Notice of Application for a Planning Permit

Cardinia

The land affected by the application is located at:	L13 PS541335 V11051 F658 11 Johnsons Place, Pakenham VIC 3810
The application is for a permit to:	Construction of four (4) dwellings on a lot
A permit is required under the following clauses of the planning scheme:	
32.08-7	Construct two or more dwellings on a lot

APPLICATION DETAILS

The applicant for the permit is:	Jake Da Ros Planform
Application number:	T240558

You may look at the application and any documents that support the application at the office of the Responsible Authority:

Cardinia Shire Council, 20 Siding Avenue, Officer 3809.

This can be done during office hours and is free of charge.

Documents can also be viewed on Council's website at cardinia.vic.gov.au/advertisedplans or by scanning the QR code.

HOW CAN I MAKE A SUBMISSION?

This application has not been decided. You can still make a submission before a decision has been made. The Responsible Authority will not decide on the application before:	25 July 2025

WHAT ARE MY OPTIONS?

Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.

If you object, the Responsible Authority will notify you of the decision when it is issued.

An objection must:

- e made to the Responsible Authority in writing;
- nclude the reasons for the objection; and
- tate how the objector would be affected.

The Responsible Authority must make a copy of every objection available at its office for any person to inspect during office hours free of charge until the end of the period during which an application may be made for review of a decision on the application.

1 Application lodged — 2 Council initial assessment — 3 Notice (Application is here) — 4 Consideration of submissions — 5 Assessment — 6 Decision

Cardinia ePlanning

Application Summary

Portal Reference	A424751R

Basic Information

Proposed Use	development of 4 dwellings
Current Use	vacant land
Cost of Works	$2,500,000
Site Address	11 Johnsons Place Pakenham 3810

Covenant Disclaimer

Does the proposal breach, in any way, an encumbrance on title such as restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope?	No such encumbrances are breached

☐ Note: During the application process you may be required to provide more information in relation to any encumbrances.

Contacts

[redacted]

Regulation	Fee Condition	Amount	Modifier	Payable
9 - Class 13	More than $1,000,000 but not more than $5,000,000	$3,764.10	100%	$3,764.10
		Total		**$3,764.10**

Documents Uploaded

Date	Type	Filename
28-10-2024	A Copy of Title	POS-Title.pdf
28-10-2024	A proposed floor plan	No.11 TP.pdf
28-10-2024	Additional Document	Clause 55 Report.pdf
28-10-2024	Additional Document	GG0915 SITE CONTEXT_V2_DC.pdf

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

Lodged By

Site User	Jake Da Ros Planform	PO BOX 576, South Morang 3752 VIC 3752	W: 0431-020-698 E: info@planform.com.au
Submission Date	28 October 2024 - 01:47:PM		

Declaration

[redacted]

Civic Centre
20 Siding Avenue, Officer, Victoria

Council's Operations Centre (Depot)
Purton Road, Pakenham, Victoria

Postal Address
Cardinia Shire Council
P.O. Box 7, Pakenham VIC, 3810

Email: mail@cardinia.vic.gov.au

Monday to Friday 8.30am–5pm
Phone: 1300 787 624
After Hours: 1300 787 624
Fax: 03 5941 3784

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

VOLUME 11051 FOLIO 658

Security no : 124119389229B
Produced 28/10/2024 01:26 PM

LAND DESCRIPTION

Lot 13 on Plan of Subdivision 541335Y.
PARENT TITLE Volume 10796 Folio 615
Created by instrument PS541335Y 08/02/2008

REGISTERED PROPRIETOR

[redacted]

DIAGRAM LOCATION

SEE PS541335Y 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: 11 JOHNSONS PLACE PAKENHAM VIC 3810

ADMINISTRATIVE NOTICES

NIL

eCT Control 18241A PARTNERS OF MARSHALLS & DENT & WILMOTH LAWYERS
Effective from 07/02/2024

DOCUMENT END

Imaged Document Cover Sheet

The document following this cover sheet is an imaged document supplied by LANDATA®, Secure Electronic Registries Victoria.

Document Type	**Plan**
Document Identification	**PS541335Y**
Number of Pages (excluding this cover sheet)	**4**
Document Assembled	**28/10/2024 13:26**

PLAN OF SUBDIVISION

STAGE NO. --------

LR use only. **EDITION 1**

Plan Number **PS 541335Y**

Location of Land

Parish: NAR NAR GOON

Township: --------

Section: ---------

Crown Allotment: --------

Crown Portion: 7 (PART)

Title Reference: Vol 10796 Fol 615

Last Plan Reference: Lot B on PS 514277P

Postal Address: Donday Court
PAKENHAM 3810

Co-ordinates (of approx centre of plan) E 366 800 N 5 786 500 Zone: 55

Council Certificate and Endorsement

Council Name: Cardinia Shire Council Ref. S05/085

~~1. This plan is certified under section 6 of the Subdivision Act 1988.~~

2. This plan is certified under section 11(7) of the Subdivision Act 1988.
Date of original certification under section 6 11 / 11 / 2005

~~3. This is a statement of compliance issued under section 21 of the Subdivision Act 1988.~~

OPEN SPACE

(i) A requirement for public open space under section 18 of the Subdivision Act 1988 ~~has~~/has not been made.

~~(ii) The requirement has been satisfied.~~

~~(iii) The requirement is to be satisfied in Stage .....~~

~~Council delegate~~
~~Council seal~~

~~Date~~ / /

Re-certified under section 11(7) of the Subdivision Act 1988

Council Delegate
~~Council Seal~~

Date 24 / 4 / 07

Vesting of Roads and/ or Reserve

Identifier	Council / Body / Person
Road R1	Cardinia Shire Council
Reserve No. 1	Cardinia Shire Council

Notations

Staging This is not a staged subdivision.
Planning Permit No. T94/359B

Depth Limitation Does not apply

Amendments:

V1 16/05/2005
V2 30/06/2006 Easement E-2 added & roadname changed - MJR
V3 24/08/2006 Roadname changed - MFV
V4 13/02/2007 Reserve added - MFV
V5 19/03/07 Remove E-2 from Lots 13, 14, 15 & 17 - MFV
V6 19/04/07 Add Easements E-2 to Lots 13, 14, 15 & 17, E-3 to Lot 2 & E-4 to Lot 7 - MFV

Area of Site: 1.993ha
No. of Lots: 17

Survey This plan is based on survey.

Easement Information

Legend: A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)

Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1	Drainage	See Diag.	PS 514277P	Cardinia Shire Council
	Sewerage			South East Water Limited
E-2	Drainage	See Diag.	This Plan	Cardinia Shire Council
	Sewerage			South East Water Limited
E-3	Drainage	2.00	This Plan	Cardinia Shire Council
E-4	Powerline	1.50	This Plan	SPI Electricity Pty Ltd

LR use only

Statement of Compliance/ Exemption Statement

Received ✓

Date 8 / 2 / 08

LR use only

PLAN REGISTERED

TIME 11.24 AM

DATE 8 / 2 / 08

Assistant Registrar of Titles

Sheet 1 of 4

TAYLORS DEVELOPMENT STRATEGISTS
BUILDING 8, 270 FERNTREE GULLY ROAD, NOTTING HILL 3168 Tel 9561 2600 Fax 9501 2644
Email: ndg@taylords.com.au Web Site: www.taylords.com.au

LICENSED SURVEYOR : RICHARD PETER CIRILLO

Signature ..... Date 19 / 4 / 07

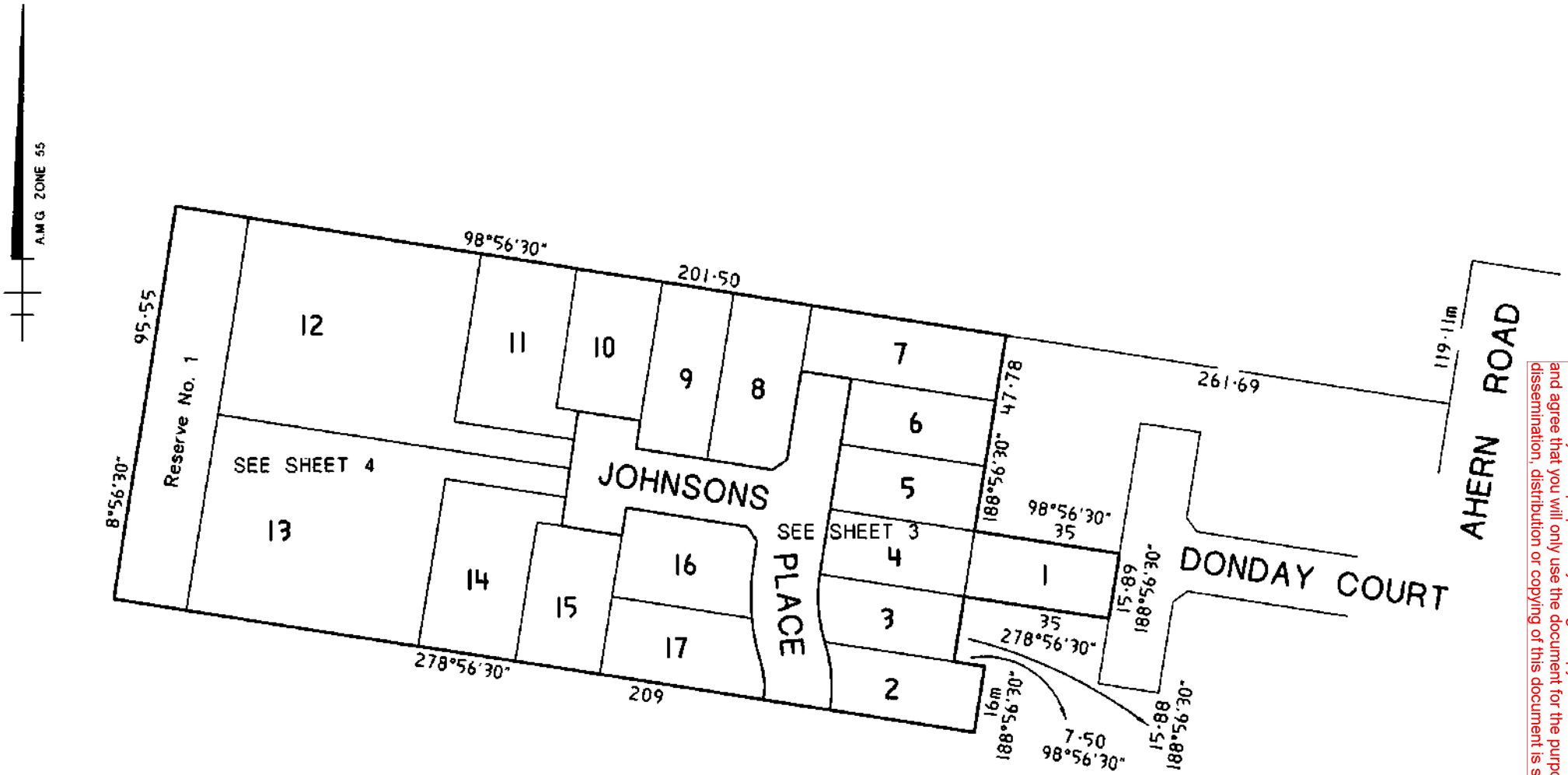
REF. 9348/B/17L VERSION 6 19/04/07 MFV

Date 24 / 4 / 07
Council Delegate Signature

Original sheet size A3

PLAN OF SUBDIVISION

STAGE NO.	Plan Number
-------	PS541335Y



TAYLORS
DEVELOPMENT STRATEGISTS
PTY LTD ABN 51 075 022 114
• Land Surveying • Town Planning • Development Strategy • Project Co-ordination • Urban Design • GIS
BUILDING 8, 270 FERNTREE GULLY ROAD, NOTTING HILL 3168 Tel.9501 2800 Fax.9501 2844
Email: tds@taylorsds.com.au Web Site: www.taylorsds.com.au

