

## Notice of an application for a planning permit

**Land affected by the application**

2 Graeme Avenue MONTMORENCY

**Applicant**

JDZ Building Design Pty Ltd

**Application reference**

P726/2024

**Responsible Authority**

Banyule City Council

**Application is for a permit to**

Use and develop the land for a warehouse including building and works in the dripline of a tree requiring, permission for removal under the Vegetation Protection overlay affecting the land, construction of a building over 8m in height, and a reduction of 3 parking spaces.

**Planning Scheme Clause**

Clause 34.02-1

Clause 34.02-4

Clause 43.02-2

Clause 52.06-3

**Matter for which a permit is required**

To use the land for a “warehouse” which is within 30 metres of land in a residential zone.

To construct a building or to construct or carry out works.

Buildings and Works Under the Dripline of Protected Vegetation

Construct a building over 8 metres in height.

To reduce the number of car parking spaces required under Clause 52.06-5. 10 spaces are required and 7 spaces are proposed resulting in a reduction of 3 parking spaces.

**Review the application for free**

Scan or visit [banyule.vic.gov.au/PlanningNotices](https://banyule.vic.gov.au/PlanningNotices)

alternatively

Visit during business hours:

**Banyule Council offices Level 3, 1 Flintoff Street, Greensborough VIC 3088**

To discuss this application, call our Planning Department on 9490 4222

**The Responsible Authority will not decide on the application before: 17 December 2024**

Submissions lodged after this date will only be considered if received by Council before a decision is made.

<input checked="" type="checkbox"/> Application lodged	<input checked="" type="checkbox"/> Council initial assessment	<input checked="" type="checkbox"/> <b>Public notice</b>	<input type="checkbox"/> Consider submissions	<input type="checkbox"/> Final assessment	<input type="checkbox"/> Decision
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**What are my options?**

You may object or make other submissions in writing if you are affected by the granting of a permit for this application. If you object, we will tell you our decision and options available.

An objection must be:

- made in writing
- include the reasons for the objection
- state how the objector would be affected.

We must make a copy of every objection available at our office for any person to inspect during office hours. You can view the objections for free until the opportunity to seek a review of the decision for this application passes.

# Planning permit application

Submitted on	6 August 2024, 10:58AM
Receipt number	PLAN1981
Related form version	20

## Privacy

The Planning and Environment Act 1987 (Act) requires a range of information to be made available in accordance with the 'public availability requirements' outlined in Section 197(a-h) of the Act.

By using this form, we are collecting your personal information to enable your application to be lodged and assessed as per the planning process and the Planning and Environment Act 1987. If you do not provide your name, address and contact details, your application cannot be assessed. The handling of your personal information will be conducted in accordance with our [Privacy Policy](#) and requirements of the Act. A copy of your application and relevant information must be made available for any person to inspect at our offices, and/or on our website in accordance with Section 51 of the Act. A copy of the application may be provided to other parties for the purpose of consideration as part of the planning process.

Your application, including your name and address, is a public record and will be made available consistent with the inspection requirements outlined in Section 197(a-h) of the Act.

### Personal details available on your application

Personal details including names, addresses, phone numbers and emails.

Do you consent to making your personal details available on your application through our website?	Yes - I give consent
---	----------------------

The address of the land for this application will be available through our website.

Call our Privacy Officer on [9490 4222](tel:94904222) or email [enquiries@banyule.vic.gov.au](mailto:enquiries@banyule.vic.gov.au) if you need access to your personal information or need to amend it.

## Background

Have you had a formal meeting with one of our planning officers about this application?	No
---	----

## Property address

Unit number  
Apartment/Flat/Townhouse/Unit/Villa

Street number	2
Street name	Graeme
Street type	Avenue

ADVERTISED PLAN  
Application No. P726/2024

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## Land description

**What is the identifier of the land on title?**

This distinction can be found on your certificate of title.

Lot number

Lot number

37

**LP, TP or PS number**

LP (lodged plan)

TP (title plan)

PS (plan of subdivision)

022140

## Title information

You can buy a current copy of title from [LANDATA](#).

If your land is affected by a Section 173 agreement, call us on 03 9490 4222 for guidance on how to proceed with your application.

**Upload title documentation**

Provide a current title, not older than 90 days from today's date for each parcel of land associated with this application.

[00736533190132024072524330001.pdf](#)[00736533190012024072500340001.pdf](#)**Does the proposal breach, in any way, a restriction or encumbrance on the title?**

Examples include: a restrictive covenant, Section 173 agreement, an easement or building envelope.

No

## Application type

**This application is seeking a permit:**

Selections influence the application fee payable

to use the land for a specific purpose (class 1)

to develop the land for other development including commercial and industrial (class various)

## Proposal

**For what use, development or other matter is the permit required?**

use and development of the subject site for industry (manufacture and assembly of furniture and fittings for domestic and commercial use) with ancillary warehouse and office uses.

**Upload plans and documentation**

Provide all relevant plans and documentation.

[Cover Letter\\_2 Graeme Ave, Montmorency.pdf](#)[240406 Town Planning Rev A.pdf](#)[GTP Planning Report\\_2 Graeme Ave, Montmorency.pdf](#)

## Cost of proposal

Estimate the cost of the project. You may be required to verify this estimate and the difference may influence the application fee payable.

**Cost of proposed works**

What is the estimated cost of the development for which the permit is required?

1030000

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Difference in cost:

\$1030000.00

Fees

Fee unit value	16.33
As set by the Victorian Government <a href="#">Department of Treasury and Finance</a> .	
Subtotal for change of use	\$1453.40
Subtotal for a dwelling and assoc. buildings and works	\$0.00
Subtotal for other developments	\$3764.10
Subtotal for SubDiv Class 17	\$0.00
Subtotal for SubDiv Class 18	\$0.00
Subtotal for SubDiv Class 19	\$0.00
Subtotal for SubDiv Class 20	\$0.00
Subtotal for SubDiv Class 21	\$0.00
Subtotal for types of permits not in regs	\$0.00
Combined fee test subdivision	1
0 = single subdivision fee class applies 1 = multiple subdivision fee classes apply	
Combined fee test overall	1
0 = single application fee only 1 = combined fees apply	
Multiple fee classes apply to this application. The primary fee is applied in full. In addition, only 50% of all other applicable fees apply. The total is referred to as the Application fee.	
Application fee	\$4490.80
Total fee payable in full when you submit this application.	

Existing conditions

Existing conditions of the land	Vacant
Describe how the land is used now, for instance, vacant, 3 dwellings, medical center with 2 practitioners, licensed restaurant with 80 seats.	

Applicant details

Name	JDZ Building Design Pty Ltd
Full name or organisation name of applicant	
Email address	charlotte@glossopco.com.au

ADVERTISED PLAN  
Application No. P726/2024

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Phone number	0410083733
Postal address	PO Box 831, South Melbourne VIC 3205
Full postal address including suburb and postcode	

Contact person

Is the contact the same as the applicant?	No
JDZ Building Design Pty Ltd	
Contact full name	Charlotte Glossop
Contact organisation	Glossop Town Planning Pty Ltd
Contact email address	charlotte@glossopco.com.au
Contact phone number	0410083733
Contact postal address	PO Box 831, South Melbourne VIC 3205
Full postal address including suburb and postcode	

Owner details

Is the owner the same as the applicant?	No
JDZ Building Design Pty Ltd	
Is the owner a registered organisation?	Yes
Owner organisation	2 Graeme Av Pty Ltd

Declaration

I understand and accept:	information provided in this form, including plans and personal information will be publicly available, including online, as part of the planning process in accordance with the Planning and Environment Act 1987  copies may be made for interested parties as part of the planning process in accordance with the Planning and Environment Act 1987
I declare that:	all information provided in this application is true and correct  the owner has been notified of this application.

Payment

Confirm who will pay the \$4490.80 application fee?	Client
Total amount due	
Provide the contact details of your client to process the payment for this application.	

ADVERTISED PLAN  
Application No. P/26/2024  
  
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**Client full name**

Provide your full name

Damien Long

**Client email address**

damien.long@billingslong.com.au

**Client phone number**

0419 033 884

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Application No. P726/2024

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## Office Use Only

Application No.:

Date Lodged: / /

# Application for an Amendment to a current Planning Application (Section 50 or 57A Application)

Use this form if you have an **existing** application with Council that you would like to change before Council makes its decision. This form can be used before or after an application has been notified, but not after Council has made a determination in respect of the application.

If you already have a permit, you cannot use this form. Instead, you will need the [Application to Amend a Planning Permit](#) form.

An application to amend a current application must include:

- This application form completed and signed;
- Three copies of the amended plans; and
- The relevant application fee, if a fee is applicable. You can find the relevant fee under [Planning Fees](#) on Council's website.

Please note if the application has already been notified, depending on the extent of the changes proposed, Council may require re-notification of the amended proposal before the application will be determined.

## The Land

Please provide the street address of the land.

Street No.: 2	Street Name: Graeme Avenue					
Suburb/Locality: Montmorency	Postcode: <table><tr><td></td><td></td><td></td><td></td><td></td></tr></table>					

## The Current Planning Permit Application

Provide full details of the application being amended:

What is the reference number of the Planning Permit Application that is being amended?

What had you originally applied for?

Planning Permit Application No.: P726/2024
What was the original proposal:
Development and use of the land for Industry (manufacture and assembly of furniture fittings with ancilliary warehouse and office.

ADVERTISED PLAN

Application No. P726/2024

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## The Amendment Proposal

This application is being lodged (tick one):

- ☒ Prior to notification commencing  
(Section 50 of the *Planning and Environment Act 1987*)
- ☐ After notification has commenced  
(Section 57A of the *Planning and Environment Act 1987*)

What changes are you seeking to make to the current application?

*Detail any changes sought to the plans or any other documents previously submitted with the Planning Permit Application.*

*Attach a supplementary page if more space is required.*

Eg.

1. Removal of 1 dwelling from the multi dwelling development proposal (was previously 6 dwellings, now proposing 5).
2. The provision of new acoustic fencing and trellis to the west, south and east boundaries.

Use and development the land with a warehouse and ancillary office and a reduction in car parking.

Why is the amendment to the current application required?

*State the reasons for the change.*

*Attach a supplementary page if more space is required.*

See cover letter.

## Contact details

### Contact

*The person or organisation you want Council to correspond with regarding the amendment to the current application.*

Name: Charlotte Glossop

Organisation (if applicable): Glossop Town Planning Pty Ltd

Postal Address: PO Box 831, South Melbourne VIC 3205

Postcode:

Contact phone:

Mobile phone: 0410083733

Email: charlotte@glossopco.com.au

Fax:

ADVERTISED PLAN  
Application No. P726/2024

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Indicate preferred contact method by numbering in order of preference

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## Applicant details

Applicant

*The person or organisation  
who is seeking the  
Planning Permit.*

<input type="checkbox"/>	Same as contact. If not, complete the details below.
Name:	
Organisation (if applicable): JDZ Building Design Pty Ltd	
Postal Address:	
Postcode:	

## Owners Consent

Has the owner of the  
land consented to the  
proposed changes?

<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
-------------------------------------	-----	--------------------------	----

## Declaration

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 all the information in this application is true and correct; and the owner (if not myself) has been notified of the amendment application.	
Name: Charlotte Glossop	
Signature	Date 1 2 / 1 1 / 2 0 2 4

## Lodgement

<b>Banyule City Council</b>
Banyule Planning are now online - Any information now needs to be lodged through the website.
Lodge the completed and signed form and all documents online through the e-planning portal at: <a href="https://www.banyule.vic.gov.au/Services/Planning/e-Planning/Submit-your-further-information">https://www.banyule.vic.gov.au/Services/Planning/e-Planning/Submit-your-further-information</a>
For help or more information, please contact us: Email: <a href="mailto:enquiries@banyule.vic.gov.au">enquiries@banyule.vic.gov.au</a> Telephone: (03) 9457 9808 Fax: (03) 9499 9475 TTY: (03) 9432 7211 DX: DX 97904 IVANHOE

ADVERTISED PLAN  
Application No. P726/2024

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

Page 1 of 1

VOLUME 10867 FOLIO 683

Security no : 124116900182N

Produced 25/07/2024 10:33 AM

### LAND DESCRIPTION

Lot 37 on Plan of Subdivision 022140.  
PARENT TITLE Volume 07738 Folio 133  
Created by instrument AD482070N 04/03/2005

### REGISTERED PROPRIETOR

Estate Fee Simple  
Sole Proprietor  
2 GRAEME AV PTY LTD of 23 SIMMS ROAD GREENSBOROUGH VIC 3088  
AX989333G 13/05/2024

### ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AX989334E 13/05/2024  
WESTPAC BANKING CORPORATION

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 LP022140 FOR FURTHER DETAILS AND BOUNDARIES

### ACTIVITY IN THE LAST 125 DAYS

NUMBER		STATUS	DATE
AX978041H (E)	CONV PCT & NOM ECT TO LC	Completed	08/05/2024
AX989333G (E)	TRANSFER	Registered	13/05/2024
AX989334E (E)	MORTGAGE	Registered	13/05/2024

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

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

Street Address: 2 GRAEME AVENUE MONTMORENCY VIC 3094

### ADMINISTRATIVE NOTICES

NIL

eCT Control 16320Q WESTPAC BANKING CORPORATION  
Effective from 13/05/2024

DOCUMENT END

ADVERTISED PLAN  
Application No. P726/2024

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# Imaged Document Cover Sheet

Received  
6/8/2024

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Document Type	<b>Plan</b>
Document Identification	<b>LP022140</b>
Number of Pages (excluding this cover sheet)	<b>2</b>
Document Assembled	<b>25/07/2024 10:33</b>

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ADVERTISED PLAN  
Application No. P726/2024

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# PLAN OF SUBDIVISION

PART OF CROWN PORTION 3

PARISH OF NILLUMBIK

COUNTY OF EVELYN

VOL.4547 FOL.298

Measurements are in Feet & Inches

Conversion Factor

FEET x 0.3048 = METRES

LP 22140

EDITION 2

PLAN MAY BE LODGED 23/10/51

## COLOUR CODE

E-1 = BLUE

R1, R2 & R3 = BROWN

A-1 = YELLOW

A-2 = YELLOW BLACK HATCHED

## APPROPRIATIONS

THE LAND COLOURED BLUE IS APPROPRIATED OR SET APART FOR EASEMENTS OF DRAINAGE AND SEWERAGE AND IS 6 FEET WIDE

THE LAND COLOURED BROWN IS APPROPRIATED OR SET APART FOR EASEMENTS OF WAY AND DRAINAGE

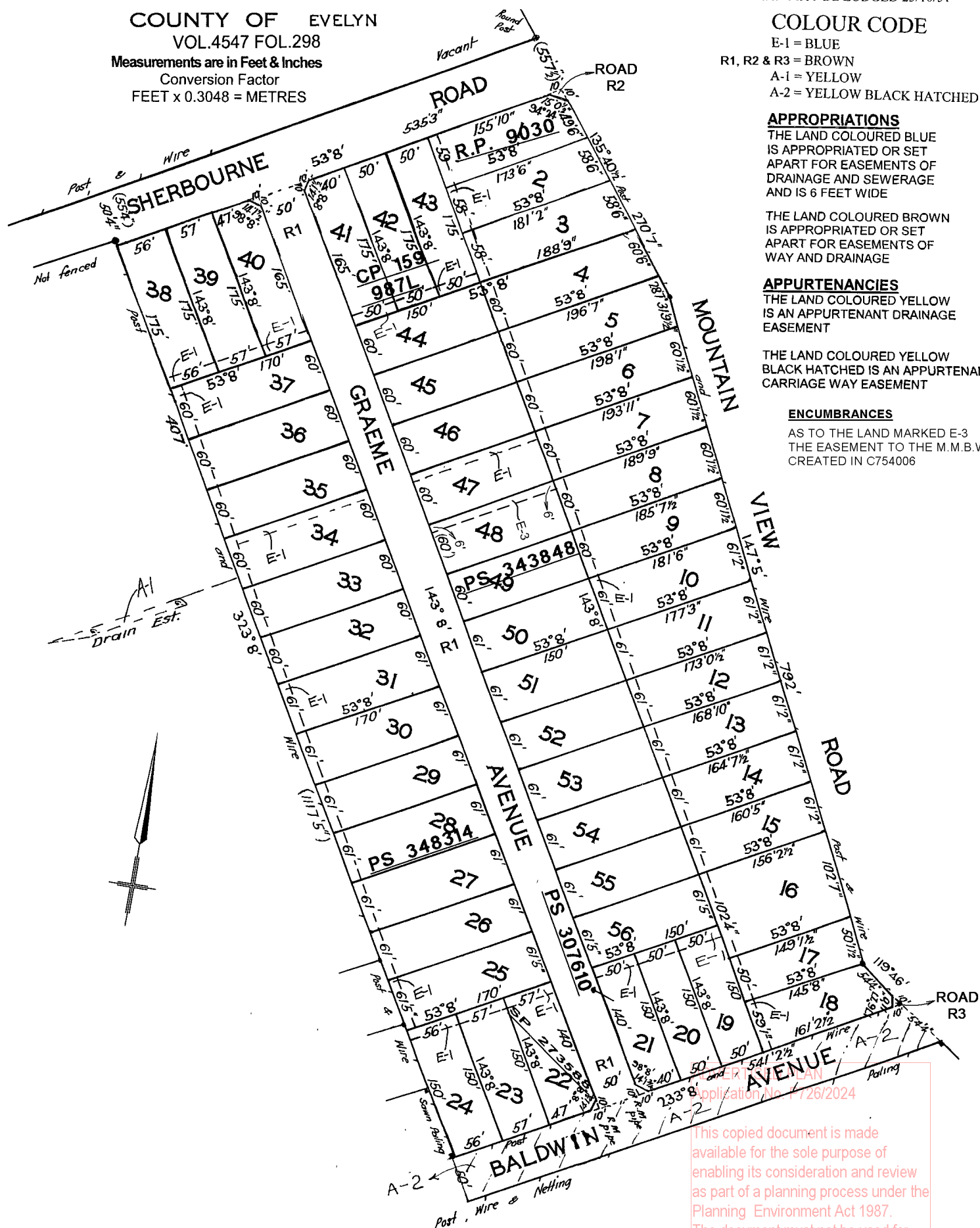
## APPURTENANCIES

THE LAND COLOURED YELLOW IS AN APPURTENANT DRAINAGE EASEMENT

THE LAND COLOURED YELLOW BLACK HATCHED IS AN APPURTENANT CARRIAGE WAY EASEMENT

## ENCUMBRANCES

AS TO THE LAND MARKED E-3 THE EASEMENT TO THE M.M.B.W. CREATED IN C754006





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12 November 2024

Jacob McCarthy  
Development Planner  
Banyule City Council

Online Lodgement

Dear Mr McCarthy,

**Re: Planning Permit No. P726/2024**  
**Address: 2 Graeme Avenue, Montmorency**

Glossop Town Planning continues to act on behalf of JDZ Building Design Pty Ltd, the permit applicant in relation to this matter.

