

Office Use Only				
Application No.:	Date Lodged:	1	1	

Application for

Planning Permit

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

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

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

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

A If the space provided on the form is insufficient, attach a separate sheet,

Clear Form

he Land 💵 🕦 Addre	ss of the land. Complete the Street Address and one of the Formal Land Descriptions.
Street Address *	Unit No.: St. No.:274 - 276 St. Name: FUZABETH DRIVE Suburb/Locality: SUN BYRY Postcode: 3429
Formal Land Description * Complete either A or B. This information can be found on the certificate of title.	A Lot No.:432 OLodged Plan Title Plan Plan of Subdivision No.: 121516 OR B Crown Allotment No.: Parish/Township Name:

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

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

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

Select the focus of this application and describe below: MULTI -UNIT DEVELOPMENT

OWNER WISHES TO DEMOUSH EXISTING DWELLING AND BUILD TWO NEW TOWNHOUSES ON SITE

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

Estimated cost of development for which the permit is required *

Cost\$ 500,000 .00

You may be required to verify this estimate. Insert '0' if no development is proposed.

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

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Existing Conditions

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

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

EXISTING RESIDENTIAL DUELLING ON SITE

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

Title Information 🗊

5 Encumbrances on title *

If you need help about the title, read: How to complete the Application for Planning Permit Does the proposal breach, in any way, an encumbrance on title such as a restrictrive covenant, section 173 agreement or other obligation such as an easement or building envelope?

Yes. (If 'yes' contact Council for advice on how to proceed before continuing with this application.)

(A) Not applicable (no such encumbrance applies).

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

Applicant and Owner Details 11

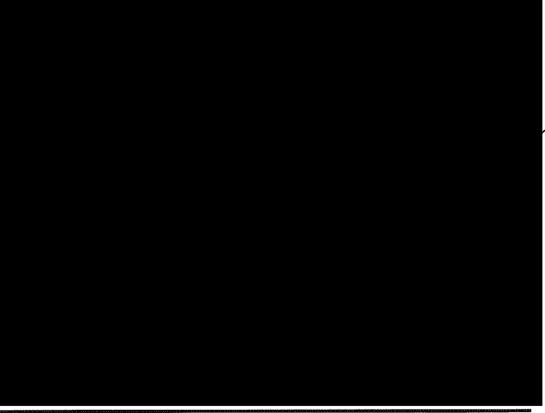
(6) Provide details of the applicant and the owner of the land.

Applicant *

The person who wants the permit.

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

Please provide at least one contact phone number '

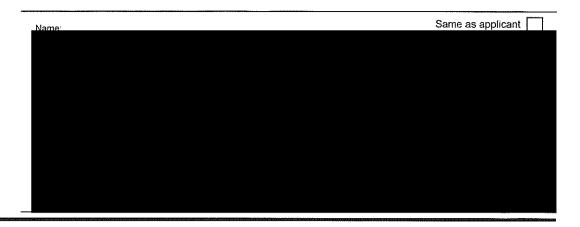


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Owner *

The person or organisation who owns the land

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



Declaration III

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

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

I declare that I am the applicant; and that all the information in this application is true and Date: 22

VIC. Aus

Need help with the Application? If you need help to complete this form, read How to complete the Application for Planning Permit form General information about the planning process is available at www.delwp.vic.gov.au/planning Contact Council's planning department to discuss the specific requirements for this application and obtain a planning permit checklist. Insufficient or unclear information may delay your application. Has there been a No No No Yes If 'yes', with whom?: pre-application meeting with a Council planning day / month / year Date: officer? Checklist III Have you: Filled in the form completely? Most applications require a fee to be paid. Contact Council to Paid or included the application fee? determine the appropriate fee. Provided all necessary supporting information and documents? A full, current copy of title information for each individual parcel of land forming the subject site A plan of existing conditions. Plans showing the layout and details of the proposal Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist If required, a description of the likely effect of the proposal (eg traffic, noise, environmental impacts). If applicable, a current Metropolitan Planning Levy certificate (a levy certificate expires 90 days after the day on which it is issued by the State Revenue Office and then cannot be used). Failure to comply means the application is void. Completed the relevant Council planning permit checklist? Signed the declaration (section 7)? Lodgement III Lodge the completed and signed Hume City Council form, the fee payment and PO Box 119 Dallas VIC 3047 all documents with: Pascoe Vale Road Broadmeadows VIC 3047 Contact information: Telephone: 61 03 9205 2200 Email: email@hume.vic.gov.au DX: 94718 Translation: 03 9205 2200 for connection to Hume Link's multilingual telephone information service Deliver application in person, by fax, or by post: Make sure you deliver any required supporting information and necessary payment Print Form when you deliver this form to the above mentioned address. This is usually your local council but can sometimes be the Minister for Planning or another body.

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You can save this application form to your computer to complete or review later

or email it to others to complete relevant sections.



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

Page 1 of 1

VOLUME 10350 FOLIO 716

Security no : 124095695592F Produced 23/02/2022 08:46 AM

LAND DESCRIPTION

Lot 432 on Plan of Subdivision 121510. PARENT TITLE Volume 09241 Folio 330 Created by instrument U943139S 21/08/1997

REGISTERED PROPRIETOR



ENCUMBRANCES, CAVEATS AND NOTICES

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 LP121510 FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

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

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

Street Address: 274-276 ELIZABETH DRIVE SUNBURY VIC 3429

DOCUMENT END

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Delivered by LANDATA®, timestamp 23/02/2022 08:57 Page 1 of 1 ENCUMBRANCES & OTHER NOTATIONS PLAN OF SUBDIVISION APPROPRIATIONS PART OF W.J.T. CLARKE'S CROWN LOT NUMBERS I TO 137, IN TO 186 & 198 TO 428 HAVE BEEN OMITTED FROM THIS PLAN DRAINAGE & SEWERAGE SPECIAL SURVEY WAY, DRAINAGE & SEWERAGE BROWN ELECTRICITY SUPPLY PURPOSES PARISH OF BUTTLEJORRK PURPLE PURPLE HATCHED - DRAINAGE, SEWERAGE & ELECTRICITY COUNTY OF BOURKE VOL. 8425 FOLIA SUPPLY PURPOSES APPROVED 10/6/77 COLOUR CONVERSION LENGTHS ARE IN METRES BLUE = E-1 BROWN = E-2 PURPLE = E-3 LP121510 PURPLE HATCHED = E-4 EDITION 1 E.1 ENLARGEMENT E.2 RESERVE 1 FOR ELECTRICAL SUBSTATION PURPOSES PRENDERGAST ENLARGEMENT 434 ELIZABETH 194 174°41 64-42 74-42 435 193 E-1 25-90 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 and Environment Act 1987. The copy must not be used for any other purpose. Please note that the plan may not be to scale.

PROPOSED DOUBLE STOREY TOWNHOUSE DEVELOPMENT

LOT 432, NO 274-276 ELIZABETH DRIVE, SUNBURY VIC 3429





	SHEET LIST		SHEET LIST	SELECTED M	<u>IATERIAL</u>				
SHEET	NO. SHEET NAME	SHEET NO.	SHEET NAME	SELECTED BRICK: (OR APPROVED EQUIVALE	APOLLO I	BRICK	SELECTED RENDER:	SURFMIST	
TP 01	COVERSHEET	TP 10	SURFACE ANALYSIS/UTILITY PLAN	(011)1111012524011112					
TP 02	NEIGHBOURHOOD DESCRIPTION	TP 11	ELEVATION (1)	SELECTED ROOF TILES:	MAGNUM		SELECTED GARAGE DOOR:	MONUMENT	
TP 03	EXISTING CONDITION/SURVEY PLAN	N TP 12	ELEVATION (2)	(OR APPROVED EQUIVALE	ENI)				_
TP 04	DEMOLITION PLAN	TP 13	ELEVATION (3)	SELECTED GUTTER:	MONUME	NT	SELECTED WEATHERBOARD:	DUNE	
TP 05	EARTHWORKS	TP 14	SHADOW DIAGRAM 9 AM						
TP 06	PROPOSED SITE PLAN	TP 15	SHADOW DIAGRAM 12 PM	SELECTED FASCIA:	MONUME	NIT	DRIVEWAY:	SLATE GREY	
TP 07	PROPOSED GROUND FLOOR PLAN	TP 16	SHADOW DIAGRAM 3 PM	SELECTED LAGGIA.	MONOME	INI	DRIVEWAT.	SLATE GRET	
TP 08	PROPOSED FIRST FLOOR PLAN	TP 17	SWEPT PATH						
TP 09	GARDEN AREA PLAN	TP 18	STORM REPORT	SELECTED DOWNPIPE:	MONUME	NT			
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No. 274-276, LOT 432 ELIZABETH DRIVE (SUBJECT SITE) SINGLE STOREY DWELLING, BRICK VENEER WALL, TILE ROOF

No. 274-276, LOT 431 ELIZABETH DRIVE(ADJOINING SITE TO REAR) VACANT

No. 272 ELIZABETH DRIVE (ADJOINING SITE) EXISTING SINGLE STOREY, COLORBOND ROOF, BRICK HOUSE VIEW FROM STREET (BATTLE AXE DRIVEWAY)

No. 278 ELIZABETH DRIVE (ADJOINING SITE)
SINGLE STOREY DWELLING, BRICK VENEER WALL, TILE ROOF









No. 270 ELIZABETH DRIVE (ADJACENT SITE)
SINGLE STOREY DWELLING, BRICK VENEER WALL, TILE ROOF

No. 268 ELIZABETH DRIVE (ADJACENT SITE)
SINGLE STOREY DWELLING, BRICK VENEER WALL, TILE ROOF

No. 280 ELIZABETH DRIVE (ADJACENT SITE)
SINGLE STOREY DWELLING, BRICK VENEER WALL, TILE ROOF

No. 282 ELIZABETH DRIVE (ADJACENT SITE)
SINGLE STOREY DWELLING, BRICK VENEER WALL, TILE ROOF



No. 281 ELIZABETH DRIVE (OPPOSITE SIDE)

