal damage.	3 months

Please note that the Water by Design documents "*Maintaining Vegetated Stormwater Assets" and "Rectifying Vegetated Stormwater Assets"* can be accessed online at http://waterbydesign.com.au/.

Commissioning

Rainwater Tank

All rainwater tanks should be washed or flushed out prior to use. All inlets and outlets should be correctly sealed to prevent insects entering. Connection to all toilets in the development should be tested (dye test or equivalent).

Please note if new roof coating or paint is to be installed then the first few run-offs after installation need to be discarded.

Pumps

Commissioning should occur as per the chosen manufacturer specifications.

Raingarden

A flow test which equates to running water through the raingarden needs to occur to ensure underdrainage works correctly and the raingarden drains within 24 hours. A maintenance manual for the raingarden must be provided by the designer of the rain garden if any requirements differ from those outlined above. A full inspection including a flow test must be undertaken annually.

Summary

The following needs to occur onsite to ensure compliance with WSUD requirements and maintain operation of rainwater tank and connections onsite.

Task	When?	Requirement
Inspect Rainwater tanks	Every 6 months	• Check for any damage/compression • Mosquitoes infestation
	Every 2 years	• Sludge Build up – if sludge build up occurs a vacuum tank needs to be called out to site.
Inspect roofs & gutters	Every 6 months	• Clean out of leaves / debris. • Remove any overhanging branches onsite.
Inspection of Raingardens	3-Monthly Following large storm event	• Check slit levels • Check pollutants • Check for blockages • Check plant health • Overflow? Flooding?
	Annually	• Flow test needs to be undertaken to ensure underdrainage works properly • Silt and sediment build up • Plant replacement requirement

APPENDIX C – DAYLIGHT ACCESS – GREEN STAR CALCULATION

The Green Building Council of Australia (GBCA) has created a daylight access calculation method within the Green Star benchmarking tool. This tool is widely recognised by Councils and Industry.

The Green Star Daylight Hand Calculation method is used to determine if there are risks associated with the current design, particularly with respect to meeting the desired daylight factors referenced in the Sustainable Management Plan in the Planning Process (SDAPP) Indoor Environment Quality guidelines.

According to the SDAPP guidelines, best practice is achieved where 2% daylight factor is achieved across 30% of the floor area of the nominated area.

The calculation method is based on one simple formula to calculate a zone of compliance within a nominated room. The compliant zone is the area of the room achieving 2% daylight factor and can be calculated as follows:

$$\boldsymbol{Zone\ of\ Compliance = 2 \times h \times w}$$

$\boldsymbol{w}$ is the width of the glazing serving the room

$\boldsymbol{h}$ is the height of the window head above the desktop/table level

Windows serving the nominated area are required to have a minimum 40% VLT to use the formula.

The percentage of compliant area within the nominated area can then be easily calculated with the following formula:

$$\boldsymbol{Percentage\ of\ compliant\ area = \frac{Zone\ of\ Compliance}{Nominated\ Area} \times 100}$$

Site Description

The proposed new development is a childcare facility; therefore, the nominated areas for the Hand Calculation are comprised of all child rooms.

The desktop/table level has been estimated to be 700mm (office and staff room)

The desktop/table level has been estimated to be 400mm (child rooms)

See below for the mark-up of the compliant zone (orange) within each nominated area (light blue).

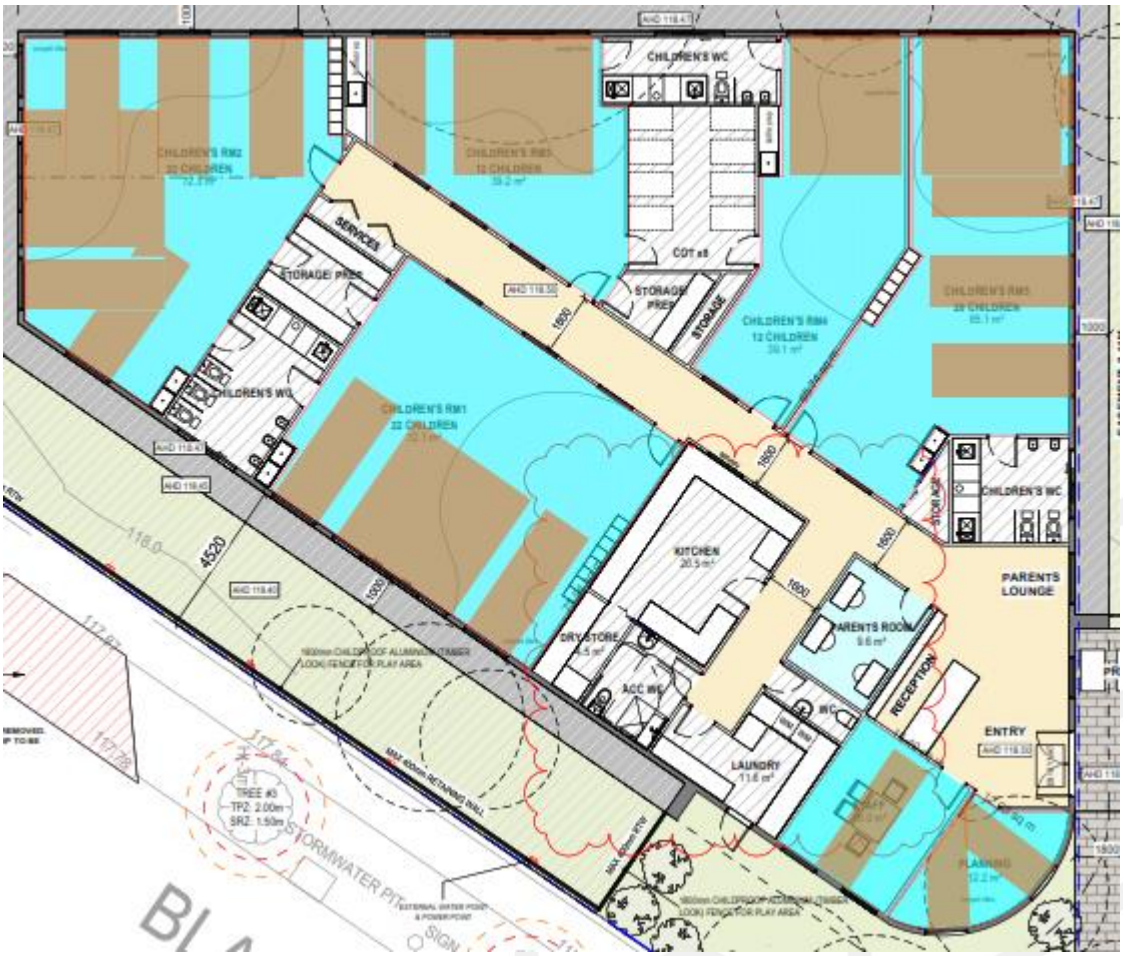


Figure 3: Compliance zone for children's rooms, planning, staff and parents rooms

[redacted]

	Nominated Areas (m²)	Compliant Areas (m²)	Compliant Areas (%)
Childroom 1	72.1	28	
Childroom 2	72.3	40.5	
Childroom 3	39.2	21.48	
Childroom 4	39.1	16	
Childroom 5	65.1	33.25	
Planning	12.1	6.6	
Staff room	16.5	4.81	
TOTAL	**316.4**	**150.64**	**48%**

The green star hand calculation for the proposed childcare facility shows that the development will achieve and exceed SDAPP best practice requirement with all the spaces achieving over 48% of floor area at 2% daylight factor.

[redacted]

APPENDIX D – VOC & FORMALDEHYDE EMISSION LIMITS

The following table are an extract of the Green Star Design and as built submission guidelines:

Table 13.1.1: Maximum TVOC Limits for Paints, Adhesives and Sealants

Product Category	Max TVOC content in grams per litre (g/L) of ready to use product.
General purpose adhesives and sealants	50
Interior wall and ceiling paint, all sheen levels	16
Trim, varnishes and wood stains	75
Primers, sealers and prep coats	65
One and two pack performance coatings for floors	140
Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250
Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100

The product complies with the Total VOC (TVOC) limits specified in the Table below.

Carpet Test Standards and TVOC Emissions Limits

Test protocol	Limit
ASTM D5116 - Total VOC limit	0.5mg/m^2 per hour
ASTM D5116 - 4-PC (4-Phenylcyclohexene)	0.05mg/m^2 per hour
ISO 16000 / EN 13419 - TVOC at three days	0.5 mg/m^2 per hour
ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m^2 per hour

[redacted]

Table 13.2: Formaldehyde Emission Limit Values for Engineered Wood Products

Test Protocol	Emission Limit/ Unit of Measurement
AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	≤1mg/ L
AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1.5 mg/L
AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1mg/ L
AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	≤1mg/ L
Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	≤1mg/ L
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A1901 (not applicable to Plywood, applicable to high pressure laminates and compact laminates)	≤0.1 mg/m²hr*
ASTM D5116 (applicable to high pressure laminates and compact laminates)	≤0.1 mg/m²hr
ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	≤0.1 mg/m²hr (at 3 days)
ASTM D6007	≤0.12mg/m³**
ASTM E1333	≤0.12mg/m³***
EN 717-1 (also known as DIN EN 717-1)	≤0.12mg/m³
EN 717-2 (also known as DIN EN 717-2)	≤3.5mg/m²hr

*mg/m²hr may also be represented as mg/m²/hr.

[redacted]

APPENDIX E – SOLAR PV PROVIDER INFORMATION

CALL **1300 223 224**
solarbatterygroup.com.au

About Us

Here at Solar Battery Group, we pride ourselves on being Australia's largest residential solar battery installer, and solar photovoltaic (PV) panel specialists.

We strive to provide all our customers with the latest technology in solar products and ensure a truly personalised installation experience, whether you're new to solar or expanding an existing system.

We know that solar and batteries aren't a one-size-fits-all solution, that's why we take the time to better understand how your household uses energy, and develop a solar solution that will best suit your needs.

Backed by over 30 years' industry experience, our team of dedicated staff are here to help you on your journey towards energy independence.

Take charge.

Why Choose Solar Battery Group?

- Committed to high quality product, service and professionalism.
- We are a New Energy Tech Approved Seller
- We only use Clean Energy Council accredit installers and approved products
- Tailored Packages to suit every household's needs
- 100% Australian Owned and Operated
- Service-Driven Company
- Over 30 years' industry experience
- Best Price Guarantee

[redacted]

CALL **1300 223 224**
solarbatterygroup.com.au

How Does PV Solar Work?

Australia has an average from 2,200 to 3,200 high sunlight hours per year. With most capital cities seeing 7 or more sunlight hours a day, more and more Australian's are harnessing it. We have an amazing climate to maximise the benefits of PV solar. Able to generate power on even an overcast day we don't need to worry about seasonal changes to get the most out of our solar.

Why not take advantage of such a powerful and environmental resource? Going solar is the obvious choice in an ever increasing energy world, and the savings to your household and the environment are impossible to ignore. **Give yourself a break from the increasing energy bills, and go solar today with a PV Solar Solution.**

Capture the rays with a PV solar system to suit your home. Available in a number of different package sizes, you can choose an investment that works with your energy consumption patterns as well as your budget.

1. Solar panels convert sunlight into DC electricity.
2. Inverter convert DC into AC electricity.
3. Use the AC electricity to power appliances.
4. Supply the grid with surplus energy for utility credits.

[redacted]

[redacted]

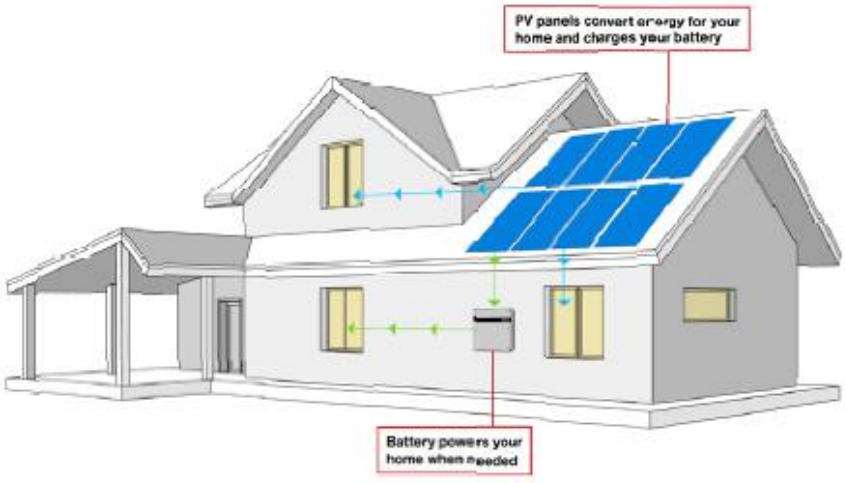
CALL **1300 223 224**
solarbatterygroup.com.au

How Does a Solar Battery Work?

Most Australian households are not home, or use very little power during the day. Energy usage is much higher during the morning and evening. This is why solar battery storage is getting everyone's attention!

Solar batteries simply store unused electricity generated by your solar system during the day, for your own use later. Extending the capabilities of your system to have it working harder for you. When the solar system is no longer producing power your house starts to run from the stored battery power, instead of relying on the grid. Doing more with your own solar before paying your electricity provider. What doesn't sound great about that?

Solar Battery Group has a solution to suit your individual household needs, offering a large range of solar battery sizes and leading brands. With the analysis of a few key figures on your energy bill and our specialist knowledge, we can help you **take charge of your energy bills today!**



The Solar battery stores your excess electricity for use within your home. Ultimately you can use your own electricity that is produced by your Solar PV panels to power your home into the night, rather than purchasing expensive energy from the grid.

[redacted]

[redacted]

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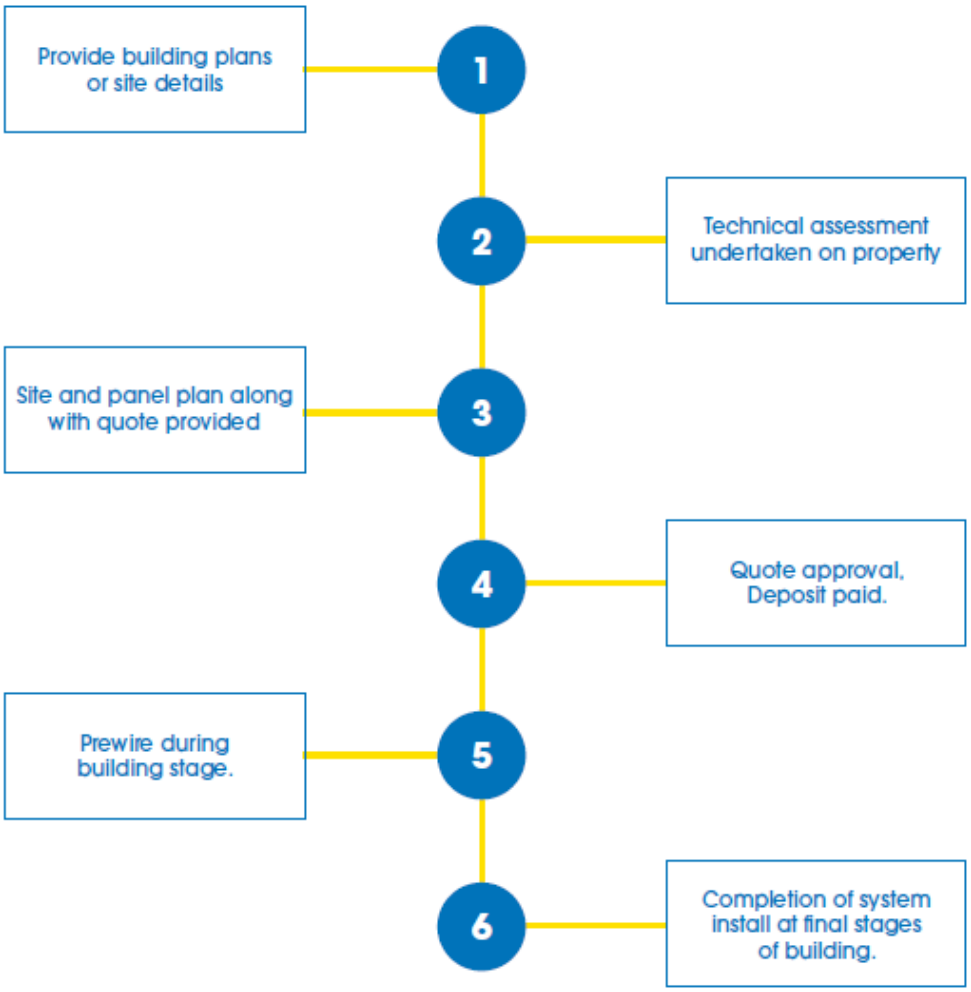
Action Plan



[redacted]

[redacted]

CALL **1300 223 224**
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Our products

Batteries

AlphaESS
SMILE G3

Eveready
Energy Vault

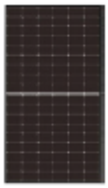
Hive
Energy Vault

Tesla
Powerwall

Growatt
ALP LV

Ambrion
Raybox™ HS2

PV Panels



Risen
RSM108-9-415N

Risen
RSM40-8-390M

Inverters

Fronius

Growatt

Goodwe

SAJ

[redacted]

APPENDIX F – BESS ASSESSMENT

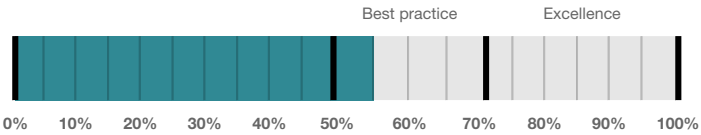
BESS Report

Built Environment Sustainability Scorecard

This BESS report outlines the sustainable design commitments of the proposed development at Camp Road & Blair Street Broadmeadows Victoria 3047. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Hume City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score

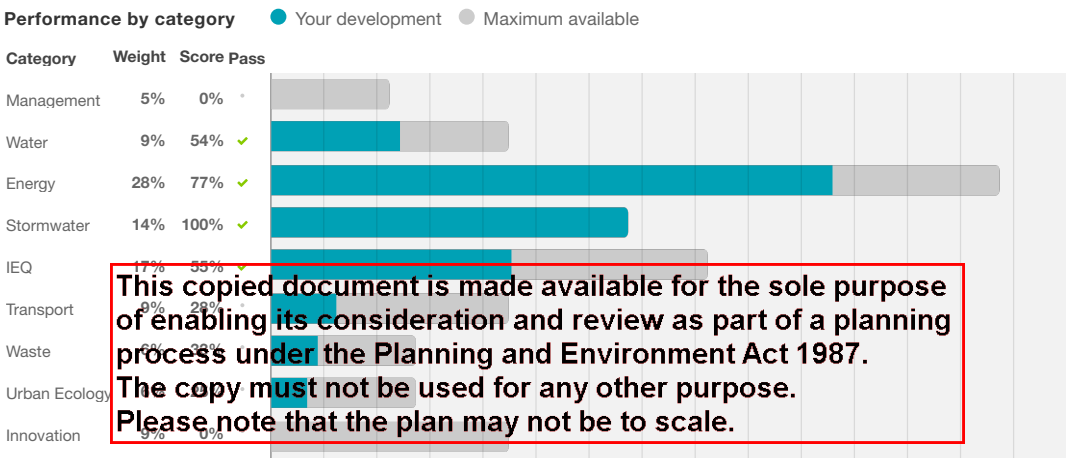


54%

Project details

Address	Camp Road & Blair Street Broadmeadows Victoria 3047
Project no	7B93C3CC-R3
BESS Version	BESS-8
Site type	Non-residential development
Account	[redacted]
Application no.	
Site area	1,981.00 m²
Building floor area	555.00 m²
Date	29 July 2024
Software version	2.0.0-B.533

Performance by category



Buildings

Name	Height	Footprint	% of total footprint
Childcare	1	555 m^2	100%

Dwellings & Non Res Spaces

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Other building				
Childcare	1	555 m^2	Childcare	100%
Total	**1**	**555 m^2**	**100%**	

Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Water 3.1	Annotation: Water efficient garden details		-
Energy 4.2	Location and size of solar photovoltaic system		-
Stormwater 1.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)		-
Transport 1.4	Location of non-residential bicycle parking spaces		-
Waste 2.2	Location of recycling facilities		-
Urban Ecology 2.1	Location and size of vegetated areas		-

Supporting evidence

Credit	Requirement	Response	Status
Energy 1.1	Energy Report showing calculations of reference case and proposed buildings		-
Energy 3.7	Average lighting power density and lighting type(s) to be used		-
Energy 4.2	Specifications of the solar photovoltaic system(s)		-
Stormwater 1.1	STORM report or MUSIC model		-
IEQ 1.4	A short report detailing assumptions used and results achieved.		-

Credit summary

Management Overall contribution 4.5%

	0%
1.1 Pre-Application Meeting	0%
2.3 Thermal Performance Modelling - Non-Residential	0%
3.2 Metering - Non-Residential	N/A ◈ Scoped Out
	Only one tenant
3.3 Metering - Common Areas	0%
4.1 Building Users Guide	0%

Water Overall contribution 9.0%

	Minimum required 50%	54% ✔ Pass
1.1 Potable Water Use Reduction	56%	
3.1 Water Efficient Landscaping	100%	
4.1 Building Systems Water Use Reduction	0%	

Energy Overall contribution 27.5%

	Minimum required 50%	77% ✔ Pass
1.1 Thermal Performance Rating - Non-Residential	37%	
2.1 Greenhouse Gas Emissions	100%	
2.2 Peak Demand	100%	
2.6 Electrification	100%	
2.7 Energy consumption	100%	
3.1 Carpark Ventilation	N/A ◈ Scoped Out	
	No enclosed	
3.2 Hot Water	100%	
3.7 Internal Lighting - Non-Residential	100%	
4.1 Combined Heat and Power (cogeneration / trigeneration)	N/A ◈ Scoped Out	
	No cogeneration or trigeneration system in use.	
4.2 Renewable Energy Systems - Solar	100%	
4.4 Renewable Energy Systems - Other	N/A ◈ Scoped Out	
	No other (non-solar PV) renewable energy is in use.	