Reference is made to Council's letter dated 15 August 2024 requesting further information under Section 54 of the Planning and Environment Act 1987 and providing preliminary comments.

We also seek to amend the application pursuant to Section 50 of the Planning and Environment Act 1987 to use and development the land with a warehouse and ancillary office and a reduction in car parking. All accompanying application materials have been revised accordingly including the Town Planning Report. A Section 50 Amendment Application form has also been provided with this response.

As a consequence of this change, Council has agreed that the further information requested by the EPA is no longer required.

If Council determines that a Car Parking Demand Assessment is required, we kindly request that the application proceed to advertising whilst the assessment is prepared.

In response to Council's letter, please find enclosed the following:

- Amended plans prepared by JDZ Building Design, dated 10 October 2024;
- Arborist Report prepared by GH Trees, dated 9 September 2024;
- Amended Town Planning Report prepared by Glossop Town Planning, dated November 2024;
- Sustainable Design Assessment prepared by Frater Consultants and dated 11 November 2024;
- Waste Management Plan prepared by Frater Consultants and dated 2 October 2024; and
- Section 50 Amendment Form.

In addition, a response to Council's further information request is provided below:



Glossop Town Planning | PO Box 831, South Melbourne VIC 3205 | (03) 9329 2288 | [glossopco.com.au](http://glossopco.com.au)

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### Further information

- Item 1: We note that the proposed use does not include complex high-risk industrial or waste activities and therefore a Development License, Operating Licence, Permit or Registration is not required from the Environment Protection Authority. We also confirm that notification under the Occupational Health and Safety Regulations 2017 or a license under the Dangerous Goods Act 1995 is not required nor is the fire protection quantity under the Dangerous Goods Storage and Handling) Regulations 2012 exceeded.
- Item 2: An Arboricultural Impact Assessment has been prepared for the street tree and submitted with this response. It confirms that the proposed development will not adversely impact the street tree.
- Item 3: A Waste Management Plan has been prepared and submitted with this response.
- Item 4: A Sustainable Design Assessment has been prepared and submitted with this response.
- Item 5: The ESD initiatives from the Sustainable Design Assessment have been included on the plans.
- Item 6: A Roof/WSUD plan has been provided at TP04.
- Item 7: The plans have been updated to show:
  - The location of the rainwater storage tank on TP01
  - The location of services, mailboxes and metres on TP01.
  - The indicative location of external air conditioner units and hot water systems with screening on TP04.
  - We kindly request that Council include a condition on permit requiring the driveway gradient to be shown on the plans.
  - The location of canopies of mature trees to be retained on TP01.
  - A notation has been included on the plans confirming the encroachment of 9% into the TPZ of the street tree as identified in the Arborist Report.
  - A roof plan has been provided at TP04.
- Item 8: The elevations have been modified to show:
  - Colours and materials of external surfaces.
  - Proposed fencing details.

ADVERTISED PLAN  
Application No. P726/2024

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- Proposed boundary fencing details.
- Details of services and metres.
- Item 9: Concept planting has been included on the ground floor plan at TP01. A condition on any permit issued can require provision of a landscape plan.
- Item 10: A materials and finishes schedule has been provided at TP05.

## Preliminary Comments

### Detailed Design

Front fence details have been included on the amended plans showing a 1.5 metre high black aluminium picket style front fence with mailbox.

### Landscaping

Conceptual planting is provided on TP01. A condition on permit can require a landscape plan.

### Impact on trees

An Arboricultural Report has been prepared and submitted with this response. It confirms that the proposed development will not adversely affect the street tree.

### ESD/WSUD

A Sustainable Design Assessment has been prepared and submitted with this response. The SDA measures have been included on the plans and a WSUD plan has been provided at TP04.

### Car Parking

The amendment to the use has altered the car parking requirements for the proposal. 9 car parking spaces are required, and seven car parking spaces are required. A reduction in two car parking spaces is now required. The application has been amended to reflect this requirement and the town planning report has been revised.

### Waste Collection

A Waste Management Plan has been prepared and submitted with this response.

## Conclusion

We trust that this response satisfies Council's request for further information and that this application can now proceed to public notification. If this is not the case, we respectfully request an extension to the lapse date.

If you have any queries, please do not hesitate to contact our office on 9329 2288.





**Charlotte Glossop**  
**Associate**  
**Glossop Town Planning**  
Cc. Permit Applicant  
Encl. as stated.

ADVERTISED PLAN  
Application No. P726/2024

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GLOSSOP

Received  
12/11/2024

## Planning Report

2 Graeme Avenue, Montmorency

*Use and development of the land for  
warehouse and ancillary office use and a  
reduction in car parking.*

ADVERTISED PLAN  
Application No. P726/2024

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Glossop Quality System			
Author	ChG	Checked By	EL
Date Issue	November 2024	Revision Number	1

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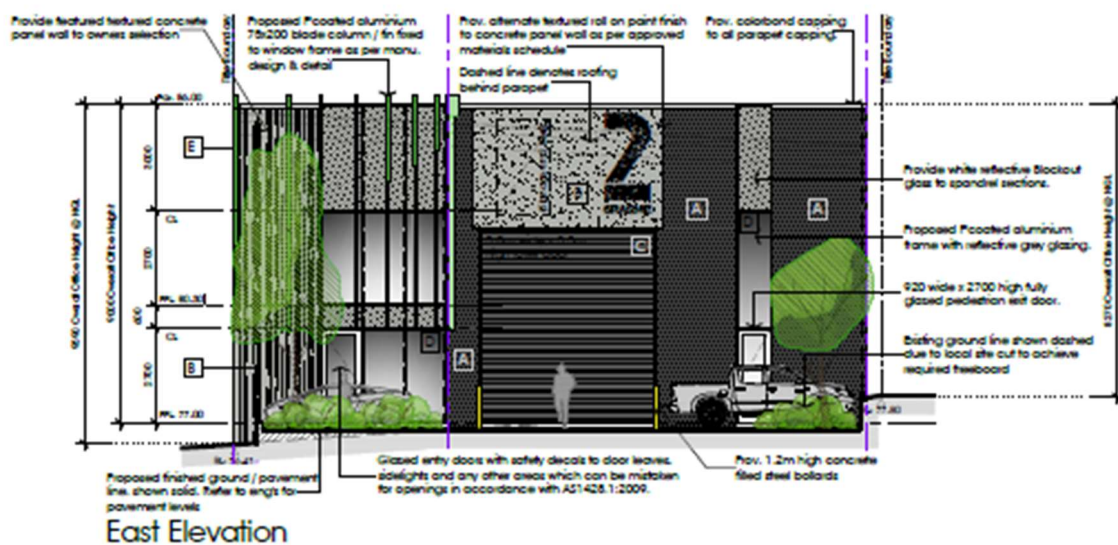
ADVERTISED PLAN  
12/11/2024

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# 1. Introduction

This planning report has been prepared at the request of the permit applicant, JDZ Building Design Pty Ltd, to support the proposed use and development at 2 Graeme Avenue, Montmorency ('the subject site').

In brief, this proposal involves the use and development of the subject site for warehouse with ancillary office and a reduction in car parking of two spaces. The site is located within 30m of land in a residential zone.



Extract of front elevation from TP03 (source: Development Plans)

A loading and unloading bay is located within the building and car parking and bicycle parking is provided within the front setback.

An area of 4sqm is set aside for business identification signage on the proposed building façade (no permit required).

Please refer to section 3 of this report for more detail on the proposed use and development.

## 1.1. Plans and Supporting Documentation

This report should be read in conjunction with the following:

- Development Plans prepared by JDZ Building Design Pty Ltd, dated 10 October 2024.
- Arborist Report prepared by GH Trees, dated 9 September 2024;
- Sustainable Design Assessment prepared by Frater Consultants and dated 11 November 2024; and
- Waste Management Plan prepared by Frater Consultants and dated 2 October 2024.

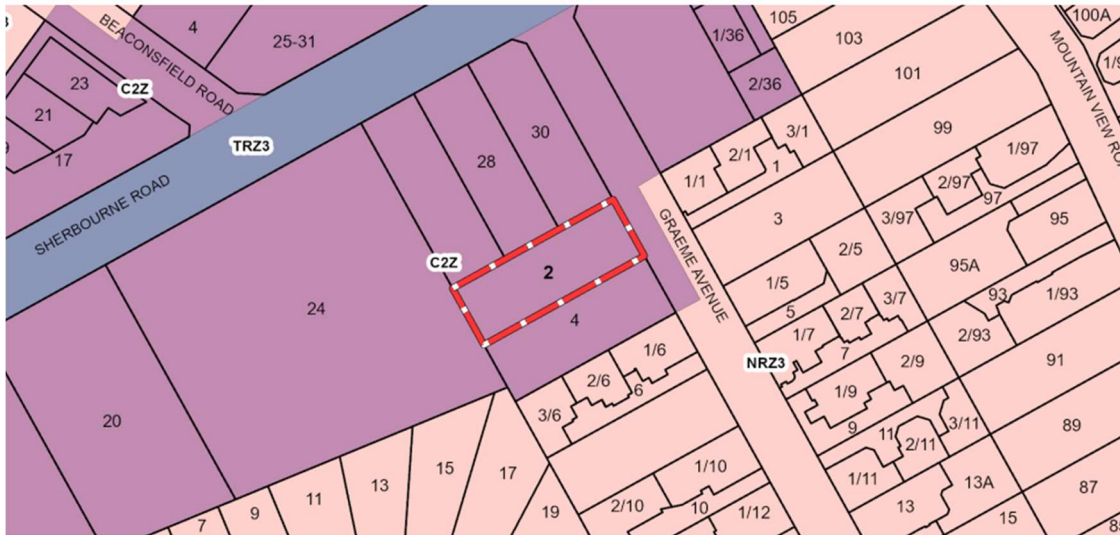
ADVERTISED PLAN  
and dated 11 November  
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## 1.2. The Banyule Planning Scheme ('the Scheme')

The subject site is zoned:

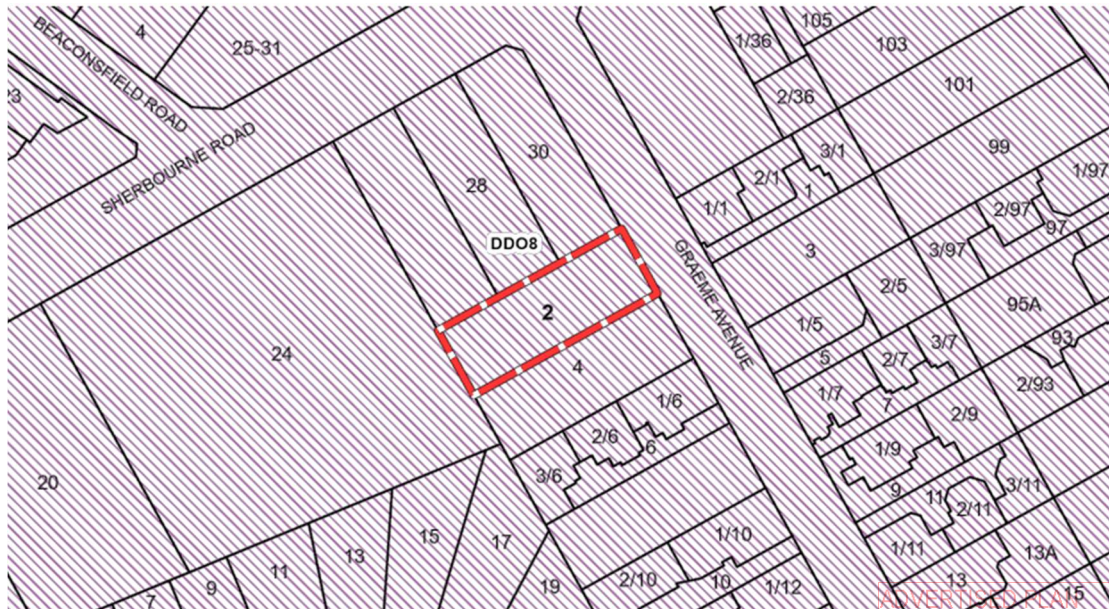
- Commercial 2 Zone ('C2Z')



C2Z overview of the subject site (source: Planning Property Reports)

The subject site is also within a:

- Design and Development Overlay – Schedule 8 ('DDO8' – Plenty River East Neighbourhood Character)



DDO8 overview of the subject site (source: Planning Property Reports)

ADVERTISING PLAN  
Application No. P726/2024

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- Vegetation Protection Overlay – Schedule 1 ('VPO1' – Plenty River East Area)



VPO1 overview of the subject site (source: Planning Property Reports)

- Development Contribution Overlay – Schedule 1 ('DCPO1')



DCPO1 overview of the subject site (source: Planning Property Reports)

The subject site is not within a Designated Bushfire Prone Area or an Area of Aboriginal Cultural Heritage Sensitivity.

The subject site is within the Principal Public Transport Network ('PPTN').

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### 1.3. Planning Permit Regulations

A planning permit is required pursuant to:

- Clause 34.02-1 (C2Z) to use the land as 'warehouse' which is within 30 metres of land in a residential zone; and
- Clause 34.02-4 (C2Z) to construct a building or construct or carry out works.
- Clause 43.02-2 (DDO8) to construct a building or construct or carry out works with a height of more than 8 metres above natural ground level.

#### 1.3.1 Application Requirements

Pursuant to Clause 34.02-5 (Commercial 2 Zone), the following information is required:

- *The purpose of the use and the types of activities which will be carried out.*

Please refer to section 3 of this report.

- *The likely effects, if any, on adjoining land, including noise levels, traffic, the hours of delivery and despatch of goods or materials, hours of operation and light spill, solar access and glare.*

Please refer to section 4.2 of this report.

- *For an industry or warehouse:*
  - *The type and quantity of goods to be stored, processed or produced.*
  - *Whether a Development Licence, Operating Licence, Permit or Registration is required from the Environment Protection Authority;.*
  - *Whether a notification under the Occupational Health and Safety Regulations 2017 is required, a licence under the Dangerous Goods Act 1995 is required, or a fire protection quantity under the Dangerous Goods (Storage and Handling) Regulations 2012 is exceeded.*
  - *The likely effects on adjoining land, including air-borne emissions and emissions to land and water.*

Please refer to Section 3 and 4.2 of this report.

- *Plans drawn to scale and dimensioned.*

Please refer to the Development Plans prepared by JDZ Building Design.

- *Elevation drawings to scale showing the colour and materials of all buildings and works.*

Please refer to the Development Plans prepared by JDZ Building Design.

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### 1.3.2 Decision Making Framework

Clause 71.02-3 (Integrated decision making) states:

*The Planning Policy Framework operates together with the remainder of the scheme to deliver integrated decision making. Planning and responsible authorities should endeavour to integrate the range of planning policies relevant to the issues to be determined and balance conflicting objectives in favour of net community benefit and sustainable development for the benefit of present and future generations. However, in bushfire and affected areas, planning and responsible authorities must prioritise the protection of human life over all other policy considerations.*

When considering the decision guidelines associated with the relevant planning permit requirements, the key planning considerations are:

- Does the Municipal Planning Strategy and the Planning Policy Framework support the proposed development?
- Is the proposal acceptable given the zoning of the land?
- Does the proposal adequately respond to the DDO8?
- Does the proposal satisfactorily address other relevant matters for consideration?

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## 2. The Site and Surrounds

### 2.1. The Subject Site

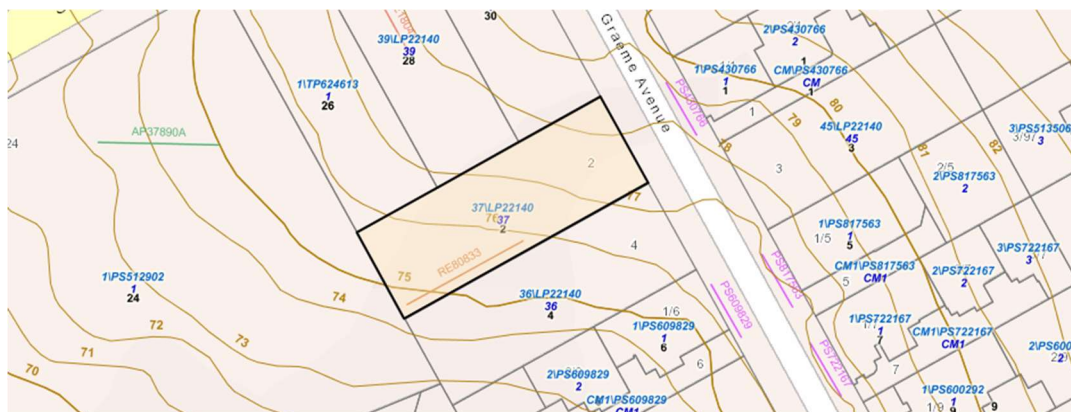
The subject site is located at 2 Graeme Avenue, Montmorency. The Certificate of Title for the land describes it as Lot 37 PS022140.

The Certificate of Title indicates that the land is not burdened by any restrictive instruments.

A 1.83 metre wide drainage and sewerage easement runs along the rear (western) boundary, the beneficiary of this easement is the City of Banyule.

The subject site is rectangular in shape with an area of approximately 948 square metres with a frontage to Graeme Avenue (east) of approximately 18.3 metres.

The subject site is sloping and incorporates a fall of approximately 3.34 metres from northeast to southwest.



Cadastral overview (source: LASSI)

The subject site currently comprises a temporary building. It is otherwise vacant and contains no vegetation. Vehicle access to the subject site is provided by a crossover to Graeme Avenue. A large street tree is located adjacent to the subject site on Graeme Avenue.



View of subject site from Graeme Avenue, Montmorency (source: Google Street View, dated July 2023)

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Aerial overview of subject site (source: Nearmap, dated 15 May 2024)



View of subject site looking towards 4 Graeme Avenue, Montmorency

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## 2.2. Surrounding Area

The subject site is located at the south-eastern edge of an existing light industrial/commercial area featuring warehouse style buildings comprising recreational uses, retail premises, mechanics, industry and self-storage among other things.

The subject site is nearby a residential area to the south and east which comprises single and double storey dwellings and some multi-dwelling developments. The subject site has the following abutments:

**30 Sherbourne Road** abuts the subject site to the north. It contains a single storey brick building which is used for a restricted retail premises (fishing equipment sales). Vehicle access is via Graeme Ave with an unsurfaced car parking area located at the rear of the building.

**28 Sherbourne Road** abuts the subject site to the north. It contains a single storey building used for motor repairs. A number of structures are built adjacent to the common boundary with the subject site setback approximately 2.2 metres from the boundary.

**26 Sherbourne Road** abuts the subject site to the north. It contains a double storey rendered building used as a restricted retail premises selling automotive parts and accessories. A single storey building is built adjacent to the common boundary with the subject site, setback 1.8 metres from the boundary.

**24 Sherbourne Road** adjoins the subject site to the west. It comprises a self-storage facility consisting of three commercial buildings. The easternmost building is built to the length of the common boundary with the subject site.