ORIGINAL	
SCALE	SHEET SIZE
1:1000	A3

SCALE
10 0 20 40
LENGTHS ARE IN METRES

LICENSED SURVEYOR : RICHARD PETER CIRILLO

Signature ..... Date 19 / 4 / 07

REF. 9348/B/17L VERSION 6 19/04/07 MFV

Sheet 2 of 4

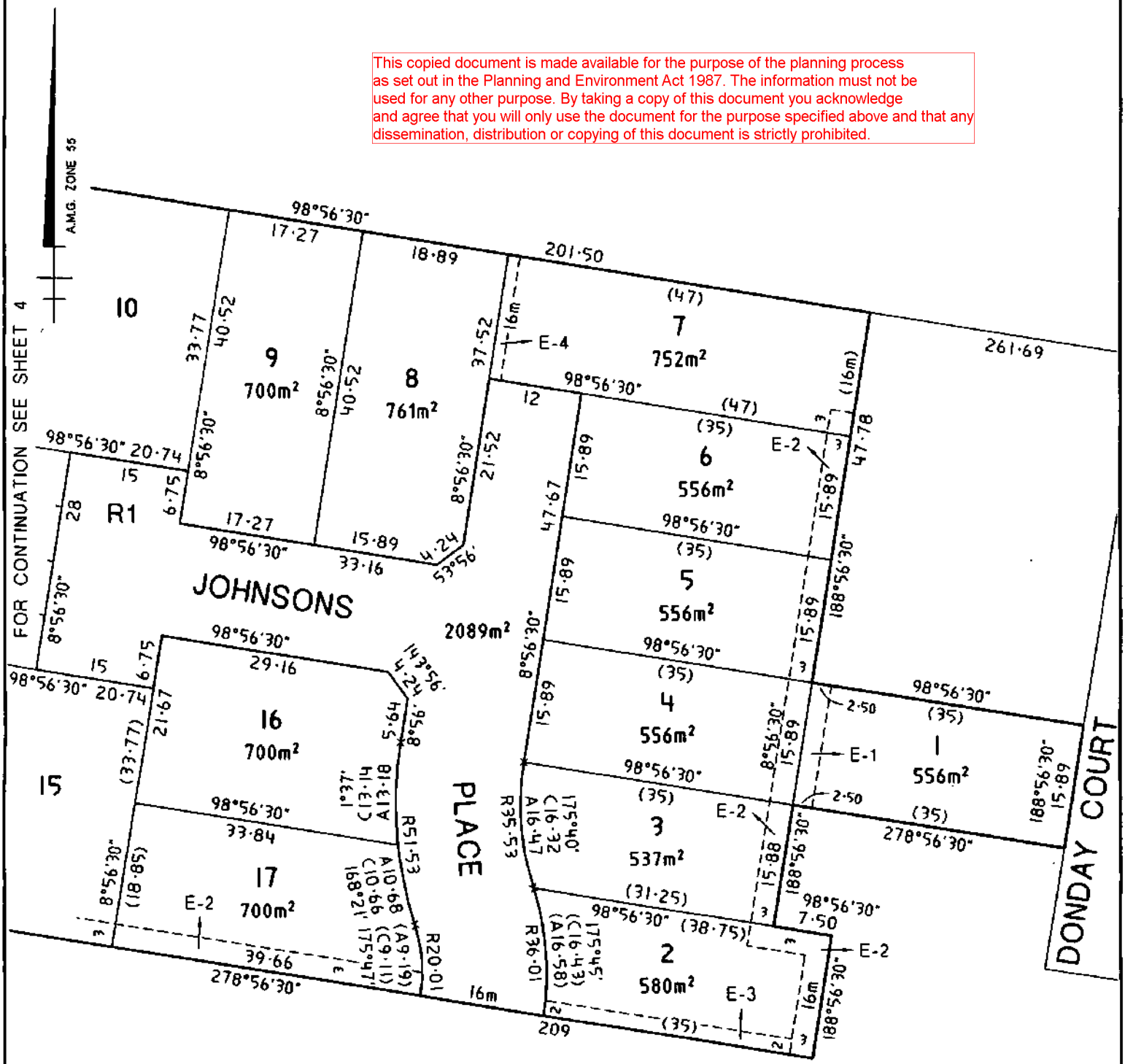
Date 24/ 4 /07
Council Delegate Signature

Original sheet size A3

PLAN OF SUBDIVISION

STAGE NO. ---

Plan Number
PS541335Y



TAYLORS
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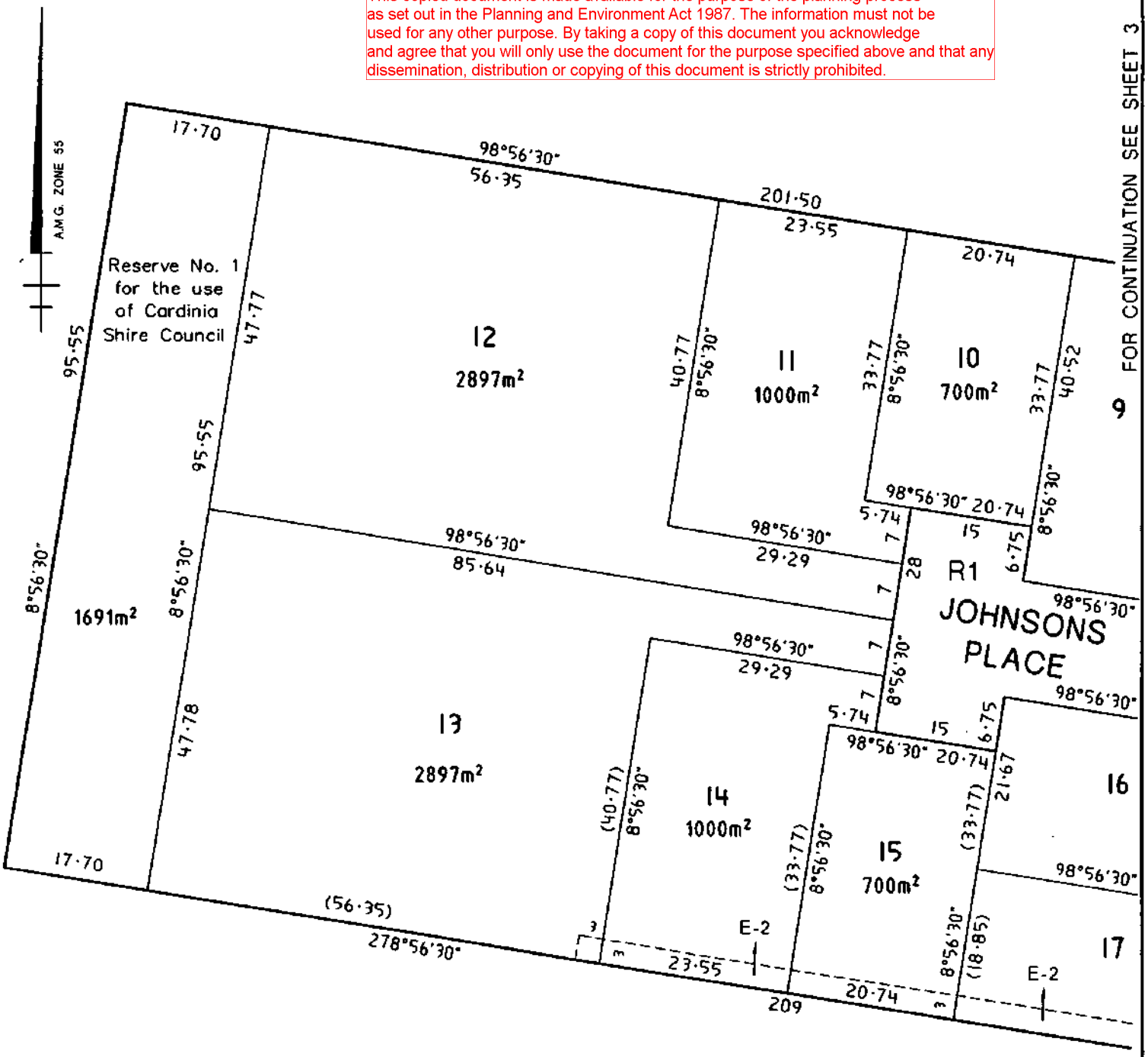
• Land Surveying • Town Planning • Development Strategy • Project Coordination • Urban Design • GIS
BUILDING 8, 270 FERNTREE GULLY ROAD, NOTTING HILL 3168 Tel 9501 2800 Fax 9501 2844
Email: ntd@taylorsds.com.au Web Site: www.taylorsds.com.au

ORIGINAL		SCALE	LICENSED SURVEYOR : RICHARD PETER CIRILLO	Sheet 3 of 4
SCALE	SHEET SIZE	5 0 10 20	Signature ..... Date 19 / 4 / 07	Date 24 / 4 / 07
1:500	A3	LENGTHS ARE IN METRES	REF. 9348/B/17L VERSION 6 19/04/07 MFV	Council Delegate Signature
				Original sheet size A3

PLAN OF SUBDIVISION

STAGE NO. /

Plan Number
PS541335Y



FOR CONTINUATION SEE SHEET 3

TAYLORS
DEVELOPMENT STRATEGISTS
PTY LTD ABN 51 005 022 314
SURVEYORS • TOWN PLANNERS • DEVELOPMENT STRATEGY • ENGINEERING CONSULTANTS • URBAN DESIGN • GIS
BUILDING B, 270 REINTREE GULLY ROAD, NOTTING HILL 3168 Tel 9501 2600 Fax 9501 2844
Email: info@taylorsds.com.au Web Site: www.taylorsds.com.au

ORIGINAL	
SCALE	SHEET SIZE
1:500	A3

SCALE
5 0 10 20
LENGTHS ARE IN METRES

LICENSED SURVEYOR : RICHARD PETER CIRILLO

Signature ..... Date 19 / 4 / 07

REF. 9348/B/17L VERSION 6 19/04/07 MFV

Sheet 4 of 4

Date 24 / 4 / 07
Council Delegate Signature

Original sheet size A3

PLANFORM
BUILDING DESIGN

Planform

5b/2 Murdoch Rd, South Morang, VIC, 3752
Po Box 576 South Morang Vic
info@planform.com.au
Phone: (03) 9437 8457
www.planform.com.au
ABN: 20 117 620 652

Clause 55 assessment – No.11 Johnsons Place, Pakenham, VIC, 3810

State and Local Planning Policy Framework		Response
Cl. 13.02 BUSHFIRE	Policy application This policy must be applied to all planning and decision making under the Planning and Environment Act 1987 relating to land that is: • Within a designated bushfire prone area; • Subject to a Bushfire Management Overlay; or • Proposed to be used or developed in a way that may create a bushfire hazard. Objective To strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life.	Ensuring the bushfire risk to existing and future residents, property and community infrastructure will not increase as a result of future land use and development. The risk of bushfire at the site is minimal given surrounding developments. A BAL report will be conducted and implemented at construction stage.
Cl.15.01 BUILT ENVIRONMENT	15.01-2S - Building design Objective To achieve building design and siting outcomes that contribute positively to the local context, enhance the public realm and support environmentally sustainable development. 15.01-5S - Neighbourhood character Objective To recognise, support and protect neighbourhood character, cultural identity, and sense of place.	Minimise stormwater discharge through site layout and landscaping measures that support on-site infiltration and stormwater reuse. The proposed development implements rainwater tanks for each dwelling as well as rain gardens to control and filter stormwater run-off. Ensure development is designed to protect and enhance valued landmarks, views and vistas. Views from habitable room windows will be available given the elevated site conditions and neighbouring reserves. Ensure development provides landscaping that responds to its site context, enhances the built form, creates safe and attractive spaces and supports cooling and greening of urban areas. Extensive landscaping areas are available throughout the proposed development as well as the integration of rain gardens.