Stormwater Overall contribution 13.5%

	Minimum required 100%	100% ✔ Pass
1.1 Stormwater Treatment	100%	

IEQ Overall contribution 16.5%

Minimum required 50%	55%	✔ Pass
1.4 Daylight Access - Non-Residential	48%	✔ Achieved
2.3 Ventilation - Non-Residential	91%	✔ Achieved
3.4 Thermal comfort - Shading - Non-Residential	0%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential	0%	
4.1 Air Quality - Non-Residential	100%	

Transport Overall contribution 9.0%

	28%	
1.4 Bicycle Parking - Non-Residential	100%	
1.5 Bicycle Parking - Non-Residential Visitor	0%	
1.6 End of Trip Facilities - Non-Residential	0%	
2.1 Electric Vehicle Infrastructure	0%	
2.2 Car Share Scheme	N/A	Scoped Out
		N/A
2.3 Motorbikes / Mopeds	0%	

Waste Overall contribution 5.5%

	33%	
1.1 - Construction Waste - Building Re-Use	0%	
2.1 - Operational Waste - Food & Garden Waste	0%	
2.2 - Operational Waste - Convenience of Recycling	100%	

Urban Ecology Overall contribution 5.5%

	25%	
1.1 Communal Spaces	0%	
2.1 Vegetation	50%	
2.2 Green Roofs	0%	
2.3 Green Walls and Facades	0%	
3.2 Food Production - Non-Residential	0%	

Innovation Overall contribution 5.0%

	0%	
1.1 Innovation	0%	

Credit breakdown

Management Overall contribution 0%

1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 42.9% towards the category score.	
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council?	
Question	Criteria Achieved ?	
Project	No	
2.3 Thermal Performance Modelling - Non-Residential		0%
Score Contribution	This credit contributes 28.6% towards the category score.	
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D6?	
Question	Criteria Achieved ?	
Other building	No	
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency), NABERS or Green Star?	
Question	Criteria Achieved ?	
Other building	No	
3.2 Metering - Non-Residential		N/A Scoped Out
This credit was scoped out	Only one tenant	
3.3 Metering - Common Areas		0%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Have all major common area services been separately submetered?	
Question	Criteria Achieved ?	
Other building	No	
4.1 Building Users Guide		0%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Will a building users guide be produced and issued to occupants?	
Question	Criteria Achieved ?	
Project	No	

Water Overall contribution 5% Minimum required 50%

Water Approach	
What approach do you want to use for Water?:	Use the built in calculation tools
Project Water Profile Question	
Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Are you installing a rainwater tank?:	Yes
Fixtures, fittings & connections profile	
Showerhead:	Scope out
Bath:	Scope out
Kitchen Taps:	>= 5 Star WELS rating
Bathroom Taps:	>= 5 Star WELS rating
Dishwashers:	>= 5 Star WELS rating
WC:	>= 4 Star WELS rating
Urinals:	Scope out
Washing Machine Water Efficiency:	Occupant to Install
Which non-potable water source is the dwelling/space connected to?:	RWT
Non-potable water source connected to Toilets:	Yes
Non-potable water source connected to Laundry (washing machine):	No
Non-potable water source connected to Hot Water System:	No
Rainwater tank profile	
What is the total roof area connected to the rainwater tank?: RWT	671 m^2
Tank Size: RWT	15,000 Litres
Irrigation area connected to tank: RWT	-
Is connected irrigation area a water efficient garden?: RWT	-
Other external water demand connected to tank?: RWT	-

1.1 Potable Water Use Reduction	56%
Score Contribution	This credit contributes 71.4% towards the category score.
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction.
Output	Reference
Project	803 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	667 kL
Output	Proposed (including rainwater and recycled water use)
Project	500 kL
Output	% Reduction in Potable Water Consumption
Project	37 %
Output	% of connected demand met by rainwater
Project	100 %
Output	How often does the tank overflow?
Project	Very Often
Output	Opportunity for additional rainwater connection
Project	441 kL

3.1 Water Efficient Landscaping	100%
Score Contribution	This credit contributes 14.3% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes

4.1 Building Systems Water Use Reduction	0%
Score Contribution	This credit contributes 14.3% towards the category score.
Criteria	Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?
Question	Criteria Achieved ?
Project	No

Energy Overall contribution 21% Minimum required 50%

Use the BESS Deem to Satisfy (DtS) method for Non-residential spaces?:	Yes
Do all exposed floors and ceilings (forming part of the envelope) demonstrate meeting the required NCC2022 insulation levels (total R-value upwards and downwards)?:	Yes
Does all wall and glazing demonstrate meeting the required NCC2022 facade calculator (or better than the total allowance)?:	Yes
Are heating and cooling systems within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available?:	Yes
Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:	Yes

Non-residential buildings profile	
Heating, Cooling & Comfort Ventilation - Electricity Reference fabric & services:	-
Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and reference services:	-
Heating, Cooling & Comfort Ventilation - Electricity Proposed fabric & services:	-
Heating - Wood - reference fabric and services:	-
Heating - Wood - proposed fabric and reference services:	-
Heating - Wood - proposed fabric and services:	-
Hot Water - Electricity - Reference:	-
Hot Water - Electricity - Proposed:	-
Lighting - Reference:	-
Lighting - Proposed:	-
Peak Thermal Cooling Load - Reference:	-
Peak Thermal Cooling Load - Proposed:	-

Solar Photovoltaic system profile	
System Size (lesser of inverter and panel capacity): SPV	5.0 kW peak
Orientation (which way is the system facing)?: SPV	North
Inclination (angle from horizontal): SPV	30.0 Angle (degrees)

1.1 Thermal Performance Rating - Non-Residential	37%
Score Contribution	This credit contributes 36.4% towards the category score.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC2022 Section J)?

2.1 Greenhouse Gas Emissions	100%
Score Contribution	This credit contributes 9.1% towards the category score.
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?

2.2 Peak Demand		100%	
Score Contribution	This credit contributes 4.5% towards the category score.		
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?		
2.6 Electrification		100%	
Score Contribution	This credit contributes 13.6% towards the category score.		
Criteria	Is the development all-electric?		
Question	Criteria Achieved?		
Project	Yes		
2.7 Energy consumption		100%	
Score Contribution	This credit contributes 18.2% towards the category score.		
Criteria	What is the % reduction in annual energy consumption against the benchmark?		
3.1 Carpark Ventilation		N/A	Scoped Out
This credit was scoped out	No enclosed		
3.2 Hot Water		100%	
Score Contribution	This credit contributes 4.5% towards the category score.		
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?		
3.7 Internal Lighting - Non-Residential		100%	
Score Contribution	This credit contributes 9.1% towards the category score.		
Criteria	Does the maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meet the requirements in Table J7D3a of the NCC 2022 Vol 1?		
Question	Criteria Achieved ?		
Other building	Yes		
4.1 Combined Heat and Power (cogeneration / trigeneration)		N/A	Scoped Out
This credit was scoped out	No cogeneration or trigeneration system in use.		
4.2 Renewable Energy Systems - Solar		100%	
Score Contribution	This credit contributes 4.5% towards the category score.		
Criteria	What % of the estimated energy consumption of the building class it supplies does the solar power system provide?		
Output	Solar Power - Energy Generation per year		
Other building	[illegible] kWh		
Output	[illegible] Energy Generated		
Other building	[illegible]		
4.4 Renewable Energy Systems - Other		N/A	Scoped Out
This credit was scoped out	No other (non-solar PV) renewable energy is in use.		

Stormwater

Overall contribution 14% Minimum required 100%

Which stormwater modelling software are you using?:	Melbourne Water STORM tool
1.1 Stormwater Treatment	100%
Score Contribution	This credit contributes 100% towards the category score.
Criteria	Has best practice stormwater management been demonstrated?
Question	STORM score achieved
Project	100
Output	Min STORM Score
Project	100

IEQ

Overall contribution 9% Minimum required 50%

1.4 Daylight Access - Non-Residential		48%	✔ Achieved
Score Contribution	This credit contributes 35.3% towards the category score.		
Criteria	What % of the nominated floor area has at least 2% daylight factor?		
Question	Percentage Achieved?		
Other building	48 %		
2.3 Ventilation - Non-Residential		91%	✔ Achieved
Score Contribution	This credit contributes 35.3% towards the category score.		
Criteria	What % of the regular use areas are effectively naturally ventilated?		
Question	Percentage Achieved?		
Other building	40 %		
Criteria	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012?		
Question	Percentage Achieved?		
Other building	100 %		
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?		
Question	Value		
Other building	650 ppm		
3.4 Thermal comfort - Shading - Non-Residential		0%	
Score Contribution	This credit contributes 17.6% towards the category score.		
Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?		
Question	Percentage Achieved?		
Other building	-		
3.5 Thermal Comfort - Ceiling Fans - Non-Residential		0%	
Score Contribution	This credit contributes 5.9% towards the category score.		
Criteria	What percentage of regular use areas in tenancies have ceiling fans?		
Question	Percentage Achieved?		
Other building	0 %		
4.1 Air Quality - Non-Residential		100%	
Score Contribution	This credit contributes 5.9% towards the category score.		
Criteria	[illegible] pollutant		
Question	[illegible]		
Other building	[illegible]		
Criteria	[illegible] pollutant emission limits?		
Question	Criteria Achieved ?		
Other building	Yes		

Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Other building	Yes

Transport Overall contribution 3%

1.4 Bicycle Parking - Non-Residential		100%
Score Contribution	This credit contributes 28.6% towards the category score.	
Criteria	Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)?	
Question	Criteria Achieved ?	
Other building	Yes	
Question	Bicycle Spaces Provided ?	
Other building	6	

1.5 Bicycle Parking - Non-Residential Visitor		0%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 where there is no planning scheme requirement)?	
Question	Criteria Achieved ?	
Other building	No	
Question	Bicycle Spaces Provided ?	
Other building	-	

1.6 End of Trip Facilities - Non-Residential		0%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Where adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 employee bicycle spaces plus 1 to each 10 employee bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per employee bicycle space in the vicinity of the changing / shower facilities?	
Question	Number of showers provided ?	
Other building	-	
Question	Number of lockers provided ?	
Other building	-	
Output	Min Showers Required	
Other building	1	
Output	Min Lockers Required	
Other building	6	

2.1 Electric Vehicle Infrastructure		0%
Score Contribution	This credit contributes 28.6% towards the category score.	
Criteria	Are facilities provided for the charging of electric vehicles?	
Question	Criteria Achieved ?	
Project	No	

2.2 Car Share Scheme		N/A	Scoped Out
This credit was scoped out	N/A		

2.3 Motorbikes / Mopeds		0%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)?	
Question	Criteria Achieved ?	
Project	No	

Waste

Overall contribution 2%

1.1 - Construction Waste - Building Re-Use		0%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used?	
Question	Criteria Achieved ?	
Project	No	

2.1 - Operational Waste - Food & Garden Waste		0%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Are facilities provided for on-site management of food and garden waste?	
Question	Criteria Achieved ?	
Project	No	

2.2 - Operational Waste - Convenience of Recycling		100%
Score Contribution	This credit contributes 33.3% towards the category score.	
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?	
Question	Criteria Achieved ?	
Project	Yes	

Urban Ecology Overall contribution 1%

1.1 Communal Spaces		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Is there at least the following amount of common space measured in square meters : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251?	
Question	Common space provided	
Other building	-	
Output	Minimum Common Space Required	
Other building	27 m²	
2.1 Vegetation		50%
Score Contribution	This credit contributes 50% towards the category score.	
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?	
Question	Percentage Achieved ?	
Project	10 %	
2.2 Green Roofs		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Does the development incorporate a green roof?	
Question	Criteria Achieved ?	
Project	No	
2.3 Green Walls and Facades		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	
3.2 Food Production - Non-Residential		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	What area of space per occupant is dedicated to food production?	
Question	Food Production Area	
Other building	-	
Output	Min Food Production Area	
Other building	7 m²	

Innovation Overall contribution 0%

1.1 Innovation		0%
Score Contribution	This credit contributes 100% towards the category score.	
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?	

Disclaimer

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Waste Management Plan

362 Camp Road & 1 Blair Street, Broadmeadows VIC

28/08/2023

[redacted]

[redacted]

Waste Management Plan (WM
Proposed Childcare Development

Table of Contents

DOCUMENT VERSION

Version	Date	Changelog	Author	Review
0	28/08/23	PCS 53304 - Issued for Client Review	ZT	LA

[redacted]

PURPOSE OF THE WASTE MANAGEMENT PLAN

The purpose of the waste management plan (WMP) is to:

- Demonstrate the development of an effective waste management system that is compatible with the design of development (residential or commercial) and the adjacent built environment. An effective waste management system is hygienic, clean and tidy, minimises waste going to landfill, and maximises recycling
- Provide a waste management system that is supported by scaled drawings to ensure the final design and construction is compliant with the WMP, and is verifiable
- Form a document that achieves effective communication of the waste management system so that all stakeholders can be properly informed of its design, and the roles and responsibilities involved in its implementation
- Stakeholders are defined (but not limited to): owners, occupiers, body corporate, property managers/real estate agents, Council, neighbours and collection contractors

[redacted]

INTRODUCTION

[redacted] have been engaged to undertake a Waste Management Plan for the proposed childcare development located at 362 Camp Road & 1 Blair Street, Broadmeadows.

We have reviewed the plans of the proposed development and have, where necessary, undertaken research in the relevant field of waste management.

SITE DESCRIPTION

The proposed site is located at 362 Camp Road & 1 Blair Street, Broadmeadows. The 1,980.5m^2 site is currently by an existing building, which is proposed to be demolished prior to the construction of the development. It is located approximately 17kms north of the Melbourne CBD.

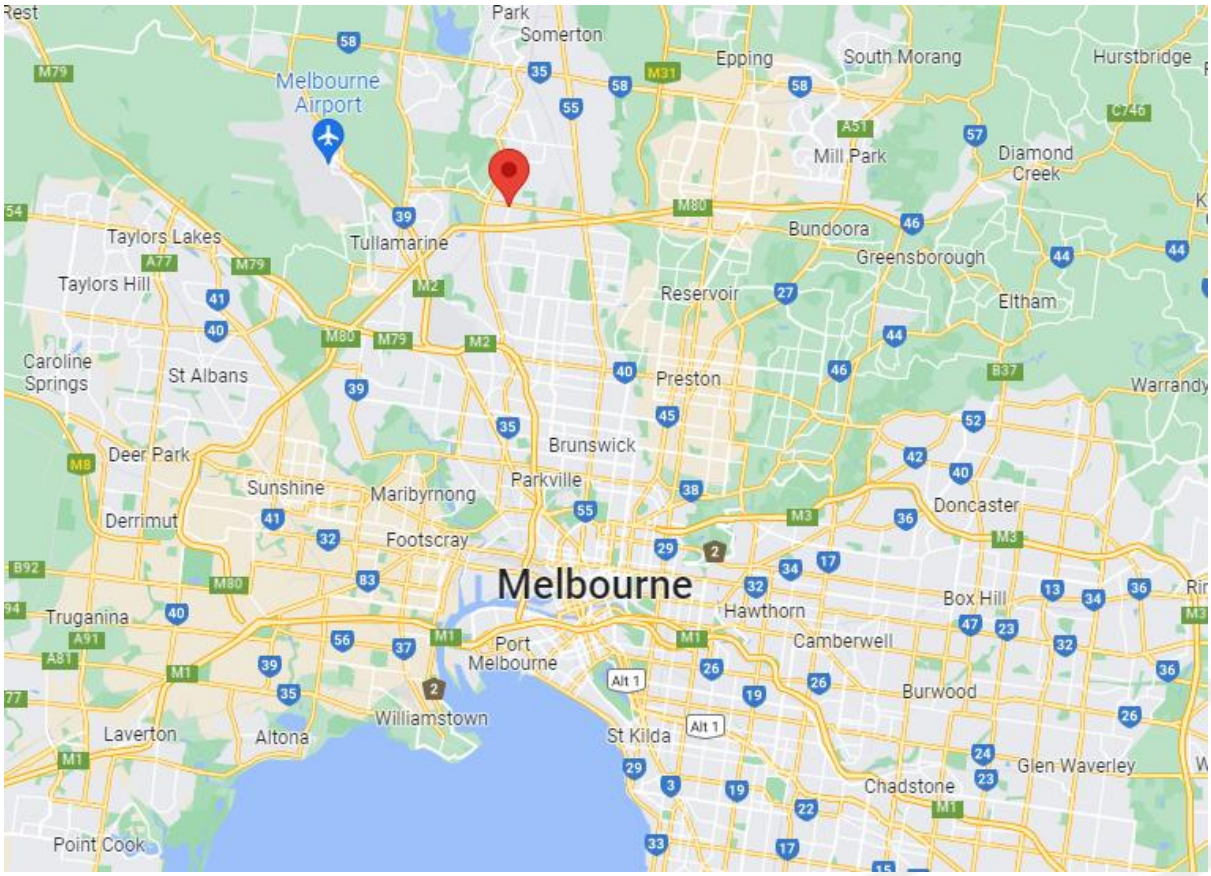

Figure 1: Location of the proposed childcare in Broadmeadows with relation to Melbourne CBD (Source: Google Maps)

PROPOSED DEVELOPMENT

The proposal consists of development of the site into a single storey childcare facility to accommodate up to 99 children. The area of the site is approximately 1,980.5m^2. The facility will include five children rooms, a laundry, staff room, kitchen, offices as well as large outdoor play areas.

[redacted]

TYPES OF WASTE GENERATED

The following types of waste are most commonly generated within a Childcare development:

- General landfill rubbish;
- Recyclables such as glass, paper, cardboard, cartons, plastics with ID Codes 1 to 7, steel & aluminium cans;
- Compostable organic material (food scraps);
- Hard rubbish such as broken furniture and large objects; and
- Sundry waste types such as electronic waste.

This list of waste types to be separately treated is expected to expand by 2030 in line with the Victoria State Government's Recycling Victoria Policy. This will include separate treatment of FOGO and glass waste for a 4-stream system.

WASTE GENERATION RATES

Listed below are the waste generation estimates for the development in accordance with the Sustainability Victoria guidelines based on *City of Melbourne – Guidelines for preparing a waste management plan 2021*:

For childcare spaces:

Space type	Rubbish Generation	Comingled Recyclables
Childcare	350 L per 100m^2 per week	350 L per 100m^2 per week

The childcare has been assumed to operate five days a week.

FOGO Waste

The development will not generate enough organic waste to provide separate collection for this stream. There is no separate waste generation for food waste provided in the waste calculator from Sustainability Victoria as well.

Separate Glass Waste

The development will also be provided with an allocation for a future glass stream service. This is to be in line with the State of Victoria recycling targets for 2030. Please note there are no set glass waste generation rates. Glass collection services will be required to be provided once it is compulsory to start offering the service.

Based on the proposed childcare rooms of 294 m², the total waste genera
childcare is therefore:

Total Development	Rubbish Generation	Comingled Recyclables
Childcare	1,029 L/week	1,029 L/week
Proposed Bin Type	1,100 L	1,100 L
Number of Bins required	1	1
Collection Frequency	Once per week (Private collection)	Once per week (Private collection)

BIN TYPES

Below are the types of bins that the private contractor will provide with the common dimensions:

Bin Storage Type	Capacity	Colour	Waste Type	Comments
	1,100 L x 1	Dark Green Body with matching lid	General Garbage	Average dimensions are: Height 1.33m, Width 1.24m, Depth 1.07m Total floor area required: 1.32m²/bin
	1,100 L x 1	Dark Green Body with yellow lid	Commingled recyclables	Average dimensions are: Height 1.33m, Width 1.24m, Depth 1.07m Total floor area required: 1.32m²/bin

The private waste contractor engaged will provide the bins for the development.

SIGNAGE

Signage is required at the bin storage areas to encourage correct recycling and reduce waste going to landfill. Appropriate signage will be made available by the private contractor for the tenants to install (such as on the underside of the bin's lid). These visual prompts (such as Figure 2 below) will assist in the proper disposal of the different types of waste.

Figure 2: Example signage from the Sustainability Victoria waste signage library.

Printable signage can be found in Sustainability Victoria's website: http://www.sustainability.vic.gov.au.

WASTE STORAGE

1 x1,100 L General rubbish bins and 1 x 1,100L recycling bins will be provided for the childcare by the private contractor.

Both bin types will be stored in a dedicated space within the development. This will make it easy for the staff to store and access bins.

The cleaner/staff will be in charge of emptying the office bins and child room bins into the central storage area located in the development.

The storage area will be outdoor and naturally ventilated to reduce odours related to the waste. The staff/cleaner will ensure that the bin storage area remains clean to avoid the attraction of vermin. An access to a hose for the bin wash-down will be provided in the storage area.

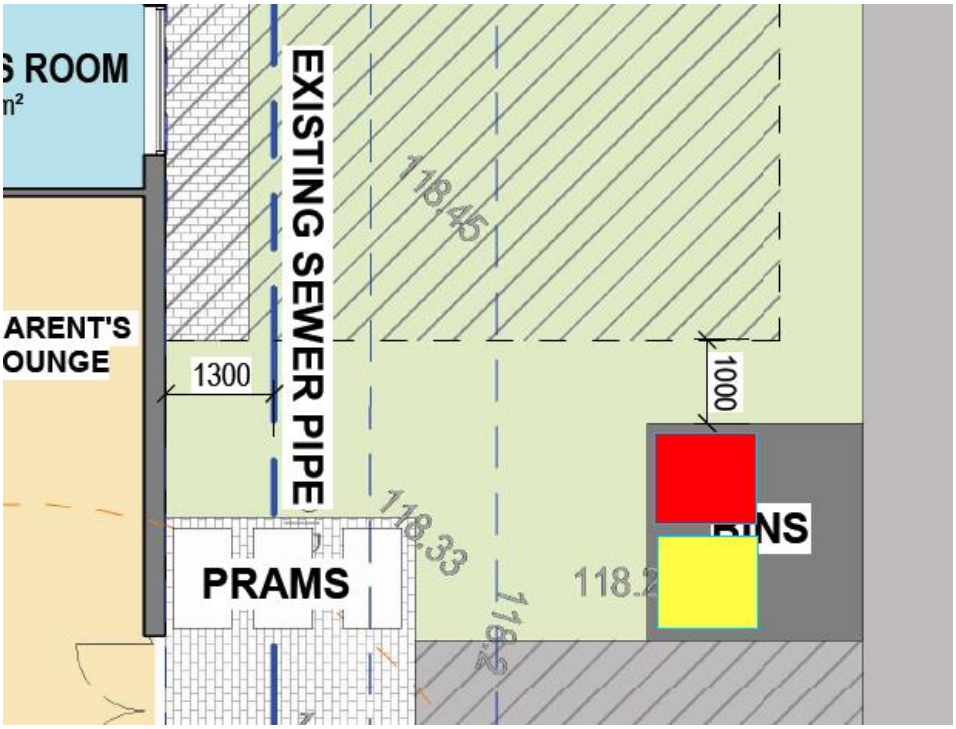

Figure 3: Example of bin storage areas within the childcare development

[redacted]

WASTE COLLECTION & DISPOSAL

Private collection is proposed for the development.

Collection will occur from within the site. The private contractor will enter the site in a forward direction and park at the car park area within the site. The private contractor will roll out the bins to the truck and put the bins back in the storage area once empty. The truck will then manoeuvre to exit the site in a forward direction.