View of 26 (Right), 28 (Middle) and 30 (Left) Sherbourne Road (source: Google Street View, dated October 2022)

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View of 24 Sherbourne Road (source: Google Street View, dated October 2022)



View of 24 Sherbourne Road (source: Google Street View, dated October 2022)

**4 Graeme Avenue** adjoins the subject site to the south. It contains a warehouse building used for industry (manufacture and assembly of furniture and fittings for domestic and commercial use) with ancillary warehouse and office uses. Car parking is provided in the front setback, accessed via Graeme Avenue.

**1 Graeme Avenue** is located on the eastern side of Graeme Avenue, opposite the subject site. It contains three double storey dwellings with tiled pitched roofs. Vehicle access to these properties is via two single crossovers to Graeme Avenue. This site features a vegetated front yard. A small street tree is located in front of the site.

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View of 4 Graeme Avenue, Montmorency



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View of 1 Graeme Avenue, Montmorency

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### 3. The Proposal

#### The use of the land

It is proposed to use the land for warehouse with ancillary office use.

Clause 74 of the Banyule Planning Scheme defines warehouse as:

*Land used to store or display goods. It may include the storage and distribution of goods for wholesale and the storage and distribution of goods for online retail. It does not include premises allowing in-person retail or display of goods for retail, or allowing persons to collect goods that have been purchased online.*

#### Deliveries

There are approximately 3 deliveries a day of vehicles of varying sizes. These include trucks (8m long) and vans. There are approximately 5-8 truck deliveries a week, in addition waste is collected from a skip bin twice a week.

A loading and unloading area is located inside the main building.

#### Hours of operation

It is proposed that the warehouse and office operate between 6.30am to 5.00pm on weekdays and 8am-1:00pm on Saturdays.

#### Staff

At maximum 6 employees are present on the site at one time.

#### Development

It is proposed to construct a warehouse building with a mezzanine level. The building is setback 13 metres from the street in line with the existing building at 4 Graeme Avenue and has a maximum height of 10.8 metres.

The building comprises a reception/entry area at ground floor level as well as a kitchenette, bathroom facilities, a loading bay and a waste storage area.

A mezzanine level accommodates an ancillary office area as well as space for storage.

Car parking is located within the front setback and provision is made for 7 car parking spaces including an accessible space. The proposal relies upon the site's existing crossover to Graeme Avenue. Bicycle parking facilities are also provided within the front setback.

Landscaping is provided adjacent to Graeme Avenue including two canopy trees and understorey planting.

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## Signage

An area of 4sqm is set aside for business identification signage on the front façade of the building. Pursuant to Clause 34.02-8, the C2Z is in *Category 1 – Commercial Areas – Minimum limitation of Clause 52.05*.

Pursuant to Clause 52.05-11, a permit is not required for business identification signage with a total display area of less than 8sqm.

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## 4. Planning Assessment

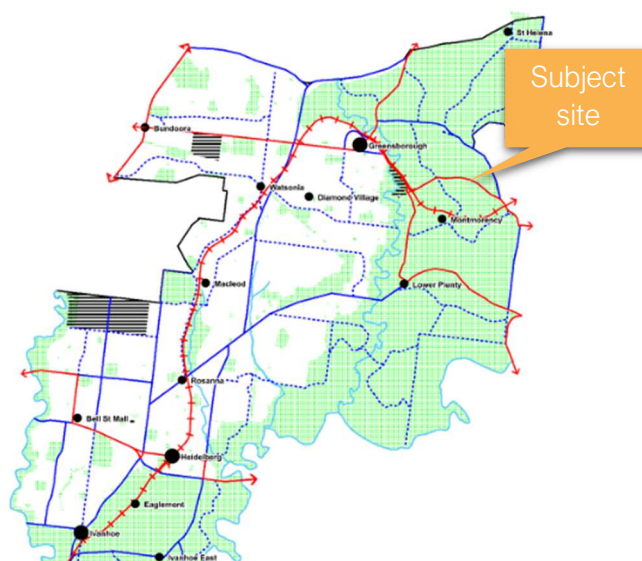
### 4.1. Does the Municipal Planning Strategy and the Planning Policy Framework support the proposed development?

The subject site is located within an established commercial precinct where warehouse and manufacturing uses are both present and encouraged. It is noted that there is minimal local policy guidance for industrial development in the municipality nor is there any specific policy guidance for this particular commercial precinct.

Clause 02.03-6 'Economic Development' identifies Council's strategic directions for industrial development are to:

- *Support a diversity of industrial use and development that maximises employment opportunities.*
- *Restrict industry from detrimentally affecting the amenity and environment of the municipality, particularly the environs of the Plenty River and Darebin Creek.*

Council's Strategic Framework Plan at Clause 02.04 locates the subject site in an area of environmental or landscape significance.



Strategic Framework Plan

Clause 02.03-2 'Environmental and Landscape Values' include the following relevant strategic directions for these areas:

- *Minimise the impacts from development, traffic and pollution that threaten Banyule's unique environmental assets.*

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- *Retain and plant Significant Trees, Substantial Trees and other vegetation to protect and enhance Banyule's landscape character, habitat links and biodiversity, contribute to water-sensitive design, and to manage the urban heat island effect.*

Clause 02.03-4 'Built Environment and Heritage' seeks to encourage development that delivers more environmentally sustainable design and construction.

Clause 15.01-2L-02 'Environmental Sustainable Development' is relevant to this application. For the development of a non-residential building between 100-1000 square metres of gross floor area, a Sustainable Design Assessment is required. One has been prepared and submitted with this application.

The following state policies are relevant to this application:

- Clause 12.05-1S 'Environmentally sensitive areas' seeks to protect and conserve environmentally sensitive areas.
- Clause 12.05-2S 'Landscapes' seeks to protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments.
- Clause 13.05-1S 'Noise Management' seeks to assist the management of noise effects on sensitive land uses.
- Clause 13.07-1S 'Land Use Compatibility' seeks to protect community amenity, human health and safety while facilitating appropriate commercial, industrial, infrastructure or other uses with potential adverse off-site impacts.
- Clause 17.02-1S 'Business' seeks to encourage development that meets the community's needs for retail, entertainment, office and other commercial services.
- Clause 17.03-2S 'Sustainable Industries' seeks to encourage activities with minimal threshold requirements to locate towards the perimeter of the industrial area and to minimise inter-industry conflict and encourage like industries to locate within the same area.

The proposal is acceptable for the following reasons:

- The proposed use is consistent with the purpose of the Commercial 2 Zone. This is discussed in more detail in the following section of this report.
- Clause 74.01 of the Banyule Planning Scheme specifically identifies that the application of the Commercial 2 Zone to *'land....at the eastern end of Sherbourne Road...(is) to allow for appropriate industrial, restricted retail and other commercial uses'*<sup>1</sup>.
- The proposed development does not result in the removal of any significant vegetation. A landscape concept has been included on the development plans which makes provision for the planting of two canopy trees and understorey planting within the front setback which contributes positively to the landscape character of the area.

<sup>1</sup> Schedule to Clause 74.01 Application of Zones, Overlays and Provisions of the Banyule Planning Scheme.



- The existing street tree is retained and will not be affected by the proposed development. Please refer to the arborist report for more information.
- The proposed use will not have detrimental amenity impacts on nearby residential land. This is discussed in more detail in the following section of this report.
- The proposed use is comparable with surrounding uses in the commercial precinct.
- A Sustainable Design Assessment has been prepared and submitted with this application.

## 4.2. Is the proposal acceptable given the zoning of the land?

It is proposed to use the land for warehouse. The specific details of the use are outlined at section 3 of this report.

The subject site is located within the Commercial 2 Zone (C2Z). The purpose of the C2Z includes: to encourage commercial areas for offices, appropriate manufacturing and industries, bulky goods retailing, other retail uses, and associated business and commercial services.

The use of land for warehouse is a Section 1 – permit not required use where the land is not within 30 metres of land which is in a residential zone (among other things). As the subject site is within 30 metres of residentially zoned land, a permit is required to use the land for warehouse.

Pursuant to Clause 34.02-2, a use must not detrimentally affect the amenity of the neighbourhood including through the:

- *Transport of materials, goods or commodities to or from the land.*
- *Appearance of any building, works or materials.*
- *Emission of noise, artificial light, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit or oil.*

In response to these matters we say:

- The effects on neighbouring properties as a consequence of this use and development are considered to be acceptable in the context of the site's commercial location and the discrete nature of the use;
- No manufacturing or industry uses are proposed. The use of the land for a warehouse will not generate any noise emissions.
- Proposed operating hours match times where there is already local activity and are appropriate for a C2Z location. The early closure allows a domestic environment to prevail in the evenings and most of the weekends;
- The subject site does not have a direct abuttal with a residential property. The nearest residential property is located approximately 15.3 metres to the east of the subject site, across Graeme Avenue. The warehouse is setback 13 metres from Graeme Avenue which together with the road separation will absorb the vast majority of emissions from the site, which are very limited;



- All materials and equipment will be stored within the proposed building;
- The use of land for a warehouse will not result in any air, land, dust or water emissions.
- Deliveries to and from the proposed use are relatively limited and accommodated by a loading bay within the building;
- Car parking is located at the front of the site. Vehicles accessing the site can enter and exit via Sherbourne Road meaning that traffic generated by the proposed use can largely avoid residential areas; and
- No external lighting is proposed, and internal lighting will not cause unreasonable light spill.

### 4.3. Does the proposal adequately respond to the DDO8?

The subject site is affected by Schedule 8 to the Design and Development Overlay (DDO8) which applies to 'Plenty River East Neighbourhood Character'. It includes the following design objectives:

- *To ensure that development does not penetrate the tree canopy.*
- *To ensure that the heavily vegetated character of the area is respected by new development.*
- *To ensure that the health of existing trees is not jeopardised by new development.*
- *To maintain the spaciousness and bush character of front gardens.*

A permit is required to construct a building which has a height of more than 8 metres above natural ground level. The proposed building has a maximum height of 10.8 metres above natural ground level and therefore a permit is required.

In considering the purpose and design objectives of the DDO8, the proposed development is acceptable for the following reasons:

- The proposed building will sit below the predominant tree canopy in the area which comprises mainly very established and tall street trees.
- Though the building has a maximum height of 10.8 metres, this reduces to 9.59 at the frontage to Graeme Avenue as a result of the topography of the land.
- It is not proposed to remove any vegetation to facilitate the development of the site. The site is currently completely devoid of vegetation.
- The proposed development incorporates the planting of two canopy trees and understorey planting within the front setback which will contribute to the landscape character of the area.
- No buildings are proposed to be built within the TPZ of the existing street tree. Tree protection measures can be taken during construction to ensure the health of the street tree is maintained.

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- The proposed building is setback 13 metres from Graeme Avenue, in line with the adjacent building at 4 Graeme Avenue. It is well setback from the street and will not dominate the streetscape.

#### **4.4. Does the proposal satisfactorily address other relevant matters for consideration including provision of car parking?**

##### Car Parking

Pursuant to Table 1 to Clause 52.06, the use of the land for a warehouse (in the PPTN) requires 2 car spaces to each premises and 1 car parking space to each 100sqm of net floor area. The warehouse has a net floor area of 810.9 square metres meaning the application has a statutory requirements of 10 car parking spaces. 7 car parking spaces are provided meaning a planning permit is required to reduce the number of car parking spaces by 3 spaces.

The reduction of two car parking spaces is acceptable for the following reasons:

- The subject site is located within the PPTN and has good access to public transport; and
- Unrestricted on-street parking is available along Graeme Street (save for a small period of no-standing between 6-9am); and
- The warehouse comprises an internal loading bay.

##### Bicycle Facilities

Warehouse is not listed in Table 1 to Clause 52.34, meaning there are no requirements for bicycle parking or facilities on the site. Nonetheless, a bicycle hoop has been located within the front setback for visitors and two bicycle hoops have been located within the warehouse for staff.

##### Vegetation Protection Overlay – Schedule 1

The subject site is affected by the VPO1 however, as no vegetation is proposed to be removed as part of this application, a permit is not required pursuant to the VPO1 and the VPO1 is not relevant to the consideration of this application.

##### Trees & Landscaping

An arborist report has been prepared and submitted with this application confirming that the street tree will not be impacted by the proposed development.

Concept planting has been included in the plans and landscape plan can be requested by way of a condition on any planning permit to be issued.

##### Sustainable Design Assessment

A Sustainable Design Assessment has been prepared and submitted with this application. Please refer to this report for further information.

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## Waste Management Plan

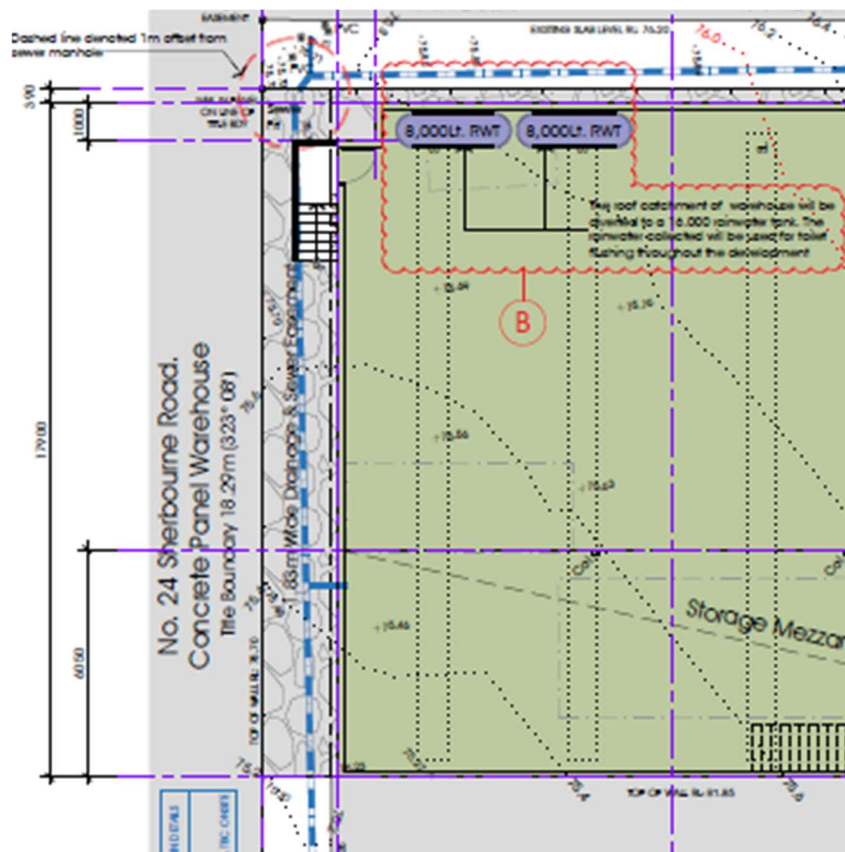
A Waste Management Plan has been prepared and submitted with this application. Please refer to this report for further information.

## Stormwater Management

A stormwater management plan can be requested by way of a condition on any planning permit to be issued.

## Building Over Easement

It is proposed to build an external stairwell at the rear of the building to provide access to the drainage and sewerage easement. These stairs are within the easement. We acknowledge that a Building Over Easement consent will be required for these works prior to construction.



Extract of Development Plans showing stairs within easement (source: Development Plans)

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## 5. Conclusion

Based on the above assessment, it is considered that the proposed use and development at 2 Graeme Avenue, Montmorency represents an acceptable town planning outcome and it appropriate for the following reasons:

- The proposed use is consistent with the purpose of the Commercial 2 Zone which encourages industry, among other things.
- The proposed use and development are consistent with the Municipal Planning Strategy and the Planning Policy Framework of the Banyule Planning Scheme.
- The proposed use will not have unreasonable off-site amenity impacts.
- The proposed reduction in car parking is acceptable considering the context of the subject site.

It follows that a town planning permit should be granted for the proposal.

**Glossop Town Planning**

**November 2024**

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# Waste Management Plan

2 Graeme Avenue,  
Montmorency VIC

02/10/2024



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**Sustainability  
Tech Partners** Pty Ltd



# Waste Management Plan (WMP)

## Proposed Warehouse Development

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#### DOCUMENT VERSION

Version	Date	Changelog	Author	Review
0	26/09/24	Issued for Client Review	JC	DG
1	02/10/24	Updated as per client's comments		

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## 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 the development and the adjacent built environment. An effective waste management system is hygienic, clean and tidy, minimises waste going to landfills, and maximises recycling
- Provide a waste management system that is supported by scaled drawings to ensure the final design and construction are compliant with the WMP and are 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

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## INTRODUCTION

Frater Consulting Services has been engaged to undertake a Waste Management Plan for the proposed warehouse/office development located at 2 Graeme Avenue, Montmorency.

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

## SITE DESCRIPTION

The proposed site is located at 2 Graeme Avenue, Montmorency. The 947.8m<sup>2</sup> site is currently vacant for development construction and is approximately 26 km northeast of the Melbourne CBD.

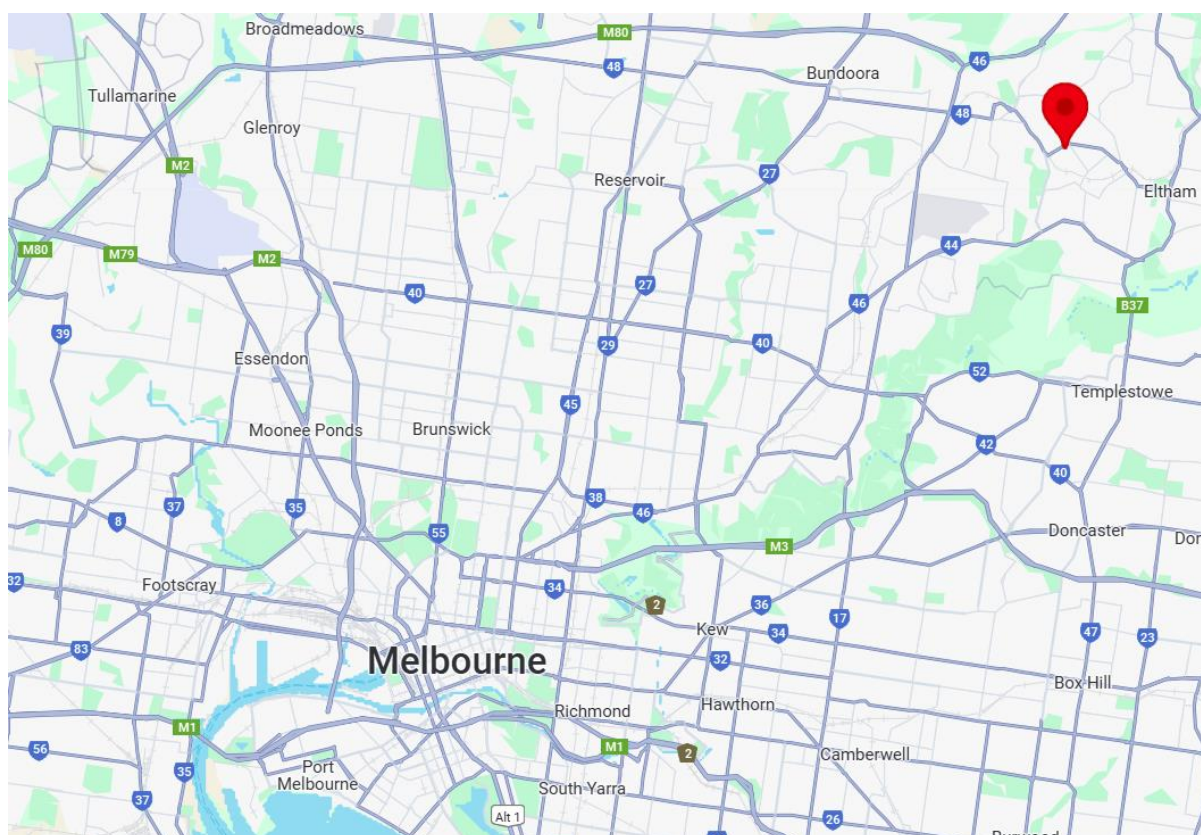


Figure 1: Location of the proposed development in Montmorency in relation to Melbourne CBD  
(Source: Google Maps)

## PROPOSED DEVELOPMENT

The proposal involves developing the site into a two-story unit comprising office and warehouse areas, covering approximately 947.8m<sup>2</sup>. It will include provisions for a carpark, driveway access to Graeme Avenue, and other necessary amenities.