		Support development that respects the existing neighbourhood character or contributes to a preferred neighbourhood character. Several unit developments are located nearby, the style and materials of the proposed dwellings are seen throughout neighbouring properties.
Cl. 16.01 RESIDENTIAL DEVELOPMENT	16.01-1S - Housing supply Objective To facilitate well-located, integrated and diverse housing that meets community needs. 16.01-2S - Housing affordability Objective To deliver more affordable housing closer to jobs, transport and services.	Encourage higher density housing development on sites that are well located in relation to jobs, services and public transport. Unit developments are seen throughout the surrounding area. The proposed site is located within close proximity to public transport and the activity centre of Pakenham. Facilitate diverse housing that offers choice and meets changing household needs by widening housing diversity through a mix of housing types. The proposal of a unit development with multiple housing designs helps to diversify local housing stock and provide housing options to prospective occupants.
Cl. 19.03-3S INTEGRATED WATER MANAGEMENT	Objective To sustainably manage water supply and demand, water resources, wastewater, drainage and stormwater through an integrated water management approach.	Integrate water into the landscape to facilitate cooling, local habitat improvements and provision of attractive and enjoyable spaces for community use. Filtering sediment and waste from stormwater prior to discharge from a site. The proposed design incorporates rain gardens into the stormwater management. Facilitate use of alternative water sources such as rainwater, stormwater, recycled

		water and run-off from irrigated farmland. Each proposed dwelling contains a 3000-litre rainwater tank.
Cl.21.03-1 HOUSING	Overview Housing within the Cardinia Shire is currently dominated by detached dwellings in both urban and rural areas. The urban area includes the Urban Established Area and the Urban Growth Area, while the rural area comprises Townships and rural-residential development. The urban area in the Cardinia Shire will continue to attract predominantly young families into the foreseeable future. However, as the housing market progressively matures and the needs of households change there will be increasing demand for more diverse forms of housing. Objective 1 To encourage a diversity in housing to meet the needs of existing and future residents.	Providing for a diversity of housing types and densities, including increased housing density around activity centres. The proposal of a unit development with multiple housing designs helps to diversify local housing stock and provide housing options to prospective occupants. The proposed site is located within close proximity to public transport and the activity centre of Pakenham. Recognising the need for affordability and availability of housing choice for different income levels in both the rental and purchaser markets. The proposal of a unit development with multiple housing designs helps to diversify local housing stock and provide housing options to prospective occupants. Encourage a range of lot sizes and housing types in new developments that satisfy the needs and aspirations of the community. The proposal of a unit development with multiple housing designs helps to diversify local housing stock and provide housing options to prospective occupants. Encourage an increase in densities that has a high standard of urban design, timely provision of infrastructure and is consistent with the existing and/or preferred neighbourhood character. The style and

		materials of the proposed dwellings are seen throughout neighbouring properties. Encourage medium density housing to be located within or at the interface of activity centres and overlooking local and linear open space. The proposed site is located within close proximity to public transport and the activity centre of Pakenham and is bordered by public reserves to the west and south.
Cl.21.03-2 URBAN ESTABLISHED AREA – BEACONSFIELD AND PAKENHAM	Part of the Cardinia Shire, between Beaconsfield and Pakenham East, is located within the Casey-Cardinia Growth Area for metropolitan Melbourne, and has been recognised as part of a metropolitan growth corridor since 1971. The Cardinia Shire urban area is divided into ten precincts. The Beaconsfield and Pakenham precincts represent the Urban Established Area of the Shire Objective To create a functional, attractive, safe and sustainable urban environment for the existing and future community of the Urban Established Area.	Land for residential purposes in Beaconsfield, and generally north of the Princes Freeway in Pakenham. The proposed site is located within close proximity to public transport and activity centre at Pakenham and is bordered by public reserve to the west and south. To ensure greater diversity of housing types and size. The proposal of a unit development with multiple housing designs helps to diversify local housing stock and provide housing options to prospective occupants.
Cl. 21.06-1 URBAN DESIGN	Overview The long-term benefits of good design are a more attractive, functional and sustainable built environment. Good design is based on the principle of being site responsive, designing to take into account the character and constraints of a site and wider area. Objective 1 To promote a high standard of design which creates a strong character and identity for the area, provides for a functional built environment, and promotes community and personal safety.	Ensure that all development takes into account the character and constraints of the site and wider area. The proposed site is located within close proximity to public transport and the activity centre of Pakenham and is bordered by public reserve to the west and south. The style and materials of the proposed dwellings are seen throughout neighbouring properties.

		The landscaping areas within the development will be adequately maintained to enhance the appearance of the area.
Cl. 32.08 GENERAL RESIDDENTIAL ZONE	Shown on the planning scheme map as GRZ, R1Z, R2Z or R3Z with a number (if shown). Purpose To implement the Municipal Planning Strategy and the Planning Policy Framework. To encourage development that is responsive to the neighbourhood character of the area. To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport. To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.	The subject site is zoned General Residential Zone 1 We are proposing a development of four units.
Cl. 45.06 DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY	Shown on the planning scheme map as DCPO with a number. Purpose To implement the Municipal Planning Strategy and the Planning Policy Framework. To identify areas which require the preparation of a development contributions plan for the purpose of levying contributions for the provision of works, services and facilities before development can commence.	The site is subject to a development contributions plan overlay.
Cl. 52.06 CARPARKING	Purpose To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the 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 the nature of the locality. To support sustainable transport alternatives 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.	Each proposed dwelling has been provided with a double car garage.

Cl. 55.02 NEIGHBOURHOOD CHARACTER AND INFRASTRUCTURE		Response
Cl. 55.02-1 NEIGHBOURHOOD CHARACTER OBJECTIVES	To ensure that the design respects the existing neighbourhood character or contributes to a preferred neighbourhood character. To ensure that development responds to the features of the site and the surrounding area. Standard B1 The design response must be appropriate to the neighbourhood and the site. The proposed design must respect the existing or preferred neighbourhood character and respond to the features of the site.	Complies, The proposed design of dwelling 1 respects the existing or preferred neighbourhood character and responds to the features of the site. The proposed design of dwelling 2 respects the existing or preferred neighbourhood character and responds to the features of the site. The proposed design of dwelling 3 respects the existing or preferred neighbourhood character and responds to the features of the site. The proposed design of dwelling 4 respects the existing or preferred neighbourhood character and responds to the features of the site.
Cl. 55.02-2 RESIDENTIAL POLICY OBJECTIVES	To ensure that residential development is provided in accordance with any policy for housing in the Municipal Planning Strategy and the Planning Policy Framework. To support medium densities in areas where development can take advantage of public transport and community infrastructure and services. Standard B2 An application must be accompanied by a written statement to the satisfaction of the responsible authority that describes how the development is consistent with any relevant policy for housing in the Municipal Planning Strategy and the Planning Policy Framework.	Complies Dwelling 1 is in-line with the relevant Municipal Planning Policy and Planning Policy Framework. Dwelling 2 is in-line with the relevant Municipal Planning Policy and Planning Policy Framework. Dwelling 3 is in-line with the relevant Municipal Planning Policy and Planning Policy Framework.

		Dwelling 4 is in-line with the relevant Municipal Planning Policy and Planning Policy Framework.
Cl. 55.02-3 DWELLING DIVERSITY OBJECTIVE	To encourage a range of dwelling sizes and types in developments of ten or more dwellings. Standard B3 Developments of ten or more dwellings should provide a range of dwelling sizes and types, including: Dwellings with a different number of bedrooms. • At least one dwelling that contains a kitchen, bath or shower, and a toilet and wash basin at ground floor level.	Not Applicable Only four dwellings are proposed.
Cl. 55.02-4 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. Standard B4 Development should be connected to reticulated services, including reticulated sewerage, drainage and electricity, if available. Development should not unreasonably exceed the capacity of utility services and infrastructure, including reticulated services and roads. In areas where utility services or infrastructure have little or no spare capacity, developments should provide for the upgrading of or mitigation of the impact on services or infrastructure.	Complies The addition of the proposed dwellings will not exceed the capacity of utility services and infrastructure.
Cl. 55.02-5 INTEGRATION WITH THE STREET OBJECTIVE	To integrate the layout of development with the street. Standard B5 Developments should provide adequate vehicle and pedestrian links that maintain or enhance local accessibility. Development should be oriented to front existing and proposed streets. High fencing in front of dwellings should be avoided if practicable. Development next to existing public open space should be laid out to complement the open space.	Complies Dwelling 1 fronts Johnson Place however due to the site being a battle axe block, dwelling 1 is set back 36825mm. No front fencing is proposed. A communal driveway with passing bay has been provided to allow vehicular access to the property whilst only having a 7.0m street frontage. Existing public open space to the west of the property has not been addressed due to the natural fall of the land. Dwelling 2 does not front Johnson Place due to the site being a battle axe block. No

		front fencing is proposed. A communal driveway with passing bay has been provided to allow vehicular access to the property whilst only having a 7.0m street frontage. Existing public open space to the west of the property has not been addressed due to the natural fall of the land. Dwelling 2 does not front Johnson Place due to the site being a battle axe block. No front fencing is proposed. A communal driveway with passing bay has been provided to allow vehicular access to the property whilst only having a 7.0m street frontage. Existing public open space to the west of the property has not been addressed due to the natural fall of the land. Dwelling 4 does not front Johnson Place due to the site being a battle axe block. No front fencing is proposed. A communal driveway with passing bay has been provided to allow vehicular access to the property whilst only having a 7.0m street frontage. Existing public open space to the west of the property has not been addressed due to the natural fall of the land, the public reserve to the south of the property is viewed from many of the habitable rooms within dwelling 4.
Cl. 55.03 SITE LAYOUT AND BUILDING MASSING		Response
Cl. 55.03-1 STREET SETBACK OBJECTIVE	To ensure that the setbacks of buildings from a street respect the existing or preferred neighbourhood character and make efficient use of the site. Standard B6	Complies

<table>
<tr>
<td></td>
<td>Walls of buildings should be set back from streets:
At least the distance specified in a schedule to the zone, or
If no distance is specified in a schedule to the zone, the distance specified in Table B1.
Porches, pergolas and verandahs that are less than 3.6 metres high and eaves may encroach not more than 2.5 metres into the setbacks of this standard.
Table B1 Street setback
<table>
<tr><th>Development context</th><th>Minimum setback from front street (metres)</th><th>Minimum setback from a side street (metres)</th></tr>
<tr><td>There is an existing building on both the abutting allotments facing the same street, and the site is not on a corner.</td><td>The average distance of the setbacks of the front walls of the existing buildings on the abutting allotments facing the front street or 9 metres, whichever is the lesser.</td><td>Not applicable</td></tr>
<tr><td>There is an existing building on one abutting allotment facing the same street and no existing building on the other abutting allotment facing the same street, and the site is not on a corner.</td><td>The same distance as the setback of the front wall of the existing building on the abutting allotment facing the front street or 9 metres, whichever is the lesser.</td><td>Not applicable</td></tr>
<tr><td>There is no existing building on either of the abutting allotments facing the same street, and the site is not on a corner.</td><td>6 metres for streets in a Transport Zone 2 and 4 metres for other streets.</td><td>Not applicable</td></tr>
<tr><td>The site is on a corner.</td><td>If there is a building on the abutting allotment facing the front street, the same distance as the setback of the front wall of the existing building on the abutting allotment facing the front street or 9 metres, whichever is the lesser.
If there is no building on the abutting allotment facing the front street, 6 metres for streets in a Transport Zone 2 and 4 metres for other streets.</td><td>Front walls of new development fronting the side street of a corner site should be setback at least the same distance as the setback of the front wall of any existing building on the abutting allotment facing the side street or 3 metres, whichever is the lesser.
Side walls of new development on a corner site should be setback the same distance as the setback of the front wall of any existing building on the abutting allotment facing the side street or 2 metres, whichever is the lesser.</td></tr>
</table>
</td>
<td>Dwelling 1 is set back 36825mm from the street frontage, due to the subject site being a battle axe block.

Dwelling 2 does not front a public street due to the subject site being a battle axe block, however, dwelling 2 is set back 9835mm from the east boundary.

Dwelling 3 does not front a public street due to the subject site being a battle axe block, however, dwelling 3 is set back 9835mm from the east boundary.

Dwelling 4 does not front a public street due to the subject site being a battle axe block, however, dwelling 4 is set back 11330mm from the east boundary.</td>
</tr>
<tr>
<td>Cl. 55.03-2
BUILDING HEIGHT OBJECTIVE</td>
<td>To ensure that the height of buildings respects the existing or preferred neighbourhood character.
Standard B7
The maximum building height should not exceed the maximum height specified in the zone, schedule to the zone or an overlay that applies to the land.
If no maximum height is specified in the zone, schedule to the zone or an overlay, the maximum building height should not exceed 9 metres, unless the slope of the natural ground level at any cross section wider than 8 metres of the site of the building is 2.5 degrees or more, in which case the maximum building height should not exceed 10 metres.</td>
<td>Complies.

The maximum allowable building height is 10.00m, as the slope of the natural ground level at any cross section wider than 8 metres of the site of the building is 2.5 degrees or more.

Dwelling 1 maximum building height is 8140mm.