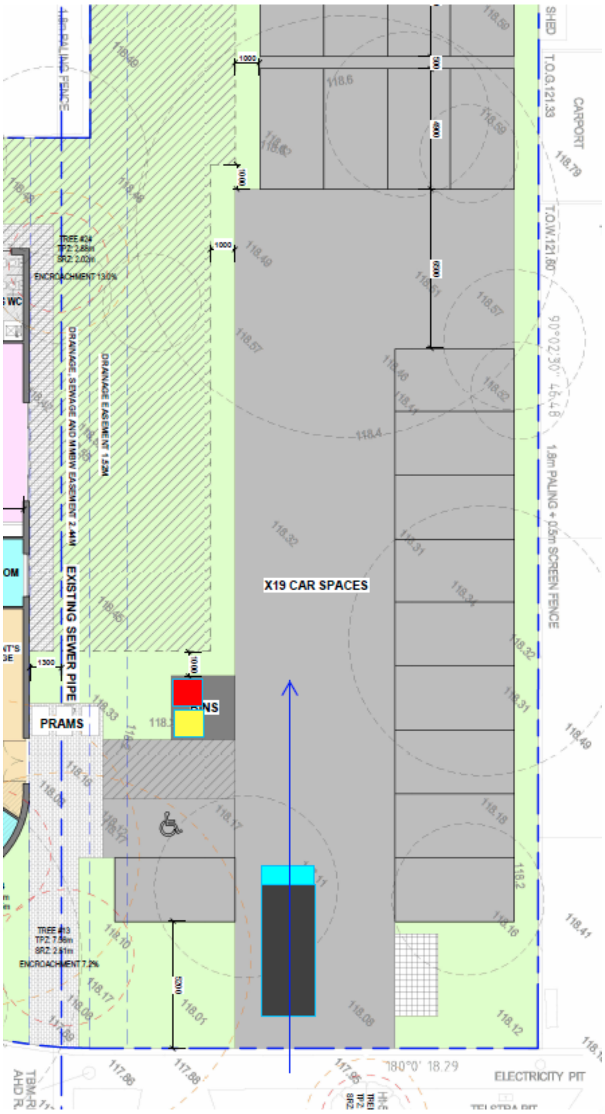

Figure 4: Example of bin collection

To access the bins, the private contractor will be required to liaise with the staff/ cleaner to organise access to the childcare on collection day.

Collection of both general rubbish and recycling will occur once per week. The collection will require two separate trucks, one for general rubbish and recyclables.

As collection of the bins is to be made within a car park, it is proposed that a Waste Wise Mini Rear Loader or similar vehicle is used for the collection. The Waste Wise Mini Rear

[redacted]

[redacted]

Loader is approximately 2.08m high, 6.35m long and 1.7m wide. Was
and exit the site in a forward direction at all times.

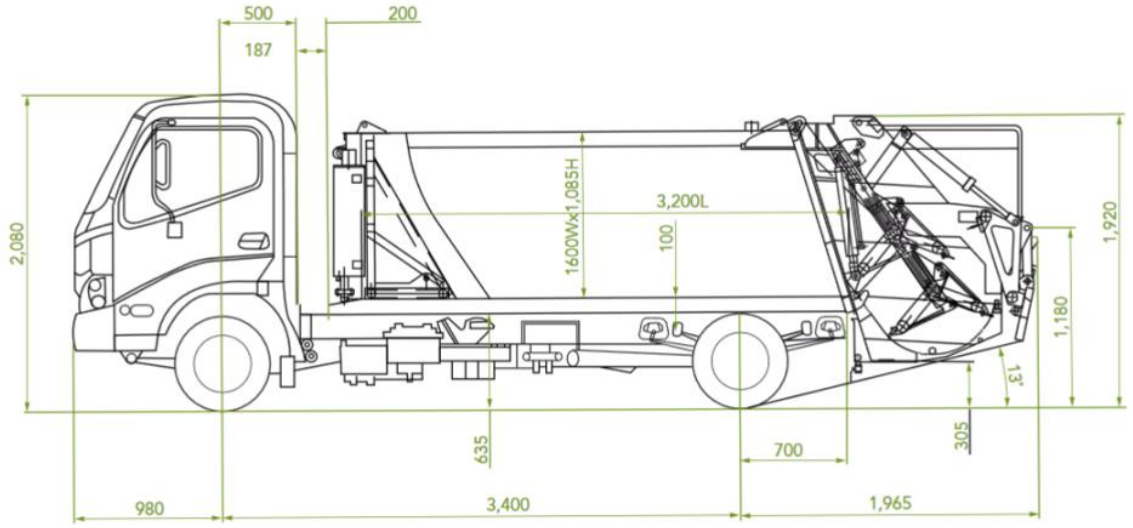

Figure 5: Dimensions of the "Waste Wise Mini Rear Loader" truck (Source: Waste Wise Environmental Australia)

Collection will occur outside of peak traffic hours and will be in accordance with EPA and the City of Hume requirements, so as to minimise any traffic disturbance for staff or visitors entering or exiting the site.

[redacted]

OTHER WASTE TYPES

The private contractor will provide hard waste collection. Method and frequency of collection will be confirmed once the private contractor is engaged.

E-Waste will be banned from landfill from 1st July 2019. Occupants will be required to dispose of their E-waste at their nearest drop-off point. Nearest e-waste recycling drop-off point can be found on Planet Ark's *Recycling Near You at* *https://recyclingnearyou.com.au/electrical*.

Recycling Options

The following recycling options may also be useful:

Waste Exchange Database: Allows communication between generators of waste and potential recyclers.

Ziilch: Simple online recycling of unwanted goods.

Freecycle: A non-profit portal for exchanging unwanted goods for free.

Reverse Art Truck Inc.: A non-profit organisation that collects seconds and factory off cuts for reuse as art materials. Free pick up.

Ozrecycle: Another way to give and get things for free instead of sending them to landfill.

FreeTreasure: Free Treasure is developing to become one of Australia's best communities to find free stuff.

The Sharehood: Helps you share resources within your neighbourhood.

Other recycling services such as St Vincent de Paul, Brotherhood of St Laurence, The Smith Family and The Salvation Army accept a range of household items.

WASTE REDUCTION SUGGESTION

Reduction of plastic bag

Up to four billions or 20,000 tonnes of plastic bags are sent to landfill each year in Australia. There are some ways to reduce the plastic bag usage of the staff:

- Use re-useable bags, cardboard boxes or baskets when shopping; and
- Use supermarkets and shops that endorse re-usable bags, or provide recycling outlet for plastic bags.

Recycling

In order to minimise the waste production of the development, it is important to recycle effectively and try to select recycled product when possible. There is a range of practical things easy to do to improve recycling:

- Remove lids and empty bottles when recycling;
- Recycle newspapers;
- Buy product with minimal packaging or/and with recycled material content;
- Buy recycled products (e.g. toilet paper); and
- Ensure recycling materials is not spoiled (e.g. food scraps) before recycling.

PREVENTATIVE MEASURES

Disposal Procedures

Staff/cleaner/building manager are to ensure that all internal general rubbish bin bags are tied up securely before being placed in the bins. They will also ensure that recyclables are placed in the yellow lidded bins in a way that minimises potential litter and overflow (for example crushing boxes, cans and plastic bottles).

Maintenance

As a minimum, staff/cleaner/building manager will be required to keep the bins neatly placed in their storage areas. To further reduce the risk of litter, staff/cleaner/building manager will be asked to make sure bins are not overfilled and to keep the lids closed. The above measures will minimise the dispersion of site litter and risk of vermin. The staff/cleaner/building manager will be required to conduct periodic maintenance of their bins such as wash-downs and any necessary repairs/replacements will need to be organised with the private contractor.

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281 Lygon Street
East Brunswick VIC 3057

Phone
03 8691 6928

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admin@fraterconsultingservices.com.au

[redacted]

SUMMARY

Correct implementation and staff induction to the WMP will ensure that all waste streams are correctly disposed of and sorted into their proper bins. Proper bin management will ensure that all waste is stored & collected efficiently and effectively without compromising the amenity, capacity and tidiness of the storage areas. The private contractor will supply the bins and will be responsible for bin collection.

[redacted]

[redacted]

[redacted]

[redacted]

Arborist Report

362 Camp Road & 1 Blair Street, Broadmeadows 3047

[redacted]

[redacted]

Client	[redacted]
Client Address	
Site Address	362 Camp Road & 1 Blair Street, Broadmeadows 3047
Document Type	Arborist Report – Tree assessment & recommendations.
Date	14/07/2023

1. Contents

2. Key findings

- This is a preliminary arborist report and does not include an arboricultural impact assessment.
- The subject site consists of two properties (362 Camp Road & 1 Blair Street, Broadmeadows) that are adjacent to each other.
- Trees 1-3 are street trees located outside this property; these trees are unlikely to be directly affected by the proposed development.
- There are 30 trees located on this property, except for trees 9, 13-14 & 24 these trees have low retention value and could be removed.
- Trees 9, 13-14 & 24 have moderate retention value and could be retained and incorporated into the proposed development. These trees are likely to be directly affected by the proposed development.
- Trees 34-37 are in adjoining properties; these trees are unlikely to be directly affected by the proposed development.

3. Introduction

I was contacted by [redacted] regarding providing an Arborist report for a proposed development at this address. The proposed development will affect 37 trees, most of these trees are on the subject site. The subject site consists of two properties (362 Camp Road & 1 Blair Street, Broadmeadows) that are adjacent to each other. As part of my assessment, I have reported on the health and condition of these trees and have provided recommendations based on my assessment.

The site is within the City of Hume, it is located within a General Residential Zone (GRZ1); there are no relevant planning overlays affecting this property.

This report is a preliminary arboricultural report and is intended to provide detailed advice on the nature of trees on the site, this includes basic tree information (name, species, health, condition, structure, size, age class, safe useful life expectancy, trunk diameter at breast height and ground level, tree protection zone and structural root zone) as well as significance and suitability for retention (rated as low, moderate and high). An assessment of suitability for retention considers tree health, structure, size, environmental and habitat value, landscape value (aesthetic and streetscape value) age and longevity, and species factors, it also considers potential constraints on retaining trees and the potential design modifications required to accommodate a tree on the site.

I conducted a site visit on the 3/07/2023, and assessed the health, condition and safety of the trees in question. Recommendations are outlined in section 5 of this report. A detailed list of the surveyed trees is provided in Appendix 2 of this report. A site plan is included which

identifies and shows the location of the trees concerned, photographs of the trees have also been included.

4. Methodology

The trees were assessed using the standard Visual Tree Assessment technique (VTA). The trees were assessed from the ground for this report. VTA is an internationally recognised practice in the visual assessment of trees as formulated by Mattheck & Breloer (1999).

A Yama 20m diameter tape was used to obtain the Diameter at breast height (DBH) at 1.4 metres above ground level. The height was measured using a Nikon Forestry Pro Laser Range Finder, the spread of the tree's canopy was paced out. Photographs were taken with a Samsung Galaxy S20. Aerial photographs were taken from www.nearmap.com.au.

The report considers relevant sections of the Australian Standard: AS4970-2009: Protection of trees on development sites and uses this as the basis for determining tree protection and structural root zones.

This report includes all trees located on the subject site/s, trees in adjoining properties that may be impacted by the proposed development (within 5m of the property boundary unless requested otherwise) and council street trees located directly outside the subject property/s. For the purposes of this report the definition of a tree is based on AS4970, which states that a tree is a *'long lived woody perennial plant greater than (or usually greater than) 3 m in height with one or relatively few main stems or trunks (or as defined by the determining authority)'.*

The ULE rating system has been used as a guide to assist in determining the Useful Life Expectancy of the tree surveyed. Refer to Appendix 1 (Barrell 1993).

A scaled site plan has been prepared using ArborCAD software.

Reference was made to the City of Hume's Planning Scheme at Victoria's Planning Scheme's online (www.dse.vic.gov.au/planningschemes) and the Victorian government online Property Reports at: www.land.vic.gov.au.

Bluegum consultancy has been engaged by the client to provide an arborist report for this project prior to the development of the proposed plans.

5. Site Context

The subject site consists of two properties (362 Camp Road & 1 Blair Street, Broadmeadows) that are adjacent to each other. These are both average sized properties (1140 & 859m^2) which are in a medium density residential area; the site is level and has an east-west orientation with an easterly aspect. There are 37 trees included in this report.

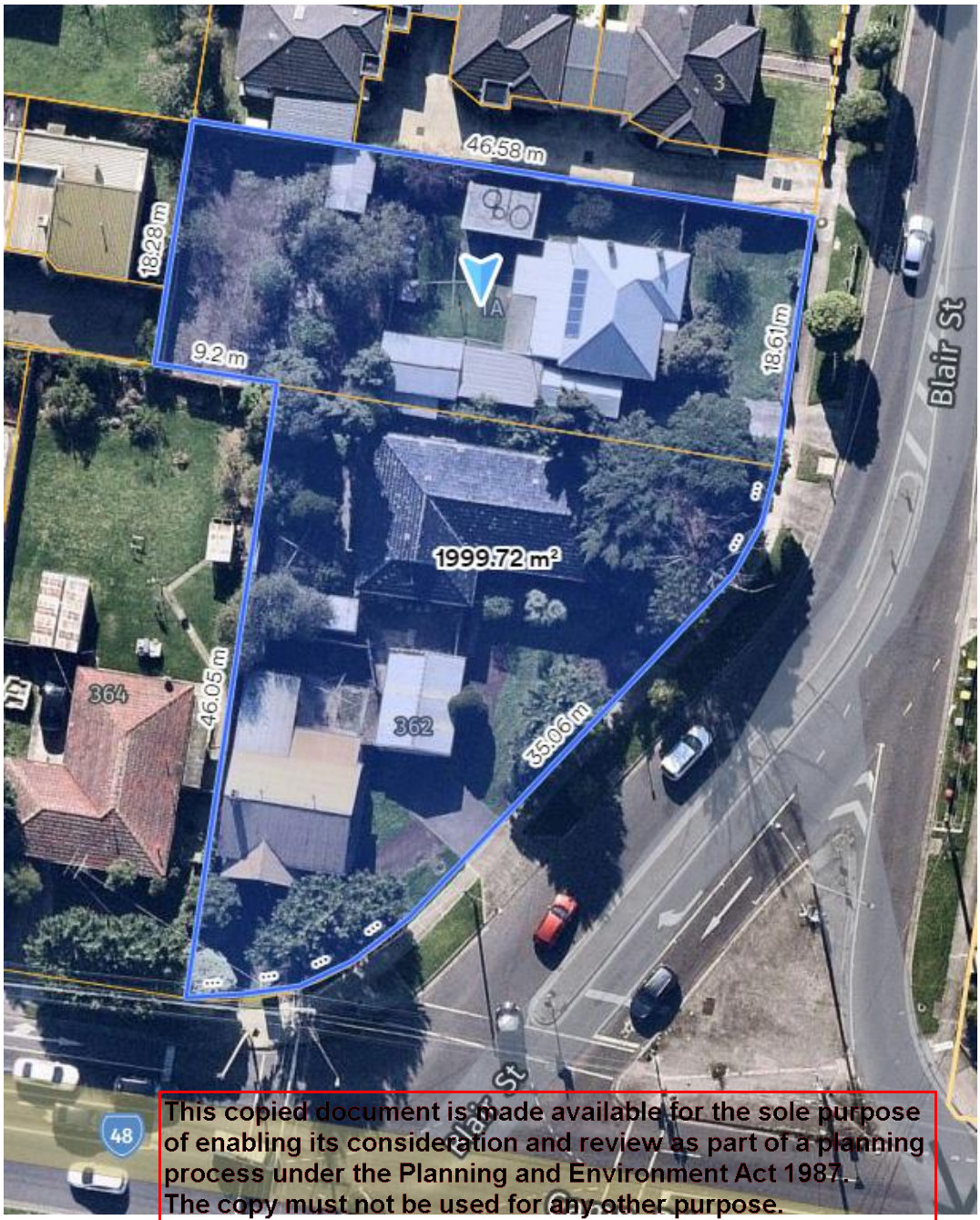


Figure 1: Assessment area (Nearmap, 2023)

6. Discussion

Trees 1-3 are street trees located outside this property. These trees are unlikely to be directly affected by the proposed development due to their size and location. Provided that basic tree protection measures are implemented there should be no adverse impact on the health of these trees from the proposed development.

Figure 2: Tree 1 is a street tree located outside this property. This tree is unlikely to be directly affected by any future proposed development based on its size and location.

[redacted]

Trees 4-18 are located at the front of 362 Camp Road, Broadmeadows this property, except for trees 9 & 13-14 these trees all have low retention value due to their small size, poor health and/or trunk and branch structure or that they are an environmental weed species. These trees do not warrant being retained and incorporated into the proposed development and could be removed and replaced.

Figure 3: Tree 4 Pittosporum eugenoides (Variegated Pittosporum). The tree has low retention value due to its small size and low landscape value. This tree could be removed and replaced if required.

Trees 9 & 13-14 are medium to large sized, mature trees that are in good health and have good to average trunk and branch structure. These trees have moderate retention value and consideration could be given to retaining these trees and incorporating them into the proposed development. These trees are likely to be directly affected by the proposed development, consideration will need to be given to minimize any intrusion into their tree protection zone (TPZ) from the proposed development. Provided that there is only a minor intrusion (≤10%) from the proposed development and that basic tree protection measures are implemented there should be no adverse impacts on the health of these trees from the proposed development.

Figure 4: Tree 14 Cedrus deodara (Himalayan Cedar), the tree has moderate retention value due to its size, maturity, ULE and amenity value. This tree could be retained as part of the proposed development.

Trees 19-24 are located at the back of 362 Camp Road, Broadmeadows this property, except for tree 24 these trees all have low retention value due to their small size, poor health and/or trunk and branch structure or that they are an environmental weed species. These trees do not warrant being retained and incorporated into the proposed development and could be removed and replaced.

Tree 24 is a medium to large sized, mature *Cupressus sempervirens* (Italian Cypress) this tree is in good health and has average trunk and branch structure. The tree has moderate retention value and could be retained as part of the proposed development. The tree is likely to be directly affected by the proposed development, consideration will need to be given to minimize any intrusion into its TPZ from the proposed development. Provided that there is only a minor intrusion (≤10%) from the proposed development and that basic tree protection measures are implemented there should be no adverse impacts on the health of this tree from the proposed development.

Figure 5: Tree 24 Cupressus sempervirens (Italian Cypress), the tree has moderate retention value due to its size, maturity, ULE and amenity value. This tree could be retained as part of the proposed development.

Trees 25-26 are located at the front of 1 Blair Street, Broadmeadows these trees all have low retention value due to their small size, poor health and/or trunk and branch structure and low landscape value. These trees do not warrant being retained and incorporated into the proposed development and could be removed and replaced as part of the proposed development.

Figure 6: Tree 25 Malus domestica (Apple). The tree has low retention value due to its relatively small size and low landscape value. This tree could be removed and replaced if required.

Trees 27-33 are located at the back of 1 Blair Street, Broadmeadows these trees all have low retention value due to their small size, poor health and/or trunk and branch structure or that they are an environmental weed species. These trees do not warrant being retained and incorporated into the proposed development and could be removed and replaced as part of the proposed development.

Figure 7: Tree 31 Prunus avium (Cherry). The tree has low retention value due to its average to poor health and condition. This tree could be removed and replaced if required.

Trees 34-37 are in adjoining properties; these trees are unlikely to be directly affected by the proposed development at this address due to their size and location. Provided that basic tree protection measures are implemented there should be no adverse impact on the health of these trees from the proposed development.

[redacted]

Table 1: Trees to be removed:

Tree #	*Common & Botanical names*	Origin	Age	ULE	Retention value	Comments	Recommendations	Permit required
4	*Pittosporum eugenoides (Variegated Pittosporum)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
5	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
6	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Early mature	Medium (15-40 years)	Low		Remove and replace if required	No
7	*Chamaecyparis lawsoniana (Lawsons Cypress)*	Introduced	Mature	Medium (15-40 years)	Low	TGx3	Remove and replace if required	No
8	*Photinia Red (Red Robin Photinia)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
10	*Cotoneaster glaucophylla (Cotoneaster)*	Environmental weed	Early mature	Medium (15-40 years)	Low		Remove and replace if required	No
11	*Fraxinus angustifolia (Desert Ash)*	Environmental weed	Early mature	Medium (15-40 years)	Low		Remove and replace if required	No
12	*Eucalypt sp. (Unknown Eucalypt)*	Australian native	Over-mature	Removal (0-5 years)	Remove		Remove and replace if required	No
15	*Photinia Red (Red Robin Photinia)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
16	*Fraxinus angustifolia (Desert Ash)*	Environmental weed	Early mature	Medium (15-40 years)	Low		Remove and replace if required	No
17	*Cordyline australis (Cabbage Tree)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
18	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
19	*Malus domestica (Apple)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
20	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
21	*Nerium oleander (Oleander)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
22	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
23	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
25	*Malus domestica (Apple)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
26	*Melaleuca stypheloides (Prickly leaf Paperbark)*	Australian native	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
27	*Cupressus sempervirens (Italian Cypress)*	Introduced	Mature	Medium (15-40 years)	Low	Poorly located	Remove and replace if required	No
28	*Prunus dulcis (Almond)*	Introduced	Early mature	Medium (15-40 years)	Low		Remove and replace if required	No
29	*Prunus cerasifera (Green leaf Cherry)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
30	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Early mature	Medium (15-40 years)	Low		Remove and replace if required	No
31	*Prunus avium (Cherry)*	Introduced	Mature	Short (5-15 years)	Low		Remove and replace if required	No
32	*Malus domestica (Apple)*	Introduced	Mature	Medium (15-40 years)	Low		Remove and replace if required	No
33	*Prunus cerasifera (Green leaf Cherry)*	Introduced	Early mature	Medium (15-40 years)	Low		Remove and replace if required	No

Table 2: Trees to be retained:

Tree#	TPZ	Min clearance (one side)	Recommended tree protection measures
1	2.5	1.7	Street tree, unlikely intrusion, implement basic tree protection measures.
2	2	1.4	Street tree, unlikely intrusion, implement basic tree protection measures.
3	2	1.4	Street tree, unlikely intrusion, implement basic tree protection measures.
9	4.9	3.4	Retain tree, likely intrusion, minimise intrusion and implement basic tree protection measures.
13	7.6	5.2	Retain tree, likely intrusion, minimise intrusion and implement basic tree protection measures.
14	6.2	2.8	Retain tree, likely intrusion, minimise intrusion and implement basic tree protection measures.
24	0.9	0.6	Retain tree, likely intrusion, minimise intrusion and implement basic tree protection measures.
34	2	1.4	Neighbouring tree, unlikely intrusion, implement basic tree protection measures.
35	2	1.4	Neighbouring tree, unlikely intrusion, implement basic tree protection measures.
36	3.4	2.3	Neighbouring tree, unlikely intrusion, implement basic tree protection measures.
37	3.4	2.3	Neighbouring tree, unlikely intrusion, implement basic tree protection measures.

7. Recommendations

The subject site consists of two properties (362 Camp Road & 1 Blair Street, Broadmeadows) that are adjacent to each other.