**This WMP will allow for future revision of the Plan if necessary.**

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## TYPES OF WASTE GENERATED

The following types of waste are the most commonly generated within the warehouse 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 per 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

Below is the waste generation estimates for the development, based on Melbourne City generation rates, in accordance with the Sustainability Victoria guidelines.

Space type	Rubbish Generation	Comingled Recyclables	FOGO Waste*
Warehouse (Office)	10 L per 100m <sup>2</sup> per day	10 L per 100m <sup>2</sup> per day	N/A

The warehouse/office has been assumed to be running seven days per week.

### FOGO Waste

\*The office/warehouse will not generate enough organic waste to provide a separate collection for this stream. There is no separate waste generation for food waste provided by Sustainability Victoria.

### Separate Glass Waste

The warehouse/office will not generate enough glass waste to provide a separate collection for the stream, and Sustainability Victoria does not provide a separate waste generation for glass.

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Based on the proposed warehouse/office of 858.9 m<sup>2</sup>, the total waste generated by the development is, therefore:

Total Development	Rubbish Generation	Comingled Recyclables
Warehouse/Office	602 L/week	602 L/week
Proposed Bin Type	660 L	660 L
Number of Bins	1	1
Collection Frequency	Once per week (Private collection)	Once per week (Private collection)





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## 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
	660L	Green body with a red lid	General Rubbish	The average dimensions are: Height 1.2m, Width 1.26m, Depth 0.78m Total floor area required: 0.98m <sup>2</sup> /bin
	660L	Green body with a yellow lid	Recyclables	The average dimensions are: Height 1.2m, Width 1.26m, Depth 0.78m Total floor area required: 0.98m <sup>2</sup> /bin

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

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## SIGNAGE

Signage is required at communal bin storage areas to encourage correct recycling and reduce waste going to landfills. Appropriate signage will be made available by the private contractor 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 on Sustainability Victoria's website:

<http://www.sustainability.vic.gov.au>.

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## WASTE STORAGE

1 x 660L bin for general rubbish and 1 x 660L bin for recycling will be provided for the new development by the private contractor.

Both bin types will be stored in a dedicated waste space in the warehouse. This will make it easy for the staff to store bins. Space will also be allocated for hard waste.

The cleaner/building manager will be responsible for emptying the office bins into the central storage area.

The dedicated storage areas will be naturally ventilated to prevent odours from pervading the warehouse and storage enclosures. The building manager/cleaner will ensure that the bin storage area remains clean to avoid the attraction of vermin. The bin storage area will be screened to protect visual amenities.

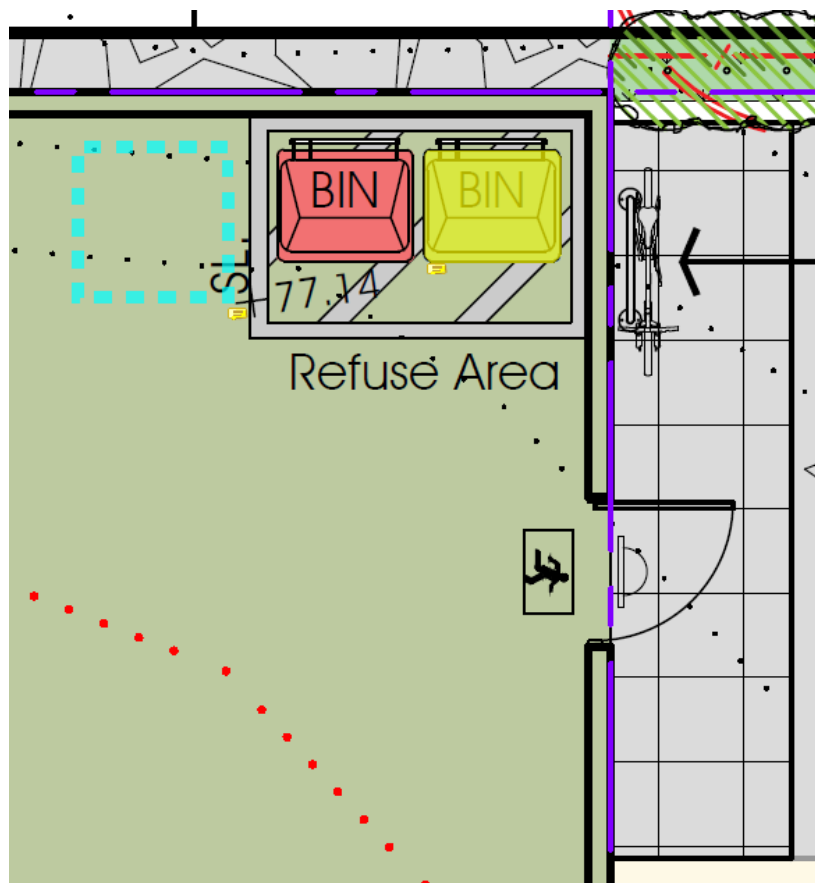


Figure 3: Example of bin storage area within the warehouse  
General Rubbish (Red), Recyclable (Yellow) and Hard Waste Provision (Dashed light blue line)

Access to a hose for the bin wash-down will be provided in the refuse area. Drainage outlets in the storage area should be connected to the sewer and fitted with a litter trap/filter to trap litter, which can then be disposed of responsibly. The trap/filter must be included on a regular and sanitising schedule and must be emptied regularly.

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## WASTE COLLECTION & DISPOSAL

Private collection is proposed for the development, as it will occur from within the site. The private collection will be provided at the expense of the landowner.

The collection will be made directly from the car park. The private waste contractor will enter the site in a forward direction, park on the driveway, roll out the 660L bins to the truck, and put the bins back in the refuse area once empty. The truck will then manoeuvre within the site to exit the site in a forward direction (A carpark spot should be available for truck turning if required). The building manager/ cleaner/ staff will, therefore, need to ensure that the private contractors have access to the bin store on collection day. The collection will require two trucks, one for general rubbish and recyclables.

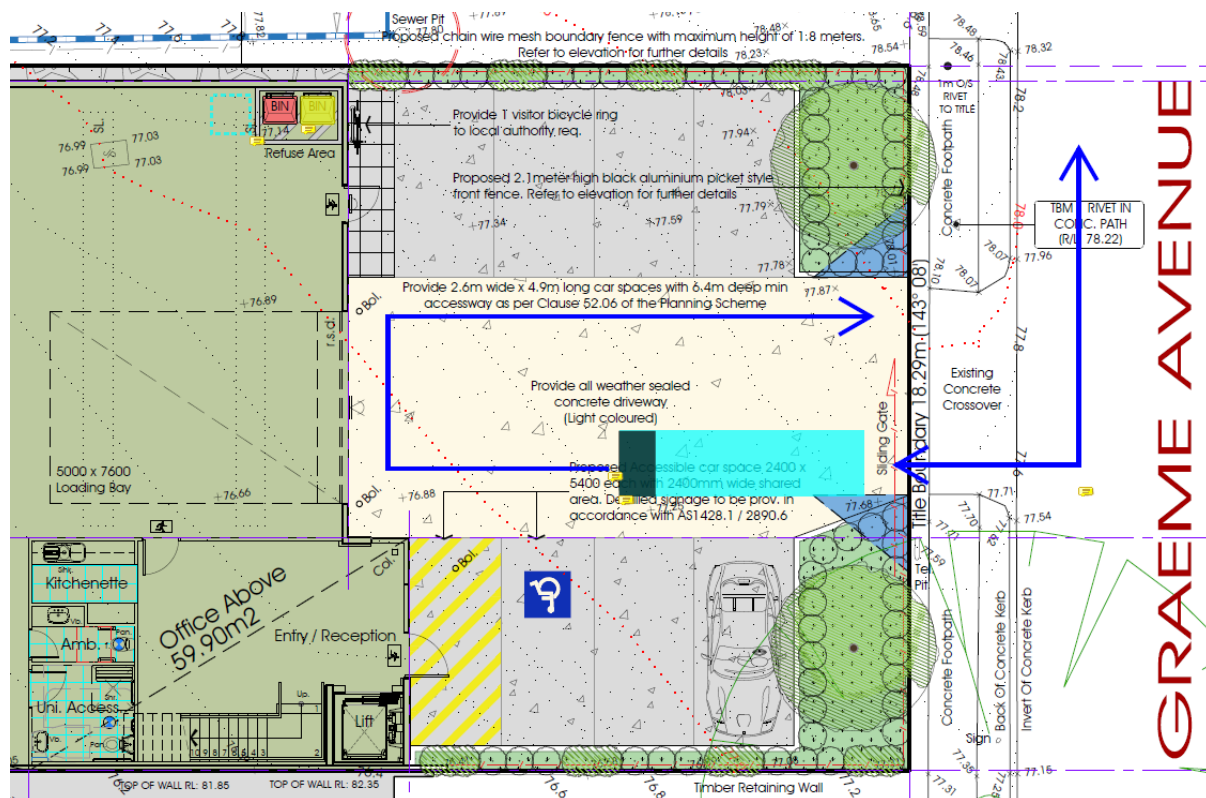


Figure 4: Example of the truck route within the site

As collection of the bins is to be made within the carpark, it is proposed that a Waste Wise Mini Rear Loader or similar vehicle is used for the collection. The Waste Wise Mini Rear Loader is approximately 2.08m high, 6.35m long and 1.7m wide. The mini rear loader can typically empty 660 bins with height clearance between 2.3m and 2.5m (depending on the provider).

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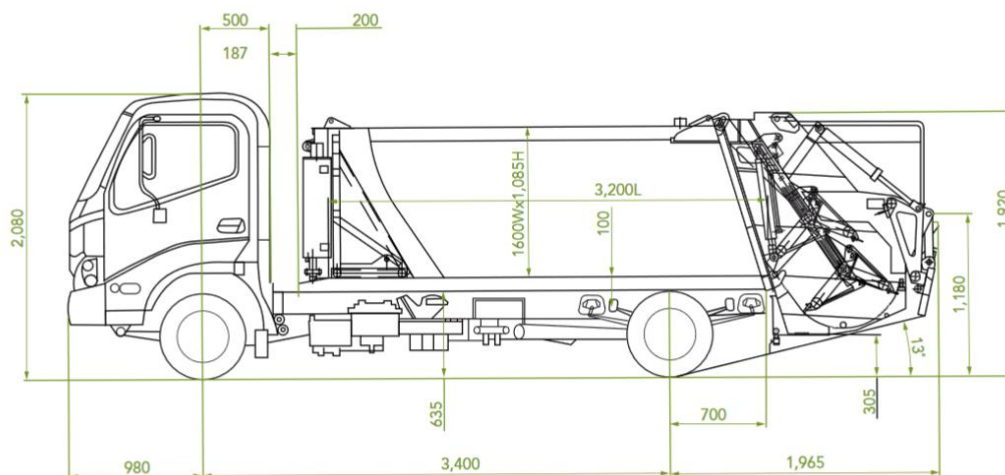


Figure 5: Dimensions of the "Waste Wise Mini Rear Loader" truck  
(Source: Waste Wise Environmental Australia)

The collection will occur outside of peak traffic hours to comply with EPA and the City of Banyule requirements and minimise any traffic disturbance for staff or visitors entering or exiting the site.



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## OTHER WASTE TYPES

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

E-waste has been banned from landfills since 1 July 2019. Occupants will be required to dispose of their E-waste at their nearest drop-off point. The nearest e-waste recycling drop-off point can be found on Planet Ark's *Recycling Near You* at <https://recyclingnearyou.com.au/electrical>.

### Other 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 offcuts 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.

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## PREVENTATIVE MEASURES

### Disposal Procedures

Building manager/cleaners/staff 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

At a minimum, building manager/cleaners/staff will be required to keep the bins neatly placed in their garages. To further reduce the risk of litter, occupants will be asked to ensure bins are not overfilled and to keep the lids closed. The above measures will minimise the dispersion of site litter and the risk of vermin. The building manager/cleaners/staff 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.

## SUMMARY

Correct implementation and occupant induction to the WMP will ensure all waste streams are correctly disposed of and sorted into their proper bins. Proper bin management will ensure that all waste is stored and 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.

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# Sustainability Management Plan

2 Graeme Avenue,  
Montmorency VIC

11/11/2024



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# Sustainability Management Plan (SMP)

## Proposed Warehouse/Office Development

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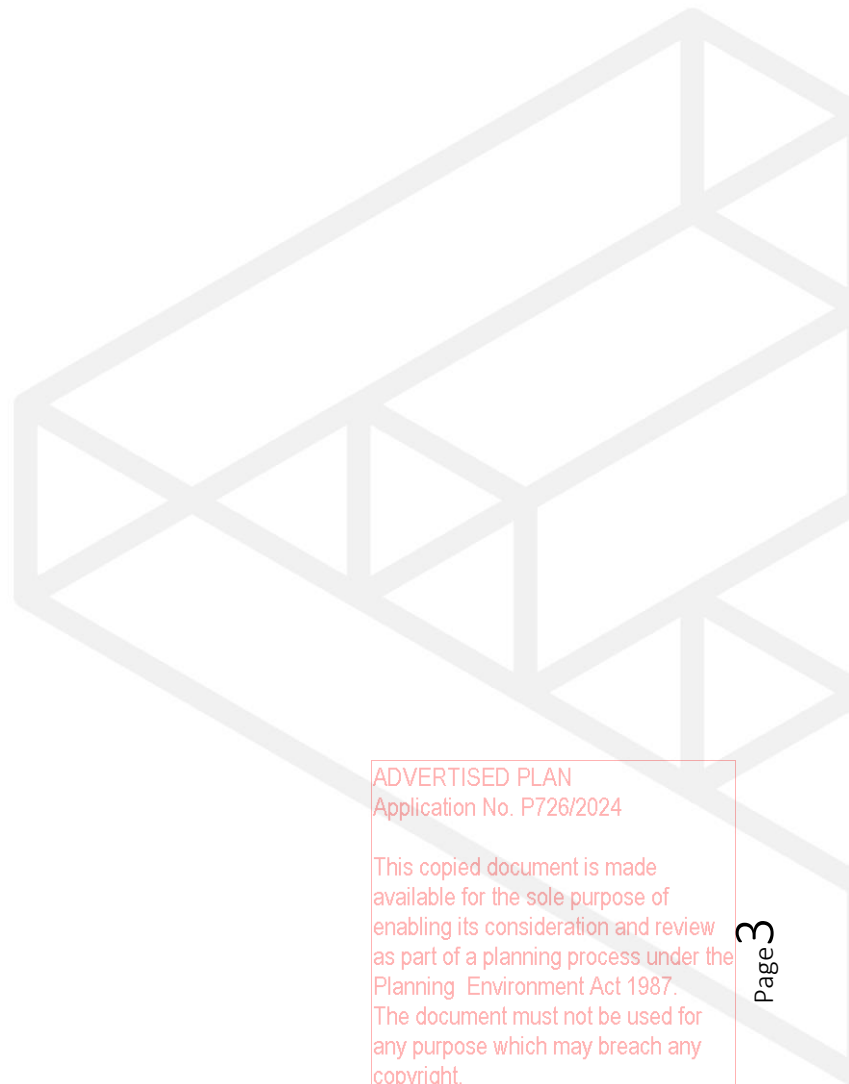
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## DOCUMENT VERSION

Version	Date	Changelog	Author	Review
0	26/09/24	Issued for Client Review	JC	DG
1	02/10/24	Updated as per client's comments	JC	-
2	25/10/24	Updated as per client's comments	JC	-
3	04/11/24	Updated as per client's comments	JC	-
4	11/11/24	Updated as per client's comments	JC	-



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## INITIATIVES TO BE MARKED ON DRAWINGS

### **Water & Stormwater Management**

Mark-up showing the 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 the Rainwater tank proposed

Note showing connection to the toilets.

Location of the proposed Enviss Pits treating the driveway

Mark-up showing the 201.7m<sup>2</sup> of driveway to divert to the proposed Enviss® Pits

Note showing the use of native or drought-tolerant species for landscaped areas. Watering will not be required after the initial period when plants are 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<sup>2</sup>) of the development meets the requirements in NCC 2022

Lighting sensors for external lighting (motion detectors, timers etc.)

2kW Solar PV system on the roof of the development

All-Electric development

### **Indoor Environment Quality**

Translucent roof sheet with minimum 50% VLT in the warehouse (10% of roof area)

Note showing commitment to Outside Air Fan in the offices/all the regular use spaces providing O/A rates 50% above minimum from AS1668

Glazing to improve daylight performance by maximising VLT to achieve a minimum of 40%

### **Transport**

Bike space location for employees in the warehouse (2 for the development)

### **Urban Ecology**

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

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## INTRODUCTION

Frater Consulting Services has been engaged to undertake a Sustainability Management Plan for the proposed warehouse/office development located at 2 Graeme Avenue, Montmorency. This has been prepared to address the Banyule City Council's sustainability requirements, especially Clause 15.01-2L-02 Environmentally Sustainable Development of the local planning policy.

Within Clause 15.01-2L-02, Banyule 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 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 1% and 100% score. A minimum score of 50% is required for the energy, water, stormwater and IEQ areas. An overall score of 50% represents 'Best Practice' while over 70% represents 'Excellence'. The result of the BESS assessment is included in Appendix H.

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



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## SITE DESCRIPTION

The proposed site is located at 2 Graeme Avenue, Montmorency. The 947.8m<sup>2</sup> site is currently vacant for development construction and is approximately 26 km northeast of the Melbourne CBD.