DOUBLE STOREY DWELLING, BRICK VENEER & RENDER,
TILE ROOF

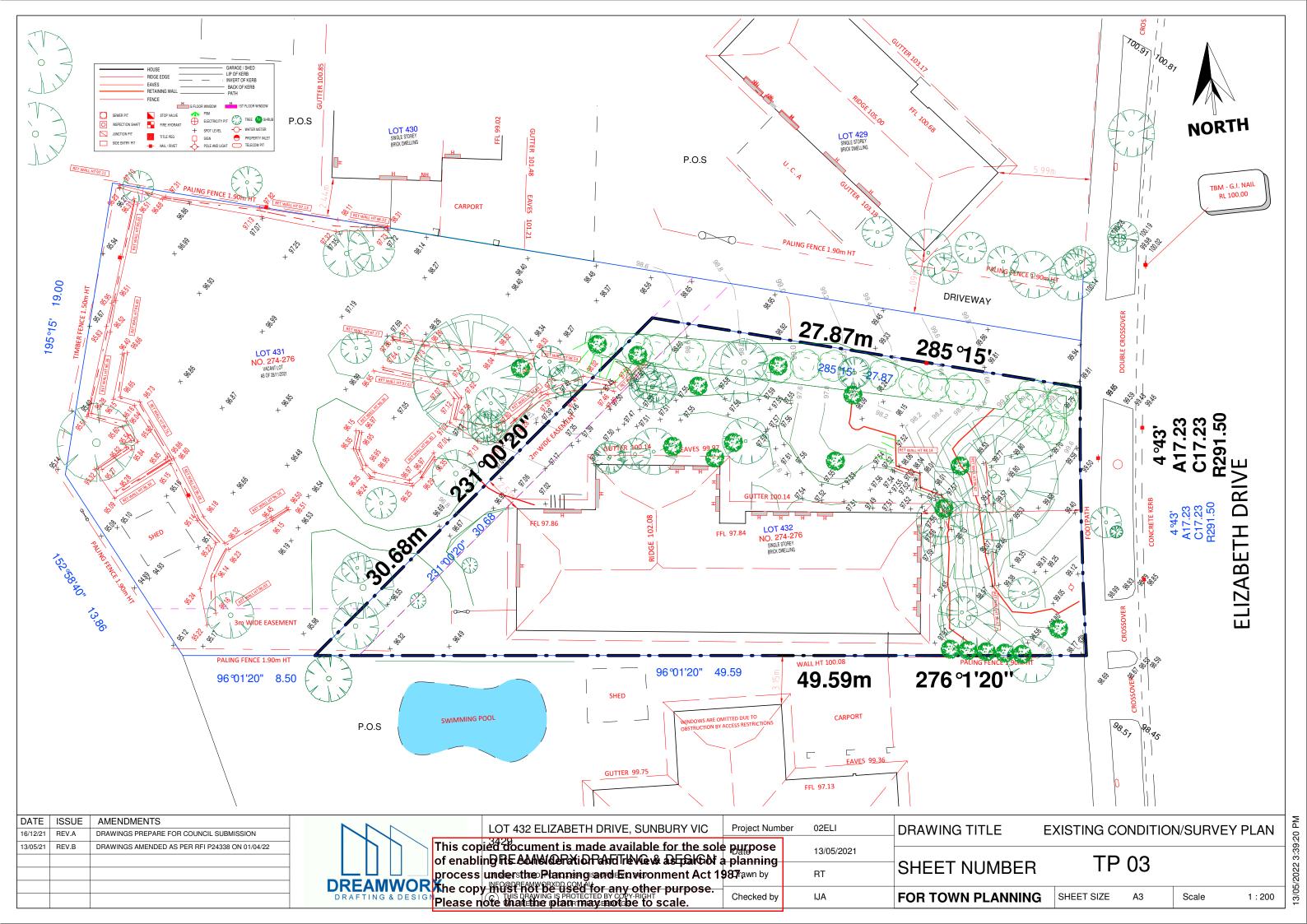


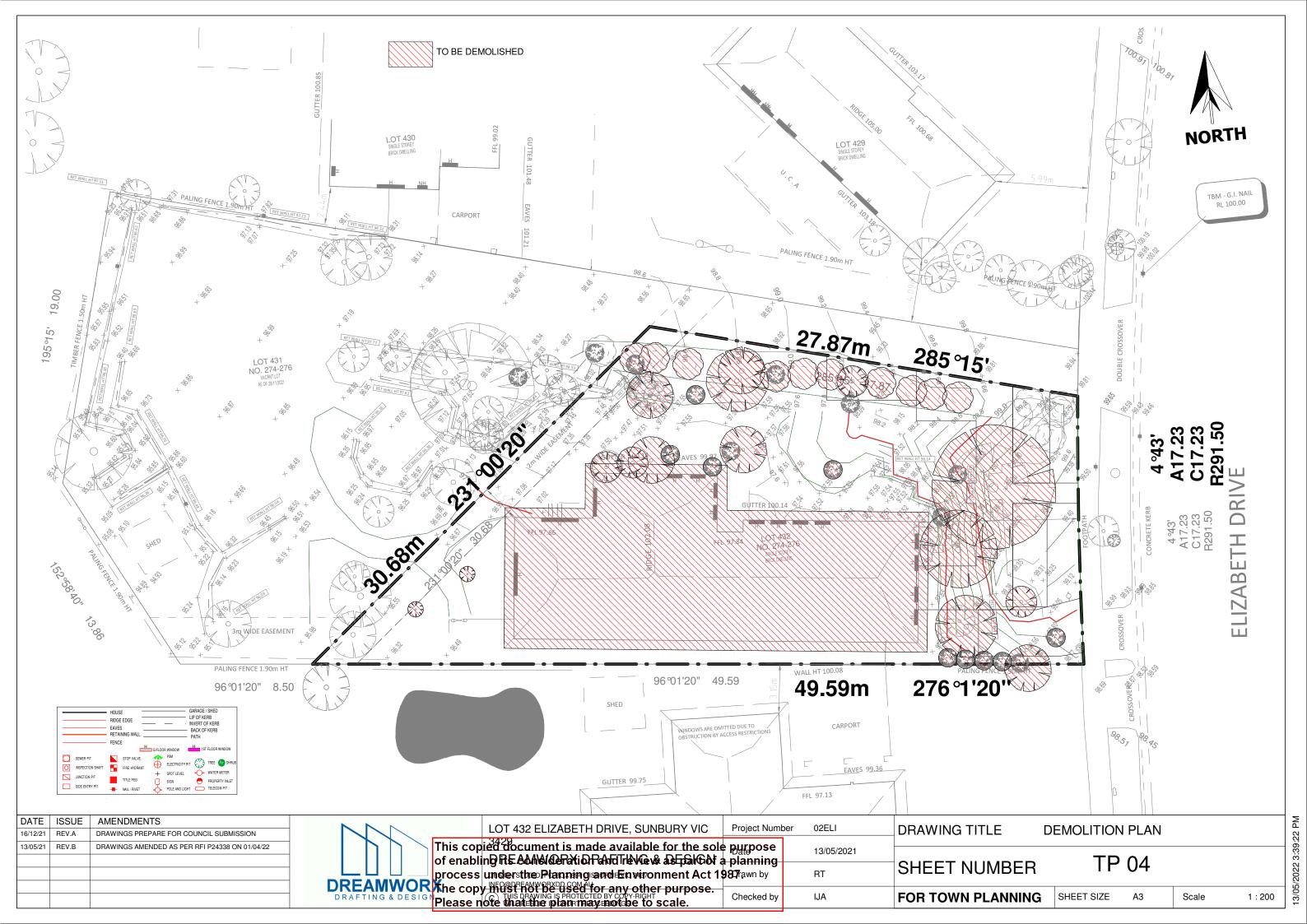
VIEW FROM SUBJET SITE (OPPOSITE SIDE)
LANDSCAPE WITH MATURE TREES

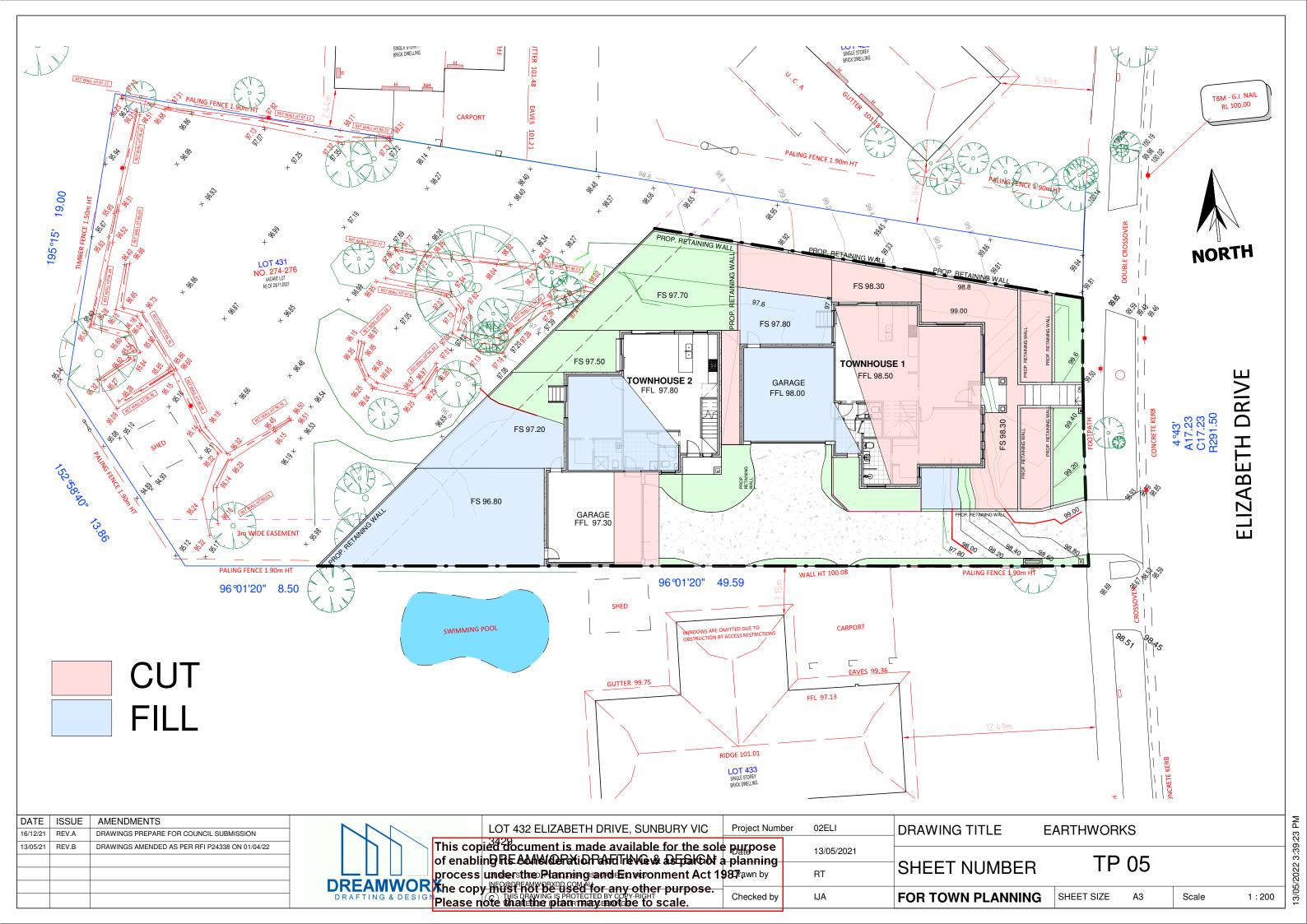
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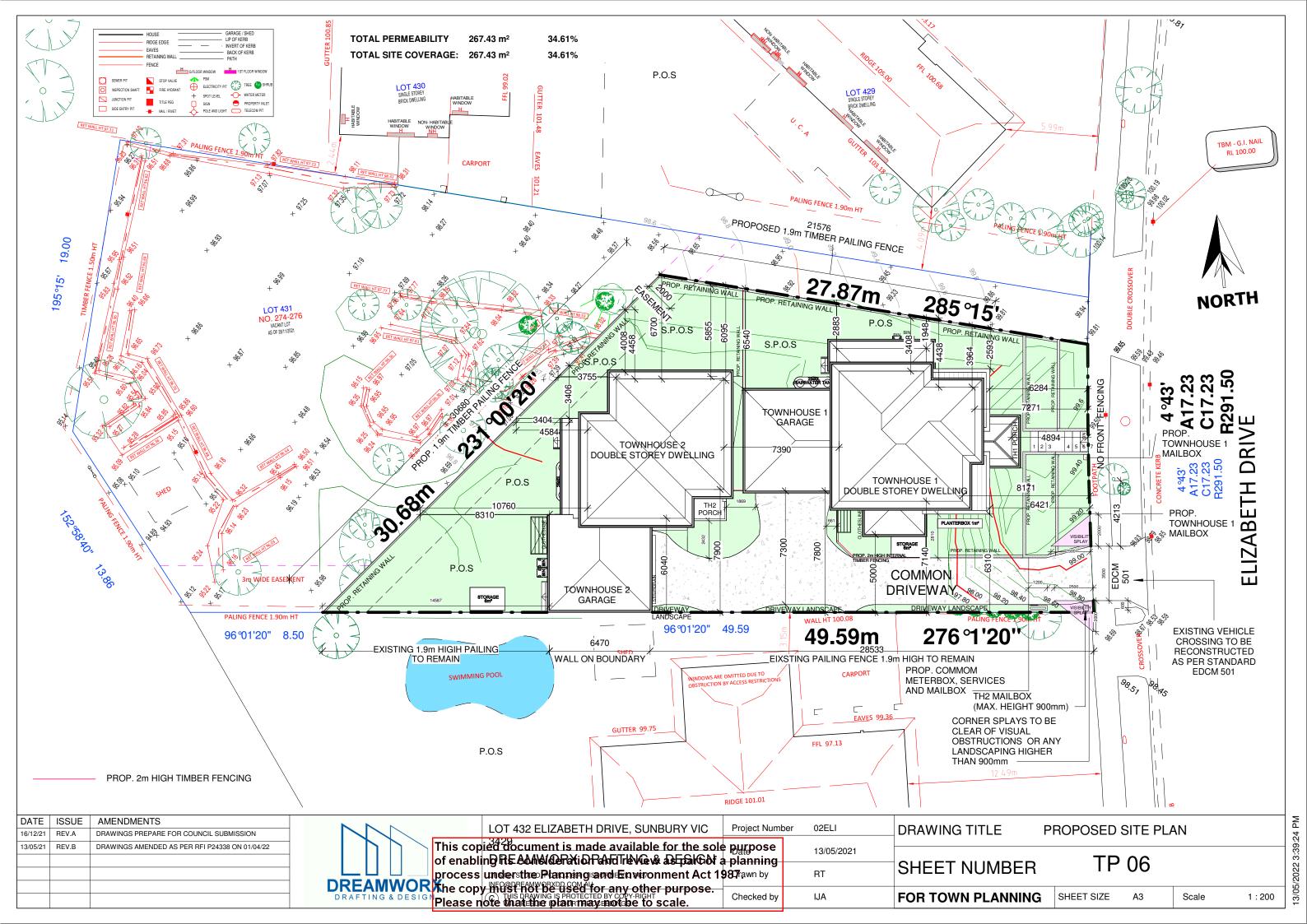
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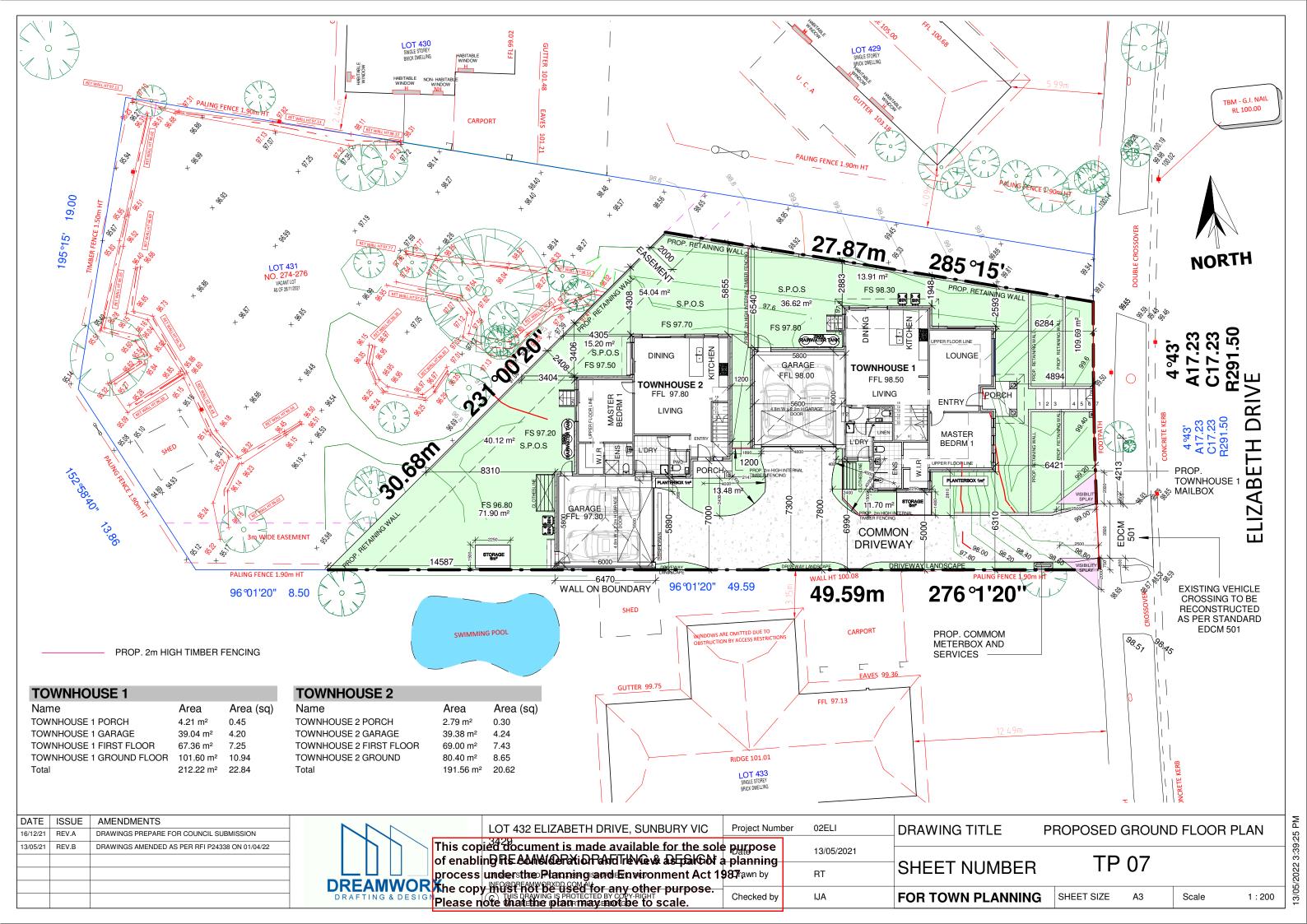
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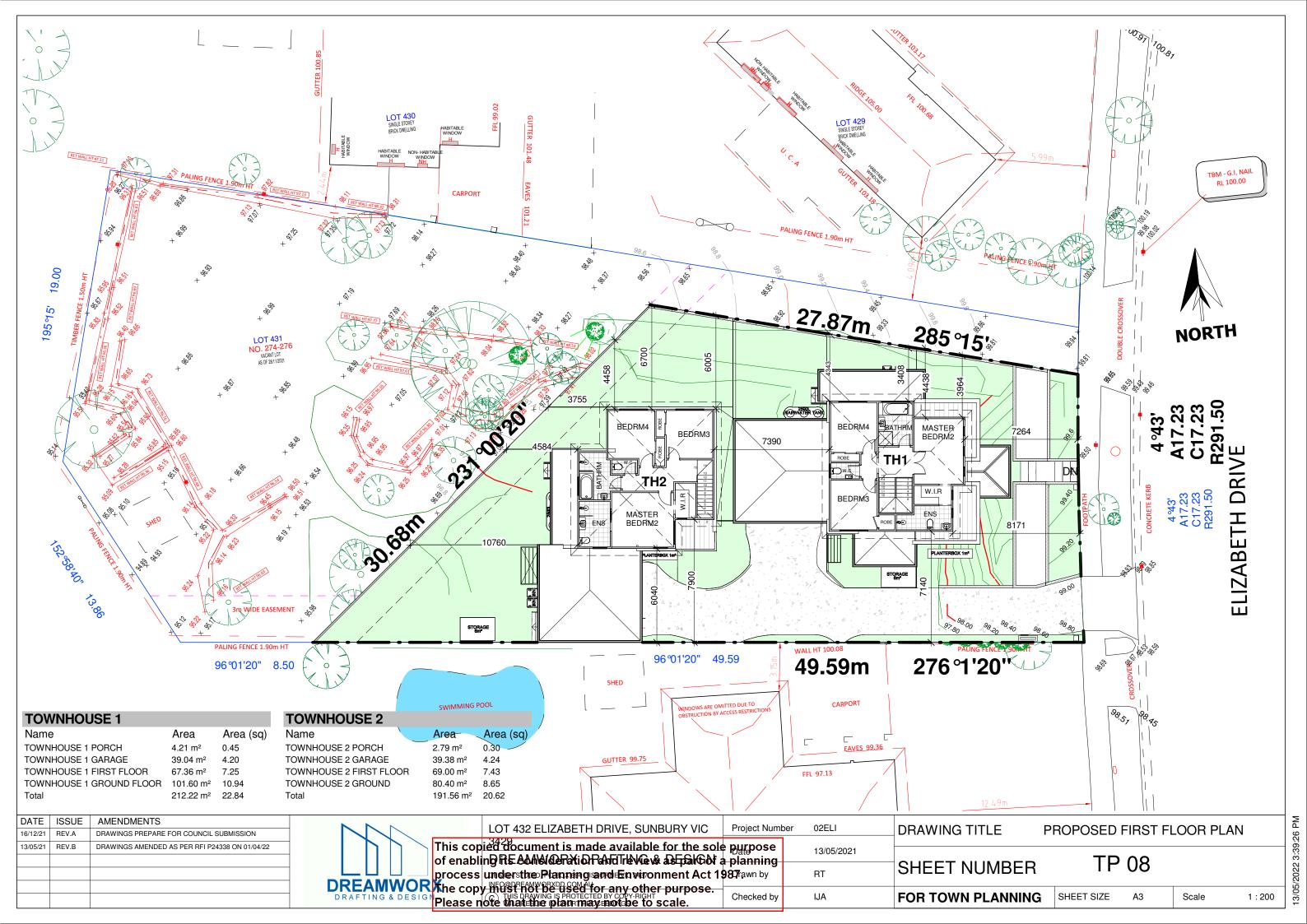












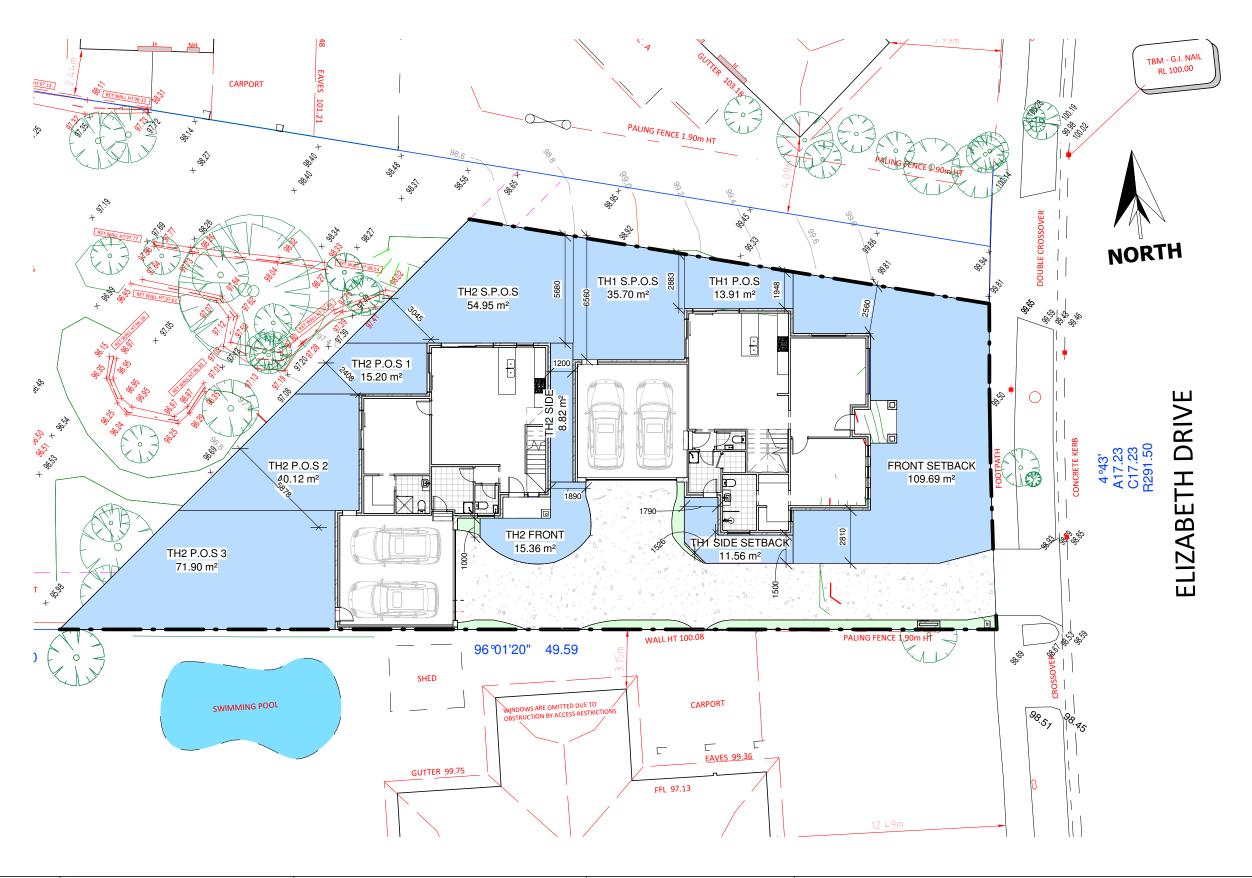


NAME AREA m² FRONT SETBACK 110.77 TH1 SIDE SETBACK TH1 P.O.S 11.56 13.91 TH1 S.P.O.S TH2 FRONT 35.7 15.36 8.82 54.95 TH2 SIDE TH2 S.P.O.S TH2 P.O.S 1 15.2 40.12 71.9 TH2 P.O.S 2 TH2 P.O.S 3 **TOTAL** 377.21

GARDEN AREA 48.81%

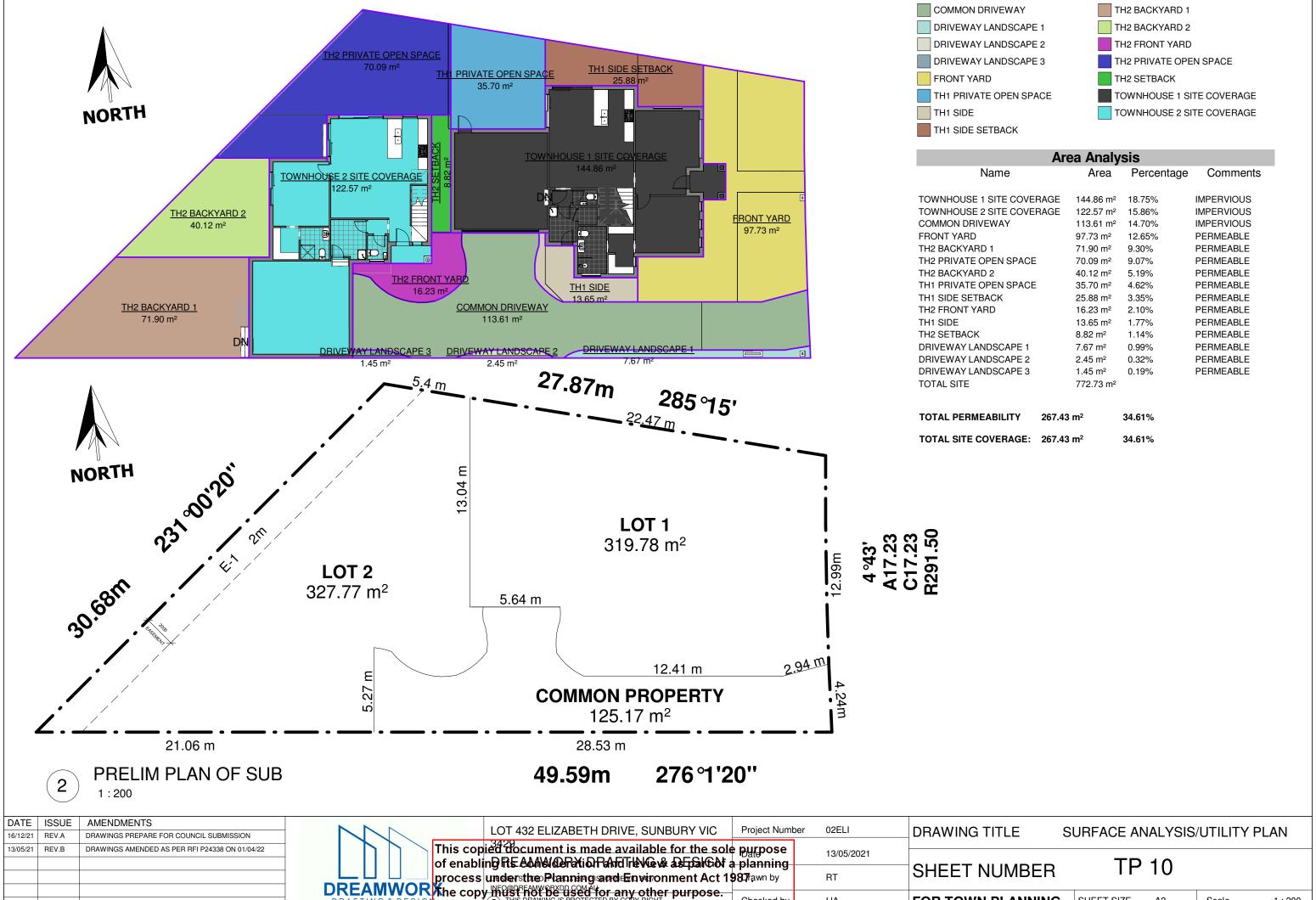
772.73 m²

TOTAL LAND SIZE:



DATE	ISSUE	AMENDMENTS
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13/05/21	REV.B	DRAWINGS AMENDED AS PER RFI P24338 ON 01/04/22

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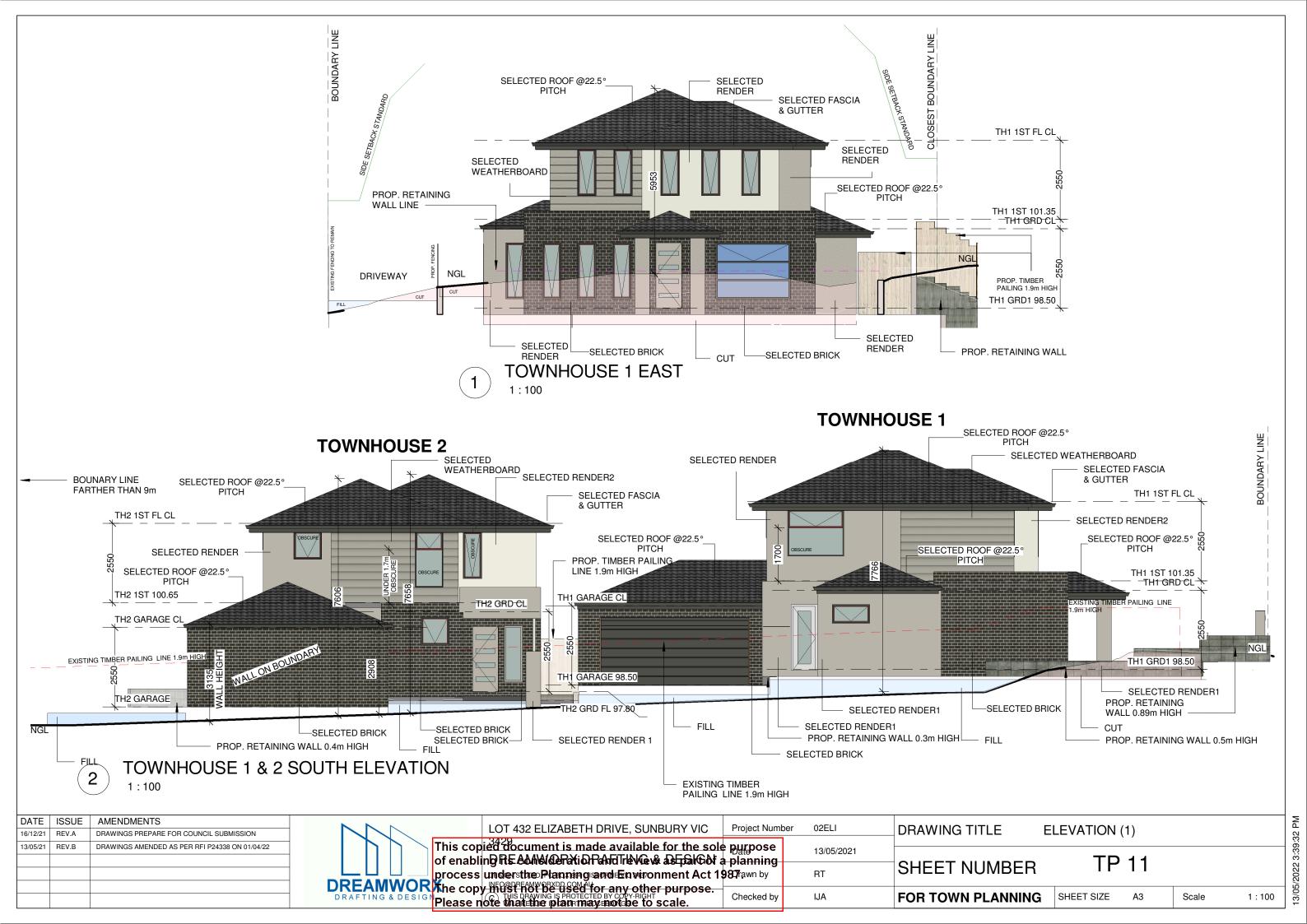
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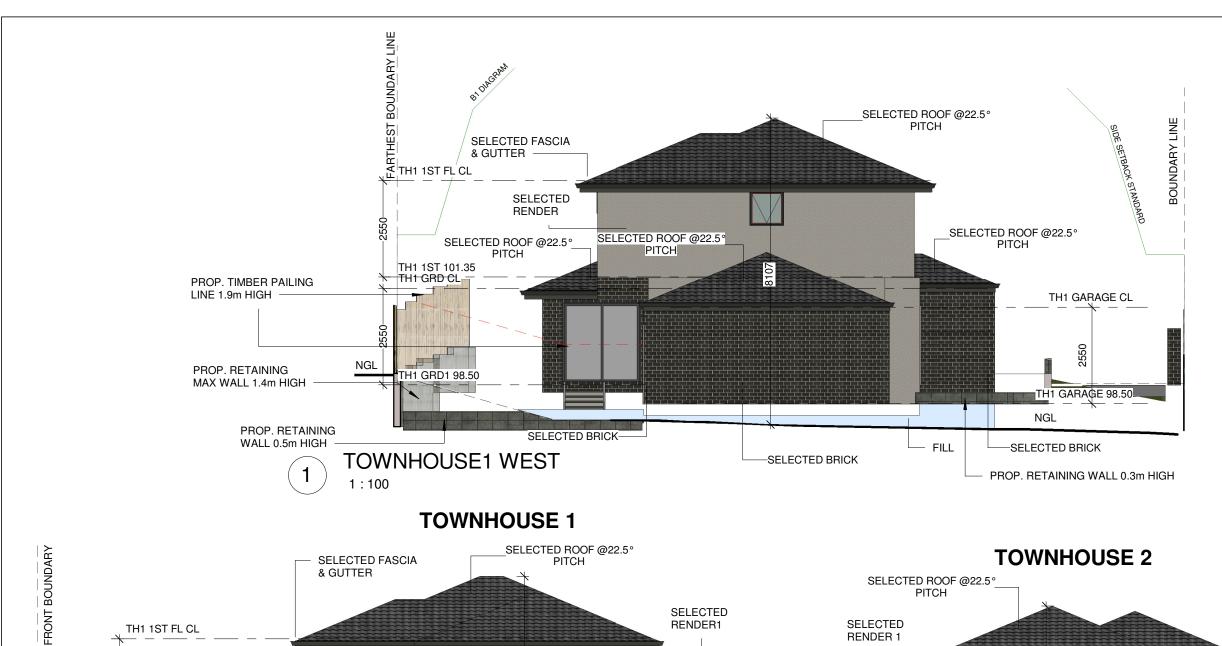
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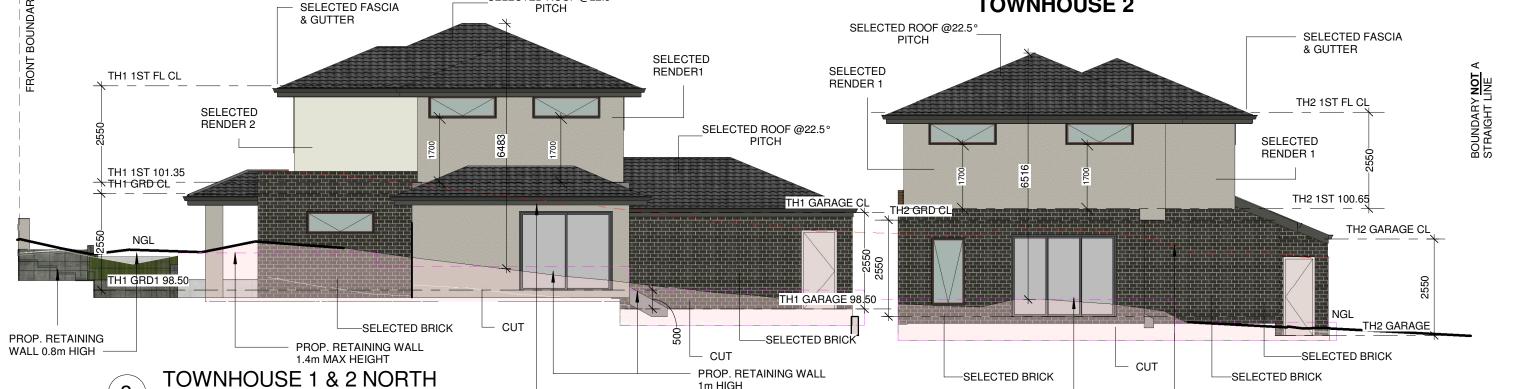
FOR TOWN PLANNING

SHEET SIZE





1:100



DATE ISSUE	AMENDMENTS DRAWINGS PREPARE FOR COUNCIL SUBMISSION	LOT 432 ELIZABETH DRIVE, SUNBURY VIC Project Number 02ELI DRAWING TITLE ELEVATION (2)	34 PM
13/05/21 REV.B	DRAWINGS AMENDED AS PER RFI P24338 ON 01/04/22	This copied document is made available for the sole purpose of enabling REAM Wilder Ation RANGTREVOE & ASECUTION AS	.022 3:39:3
		DREAMWORK the copy thrust not be used for any other purpose.	13/05/2