There are 30 trees located on the subject site, except for trees 9, 13-14 & 24 these trees all have low retention value and could be removed and replaced as part of the proposed development.

Trees 9, 13-14 & 24 have moderate retention value; consideration should be given to retaining these trees and incorporating them into the proposed development. These trees are likely to be directly affected by the proposed development. Provided that there is only a minor intrusion (≤10%) from the proposed development and that basic tree protection measures (see below) are implemented there should be no adverse impacts on the health of these trees from the proposed development.

Trees 34-37 are in adjoining properties; these trees are unlikely to be directly affected by the proposed development. Provided that basic tree protection measures (see below) are implemented there should be no adverse impact on the health of these trees from the proposed development.

The remaining trees included in this report are three street trees located outside this property. These trees are unlikely to be directly affected by the proposed development. Provided that basic tree protection measures (see below) are implemented there should be no adverse impact on the health of these trees from the proposed development.

8. Tree Protection Requirements

Specific Tree Protection Requirements

Demolition and site clearing

Site clearing has the potential to cause significant damage to any trees to be retained on site or trees that are in adjoining properties through disturbance to the soil, changes in soil gradients, soil compaction and physical destruction of tree roots from excavation and scraping.

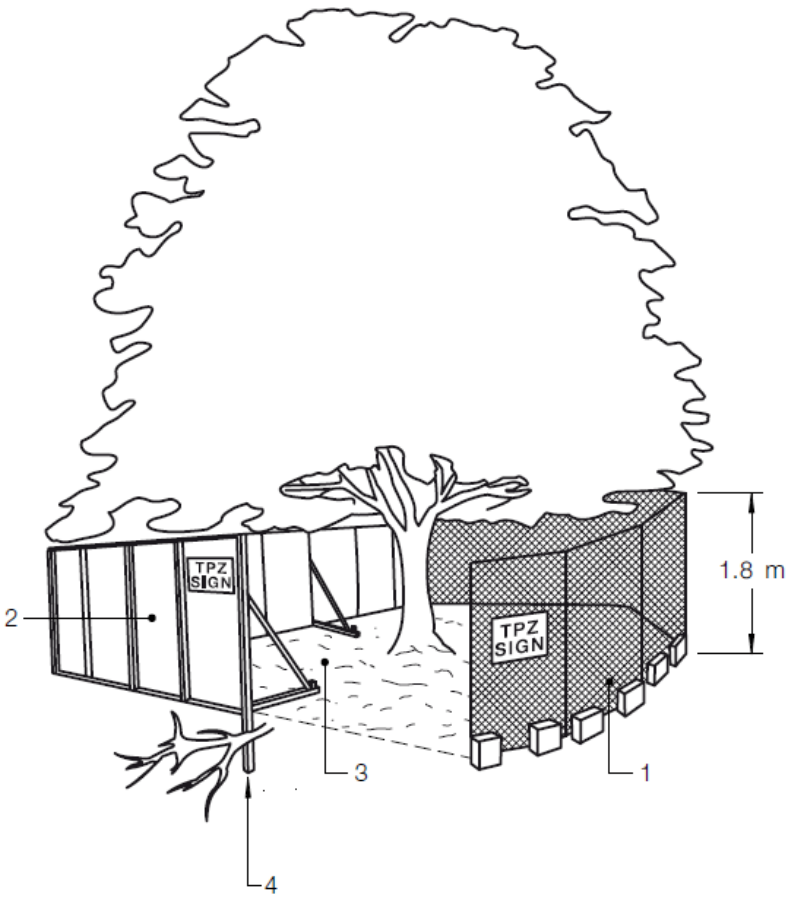
Tree protection measures (see below) need to be implemented prior to any site clearing and demolition works commencing. Where site clearing intrudes into the TPZ of trees to be retained and/or trees in neighbouring properties care must be taken to prevent any unnecessary damage to trees and tree roots.

Basic Tree Protection Requirements

The following basic tree protection measures will need to be implemented prior to any work commencing on site and remain in place for the duration of the work

1. Before commencing work on site, the contractor is required to meet with the consultant arborist to review all work procedures, access routes, storage areas and tree protection measures.
2. Temporary protective fencing to a minimum height of 1.8m must be erected along the perimeter of the TPZ (or modified TPZ) for any trees that are to be retained on the site. Prior to any machinery or materials being brought on site and before any works including demolition commences.
3. Once erected protective fencing must not be removed or altered without approval from the project arborist.
4. Protective fencing needs to be in accordance with AS 4687. Signs identifying the TPZ should be placed around the protective fencing.
5. Construction vehicles and storage areas must remain outside fenced areas always.
6. If tree roots are encountered or damaged during construction, they need to be cut cleanly to sound tissue with sharp secateurs or a pruning saw.
7. Surplus construction materials (e.g., soil, cement, base rock etc.) are not to be stored or allowed to remain inside the trees' TPZ.
8. Additional tree pruning required during construction must be carried out by an appropriately qualified contractor and in accordance with Australian Standards 4373: 2007, Pruning of Amenity Trees and not by construction personnel.
9. All underground services including drainage and irrigation must be routed outside of trees TPZs, if this is not possible excavation is to be carried out by tunneling or boring beneath the tree protection zone.
10. Trees retained on site are to be regularly watered (minimum weekly) during periods of dry conditions within the tree protection zone.
11. If trees are damaged during construction, it should be evaluated as soon as possible by the project arborist so that appropriate treatments can be applied.

12. Erosion control such as silt fencing, debris basins and water diversion methods shall be installed to prevent siltation and/or erosion within the tree protection zone.
13. If temporary access roads must pass over the root areas (TPZ) of trees to be retained a roadbed of 150mm of mulch or crushed rock shall be created to prevent soil compaction within the tree's root area. The roadbed material shall be maintained to a depth of 150mm throughout construction.
14. Once construction is completed all foreign (non-organic) debris needs to be removed from within the tree protection zone.



LEGEND:
1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
2 Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

Figure 8: Tree protection zone and temporary protective fencing.
The creation of an exclusion zone around trees to be retained on site is the primary means of tree protection during construction. Tree protection zone signage provides clear and readily accessible information to indicate that a TPZ has been established.

9. Suggested Replacement Species

Possible replacement tree species could include (selection and placement of trees will need to take into consideration the eventual size of the trees when mature) – see landscape plan for complete planting schedule:

Large (canopy) trees:

- Rough Barked Manna Gum (*Eucalyptus pryoriana)* - Indigenous
- Narrow leaved Peppermint (*Eucalyptus radiata)* - Indigenous
- Red Box (*Eucalyptus polyanthemos ssp. Vestita)* - Indigenous
- Yellow Box (*Eucalyptus melliodora*) - Indigenous
- Blackwood (Acacia melanoxylon) - Indigenous
- Smooth-barked Apple Myrtle (*Angophora costata*) - Native
- Argyle Apple (*Eucalyptus cinerea*) – Native
- Illawarra Flame Tree *(Brachychiton acerifolius)* - Native
- Red Maple (*Acer rubrum)* - Exotic
- Pin Oak (*Quercus palustris)* - Exotic

Medium sized trees:

- Lightwood (*Acacia implexa*) – Indigenous
- Flowering Gum (*Corymbia ficifolia)* - Australian Native
- Silver Banksia (*Banksia marginata)* - Indigenous
- Dwarf Apple Myrtle (*Angophora costata 'Little Gumball')* - Native
- Dwarf Yellow Bloodwood (*Corymbia eximia nana)* - Native
- Flowering Gum (*Corymbia ficifolia)* - Native
- Victorian Silver Gum *(Eucalyptus crenulata)* - Native
- Yellow Gum (*Eucalyptus leucoxylon Rosea)* - Native
- Pink Gum (*Eucalyptus fasciculosa)* - Native
- Water Gum (*Tristaniopsis laurina)* - Native
- Honey Locust (*Gleditsia tricanthos)* - Exotic
- Callery Pear (Pyrus calleryana) - Exotic

Small sized trees:

- Gungurru (*Eucalyptus caesia)* - Native
- Fuschia Gum *(Eucalyptus forrestiana)* – Native
- Torwood - (*Eucalyptus x 'Torwood'*) - Native
- Nullabor Lime (*Eucalyptus macrocarpa 'Nullabor Lime')* - Native
- Risdon Peppermint (*Eucalyptus risdonii*) - Native
- Coral Gum (*Eucalyptus torquata*) – Native
- Smooth Barked Coolabah *(Eucalyptus victrix)* - Native
- Crepe Myrtle (*Lagerstroemia indica*) - Exotic
- Iowa Crab Apple *(Malus ioensis 'Plena')* - Exotic

Replacement trees should be sourced from a reputable nursery with care taken to ensure that they are in good health, free of structural defects and pests and diseases. They should be

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advanced grown specimens that are a minimum 1.5 metres in height. When planting advanced grown trees, it is important that they are planted correctly, staked to provide additional support and provided with adequate aftercare to ensure that they become established (the plant supplier should be able to help with planting and establishment guidelines).

Please do not hesitate to call [redacted] if you have any questions regarding the contents or recommendations provided in this report.

[redacted]

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10. References

- Australian Standards (2007). AS4373: 2007, Pruning of Amenity Trees. Sydney, Standards Australia.
- Australian Standards (2009). AS4970: 2009, Protection of trees on development sites. Sydney, Standards Australia.
- Barrell, J. (1993) *Pre-Planning Tree Surveys: Safe Useful Life Expectancy (SULE) is the natural progression*. Arboricultural Journal, 17:1, 33-46.
- DELWP (2019) Land Channel accessed from http://www.land.vic.gov.au/
- Dunster, J., Smiley, T., Mattheny, N. & Lily, S. (2013). *Tree Risk Assessment Manual.* Champaign, Illinois, International Society of Arboriculture.
- Draper, Danny, B & Richards, Peter, A. (2009). Dictionary for managing trees in urban environments. CSIRO Publishing, Collingwood, Australia.
- Matheny, N. & Clark, J. (1998). Trees and Development – A technical guide to the preservation of trees during land development. Champaign, Illinois, International Society of Arboriculture.
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Appendix 1 – Tree Assessment Criteria

1. Height describes the height of the tree in metres from ground level.

2. Trunk diameter (DBH) is calculated from the measured trunk circumference at 1.4m above ground level or at an alternative location if required (in accordance with AS 4970-2009).

3. Canopy spread describes the crown spread across the widest point.

4. Estimated age class is the tree's relative age to its species and is expressed as - Young (the first one third of the estimated life expectancy), Semi Mature (the second third of the estimated life expectancy), or Mature (the last third of the estimated life expectancy).

5. Useful life expectancy (ULE) – see appendix 2.

6. Tree protection zone (TPZ) is the principal means of protecting trees on a development site. The TPZ is a combination of the root area and the crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. The radius of the TPZ is calculated for each tree by multiplying its DBH x 12, the TPZ radius is measured from the centre of the stem at ground level. A TPZ should not be less than 2m nor greater than 15m (except where crown protection is required).

7. Structural root zone (SRZ) is the area required for tree stability. A larger area is required to maintain tree health.

8. Retention value is adapted from BS5837:2005 – Cascade chart for tree quality assessment. The retention value is applied to the tree in the context of the proposed land use.

High retention value

High ranked trees would meet one or more of the following criteria:

- Trees in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
- Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g., the dominant and/or principal trees within an avenue).
- Trees of visual importance (e.g., avenues or other arboricultural features assessed as groups).
- Trees of significant historical, commemorative or other value (e.g., veteran trees).

Moderate retention value

- Moderate ranked trees would meet one or more of the following criteria:
- Trees in such a condition as to make a significant contribution (a minimum of 20 years is suggested).
- Trees that might be included in the high category but may be downgraded because of impaired condition (e.g., presence of remediable defects including unsympathetic past management and minor storm damage).
- Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals, but which are not, individually, essential components of formal or semi-formal arboricultural features, or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality.

Low retention value

- Trees currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm.
- Low category trees will usually not be retained where they would impose a significant constraint on development. However, young trees with a stem diameter of less than 150 mm could be considered for relocation.

Remove/None

- Trees ranked for removal/no retention value would meet one or more of the following criteria:
- Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.
- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other trees (i.e., where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).
- Trees that have a serious hazard potential (this may consider the context of any proposed development).
- Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
- Trees that are environmental weeds.

Appendix 2 – Useful Life Expectancy Categories (ULE)

Long U.L.E- the tree appeared retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance:

Structurally sound trees located in positions that can accommodate future growth.
Trees which could be made suitable for long term retention by remedial care.
Trees of special significance, which would warrant extraordinary efforts to secure their long-term retention.

Medium U.L.E- the tree appeared to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk, assuming reasonable maintenance:

Trees which may only live from 15-40 years.
Trees that may live for more than 40 years but may be removed for safety or nuisance reasons.
Trees which may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new plantings.
Trees which could be made suitable for retention in the medium term with remedial care.

Short U.L.E- trees that appeared to be retainable at the time of assessment for 5-15 years with an acceptable degree of risk, assuming reasonable maintenance:

Trees which may only live from 5 to 15 years.
Trees that may live for more than 15 years but may be removed for safety or nuisance reasons.
Trees which may live for more than 15 years but would be removed to prevent interference with more suitable individuals or to provide space for new plantings.
Trees which require substantial remediation and are only suitable for retention in the short term.

Removal- Tree which should be removed within the next 5 years.

Dead, dying suppressed or declining trees
Dangerous trees through instability or recent loss of adjacent trees.
Dangerous trees because of structural defects including cavities, decay included bark, wounds, or poor form.
Damaged trees that are clearly not safe to retain.
Trees which may live for more than 5 years but would be removed to prevent interference with more suitable individuals or to provide space for new plantings.
Trees which are damaging or may cause damage to existing structures within the next 5 years.
Trees that will become dangerous after the removal of other trees for the reasons given in (A) to (F).
Trees in categories (A) to (G) that have a high wildlife habitat value and with appropriate treatment could be retained subject to regular review.

Small, young or regularly pruned trees that can be reliably moved or replaced.

Small trees less than 5m in height.
Young trees less than 15 years old but over 5m in height.
Formal hedges and trees intended for regular pruning to artificially control growth

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Appendix 3 – Tree Species

Tree #	Botanical & common names	Origin	Health	Structure	Height	Canopy spread	Total DBH	DAB	Age	ULE	Amenity value	Retention value	TPZ	SRZ	Comments	Recommendations
1	*Lophostemon confertus (Queensland Box)*	Australian native	Good	Average	6	5	0.21	0.26	Mature	Medium (15-40 years)	Moderate	3rd Party Tree	2.52	1.88	ST	Street tree, unlikely intrusion
2	*Lophostemon confertus (Queensland Box)*	Australian native	Good	Average	4.5	4	0.12	0.16	Early mature	Medium (15-40 years)	Moderate	3rd Party Tree	2	1.53	ST	Street tree, unlikely intrusion
3	*Lophostemon confertus (Queensland Box)*	Australian native	Good	Average	3.5	4	0.1	0.13	Early mature	Medium (15-40 years)	Moderate	3rd Party Tree	2	1.5	ST	Street tree, unlikely intrusion
4	*Pittosporum eugenoides (Variegated Pittosporum)*	Introduced	Good	Average	5	5	0.18	0.2	Mature	Medium (15-40 years)	Moderate	Low	2.16	1.68		Remove and replace if required
5	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Good	Average	3.5	2	0.1	0.11	Mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace if required
6	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Good	Average	5	5	0.14	0.15	Early mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace if required
7	*Chamaecyparis lawsoniana (Lawsons Cypress)*	Introduced	Good	Average	10	5	0.34	0.42	Mature	Medium (15-40 years)	Moderate	Low	4.08	2.3	TGx3	Remove and replace if required
8	*Photinia Red (Red Robin Photinia)*	Introduced	Good	Average	3.2	4	0.2	0.22	Mature	Medium (15-40 years)	Moderate	Low	2.4	1.75		Remove and replace if required
9	*Chamaecyparis lawsoniana (Lawsons Cypress)*	Introduced	Good	Average	10	6	0.41	0.51	Mature	Medium (15-40 years)	Moderate	Moderate	4.92	2.49		Moderate tree, likely intrusion
10	*Cotoneaster glaucophylla (Cotoneaster)*	Environmental weed	Good	Average	3.8	4	0.14	0.17	Early mature	Medium (15-40 years)	Moderate	Low	2	1.57		Remove and replace if required
11	*Fraxinus angustifolia (Desert Ash)*	Environmental weed	Good	Average	9.2	5	0.22	0.27	Early mature	Medium (15-40 years)	Moderate	Low	2.64	1.91		Remove and replace if required
12	*Eucalypt sp. (Unknown Eucalypt)*	Australian native	Dead	Removal	14.4	12	0.67	0.7	Over-mature	Removal (0-5 years)	Moderate	Remove	8.04	2.85		Remove and replace if required
13	*Chamaecyparis lawsoniana (Lawsons Cypress)*	Introduced	Good	Average	12	8	0.63	0.68	Mature	Medium (15-40 years)	Moderate	Moderate	7.56	2.81		Moderate tree, likely intrusion
14	*Cedrus deodara (Himalayan Cedar)*	Introduced	Good	Average	9.5	7	0.52	0.59	Mature	Medium (15-40 years)	Moderate	Moderate	6.24	2.65	Asymmetrical Form	Moderate tree, likely intrusion
15	*Photinia Red (Red Robin Photinia)*	Introduced	Good	Average	3.5	4	0.13	0.15	Mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace if required
16	*Fraxinus angustifolia (Desert Ash)*	Environmental weed	Good	Average	5.5	4	0.12	0.14	Early mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace if required
17	*Cordyline australis (Cabbage Tree)*	Introduced	Good	Average	3.2	3	0.17	0.22	Mature	Medium (15-40 years)	Moderate	Low	2.04	1.75		Remove and replace if required
18	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Good	Average	3.8	4	0.18	0.24	Mature	Medium (15-40 years)	Moderate	Low	2.16	1.82		Remove and replace if required
19	*Malus domestica (Apple)*	Introduced	Good	Average to Poor	6	8	0.48	0.47	Mature	Medium (15-40 years)	Moderate	Low	5.76	2.41		Remove and replace if required

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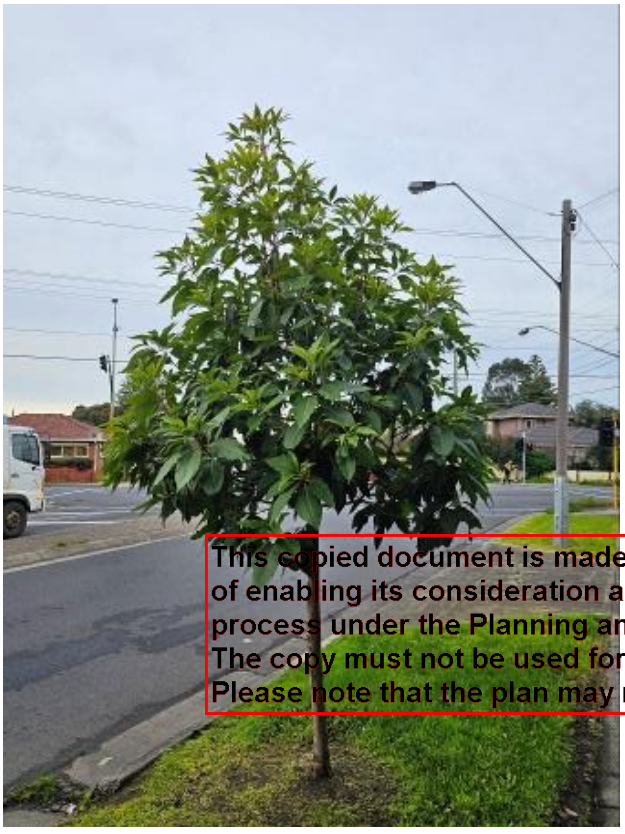
20	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Average	Poor	3.8	4	0.19	0.32	Mature	Medium (15-40 years)	Moderate	Low	2.28	2.05		Remove and replace if required
21	*Nerium oleander (Oleander)*	Introduced	Good	Average	4	5	0.24	0.32	Mature	Medium (15-40 years)	Moderate	Low	2.88	2.05		Remove and replace if required
22	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Good	Average	6.5	6	0.32	0.38	Mature	Medium (15-40 years)	Moderate	Low	3.84	2.2		Remove and replace if required
23	*Thuja orientalis (Oriental Arbor-Vitae)*	Introduced	Good	Average	3.7	3	0.16	0.18	Mature	Medium (15-40 years)	Moderate	Low	2	1.61		Remove and replace if required
24	*Cupressus sempervirens (Italian Cypress)*	Introduced	Good	Average	11.4	5	0.24	0.31	Mature	Medium (15-40 years)	Moderate	Moderate	2.88	2.02		Moderate tree, likely intrusion
25	*Malus domestica (Apple)*	Introduced	Good	Average	3.2	4	0.26	0.26	Mature	Medium (15-40 years)	Moderate	Low	3.12	1.88		Remove and replace if required
26	*Melaleuca stypheloides (Prickly leaf Paperbark)*	Australian native	Good	Average	8	5	0.31	0.42	Mature	Medium (15-40 years)	Moderate	Low	3.72	2.3		Remove and replace if required
27	*Cupressus sempervirens (Italian Cypress)*	Introduced	Good	Average	10.6	5	0.46	0.56	Mature	Medium (15-40 years)	Moderate	Low	5.52	2.59	Poorly located	Remove and replace if required
28	*Prunus dulcis (Almond)*	Introduced	Good	Average	3	3	0.08	0.1	Early mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace if required
29	*Prunus cerasifera (Green leaf Cherry)*	Introduced	Good	Average	6	4	0.24	0.24	Mature	Medium (15-40 years)	Moderate	Low	2.88	1.82		Remove and replace if required
30	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Good	Average	3.8	4	0.12	0.15	Early mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace if required
31	*Prunus avium (Cherry)*	Introduced	Good	Average to Poor	8	11	0.72	0.93	Mature	Short (5-15 years)	Moderate	Low	8.64	3.21		Remove and replace if required
32	*Malus domestica (Apple)*	Introduced	Good	Average	4	5	0.28	0.35	Mature	Medium (15-40 years)	Moderate	Low	3.36	2.13		Remove and replace if required
33	*Prunus cerasifera (Green leaf Cherry)*	Introduced	Good	Average	3.2	3	0.11	0.13	Early mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace if required
34	*Malus domestica (Apple)*	Introduced	Good	Average	3.2	4	0.13	0.15	Mature	Medium (15-40 years)	Moderate	3rd Party Tree	2	1.5	NT 0.8m	Neighbouring tree, unlikely intrusion
35	*Pyrus calleryana (Ornamental Pear)*	Introduced	Good	Average	4.5	4	0.16	0.17	Early mature	Medium (15-40 years)	Moderate	3rd Party Tree	2	1.57	NT 0.7m	Neighbouring tree, unlikely intrusion
36	*Malus domestica (Apple)*	Introduced	Good	Average	4.5	6	0.28	0.34	Mature	Medium (15-40 years)	Moderate	3rd Party Tree	3.36	2.1	NT 1.7m	Neighbouring tree, unlikely intrusion
37	*Chamaecyparis lawsoniana (Lawsons Cypress)*	Introduced	Good	Average	4.5	5	0.28	0.34	Mature	Medium (15-40 years)	Moderate	3rd Party Tree	3.36	2.1	NT 2m, TGx4	Neighbouring tree, unlikely intrusion