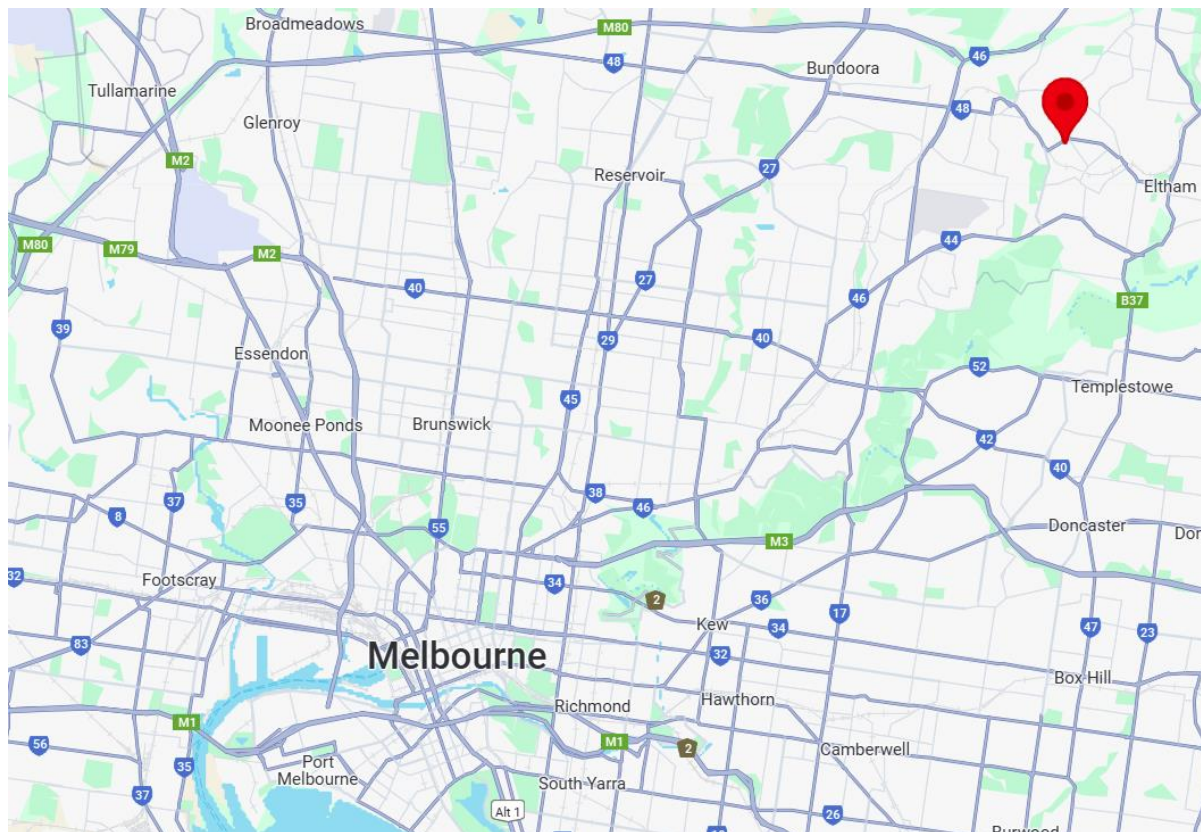


Figure 1: Location of the proposed warehouse/office in Montmorency with relation to Melbourne CBD  
(Source: Google Maps)

## PROPOSED DEVELOPMENT

The proposal involves developing the site into a two-story unit comprising office and warehouse areas, covering approximately 947.8m<sup>2</sup>. It will include provisions of a carpark, driveway access to Graeme Avenue, and other necessary amenities.

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## 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 – Preliminary Façade Calculator is included in Appendix G;
- 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 the 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 the most efficient equivalent capacity unit available if no star rating is available.

During the building construction stage of the project, energy modelling will occur using an NCC JV3 modelling process to exceed the requirement of NCC 2022. This will be achieved using high-performance building fabric and glazing, low-energy lighting, and building services.

**Please note that a preliminary JV3 assessment cannot be provided as the required information to prepare it (sections, elevations, RCPs, etc.) is unavailable. This requirement should be conditioned in the planning permit 'prior to construction'. As soon as working drawings are available and before the commencement of construction, a JV3 modelling report will be prepared, showing that the NCC 2022 compliance requirements have been exceeded. Solar panels and other commitments in this report will help achieve this commitment.**

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## **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**

An efficient electric heat pump hot water system will be provided for development.

## **All-Electric Development**

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

## **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 Sensors**

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

## **Solar PV System**

A 2kW solar photovoltaic for renewable energy generation will be installed on the roof of the development. This will offset 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 F.

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## WATER EFFICIENCY & STORMWATER MANAGEMENT

Water saving, use, and reuse, as well as 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 aim 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;
- Showerhead, if provided – 4 Star with aeration device (6.0-7.5L/min); and,
- Dishwasher if provided – 5 Star.

### Rainwater Collection & Use

Rainwater runoff from the part of the roof area will be collected and stored in rainwater tanks<sup>1</sup> with a total effective capacity of 16,000L 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 acknowledge this solution explicitly 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 – Stormwater Filtering Pits

The entire driveway/carpark area will be designed to be diverted to at least four (4) Envis<sup>®</sup> Sentinel pits. This will treat the stormwater runoff from this area by filtering coarse and fine pollutants before releasing the outflows to the legal point of discharge on site.

The owner's corporation will be responsible for the annual maintenance and the replacement of media cartridges as per the manufacturer's requirement.

### 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.

<sup>1</sup> Please note that any stormwater detention volume requirement for the site will be in addition to the proposed rainwater retention and that the proposed tank will not be directly topped up by mains water.

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## **Water Efficient Landscaping**

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



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## INDOOR ENVIRONMENT QUALITY

Indoor Environment Quality (IEQ) and its key elements should be integrated into the design of the proposed development. These elements play a significant role in the health, well-being, 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 devices.

### Volatile Organic Compounds

All paints, adhesives, sealants, and flooring will have low VOC content. Alternatively, products with no VOCs will be selected. 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 and be certified as E0 or better. Alternatively, products will be specified with no Formaldehyde. Products such as ecological panels – 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

The use of light internal colours will enhance daylight inputs through windows/openings in the office spaces, allowing better internal reflection of daylight. The offices will have large glazing to allow for good daylight penetration. The offices will achieve good daylight amenities (beyond compliance with the SDAPP guidelines).

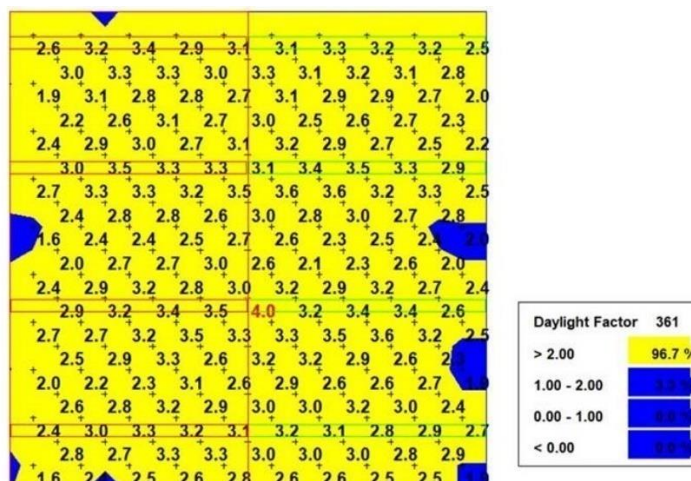
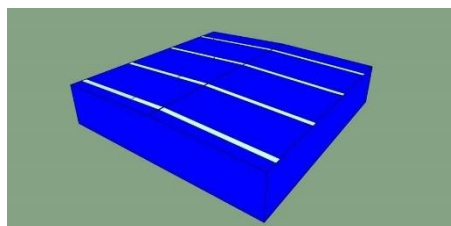
Please refer to Appendix C for daylight Hand Calculation, which shows compliance with best practice requirements in the office area.

People will not remain or work for extended periods of time within the warehouse areas. The warehouse areas are considered secondary space. There are no minimum daylight access requirements in these areas; however, large roller doors are implemented in the warehouses, and translucent roof sheeting strips (skylights) are designed to allow daylight into the warehouse spaces. This will reduce the reliance on artificial lighting and will improve indoor environment quality. **A minimum of 10% of the roof area above the warehouse will be translucent roof sheet with a minimum of 50% VLT.**

A typical daylight modelling exercise for warehouse has been prepared for an example warehouse with similar height, 10% translucent roof sheet with 50% VLT and typically accepted reflectance were input for surfaces (0.4 for external walls, 0.3 for floors and 0.7 for inside of the roof).

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96.7% of the floor area achieves the requirement in the typical assessment above, and it is assumed that a 95% minimum will be achieved in a proposed warehouse in the development with a minimum of 10% of the **roof area to be translucent roof sheet with 50% VLT**. This was input in BESS.

## Mechanical Ventilation – Improved Outside Air Rates

### Office

All office spaces will be provided with O/A fans, which will give a 50% increase on O/A provision from AS1668.

### Warehouse

The warehouse will be naturally ventilated via the proposed large roller doors.

## Acoustic Insulation

The development will be designed to meet the NCC requirement for acoustic insulation to minimise noise levels and noise transfer within and between buildings.

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## 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 development 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 of 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 within the warehouse. 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.

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## TRANSPORT

### **Bicycle Parking**

A minimum of two bike parking spaces will be provided for the development for employees.

## 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.

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## Steel

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



## 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 for ourselves. We can improve our urban ecosystem by incorporating 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.

<sup>2</sup> A Responsible Steel Maker must have facilities with a currently valid and certified ISO 14001 Environmental Management System (EMS) in place, and be a member of the World Steel Association's (WSA) Climate Action Program (CAP).

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## IMPLEMENTATION & MONITORING

The proposed development will meet the best practice requirement of the City of Banyule 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

### Implementation Schedule

ASPECT	REQUIREMENT	RESPONSIBILITY
Energy Efficiency	Prior to construction, JV3 modelling report showing that the development had achieved the required compliance from the NCC 2022	ESD Consultant, Architect
Air-Conditioning Systems	HVAC system within one star of the best available product in the range at the time of purchase or COP/EER 85% or better than the most efficient equivalent capacity unit available if no star rating is available	Services Engineer, Builder
Hot Water Heating	An efficient electric heat pump hot water system will be provided for development.	Services Engineer, Builder
Lighting	Lighting levels requirement from the NCC 2022 must be met.	Services Engineer, Builder
Motion/Time Switch Controls	Common area lighting (including car park) to be controlled by motion sensors or timers as appropriate	Services Engineer, Builder
PV Panels	Install 2.0kW panels on the roof of the development for renewable electricity generation	Architect, Services Engineer
Rainwater Tank	Specify and install 16,000 Litre rainwater tank with plumbing to all toilets	Services Engineer, Builder
Efficient dishwasher	Specify and install min. 5 star dishwasher if provided	Architect, Builder

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ASPECT	REQUIREMENT	RESPONSIBILITY
Efficient Shower	Specify and install min. 4 star toilets	<i>Architect, Builder</i>
Efficient Toilets	Specify and install min. 4 star toilets	<i>Architect, Builder</i>
Efficient Taps	Specify and install min. 5 star taps	<i>Architect, Builder</i>
Landscape Irrigation	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.	<i>Landscape Architect, Builder</i>
Water Efficient Appliances	Base building appliances provided within one WELS star of the best available.	<i>Services Engineer, Builder</i>
Metering /Monitoring	The unit will be separately metered for potable water and energy.	<i>Services Engineer, Builder</i>
Timber	All timber to be FSC or AFS certified	<i>Builder</i>
Flooring	Where possible, flooring to have ecospecifier, green tag or GECA certification	<i>Builder, Architect</i>
Joinery	Where possible, joinery to have ecospecifier, green tag or GECA certification	<i>Builder, Architect</i>
PVC	All PVC products for cables, pipes and flooring will meet the Best Practice Manufacturing Guidelines – The manufacturer's facility will be certified ISO14001.	<i>Builder, Architect</i>
Steel	Wherever possible, steel for the development will be sourced from a Responsible Steel Maker <sup>3</sup> . Reinforcing steel for the project will be manufactured using energy reducing processes commonly used by large manufacturers such as Bluescope or OneSteel.	<i>Builder, Architect</i>
Low VOC Materials	Specify and use low VOC paints, sealants and adhesives	<i>Architect, Builder</i>

<sup>3</sup> A Responsible Steel Maker must have facilities with a currently valid and certified ISO 14001 Environmental Management System (EMS) in place, and be a member of the World Steel Association's (WSA) Climate Action Program (CAP).



ASPECT	REQUIREMENT	RESPONSIBILITY
Low Formaldehyde Materials	Specify and use low or no formaldehyde materials	Architect, Builder
Waste Storage	Bins and hard waste area to be provide as per WMP	Architect, Builder
Bike Storage	2 bicycle parking spaces are to be installed	Architect, Builder
EV Charging Infrastructure	Minimum one Electric vehicle charging infrastructure provision (Level 2 – 32amp)	Architect, Builder
Construction Waste	Prepare a construction waste management plan to maximise the recycling of construction waste. Min. 80%	Builder

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## 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 947.8m<sup>2</sup>;
- The entire roof area runoff of 639.3m<sup>2</sup> which will be diverted into rainwater tank(s);
- The entire driveway/carpark of 201.7m<sup>2</sup> will be diverted into Envis pits
- Permeable area of 96.8m<sup>2</sup> comprised of landscaped area; and
- Remainder of impervious areas of 10.0m<sup>2</sup> comprised of the other impervious areas around the site.

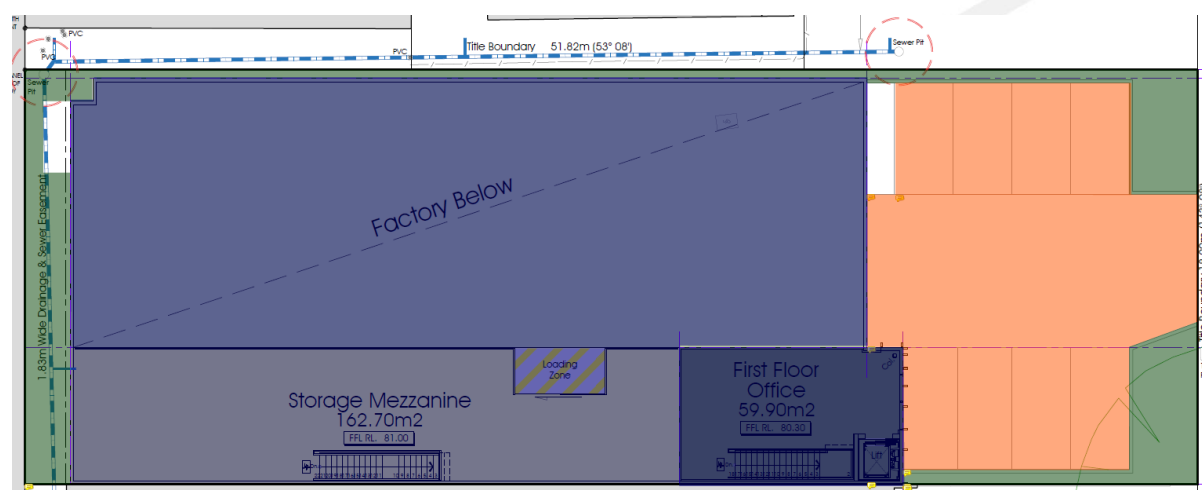


Figure 2: Entire roof catchment area is to be diverted into RWTs (light and dark blue), permeable areas (Green), driveway diverted (orange) into Envis pits and impervious areas (Uncoloured-driveway and exterior stairs)

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## **Stormwater initiatives**

### **Rainwater Tank**

#### ***(Rainwater tank for toilet flushing)***

The roof catchment area of 639.3m<sup>2</sup> (as described above) will be diverted to rainwater tank(s) with a total effective capacity of 16,000L for the development. 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 run underneath the slab, and the stakeholders (builder/developer/architect) will be required to acknowledge this solution explicitly and have the capacity to install it.**

### **Enviss® Sentinel Pits**

A minimum of 201.7m<sup>2</sup> of driveway runoff will be diverted towards a minimum of four Enviss® sentinel pits before being released at the legal point of discharge. This will reduce coarse and fine sediment levels. More information about the Enviss® Pits is provided in Appendix E.

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.**

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## Stormwater Results

The initiatives and areas described above have been applied to the STORM calculator, and the proposed development has achieved a score of 100%.



## STORM Rating Report

TransactionID: 0  
Municipality: BANYULE  
Rainfall Station: BANYULE  
Address: fdhgdfgh

Assessor: VIC  
Development Type: Industrial  
Allotment Site (m2): 947.80  
STORM Rating %: 100

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof to RWT	639.30	Rainwater Tank	16,000.00	7	91.60	100.00
Driveway to Envis	201.70	Raingarden 300mm	4.00	0	130.00	0.00
Other impervious Areas	10.00	None	0.00	0	0.00	0.00

It should be noted that the entire development is connected to the rainwater tank. 7 occupants have been chosen for the combined warehouse/office occupancy due to the 7 car spaces noted on the plans.

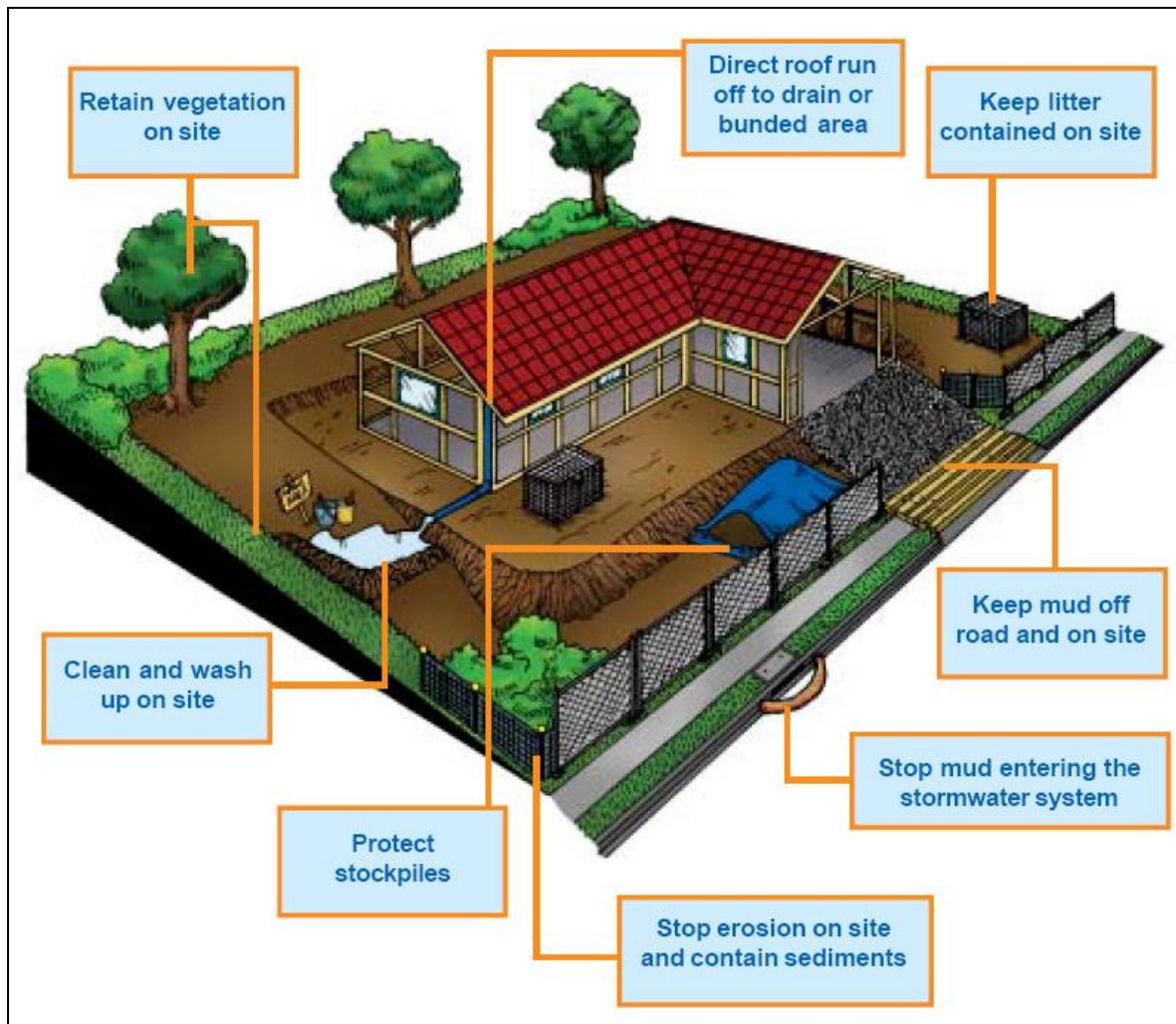
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## Stormwater Management at Construction Site

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>

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## 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.