Dwelling 2 maximum building height is 7580mm.</td>
</tr>
</table>

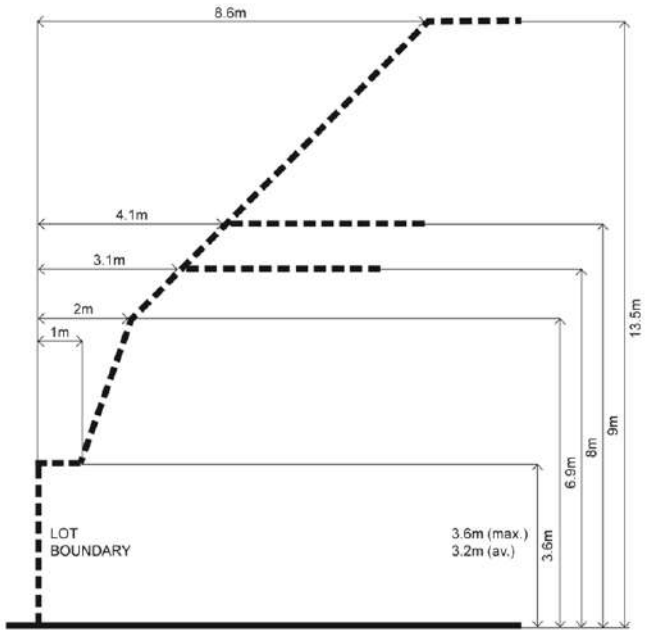
		Dwelling 3 maximum building height is 7580mm. Dwelling 4 maximum building height is 7580mm.
Cl. 55.03-3 SITE COVERAGE OBJECTIVE	To ensure that the site coverage respects the existing or preferred neighbourhood character and responds to the features of the site. Standard B8 The site area covered by buildings should not exceed: The maximum site coverage specified in a schedule to the zone, or • If no maximum site coverage is specified in a schedule to the zone, 60 per cent.	Complies. The total site coverage for the proposal is 25.85%, well below the 60% limit. Dwelling 1 has a site coverage of 231.50m^2. Dwelling 2 has a site coverage of 175.27m^2. Dwelling 3 has a site coverage of 175.27m^2. Dwelling 4 has a site coverage of 175.27m^2.
Cl. 55.03-4 PERMEABILITY & STORMWATER MANAGEMENT OBJECTIVES	To reduce the impact of increased stormwater run-off on the drainage system. To facilitate on-site stormwater infiltration. To encourage stormwater management that maximises the retention and reuse of stormwater. Standard B9 The site area covered by the pervious surfaces should be at least: • The minimum area specified in a schedule to the zone, or • If no minimum is specified in a schedule to the zone, 20 percent of the site. The stormwater management system should be designed to: • Meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater - Best Practice Environmental Management Guidelines (Victorian Stormwater Committee, 1999). • Contribute to cooling, improving local habitat and providing attractive and enjoyable spaces. •	Complies. The proposed development supports a permeable area of 1728.77m^2 which equate to 59.67% of the subject site.
Cl. 55.03-5 ENERGY EFFICIENCY OBJECTIVES	To achieve and protect energy efficient dwellings, residential buildings and small second dwellings.	Complies

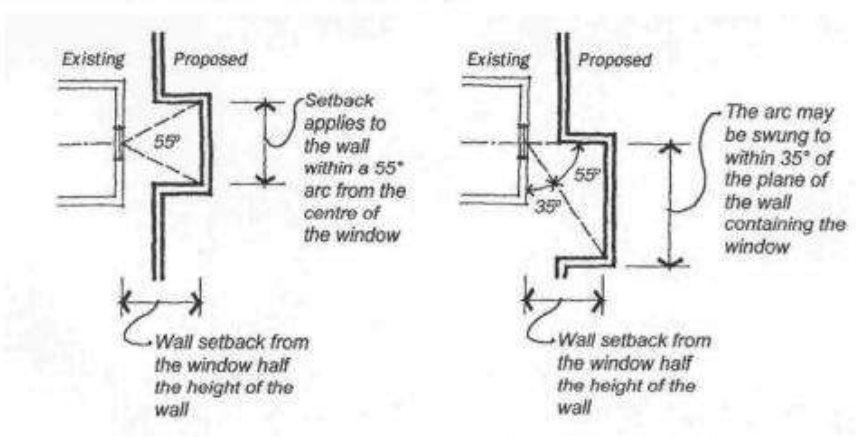
	To ensure the orientation and layout of development reduce fossil fuel energy use and make appropriate use of daylight and solar energy. Standard B10 Buildings should be: • Oriented to make appropriate use of solar energy. • Sited and designed to ensure that the energy efficiency of existing dwellings or small second dwellings on adjoining lots is not unreasonably reduced. • Sited and designed to ensure that the performance of existing rooftop solar energy systems on dwellings or small second dwellings on adjoining lots in a General Residential Zone, Neighbourhood Residential Zone or Township Zone are not unreasonably reduced. The existing rooftop solar energy system must exist at the date the application is lodged. Living areas and private open space should be located on the north side of the development, if practicable. Developments should be designed so that solar access to north-facing windows is maximised.	The internal layout of dwelling 1 will take advantage of its orientation where main living areas and habitable rooms are provided with north facing windows allowing for excellent levels of solar access. The internal layout of dwelling 2 will take advantage of its orientation where main living areas and habitable rooms are provided with north facing windows allowing for excellent levels of solar access. The internal layout of dwelling 3 will take advantage of its orientation where main living areas and habitable rooms are provided with north facing windows allowing for excellent levels of solar access. The internal layout of dwelling 4 will take advantage of its orientation where main living areas and habitable rooms are provided with north facing windows allowing for excellent levels of solar access. The proposed dwellings do not shade any existing rooftop solar energy systems.
Cl 55.03-6 OPEN SPACE OBJECTIVE	To integrate the layout of development with any public and communal open space provided in or adjacent to the development. Standard B11 If any public or communal open space is provided on site, it should: • Be substantially fronted by dwellings, where appropriate. • Provide outlook for as many dwellings as practicable. • Be designed to protect any natural features on the site. • Be accessible and useable.	Complies Dwelling 1 is orientated to take advantage of communal areas. Dwelling 2 is orientated to take advantage of communal areas. Dwelling 3 is orientated to take advantage of communal areas.

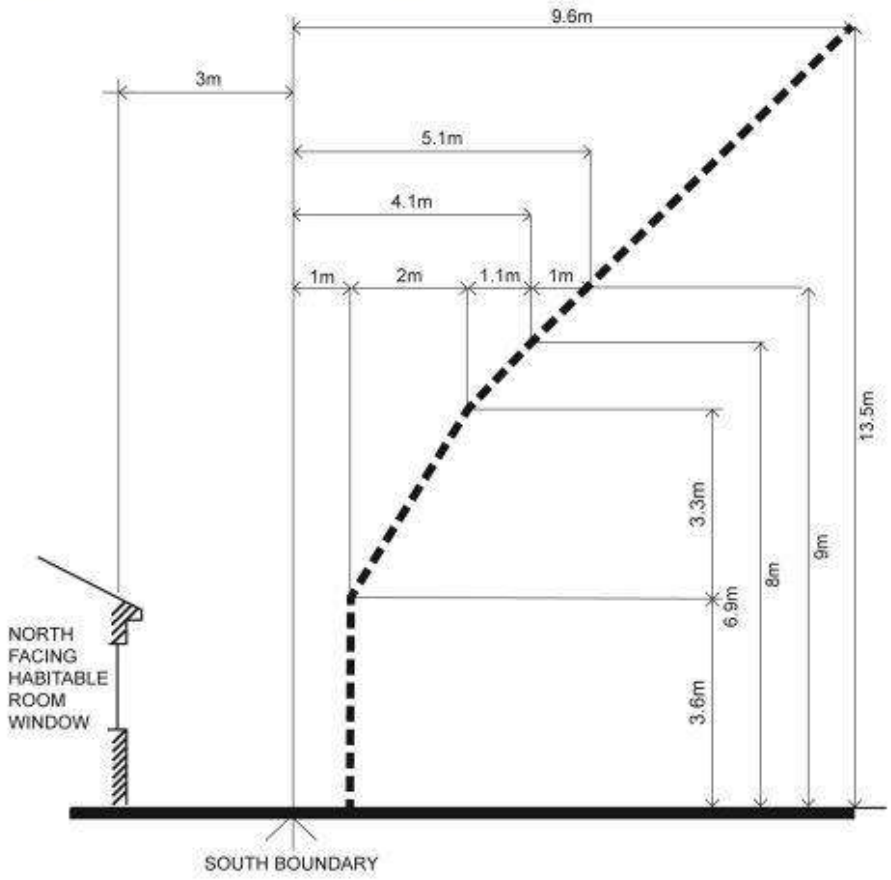
		Dwelling 4 is orientated to take advantage of communal areas.
CLAUSE 55.03-7 – SAFETY OBJECTIVE	To ensure the layout of development provides for the safety and security of residents and property. Standard B12 Entrances to dwellings and residential buildings should not be obscured or isolated from the street and internal accessways. Planting which creates unsafe spaces along streets and accessways should be avoided. Developments should be designed to provide good lighting, visibility and surveillance of car parks and internal accessways. Private spaces within developments should be protected from inappropriate use as public thoroughfares.	Complies Dwelling 1 does not isolate the entrance from the internal access ways. Proposed planting has been planned to avoid creating unsafe spaces along the access ways. In no way will the proposed development be able to be used as a public thoroughfare. Dwelling 2 does not isolate the entrance from the internal access ways. Proposed planting has been planned to avoid creating unsafe spaces along the access ways. In no way will the proposed development be able to be used as a public thoroughfare. Dwelling 3 does not isolate the entrance from the internal access ways. Proposed planting has been planned to avoid creating unsafe spaces along the access ways. In no way will the proposed development be able to be used as a public thoroughfare. Dwelling 4 does not isolate the entrance from the internal access ways. Proposed planting has been planned to avoid creating unsafe spaces along the access ways. In no way will the proposed development be able to be used as a public thoroughfare.

CLAUSE 55.03-8 – 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. Standard B13 The landscape layout and design should: • Protect any predominant landscape features of the neighbourhood. • Take into account the soil type and drainage patterns of the site. • Allow for intended vegetation growth and structural protection of buildings. • In locations of habitat importance, maintain existing habitat and provide for new habitat for plants and animals. • Provide a safe, attractive and functional environment for residents. Development should provide for the retention or planting of trees, where these are part of the character of the neighbourhood. Development should provide for the replacement of any significant trees that have been removed in the 12 months prior to the application being made. The landscape design should specify landscape themes, vegetation (location and species), paving and lighting. Development should meet any additional landscape requirements specified in a schedule to the zone.	Complies Existing trees have been retained where possible. Off-set planting has been accounted for in the future landscaping.
CLAUSE 55.03-9 – ACCESS OBJECTIVE	To ensure the number and design of vehicle crossovers respects the neighbourhood character. Standard B14 The width of accessways or car spaces should not exceed: • 33 per cent of the street frontage, or • if the width of the street frontage is less than 20 metres, 40 per cent of the street frontage. No more than one single-width crossover should be provided for each dwelling fronting a street. The location of crossovers should maximise the retention of on-street car parking spaces. The number of access points to a road in a Transport Zone 2 or a Transport Zone 3 should be minimised. Developments must provide for access for service, emergency and delivery vehicles.	Not Applicable No alteration to the street crossover has been proposed.
CLAUSE 55.03-10 – PARKING LOCATION OBJECTIVES	To provide convenient parking for resident and visitor vehicles. To protect residents from vehicular noise within developments. Standard B15 Car parking facilities should:	Complies A double car garage has been provided to dwelling 1. Shared access ways and car

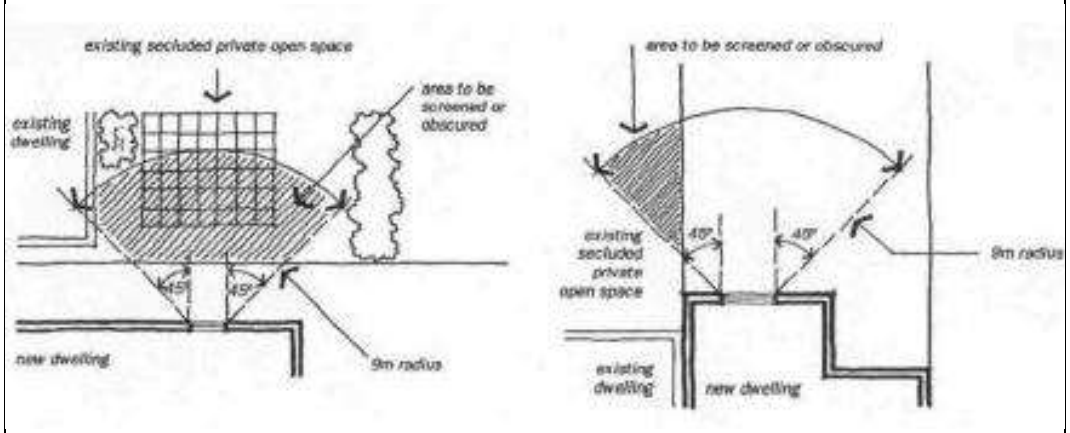
	• Be reasonably close and convenient to dwellings and residential buildings. • Be secure. • Be well ventilated if enclosed. Shared accessways or car parks of other dwellings and residential buildings should be located at least 1.5 metres from the windows of habitable rooms. This setback may be reduced to 1 metre where there is a fence at least 1.5 metres high or where window sills are at least 1.4 metres above the accessway.	parks comply with the appropriate setbacks required. A double car garage has been provided to dwelling 2. Shared access ways and car parks comply with the appropriate setbacks required. A double car garage has been provided to dwelling 3. Shared access ways and car parks comply with the appropriate setbacks required. A double car garage has been provided to dwelling 4. Shared access ways and car parks comply with the appropriate setbacks required.
Cl. 55.04 AMENITY IMPACTS		Response
Cl. 55.04-1 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 or small second dwellings. Standard B17 A new building not on or within 200mm of a boundary should be set back from side or rear boundaries: • At least the distance specified in a schedule to the zone, or • If no distance is specified in a schedule to the zone, 1 metre, plus 0.3 metres for every metre of height over 3.6 metres up to 6.9 metres, plus 1 metre for every metre of height over 6.9 metres. Sunblinds, verandahs, porches, eaves, fascias, gutters, masonry chimneys, flues, pipes, domestic fuel or water tanks, and heating or cooling equipment or other services may encroach not more than 0.5 metres into the setbacks of this standard.	Complies Dwelling 1 has a maximum wall height of 5795mm on a wall that is setback 2420mm, complying with the required setback. Dwelling 4 has a maximum wall height of 5795mm on a wall that is set back 2045mm, complying with the required setback.