PROP. RETAINING WALL

1.1m HIGH

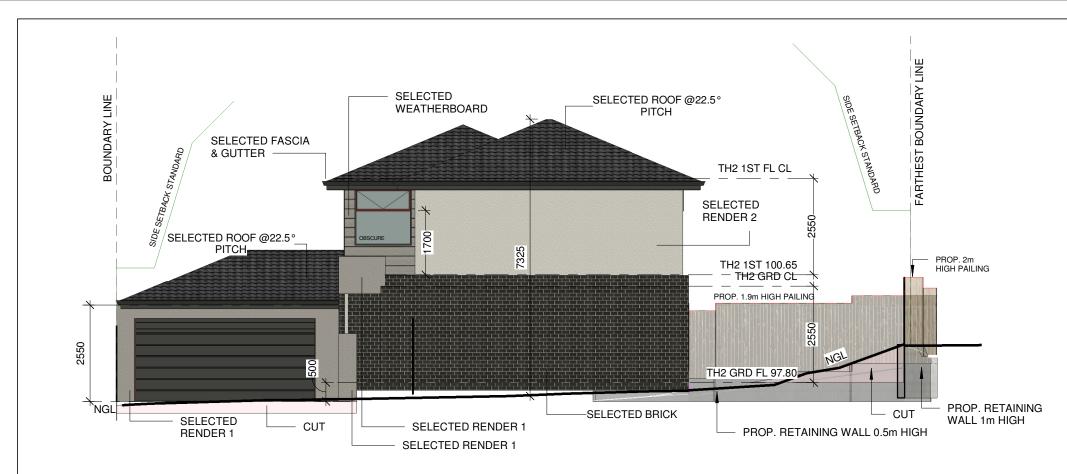
PROP. 1.9m HIGH TIMBER

PAILING

1m HIGH

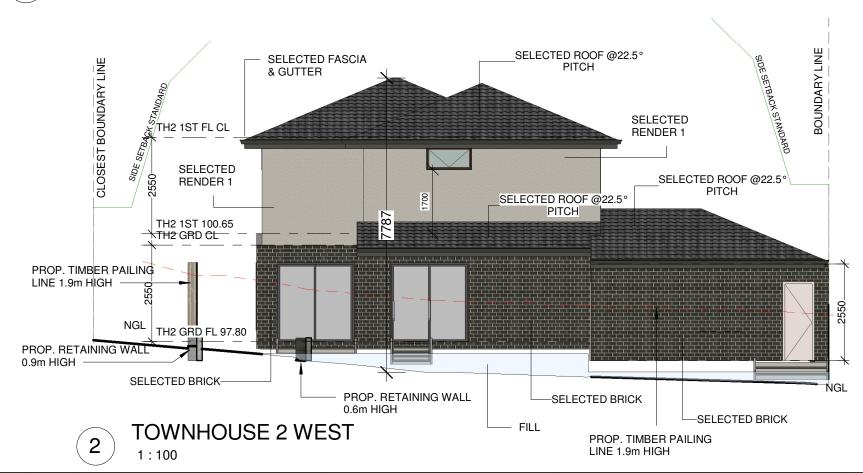
PROP. TIMBER PAILING

LINE 1.9m HIGH



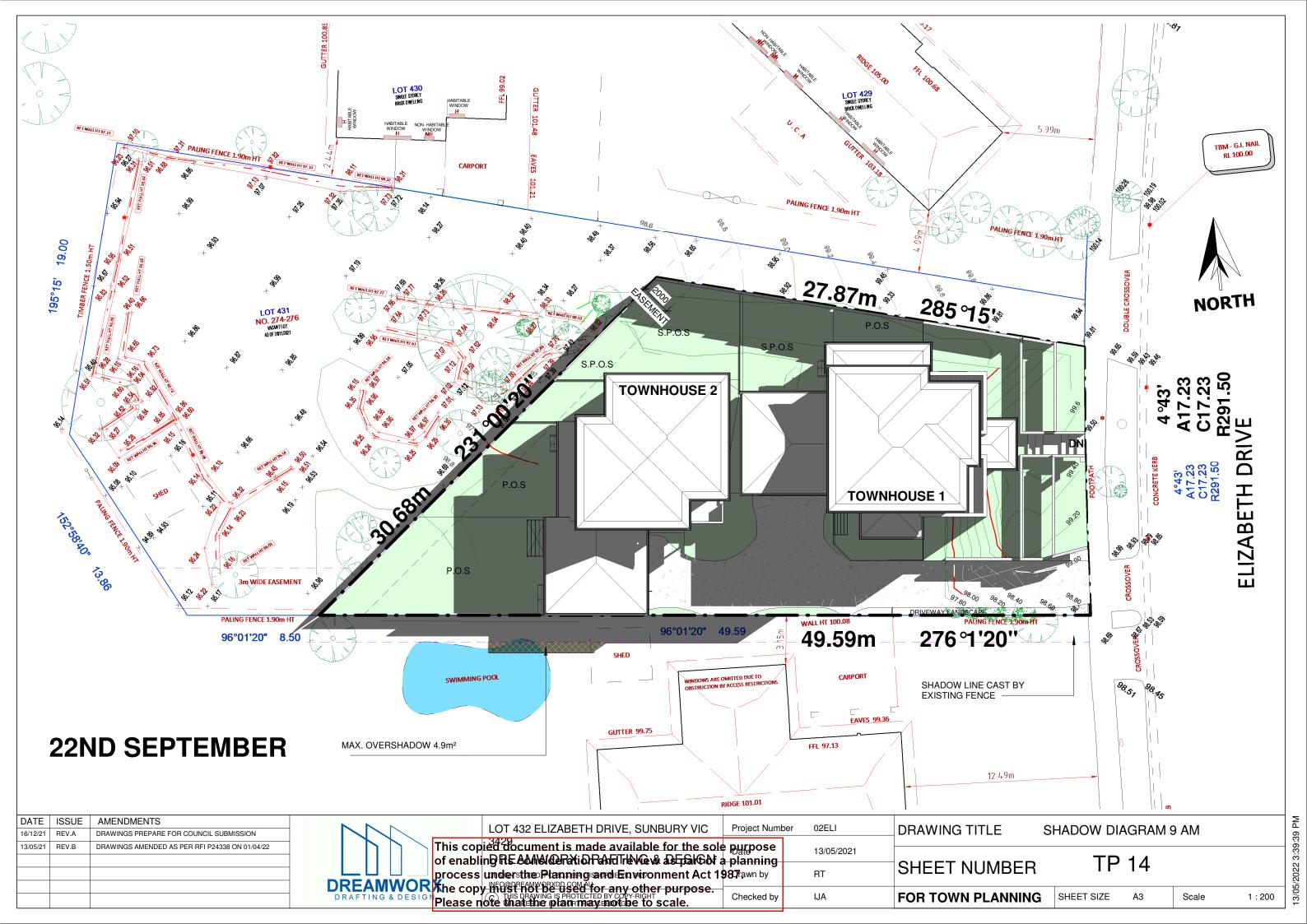
TOWNHOUSE 2 EAST

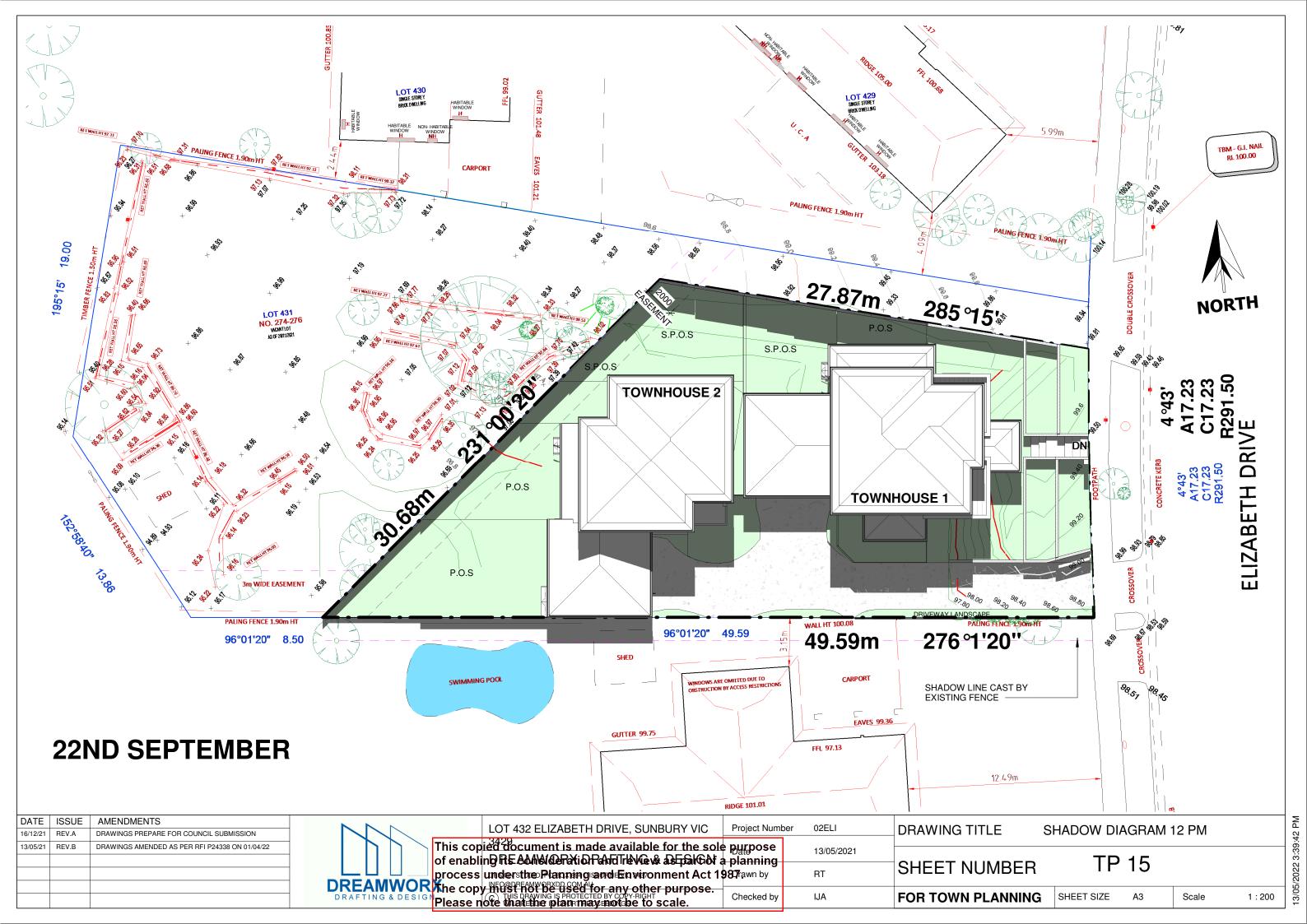
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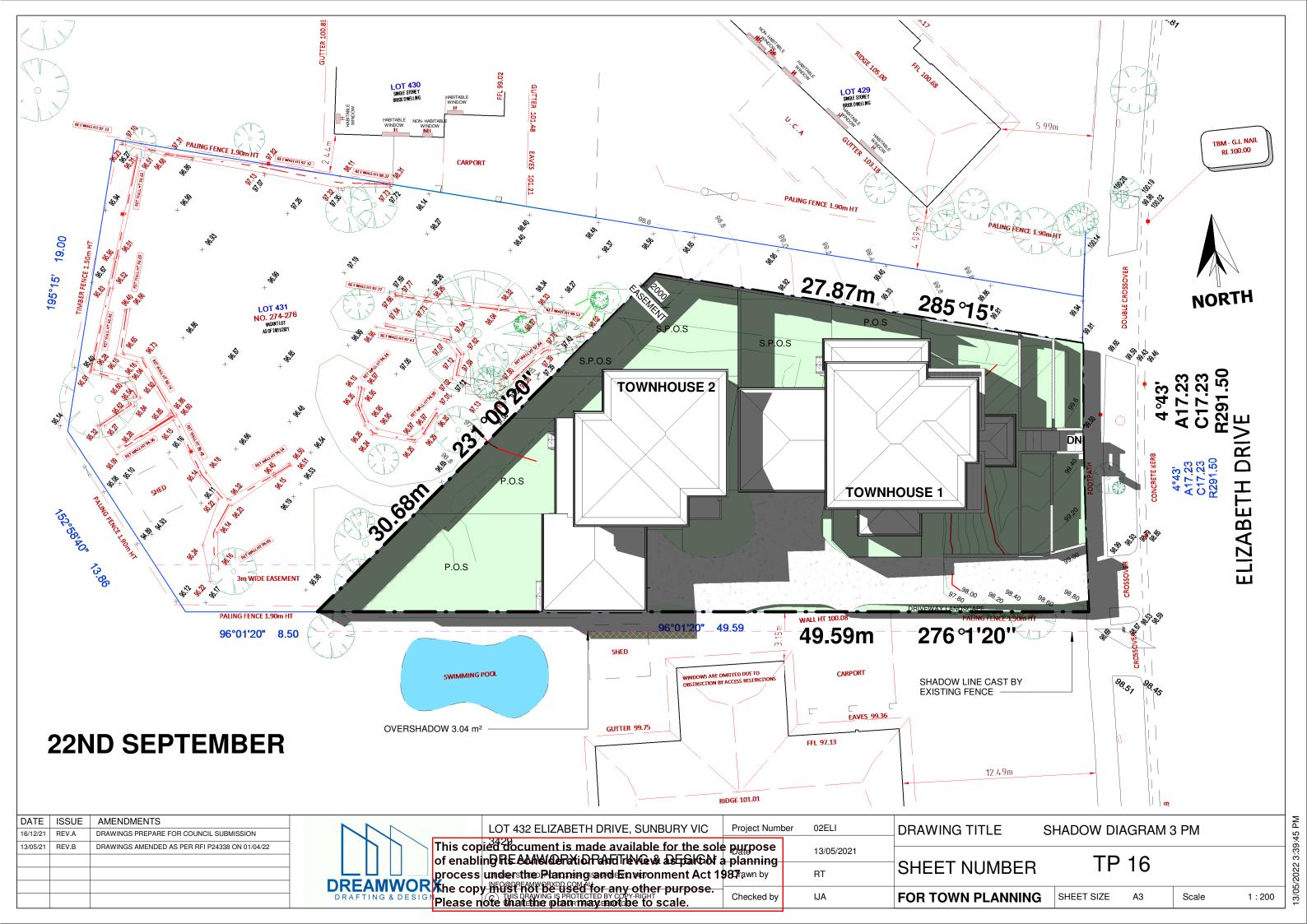


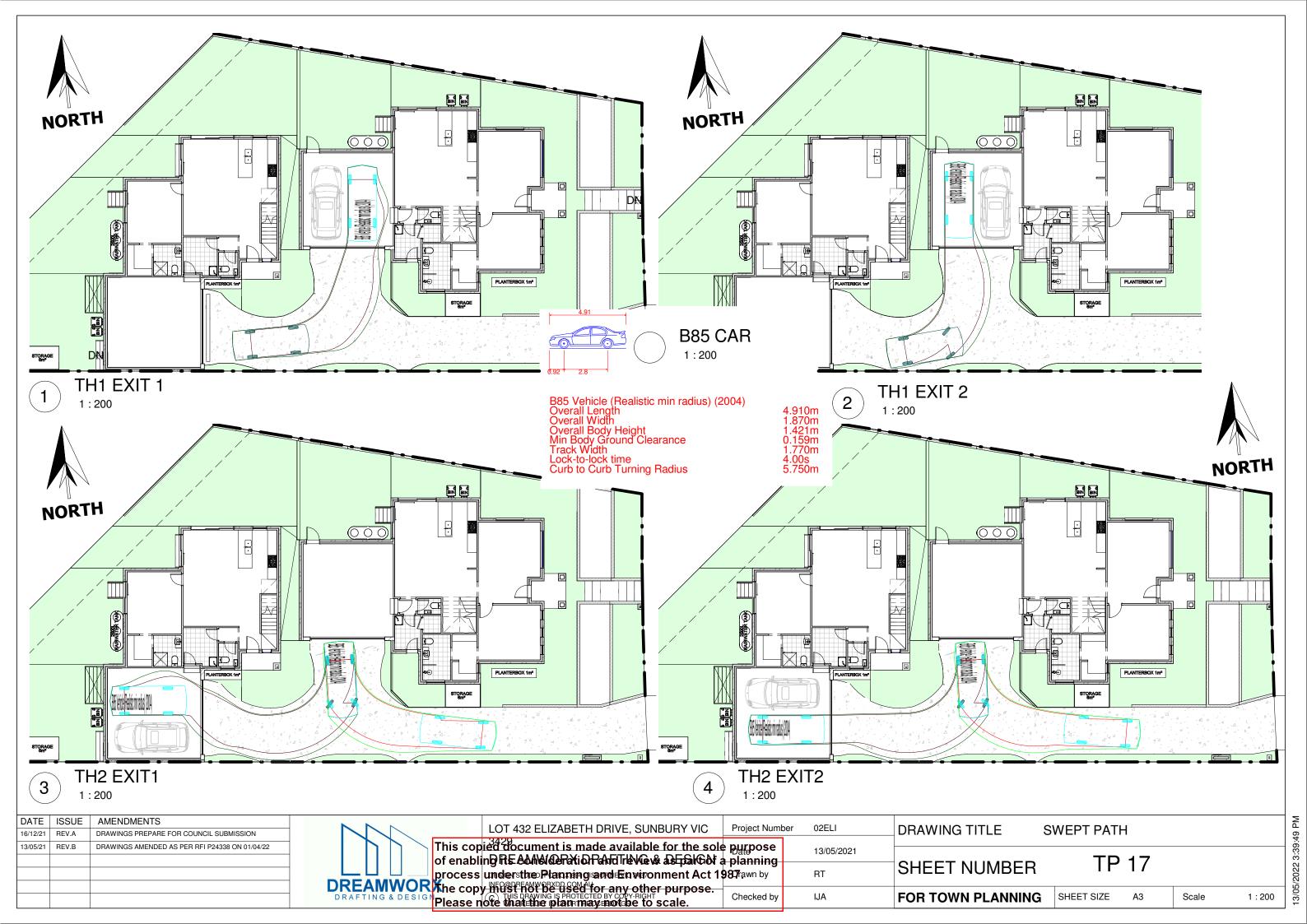
DATE	ISSUE	AMENDMENTS
16/12/21	REV.A	DRAWINGS PREPARE FOR COUNCIL SUBMISSION
13/05/21	REV.B	DRAWINGS AMENDED AS PER RFI P24338 ON 01/04/22

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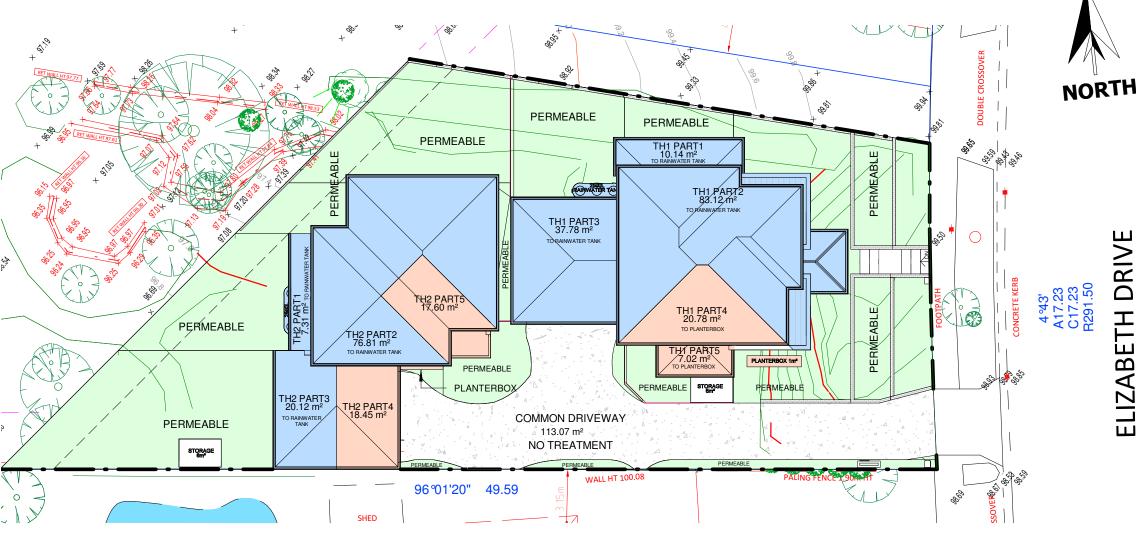


The rainwater from TH1 PART1,2 & 3 ROOF catchment area of 131.04 m² is to be collected and discharged via a mechanically pumped into a 2500L capacity rainwater tank which is to be connected to ALL toilets for toilet flushing.

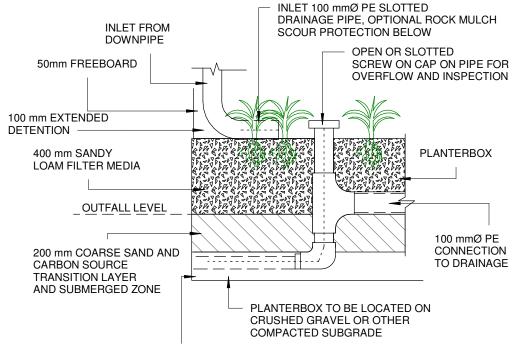
The rainwater from TH1 PART 4 & 5roof catchment area of 27.8 m² is to be collected & discharged via a gravity fed system into a 1 m² 300 mm raingarden which is to be fully lined with an impervious liner and have its overflow & aggie drain connected to the stormwater

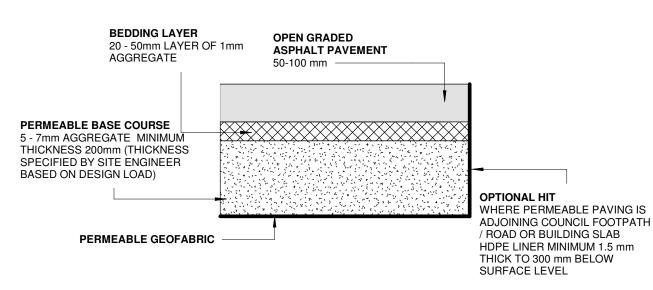
The rainwater from TH2 PART1,2 & 3 ROOF catchment area of 104.24 m² is to be collected and discharged via a mechanically pumped into a 2500L capacity rainwater tank which is to be connected (to ALL toilets for toilet flushing.

The rainwater from TH2 PART 5 & 6roof catchment area of 36.05 m² is to be collected & discharged via a gravity fed system into a 1 m² 300 mm raingarden which is to be fully lined with an impervious liner and have its overflow & aggie drain connected to the stormwater 🤌 system



PLANTERBOX TO BE LOCATED AT LEAST 300 mm FROM BUILDING EDGE





PERMEABLE PAVING

1:10

MINIMUM

DIMENSIONS

WIDE: 500 MM

TALL: 900 MM

150 mm GRAVEL DRAINAGE LAYER

DAT	E ISSUE	AMENDMENTS
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13/05	/21 REV.B	DRAWINGS AMENDED AS PER RFI P24338 ON 01/04/22

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ELIZABETH DRIV



TOWN PLANNING SUBMISSION AND COMPLIANCE STATEMENT

AGAINST CLAUSE 55 OF VICTORIAN PLANNING PROVISIONS (RESCODE)_& HUME CITY COUNCIL

Proposed Two Unit Development at:

No 274-276 Elizabeth Drive, Sunbury



__14[™] February 2022

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TABLE OF CONTENTS

Summary of proposal

Neighborhood and site description

Design response -compliance against clause 55 of rescode

Attachments:

- Certificate of title
- Plan of subdivision
- Drawings (incl Shadow Diagrams)
- Site Survey (Levels & Features plan)



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14[™] February 2022

Issue 1

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SUMMARY OF PROPOSAL

Proposed Unit Development: 274-276 Elizabeth Drive, Sunbury

Development Description:

The client proposes to build two double storey units at 274- 276 Elizabeth Drive. For convenience, these residences will be referred to as Unit 1&2.

This application will require the demolition of the existing dwelling on site to make way for the new development.

The unit development will utilise an existing crossover as the shared access driveway to service both units.

Unit 1 will be of double storey construction with four bedrooms and a building area of 212.22 m². Living areas, including kitchen, laundry, master bedroom one with ensuite and WIR are located on the ground floor. The upper level has the remaining three bedrooms (including master with ensuite and WIR) as well as full bathroom servicing the remaining two bedrooms. A double garage is also allocated to this residence. The construction of the building is that of brick and concrete tile roofing.

Unit 2 will also be of double storey construction with four bedrooms and a building area of 191.56 m². Living areas, including kitchen, laundry, master bedroom one with ensuite and WIR are located on the ground floor. The upper level has the remaining three bedrooms (including master with ensuite and WIR) as well as full bathroom servicing the remaining two bedrooms A double garage is also allocated to this residence. The construction of the building is that of brick and concrete tile roofing.

The brick colour and roof colour will be as listed in the elevations, but warm and neutral to the surrounding site colours.



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COMPLIANCE SUMMARY:

The design response for this proposal meets the objectives and standards, where applicable, as required by clause 55 of the Res Code for the development of two or more dwellings on a lot and residential buildings.

NEIGHBOURHOOD AND SITE DESCRIPTION

Neighbourhood and site description – in relation to the neighbourhood

Pattern of development of the neighbourhood

The surrounding neighborhood is an existing, residential area of Sunbury. This area is made up of dwellings of relatively modern construction with dwellings dating from around the 1990's-2000's. Predominately of brick veneer construction these houses are used for residential purposes only. Roofing is generally concrete tile construction and with pitches varying from 20-25 degrees. Electrical services are under ground.

Existing surrounding fences to the boundaries of the site are generally timber paling or colorbond fences approx.1.8m high.

Front boundaries are a mixture of fenced and unfenced with varying types of materials used with nature strips to the property boundary.

This particular site is located within a low traffic zone in a relatively quiet area of Sunbury. Elizabeth Drive is a residential zoned area, this making access for mainly residential traffic for the surrounding residence.

Major roads and highways and public transport

There are major roads and highways within a distance of less than 1km from the entry of the site, the main one being the Sunbury Road which is 0.5km away but also Racecourse Road is approx. 0.8km away also. The nearest train station is Sunbury station approx. 1.5km from the site. Buses also serve the station and provide transport to the Sunbury Township and immediate surrounds. A bus stop is within 0.5km of the site.

Shopping facilities

A full range of shopping facilities are available in the Sunbury Township. The main township is located on Evans and O'Shannassy Street and is approx. 1.6km from the site.



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Schools

Sunbury is served by both primary and secondary level schooling within close proximity to the site. Kismet Park Primary school is 0.5km approx. away. Sunbury College and Salesian College are both located approx. 1.8km from the site.

Neighbourhood and site description – in relation to the neighbourhood

Site shape, size orientation and easement

The site proposed for this particular unit development at 274-276 Elizabeth Drive, Sunbury is 772.73m² and has a front boundary that faces east at 17m approx. with a rear boundary facing west at 30m approx. length. The north and south facing side boundaries are 27m and 49m approx. respectively. The site is roughly rectangular and tapers outwards from the front boundary, widening at the rear, it is also shorter on the north side and longer towards the south.

Levels of the site and surrounds

The site falls towards the rear of the block, the use of site cuts will need to be employed at construction stage of these units to compensate. The overall site fall would need to be calculated at construction stage where required. Further information on site levels is included in the feature survey in the accompanying plans.

Location of existing buildings, surrounding site and boundary walls

This site has an existing house located on it, facing Elizabeth Drive. Wooden paling fencing exists to the north, east and southern boundaries of the site.

Use of surrounding buildings

The existing buildings within Elizabeth Drive have been assessed as being used for residential / private uses only.



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Private Open Space and Habitable Windows on Adjacent Properties

The existing dwelling is surrounded by other existing dwellings with secluded private open space. The adjoining properties to the north and south have their private open space facing the rear with habitable windows set back from the boundary. There are no dwellings to the rear of the site.

The proposed development will have a secluded private open space located to the rear and side of the dwellings. The nature of the development in will not pose any issues for the adjoining properties in regards to overlooking and over shadowing due to the fact it is it is setback enough of a distance to avoid these issues as the upper floors are further setback from the ground level as well as the existing dwellings being setback from the boundary.

Solar Access to the Site to Surrounding Residents

The sites orientation allows for plentiful solar access to the north, west and south of the site. There is no overshadowing to the subject site as the adjoining properties are placed away from the boundary far enough to cause no effect, or are of single storey construction. Refer to attached drawings.

Trees and Other Significant Vegetation

There are a few trees on the existing site located which need to be removed prior to the construction of the proposed development. The removal of vegetation will be kept to a minimum. Please see demolition plan for further details.

Contaminated soils and filled areas

There are no known contaminated soil or fill located on the site

Views to and from site

The views to the front of the site are open and face Elizabeth Drive



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Street Frontage Characteristics

Streets in the area are constructed from asphalt. The electrical services are under ground and street light poles are located throughout the street. Front gardens and lawns typically located to the front of each dwelling and extend to the front foot path, where the nature strip then extends to the roadway. There is generally a mix of fencing in the surrounding area. See attached photographs for further details.

Shopping, Schools and Public Transport

There are major roads and highways within a distance of less than 1km from the entry of the site, the main one being the Sunbury Road which is 0.5km away but also Racecourse Road is approx. 0.8km away also. The nearest train station is Sunbury station approx. 1.5km from the site. Buses also serve the station and provide transport to the Sunbury Township and immediate surrounds. A bus stop is within 0.5km of the site

.A full range of shopping facilities are available in the Sunbury Township. The main township is located on Evans and O'Shannassy Street and is approx. 1.6km from the site.

Sunbury is served by both primary and secondary level schooling within close proximity to the site. Kismet Park Primary school is 0.5km approx. away. Sunbury College and Salesian College are both located approx. 1.8km from the site.

Other Notable Site Features

There are no other noticeable features that need to be mentioned in regard to the design response.



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DESIGN RESPONSE

General Description

The design response has been undertaken to formally translate the identification of the site features and constraints and the derivation of the site influences into a site layout, which has been assessed in regard to both existing surroundings and the neighbourhood character and the individual standards of rescode requirements.