#### Enviss® Sentinel Pits

The Enviss® Sentinel pits will be installed on-site to collect stormwater runoff from at least 201.7m<sup>2</sup> of the driveway.

Each pit shall be installed in strict accordance with the site plans and Rocla's site-specific general arrangement drawings. Enviss® Pits are pre-packaged and are installed similarly to a standard precast stormwater pit.

The installing contractor is responsible for using the correct lifting equipment and ensuring the Permapave grate does not become exposed or filled with deleterious materials. All pits should be set on a stable granular or compacted gravel sub-base in accordance with the project specifications for trafficable stormwater pits.

### 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.

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## Enviss® Sentinel Pits

Regular monitoring is required to be undertaken within the first two year maintenance period to ensure that the sediment trap does not block due to periods of above average sediment load (after period of heavy rainfall or 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 be taken 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 according to the chosen manufacturer's specifications. All strainers and filters should be cleaned every 6 months. A good-quality pump should provide trouble-free service for up to 10 years.

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## Enviss® Sentinel Pits

Each Enviss® Sentinel Pits consists of three layer of filter technology:

- Filtration grating;
- One sediment trap; and
- Two filter media bags.

Each layer of the Enviss® pits should be replaced (bags) or thoroughly cleaned (grating) at least once every two years or where routine inspections show it to be necessary.

The filtration grate can be cleaned by mechanical vacuum or jetting. If jetting is used, the grating must first be removed from the pit and cleaned in an area where runoff from the jetting will not enter the envious pit. Then, using standard pit cover lifting tools and a key where a lockdown is fitted, remove and replace the grating. Vacuum cleaning can be completed while the grate is in place.

The sediment trap bag is removed using the lifting points integrated into it. Access to the sediment trap bag is achieved by removing the grating lid using standard pit cover lifting tools and a key where a lock-down mechanism is fitted. The used sediment trap should be replaced with a clean one, which is available from Rocla® or Enviss®.

Each Sentinel pit contains two media bags. The bags are removed using the lifting points integrated into the bags. To remove the media bags, the grating and the sediment trap need to be removed. The media bags are heavy (approximately 80kg) particularly if they are still wet. Where possible the media bags should be replaced during dry periods to minimise the weight of the bags. The used media bags should be replaced with new ones, and are available from Rocla® or enviss®.

## 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.

## Enviss® Sentinel Pits

Enviss® Sentinel pits are pre-packaged and ready to use when installed on site.

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## 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	<ul style="list-style-type: none"><li>• Check for any damage/compression</li><li>• Mosquitoes infestation</li></ul>
	Every 2 years	<ul style="list-style-type: none"><li>• Sludge Build up – if sludge build up occurs a vacuum tank needs to be called out to site.</li></ul>
Inspect roofs & gutters	Every 6 months	<ul style="list-style-type: none"><li>• Clean out of leaves / debris.</li><li>• Remove any overhanging branches onsite.</li></ul>

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## 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:

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

**w** is the width of the glazing serving the room

**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:

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

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## Site Description

The proposed new development consists of offices. The areas such as stairs and toilets will not be occupied regularly, hence they are not included. The nominated areas for the Hand Calculation are only comprised of the office space which will be regularly occupied.

The desktop/table level has been estimated to be 700mm.

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

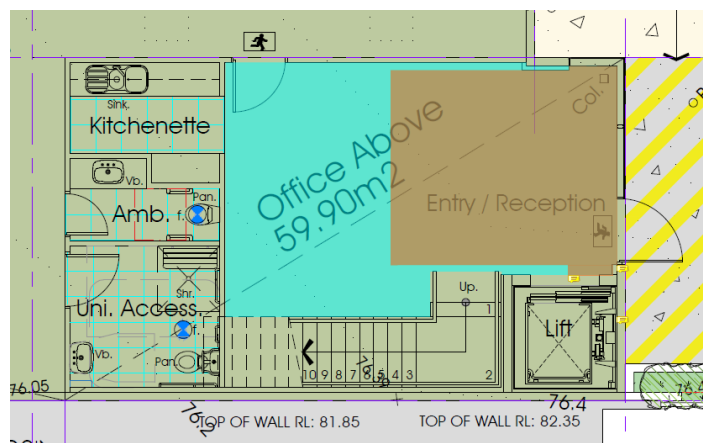


Figure 3: Compliance zone for ground-floor office

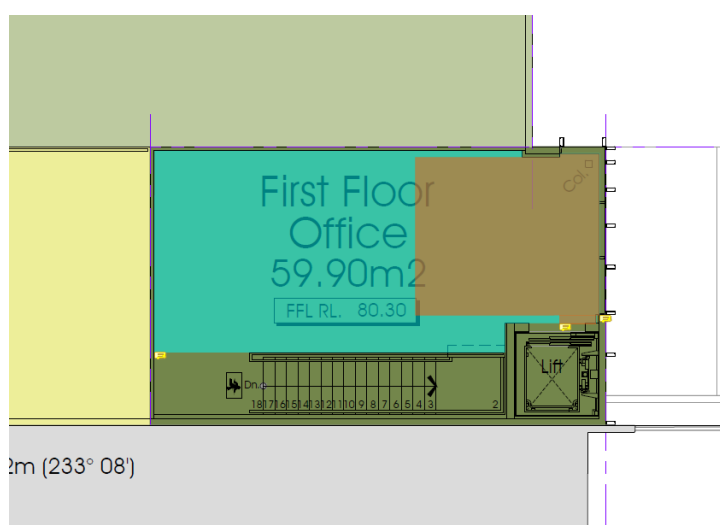


Figure 4: Compliance zone for ground-floor office

	Nominated Areas (m²)	Compliant Areas (m²)	Compliant Areas (%)
GF - Office	28.4	13.9	
FF - Office	40.8	13.9	
<b>TOTAL</b>	<b>69.2</b>	<b>27.9</b>	<b>40%</b>

The green star hand calculation for the proposed office shows that the development will achieve and exceed the SDAPP best practice requirement, with each office achieving over 40% of floor area at a 2% daylight factor.

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## APPENDIX D – VOC & FORMALDEHYDE EMISSION LIMITS

The following table is 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 <sup>2</sup> per hour
ASTM D5116 - 4-PC (4-Phenylcyclohexene)	0.05mg/m <sup>2</sup> per hour
ISO 16000 / EN 13419 - TVOC at three days	0.5 mg/m <sup>2</sup> per hour
ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m <sup>2</sup> per hour

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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	$\leq 1\text{mg/L}$
AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	$\leq 1.5\text{ mg/L}$
AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	$\leq 1\text{mg/L}$
AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	$\leq 1\text{mg/L}$
Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	$\leq 1\text{mg/L}$
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	$\leq 1\text{mg/L}$
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	$\leq 1\text{mg/L}$
JIS A1901 (not applicable to Plywood, applicable to high pressure laminates and compact laminates)	$\leq 0.1\text{ mg/m}^2\text{hr}^*$
ASTM D5116 (applicable to high pressure laminates and compact laminates)	$\leq 0.1\text{ mg/m}^2\text{hr}$
ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	$\leq 0.1\text{ mg/m}^2\text{hr}$ (at 3 days)
ASTM D6007	$\leq 0.12\text{mg/m}^{3**}$
ASTM E1333	$\leq 0.12\text{mg/m}^{3***}$
EN 717-1 (also known as DIN EN 717-1)	$\leq 0.12\text{mg/m}^3$
EN 717-2 (also known as DIN EN 717-2)	$\leq 3.5\text{mg/m}^2\text{hr}$

\*mg/m<sup>2</sup>hr may also be represented as mg/m<sup>2</sup>/hr.

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## APPENDIX E – ENVISS® SENTINEL TECHNICAL INFORMATION



### envissSentinel™ Pits



**envissSentinel™ Pits** are a unique alternative to raingardens and wetlands, to treat stormwater run-off in residential, commercial and industrial areas. Water filtered in the three-stage treatment train can be discharged, reinjected to the aquifer or harvested for re-use.

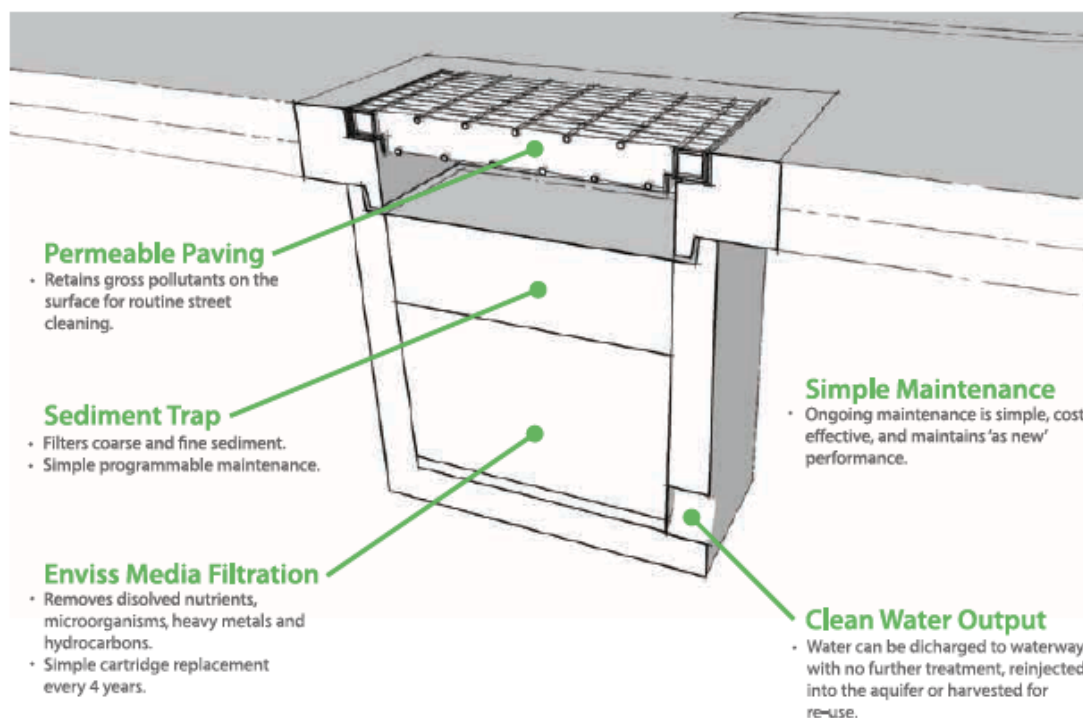
The unique design allows for increased flexibility in implementation and land area savings of 85% compared to alternatives. The pits are delivered complete, ready to install.

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## envissSentinel™ Pits A Distributed Water Treatment Solution



## Advantages

### Verified Performance

- Developed, tested and verified by Monash University's Engineering Department.
- Reliable and predictable performance.
- Meets regulatory run-off requirements.

### 85% Space Saving

- Only 15% of equivalent raingarden or wetland surface area required.
- Trafficable surface allows for even greater land saving in high-density areas.

### Simple Maintenance Cycle

- Sustainable, predictable and low cost maintenance cycle.
- No degradation in long-term performance.

### Flexible, Modular Design

- Engineered to be scalable with low design costs.
- Simple MUSIC integration with EnvissDT modelling software provided.
- Increased design flexibility.

### High Flow Rates And Treatment Performance

- Lowers cost of downstream treatment.
- Can target specific pollutants groups for trouble spots.

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## Removal Rates Exceed Guidelines

Pollutants	Australian Run-off Quality Guidelines	envissSentinel™ Filter Media
Total Suspended Solids	80%	96%
Total Phosphorous	45%*	67%
Total Nitrogen	45%	79%
Aluminium		77%
Cadmium		95%
Chromium		87%
Copper		88%
Iron		85%
Lead		81%
Zinc		94%
Total Poly Aromatic Hydrocarbons		Not Detected
E.coli		N/A

\*(60% in South-East Queensland)

## Typical Maintenance Comparison

	Raingarden	envissSentinel™ Pits
Annual Maintenance	<ul style="list-style-type: none"><li>• Remove sediment build-up</li><li>• Restore surface scouring</li><li>• Replace dead plants</li><li>• Remove weeds</li></ul>	<ul style="list-style-type: none"><li>• Clean grate and sediment trap.</li></ul>
Replacement	<ul style="list-style-type: none"><li>• Divert flows around rain garden</li><li>• Excavate and remove media</li><li>• Clean under drains</li><li>• Replace media</li><li>• Revegetate system</li></ul>	<ul style="list-style-type: none"><li>• Replace media cartridge (after 4 years)</li></ul>

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## Technical Bulletin

April 2015

### envissSentinel™ Equivalency for STORM Calculator Raingardens

Melbourne Water has an on-line design tool - known as STORM Calculator - to assist in assessing the stormwater treatment requirements for small-scale developments within Melbourne.

The calculator uses basic input information about the subject catchment and assesses the relative compliance of the proposed solution in meeting the Melbourne Water 'Best Practice Environmental Management (BPEM) Guidelines – TSS – 80%, TP – 45%, TN – 45%. The output is presented as a rating (%) relative to these standard target figures.

Treatment measures available for selection include rainwater tanks, ponds, wetlands, infiltration, raingardens & buffer strips. Rocla has undertaken a comparative assessment of its envissSentinel™ Media Filter (using MUSIC V6.1) so as to provide a further option for design consultants to achieve desired treatment outcomes.

The following figures show relative equivalencies of the envissSentinel™ Media Filter to the Storm Calculator's raingarden estimate.

#### Raingarden Assumptions:

- Filter surface area is equal to ponding area
- Filter depth is 0.5m
- No soil exfiltration
- Hydraulic conductivity is 200mm/hr

#### Storm Calculator Assumptions:

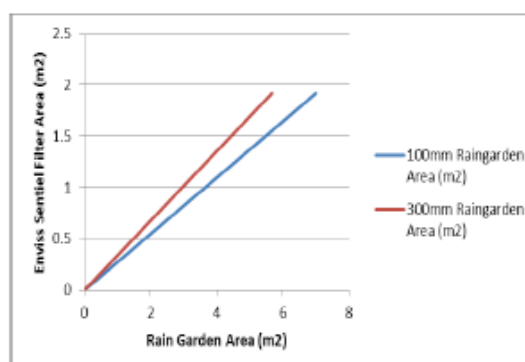
- 100% rating = BPEM Guidelines
- 80% TSS
- 45% TP
- 45%TN

#### General MUSIC V6.1 Assumptions:

MUSIC defaults are used except where replaced by Storm Calculator inputs.

#### envissSentinel™ Assumptions:

- Hydraulic conductivity is 2000mm/hr
- Ponding depth 50mm (flush with surface)



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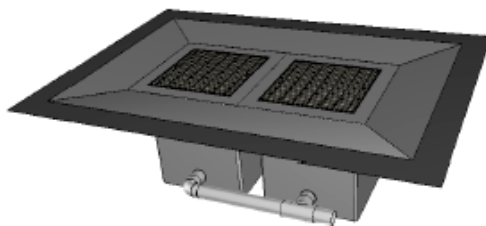


## Technical Bulletin

100mm Raingarden* Area (m <sup>2</sup> )	300mm Raingarden#* Area (m <sup>2</sup> )	EnvissSentinel™ (no. of Pits)
0.70	0.57	1
1.05	0.85	1
1.40	1.13	2
2.10	1.70	2
3.15	2.55	3
4.20	3.40	4
5.25	4.25	4
6.30	5.10	5
7.00	5.67	6

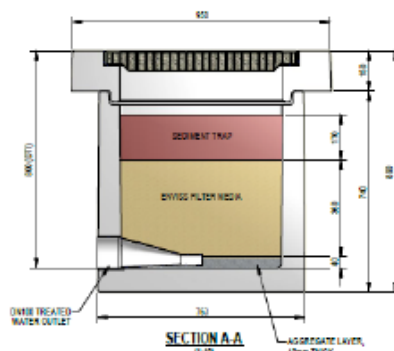
\* Ponding depth above media surface with a projected area equal to the raingarden area.

#\* Needs to be positioned where extra ponding depth does not cause loss of serviceability or safety hazard



Typical Surface Inlet Arrangement

The comparison makes various assumptions about the options modelled (stated above), but key to the comparison is that the envissSentinel™ requires no pre-designated area be set aside for ponding and functional planting with pits placed directly within paved areas, flush with the surface.



envissSentinel™ Media Filter Pit

envissSentinel™ requires only 50mm ponding, which is provided between the permeable paver and the top of the sediment trap

### Page 2 of 2

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## APPENDIX F– SOLAR PV PROVIDER INFORMATION



CALL 1300 223 224  
[solarbatterygroup.com.au](http://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 accredited 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



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CALL 1300 223 224  
[solarbatterygroup.com.au](http://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.