	Landings having an area of not more than 2 square metres and less than 1 metre high, stairways, ramps, pergolas, shade sails and carports may encroach into the setbacks of this standard. **Diagram B1 Side and rear setbacks**  	
Cl. 55.04-2 WALLS ON BOUNDARIES OBJECTIVE	To ensure that the location, length 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 or small second dwellings. Standard B18 A new wall constructed on or within 200mm of a side or rear boundary of a lot or a carport constructed on or within 1 metre of a side or rear boundary of lot should not abut the boundary: • For a length of more than the distance specified in a schedule to the zone; or • If no distance is specified in a schedule to the zone, for a length of more than: - 10 metres plus 25 per cent of the remaining length of the boundary of an adjoining lot, or	Not Applicable No walls are proposed on the title boundary.

	- Where there are existing or simultaneously constructed walls or carports abutting the boundary on an abutting lot, the length of the existing or simultaneously constructed walls or carports whichever is the greater. A new wall or carport may fully abut a side or rear boundary where slope and retaining walls or fences would result in the effective height of the wall or carport being less than 2 metres on the abutting property boundary. A building on a boundary includes a building set back up to 200mm from a boundary. The height of a new wall constructed on or within 200mm of a side or rear boundary or a carport constructed on or within 1 metre of a side or rear boundary should not exceed an average of 3.2 metres with no part higher than 3.6 metres unless abutting a higher existing or simultaneously constructed wall.	
Cl. 55.04-3 DAYLIGHT TO EXISTING WINDOWS OBJECTIVE	To allow adequate daylight into existing habitable room windows. Standard B19 Buildings opposite an existing habitable room window should provide for a light court to the existing window that has a minimum area of 3 square metres and minimum dimension of 1 metre clear to the sky. The calculation of the area may include land on the abutting lot. Walls or carports more than 3 metres in height opposite an existing habitable room window should be set back from the window at least 50 per cent of the height of the new wall if the wall is within a 55 degree arc from the centre of the existing window. The arc may be swung to within 35 degrees of the plane of the wall containing the existing window. Where the existing window is above ground floor level, the wall height is measured from the floor level of the room containing the window. 	Complies The nearest neighbouring dwelling is located 9630mm east of dwelling 1, which satisfies Standard B19.

Cl. 55.04-4 NORTH FACING WINDOW OBJECTIVE	To allow adequate solar access to existing north-facing habitable room windows. **Standard B20** If a north-facing habitable room window of an existing dwelling or small second dwelling is within 3 metres of a boundary on an abutting lot, a building should be setback from the boundary 1 metre, plus 0.6 metres for every metre of height over 3.6 metres up to 6.9 metres, plus 1 metre for every metre of height over 6.9 metres, for a distance of 3 metres from the edge of each side of the window. A north-facing window is a window with an axis perpendicular to its surface, oriented north 20 degrees west to north 30 degrees east.  	Not Applicable No north facing habitable windows are within 3m of our proposal.

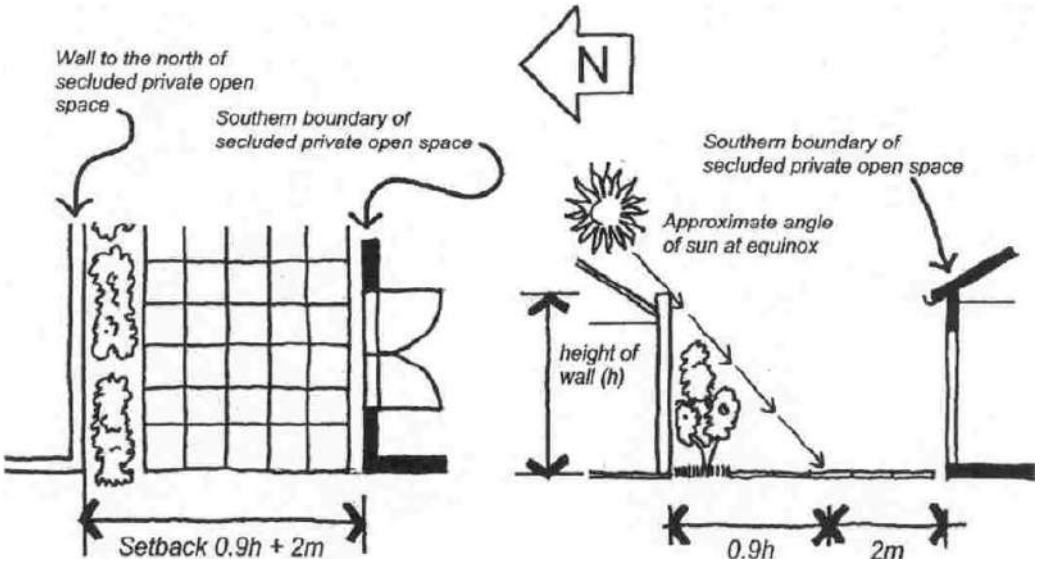
Cl. 55.04-5 OVERSHADOWING OPEN SPACE OBJECTIVE	To ensure buildings do not significantly overshadow existing secluded private open space. Standard B21 Where sunlight to the secluded private open space of an existing dwelling or small second dwelling is reduced, at least 75 per cent, or 40 square metres with minimum dimension of 3 metres, whichever is the lesser area, of the secluded private open space should receive a minimum of five hours of sunlight between 9 am and 3 pm on 22 September. If existing sunlight to the secluded private open space of an existing dwelling or small second dwelling is less than the requirements of this standard, the amount of sunlight should not be further reduced.	Complies. Dwelling 1 causes no additional shadow to the neighbouring properties. Dwelling 2 causes no additional shadow to the neighbouring properties. Dwelling 3 causes no additional shadow to the neighbouring properties. Dwelling 4 casts a 4.3m^2 shadow beyond the boundary fence shadow at 9am to the neighbouring public reserve. At 12pm the additional shadow to the public reserve is 0.23m^2. No secluded private open space is shaded.
Cl. 55.04-6 OVERLOOKING OBJECTIVE	To limit views into existing secluded private open space and habitable room windows. Standard B22 A habitable room window, balcony, terrace, deck or patio should be located and designed to avoid direct views into the secluded private open space of an existing dwelling or small second dwelling within a horizontal distance of 9 metres (measured at ground level) of the window, balcony, terrace, deck or patio. Views should be measured within a 45 degree angle from the plane of the window or perimeter of the balcony, terrace, deck or patio, and from a height of 1.7 metres above floor level. A habitable room window, balcony, terrace, deck or patio with a direct view into a habitable room window of an existing dwelling or small second dwelling within a horizontal distance of 9 metres (measured at ground level) of the window, balcony, terrace, deck or patio should be either: • Offset a minimum of 1.5 metres from the edge of one window to the edge of the other. • Have sill heights of at least 1.7 metres above floor level. • Have fixed, obscure glazing in any part of the window below 1.7 metre above floor level. • Have permanently fixed external screens to at least 1.7 metres above floor level and be no more than 25 per cent transparent.	Complies. Dwelling 1 is setback 12475mm from the eastern boundary. Dwelling 2 is setback 12335mm from the eastern boundary Dwelling 3 is setback 12335mm from the eastern boundary Dwelling 4 is setback 13830mm from the eastern boundary. Therefore none of the proposed dwellings overlook in the private open space of the neighbouring property.

	Obscure glazing in any part of the window below 1.7 metres above floor level may be openable provided that there are no direct views as specified in this standard. Screens used to obscure a view should be: • Perforated panels or trellis with a maximum of 25 per cent openings or solid translucent panels. • Permanent, fixed and durable. • Designed and coloured to blend in with the development. This standard does not apply to a new habitable room window, balcony, terrace, deck or patio which faces a property boundary where there is a visual barrier at least 1.8 metres high and the floor level of the habitable room, balcony, terrace, deck or patio is less than 0.8 metres above ground level at the boundary. 	
Cl. 55.04-7 INTERNAL VIEWS OBJECTIVE	To limit views into the secluded private open space and habitable room windows of dwellings and residential buildings within a development. Standard B23 Windows and balconies should be designed to prevent overlooking of more than 50 per cent of the secluded private open space of a lower-level dwelling or residential building directly below and within the same development.	Complies Dwelling 1 does not overlook into neighbouring secluded private open space of the other proposed dwellings.

		Dwelling 2 does not overlook into neighbouring secluded private open space of the other proposed dwellings. Dwelling 3 does not overlook into neighbouring secluded private open space of the other proposed dwellings. Dwelling 4 does not overlook into neighbouring secluded private open space of the other proposed dwellings.
Cl. 55.04-8 NOISE IMPACTS OBJECTIVES	To contain noise sources in developments that may affect existing dwellings or small second dwellings. To protect residents from external noise. Standard B24 Noise sources, such as mechanical plant, should not be located near bedrooms of immediately adjacent existing dwellings or small second dwellings. Noise sensitive rooms and secluded private open spaces of new dwellings and residential buildings should take account of noise sources on immediately adjacent properties. Dwellings and residential buildings close to busy roads, railway lines or industry should be designed to limit noise levels in habitable rooms.	Complies The design of dwelling 1 places noise sources as far away from habitable rooms as possible. The design of dwelling 2 places noise sources as far away from habitable rooms as possible. The design of dwelling 3 places noise sources as far away from habitable rooms as possible. The design of dwelling 4 places noise sources as far away from habitable rooms as possible.
CLAUSE 55.05 ON-SITE AMENITY IMPACTS		Response
Cl. 55.05-1 ACCESSIBILITY OBJECTIVE	To encourage the consideration of the needs of people with limited mobility in the design of developments. Standard B25 The dwelling entries of the ground floor of dwellings and residential buildings should be accessible or able to be easily made accessible to people with limited mobility.	Complies. The proposed entry of dwelling 1 can easily be made accessible to people with limited mobility. Given the nature of parcel of land

		every consideration has been given to make the dwelling as accessible as possible. The proposed entry of dwelling 2 can easily be made accessible to people with limited mobility. Given the nature of parcel of land every consideration has been given to make the dwelling as accessible as possible. The proposed entry of dwelling 3 can easily be made accessible to people with limited mobility. Given the nature of parcel of land every consideration has been given to make the dwelling as accessible as possible. The proposed entry of dwelling 4 can easily be made accessible to people with limited mobility. Given the nature of parcel of land every consideration has been given to make the dwelling as accessible as possible.
Cl. 55.05-2 DWELLING ENTRY OBJECTIVE	To provide each dwelling or residential building with its own sense of identity. Standard B26 Entries to dwellings and residential buildings should: • Be visible and easily identifiable from streets and other public areas. • Provide shelter, a sense of personal address and a transitional space around the entry.	Complies. Dwelling 1 has a clearly defined entry in order to give the dwelling its own sense of identity. Dwelling 2 has a clearly defined entry in order to give the dwelling its own sense of identity. Dwelling 3 has a clearly defined entry in order to give the dwelling its own sense of identity.