- There are minimal issues that have been identified, which the design response must address.
- The character of the neighbourhood
- The general abuttals which occur to adjoining property
- The location of the community services and facilities

Compliance against Clause 55 of RESCODE

Design Response

B1- neighbourhood character

Objective

- To ensure that the design respects the existing neighbourhood character or contributes to a preferred neighbour character.
- To ensure that the development responds to the features of the site and that surrounding areas.



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The site has been assessed and blended into the current state of the surrounding neighbourhood character. The new dwellings will be of a tasteful nature and work in with what is being seen in the local area. The proposed development is consistent with the neighbourhood character and also the other existing unit developments within the Sunbury area, with tile roofing at a pitch of that the average house around the area, and of a brick veneer construction. The proposed Units will face Elizabeth Drive and utilise an existing crossover, unit 2 will sit behind unit 1 and this will ensure the proposed development will not be too obvious from the street and eliminate any look of overcrowding or massing.

Unit 1 will be of double storey construction with four bedrooms and a building area of 212.22 m². Living areas, including kitchen, laundry, master bedroom one with ensuite and WIR are located on the ground floor. The upper level has the remaining three bedrooms (including master with ensuite and WIR) as well as full bathroom servicing the remaining two bedrooms. A double garage is also allocated to this residence. The construction of the building is that of brick and concrete tile roofing.

Unit 2 will also be of double storey construction with four bedrooms and a building area of 191.56 m². Living areas, including kitchen, laundry, master bedroom one with ensuite and WIR are located on the ground floor. The upper level has the remaining three bedrooms (including master with ensuite and WIR) as well as full bathroom servicing the remaining two bedrooms A double garage is also allocated to this residence. The construction of the building is that of brick and concrete tile roofing.

The colours have been chosen to blend into and respect the current neighbourhood character as much as possible. The proposed development with its contemporary design is able to make a positive statement as to the character of this area.

The proposal complies with Standard B1.

B2– Residential policy

Objective

- To ensure that residential development is provided in accordance with any policy for housing in the state planning policy framework and the local planning policy framework. Including the municipal strategic and local planning policies.
- To support medium density in area where development can take advantage of public transport and community infrastructure and services.



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The proposed development complies with the State Planning Framework, in particular section 16 for medium density as follows:

The neighbourhood character has been respected in that of the proposed area in Elizabeth Drive.

The housing we have chosen should greatly improve this site and also provide housing for a family, couples, singles or the like, with its close proximity to public transport and public facility's.

This improvement to the site will be in respect of a better site usage and more viable space for living.

Energy efficiency will be improved with the use of the proposed new development as the energy and resource required to build a larger building would be far more than to build two units of this construction and size.

B3 – Dwelling diversity

Objective

• To encourage a range of dwelling sizes and types in developments of ten or more dwellings.

Design Response

This requirement is applicable to developments of more than 10 dwellings. The proposal is for 2 Units only.

The standard is not applicable to this particular proposed development.

B4-Infrastructure

Objectives

- To ensure development is provided with appropriate utility services and infrastructure.
- To ensure development does not unreasonably overload the capacity of utility services and infrastructure.



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Design Response

The proposed development will have sewerage, storm water drainage, water, electricity and gas connected to the site. Telephone connection will also be provided. All social and community facilities are available within a close proximity to the development.

The development is within the expected sizing for the subdivision and will not have any excess demands on infrastructure over what has been anticipated.

The proposal complies with Standard B4.

B5- Integration with the street

Objective

• To integrate the layout of development with the street.

Design Response

The plan for the unit of the proposed development will follow the shape of the site and will be accessible from Elizabeth Drive.

Unit 1 will face Elizabeth Drive and unit 2 will sit behind it, accessible via the shared access driveway, which utilises an existing crossover.

Boundary and driveways are required to be separate; the proposed unit and the existing dwelling each have its own separate drive into their respective garages plus front landscaping will be used to give a feel of separation between the two dwellings and their driveways.

The proposal complies with Standard B5.

B6- Site Layout and Building Massing

Objective

To ensure that the setbacks of building from a street respect the existing or preferred neighbourhood character and make efficient use of the site.



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Design Response

Unit 1 will directly face Elizabeth Drive and unit 2 is located to the rear of the unit 1. The setback of the proposed unit 1 matches what is being seen in the street and adheres to all relevant guidelines. The proposed units are also separated from each other via fencing with both dwellings sitting more than 1m from the shared boundary fence, therefore avoiding any look of massing on the site.

B7- Building Height

Objective

• To ensure that the height of buildings respects the existing or preferred neighbourhood character.

Design Response

The building heights for the proposed development are measured to the apex of the roof is approximately 8 m from the gradient Natural ground level for unit 1 and 7.6 for unit 2, this is to accommodate for the sloping block. Refer to the elevations.

The building height and the roof pitch are consistent with the existing dwellings located in the Sunbury area for single storey units.

The proposal complies with standard B7

B8- Site coverage

Objective

To ensure that the site coverage respects the existing or preferred neighbourhood character and responds to the features of the site.

Design Response

The total site area proposed for this property is 772.73m² a site coverage percentage of 34.61% which is within the 60% limit set by rescode.



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There are no other policy requirements with respect to this site coverage, constraints imposed by an existing development, or site features that must be accommodated within the design response.

Bulkiness of the unit will be dealt with in the way of setbacks and landscaping will be used to reduce this visual aspect, additionally the upper level has been setback from the ground level of the unit.

The proposal complies with standard B8

B9- Permeability

Objectives

- To reduce the impact of increased stormwater run-off on the drainage system.
- To facilitate on-site stormwater infiltration.

Design Response

The entire site area is 772.73m², of this 34.61% of the site will be permeable and is well over the 20% minimum requirement.

The proposal complies with standard B9

B10- Energy efficiency

Objectives

- To achieve and project energy efficient dwellings and residential buildings.
- To ensure the orientation and layout of development reduce fossil fuel energy use and make appropriate use of daylight and solar energy.



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Issue 1

Design Response

The orientation of the proposed dwellings is east facing at the front boundary towards Elizabeth Drive.

Unit 1 has an eastern orientation facing Elizabeth street and unit 2 has a southern orientation facing the shared access driveway both units have living space to the east, south, west and north, with a sliding door to the secluded private open space at the rear facing north for unit 1 and to the side and rear for unit 2 facing north and west.. The dwelling has windows to habitable rooms facing north, east, west and south, with windows making the most of the solar access, thus making a good impression on the energy efficiency of the proposed development.

Large habitable windows to these areas will be as shown on the elevation pages of the drawings in this particular submission.

This proposal will be analysed by a qualified energy rating assessor and be rated at a later stage for the 6 star energy efficiency designs. The proposed design will achieve 6 stars or great with the orientation and placement of any required insulation, double glazed windows or shading screen if required.

The proposal complies with standard B10

B11- Open Space

• To integrate the layout of development with any public and communal open space provided in or adjacent to the development.

Design Response

There is no public or communal open space provided in or adjacent to the proposed development site.

The proposal complies with Standard B11

B12-Safety

Objective

 To ensure the layout of the development provides for safety and security of residents and property.



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Design Response

Unit 1 faces Elizabeth Street and Unit 2 will face the shared access driveway with a Double garage from the proposed driveway, directly attached to the house, with a door from the garage directly into the dwelling as well as the private open space. This provides convenience to its residents as the entrances and parking areas to the proposed unit and the existing dwelling are separate & easily accessible.

The site boundary will consist of the existing timber paling fence surrounding the site. A 1.8m high timber fence separating the backyard of each unit, providing security and privacy to each of the proposed residences.

The proposed units will have lights near the porch and car accommodation for extra safety and feeling of visual security, this will also allow residents to be guided easily to and from the entrance and car accommodation.

This development does not allow for any inappropriate use or public through fare.

The proposal complies with Standard B12.

B13- Landscaping

Objectives

- To encourage development that respects the landscape character of the neighbourhood.
- To encourage development that maintains and enhances habitat for plants and animals in locations of habitat importance.
- To provide appropriate landscaping.
- To encourage the retention of mature vegetation on the site.

Design Response

Landscape design will comply with existing surrounding sites in the area by using similar maturity level of trees and same types of species. There are front gardens present in the surrounding sites, which we will also be implementing in the proposed development.

In the proposed development there will be a plenty of encouragements for a well-advanced habitat, by encouraging the clients to place sprinkler systems and use advanced planting and garden systems.

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There are only a few minor existing trees that need to be removed prior to construction of this development.

No trees have been removed in the twelve months prior to this application being made, to the best of my knowledge.

The proposal complies with Standard B13.

B14- Access

Objectives

- To ensure vehicle access to and from a development is safe, manageable and convenient.
- To ensure the number and design of vehicle crossovers respects the neighbourhood character.

Design Response

The proposed development will utilise a proposed crossover running on the eastern side of the property. The crossover is a minimum of 3.0 m wide to provide ready convenient access to parking. The existing dwelling will be serviced by the existing crossover on the western side of the block. This complies with requirement for a site having access way and less than 33% of the street frontage.

Convenient access to the site is provided for the response and service of emergency and delivery vehicles.

The proposal complies with Standard B14.

B15- Parking location

Objectives

- To provide convenient parking for residents and visitors vehicles.
- To avoid parking and traffic difficulties in the development and the neighbourhood.
- To protect residents from vehicular noise within developments.



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Design Response

Both proposed dwellings will have separate car accommodation by way of a double garage as a this will be well vented and provided immediately as close to the dwelling as possible.

Access to both units from its respective car accommodation to the dwelling can simply be made from the front entrance or via the internal door directly into the dwelling

The site is located on a street that has low traffic therefore vehicular noise is very minimal. The driveway width provided is suitable for safe and efficient vehicle movement.

The proposal complies with Standard B15.

Clause 52.06- Car Parking

Purpose/Objectives

- To ensure that car parking is provided in accordance with the State Planning Policy Framework and Local Planning Policy Framework
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and nature of the locality.
- To support sustainable transport alternative to the motor car
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not adversely affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

Design Response

The proposed unit adheres the car parking requirements with regard to a 4-bedroom unit development providing 2 car space measuring at 6mx3.5m & 4.9mx2.6m. The existing dwelling will have a single carport with tandem park. The location of the car parks has been set out to provide maximum efficiency for the occupiers of the dwelling as well as providing a level of security and ease of use (due to location and construction materials) The number and design of car parking spaces mirrors that of other developments already constructed in the surrounding area. The number of car parks provided adheres to the car parking requirements set out in Table 1 of Clause 25.06. For further information on carpark set out please refer to the attached drawings.

The proposal complies with Clause 52.06.



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AMENITY IMPACTS

B17- Side and rear setbacks

Objective

• To ensure that the height and setback of a building from a boundary respects the existing or preferred neighbourhood character and limits the impact on the amenity of existing dwellings.

Design Response

All the dwellings are separate from one another which is common to the local area. The side setbacks of the proposed dwelling is just approx 1.2m meters at its closest point, tapering out to over 8 meters. Rear setbacks are over at 1.9m for unit 1 at it's closest point and 3.4m for unit 2,

There are no landings or other building features that will encroach into the minimum 1.0m rescode requirements.

There are no impacts on any secluded open space for existing dwellings or existing habitable windows.

The proposal complies with Standard B17.

B18- Walls on the boundaries

Objective

• To ensure that the location, lengths and height of a wall on a boundary respects the existing or preferred neighbourhood character and limits the impact on the amenity of existing dwellings.

Design Response

The garage of unit 2 is located against the southern side boundary for a length of 6.4m approx. This is of a single storey height and is common practice in the surrounding area.

The proposal complies with standard B18



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B19- Daylight to existing windows

Objective

• To allow adequate daylight into existing habitable room windows.

Design Response

There are existing dwellings surrounding the site but the proposed dwelling will not have an effect on these as it is setback away from any habitable windows on the, northern, eastern and western boundaries. The existing dwelling is also setback significantly to ensure its habitable windows would not be affected by this new development. Refer to the attached shadow diagrams and site survey for further details. The proposal complies with standard B19

B20- North-facing windows

Objective

• To allow adequate solar access to existing north-facing habitable room windows.

Design Response

The orientation of this dwelling facing east, as well as being setback from the northern boundary as well as its position in relation to any existing north facing windows of surrounding properties will not impact any access to existing north facing habitable windows. Refer to the attached shadow diagrams.

The proposal complies with standard B20.



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B21- Overshadowing open space

Objective

• To ensure buildings do not significantly overshadow existing secluded private open space.

Design Response

These dwellings will not be deprived from receiving adequate daylight because the proposed unit development is setback a significant distance from the existing private open space and are of a single storey design. Refer to the attached shadow diagrams.

The proposal complies with Standard B21.

B22-Overlooking

Objective

• To limit views into existing secluded private open space and habitable room windows.

Design Response

The proposed dwellings are designed as to not encroach on the private open space or existing habitable widows of the existing dwellings. The dwelling are of single storey height only. Refer to the elevation and make specific note of the window heights to prevent overlooking issues within this development and the sites around that are or may be affected

The proposal complies with Standard B22.

B23- Internal views

Objective

• To limit views into the secluded private open space and habitable room windows of dwellings and residential buildings within a development.



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Design Response

The views into secluded private open space will be restricted by the use for 1.8m high timber fences separating the unit from the existing dwelling as well as use of window styles limited full view into any neighbouring properties. The second level is also setback from the ground floor.

The layout of the fencing and windows are viewable on the plans.

The proposal complies with Standards B23.

B24- Noise impacts

Objectives

- To contain noise sources in development that may affect existing dwellings.
- To protect residents from external noise.

Design Response

No mechanical plant will be located within the property. An air-conditioner system, if fitted, will be located at the rear of each unit and will be the only source of noise within the properties.

As the site development is situated in a residential sub division, there is unlikely to be any particular noise sources from the immediate adjacent properties in the future that need to be accommodated within the design response. The property is not situated near industry.

Elizabeth Drive receives a limited amount of traffic; this traffic will be local and the noise should not be of great concern. There are no significant external sources of noise that need to be accommodated or considered within the design response.

The proposal complies with Standard B24.



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ON-SITE AMENITY AND FACILITIES

B25-Accessibility

Objective

• To encourage the consideration of the needs of people with limited mobility in the design of developments.

Design Response

As a general over view to this particular site, being of double storey design is that it is limited in catering for those of limited mobility.

The proposal complies with Standard B25.

B26-Dwelling entry

Objective

• To provide each dwelling or residential building with its own sense of identity.

Design Response

Entry to all dwellings is via the front porch, either via steps or the same level as the driveway. Entry to the proposed dwellings faces Elizabeth Drive for Unit 1 and the shared access driveway for unit 2. These entries will have their own landscaping and the dwellings will have a driveway separating it from the adjoining existing house.

The proposal complies with Standard B26.

B27- Daylight to new windows

Objective

• To allow adequate daylight into new habitable room windows.



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Design Response

All habitable windows within the proposed development are provided with light wells in excess on 1-3square meters and have 1m minimum to clear open sky standard.

The proposal complies with Standard B27

B28-Private open space

Objective

• To provide adequate private open space for the reasonable recreation and service needs of residents.

Design Response

The proposed Unit's will have more than 40° of secluded private open space to the rear and side of the dwellings, with access via glass sliding doors from the living/family areas of the unit. The land of the proposed development will be levelled off at a natural gradient of the site in its current form, which will allow for reasonable interaction with the space and service needs. Concrete path will be as shown on the landscape plans.

The proposal complies with Standard B28.

B29- Solar to open space

Objective

• To allow solar access into the secluded private open space of new dwelling and residential buildings.

Design Response

The proposed unit will have in excess of 40m^2 of secluded private open space to the rear and side of the dwelling. This unit will have secluded private open space facing north and east with an uninterrupted solar access to the space.

The existing dwelling will also have secluded private open space and private open space to the north and east also as well as adhering to rescode minimum space requirements

The proposal complies with Standard B29.



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B30-Storage

Objective

• To provide adequate storage facilities for each dwelling.

Design Response

A storage shed will be provided to this unit located within the rear yard, this will be of steel construction and will be of 6.0 cubic metres, thus complying with the Res Code requirement 6.0 cubic meters of externally accessible secure storage space.

approximately 1.5 long by 2.0m high, to give a storage volume

The proposal complies with Standard B30.

DETAILED DESIGN

B31-Design detail

Objective

• To encourage design details that respects the existing or preferred neighbourhood character.

Design Response

The proposed development of the units will be consistent with the current neighbourhood character and compliment other existing new developments within the Elizabeth Drive precinct, with concrete tiled roofing at a pitch of that the average house around the area, and of brick veneer construction.

The overall development will be constructed in a manner in which is currently being seen within the area.

The external colours of the bricks have been noted, along with the gutter, fascia, doors and window colours, within this schedule of colour selection.

The attention to detail with regard to the colour selection should well complement the existing neighbourhood and area of development, this blending in well without drawing attention to new building materials.

The proposal complies with Standard B31.



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B32- Front fences

Objective

To encourage front fence design that respects the existing or preferred neighbourhood character.

Design Response

There is a mix of fenced and unfenced developments surrounding Elizabeth Drive, therefore to blend in with the existing neighbourhood character and provide a sense of openness we will not be constructing any front fencing to the property.

The proposal complies with Standard B32.

B33- Common property

Objective

• To ensure that communal open space, car parking, access areas and site facilities are practical, attractive and easily maintained.

Design Response

There are no communal or public areas within this development.

The proposal complies with standard B33.

B34- Site services

Objectives

- To ensure that site services can be installed and easily maintained.
- To ensure that a site facilities are assessable, adequate and attractive.



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Design Response

The development does not impede on the services themselves or the access to this service for maintenance purposes. Access to the front of the unit is fully accessible and serviceable. Personal access to the rear of the unit (private open space) is directly accessible from the unit itself.

Post boxes will be located at the front of the property and will meet the requirements of Australia post. Bin and recycling enclosures are provided along boundaries in the private opens space for each unit collection; however, bins can be located within each property rear private open space or in garage which will be up to the owner's discretion.

The proposal complies with Standard B34.

55.03-1 Street Setback

Front Setback: In regards to this clause, while it is true one neighbours setback is 12.5m, this is an exception to what is being seen in the street, the neighbour on our other side has approx. a 6m setback, while we have 6.5m. Setbacks vary from 4-6m in the street, with properties 254, 262, 268 and 280 282 showing this type of setback. Therefore, I believe that we have complied with the setbacks that are predominately being seen in the surrounding area.



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Issue 1



Arboricultural Impact Assessment

REPORT COMMISSIONED BY:

Property owner

SUBJECT SITE:

274-276 Elizabeth Drive, Sunbury Vic 3429

REPORT PREPARED BY:

Siegfried Tuenker, Consulting Arborist Certificate 8 Arboriculture (AQF 8 - pending)

Nicholas Holian, Consulting Arborist Certificate 5 Horticulture (Arboriculture) **DATE OF ASSESSMENT:**

Monday, May 16, 2022

DATE OF REPORT:

Thursday, May 19, 2022

VERSION 1

TMC REPORTS

ARBORICULTURAL CONSULTING SERVICES

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1 Assignment

1.1 Author / Consulting Arborist

Name Siegfried Tuenker,

Consulting Arborist

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pending)

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Nicholas Holian, Consulting Arborist Certificate 5 Horticulture (Arboriculture)

1.2 Client

Name

Property owner
Site Address
274-276 Elizabeth Drive,
Sunbury Vic 3429

Intended Audience

- The property/tree owner(s)
- The development project manager and associated construction staff
- Council Planning Department

1.3 Brief

The purpose of this report is to provide an independent arboricultural assessment of prominent trees that are located within the subject site and within five metres of the site boundary lines.

Detail has been requested in relation to the following instructions:

- To provide an objective assessment of the overall condition of the subject trees.
- To provide an objective assessment of the retention value of the subject trees.
- To determine the Tree Protection Zones (TPZ) and Structural Root Zones (SRZ) of the subject trees.
- To determine whether the subject trees are expected to remain viable following the proposed development.
- To propose recommendations that are expected to ensure that the subject trees would remain viable post construction.