* Please Note: All measurements are in metres. * Note: unless otherwise stated the diameters of neighbouring trees have been estimated.
Legend: DBH: Diameter breast height (1.4m), DAB: Diameter at base (at base or just above basal flare), ULE: Useful Life Expectancy

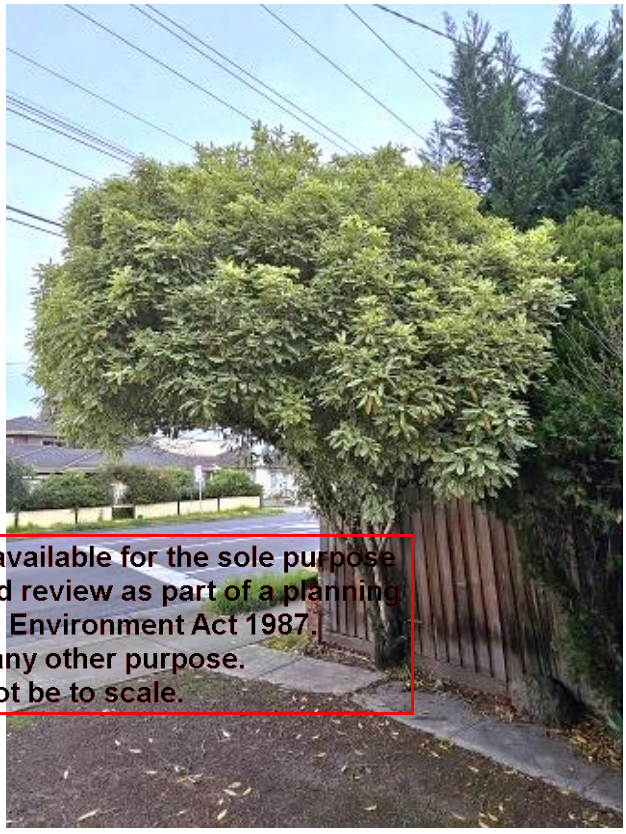
Appendix 4 – Tree Images

Tree 1

Tree 2



Tree 3



Tree 4

Tree 5

Tree 6

Tree group 7

Tree 8

Tree 9

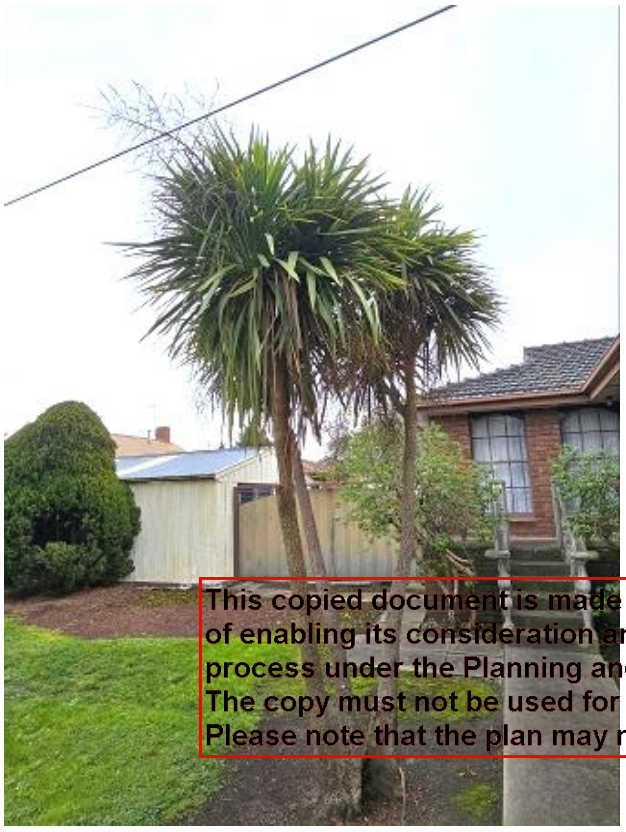
Tree 10

Trees 11-14

Tree 13

Tree 14

Trees 12 & 15-16

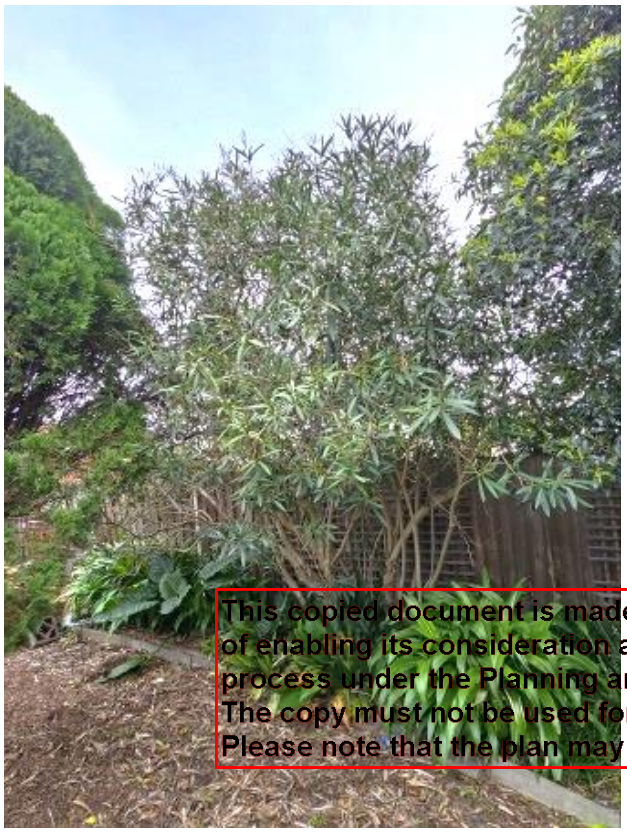


Tree 17

Tree 18

Tree 19

Tree 20



Tree 21

Tree 22

Trees 23-24

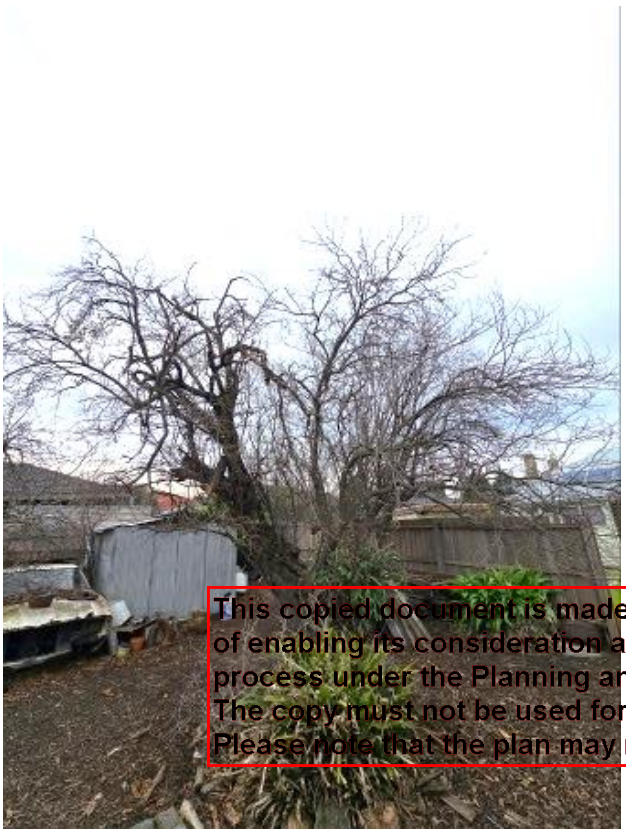
Tree 25

Tree 26

Tree 27

Tree 28

Tree 30

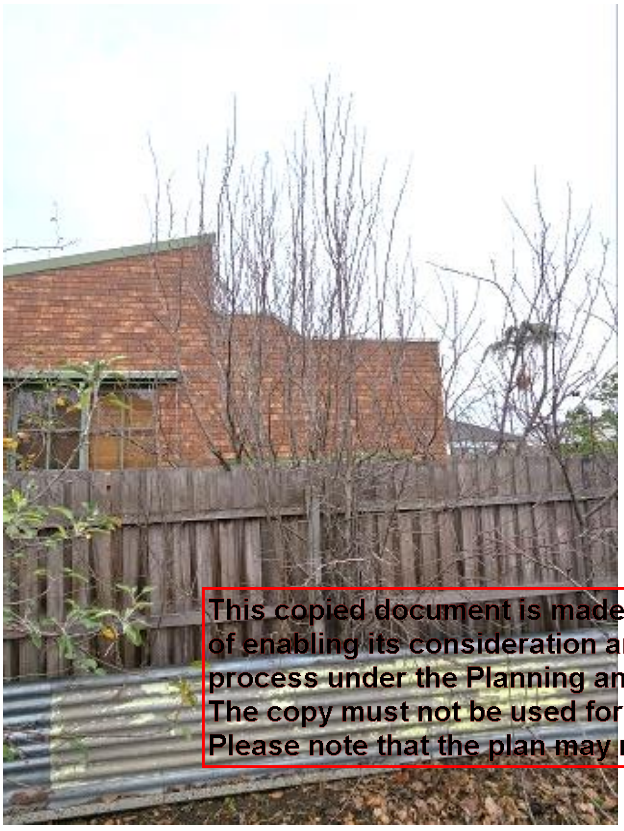


Tree 31

Tree 32

Tree 33

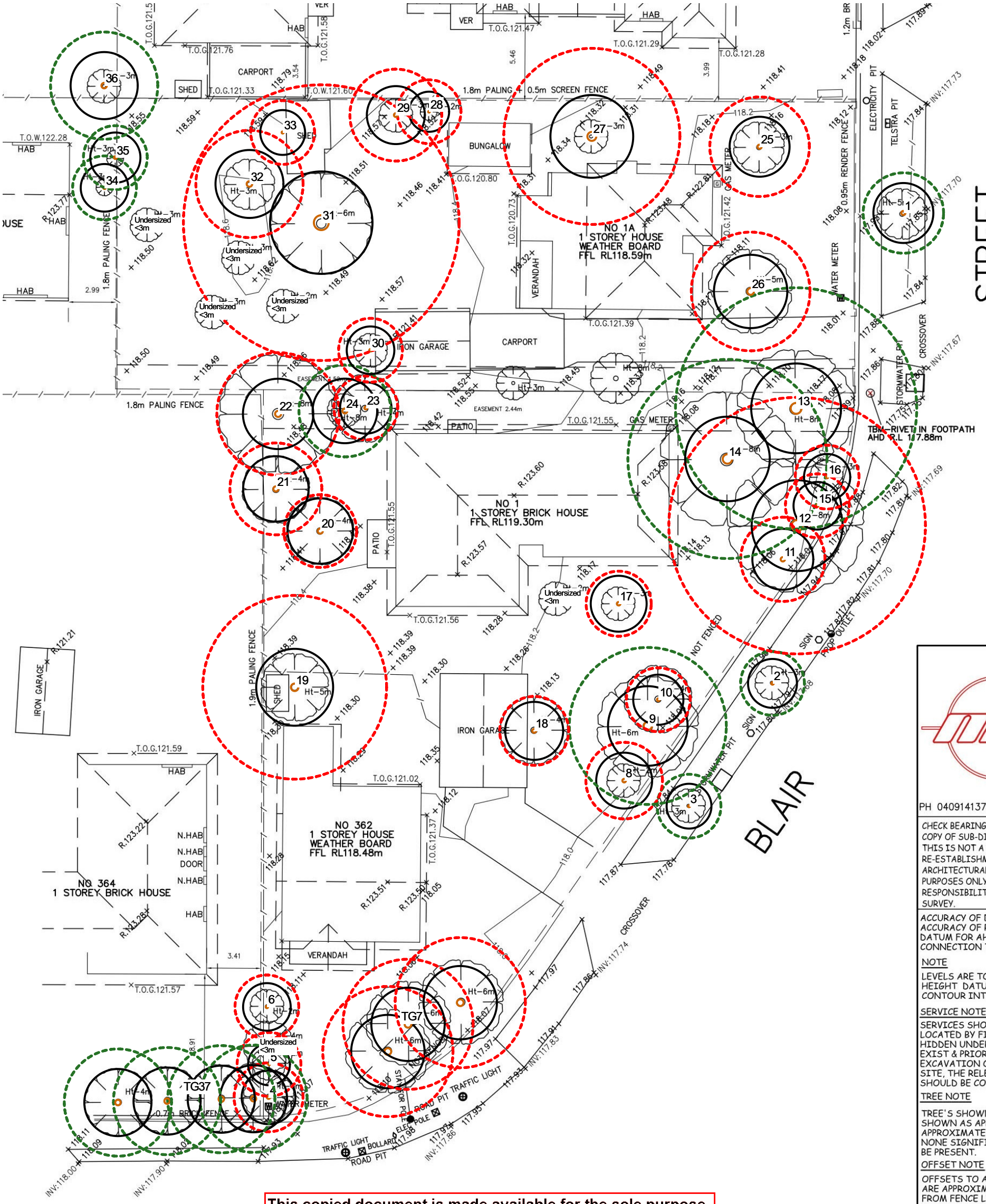
Tree 34



Tree 35

Tree 36

Tree group 37



Legend

- TPZ Tree to be removed
- TPZ Tree to be retained
- Structural Root Zone
- Proposed intrusion
- Proposed intrusion with root sensitive footings

PH 0409141376

CHECK BEARING & DISTA
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[redacted]

362 CAMP ROAD & 1 BLAIR STREET, BROADMEADOWS

Acoustic Report for Town Planning Application

For

[redacted]

[redacted]

[redacted]

[redacted]

Project	362 Camp Road & 1 Blair Street, Broadmeadows
Subject	Acoustic Report for Town Planning Application
Client	[redacted]
Document Reference	V1872-01-P Acoustic Report (r0)
Date of Issue	1 August 2024

[redacted]

Table of Contents

[redacted]

1 Introduction

[redacted] has been engaged by [redacted] to assess the proposed childcare centre at 362 Camp Road & 1 Blair Street, Broadmeadows (Subject Land). This assessment has been conducted in response to Council's RFI dated 29 April 2024, which requests an acoustic report for the application.

This report assesses potential noise impacts from the proposed childcare centre at proximate sensitive receivers surrounding the Subject Land.

Our assessment is based on Plans prepared by [redacted] dated 30 July 2024 in accordance with the Association of Australasian Acoustical Consultants (AAAC) *Guideline for Childcare Centre Acoustic Assessment*.

2 Subject Land Use

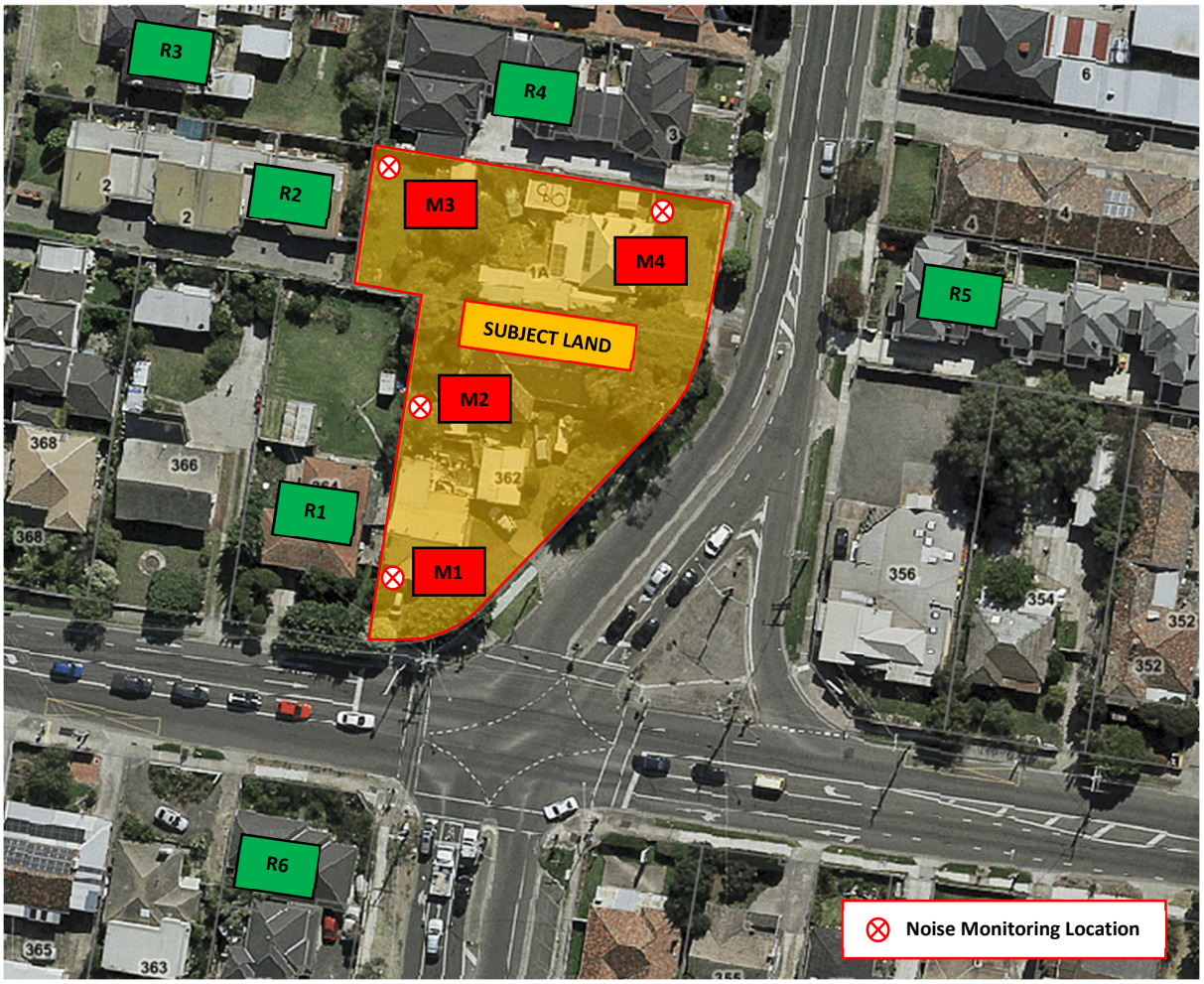
It is understood that the Application seeks approval to develop the Subject Land for use as a childcare centre. The Application proposal is for:

- Up to 88 children;
- Dedicated outdoor play areas on ground floor; and
- Carpark

Sensitive uses surrounding the Subject Land were identified as follows:

Tag	Location of Sensitive Use	Direction	Type
R1	364 Camp Road	West	Single-storey
R2	4/2 London Road	Northwest	Single-storey
R3	4 4 London Road	Northwest	Single-storey
R4	3 Blair Street	North	Single-storey
R5	1/2 Blair Street	East	Double-storey
R6	243 Widford Street	South	Single-storey

Refer below for a site map showing locations of sensitive uses relative to the Subject Land:



Given that the sensitive uses identified above are the closest to the Subject Land, it is intrinsic that compliance at these locations would also result in compliance at all other possible sensitive uses proximate to the Subject Land.

3 Site Inspection

A site inspection was carried out by our office on 17 June 2024.

Background noise measurements were carried out with the following noise levels recorded:

Location	Background Noise Level
M1	56 dB(A), L_{90}
M2	46 dB(A), L_{90}
M3	47 dB(A), L_{90}
M4	53 dB(A), L_{90}

It was observed that the ambient noise environment was dominated by traffic noise from Camp Road and Blair Street. Overall, the background noise environment surrounding the Subject Land is considered elevated and consistent with suburban residential areas next to busy intersections.

Noise measurements were carried out between 12pm to 1pm as it is typical to find the lowest background noise throughout the middle of the day (between peak traffic periods). This results in a conservative noise assessment in comparison to the average daily measurements being considered, which would include peak traffic periods. This time is also representative of when the maximum number of children are most likely to be outdoors in play areas, subsequently representing the highest risk for noise impacts at adjacent residential premises with respect to background noise vs intrusive noise.

4 Assessment

4.1 Legislation

Two sources of noise associated with childcare centres (services plant and music noise) are subject to legislated noise limits of *Environment Protection Regulations 2021* and *EPA Publication 1826 – Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* (Noise Protocol)

The Noise Protocol is enforceable under the *Environmental Protection Act 2017*. In practice, given the normal operating hours of childcare centres, these sources do not present any material risk where the permit conditions require compliance with the Noise Protocol. Regardless, childcare centres are required to comply with the Noise Protocol, and it is usually sufficient to approve a permit with the following conditions:

1. Plant equipment and music playback on the land shall comply with *EPA Publication 1826 – Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* at all times.

4.2 Outdoor Play Areas

There are currently no guidelines or policies in Victoria, at the statutory level or within the planning scheme, for the assessment of noise emissions associated with outdoor play areas of childcare centres. In lieu of such guidelines or policies, it is appropriate to consider the *Guideline for Childcare Centre Acoustic Assessment, September 2020* published by the Association of Australasian Acoustic Consultants (the AAAC Guideline) and Victorian Civil and Administrative Tribunal (VCAT) precedents.

It is important to note that case history indicates that VCAT has not accepted the AAAC Guideline as being wholly appropriate for the assessment of reasonable amenity. These views are shared by acoustic experts and members of the AAAC and Australian Acoustical Society in Victoria. Generally, the AAAC Guideline is viewed as being aspirational but not reflective of reasonable expectations to minimise noise. Regardless, where an application can meet the upper noise

targets of the AAAC Guideline (i.e. background noise +10dB), it is typically viewed as being an appropriate design response in minimising noise impacts.