		Dwelling 4 has a clearly defined entry in order to give the dwelling its own sense of identity.
Cl. 55.05-3 DAYLIGHT TO NEW WINDOWS OBJECTIVE	To allow adequate daylight into new habitable room windows. Standard B27 A window in a habitable room should be located to face: An outdoor space clear to the sky or a light court with a minimum area of 3 square metres and minimum dimension of 1 metre clear to the sky, not including land on an abutting lot, or A verandah provided it is open for at least one third of its perimeter, or • A carport provided it has two or more open sides and is open for at least one third of its perimeter.	Complies All habitable room windows of dwelling 1 have access to adequate daylight. All habitable room windows of dwelling 2 have access to adequate daylight. All habitable room windows of dwelling 3 have access to adequate daylight. All habitable room windows of dwelling 4 have access to adequate daylight.
Cl. 55.05-4 PRIVATE OPEN SPACE OBJECTIVE	To provide adequate private open space for the reasonable recreation and service needs of residents. Standard B28 A dwelling or residential building should have private open space of an area and dimensions specified in a schedule to the zone. If no area or dimensions are specified in a schedule to the zone, a dwelling or residential building should have private open space consisting of: • An area of 40 square metres, with one part of the private open space to consist of secluded private open space at the side or rear of the dwelling or residential building with a minimum area of 25 square metres, a minimum dimension of 3 metres and convenient access from a living room, or • A balcony of 8 square metres with a minimum width of 1.6 metres and convenient access from a living room, or • A roof-top area of 10 square metres with a minimum width of 2 metres and convenient access from a living room. The balcony requirements in Clause 55.05-4 do not apply to an apartment development.	Complies - Dwelling 1 has 664.78 m^2 of P.O.S. - Dwelling 2 has 254.45 m^2 of P.O.S. - Dwelling 3 has 253.17 m^2 of P.O.S. - Dwelling 4 has 283.12 m^2 of P.O.S.

Cl. 55.05-5 SOLAR ACCESS TO OPEN SPACE OBJECTIVE	To allow solar access into the secluded private open space of new dwellings and residential buildings. Standard B29 The private open space should be located on the north side of the dwelling or residential building, if appropriate. The southern boundary of secluded private open space should be set back from any wall on the north of the space at least (2 + 0.9h) metres, where 'h' is the height of the wall.  	Complies Given the size of the private open spaces for each dwelling adequate solar access has been achieved.
Cl. 55.05-6 STORAGE OBJECTIVE	To provide adequate storage facilities for each dwelling. Standard B30 Each dwelling should have convenient access to at least 6 cubic metres of externally accessible, secure storage space.	Complies 6.0m^2 of storage space has been provided to the proposed dwellings.
CLAUSE 55.06 DETAILED DESIGN		Response
Cl. 55.06-1 DESIGN DETAIL OBJECTIVE	To encourage design detail that respects the existing or preferred neighbourhood character. Standard B31 The design of buildings, including:	Complies

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Facade articulation and detailing,
Window and door proportions,
Roof form, and
Verandahs, eaves and parapets,

should respect the existing or preferred neighbourhood character.
Garages and carports should be visually compatible with the development and the existing or preferred neighbourhood character.
</td>
<td>
The proposed design of dwelling 1 respects the existing or preferred neighbourhood character.

The proposed design of dwelling 2 respects the existing or preferred neighbourhood character.

The proposed design of dwelling 3 respects the existing or preferred neighbourhood character.

The proposed design of dwelling 4 respects the existing or preferred neighbourhood character.
</td>
</tr>
<tr>
<td>Cl. 55.06-2
FRONT FENCES
OBJECTIVE</td>
<td>
To encourage front fence design that respects the existing or preferred neighbourhood character.
Standard B32
A front fence within 3 metres of a street should not exceed:

The maximum height specified in a schedule to the zone, or
If no maximum height is specified in a schedule to the zone, the maximum height specified in Table B3.

<table>
<tr><th>Street context</th><th>Maximum front fence height</th></tr>
<tr><td>Streets in a Transport Zone 2</td><td>2 metres</td></tr>
<tr><td>Other streets</td><td>1.5 metres</td></tr>
</table>
</td>
<td>
Not Applicable

No front fence has been proposed.
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</tr>
<tr>
<td>Cl. 55.06-3
COMMON PROPERTY
OBJECTIVES</td>
<td>
To ensure that communal open space, car parking, access areas and site facilities are practical, attractive, and easily maintained.
To avoid future management difficulties in areas of common ownership.
Standard B33
Developments should clearly delineate public, communal, and private areas.
Common property, where provided, should be functional and capable of efficient management.
</td>
<td>
Complies

Communal open space, car parking, access areas and site facilities are practical, attractive, and easily maintained.
</td>
</tr>
</table>

Cl. 55.06-4 SITE SERVICES OBJECTIVES	To ensure that site services can be installed and easily maintained. To ensure that site facilities are accessible, adequate, and attractive. Standard B34 The design and layout of dwellings and residential buildings should provide sufficient space (including easements where required) and facilities for services to be installed and maintained efficiently and economically. Bin and recycling enclosures, mailboxes and other site facilities should be adequate in size, durable, waterproof and blend in with the development. Bin and recycling enclosures should be located for convenient access by residents. Mailboxes should be provided and located for convenient access as required by Australia Post.	Complies Site services can be installed and maintained easily. Site facilities are accessible, adequate, and attractive

CONCLUSION

To conclude the proposal achieves an excellent level of compliance with the required standards outlined in the Cardinia Planning Scheme.

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Arborist Report

11 Johnsons Place, Pakenham 3810

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Client	Planform
Client Address	2 Murdoch Road, South Morang
Site Address	11 Johnsons Place, Pakenham 3810
Document Type	Arborist Report – Tree assessment & recommendations.
Date	28/03/2025

1. Contents

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2. Key findings

- This is a finalized arborist report; it includes an arboricultural impact assessment.
- The site is a large, vacant property, it is very steep and backs onto vacant land.
- There are 7 trees located on this property, these trees have low or no retention value and could be removed.
- Trees 8-9 are in an adjoining property; these trees will not be directly affected by the proposal.

3. Introduction

I was contacted by Planform regarding providing an Arborist report for a proposed development at this address. The proposed development will affect 9 trees; most of these trees are on the subject site. As part of my assessment, I have reported on the health and condition of these trees and have provided recommendations based on my assessment.

The site is within the Shire of Cardinia, it is located within a General Residential zone (GRZ1). There are no relevant planning overlays affecting his property.

This report is a finalized arboricultural report and includes an arboricultural impact assessment. This considers the proposed development and evaluates the potential impact on any trees to be retained on the site as well as trees located on adjoining properties and street trees. The evaluation is based upon *AS4970-2009: Protection of trees on development sites* as well as considering basic tree information (particularly health, condition, and age) and species factors. Tree protection zones and structural root zones as outlined in *AS4970-2009: Protection of trees on development sites* are intended to be used as a guideline, generally tree roots do not develop in a uniform manner and vary greatly in their size, spread and depth dependent on soil characteristics, available resources, and species factors. The TPZ as defined by the standard provides a quick and useful guideline for evaluating the potential impact from development on retained trees. Where there is a need to determine the size and spread of roots a non-invasive root investigation may be required, this will precisely determine the below ground impact of development on a tree's root system more accurately.

I have conducted a site visit on the 14/03/2025, and assessed the health, condition, and safety of the trees in question. Recommendations are outlined in section 5 of this report. A detailed list of the surveyed trees is provided in Appendix 2 of this report. A site plan is included which identifies and shows the location of the trees concerned, photographs of the trees have also been included.

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4. Methodology

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

A Yama 20m diameter tape was used to obtain the Diameter at breast height (DBH) at 1.4 metres above ground level. The height was measured using a Nikon Forestry Pro Laser Range Finder, the spread of the tree's canopy was paced out. Photographs were taken with a Canon 700D DSLR camera. Aerial photographs were taken from www.nearmap.com.au.

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

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

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

A scaled site plan has been prepared using ArborCAD software.

Reference was made to the Shire of Cardinia's Planning Scheme through DELWP maps and spatial data: https://www2.delwp.vic.gov.au/maps.

This report referred to the proposed site plan for 11 Johnsons Place, Pakenham prepared by Planform Building Design and dated 25/10/2024, revision A.

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

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5. Site Context

This is a large sized, vacant property (2892m^2) which is in a medium density residential area; the site is sloping up from the road and has an east-west orientation with an easterly aspect. There are 9 trees included in this report.

Figure 1: Assessment area (Nearmap, 2025)

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6. Discussion

The subject site is a large vacant property that is sloping steeply from the road.

Trees 1-7 are located on the subject site. These trees have low retention value due to their small size, poor health and/or trunk and branch structure or that they are an environmental weed species. These trees do not warrant being retained and incorporated into the proposed development and will be removed and replaced as part of the proposed development.

Figure 2: Tree 1 is a small sized, early mature Acacia mearnsii (Black Wattle). The tree has low retention value due to its small size and low landscape value. This tree will be removed and replaced as part of the proposed development.

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Figure 3: Tree 2 is an over mature, medium sized Acacia mearnsii (Black Wattle). The tree is in very poor condition and well past its useful life expectancy. This tree will be removed and replaced.

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Tree groups 8-9 are in an adjoining property, these trees will not be directly affected by the proposed development as the proposal will not intrude into their TPZ. Provided that basic tree protection measures are implemented there should be no adverse impact on the health of these trees from the proposed development.

Figure 4: Tree group 8 is in an adjoining property close to the boundary. These trees are dead and will not be directly affected by the proposed development.

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Table 1: Trees to be removed:

Tree #	*Common & Botanical names*	Origin	Age	ULE	Retention value	Comments	Recommendations	Permit required
1	*Acacia mearnsii (Black Wattle)*	Locally occurring	Early mature	Medium (15-40 years)	Low		Remove and replace	No
2	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
3	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
4	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
5	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
6	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Mature	Medium (15-40 years)	Low	TGx2	Remove and replace	No
7	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No

Table 2: Trees to be retained (third party trees only):

Tree#	TPZ	Intrusion	Recommended tree protection measures
8	1.9 (SRZ)	0%	Neighbouring tree, no intrusion, implement basic tree protection measures.
9	2	0%	Neighbouring tree, no intrusion, implement basic tree protection measures.

7. Recommendations

There are 7 trees located on this property, these trees all have low retention value and could be removed and replaced as part of the proposed development.

Trees 8-9 are in an adjoining property; these trees will not be directly affected by the proposed development. Provided that basic tree protection measures (see below) are implemented there should be no adverse impact on the health of these trees from the proposed development.

8. Tree Protection Requirements

Specific Tree Protection Requirements

Demolition and site clearing

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

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

Basic Tree Protection Requirements

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

1. Before commencing work on site, the contractor is required to meet with the consultant arborist to review all work procedures, access routes, storage areas and tree protection measures.
2. Temporary protective fencing to a minimum height of 1.8m must be erected along the perimeter of the TPZ (or modified TPZ) for any trees that are to be retained on the site. Prior to any machinery or materials being brought on site and before any works including demolition commences.
3. Once erected protective fencing must not be removed or altered without approval from the project arborist.
4. Protective fencing needs to be in accordance with AS 4687. Signs identifying the TPZ should be placed around the protective fencing.
5. Construction vehicles and storage areas must remain outside fenced areas always.
6. If tree roots are encountered or damaged during construction, they need to be cut cleanly to sound tissue with sharp secateurs or a pruning saw.
7. Surplus construction materials (e.g., soil, cement, base rock etc.) are not to be stored or allowed to remain inside the trees' TPZ.
8. Additional tree pruning required during construction must be carried out by an appropriately qualified contractor and in accordance with Australian Standards 4373: 2007, Pruning of Amenity Trees and not by construction personnel.
9. All underground services including drainage and irrigation must be routed outside of trees' TPZs, if this is not possible excavation is to be carried out by tunneling or boring beneath the tree protection zone.
10. Trees retained on site are to be regularly watered (minimum weekly) during periods of dry conditions within the tree protection zone.
11. If trees are damaged during construction, it should be evaluated as soon as possible by the project arborist so that appropriate treatments can be applied.
12. Erosion control such as silt fencing, debris basins and water diversion methods shall be installed to prevent siltation and/or erosion within the tree protection zone.
13. If temporary access roads must pass over the root areas (TPZ) of trees to be retained a roadbed of 150mm of mulch or crushed rock shall be created to prevent soil compaction within the tree's root area. The roadbed material shall be maintained to a depth of 150mm throughout construction.
14. Once construction is completed all foreign (non-organic) debris needs to be removed from within the tree protection zone.