2 Data collection

2.1 Site visit

 Siegfried Tuenker, of TMC Reports, visited the site for an arboricultural assessment on Monday the 16th of May 2022 at 3:30pm.

2.2 Method of data collection

- The subject trees were assessed from observations made as viewed from ground level.
- Access to neighbouring properties was not permitted. Assessment was therefore limited only to parts of the trees that were visible from within the subject site.
- A digital camera was used at ground level to obtain photographs within this report.
- The spreads of the trees were estimated.
- The heights of the trees were measured by using a Nikon Forestry Pro 2 Laser Range Finder.
- A circumference tape measure was used to determine the trunk dimensions of Trees 1 - 20.
- Trunk dimensions of the neighbouring trees (Trees 21 25) were estimated due to restricted access.
- Encroachment percentages have been calculated via ArborCAD.

2.2.1 Documents viewed

- Proposed siting (12/04/2022)
- o Hume Council Planning Scheme
- Australian Standard AS4970 2009 'Protection of Trees on Development Sites'
- Australian Standard AS4373 2007 'Pruning of Amenity Trees'

2.2.2 Proposed siting

 The proposed siting referenced in this report is a preliminary siting and may be subject to change.



3 Site description

- The subject site is located in a General Residential Zone Schedule 1 (GRZ1) within the Hume Council.
- o An existing residential dwelling is located within the subject site.
- o The terrain of the site appeared to be declining to the west.
- The subject trees are all located within the subject site, the front nature strip, and adjoining property (278 Elizabeth Drive).
- Only those trees on the subject site within the development zone were assessed.
- No additional prominent vegetation was observed within five metres of the site boundary lines.



4 Tree data

Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread	DBH CA1 DAB	Health	Structure	ULE (years)	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Permit Required	Comments
	Eucalyptus sp.				N-S	0.16 m					Council Owned Tree				Council owned tree situated within the front
1	<u> Ейсагургиз эр.</u>	Semi Mature	Native	5.0 m	4.0 m	0.57 m	Good	Good	20+	Low		2.0 m	1.7 m	N/A	nature strip. Co-dominant stems at 2.0m above ground level. Eastward lean.
	Gum tree				E-W 5.0 m	0.20 m									ground level. Lastward learn.
	Olea europaea				N-S	0.11 m									
2	,	Mature	Exotic	3.0 m	1.5 m E-W	0.35 m Good	Good	Good	20+	Low	Low	2.0 m	1.5 m	N/A	Eastward lean.
	Olive				1.5 m	0.11 m									
	Pittosporum undulatum	Mature	ature Native NSW QLD VIC	4.0	N-S 6.0 m	0.18 m 0.53 m	Good	Good	20+		Laur	0.0	1.7 m	N/A	Comprised of several stems at 1.5m above
3	Sweet Pittosporum			m	E-W 6.0 m	0.21 m	300u	0000		Low	Low	2.2 m		N/A	ground level. Situated in raised garden bed falling to the west.
4	Melaleuca linariifolia	Mature	Native NSW QLD	4.0	N-S 5.0 m	0.29 m 0.14 m (0.32 m)	Good	Good	20+	Low	Low	3.9 m	1.9 m	N/A	Situated within 2.1m of the dwelling. Situated in
	Snow-in-	- Wataro		QLD m	E-W	1.01 m 0.28 m	-								raised garden bed falling to the west.
5	Fraxinus angustifolia subsp. angustifolia	Mature	Exotic	9.0 m	4.5 m N-S 13.0 m	0.41 m 0.23 m 0.22 m (0.52 m) 1.45 m 1.01 m (2.45 m) 0.60 m	Good	Fair/ good	20+	Moderate	Moderate	6.2 m	2.7 m	N/A	Co-dominant stems at 0.4m above ground level. Included bark at primary unions. Moderate deadwood up to Ø15cm. Deciduous species which appeared to be in the process of defoliation at the time of inspection. Retaining wall along western edge of base with steep fall beyond.
6	Cotoneaster glaucophyllus	Mature	Exotic	3.5 m	N-S 4.0 m	0.12 m 0.41 m	Good	Good	20+	Low	Low	2.0 m	1.5 m	N/A	Gravel driveway situated within TPZ. Situated in garden bed with irregular rock retaining walls/partitions.



Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread	DBH CA1 DAB	Health	Structure	ULE (years)	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Permit Required	Comments	
	Grey cotoneaster				E-W 4.0 m	0.14 m										
	Unknown sp.				N-S	N/A				Low					Too many stems to practically measure or estimate TP7 & SR7 have therefore been	
7	Olikilowii sp.	Mature	Unknown	3.0 m	3.5 m	N/A	Fair	Fair/ good	10- 20		Low	2.0 m	1.5 m	N/A	estimate. TPZ & SRZ have therefore been estimated. Concrete porch situated within TPZ.	
	Unknown				E-W 3.5 m	N/A		geou							Situated in a garden bed with brick edging.	
	Cotoneaster				N-S	N/A									Too many stems to practically measure or	
8	glaucophyllus	Mature	Exotic	5.5 m	8.0 m	N/A	Good	Fair/ good	20+	Low	Low	3.8 m	2.0 m	N/A	estimate. TPZ & SRZ have therefore been estimated. Situated in garden bed with irregular	
	Grey cotoneaster			E-W 8.0 m	N/A	3	Ü							rock retaining walls/partitions.		
	Cotoneaster				N-S	N/A							1.9 m	N/A	Too many stems to practically measure or	
9	glaucophyllus	Mature	Exotic	5.0 m	8.0 m	N/A	Good	Fair/ good	20+	Low	Low	3.6 m			estimate. TPZ & SRZ have therefore been estimated. Paver stairway situated within TPZ.	
	Grey cotoneaster			'''	E-W 7.0 m	N/A		good							Situated in garden bed with irregular rock retaining walls/partitions.	
	Cotoneaster				N-S	N/A									Too many stems to practically measure or	
10	glaucophyllus	Mature	Exotic	5.0 m	4.0 m	IN/A	Fair/ good	Fair/ good	20+	Low	Low	3.2 m	1.9 m	N/A	estimate. TPZ & SRZ have therefore been estimated. Dwelling situated within TPZ.	
	Grey cotoneaster				E-W 5.0 m	N/A		,							Situated within 0.2m of the dwelling.	
	Cotoneaster				N-S	N/A									Too many stems to practically measure or	
11	glaucophyllus	Mature	Exotic	4.0 m	3.5 m	N/A	Fair/ good	Fair/ good	20+	Low	Low	2.0 m	1.5 m	N/A	estimate. TPZ & SRZ have therefore been estimated. Dwelling situated within TPZ.	
	Grey cotoneaster				E-W 4.0 m	N/A									Situated within 0.2m of the dwelling.	
	Cotoneaster				N-S	N/A									Too many stems to practically measure or estimate. TPZ & SRZ have therefore been	
12	glaucophyllus	Mature	Exotic	4.5 m	7.0 m	N/A	Good	Fair/ good	20+	Low	Low	3.5 m	1.9 m	N/A	estimated. Paver stairway situated within TPZ.	
	Grey cotoneaster				E-W 6.5 m	N/A									Situated in garden bed with irregular roc retaining walls/partitions.	
	Cotoneaster				N-S	N/A									Too many stems to practically measure or	
13	glaucophyllus Mature	ire Exotic	Exotic 3.5 m	4.0 m	N/A	Good	Fair/ good	20+	Low	Low	2.2 m	1.5 m	N/A	estimate. TPZ & SRZ have therefore been estimated. Situated in garden bed with irregular		
	Grey cotoneaster	Grey cotoneaster			E-W 4.5 m	N/A	,	Ĭ							rock retaining walls/partitions.	
14		Mature	Exotic			N/A	Good		20+	Low	Low	3.5 m	1.9 m	N/A		



Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread	DBH CA1 DAB	Health	Structure	ULE (years)	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Permit Required	Comments	
	Cotoneaster glaucophyllus			4.5	N-S 6.0 m	N/A		Fair/	air/						Too many stems to practically measure or	
	Grey cotoneaster			m	E-W 7.0 m	N/A		good							estimate. TPZ & SRZ have therefore been estimated.	
	Leptospermum				N-S	0.18 m										
15	sp.	Mature	Native	4.0 m	2.0 m	0.57 m	Good	Fair	10- 20	Low	Low	2.2 m	1.6 m	N/A	Trunk measurements taken at base. Multi- stemmed at ground level.	
	Tea Tree				E-W 3.0 m	0.18 m									3.55	
	Eucalyptus				N-S	0.26 m										
16	leucoxylon	Mature	Native SA VIC	7.0 m	8.0 m	0.82 m	Fair/ good	Fair	20+	Low	Low	3.1 m	2.0 m	N/A	Co-dominant stems at 2.8m above ground level. Sharp northward lean at approx. 3.0m	
	Yellow Gum			111	E-W 9.5 m	0.30 m	good								above ground level.	
	Cotoneaster sp.				N-S	N/A									Too many stems to practically measure or	
17	Obtoricustor sp.	Mature	Exotic	5.0	7.0 m	N/A	Good	Fair/	20+	Low	Low	3.6 m	1.8 m	N/A	estimate. TPZ & SRZ have therefore been estimated. Group of 4 trees running along the	
	Cotoneaster			m	E-W 7.0 m	N/A		good							boundary fence. Tree dimensions have been averaged.	
	Cotoneaster				N-S	N/A									T	
18	glaucophyllus	Mature	Exotic	4.5	8.0 m	N/A Good	Good	Fair/	20+	Low	Low	3.7 m	1.8 m	N/A	Too many stems to practically measure or estimate. TPZ & SRZ have therefore been	
	Grey cotoneaster			m	E-W 8.0 m	N/A		good			·				estimated. Situated in garden bed with irregular rock retaining walls/partitions.	
	Corymbia				N-S	0.75 m									Gravel driveway situated within TPZ. Previous failures on northern side of tree between 3-6m.	
19	maculata	Mature	Native NSW	16.0 m	17.0 m	2.45 m	Good	Good	20+	Moderate	Moderate	9.0 m	3.1 m	N/A	Minor deadwood throughout consistent with species. Retaining wall along southern side of	
	Spotted gum		VIC	""	E-W 14.5 m	0.88 m									base 0.4m high, retaining wall northside of tree above base grade.	
	Cotoneaster glaucophyllus Grey cotoneaster				N-S	N/A									Too many stems to practically measure or	
20		Mature	Exotic	4.5 m	6.5 m	N/A	Good	Fair/	20+	Low	Low	2.9 m	1.7 m	N/A	estimate. TPZ & SRZ have therefore been	
			Exolic		E-W 5.0 m	N/A		good	20+	LOW			1.7 m	IN/A	estimated. Situated in garden bed with irregular rock retaining walls/partitions.	



Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread	DBH CA1 DAB	Health	Structure	ULE (years)	Amenity Value	Retention Value	TPZ Radius	SRZ Radius	Permit Required	Comments
	Bambuseae sp.				N-S	N/A									Neighbouring hedge located within the
21	,	Mature	Exotic	5.0	2.0 m	N/A	Good	Good	20+	Low	Neighbouring	2.0 m	N/A	N/A	southern adjoining property (278 Elizabeth Drive). TPZ adjusted as per section 3.2 of
	Bamboo			m	E-W 2.0 m	N/A					Tree				AS4970-2009. SRZ not required as per section 3.3.5 of AS4970-2009.
22	Viburnum tinus	Mature	Exotic	4.5 m	N-S 3.0 m	0.12 m 0.10 m 0.10 m (0.19 m) 0.41 m 0.35 m 0.31 m (1.07 m)	Fair/ good	Fair/ good	20+	Low	Neighbouring Tree	2.2 m	1.8 m	N/A	Neighbouring tree group located within the southern adjoining property (278 Elizabeth Drive). Restricted view. Group of 2 trees of the same species. Tree dimensions have been averaged. Canopy extends into the site by 1.0m at a height of 1.8m above ground level. Severe
	Laurustinus				E-W 4.5 m	0.24 m									thrips infestation.
23	Euonymus japonicus	Mature	Exotic	3.5	N-S 1.5 m	N/A N/A Good	Good	od Fair/ good	20+	Low	Neighbouring	2.0 m	1.5 m	N/A	Neighbouring tree located within the southern adjoining property (278 Elizabeth Drive). Restricted view. Too many stems to practically
	Evergreen spindle tree	Wataro	Exolio	m	E-W 4.0 m	N/A	3000				Tree	2.0 111	1.5 111	14/7	measure or estimate. TPZ & SRZ have therefore been estimated. Growing hard on fence.
24	Euonymus japonicus	Mature Exotic	Exotic	3.5 m	N-S 1.0 m	0.10 m 0.10 m (0.14 m) 0.38 m 0.35 m (0.72 m)	Good	Fair/ good	20+	Low	Neighbouring Tree	2.0 m	1.7 m	N/A	Neighbouring tree located within the southern adjoining property (278 Elizabeth Drive). Growing hard on fence.
	Evergreen spindle tree				E-W 3.5 m	0.20 m									
	Fraxinus angustifolia			otic 6.5	N-S	0.19 m		Good		+ Low				_	
25	subsp. oxycarpa	Mature	ature Exotic		4.0 m	0.66 m	Good		20+		Neighbouring Tree	2.3 m	1.8 m	N/A	Neighbouring tree located within the southern adjoining property (278 Elizabeth Drive).
	Claret ash				E-W 4.0 m	0.25 m									



4.1 Photographic evidence

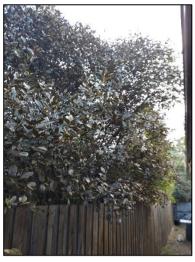




















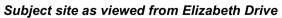
Tree 22

Tree 23

Tree 24

Tree 25







Existing driveway and northern border





Existing dwelling as viewed from north-east



Western section of dwelling as viewed from west



Western section of dwelling and rear yard viewed from north-west



Rear yard viewed from north-west facing south

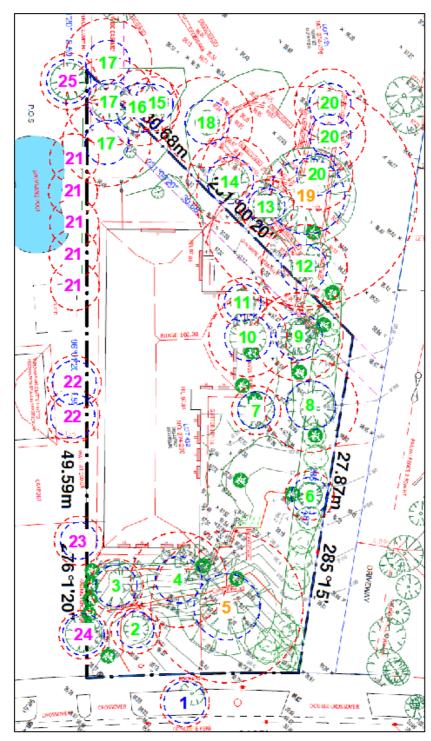


Site maps

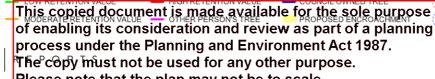
5.1 Existing conditions

The following map indicates the tree locations in relation to the existing conditions:





LEGEND

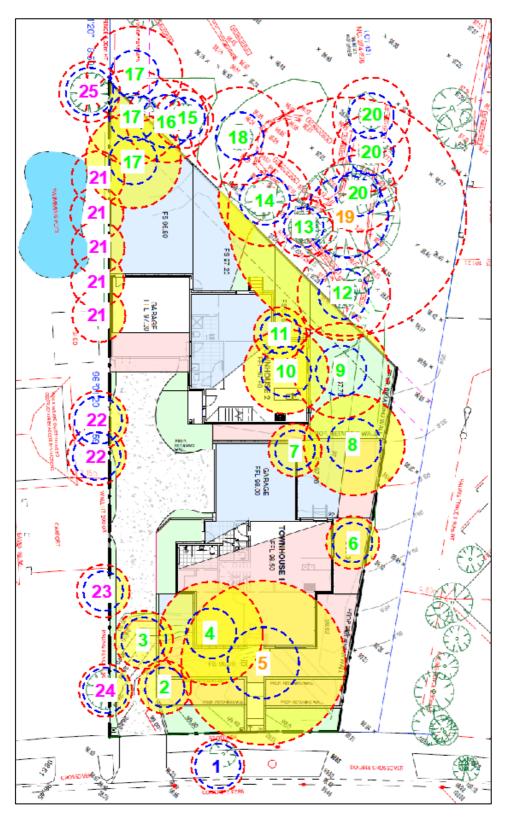


TREE PROTECTION ZONE STRUCTURAL ROOT ZONE

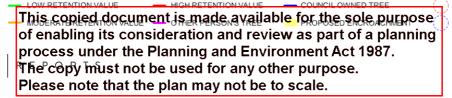
process under the Planning and Environment Act 1987.
The copy must not be used for any other purpose.
Please note that the plan may not be to scale.

5.2 Proposed plan

The following map indicates the tree locations in relation to the proposed plans:



LEGEND



TREE PROTECTION ZONE STRUCTURAL ROOT ZONE



6 Discussion

6.1 Tree protection zone

The tree protection zone (TPZ) is determined by multiplying the trunk diameter of the tree at breast height, 1.4m from ground level, by 12. A 10% encroachment on one side of this zone is acceptable without investigation into root distribution or offset of the lost area.

Section 3.2 of the Australian Standard AS4970 - 2009 Protection of Trees on Development Sites states that the TPZ of Palms, other monocots, cycads and tree ferns should not be less than 1 m outside the crown projection.

6.2 Structural root zone

The structural root zone (SRZ) is the setback required to avoid damage to stabilising structural roots. The loss of roots within the SRZ must be avoided. The SRZ is determined by applying the following formula: (D X 50) 0.42×0.64 where D = trunk diameter in metres.

6.3 Designing around trees

It may be possible to encroach into or make variations to the TPZ of the trees that must be retained. Encroachment includes excavation, compacted fill and machine trenching.

The following is referenced from section 3.3 of the Australian Standards AS4970 – 2009 Protection of Trees on Development Sites:

6.3.1 Minor encroachment

If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.

6.3.2 Major encroachment

If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ the project arborist must demonstrate that the trees would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods.



6.3.3 Root investigation

Where the proposed development is considered to be a major encroachment, a non-destructive root exploratory investigation may be required within the alignment of the proposed encroachment.

By undertaking a non-destructive root exploratory investigation, the extent of roots within that particular area may be determined. If a negligible amount of roots are required to be removed or damaged in order to construct the proposed development, the tree may remain viable. If a significant amount of roots are proposed to be removed or damaged in order to construct the proposed development, the tree may not remain viable.

Obstructions (paving, vegetation, structures) within the alignment of proposed encroachments may be required to be removed prior to the non-destructive root exploratory investigation occurring.

The non-destructive root exploratory investigation report should:

- o Be undertaken by a suitably qualified Arborist (AQF Level 5 Arboriculture).
- Detail the total distance of each excavation line.
- o Detail the closest distance from the trunk centre to the excavation line.
- The size (diameter) and number of roots discovered and the depth of roots (where relevant).
- Include photographs of the subject tree(s) trenches and roots.
- Include a discussion of the findings of the root investigation and the impact of the proposed works on the long-term health/structural stability of the tree(s).



7 Conclusion

7.1 Tree retention value

7.1.1 Council owned tree

The following tree belongs to Hume Council:

o Tree 1

7.1.2 Low retention value

The following trees are considered to be of low retention value as they are relatively small specimens that are insignificant to the landscape:

o Tree 2 o Tree 8 o Tree 13 o Tree 18 o Tree 3 o Tree 14 o Tree 20 o Tree 9 o Tree 4 o Tree 10 Tree 15 o Tree 11 o Tree 16 o Tree 6 o Tree 7 o Tree 12 Tree 17

7.1.3 Moderate retention value

The following trees are considered to be of moderate retention value as they are moderate sized specimens that are growing in a prominent location:

o Tree 5

o Tree 19

7.1.4 Neighbouring trees

The following trees do not belong to the property owner:

Tree 21
 Tree 24
 Tree 25

o Tree 23

7.2 Permit requirements

The site is not subject to any local law or overlay in relation to tree protection.