To be conservative, the AAAC noise target has been derived based on the lowest background noise levels measured on site, as follows:

Location	Noise Target
All sensitive uses	56 dB(A), L_{Aeq}

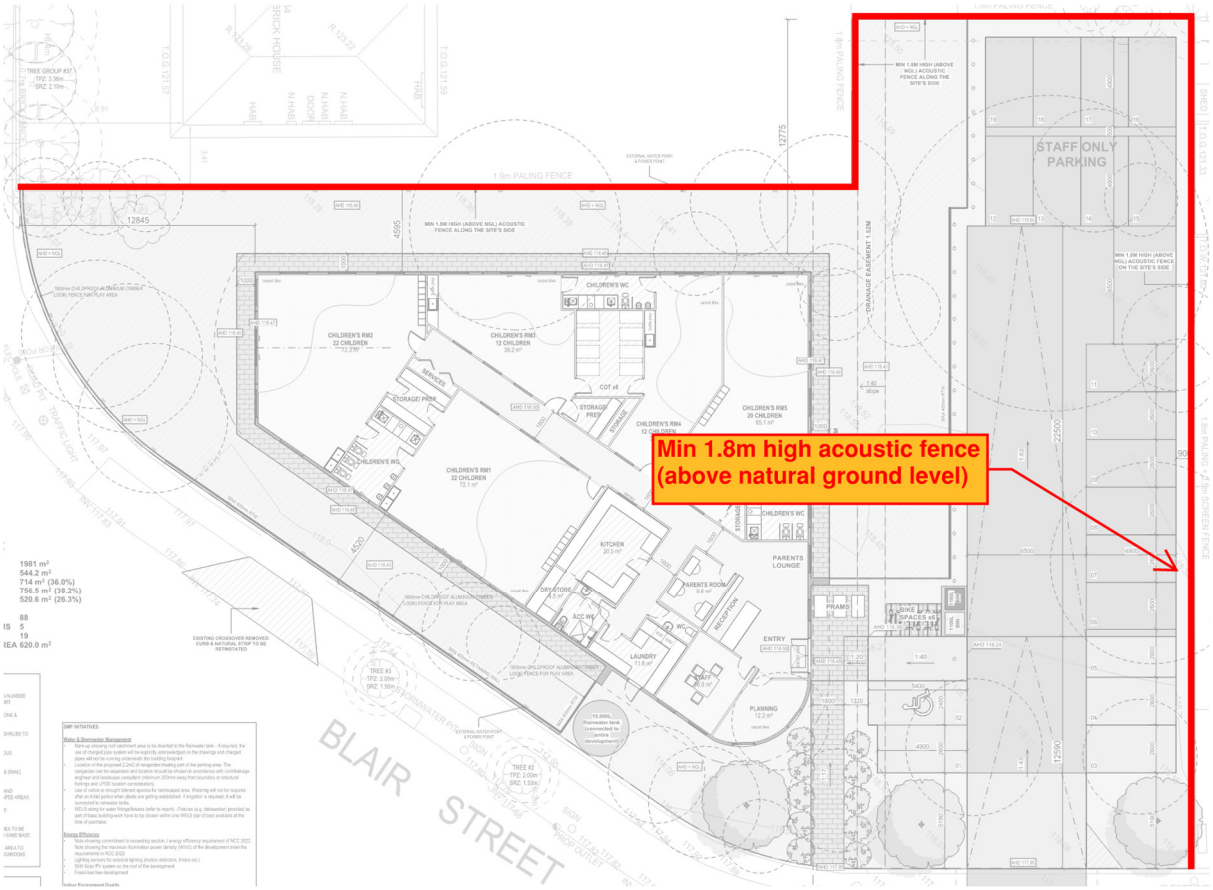
Our office has prepared 3D acoustic modelling based on the site conditions, proposed plans and number of placements, in accordance with the AAAC Guideline. The modelling assumes that all children would be located outside at the same time. In practice, this results in a conservative assessment given that pickup and dropoff times typically vary over a day and varying ages and group segregation often results in scattered play times and areas of use.

Our modelling assumes sound power levels of children playing outside in accordance with the AAAC Guideline, as follows:

Location	Number of Children	SWL
Outdoor play area	88 (mix of ages 0-6)	95 dB(A)

The research paper *Carrying Out Noise Assessments for Proposed Childcare Facilities – Proceedings of Acoustics 2006* identified that typically only up to 35% of the number of children within outdoor play areas are expected to be vocal at a given time, noting that this has been considered in our acoustic model.

To assist in mitigating noise from the Subject Land, the following acoustic screening is recommended:



The acoustic screening shown above is in part to mitigate noise impacts from carpark use (discussed later).

Inclusive of the acoustic screening shown above, the results of our modelling indicate that outdoor play noise is expected to be **≤47dB(A) L_{eq}** at all identified receptors and is expected to comply with the noise target by a significant margin.

A map of the noise model showing noise levels at all surrounding sensitive receptors can be referred to in Appendix A.

The results of the modelling also indicate that outdoor play noise would comply with the more onerous AAAC Guideline noise target of 'Background + 5dB(A)', further demonstrating the low-risk nature of the proposal.

Overall, the context of the site being adjacent to a busy intersection results in an elevated background noise environment, meaning that any intrusiveness of outdoor play noise would be tempered by road traffic noise.

To this end, Enfield Acoustics is satisfied that the proposal will not result in adverse noise impacts at all identified receptors, provided the acoustic screening, as shown above, is installed.

[redacted]

4.3 Traffic Noise

The Plans indicate car parking to the North of the Subject Land.

The AAAC guideline recommends that noise from pickup and drop-offs do not exceed Background + 5dB(A), resulting in the following noise target:

Location	Noise Target
All identified sensitive uses	51 dB(A), L_{Aeq}

We have assumed that up to 60 vehicle movements could occur in a 60-minute period within each carpark area, with pick-up and drop-offs occurring at the proposed car park on the Subject Land. In our experience, this represents a worst-case scenario during pick-up and drop-off times but would need to consider the appropriate traffic engineering study.

The following sound power levels were used (based on AAAC Guideline):

Location	Sound Power Level
Carpark area 60 cars per hour	78 dB(A)

Inclusive of the acoustic screening shown in Section 4.2, the results of our modelling indicate that the use of the car park (including occasional delivery vans) is expected to be **≤39dB(A) L_{eq}** and would comply with AAAC noise targets by a significant margin.

Results are shown in Appendix A.

4.4 Sleep Disturbance

It is typical for childcare centres to commence operation (drop-offs and staff arrival) before 7am, however outdoor play use is not expected to occur before 7am. As such, our assessment will consider sleep disturbance impacts from carpark use on the Subject Land.

No specific policy exists in assessing the risk of sleep disturbance of carparks, however 'Sleep Disturbance' criteria derived from the NSW Road Traffic Policy can be used as a method of assessing the likelihood of noise impacts for short duration or transient events.

The Sleep Disturbance assessment trigger of **L_{max} 65dB(A)** outside habitable room windows is often used to determine if noise emissions are likely to cause adverse impacts during the most sensitive 'Night' period (10pm to 7am). However, for very infrequent events of 1-2 during the 'Night' period, it is generally accepted that outdoor noise levels of up to 80dB(A), L_{max} do not impact on health and wellbeing.

Noise emissions from carpark use have been modelled with the following sound power levels:

Item	Sound Power Level
Car door slams	95dB(A), L_{Amax}

[redacted]

Inclusive of the acoustic screening shown in Section 4.2, the results of our modelling indicate that the use of the carpark is expected to be **≤58dB(A) L_{max}** and would comply with the sleep disturbance threshold by a reasonable margin.

Results are shown in Appendix A.

It is worth noting that adjacent sensitive uses are already exposed to appreciable road traffic noise from Blair Street, which helps temper noise impacts resulting from the use of the carpark. In effect, it is expected that noise emissions from the carpark will be indistinguishable from regular road traffic.

5 Recommendations and Conclusion

The Application reviewed by our office is considered to be equivalent to many other approved childcare centres with respect to acoustic outcomes. The proposed use of the Subject Land as a childcare centre is expected to comply with the AAAC guideline with standardised controls (acoustic screening) approved at the majority of childcare centres in Victoria.

The context of the site being adjacent to a busy intersection means that sensitive uses are already exposed to elevated ambient noise from traffic, which helps 'mask' noise emissions from the proposal.

Enfield Acoustics is satisfied that a permit can be approved on this basis. It is recommended that the approved permit include the following conditions:

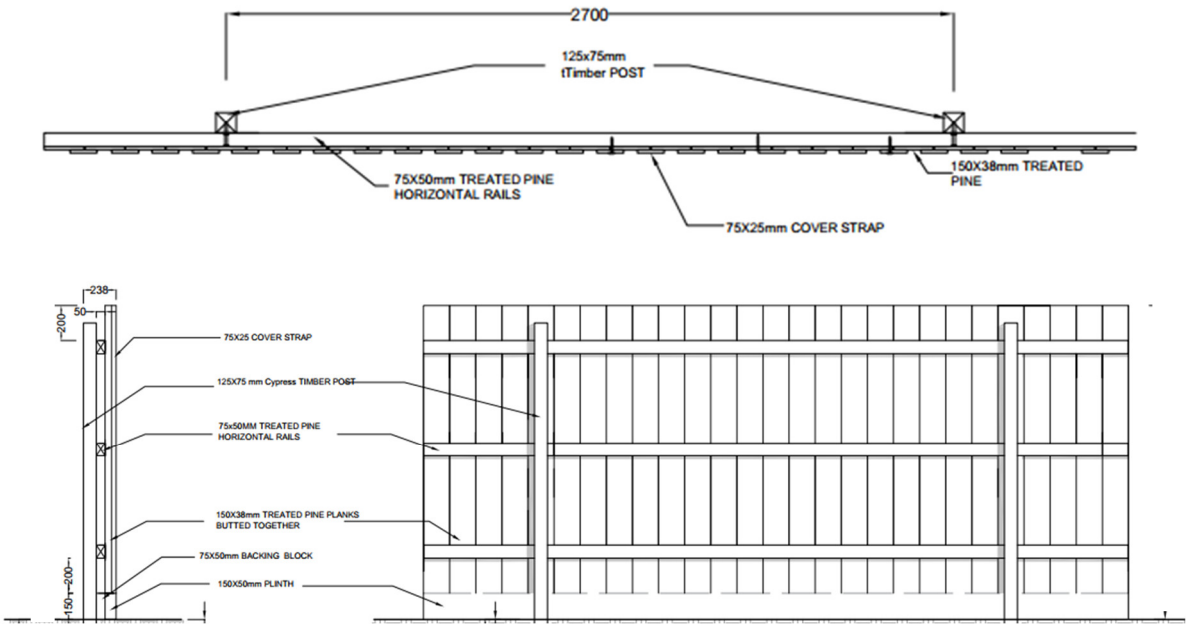
1. Noise emissions from the land shall comply with *EPA Publication 1826 – Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* at all times.

All acoustic fencing shall be constructed as follows:

<u>*Boundary Acoustic Fence*</u>

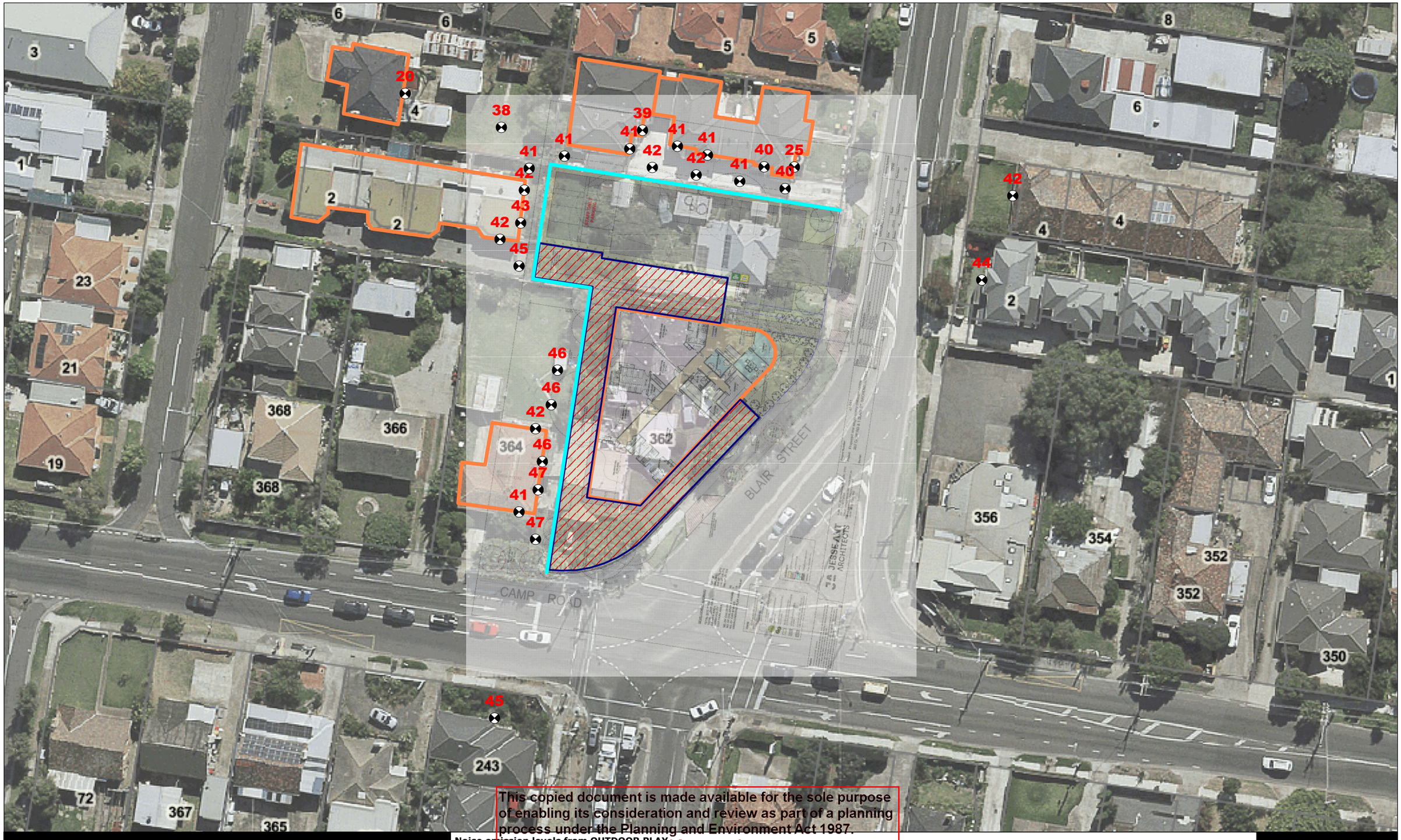
- To the specified heights and locations as shown in Section 4.2;
- Using fibre cement sheeting, treated timber, lightweight aerated concrete, transparent acrylic panels, glass and profiled sheet cladding as long the selected material (or combined skins) has a mass of at least 10kg/m^2;
- The fence shall have no gaps or holes in it, or the likelihood of such occurring through natural causes or deformations, thus allowing noise to pass through;
- The fence must be designed and built in an acceptable manner so that noise will not pass underneath it;
- Any butt joints shall be sealed with a fire-rated weather proof mastic or an overlapping piece of material meeting the mass requirements of 10kg/m^2 (minimum 35mm each side of the butt joint); and
- Where multiple cladding layers are used (e.g. FC sheeting over timber paling fence), joints in the cladding materials shall not coincide.

An example detail for an acoustic-grade timber paling fence is shown below:



[redacted]

Appendix A: Noise Modelling Results



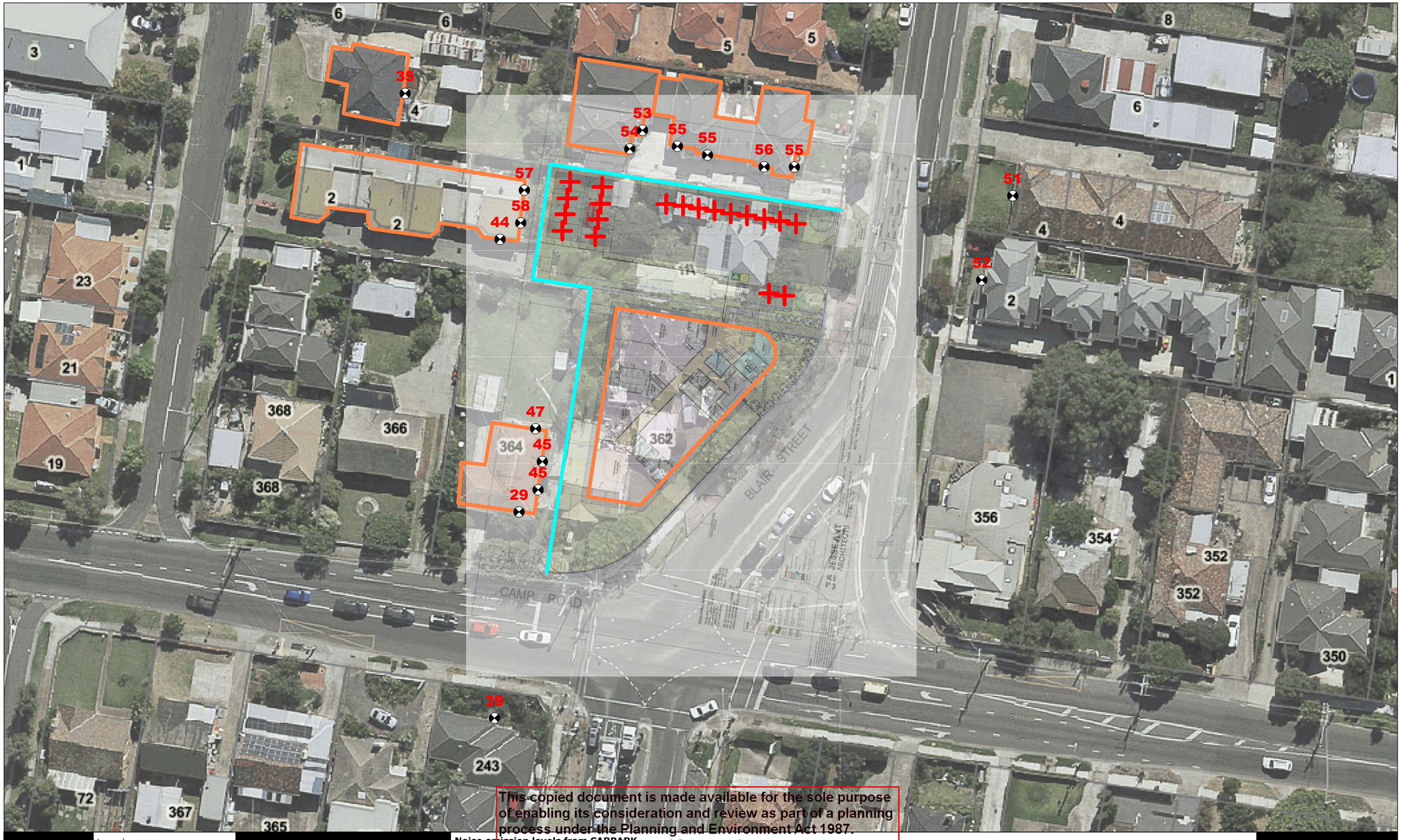
Noise emission levels from OUTDOOR PLAY

LAeq Noise Plots

Project No: V1897 Drawing No: MAP-01 Date: 01.08.2024

Noise emission levels from CARPARK TRAFFIC

LAeq Noise Levels



[redacted]

[redacted]

Ref: 958
24 June 2024

Issued via email: [redacted]

Dear [redacted]

Proposed Childcare Centre – 362 Camp Road & 1 Blair Street, Broadmeadows
Car Park Design Assessment & Response to Council RFI

[redacted] has been engaged to review the car park layout for the proposed childcare centre development at 362 Camp Road & 1 Blair Street, Broadmeadows. The proposal is for an 88 place childcare centre with a 19 space car park on-site, including four tandem pairs (8 spaces) and one accessible parking space, accessed via a two-way crossover to Blair Street. A Request for Further Information (RFI) has been received from Council requesting a swept path assessment of the largest service vehicle anticipated to access the site.

This letter provides a review of the proposed car park layout and vehicle access arrangements against the requirements of Clause 52.06-9 of the Planning Scheme, AS/NZS 2890.1:2004, and AS/NZS 2890.6:2022. A response to traffic engineering related matters raised in the RFI is also provided.

1. Car Park Design Review

Design Standard 1 – Accessways

- The accessway is 6.5 metres wide, which exceeds the minimum 3.0 metre requirement of Clause 52.06-9. The width accords with AS/NZS 2890.1:2004 for a two-way accessway.
- The car park is 'open' with no overhead building or obstructions. As such, there are no headroom restrictions within the car park and circulation areas.
- All vehicles are able to enter and exit the site in a forward direction.
- Two-way passing is provided at the site access to Blair Street.
- A pedestrian sight splay has been provided on the north side of the accessway for vehicles exiting the site which extends 2.0 metres along the site frontage and 2.5 metres into the site. All landscaping and structures within the splay are no more than 900 mm high. The splay provides a clear view between exiting vehicles and pedestrians on the footpath adjacent to the site.

Design Standard 2 – Car Parking Spaces

- Car spaces have dimensions of 2.6 metres wide by 4.9 metres and are accessed by an aisle that is 6.5 metres wide, which exceeds the requirements of Clause 52.06-9.

- The tandem car spaces are 2.6 metres wide by 4.9 metres long with an additional 500 mm in length provided between spaces as per Clause 52.06-9 requirements.
- The accessible car space and shared area have dimensions of 2.4 metres wide by 5.4 metres long which meets the requirements of AS/NZS 2890.6:2022.
- The car spaces are provided with clearance to adjacent structures in accordance with Diagram 1 of Clause 52.06-9.

Design Standard 3 – Gradients

- A maximum grade of 1:43 is provided throughout the car park which complies with the requirements of Clause 52.06-9, AS/NZS 2890.1:2004, and AS/NZS 2890.6:2022.

Swept Path Assessment

Swept paths have been prepared for a 6.4 metre small rigid vehicle (SRV) and 6.4 metre mini waste collection vehicle to demonstrate that these vehicles can enter the site in a forward direction, turnaround within the site, and exit in a forward direction. The swept path diagrams are attached at Appendix A.

2. Response to Council RFI

An RFI has been issued by Council (Ref: P25822, dated 29 April 2024). The traffic engineering related items are outlined in Table 1, with a response provided to each item.

Table 1: Response to traffic engineering RFI items

	RFI Item	Response
	Early Years Planning's comments	
a.	*The location is not ideally suited for an early learning centre due to its high traffic conditions.*	The site location is appropriate from a traffic engineering perspective as: - it has convenient and direct access to the higher order road network whilst taking access from the lower order frontage road (Blair Street), - there are appropriate sight lines provided, and - the vehicle access is positioned as far as possible from the traffic signals.
d.	*Traffic calming measure such as bollards should be considered to prevent accidental incursions of cars into the children's play spaces from the car park.*	Bollards have been shown indicatively within the car park along the fence to the children's play space to prevent accidental incursions of vehicles. The location of these bollard could be formalised as part of a Car Parking Management Plan (CPMP), if required by Council.
e.	*Operating hours and deliveries must be provided and should not negatively impact on local traffic.*	The management of loading for the site, including the timing of deliveries and the type of vehicles required for loading, could be formalised as part of a CPMP.