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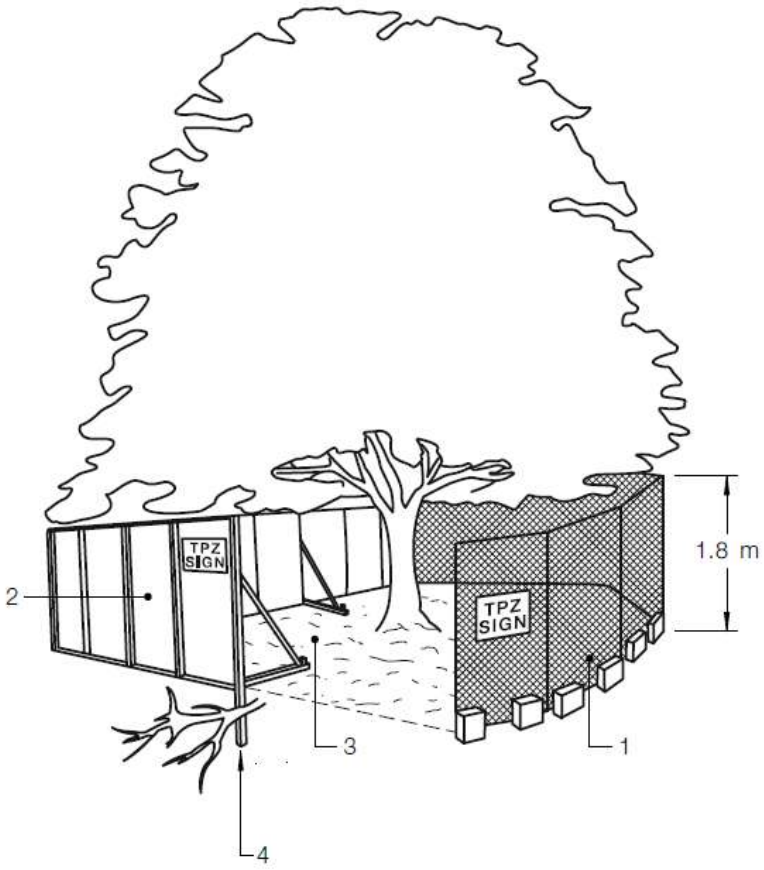

LEGEND:

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

Figure 5: Tree protection zone and temporary protective fencing.
The creation of an exclusion zone around trees to be retained on site is the primary means of tree protection during construction. Tree protection zone signage provides clear and readily accessible information to indicate that a TPZ has been established.

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9. Suggested Replacement Species

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

Large (canopy) trees:

- Red Box (*Eucalyptus polyanthemos ssp. Vestita)* - Indigenous
- Yellow Box (*Eucalyptus melliodora*) - Indigenous
- Blackwood (*Acacia melanoxylon*) - Indigenous
- Smooth-barked Apple Myrtle (*Angophora costata*) - Native
- Red Ironbark (*Eucalyptus sideroxylon*) - Native
- Argyle Apple (*Eucalyptus cinerea*) - Native
- Illawarra Flame Tree *(Brachychiton acerifolius)* - Native
- Red Maple (*Acer rubrum)* - Exotic
- Pin Oak (*Quercus palustris)* - Exotic

Medium sized trees:

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

Small sized trees:

- Gungurru (*Eucalyptus caesia)* - Native
- Fuschia Gum *(Eucalyptus forrestiana)* - Native
- Nullabor Lime (*Eucalyptus macrocarpa 'Nullabor Lime')* - Native
- Risdon Peppermint (*Eucalyptus risdonii*) - Native
- Coral Gum (*Eucalyptus torquata*) - Native
- Crepe Myrtle (L*agerstroemia indica)* - Exotic
- Iowa Crab Apple (*Malus ioensis 'Plena')* – Exotic

Replacement trees should be sourced from a reputable nursery with care taken to ensure that they are in good health, free of structural defects and pests and diseases. They should be advanced grown specimens that are a minimum 1.5 metres in height. When planting advanced

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

Please do not hesitate to call 0425 879 811 if you have any questions regarding the contents or recommendations provided in this report.

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10. References

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

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

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

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

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

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

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

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

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

High retention value

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

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

Moderate retention value

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

Low retention value

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

Remove/None

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

Appendix 2 – Useful Life Expectancy Categories (ULE)

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

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

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

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

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

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

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

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

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

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

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Appendix 3 – Tree Species

Tree #	Botanical & common names	Origin	Health	Structure	Height	Canopy spread	Total DBH	DAB	Age	ULE	Amenity value	Retention value	TPZ	SRZ	Comments	Recommendations
1	*Acacia mearnsii (Black Wattle)*	Locally occurring	Good	Average	5.5	4	0.11	0.13	Early mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace
2	*Acacia mearnsii (Black Wattle)*	Locally occurring	Average to Poor	Removal	9	14	0.57	0.68	Over-mature	Removal (0-5 years)	Moderate	Remove	6.84	2.81		Remove and replace
3	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	8	5	0.26	0.37	Over-mature	Removal (0-5 years)	Moderate	Remove	3.12	2.18		Remove and replace
4	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	9	6	0.26	0.37	Over-mature	Removal (0-5 years)	Moderate	Remove	3.12	2.18		Remove and replace
5	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	7	4	0.24	0.26	Over-mature	Removal (0-5 years)	Moderate	Remove	2.88	1.88		Remove and replace
6	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Good	Average	9	5	0.37	0.46	Mature	Medium (15-40 years)	Moderate	Low	4.44	2.39	TGx2	Remove and replace
7	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	7	5	0.18	0.25	Over-mature	Removal (0-5 years)	Moderate	Remove	2.16	1.85		Remove and replace
8	*Acacia mearnsii (Black Wattle)*	Locally occurring	Dead	Removal	6	4	0.23	0.26	Over-mature	Removal (0-5 years)	Moderate	3rd Party Tree	n/a	1.88	NT, 2.5m, TGx2	Neighbouring tree, no intrusion
9	*Acacia mearnsii (Black Wattle)*	Locally occurring	Very Poor	Removal	8	4	0.17	0.23	Over-mature	Removal (0-5 years)	Moderate	3rd Party Tree	2.04	1.79	NT, 1.5m, TGx4	Neighbouring tree, no intrusion

** Please Note: All measurements are in metres. * Note: unless otherwise stated the diameters of neighbouring trees have been estimated.*

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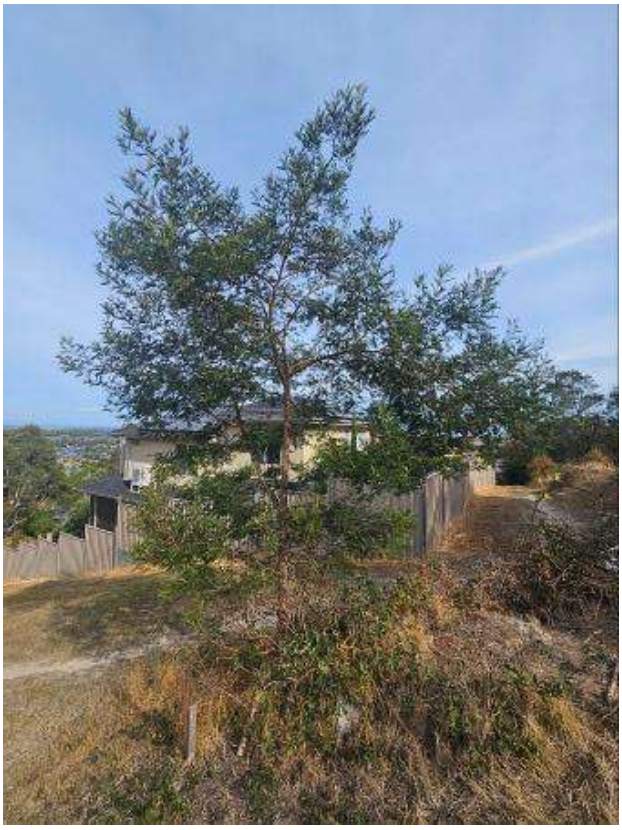
Appendix 4 – Tree Images

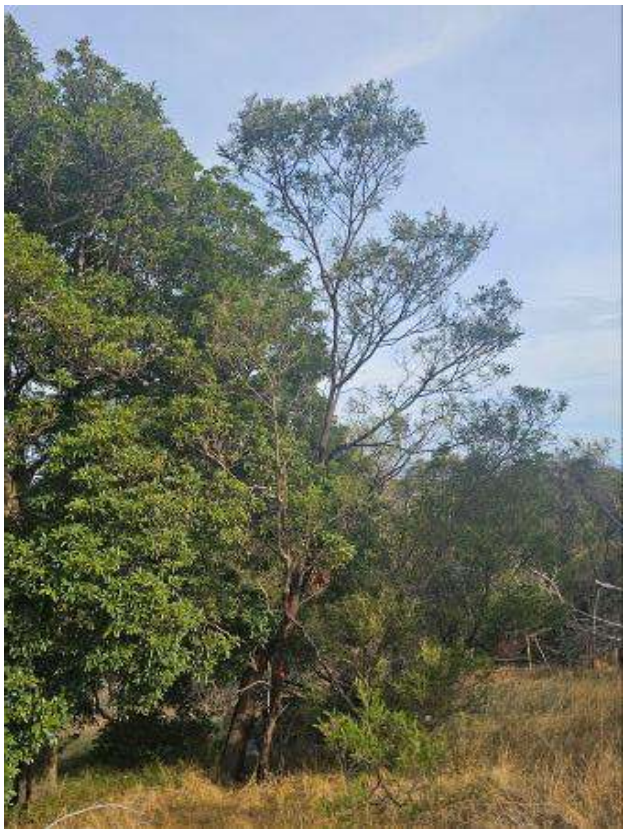


Tree 1

Tree 2

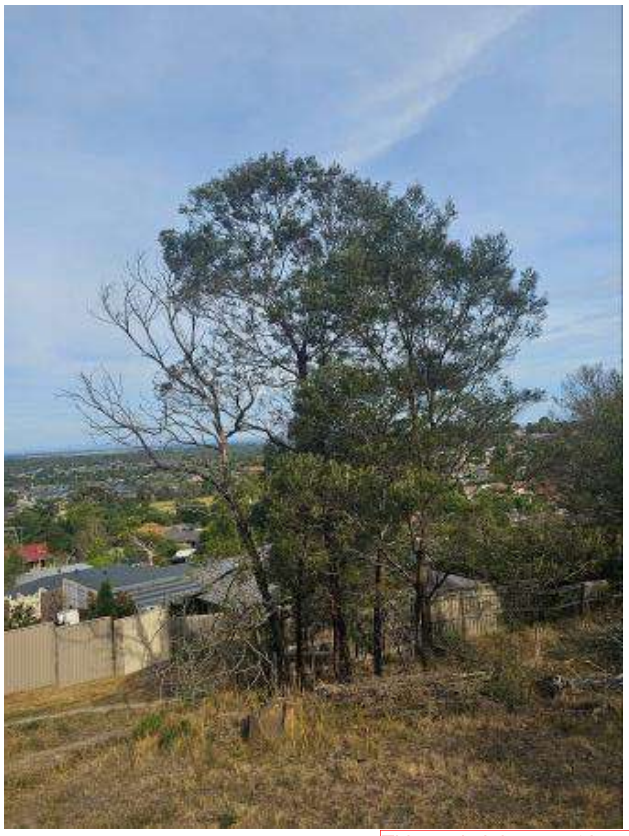
Tree 3

Trees 5-6



Tree 4

Tree group 8



Tree group 9

Table 1: Trees to be removed:

Tree #	*Common & Botanical names*	Origin	Age	ULE	Retention value	Comments	Recommendations	Permit required
1	*Acacia mearnsii (Black Wattle)*	Locally occurring	Early mature	Medium (15-40 years)	Low		Remove and replace	No
2	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
3	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
4	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
5	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No
6	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Mature	Medium (15-40 years)	Low	TGx2	Remove and replace	No
7	*Acacia mearnsii (Black Wattle)*	Locally occurring	Over-mature	Removal (0-5 years)	Remove		Remove and replace	No

Legend

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

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Date: 28/03/2025
Drawn by: PJ