The following tree belongs to Hume Council and must only be maintained by Council staff or contractors:

o Tree 1

7.2.1 Street tree

The installation of a new cross over (commonly known as a driveway) or extension of an existing cross over may impact the existing street tree. An



application must be made for a 'Consent to work within a Hume City council Road Reserve' permit. If the request to remove the tree is approved there will be a fee charged. The amount of the fee depends on the size of the tree and covers the removal of the tree and stump, and the purchase, planting and establishment maintenance of the replacement tree(s).

7.3 Impact assessment

The following table represents the encroachments of the proposed development:

Tree	Encroachment	TPZ	SRZ	Encroachment	Proposed		
No.		encroachment	encroachment	category	retention		
1	N/A	0%	0%	N/A	Retain		
2	Site cut	Entire	Entire	Major	Remove		
3	Driveway	Entire	Entire	Major	Remove		
4	Site cut	Entire	Entire	Major	Remove		
5	Site cut	Entire	Entire	Major	Remove		
6	Site cut	Entire	Entire	Major	Remove		
7	Site fill	Entire	Entire	Major	Remove		
8	Site cut	Entire	Entire	Major	Remove		
	Townhouse 2	12.2%	0%	Major			
9	Retaining wall	3.4%	0%	Minor	Remove		
	Total	15.6%	0%	Major			
10	Townhouse 2	Entire	Entire	Major	Remove		
11	Townhouse 2	Entire	Entire	Major	Remove		
12	Retaining wall	30.5%	15.7%	Major	Remove		
13	N/A	0%	0%	N/A	Remove		
	Retaining wall	17.3%	0.1%	Major			
14	Site fill	13.6%	0.1%	Major	Remove		
	Total (overlapped)	17.3%	0.1%	Major			
15	Retaining wall	2.8%	0%	Minor	Remove		
16	Retaining wall	31.7%	22.2%	Major	Remove		
17	Site fill	Entire	Entire	Major	Remove		
18	N/A	0%	0%	N/A	Remove		
	Site fill	2.5%	0%	Minor			
19	Stairway	0.5%	0%	Minor	Retain		
13	Retaining wall	14.3%	0%	Major	Retain		
	Total (overlapped)	14.3%	0%	Major			
20	N/A	0%	0%	N/A	Remove		
	Site fill	23.4%	N/A	Major			
21	Garage 2/Site cut	24.9%	N/A	Major	Retain		
	Total (maxiumum)	24.9%	N/A	Major			
22	Driveway	24.6%	20.2%	Major	Retain		
23	Driveway	20.1%	11.6%	Major	Retain		
24	Driveway	25.0%	21.0%	Major	Retain		
25	Retaining wall	7.1%	3.1%	Major	Retain		

Note: encroachment calculations are approximate and do not consider over excavation



7.3.1 No encroachment

Development is not proposed to encroach into the TPZ or SRZ of the following trees:

Tree 1
 Tree 18
 Tree 13
 Tree 20

The proposed development is not expected to compromise the long-term viability of the above-mentioned trees.

Less invasive construction measures or development redesign are therefore not required to ensure that these trees would remain viable post construction.

7.3.2 Minor encroachment

The proposed development is considered to be a minor encroachment according to section 3.3.2 of the Australian Standard AS4970 – 2009 'Protection of Trees on Development Sites' of the following tree:

o Tree 15

The proposed development is not expected to compromise the health and/or structural integrity of the above-mentioned tree.

Less invasive construction measures or development redesign are therefore not required to ensure that this tree remains viable post construction.

7.3.3 Major encroachment

The proposed development is considered to be a major encroachment according to section 3.3.3 of the Australian Standard AS4970 – 2009 'Protection of Trees on Development Sites' of the following trees:

0	Tree 2	0	Tree 7	0	Tree 12	0	Tree 21
0	Tree 3	0	Tree 8	0	Tree 14	0	Tree 22
0	Tree 4	0	Tree 9	0	Tree 16	0	Tree 23
0	Tree 5	0	Tree 10	0	Tree 17	0	Tree 24
0	Tree 6	0	Tree 11	0	Tree 19	0	Tree 25

Tree 2

- The tree is located within the footprint of the site cut.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.



Tree 3

- The tree is located within the footprint of the driveway.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 4

- o The tree is located within the footprint of the site cut for townhouse 1.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 5

- The tree is located within the footprint of the site cut for the townhouse 1 portico.
- The proposed development requires the removal of this tree.
- This tree is of moderate retention value.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 6

- o The tree is located within the footprint of the site cut.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 7

- The tree is located within the footprint of the site fill for the townhouse 1 garage.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.



- The tree is located within the footprint of the site cut.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 9

Townhouse 2:

- The footprint of townhouse 2 is considered to be a major encroachment (6.3.2) of 12.2% of the TPZ and 0% of the SRZ.
- o Individually, the construction of the townhouse has the potential to compromise the tree's long-term viability.

Retaining wall:

- The retaining wall is considered to be a minor encroachment (6.3.1) of 3.4% of the TPZ and 0% of the SRZ.
- Individually, the construction of the retaining wall is not expected to compromise the tree's long-term viability.

Overview:

- The total encroachment of townhouse 2 and the retaining wall is 15.6% of the TPZ and 0% of the SRZ which is considered to be major (6.3.2).
- The construction of the proposed townhouse and retaining wall has the potential to compromise the tree's long-term viability.
- This tree is of low retention value.
- This tree is proposed to be removed.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 10

- The tree is located within the footprint of townhouse 2.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.
- o A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 11

- The tree is located within the footprint of townhouse 2.
- The proposed development requires the removal of this tree.
- This tree is of low retention value.

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- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

- The footprint of the retaining wall is considered to be a major encroachment (6.3.2) of 30.5% of the TPZ and 15.7% of the SRZ.
- The construction of the proposed retaining wall has the potential to compromise the tree's long-term viability.
- This tree is of low retention value.
- This tree is proposed to be removed.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 14

Retaining wall:

- The footprint of the retaining wall is considered to be a major encroachment (6.3.2) of 17.3% of the TPZ and 0.1% of the SRZ.
- o Individually, the construction of the retaining wall has the potential to compromise the tree's long-term viability.

Site fill:

- The footprint of the site fill is considered to be a major encroachment (6.3.2) of 13.6% of the TPZ and 0.1% of the SRZ.
- Individually, the site fill has the potential to compromise the tree's longterm viability.

Overview:

- The total encroachment of the retaining wall and site fill is 17.3% of the TPZ and 0.1% of the SRZ which is considered to be major (6.3.2).
- The development of the proposed retaining wall and site fill has the potential to compromise the tree's long-term viability.
- This tree is of low retention value.
- This tree is proposed to be removed.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 16

- The retaining wall is considered to be a major encroachment (6.3.2) of 31.7% of the TPZ and 22.2% of the SRZ.
- The construction of the proposed retaining wall has the potential to compromise the tree's long-term viability.

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- This tree is of low retention value.
- o This tree is proposed to be removed.
- A permit is NOT required to remove this tree.
- In the event of removal, less invasive construction measures or development redesign are not required.

- The tree group is located within the footprint of the site fill.
- The proposed development requires the removal of this tree group.
- This tree group is of low retention value.
- A permit is NOT required to remove this tree group.
- In the event of removal, less invasive construction measures or development redesign are not required.

Tree 19

Site fill:

- The footprint of the site fill is considered to be a minor encroachment (6.3.1) of 2.5% of the TPZ and 0% of the SRZ.
- Individually, the site fill is not expected to compromise the tree's long-term viability.

Stairway:

- The footprint of the stairway is considered to be a minor encroachment (6.3.1) of 0.5% of the TPZ and 0% of the SRZ.
- o Individually, the construction of the proposed stairway is not expected to compromise the tree's long-term viability.

Retaining wall:

- o The footprint of the retaining wall is considered to be a major encroachment (6.3.2) of 14.3% of the TPZ and 0% of the SRZ.
- Individually, the construction of the retaining wall has the potential to compromise the tree's long-term viability.

Overview:

- The total encroachment of the site fill, stairway and retaining wall is 14.3% of the TPZ and 0% of the SRZ which is considered to be major (6.3.2).
- The development of the proposed site fill, stairway and retaining wall combined has the potential to compromise the tree's long-term viability.
- This tree is of moderate retention value.
- This tree is proposed to be retained.
- A permit is NOT required to remove this tree.
- Recommendations within section 8.3 and 8.4 of this report are required to ensure that this tree would remain viable post construction.



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Site fill:

- The footprint of the site fill is considered to have a maximum major encroachment (6.3.2) of 23.4% of the TPZ. This tree group does not require an SRZ as per section 3.3.5 of AS4970-2009.
- o Individually, the development of the site fill has the potential to compromise the tree's long-term viability.

Garage 2/site cut:

- o Garage 2 and the site cut is considered to have a maximum major encroachment (6.3.2) of 24.9% of the TPZ. This tree group does not require an SRZ as per section 3.3.5 of AS4970-2009.
- Individually, the development of the garage and site cut has the potential to compromise the tree's long-term viability.

Overview:

- The maximum encroachment of the site fill, site cut and garage 2 is 24.9% of the TPZ which is considered to be major (6.3.2).
- o This tree is a neighbouring tree group that is proposed to be retained.
- This tree group is NOT subject to any permit requirements.
- Although this is considered to be a major encroachment, the tree group is expected to remain viable due to the following factors:
 - The tree group is of an exceptionally hardy species that generally tolerates root disturbance well.
 - The tree group is of excellent health and vigour.
- Less invasive construction measures are not required to ensure that this tree would remain viable post construction.

Tree 22

- The footprint of the driveway is considered to be a major encroachment (6.3.2) of 24.6% of the TPZ and 20.2% of the SRZ.
- o This is a neighbouring tree group that is proposed to be retained.
- This tree group is NOT subject to any permit requirements.
- Although this is considered to be a major encroachment, the tree group is expected to remain viable due to the following factors:
 - The tree group is of a hardy species that generally tolerates root disturbance well.
 - These are small trees that are expected to have small and vigorous root systems.
- Less invasive construction measures are not required to ensure that this tree would remain viable post construction.



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- The footprint of the driveway is considered to be a major encroachment (6.3.2) of 20.1% of the TPZ and 11.6% of the SRZ.
- This is a neighbouring tree that is proposed to be retained.
- This tree is NOT subject to any permit requirements.
- o Although this is considered to be a major encroachment, the tree is expected to remain viable due to the following factors:
 - The tree is of a hardy species that generally tolerates root disturbance well.
 - The tree is of good health and vigour.
 - This is a small tree that is expected to have a small and vigorous root system.
- o Less invasive construction measures are not required to ensure that this tree would remain viable post construction.

Tree 24

- o The footprint of the driveway is considered to be a major encroachment (6.3.2) of 25.0% of the TPZ and 21.0% of the SRZ.
- This is a neighbouring tree that is proposed to be retained.
- This tree is NOT subject to any permit requirements.
- o Although this is considered to be a major encroachment, the tree is expected to remain viable due to the following factors:
 - The tree is of a hardy species that generally tolerates root disturbance well.
 - The tree is of good health and vigour.
 - This is a small tree that is expected to have a small and vigorous root system.
- Less invasive construction measures are not required to ensure that this tree would remain viable post construction.

Tree 25

- o The footprint of the site fill is considered to be a major encroachment (6.3.2) of 7.1% of the TPZ and 3.1% of the SRZ.
- This is a neighbouring tree that is proposed to be retained.
- This tree is NOT subject to any permit requirements.
- Although this is considered to be a major encroachment, the tree is expected to remain viable due to the following factors:
 - The tree is of a hardy species that generally tolerates root disturbance well.
 - The tree is of good health and vigour.
 - This is a small tree that is expected to have a small and vigorous root system.



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- The addition of site fill is not expected to damage the root system, and consequent reduction in water & nutrient filtration is expected to be minimal.
- Less invasive construction measures are not required to ensure that this tree would remain viable post construction.

8 Recommendations

8.1 Tree retention

The following Council owned tree is proposed to be retained:

o Tree 1

The following tree of moderate retention value is proposed to be retained:

o Tree 19

The following neighbouring trees are proposed to be retained:

- o Tree 21
- o Tree 24
- o Tree 22
- o Tree 25
- o Tree 23

The following is recommended in order to ensure that trees that are proposed to be retained would remain viable post construction:

- Comply with less invasive construction measures (8.3)
- Comply with tree protection measures (8.4)

8.1.1 Permit requirements for trees that are proposed to be retained

Privately owned trees that are proposed to be retained are not protected under a local law or overlay.

8.2 Tree removal

The following tree of moderate retention value is proposed to be removed:

o Tree 5

The following trees of low retention value are proposed to be removed:

- o Tree 2
- o Tree 8
- o Tree 13
- o Tree 18

- o Tree 3
- o Tree 9
- o Tree 14
- o Tree 20

- o Tree 4
- o Tree 10
- o Tree 15

- o Tree 6
- Tree 11
- o Tree 16

- o Tree 7
- o Tree 12
- o Tree 17



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In the event of tree removal, the following is recommended:

- Tree removal should be undertaken prior to construction commencing (including demolition).
- Written consent from the responsible authority must be obtained prior to tree removal (if required).

8.2.1 Permit requirements for trees that are proposed to be removed

Trees that are proposed to be removed are not protected under a local law or overlay.

8.3 Less invasive construction measures

8.3.1 Retaining wall (Tree 19)

Option 1

Redesign so that the retaining wall does not encroach into the TPZ of Tree
 19 by greater than 10% and does not encroach into the SRZ, unless a root investigation (6.3.3) determines that the tree would remain viable post construction.

Option 2

- Engage suitably qualified arborist (AQF Level 4) to supervise excavation for the retaining wall within the TPZ of Tree 19.
- The supervising arborist should prune any roots that are encountered in accordance with section 9 of AS4373-2007 'Pruning of Amenity Trees'.

Option 3

Remove Tree 19.

8.4 Tree protection measures

8.4.1 Pruning

- Tree 22 may require pruning for clearance purposes.
- Only the minimum amount necessary for clearance in order to complete construction should be removed.
- Pruning should be undertaken by a suitably qualified Arborist (minimum AQF level 3).
- The pruning should be undertaken in accordance with the Australian Pruning Standard AS 4373 - 2007.
- Pruning should be undertaken prior to machinery being brought onto site.

8.4.2 Tree protection fencing

Tree protection fencing (TPF) should be installed for Trees 1 & 19. 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 and Environment Act 1987.

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- o TPF should be installed as close to the TPZ boundary as practically possible provided that it does not encroach onto the road, footpath, crossover or proposed works.
- The existing site perimeter fencing may be used as TPF for neighbouring trees.
- o TPF should be installed prior to machinery being brought onsite for the demolition of the existing dwelling.
- o TPF should be a minimum 1.8m high and comprised of wire mesh (or similar) supported by concrete feet (or similar).
- TPF should remain intact for the duration of the project.
- TPF should only be removed or shifted with the approval of the Project Arborist and the Responsible Authority.

8.4.3 Tree protection signage

- The signage on the TPF should be placed on TPZ fencing at regular intervals so that it is visible from any angle outside the TPZ.
- Signage should state 'Tree Protection Zone, No Access' or similar.
- Signage should be greater than 600mm X 400mm in size.
- The contact details of the project arborist and site manager should be written clearly on the sign.



8.4.4 Scaffolding

 When scaffolding must be erected within Tree Protection Zones, cover the ground with a 10cm layer of mulch, and then cover this with boards and plywood to prevent soil compaction.

8.4.5 Site storage

o A designated storage area where building materials, chemicals etc. can be stored should be located outside the TPZ of retained trees.

8.4.6 Prohibitions within the TPZ

The following activities are prohibited within the TPZ:

- Machine excavation including trenching (unless approved by the Project Arborist, Arborist supervision may be required)
- Cultivation
- Storage
- Preparation of chemicals, including cement products
- Parking of vehicles

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- Dumping of waste
- Wash down and cleaning of equipment
- Placement of fill
- Lighting of fires
- Physical damage to the tree
- Pruning or damaging of roots greater than 30mm in diameter

8.4.7 Drains and services

In the event that any drains or services are included in a greater than 10% encroachment into the TPZ or encroach into the SRZ of trees that are proposed to be retained, the following should be undertaken:

 Drains or services should be installed by non-root destructive means such as horizontal boring at greater than 1100mm in depth or by low pressure hydro-excavation to ensure that the bark of the roots remain intact, unless a root investigation determines that the tree(s) would remain viable.

Note: encroachment calculations must consider additional encroachments e.g. site cuts, retaining walls, building footprint.



9 Limitation of liability

TMC Reports and their employees are tree specialists who use their qualifications, education, knowledge, training, diagnostic tools and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of this assessment and report.

Trees are living organisms that fail in ways the arboriculture industry does not fully understand. Conditions are often hidden within trees and below ground. Unless otherwise stated, observations have been made from ground level and limited to accessible components without dissection, excavation or probing. There is no guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of this report, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters, and related incidents. Such issues cannot be taken into account unless complete and accurate information is given prior to or at the time of site inspection.

Information contained in this report covers those items that were examined and reflect the condition of those items at the time of inspection. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the trees or property in question may not arise in the future. Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk. The only way to eliminate all risks involved with a tree is to eliminate the tree.

All written reports must be read in their entirety, at no time shall part of the written assessment be referred to unless taken in full context of the whole written report.



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10 Definition of terms

The following descriptors are used as indicators only. Other factors may be used in assessing an individual tree's health, structure, ULE, retention value and amenity value.

10.1 Tree health

- o Good
- o Fair
- o Poor
- Very poor
- o Dead

Good: The tree is demonstrating good or exceptional growth for the species. The tree should exhibit a full

canopy of foliage and have only minor pest or disease problems. Foliage colour size and density should

be typical of a health specimen of that species.

Fair: The tree is in reasonable condition and growing well for the species. The tree should exhibit an adequate

canopy of foliage. There may be some dead wood in the crown, some grazing by insect or animals may be evident, and/or foliage colour, size or density may be atypical for a healthy specimen of that species.

Poor: The tree is not growing to its full capacity. Extension growth of the laterals may be minimal. The canopy

may be thinning or sparse. Large amounts of dead wood may be evident throughout the crown, as well as significant pest and disease problems. Other symptoms of stress indicating tree decline may be

present

Very poor: The tree appears to be in a state of decline, and the canopy may be very thin and sparse. A significant

volume of dead wood may be present in the canopy, or pest and disease problems may be causing a

severe decline in tree health.

Dead: The tree is no longer alive.

10.2 Structure

- o Good
- o Fair
- o Poor
- o Very poor
- Failed

The definition of structure is the likelihood of the tree to fail under normal conditions. A tree with good structure is highly unlikely to suffer any significant failure, while a tree with poor to very poor structure is likely or very likely to fail.

Good: The tree has a well-defined and balanced crown. Branch unions appear to be strong, with no defects

evident in the trunks or the branches. Major limbs are well defined. The tree would be considered a good

example for the species. Probability of significant failure is highly unlikely.

Fair: The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance

at some branch unions or branches may be exhibiting minor structural faults. If the tree has a single trunk, this may be on a slight lean, or be exhibiting minor defects. Probability of significant failure is low.

Poor: The tree may have a poorly structured crown, the crown may be unbalanced, or exhibit large gaps. Major

limbs may not be well defined; branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered major root damage. Probability of

significant failure is moderate.

Very poor: The tree has a poorly structured crown. The crown is unbalanced, or exhibits large gaps. Major limbs are

not well defined. Branch unions may be poor or faulty at the point of attachment. A section of the tree has failed, or is in imminent danger of failure. Active failure may be present, or failure is probably in the

immediate future.

Failed: A significant section of the tree or the whole tree has failed.

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10.3 Useful life expectancy (ULE)

- o Unsafe or 0 years
- Less than 5 years
- o 5 to 10 years
- to 20 years
- 20 + years

Useful life expectancy is approximately how long a tree can be retained safely and usefully in the landscape providing site conditions remain unchanged and the recommended works are completed.