	RFI Item	Response
	Traffic Engineering comments	
1.	*Play areas should be relocated to the rear of the building (not fronting an intersection etc. and risk children getting hurt in run off road accidents).*	Based on the most recent 5 years of available data, there has been one run-off-road type crash at this intersection, which occurred on Widford Street 50 metres south of Camp Road. If risk of this type of crash is of high concern, the Applicant could investigate alternative types of fencing to provide greater protection/higher strength. Furthermore, it is noted that that there is an Early Learning Centre located at 391-393 Camp Road with play spaces located at the front of the building, similar to the proposal.
2.	*All manoeuvring of loading vehicles to be accommodated on site with no manoeuvring on the road allowed. Swept paths are to be provided showing the largest service vehicle required for the site, entering, and exiting in a forward motion. The swept path analysis is to be prepared by a suitably qualified traffic engineer in accordance with AS2890.1.* *a. Please note the vehicle show in these swept paths will be conditioned on the permit as the largest allowed vehicle to access the site.* *b. A condition on Planning Permit will state that reversing movements of loading vehicles into or out of public streets shall not be allowed.*	The loading demands for the childcare centre will be infrequent and typically undertaken by smaller vehicles such as vans and couriers. These vehicles have dimensions similar to a B99 vehicle (99.8th percentile vehicle) and can be accommodated within the on-site car park when the demand for parking is low. Notwithstanding, a swept path assessment has been completed and is attached at Appendix A, which demonstrates that vehicles up to a 6.4 metre SRV can enter and exit the site in a forward direction and turnaround in the western section of the car park. This is the largest vehicle anticipated to access the site and encompasses the waste collection vehicle.
3.	*The rear carparking bays of the tandem parking spaces will not be preferred and be underutilised. Employees and visitors will avoid the inconvenience of the tandem parking spaces and will choose to park elsewhere. If the tandem parking spaces are intended for staff use this needs to be clearly signed and line marked, and the maximum number of staff on site is to be clarified to assess the feasibility of the tandem parking spaces. Applicant to provide additional information.*	The use of tandem car spaces for staff is common practice for childcare centres and is appropriate in this context. Signage and line marking will be used to indicate that the tandem car spaces are for use by staff only. The parking demands for childcare centres is typically split 50/50 between staff and parents. As such, the allocation of eight spaces to staff is appropriate. The management of the on-site car park and car spaces can be detailed within a CPMP, if required by Council.
4.	*All parking bays to be line marked including disabled and associated shared area pavement marking.*	All car spaces are to be line marked, including the accessible space and associated shared area, in accordance with the relevant Australian Standard.
5.	*The vehicle crossover must be constructed as per standard drawing EDCM 503 – Heavy Duty Vehicle Crossing.*	The crossover has been shown as 6.5 metres wide and designed as per standard drawing EDCM 503 – Heavy Duty Vehicle Crossing.
6.	*The existing redundant vehicle crossings are to be removed. The kerb and channel and nature strip to be reinstated.*	The redundant vehicle crossovers are to be removed and reinstated with kerb and channel to the satisfaction of the Responsible Authority.

[redacted]

	RFI Item	Response
7.	*Any service relocation associated with the works are to be approved by the Service Authorities and at the owner's cost.*	Noted. This can be addressed by a suitably worded permit condition.
8.	*The proposed crossover must have a minimum clearance of 2.5m to any tree or consultation with parks department is required.*	The existing tree at the location of the new crossover is proposed to be removed and replaced. The new crossover is to be at least 2.5 metres clear of any other trees along Blair Street.

3. Conclusions

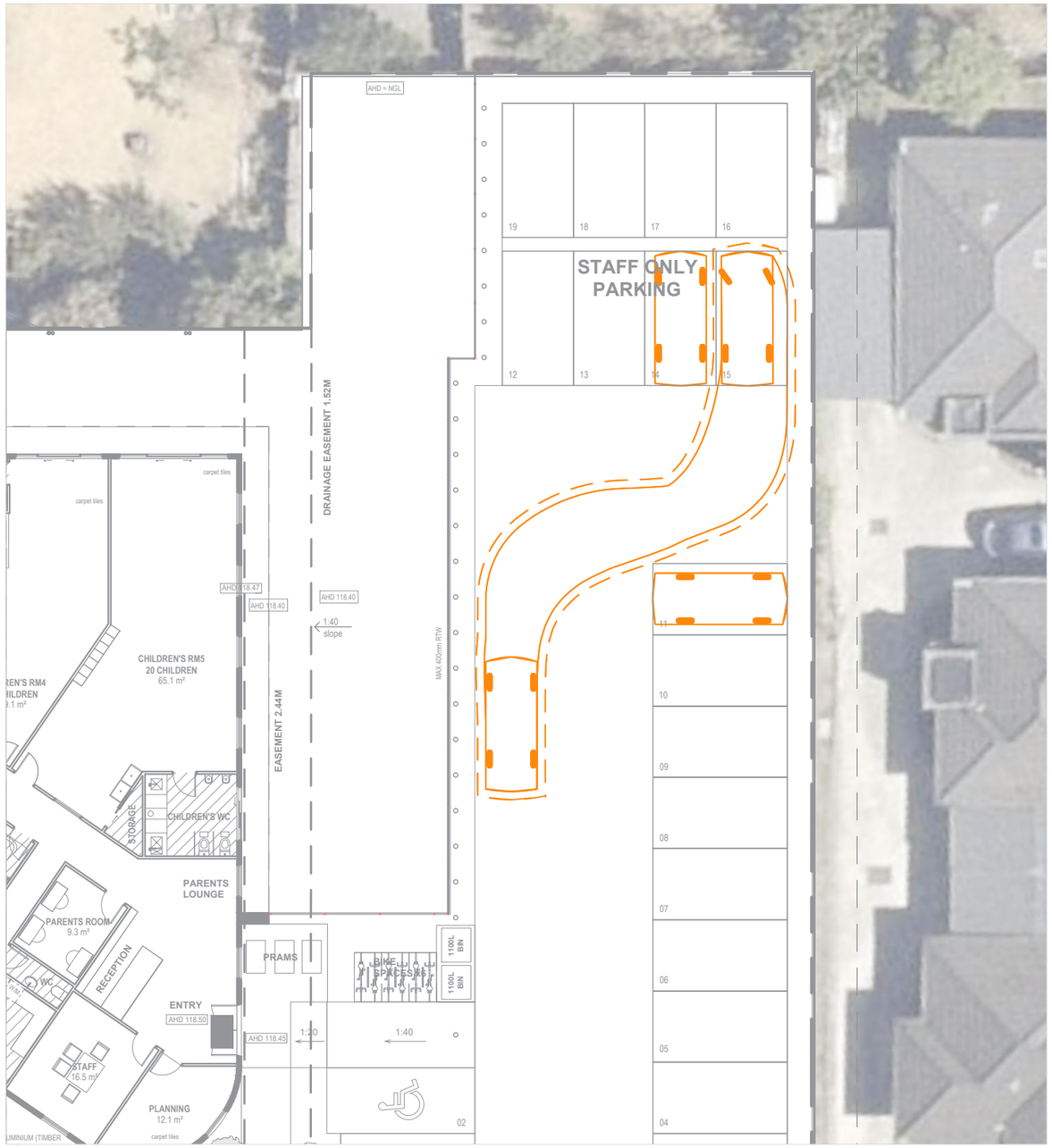
Based on the above assessment, the relevant traffic engineering RFI items have been addressed. The plans generally comply with Clause 52.06 of the Planning Scheme, AS/NZS 2890.1:2004, and AS/NZS 2890.6:2022. The swept path diagrams attached at Appendix A demonstrate that satisfactory vehicle access to the site is achieved by service vehicles up to a 6.4 metre SRV.

If you have any questions, please feel free to contact the undersigned.

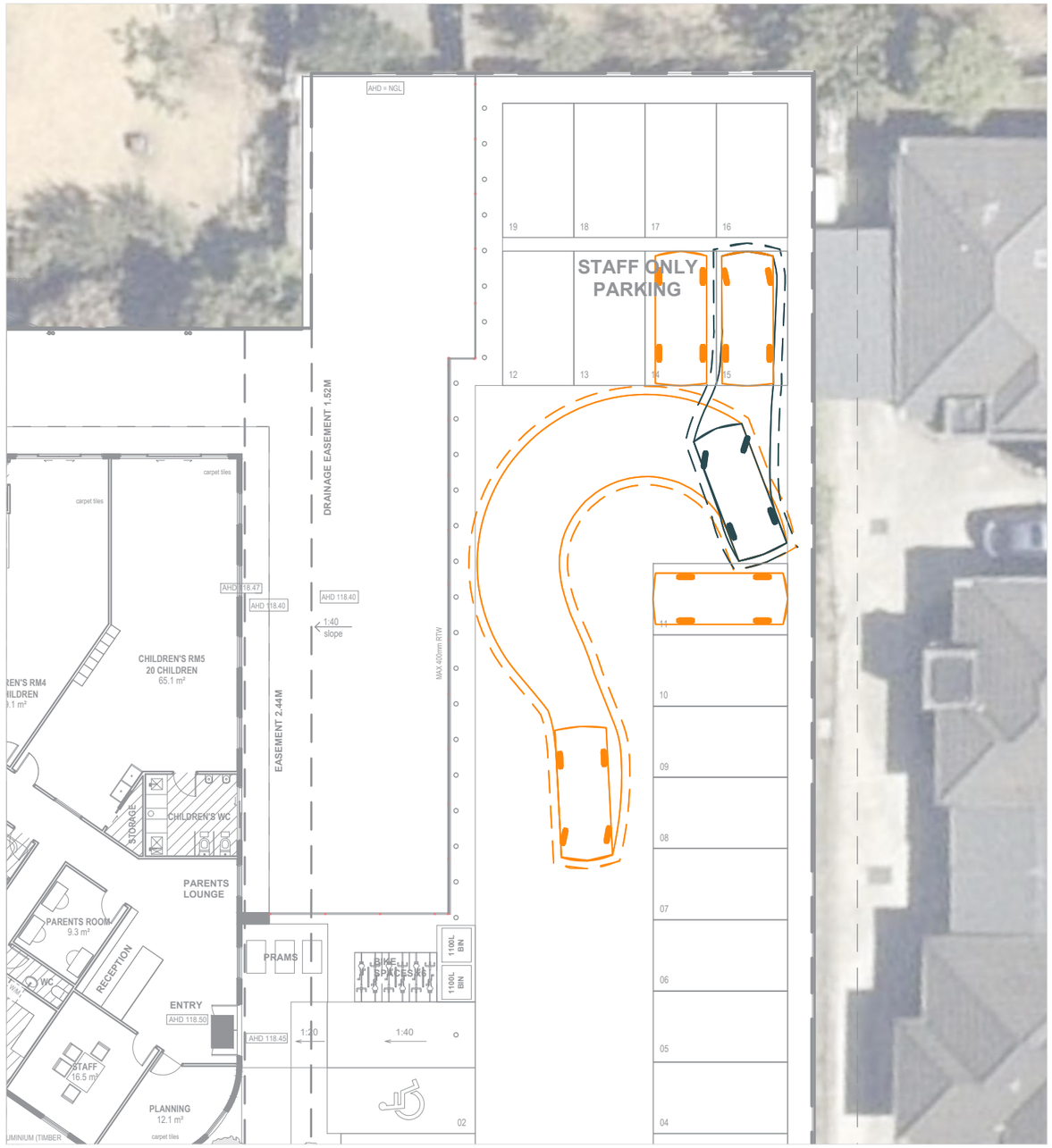
[redacted]

Appendix A

Swept Path Assessment



Entry Manoeuvre



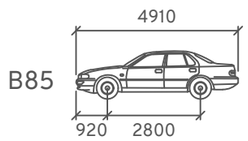
Exit Manoeuvre

Vehicle Envelope

300mm Clearance

Reverse Manoeuvre

Min. Design Speed 5km/h



	mm
Width	: 1870
Track	: 1770
Lock to Lock	: 6.0s
Steering Angle	: 34.1
Height	: 2100

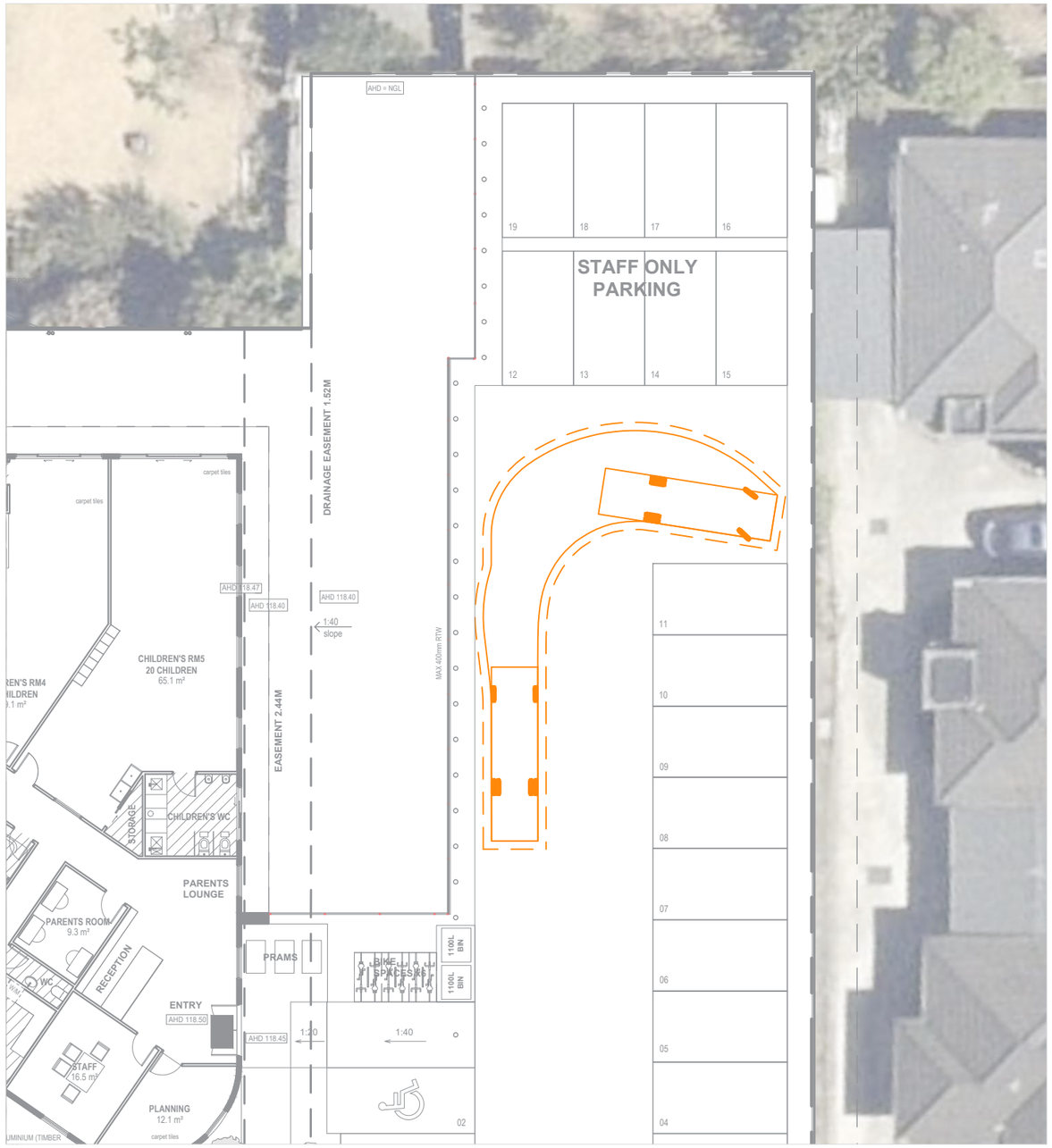
362 Camp Road & 1 Blair Street, Broadmeadows

Childcare Centre

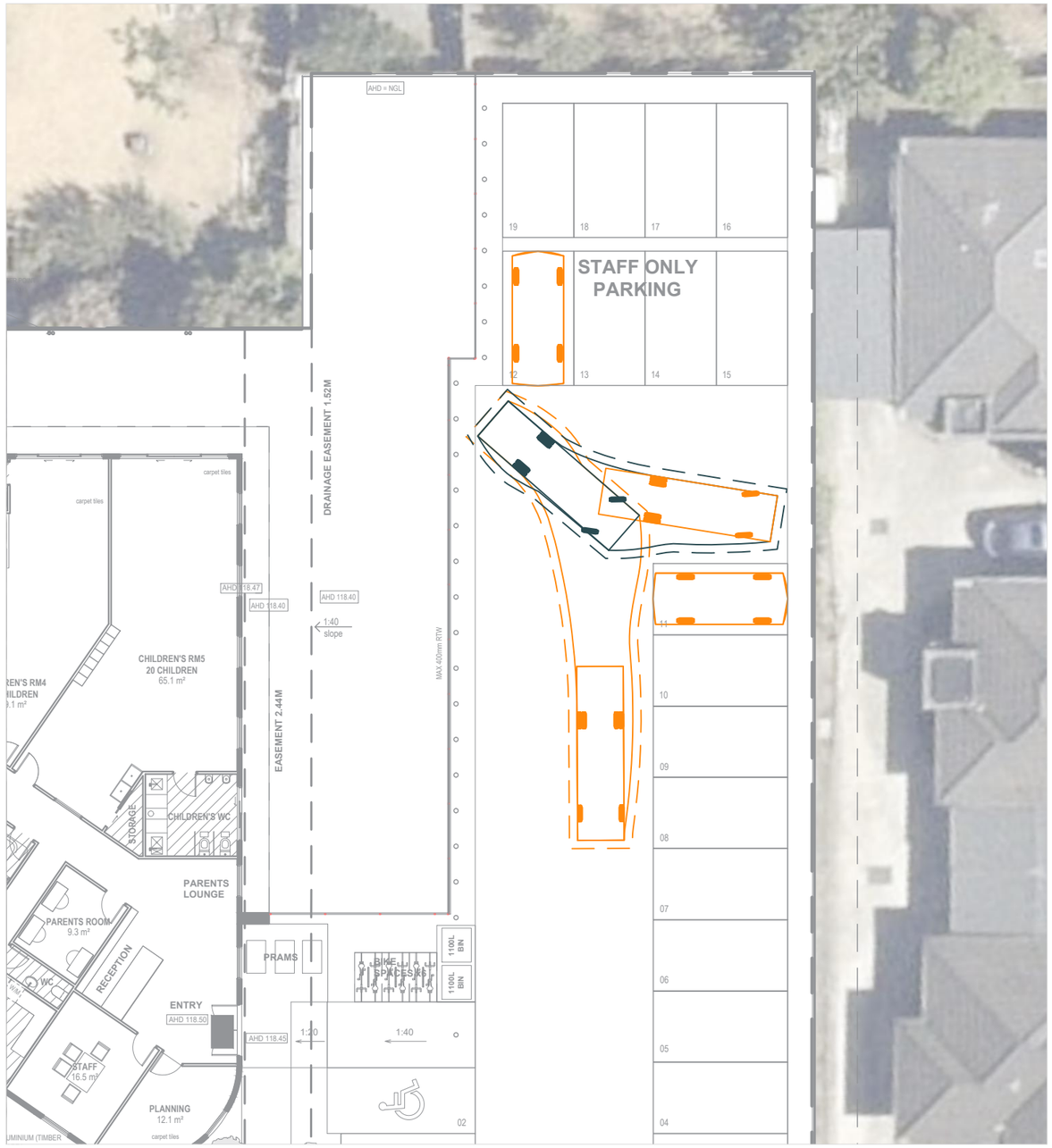
Swept Path Assessment

DRAWN: WC
DATE: 24/06/2024
DWG NO: 958 S01C
SCALE at A3: 1:200

[redacted]



Entry Manoeuvre



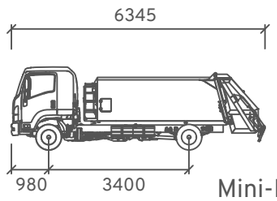
Exit Manoeuvre

Vehicle Envelope

300mm Clearance

Reverse Manoeuvre

Min. Design Speed 5km/h



	mm
Width	: 1700
Height	: 2080
Kerb-Kerb Radius	: 6450
Track	: 1670
Kerb-Kerb Radius	: 6450
Lock to Lock	: 4.0s

Mini-Rear Loader Waste Vehicle

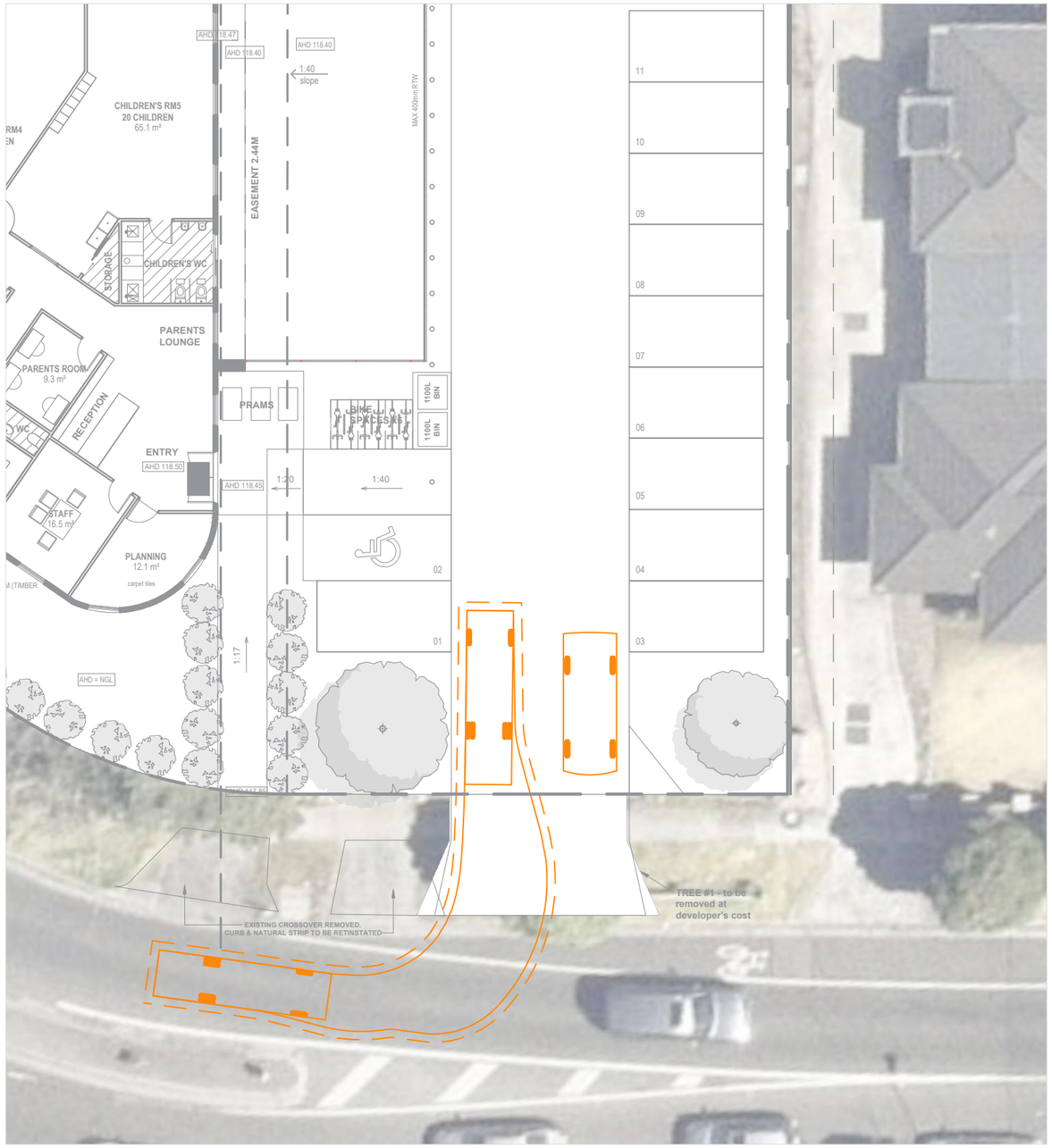
362 Camp Road & 1 Blair Street, Broadmeadows