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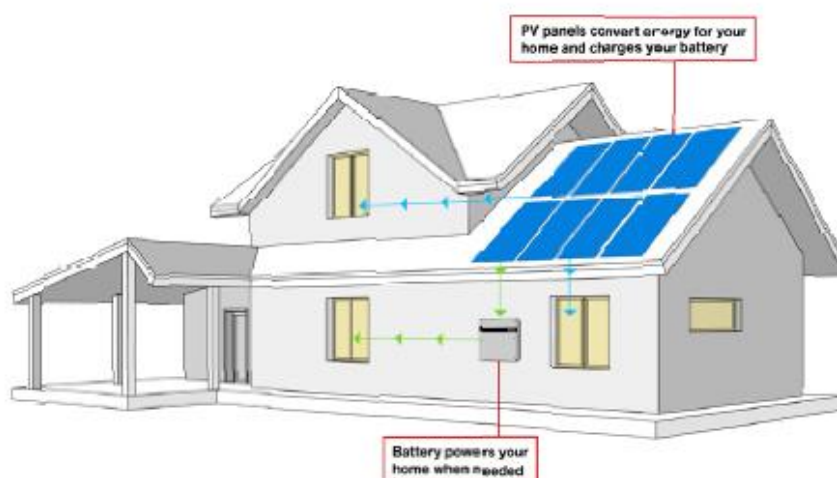
CALL 1300 223 224  
[solarbatterygroup.com.au](http://solarbatterygroup.com.au)

## 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.

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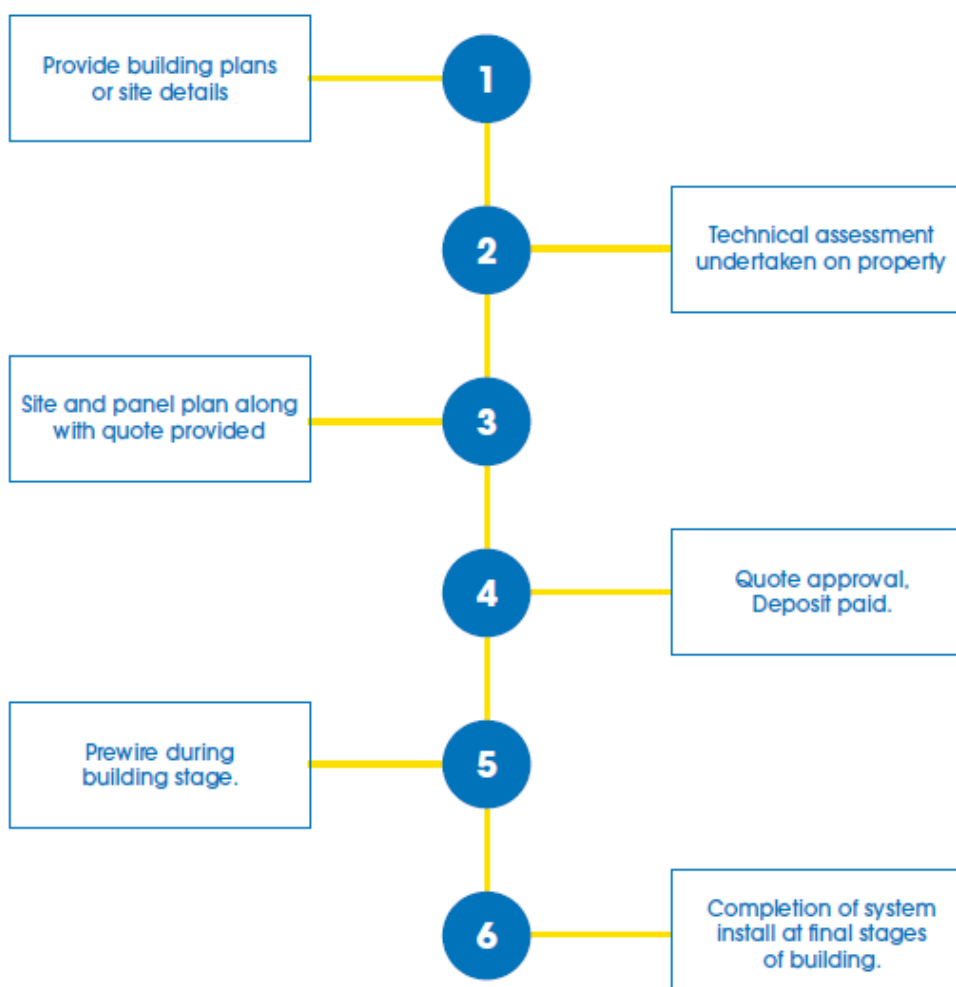
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## Action Plan



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## Our products

### Batteries



AlphaESS  
SMILE G3



Eveready  
Energy Vault



Hive  
Energy Vault



Tesla  
Powerwall



Growatt  
ALP LV



Ambion  
Raybox™ HS2

### PV Panels



Risen  
RSM108-9-415N



Risen  
RSM40-B-390M

### Inverters



Fronius



Growatt



Goodwe




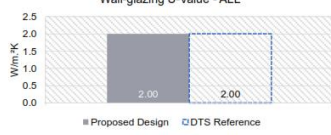
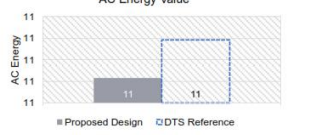


SAJ

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## APPENDIX G – DTS FAÇADE CALCULATOR

 <div> <div>Façade</div> <div>Report</div> </div> <div>   </div>		<div> <div>Project Summary</div> <div>Project Details</div> </div>																														
<div> <div>Date</div> <div>26/09/2024</div> </div> <div> <div>Name</div> <div>Jair Cortes</div> </div> <div> <div>Company</div> <div>Frater Consulting Services</div> </div> <div> <div>Position</div> <div>ESD Consultant</div> </div> <div> <div>Building Name / Address</div> <div>2 Graeme Avenue Montmorency</div> </div> <div> <div>Building State</div> <div>VIC</div> </div> <div> <div>Climate Zone</div> <div>Climate Zone 6 - Mild temperate</div> </div> <div> <div>Building Classification</div> <div>Class 5 - office building</div> </div> <div> <div>Storeys Above Ground</div> <div>2</div> </div> <div> <div>Tool Version</div> <div>1.2 (June 2020)</div> </div>	<div> <div>The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).</div> <div> <div>Compliant Solution =</div> <div>Non-Compliant Solution =</div> </div> </div> <div> <table> <tr> <th></th><th>North</th><th>East</th><th>Method 1</th><th>South</th><th>West</th><th>Method 2</th></tr> <tr> <td>Wall-glazing U-Value (W/m².K)</td><td>2.00</td><td></td><td></td><td></td><td>1.98</td><td>2.00</td></tr> <tr> <td>Solar Admittance</td><td>0.13</td><td></td><td></td><td></td><td>0.13</td><td></td></tr> <tr> <td>AC Energy Value</td><td></td><td></td><td></td><td></td><td></td><td>11</td></tr> </table> <div> <div>Method 1</div> <div> <div>Wall-glazing U-Value</div>  <div> <div>0.130</div> <div>0.128</div> </div> <div> <div>Solar Admittance</div>  </div> </div> <div> <div>Method 2</div> <div> <div>Wall-glazing U-Value - ALL</div>  <div> <div>11</div> <div>11</div> </div> <div> <div>AC Energy Value</div>  </div> </div> </div> </div></div>					North	East	Method 1	South	West	Method 2	Wall-glazing U-Value (W/m².K)	2.00				1.98	2.00	Solar Admittance	0.13				0.13		AC Energy Value						11
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Application No. P729/2024

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## APPENDIX H – BESS ASSESSMENT



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# BESS Report

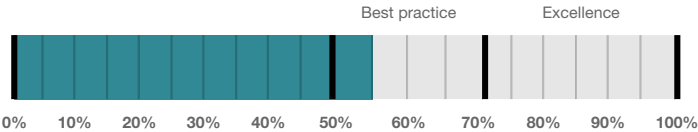
Built Environment Sustainability Scorecard



This BESS report outlines the sustainable design commitments of the proposed development at 2 Graeme Ave Montmorency Victoria 3094. 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 Banyule 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



56%

### Project details

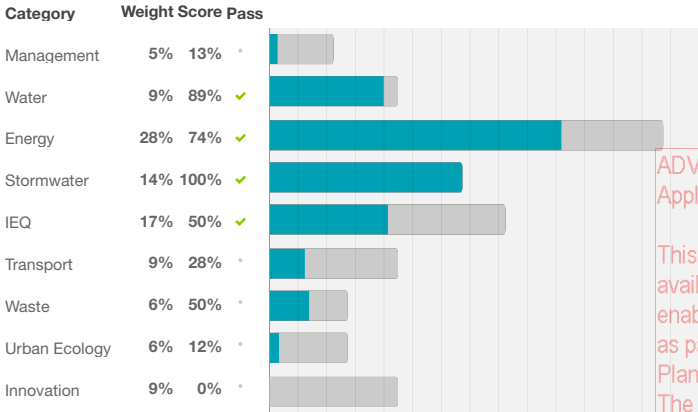
Address 2 Graeme Ave Montmorency Victoria 3094  
Project no BEC65427-R4  
BESS Version BESS-8

Site type Non-residential development  
Account jair@fraterconsultingservices.com.au  
Application no.  
Site area 947.00 m<sup>2</sup>  
Building floor area 858.90 m<sup>2</sup>  
Date 11 November 2024  
Software version 2.0.1-B.570

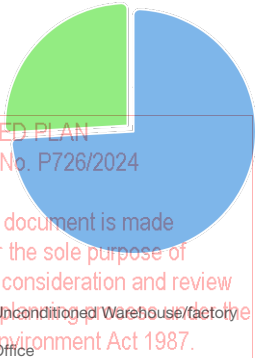


### Performance by category

● Your development ● Maximum available



### Project composition



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Buildings

Name	Height	Footprint	% of total footprint
Warehouse/Office	2	859 m²	100%

Dwellings & Non Res Spaces

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Office				
Office	1	223 m²	Warehouse/Office	25%
Total	1	222 m²	25%	
Unconditioned Warehouse/factory				
Warehouse	1	636 m²	Warehouse/Office	74%
Total	1	636 m²	74%	

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
Management 2.3a	Section J glazing assessment		-
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	ADVERTISED PLAN	-
Energy 4.2	Specifications of the solar photovoltaic system(s)	Application No. P726/2024	-
Stormwater 1.1	STORM report or MUSIC model		-
IEQ 1.4	A short report detailing assumptions used and results achieved.	This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning Environment Act 1987. The document must not be used for any purpose which may breach any copyright.	-





Credit summary





Management Overall contribution 4.5%

		13%
1.1 Pre-Application Meeting		0%
2.3 Thermal Performance Modelling - Non-Residential		50%
3.2 Metering - Non-Residential		N/A  Scoped Out
One tentant		
3.3 Metering - Common Areas		0%
4.1 Building Users Guide		0%

Water Overall contribution 9.0%

	Minimum required 50%	89%  Pass
1.1 Potable Water Use Reduction		87%
3.1 Water Efficient Landscaping		100%
4.1 Building Systems Water Use Reduction		N/A  Scoped Out
No sprinkler syste		

Energy Overall contribution 27.5%

	Minimum required 50%	74%  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
N/A		
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		5%
4.4 Renewable Energy Systems - Other		N/A  Scoped Out
No other (non-solar PV) renewable energy is in use.		

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Stormwater Overall contribution 13.5%

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

IEQ Overall contribution 16.5%

	Minimum required 50%	50%	✓ Pass
1.4 Daylight Access - Non-Residential		80%	✓ Achieved
2.3 Ventilation - Non-Residential		45%	✓ 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%

		50%	
1.1 - Construction Waste - Building Re-Use		N/A	✚ Scoped Out
			The lot is vac
2.1 - Operational Waste - Food & Garden Waste		0%	
2.2 - Operational Waste - Convenience of Recycling		100%	

Urban Ecology Overall contribution 5.5%

		12%	
1.1 Communal Spaces		0%	
2.1 Vegetation		25%	
2.2 Green Roofs		0%	
2.3 Green Walls and Facades		0%	
3.2 Food Production - Non-Residential		0%	

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Innovation Overall contribution 9.0%

	0%
1.1 Innovation	0%

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Credit breakdown

Management Overall contribution 1%

1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 44.2% 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		50%
Score Contribution	This credit contributes 26.4% towards the category score.	
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2022 Section J4D6?	
Question	Criteria Achieved ?	
Office	Yes	
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2022 Section J (Energy Efficiency), NABERS or Green Star?	
Question	Criteria Achieved ?	
Office	No	
3.2 Metering - Non-Residential		N/A ✦ Scoped Out
This credit was scoped out	One tentant	
3.3 Metering - Common Areas		0%
Score Contribution	This credit contributes 14.7% towards the category score.	
Criteria	Have all major common area services been separately submetered?	
Question	Criteria Achieved ?	
Office	No	
Unconditioned Warehouse/factory	No	
4.1 Building Users Guide		0%
Score Contribution	This credit contributes 14.7% towards the category score.	
Criteria	Will a building users guide be produced and issued to occupants?	
Question	Criteria Achieved ?	
Project	No	

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Water

Overall contribution 8%    Minimum required 50%

Water Approach	
What approach do you want to use for Water?:	Use the built in calculation tools
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: All	Scope out
Bath: All	Scope out
Kitchen Taps: All	>= 5 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers:	
Warehouse	Scope out
Office	>= 5 Star WELS rating
WC: All	>= 4 Star WELS rating
Urinals: All	Scope out
Washing Machine Water Efficiency: All	Scope out
Which non-potable water source is the dwelling/space connected to?: All	RWT
Non-potable water source connected to Toilets: All	Yes
Non-potable water source connected to Laundry (washing machine): All	No
Non-potable water source connected to Hot Water System: All	No
Rainwater tank profile	
What is the total roof area connected to the rainwater tank?: RWT	639 m²
Tank Size: RWT	16,000 Litres
Irrigation area connected to tank: RWT	-
Is connected irrigation area a water efficient garden?: RWT	-
Other external water demand connected to tank?: RWT	-

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**1.1 Potable Water Use Reduction**

87%

Score Contribution	This credit contributes 83.3% 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	543 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	397 kL
Output	Proposed (including rainwater and recycled water use)
Project	213 kL
Output	% Reduction in Potable Water Consumption
Project	60 %
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	60 kL

**3.1 Water Efficient Landscaping**

100%

Score Contribution	This credit contributes 16.7% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes

**4.1 Building Systems Water Use Reduction**

N/A

✦ Scoped Out

This credit was scoped out	No sprinkler syste
----------------------------	--------------------

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Energy Overall contribution 20% Minimum required 50%

Use the BESS Deem to Satisfy (DtS) method for Non-residential spaces?:	
Do all exposed floors and ceilings (forming part of the envelope) demonstrate meeting the required NCC2022 insulation levels (total R-value upwards and downwards)?:	
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?:	
Use the BESS Deem to Satisfy (DtS) method for Unconditioned - non-residential spaces?:	
Solar Photovoltaic system profile	
System Size (lesser of inverter and panel capacity):	SPV 2.0 kW peak
Orientation (which way is the system facing)?:	SPV North-East
Inclination (angle from horizontal):	SPV 10.0 Angle (degrees)
Which Building Class does this apply to?:	SPV Unconditioned Warehouse/factory
1.1 Thermal Performance Rating - Non-Residential	
37%	
Score Contribution	This credit contributes 34% 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 9.5% 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 4.3% 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 14.2% towards the category score.
Criteria	Is the development all-electric?
Question	Criteria Achieved?
Project	Yes

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<b>2.7 Energy consumption</b>	100%
Score Contribution	This credit contributes 18% towards the category score.
Criteria	What is the % reduction in annual energy consumption against the benchmark?
<b>3.1 Carpark Ventilation</b>	N/A ✦ Scoped Out
This credit was scoped out	N/A
<b>3.2 Hot Water</b>	100%
Score Contribution	This credit contributes 4.7% towards the category score.
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?
<b>3.7 Internal Lighting - Non-Residential</b>	100%
Score Contribution	This credit contributes 9.5% 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 ?
Office	Yes
Unconditioned Warehouse/factory	Yes
<b>4.1 Combined Heat and Power (cogeneration / trigeneration)</b>	N/A ✦ Scoped Out
This credit was scoped out	No cogeneration or trigeneration system in use.
<b>4.2 Renewable Energy Systems - Solar</b>	5%
Score Contribution	This credit contributes 4.7% 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
Unconditioned Warehouse/factory	2,359 kWh
Output	% of Building's Energy
Unconditioned Warehouse/factory	74 %
<b>4.4 Renewable Energy Systems - Other</b>	N/A ✦ Scoped Out
This credit was scoped out	No other (non-solar PV) renewable energy is in use.

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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	

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IEQ Overall contribution 8% Minimum required 50%

<b>1.4 Daylight Access - Non-Residential</b>		80%	✓ 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?		
Office	40 %		
Unconditioned Warehouse/factory	95 %		
<b>2.3 Ventilation - Non-Residential</b>		45%	✓ 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?		
Office	0 %		
Unconditioned Warehouse/factory	100 %		
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?		
Office	50 %		
Unconditioned Warehouse/factory	-		
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?		
Question	Value		
Office	-		
Unconditioned Warehouse/factory	-		
<b>3.4 Thermal comfort - Shading - Non-Residential</b>		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?		
Office	-		
Unconditioned Warehouse/factory	-		
<b>3.5 Thermal Comfort - Ceiling Fans - Non-Residential</b>		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?		
Office	-		
Unconditioned Warehouse/factory	-		
<b>4.1 Air Quality - Non-Residential</b>		100%	
Score Contribution	This credit contributes 5.9% towards the category score.		

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Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Unconditioned Warehouse/factory	Yes

Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Unconditioned Warehouse/factory	Yes

Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Office	Yes
Unconditioned Warehouse/factory	Yes

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**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 ?
Office	Yes
Unconditioned Warehouse/factory	Yes
Question	Bicycle Spaces Provided ?
Office	1
Unconditioned Warehouse/factory	1

**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 ?
Office	No
Unconditioned Warehouse/factory	No
Question	Bicycle Spaces Provided ?
Office	-
Unconditioned Warehouse/factory	-

**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 ?
Office	-
Unconditioned Warehouse/factory	-
Question	Number of lockers provided ?
Office	-
Unconditioned Warehouse/factory	-
Output	Min Showers Required
Office	1
Unconditioned Warehouse/factory	1
Output	Min Lockers Required
Office	1
Unconditioned Warehouse/factory	1

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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 3%

1.1 - Construction Waste - Building Re-Use		N/A    ✦    Scoped Out
This credit was scoped out	The lot is vac	
2.1 - Operational Waste - Food & Garden Waste		0%
Score Contribution	This credit contributes 50% 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 50% 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	

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**Urban Ecology** Overall contribution 1%

<b>1.1 Communal Spaces</b>	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 : * 1m <sup>2</sup> for each of the first 50 occupants * Additional 0.5m <sup>2</sup> for each occupant between 51 and 250 * Additional 0.25m <sup>2</sup> for each occupant above 251?
Question	Common space provided
Office	-
Unconditioned Warehouse/factory	-
Output	Minimum Common Space Required
Office	17 m <sup>2</sup>
Unconditioned Warehouse/factory	12 m <sup>2</sup>
<b>2.1 Vegetation</b>	25%
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	5 %
<b>2.2 Green Roofs</b>	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
<b>2.3 Green Walls and Facades</b>	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
<b>3.2 Food Production - Non-Residential</b>	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
Office	-
Unconditioned Warehouse/factory	-
Output	Min Food Production Area
Office	5 m <sup>2</sup>
Unconditioned Warehouse/factory	4 m <sup>2</sup>

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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)?