It is based on the principals of safety and usefulness in the landscape and should not reflect personal opinions on species suitability.

Unsafe or 0 years: The tree is considered dangerous in the location and/or no longer provides any amenity value.

Less Than 5 years: The tree under normal circumstances and without extra stress should be safe and have value of maximum of 5 years. The tree will need to be replaced in the short term. Replacement plants should be established as soon as possible if there is efficient space, or consideration should be given to the removal of the tree to facilitate replanting.

5 to 10 Years: The tree under normal circumstances and without extra stress should be safe and have value of maximum of 10 years. Trees in this category may require regular inspections and maintenance particularly if they are large specimens. Replacement plants should be established in the short term if there is sufficient space, or consideration should be given to the removal of the tree to facilitate replanting.

10 to 20 Years: The tree under normal circumstances and without extra stress should be safe and of value of up to 20 years. During this period, regular inspections and maintenance will be required.

20 + Years: The tree under normal circumstances and without extra stress should be safe and of value of more than 20 years. During this period, regular inspections and maintenance will be required.

10.4 Tree retention value

- o High
- o Moderate
- o Low
- Neighbouring tree
- Council Owned Tree

High: The tree may be significant in the landscape, offer shade and other amenities such as screening. The

tree may assist with erosion control, offer a windbreak or perform a vital function in the location (e.g. habitat, shade, flowers or fruit). The tree is free from structural defects and is vigorous. Consider the

retention of the tree and designing the development to accommodate the tree.

Moderate: The tree may offer some screening in the landscape or serve a particular function in the location and

have minor structural defects. The tree may be entering the mature stage of its life cycle. The tree may

be retained if it does not hamper the design intent.

Low: The tree offers very little in the way of screening or amenity and may have significant structural defects.

The tree may also be mature and entering the senescent stage of its life cycle. The tree may be removed

if necessary.

Neighbouring tree: The tree is located within an adjoining private property/land. The tree is to be protected unless written consent from the tree owner(s) and/or responsible authority is obtained. Consider the retention of the

tree unless written consent is obtained from the tree owner and/or responsible authority.

Council Owned Tree: The tree is located within Council owned land. The tree is to be protected unless written consent from the responsible authority is obtained. Consider the retention of the tree unless written consent is obtained from the tree owner and/or responsible authority.



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10.5 Age

Young

o Semi Mature

Mature

Senescent

Young: Juvenile or recently planted approximately 1-7 years.

Semi Mature: Tree actively growing.

Mature: Tree has reached expected size in situation.
Senescent: Tree is over mature and has started to decline.

10.6 Amenity value

o Very low

o Low

Moderate

o High

Very Low: Tree makes little or no amenity value to the site or surrounding areas. In some cases, the tree might be

detrimental to the area's amenity value (e.g. unsightly, risk of weed spread)

Low: Tree makes some contribution of amenity value to the site but makes no contribution to the amenity value

of surrounding areas. The removal of the tree may result in little loss of amenity. Juvenile trees, including street trees are generally included in this category. However, they may have the potential to supply

increased amenity in the future.

Moderate: The tree makes a moderate contribution to the amenity of the site and/or may contribute to the amenity

of the surrounding area.

High: The tree makes a significant contribution to the amenity value of the site, or the tree makes a moderate

contribution to the amenity value of the larger landscape.

The amenity value rating considered the impact that the tree has on any neighbouring sites as being equally important to that supplied to the subject site. However, trees that contribute to the general area (e.g. streetscape) are given a greater weight.

10.7 Terms within tree data table

o DBH

o DAB

CA1TPZ

TPZSRZ

DBH: Diameter at breast height (1.4m from ground level). Combined DBH has been calculated according to

the Australian Standard AS4970 – 2009 'Protection of Trees on Development Sites'

DAB: Diameter at base of tree

CA1: Circumference of trunk at 1m from ground level. Combined circumference is the sum of individual stem

circumferences.

TPZ: Tree Protection Zone

SRZ: Structural Root Zone



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BESS Report

Built Environment Sustainability Scorecard





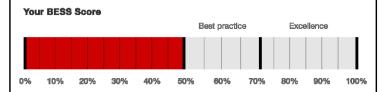




This BESS report outlines the sustainable design commitments of the proposed development at 274-276 Elizabeth Dr Sunbury VIC 3429. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Hume City Council.

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

Note: This is a DRAFT and not suitable for submission to council



51%

Project details

Address 274-276 Elizabeth Dr Sunbury VIC 3429
Project no 6D421C4C

BESS Version BESS-6

Site type Multi dwelling (dual occupancy, townhouse, villa unit etc)

Account

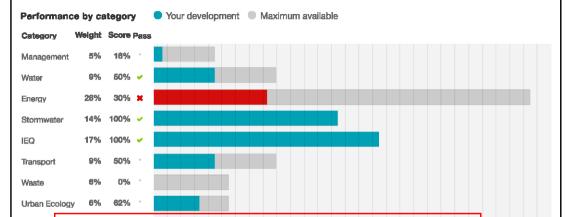
 Application no.
 P24338

 Site area
 772.00 m²

 Building floor area
 403.78 m²

 Date
 31 May 2022

Software version 1.7.0-B.385



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The Bullt Environment Sustainability Scorecard is an initiative of the Council Alliance for a Sustainabile Bullt Environment (CASBE). For more dealine copy must not be used for any other purpose.

Dwellings & Non Res Spaces

Dwellings

Name	Quantity	Area	% of total area	
Townhouse	,			
Townhouse 1	1	212 m ²	52%	
Townhouse 2	1	192 m²	47%	
Total	2	403 m²	100%	

Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status		
Water 3.1	Water efficient garden annotated				
Energy 3.3	External lighting sensors annotated				
Stormwater 1.1	Location of any stormwater management systems used in STORM o MUSIC modelling (e.g. Rainwater tanks, raingarden, buffer strips)				
IEQ 2.2	Dwellings meeting the requirements for having 'natural cross flow ventilation'		-		
IEQ 3.1	Glazing specification to be annotated		-		
IEQ 3.2	Adjustable shading systems		_		
IEQ 3.3	North-facing living areas		-		
Transport 1.1	All nominated residential bicycle parking spaces		-		
Urban Ecology 2.1	Vegetated areas -				
Urban Ecology 2.4	Taps and floor waste on balconies / courtvards				

Supporting evidence

Credit	Requirement	Response	Status	
Energy 3.5	Provide a written description of the average lighting power density to be installed in the development and specify the lighting type(s) to be used.	-		
Stormwater 1.1	STORM report or MUSIC model	-		
IEQ 2.2	A list of dwellings with natural cross flow ventilation			
IEQ 3.1	Reference to floor plans or energy modelling showing the glazing specification (U-value and Solar Heat Gain Coefficient, SHGC)			
IEQ 3.2	Reference to floor plans and elevations showing shading devices			
IFQ 3 3	Reference to the floor plans showing living areas orientated to the north		_	

Credit summary

Management Overall contribution 4.5%

	16%
1.1 Pre-Application Meeting	0%
2.2 Thermal Performance Modelling - Multi-Dwelling Residential	0%
4.1 Building Users Quide	100%

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Water Overall contribution 9.0%

	Minim	Minimum required 50%		50%	✓ Pass
1.1 Potable water use reduction				40%	
3.1 Water Efficient Landscaping				100%	

Energy Overall contribution 27.5%

	Minimu	n required 50%	30%	× Not Passed
1.2 Thermal Performance Rating - Residential			0%	
2.1 Greenhouse Gas Emissions			100%	
2.2 Peak Demand			0%	
2.3 Electricity Consumption			100%	
2.4 Gas Consumption			0%	
2.5 Wood Consumption			N/A	♦ Scoped Out
			No wood h	neating system present
3.2 Hot Water			0%	
3.3 External Lighting			100%	
3.4 Clothes Drying			0%	
3.5 Internal Lighting - Residential Single Dwelling			100%	
4.4 Renewable Energy Systems - Other			N/A	O Disabled
		No other (non	-solar PV) rene	wable energy is in use.
4.5 Solar PV - Houses and Townhouses			N/A	O Disabled
		N	o solar PV rene	wable energy is in use.

Stormwater Overall contribution 13.5%

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

IEQ Overall contribution 16.5%

	Minimum required 50%	100% ✓ Pass
2.2 Cross Flow Ventilation		100%
3.1 Thermal comfort - Double Glazing		100%
3.2 Thermal Comfort - External Shading		100%
3.3 Thermal Comfort - Orientation		100%

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100% N/A	
N/A	
	Scoped Out
	Not enough dwellings.
0%	
0%	
0%	
0%	
62%	
62%	
100%	
100%	
	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 50.0% 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		
2.2 Thermal Performance Modelli Residential	ng - Multi-Dwelling 0%		
Score Contribution	This credit contributes 33.3% towards the category score.		
Criteria	Have preliminary NatHERS ratings been undertaken for all thermally unique dwellings?		
Question	Criteria Achieved ?		
Townhouse	No		
4.1 Building Users Guide	100%		
Score Contribution	This credit contributes 16.7% towards the category score.		
Criteria	Will a building users guide be produced and issued to occupants?		
Question	Criteria Achieved ?		
Project	Yes		

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Water Overall contribution 4% Minimum required 50%

Water Approach	
What approach do you want to use for Water?:	Use the built in calculation tools
Project Water Profile Question	
Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Are you installing a rainwater tank?:	Yes
Water fixtures, fittings and connections	
Showerhead: All	4 Star WELS (>= 6.0 but <= 7.5)
Bath: All	Scope out
Kitchen Taps: All	>= 4 Star WELS rating
Bathroom Taps: All	>= 5 Star WELS rating
Dishwashers: All	>= 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	Townhouse 1
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 Tanks	
What is the total roof area connected to the rainwater tank?:	
Townhouse 1	130 m²
Townhouse 2	150 m ²
Tank Size:	
Townhouse 1	2,500 Litres
Townhouse 2	2,500 Litres
Irrigation area connected to tank:	
Townhouse 1	-
Townhouse 2	-
Is connected irrigation area a water efficient garden?:	
Townhouse 1	Yes
Townhouse 2	Yes
Other external water demand connected to tank?:	
Townhouse 1	-
Townhouse 2	

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1.1 Potable water use reduction	40%		
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	339 kL		
Output	Proposed (excluding rainwater and recycled water use)		
Project	266 kL		
Output	Proposed (including rainwater and recycled water use)		
Project	224 KL		
Output	% Reduction in Potable Water Consumption		
Project	33 %		
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	63 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		

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Energy Overall contribution 8% Minimum required 50%

What approach do you want to us	e for Energy?:	Use the built in calculation tools
Project Energy Profile Question		
Are you installing any solar photo	voltaic (PV) system(s)?:	No
Are you installing any other renew	able energy system(s)?:	No
Gas supplied into building:		Natural Gas
Dwelling Energy Profiles		
Below the floor is: All		Ground or Carpark
Above the ceiling is: All		Outside
Exposed sides: All		4
NatHERS Annual Energy Loads -	Heat:	
Townhouse 1		95.0 MJ/sqm
Townhouse 2		94.0 MJ/sqm
NatHERS Annual Energy Loads -	Cool:	
Townhouse 1		21.4 MJ/sqm
Townhouse 2		22.5 MJ/sqm
NatHERS star rating: All		6.0
Type of Heating System: All		D Reverse cycle space
Heating System Efficiency: All		5 Star
Type of Cooling System: All		Refrigerative space
Cooling System Efficiency: All		5 Stars
Type of Hot Water System: All		J Gas Instantaneous 6 star
% Contribution from solar hot was	er system: All	
Is the hot water system shared by	multiple dwellings?: Al	II No
Clothes Line: All		D Private outdoor clothesline
Clothes Dryer: All		Occupant to Install
1.2 Thermal Performance Rating	g - Residential	0%
Score Contribution	This credit contr	ibutes 30.0% towards the category score.
Criteria	What is the aver	rage NatHERS rating?
Output	Average NATHE	RS Rating (Weighted)
Townhouse	6.0 Stars	
2.1 Greenhouse Gas Emissions		100%
Score Contribution	This credit contr	ributes 10.0% towards the category score.
Criteria Criteria		eduction in annual greenhouse gas emissions against the bench
Output		ing with Reference Services (BCA only)
Townhouse	12,929 kg CO2	
Output		ng with Proposed Services (Actual Building)
Townhouse	1,072 kg CO2	<u> </u>
		GHG Emissions
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2.2 Peak Demand	0%			
Score Contribution	This credit contributes 5.0% towards the category score.			
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the			
	benchmark?			
Output	Peak Thermal Cooling Load - Baseline			
Townhouse	28.7 kW			
Output	Peak Thermal Cooling Load - Proposed			
Townhouse	27.9 kW			
Output	Peak Thermal Cooling Load - % Reduction			
Townhouse	2 %			
2.3 Electricity Consumption	100%			
Score Contribution	This credit contributes 10.0% towards the category score.			
Criteria	What is the % reduction in annual electricity consumption against the benchmark	?		
Output	Reference			
Townhouse	12,676 kWh			
Output	Proposed			
Townhouse	1,051 kWh			
Output	Improvement			
Townhouse	91 %			
2.4 Gas Consumption	0%			
Score Contribution	This credit contributes 10.0% towards the category score.			
Criteria	What is the % reduction in annual gas consumption against the benchmark?			
2.5 Wood Consumption	N/A 🌣 Scope	ed O		
This credit was scoped out	No wood heating system present			
3.2 Hot Water	0%			
Score Contribution	This credit contributes 5.0% towards the category score.			
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot			
	water system against the benchmark?			
3.3 External Lighting	100%			
Score Contribution	This credit contributes 5.0% towards the category score.			
Criteria	Is the external lighting controlled by a motion detector?			
Question	Criteria Achieved ?			
Townhouse	Yes			
3.4 Clothes Drying	0%			
Score Contribution	This credit contributes 5.0% towards the category score.			
Criteria	What is the % reduction in annual energy consumption (gas and electricity) from a	—— а		
	combination of clothes lines and efficient driers against the benchmark?			

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3.5 Internal Lighting - Resider	100%	100%			
Score Contribution	e category score.	core.			
Criteria	Does the development achieve a maxim	um illumination power density	of 4W/	sqm or	
	less?				
Question	Criteria Achieved?				
Townhouse	Yes				
4.4 Renewable Energy System	ns - Other	N/A	0	Disable	
This credit is disabled	No other (non-solar PV) renewable energ	gy is in use.			
4.5 Solar PV - Houses and Tox	wnhouses	N/A	0	Disable	
This credit is disabled	No solar PV renewable energy is in use.				

Stormwater Overall contribution 14% Minimum required 100%

Which stormwater modelling are you	u using?: Melbourne Water STORM tool	
1.1 Stormwater Treatment	100%	
Score Contribution	This credit contributes 100.0% towards the category score. Has best practice stormwater management been demonstrated?	
Criteria		
Question	STORM score achieved	
Project	100	
Output	Min STORM Score	
Project	100	

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Overall contribution 16% Minimum required 50%

2.2 Cross Flow Ventilation	100%			
Score Contribution	This credit contributes 20.0% towards the category score.			
Criteria	Are all habitable rooms designed to achieve natural cross flow ventilation?			
Question	Criteria Achieved ?			
Townhouse	Yes			
3.1 Thermal comfort - Double Glazing	100%			
Score Contribution	This credit contributes 40.0% towards the category score.			
Criteria	Is double glazing (or better) used to all habitable areas?			
Question	Criteria Achieved ?			
Townhouse	Yes			
3.2 Thermal Comfort - External Shadir	ng 100%			
3.2 Thermal Comfort - External Shadin Score Contribution	This credit contributes 20.0% towards the category score.			
Score Contribution	This credit contributes 20.0% towards the category score.			
Score Contribution Criteria	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing?			
Score Contribution Criteria Question	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved?			
Score Contribution Criteria Question Townhouse	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved? Yes			
Score Contribution Criteria Question Townhouse 3.3 Thermal Comfort - Orientation	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved? Yes 100%			
Score Contribution Criteria Question Townhouse 3.3 Thermal Comfort - Orientation Score Contribution	This credit contributes 20.0% towards the category score. Is appropriate external shading provided to east, west and north facing glazing? Criteria Achieved? Yes 100% This credit contributes 20.0% towards the category score.			

Transport Overall contribution 4%

1.1 Bicycle Parking - Residential		100%			
Score Contribution	This credit contributes 50.0% towards the category so	ore.			
Criteria	How many secure and undercover bicycle spaces are t	here per dw	elling f	or residents?	
Question	Bicycle Spaces Provided ?				
Townhouse	2				
Output	Min Bicycle Spaces Required				
Townhouse	2				
1.2 Bicycle Parking - Residential	Visitor	N/A		Scoped Out	
This credit was scoped out	Not enough dwellings.				
2.1 Electric Vehicle Infrastructure	9	0%			
Score Contribution	This credit contributes 50.0% towards the category sci	ore.			
Criteria	Are facilities provided for the charging of cleatric vehicle	002			
Griteria	Are facilities provided for the charging of electric vehicle	C3:			
Question	Criteria Achieved ?				

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Waste Overall contribution 0%

1.1 - Construction Waste - Buil	ding Re-Use	0%			
Score Contribution	This credit contributes 50.0% towards the ca	This credit contributes 50.0% towards the category score.			
Criteria	If the development is on a site that has been	If the development is on a site that has been previously developed, has at least 30% of the existing building been re-used? Criteria Achieved?			
	the existing building been re-used?				
Question	Criteria Achieved ?				
Project	No				
2.1 - Operational Waste - Food	& Garden Waste	0%			
Score Contribution	This credit contributes 50.0% towards the ca	ategory score.			
Criteria Are facilities provided for on-site management of food and garden waste? Question Criteria Achieved ? Project No					



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Urban Ecology Overall contribution 3%

2.1 Vegetation		100%
Score Contribution	This credit contributes 50.0% towards the	ne category score.
Criteria	How much of the site is covered with ve	getation, expressed as a percentage of the
	total site area?	
Question	Percentage Achieved ?	
Project	48 %	
2.2 Green Roofs		0%
Score Contribution	This credit contributes 12.5% towards the	ne category score.
Criteria	Does the development incorporate a gre	en roof?
Question	Criteria Achieved ?	
Project	No	
2.3 Green Walls and Facades		0%
Score Contribution	This credit contributes 12.5% towards the	ne category score.
Criteria	Does the development incorporate a gre	en wall or green façade?
Question	Criteria Achieved ?	
Project	No	
2.4 Private Open Space - Balcony / C	Courtyard Ecology	100%
Score Contribution	This credit contributes 12.5% towards the	ne category score.
Criteria	Is there a tap and floor waste on every b	alcony / in every courtyard?
Question	Criteria Achieved ?	
Townhouse	Yes	
3.1 Food Production - Residential		0%
Score Contribution	This credit contributes 12.5% towards the	ne category score.
Criteria	What area of space per resident is dedic	ated to food production?
Question	Food Production Area	
Townhouse	-	
Output	Min Food Production Area	
Townhouse	2 m²	

Innovation Overall contribution 0%

1.1 Innovation	0%
Score Contribution	This credit contributes 100.0% towards the category score.
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?

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Melbourne STORM Rating Report

TransactionID: 1353730 **HUME** Municipality: Rainfall Station: **HUME**

Address: 274-276 Elizabeth Drive

Sunbury

VIC 3429

Assessor: design@cbsg.net.au Development Type: Residential - Multiunit

Allotment Site (m2): 772.73 STORM Rating %: 100

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
TH1 PART 1,2,3	131.04	Rainwater Tank	2,500.00	4	130.20	87.70
TH1 PART 6,7	27.80	Raingarden 300mm	1.00	0	133.65	0.00
TH2 PART 1,2,3	104.24	Rainwater Tank	2,500.00	4	150.20	85.00
TH2 PART 4,5	36.05	Raingarden 300mm	1.00	0	133.00	0.00
COMMON DRIVEWAY	113.00	None	0.00	0	0.00	0.00

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