Childcare Centre

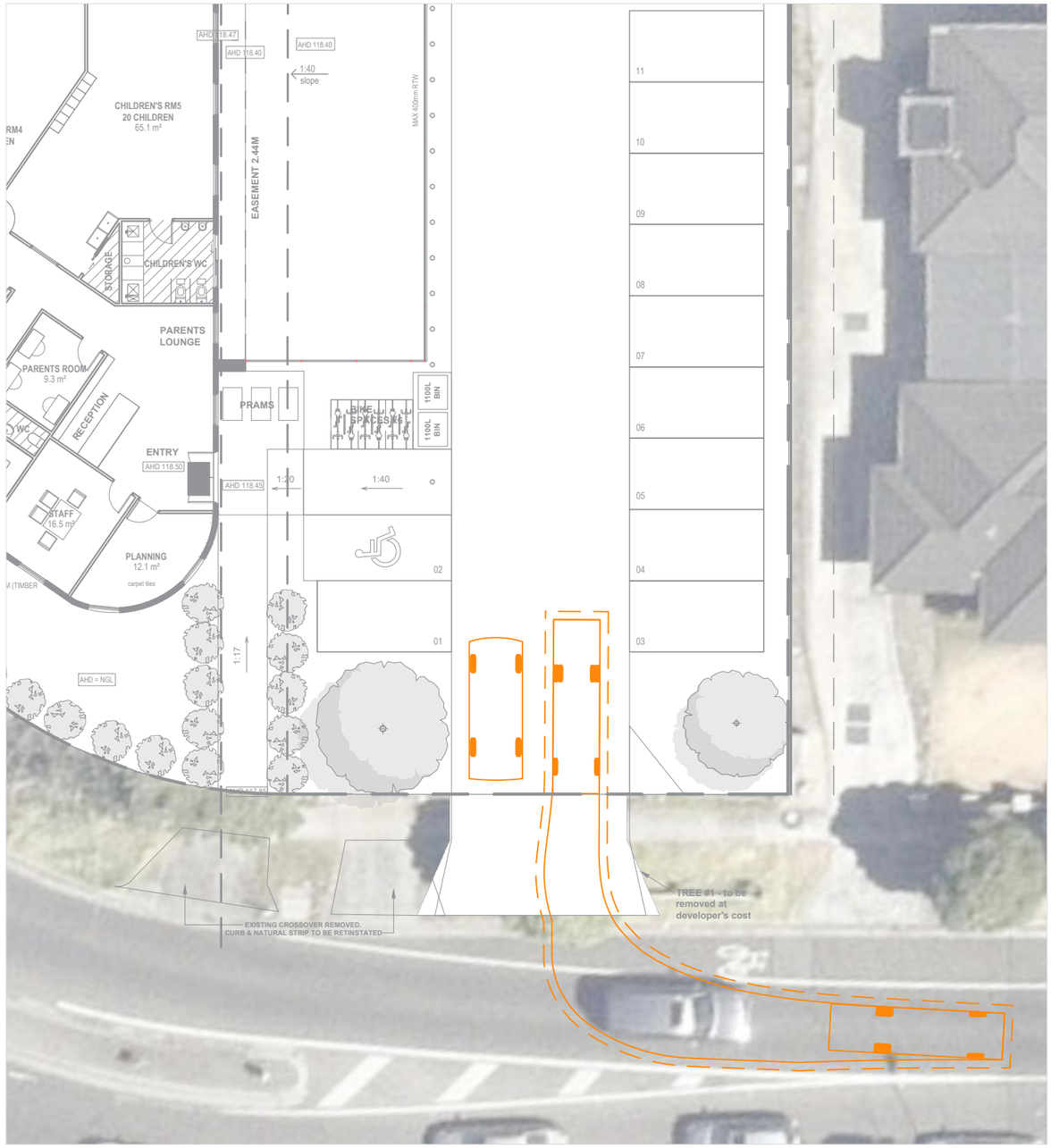
Swept Path Assessment

DRAWN: WC
DATE: 24/06/2024
DWG NO: 958 S01C
SCALE at A3: 1:200

[redacted]



Entry Manoeuvre



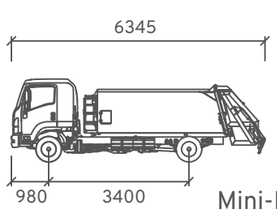
Exit Manoeuvre

Vehicle Envelope

300mm Clearance

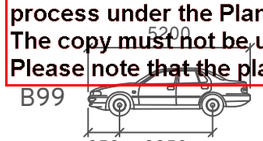
Reverse Manoevure

Min. Design Speed 5km/h



Mini-Rear Loader Waste Vehicle

		mm
Width	:	1700
Height	:	2080
Kerb-Kerb Radius	:	6450
Track	:	1670
Kerb-Kerb Radius	:	6450
Lock to Lock	:	4.0s



		mm
Width	:	1840
Track	:	1840
Height	:	2200
Lock to Lock	:	6.0s
Steering Angle	:	33.9

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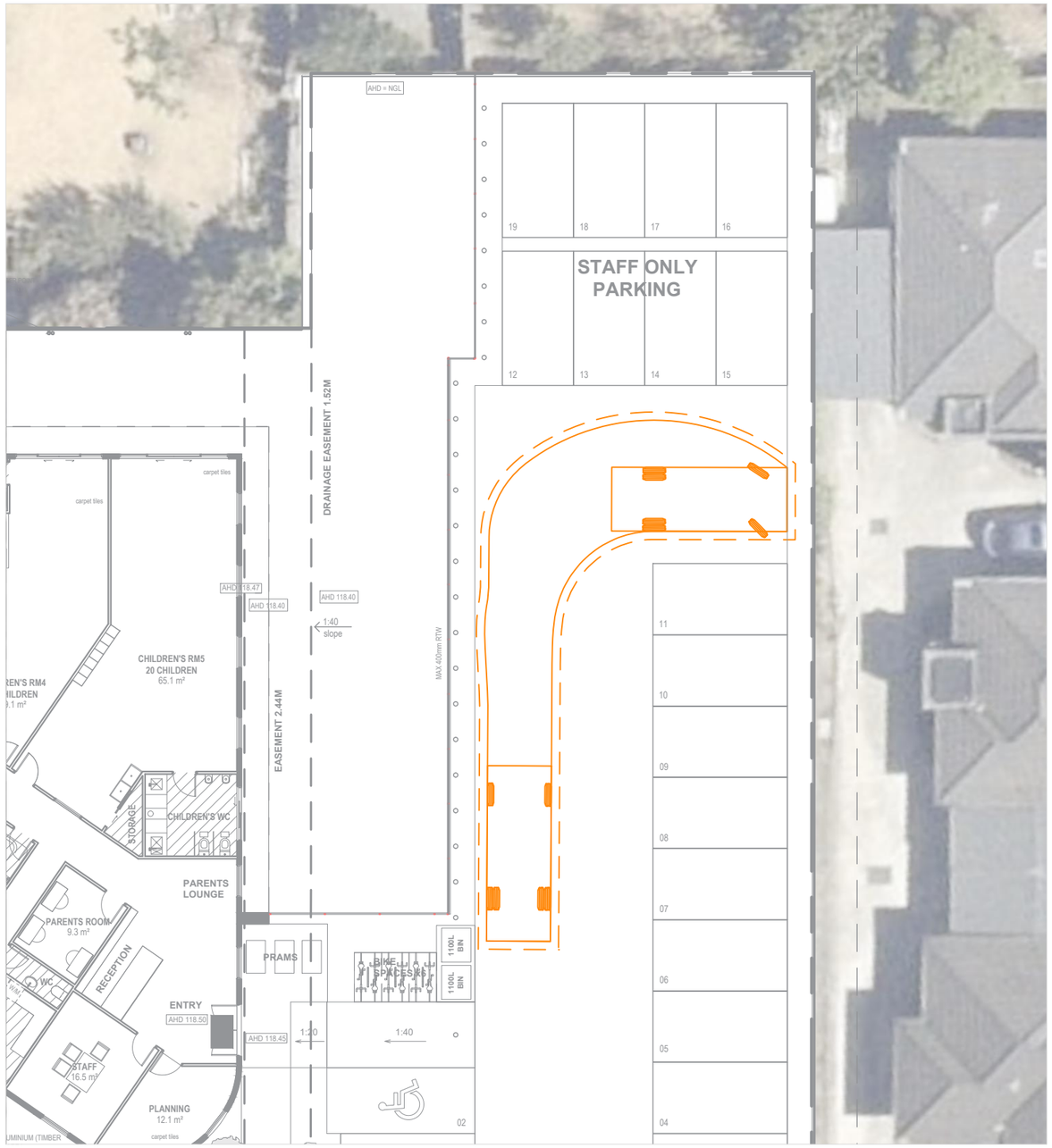
Childcare Centre

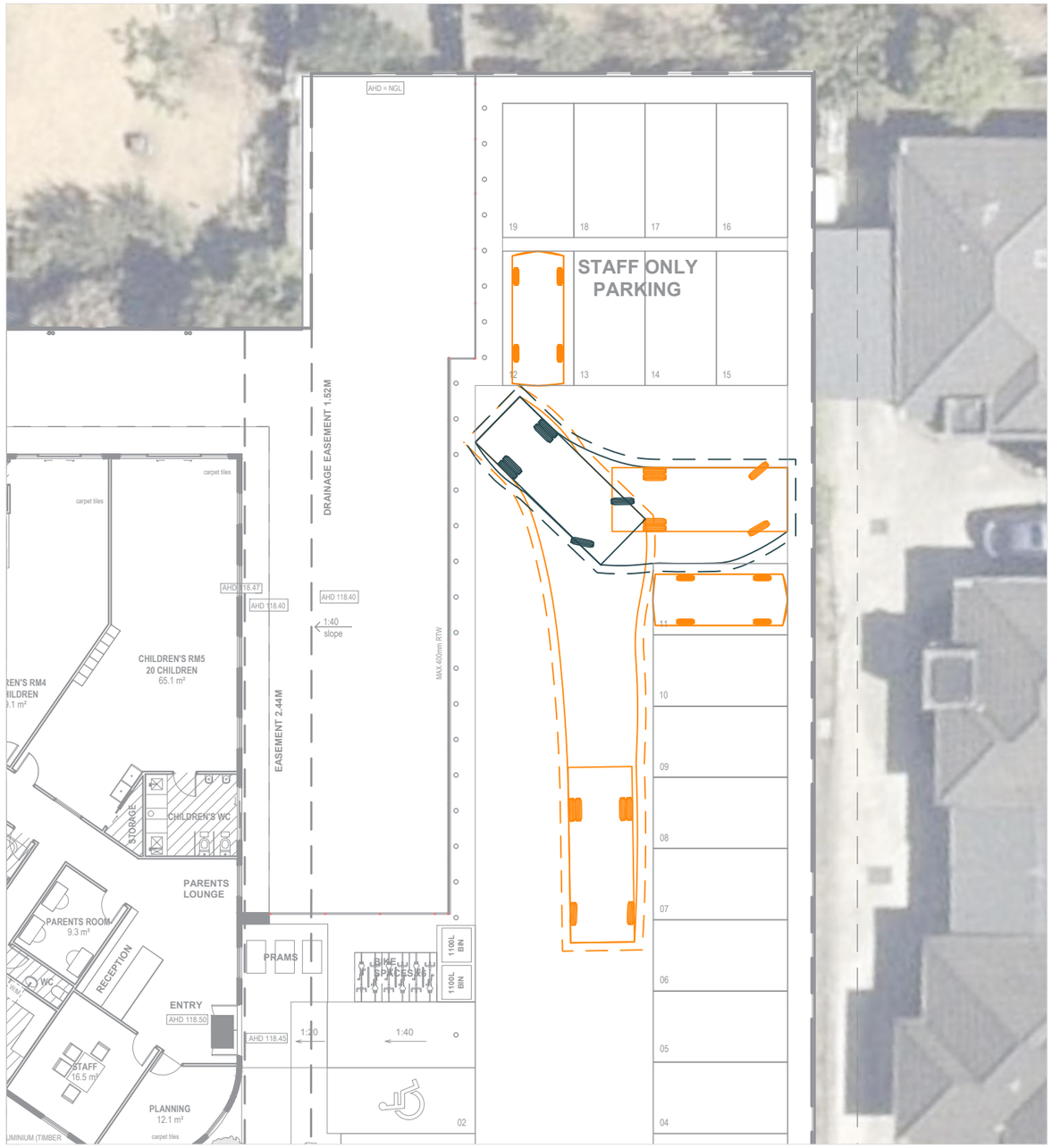
Swept Path Assessment

DRAWN: WC
DATE: 24/06/2024
DWG NO: 958 S01C
SCALE at A3: 1:200

[redacted]



Entry Manoeuvre



Exit Manoeuvre

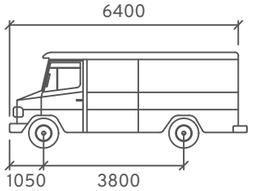
Vehicle Envelope

300mm Clearance

Reverse Manoeuvre

Min. Design Speed 5km/h

SRV



	mm
Width	: 2300
Track	: 2300
Lock to Lock	: 6.0s
Steering Angle	: 38.0

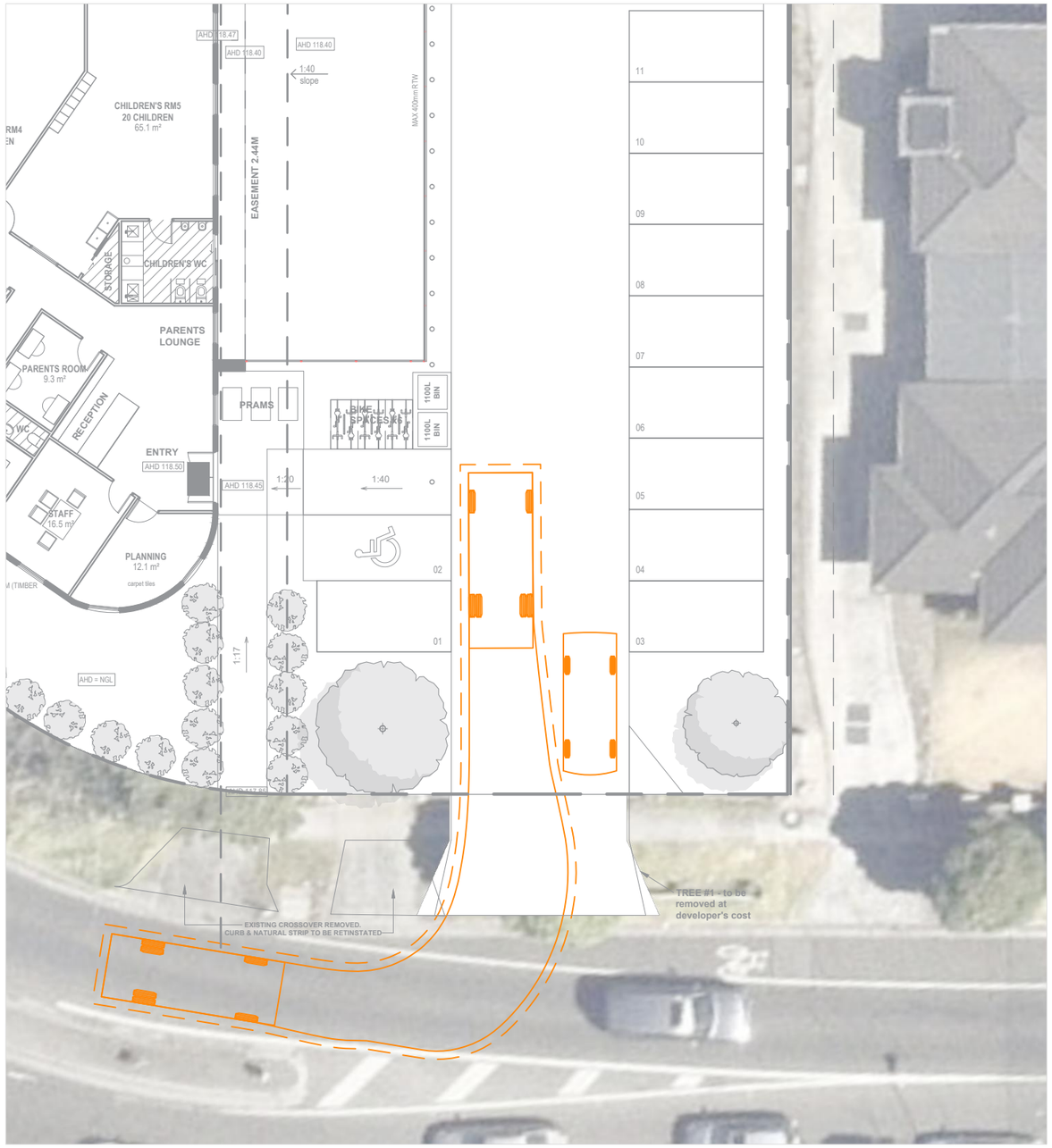
362 Camp Road & 1 Blair Street, Broadmeadows

Childcare Centre

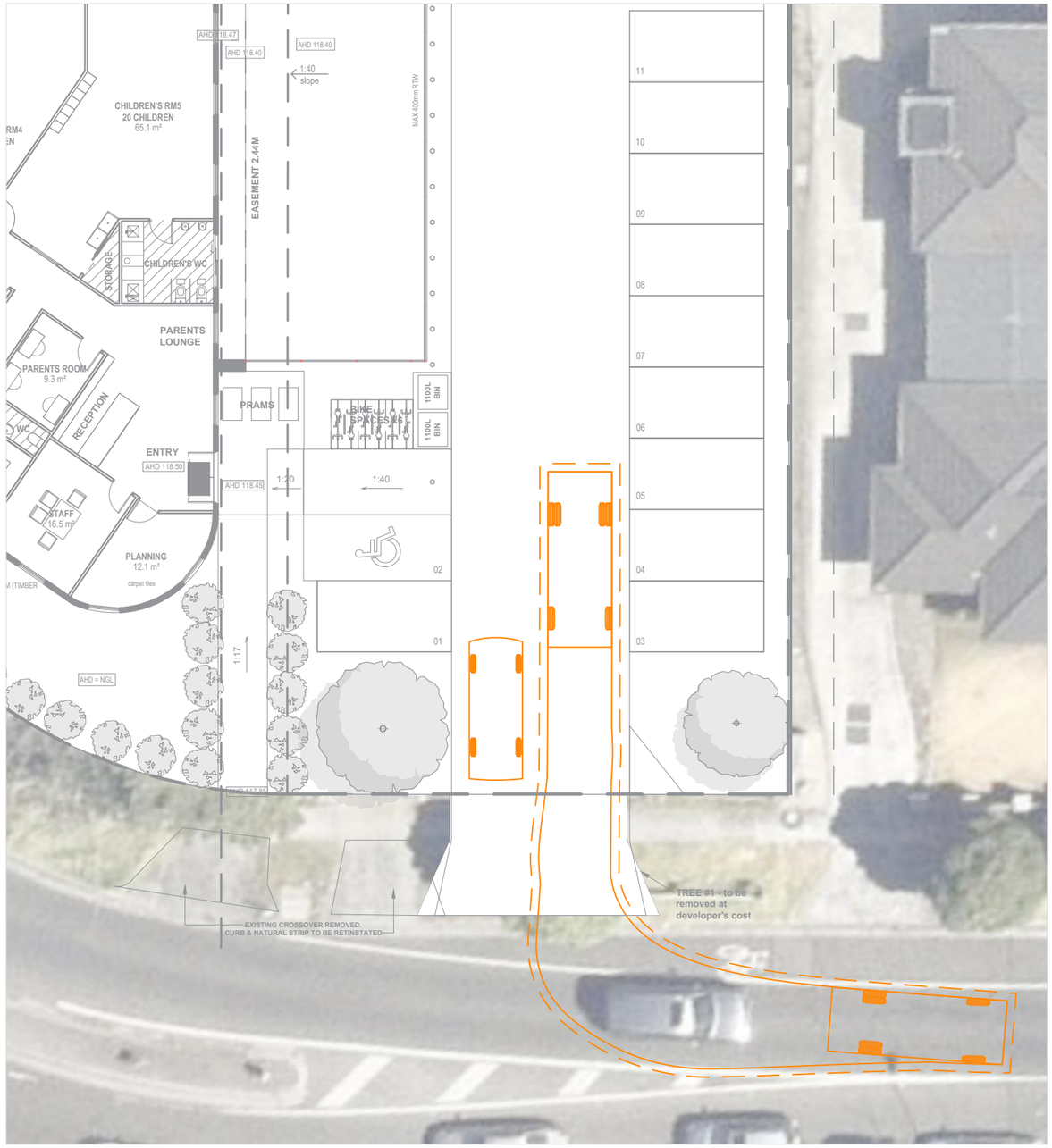
Swept Path Assessment

DRAWN: WC
DATE: 24/06/2024
DWG NO: 958 S01C
SCALE at A3: 1:200

[redacted]



Entry Manoeuvre



Exit Manoeuvre

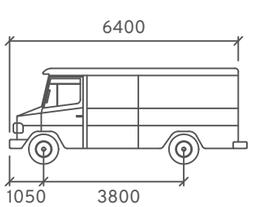
Vehicle Envelope

300mm Clearance

Reverse Manoeuvre

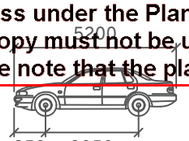
Min. Design Speed 5km/h

SRV



	mm
Width	: 2300
Track	: 2300
Lock to Lock	: 6.0s
Steering Angle	: 38.0

B99



	mm
Width	: 1840
Track	: 1840
Height	: 2200
Lock to Lock	: 6.0s
Steering Angle	: 33.9

362 Camp Road & 1 Blair Street, Broadmeadows

Childcare Centre

Swept Path Assessment

DRAWN: WC
DATE: 24/06/2024
DWG NO: 958 S01C
SCALE at A3: 1:200

[redacted]