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# GHTrees

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2 Graeme Avenue, Montmorency

## Tree Survey & Development Impact Report.

Planning Application No: P726/2024  
Version 2



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Application No. P726/2024

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# Tree Survey & Development Impact Report

## 2 Graeme Avenue, Montmorency

### Brief

This report is in response to the City of Banyule, Planning Department, Request for Further Information, that requests, in part:

- *The proposal will include works for the carpark close to a large street tree. An arborist report identifying this tree and assessing the likely development impacts is required.*

### Overview

The commercial site is mostly vacant with some small buildings and regular car parking toward the front. The site slopes away from the street frontage and there is no vegetation on site.

This report is concerned with one tree located in the road reserve of 4 Graeme Avenue that may be subject to impact from the development.

### Legal Position

The site is within the local government area of the City of Banyule and is subject the Banyule Planning Scheme, Vegetation Protection Overlay, schedule 1, VPO1 and Design and Development Overlay, schedule 8, DDO8.

VPO1 states, in part;

A permit is required to remove destroy or lop any native vegetation.

This does not apply:

- To the removal, destruction or lopping of native vegetation which has been planted for garden or horticultural purposes and which is less than 5 metres high and has a single trunk circumference of less than 0.5 metres at a height of 1 metre above ground level.
- To the removal, destruction or lopping of vegetation identified as environmental weed species in the *Banyule Weed Management Strategy*.
- To the removal or pruning of street trees in accordance with the *Banyule Street Tree Strategy*.
- To the pruning of vegetation to maintain or improve its health, structure or appearance, including regeneration.
- To the pruning or removal of vegetation to prevent damage to works when damage to a pipeline, electricity or telephone transmission line, cable or other service has occurred or is likely to occur.
- To the removal, destruction or lopping of dead vegetation unless the dead vegetation is a habitat tree containing hollows.
- To the removal, destruction or lopping of vegetation carried out in accordance with a management plan prepared to the satisfaction of the responsible authority.

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DDO8 states, in part:

A permit is not required for any of the following:

- Buildings and works located outside the drip line of a tree for which a permit is required to remove, destroy or lop under any Vegetation Protection Overlay or Environmental Significance Overlay also affecting the land.

### 73.01

Native vegetation as defined in the Victorian Planning Provisions, clause 73.01, as vegetation native to Victoria.

### Method

The tree was inspected from the ground on 30 August, by myself.

The tree was assessed for the following;

- **Species identification**
- approximate **age** of the tree
- **stem diameter** at 1.4 metres above ground level
- **origin** of the species
- an estimation of the **height** and **width** of the tree canopy
- the **structure** of the tree
- the **health** of the tree
- the **retention value** of the tree to the site
- the **Useful Life Expectancy** of the tree
- the **Tree Protection Zones** for all trees (AS 4970 – 2009)

**Note:** Tree descriptors are provided for tree age, health, structure, useful life expectancy and retention value.

### Tree Protection

Tree protection information is provided in accordance with **AS 4970-2009, Protection of trees on development sites**.

Tree Protection Zones, TPZ, provide for a zone of protection for the root zone and the canopy of the tree to maintain tree health. The TPZ often extends to near canopy dripline of a typical tree, **AS 4970-2009, Protection of trees on development sites** allows for a 10% encroachment into the TPZ area provided the area lost to the encroachment is compensated for elsewhere. If the encroachment is to be greater than 10% there must be a demonstration that the tree will remain viable. The Structural Root Zone, SRZ, is the area occupied by roots that are associated with tree stability.

**TPZ. & SRZ data has been provided for the assessed tree.**

### Observations

The site presented with **one tree located in the road reserve to be assessed**.

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## Retention Value

Retention value should be considered in the context of whether the tree is worthy of being a material constraint on development on this site.

A tree assessed as low retention value should not be a material constraint.

The survey identified **one tree located in the road reserve** to be of **medium retention value**. Tree 1. The tree is identified as *Eucalyptus nicholii*, Narrow-leaved Black Peppermint. A Non Victorian native tree that is common in cultivation. The tree is located in a narrow road reserve and the trunk of the tree extends from the kerb to the footpath. The tree has been successful in establishing in this location and has been tolerant of the various site constraints within the allocated Tree Protection Zone which include the roadway, kerb and channel, footpath, underground services, a site cut at 4 Graeme Ave. and the long term carparking at 2 Graeme Ave.

The tree presents as a mature specimen typical for the species with an upright habit with some stem unions at an acute angle and some deadwood and canopy decline on the northside of the tree. The tree may be approaching senescence and has a Useful Life Expectancy of 'short' due to the age, condition, size and location.

## Tree Data

Ref	Botanical Name	Common Name	Age	Origin	Height x Width (m)	DBH (cm)	TPZ (mR)	SRZ (mR)	Retention Value
1	<i>Eucalyptus nicholii</i>	Narrow-leaved Peppermint	Mature/ Over Mature	Non Vic Native	14x11	95	11.4	3.2	Medium Street Tree

## Tree Pictures



Above. Tree 1. Street Tree.



Above. The tree trunk occupies the width of the road reserve.



Above. Tree decline displayed through canopy thinning and deadwood.

## Development Proposal

The development proposal is to establish an all weather car park and driveway in the location of the current car park and driveway that is constructed from crushed rock.

## Development Impact & Recommendations

Tree 1 will be subject to an encroachment into the allocated Tree Protection Zone from the establishment of the car parking area. The TPZ encroachment results in a loss of 9% of allocated TPZ area which is considered to be a minor encroachment, AS4970 The protection of trees on development sites.

The development will locate a parking bay at 5.5m from the tree at the nearest point and will be in the location of a current informal parking bay. Current conditions of this car parking area present with a leveled area with a compacted crushed rock surface that has been in use as a car park for a long period of time. The tree has been tolerant of these conditions and the likelihood of any substantial tree roots being located in this area is highly unlikely due to the distance from the tree to the car parking bay and the hostile environment for tree root establishment. The car park will be located outside of the dripline of the tree and there will be no requirement for canopy pruning. The area between the car parking bay and the front boundary will remain permeable and will be landscaped.

The installation of the car park as proposed will have no impact upon tree stability and nil or negligible impact on tree health, noting that the tree is currently displaying some canopy decline and further tree decline is not unexpected in this tree that has been assessed as having a 'short' Useful Life Expectancy.

This tree will be tolerant of the installation of the car park as proposed.

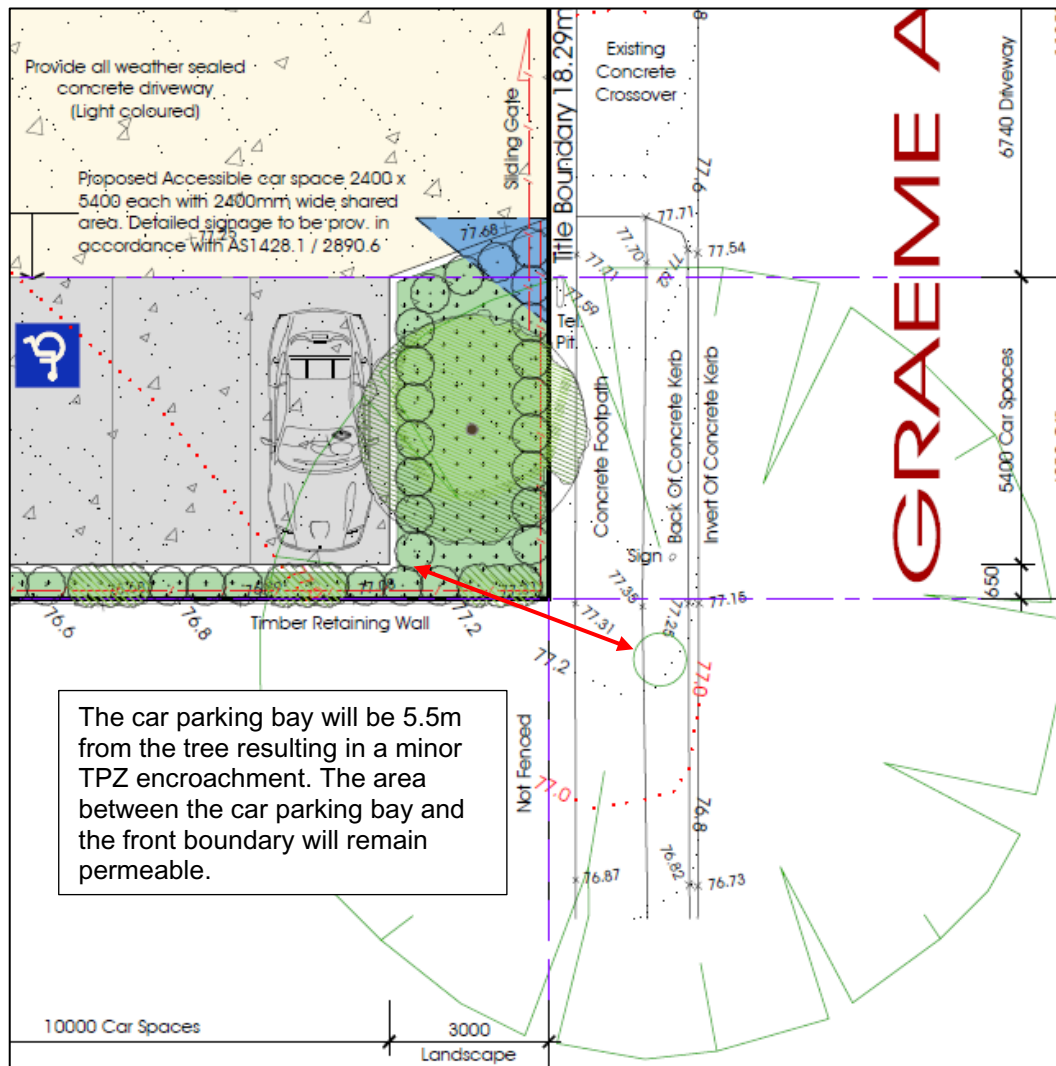
There is no canopy pruning requirement for this tree and no specific tree protection measures are required on the subject site or on the road reserve.

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## Site Plan, detail



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## Site Pictures



Above. Tree 1 and the existing informal car park at 2 Graeme Ave.



Above. The parked car is in the location of the closest parking bay.



Above. Concrete car park at 4 Graeme Ave.



Above. Car parking bay will be at 5.5m from the tree.



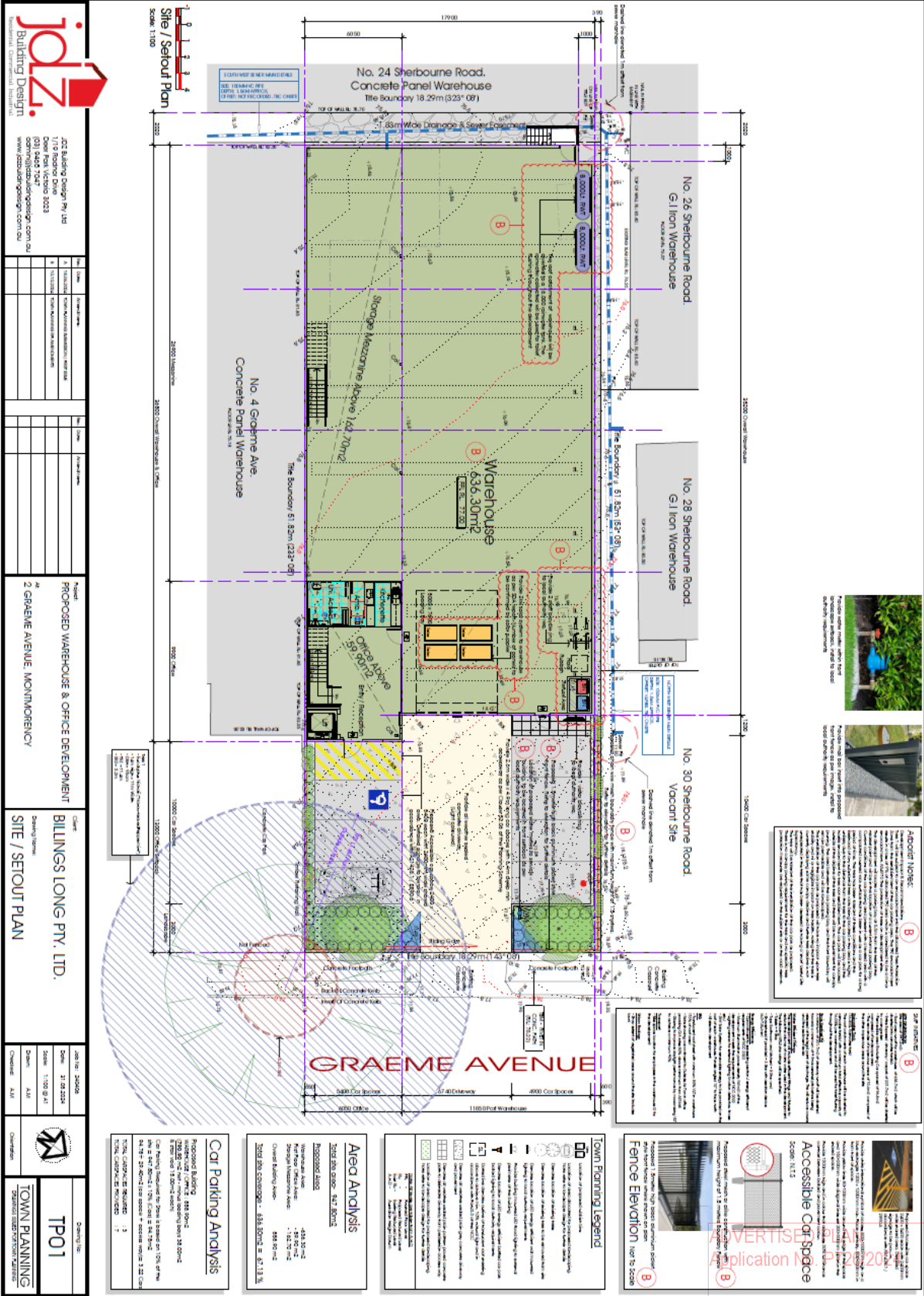
Above. The area propped to be a car park is currently used as a car park.

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Site Plan, proposed



## Tree Descriptors

- **DBH** The diameter of the trunk measured at 1.4m above ground.
- **AGE**
- Young** Juvenile or recently planted approximately 1-7 years.
- Semi Mature** Tree actively growing.
- Mature** Tree has reached expected size in situation.
- Over Mature** Tree is over mature and has started to decline. (Senescent)
- **HEALTH**
- Good** Foliage of tree is entire, with good colour, very little sign of pathogens and of good density. Growth indicators are good i.e. Extension growth of twigs and wound wood development. Minimal or no canopy die back (deadwood).
- Fair** Tree is showing one or more of the following symptoms;  
< 25% dead wood, minor canopy die back, foliage generally with good colour though some imperfections may be present. Minor pathogen damage present, with growth indicators such as leaf size, canopy density and twig extension growth typical for the species in this location.
- Poor** Tree is showing one or more of the following symptoms of tree decline; > 25% deadwood, canopy die back is observable, discoloured or distorted leaves. Pathogens present, stress symptoms are observable as reduced leaf size, extension growth and canopy density.
- Dead or dying** Tree is in severe decline; > 55% deadwood, very little foliage, epicormic shoots, minimal extension growth.
- **STRUCTURE**
- Good** Trunk and scaffold branches show good taper and attachment with minor or no structural defects. Tree is a good example of the species with a well-developed form showing no obvious root problems or pests and diseases.
- Fair** Tree shows some minor structural defects or minor damage to trunk e.g. bark missing, there could be cavities present. Minimal damage to structural roots. Tree could be seen as typical for this species.
- Poor** There are major structural defects, damage to trunk or bark missing. Co-dominant stems could be present or poor structure with likely points of failure. Girdling or damaged roots obvious. Tree is structurally problematic.
- Hazardous** Tree is an immediate hazard with potential to fail, this should be rectified as soon as possible.
- **HAZARD** Hazard is rated into three levels; LOW, MEDIUM, and HIGH.
- LOW;** Tree appears to be structurally sound, healthy with no signs of pests or disease, good vigour and is clear of any hazards.
- MEDIUM;** Tree displays signs of structural problems, evidence of pests or disease, signs of low vigour, deadwood, decay, may be growing into an area that could create a hazard.
- HIGH;** Tree is an immediate hazard with the potential to fail, this should be rectified as soon as possible.
- **RETENTION VALUE** Retention Value is rated into three levels; LOW, MEDIUM and HIGH.
- LOW;** Trees that offer little in terms of contributing to the future landscape. Should not be a constraint on development proposals and may be considered for removal.
- MEDIUM;** Trees with some beneficial attributes that may benefit the site. Could be considered for retention if possible.
- HIGH;** Trees with the potential to positively contribute to the site. Should be considered for retention if possible.
- **TREE PROTECTION ZONES**  
The T.P.Z. applied is AS 4970-2009 'Protection of trees on development site'. AS 4970-2009 uses a multiplication method to determine the T.P.Z. based on T.P.Z. radius being 12 times stem diameter measured 1.4 metres above ground.  
i.e. T.P.Z. radius = DBH x 12
- **STRUCTURAL ROOT ZONE**  
The S.R.Z. applied is AS 4970-2009 'Protection of trees on development site'.  
The SRZ is the area required for tree stability. A larger area is required to maintain a viable tree.  
SRZ radius =  $(D \times 50)^{0.42} \times 0.64$

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## Tree Descriptor

### USEFUL LIFE EXPECTANCY – ULE.

Barrelltreecare.com

**LONG ULE;** Trees that appears to be retainable with an acceptable level of risk for more than 40 years.

1. Structurally sound trees located in positions that can accommodate future growth.
2. Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
3. Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

**MEDIUM ULE;** Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.

1. Trees that may only live between 15 and 40 years.
2. Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
3. Trees that may live for more than 40 years but would be removed during the course of normal management for safety and nuisance reasons.
4. Storm damage or defective trees that can be made suitable for retention in the medium term by remedial work.

**SHORT ULE;** Trees that appear to be retainable with an acceptable level of risk for 5 to 15 years.

1. Trees that may live for 5 to 15 years.
2. Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
3. Trees that may live for more than 15 years but would be removed during the course of normal management for safety and nuisance reasons.
4. Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term.

**REMOVE;** Trees with a high level of risk that would need removal within the next 5 years.

1. Dead trees.
2. Dying or suppressed and declining trees through disease or inhospitable conditions.
3. Dangerous trees through instability or recent loss of adjacent trees.
4. Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
5. Damaged trees that are considered unsafe to retain.
6. Trees that will become dangerous after removal of other trees for the above reasons.

ADVERTISED PLAN  
Application No. P726/2024

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