Planform Building Design

A3

SCALE 1:400 @A3

Site Plan - 11 Johnsons Place, Pakenham

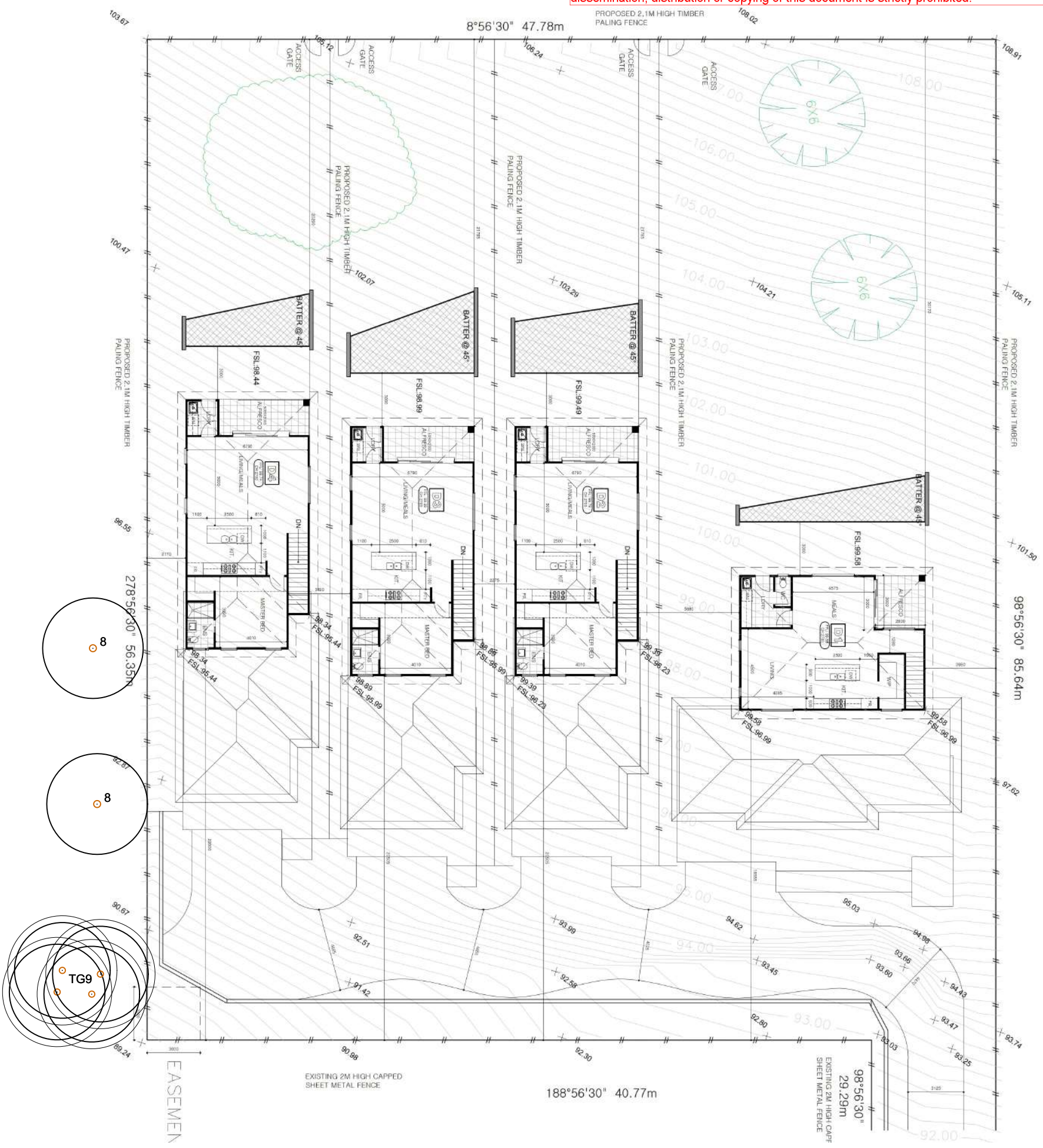

Table 2: Trees to be retained (third party trees only):

Tree#	TPZ	Intrusion	Recommended tree protection measures
8	1.9 (SRZ)	0%	Neighbouring tree, no intrusion, implement basic tree protection measures.
9	2	0%	Neighbouring tree, no intrusion, implement basic tree protection measures.

Legend

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

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Drawn by: PJ
SCALE 1:250 @A3

Planform Building Design

Proposed Site Plan - 11 Johnsons Place, Pakenham

A3

WSUD Report

11 Johnsons Place, Pakenham VIC

02/04/2025

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a part of Sustainability Tech Partners Pty Ltd

Water Sensitive Urban Design (WSUD) Report
Proposed Residential Development

Table of Contents

DOCUMENT VERSION

Version	Date	Changelog	Author	Review
0	02/04/25	Issued for Client Review	DG	-

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INITIATIVES TO BE MARKED ON DRAWINGS

- WSUD catchment plan showing roof catchment to tank, to raingarden, permeable area and impermeable area in line with the WSUD report – If required, the use of charged pipe system will be explicitly acknowledged on the drawings and charged pipes will not be running underneath the building footprint
- Location and size of each Rainwater tank proposed
- Note showing connection to the toilets and laundry
- Mark-up showing driveway area to be diverted to raingarden and type of raingarden selected (in-ground)
- Location of the proposed 7m^2 of raingarden treating the driveway - The raingarden can be separated and the location should be chosen in accordance with the civil/drainage engineer and landscape consultant (minimum 300mm away from boundary or structural footings and LPOD location consideration)
- Mark-up showing the 350m^2 of driveway to divert to the proposed raingardens

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INTRODUCTION

Frater Consulting Services has been engaged to undertake a Water Sensitive Urban Design Report (WSUD) for the proposed residential development located at 11 Johnsons Place, Pakenham. This has been prepared to address the requirements of Cardinia Shire Council especially Clause 53.18 of the Local Planning Policy *Stormwater Management in Urban Development (Water Sensitive Urban Design).*

This report includes an assessment of the proposed development, to determine the potential impacts as a result of stormwater runoff from the site during rainfall events. The report identifies several initiatives that will be implemented into the development to minimise these stormwater impacts. These initiatives are appropriate and practical for the site to ensure the proposed development meets the target water quality objectives required by the City of Cardinia.

The site has been assessed using the STORM Calculator. Melbourne Water has developed the STORM (Stormwater Treatment Objective – Relative Measure) Calculator to analyse the impacts of stormwater quality based on various treatment methods applied to a development. The STORM Calculator is able to display the amount of effective treatment that typical WSUD measures will provide in relation to best practice targets.

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SITE DESCRIPTION

The proposed site is located at 11 Johnsons Place, Pakenham. The 2,897m^2 site is currently vacant. It is located approximately 62 km southeast of the Melbourne CBD.

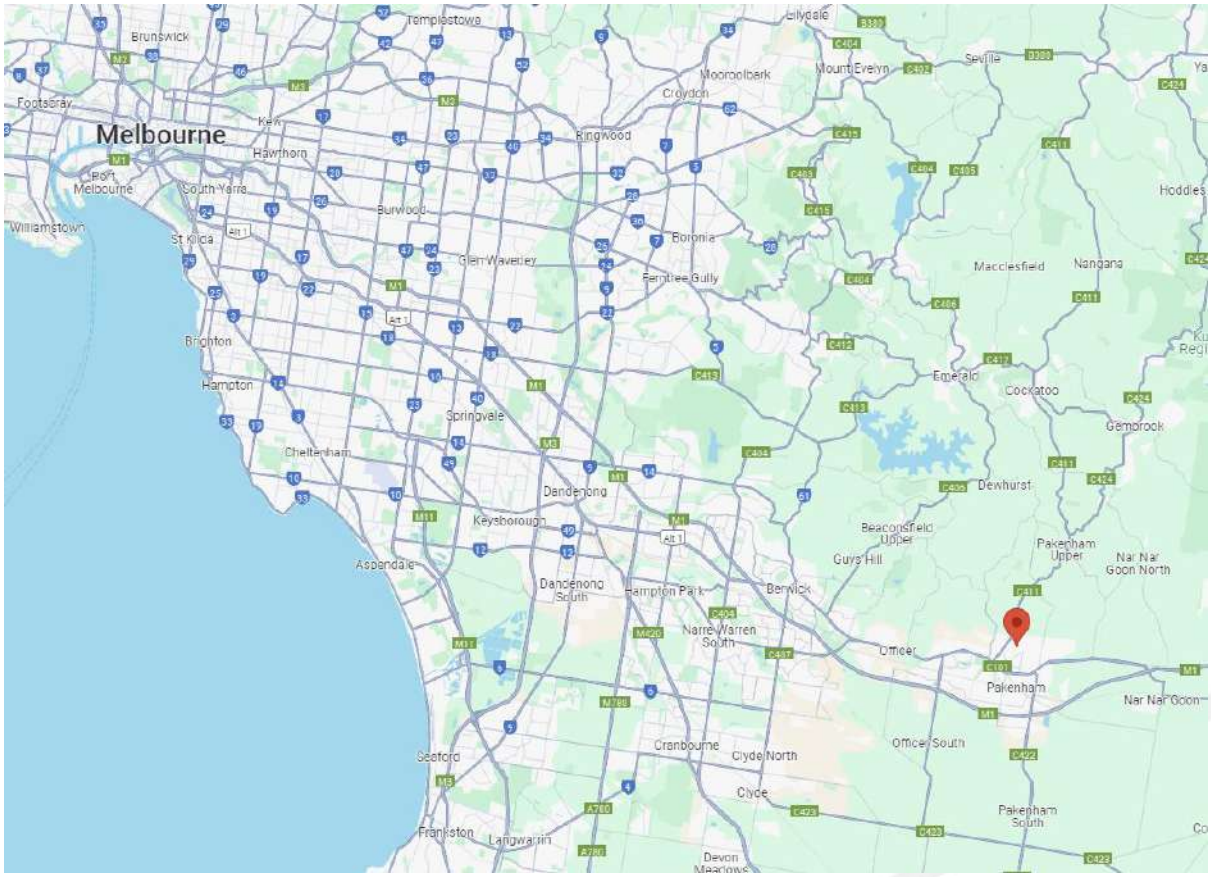

Figure 1: Location of the proposed development in Pakenham in relation to Melbourne CBD (Source: Google Maps)

PROPOSED DEVELOPMENT

The proposal consists of the development of the site into four triple-storey (split level) townhouses (4 x 4-bedroom). The area of the site is 2,897m^2. Each townhouse will be provided with an undercover garage and a common driveway opening on Johnsons Place.

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STORMWATER MANAGEMENT OBJECTIVES

The City of Cardinia has recognised the importance of stormwater management and its effects on the surrounding environment. As a result, a local planning policy, Clause 53.18 "*Stormwater Management in Urban Development (Water Sensitive Urban Design)*", has been introduced into the City of Cardinia Planning Scheme. New developments, or extensions to existing buildings that are 50m^2 in floor area or greater, must adhere to the local policy.

The objectives that form part of the Stormwater Management Policy include:

- To achieve the best practice water quality performance objectives as set out in the Urban Stormwater Best Practice Environmental Management Guidelines, Victoria Stormwater Committee 1999 (as amended). Currently, these water quality performance objectives are:
    - Suspended Solids - 80% retention of typical urban annual load
    - Total Nitrogen - 45% retention of typical urban annual load
    - Total Phosphorus - 45% retention of typical urban annual load
    - Litter - 70% reduction of typical urban annual load
- To promote the use of water sensitive urban design, including stormwater reuse.
- To mitigate the detrimental effect of development on downstream waterways, by the application of best practice stormwater management through water sensitive urban design for new development.
- To minimise peak stormwater flows and stormwater pollutants to improve the health of water bodies, including creeks, rivers and bays.
- To reintegrate urban water into the landscape to facilitate a range of benefits, including microclimate cooling, local habitat and provision of attractive spaces for community use and well-being.

To assess these initiatives, the STORM tool – which is an industry-accepted tool – is used to comply with these initiatives. The results are presented in this report.

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DEVELOPMENT CHARACTERISTICS

Site Delineation

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

- Site area of 2,897m^2;
- Part of the roof area runoff of dwelling 1 of 235.5m^2 which will be diverted into rainwater tank(s);
- Part of the roof area runoff of dwelling 2 of 194.5m^2 which will be diverted into rainwater tank(s);
- Part of the roof area runoff of dwelling 3 of 194.5m^2 which will be diverted into rainwater tank(s);
- Part of the roof area runoff of dwelling 4 of 194.5m^2 which will be diverted into rainwater tank(s);
- Permeable area of 1,685m^2 comprised of landscaped area, permeable paving and other pervious surfaces in the backyards;
- Driveway of 350m^2 which will be diverted into raingarden(s); and
- Remainder of impervious areas of 43m^2 comprised of unconnected roof areas and other impervious areas around the site.

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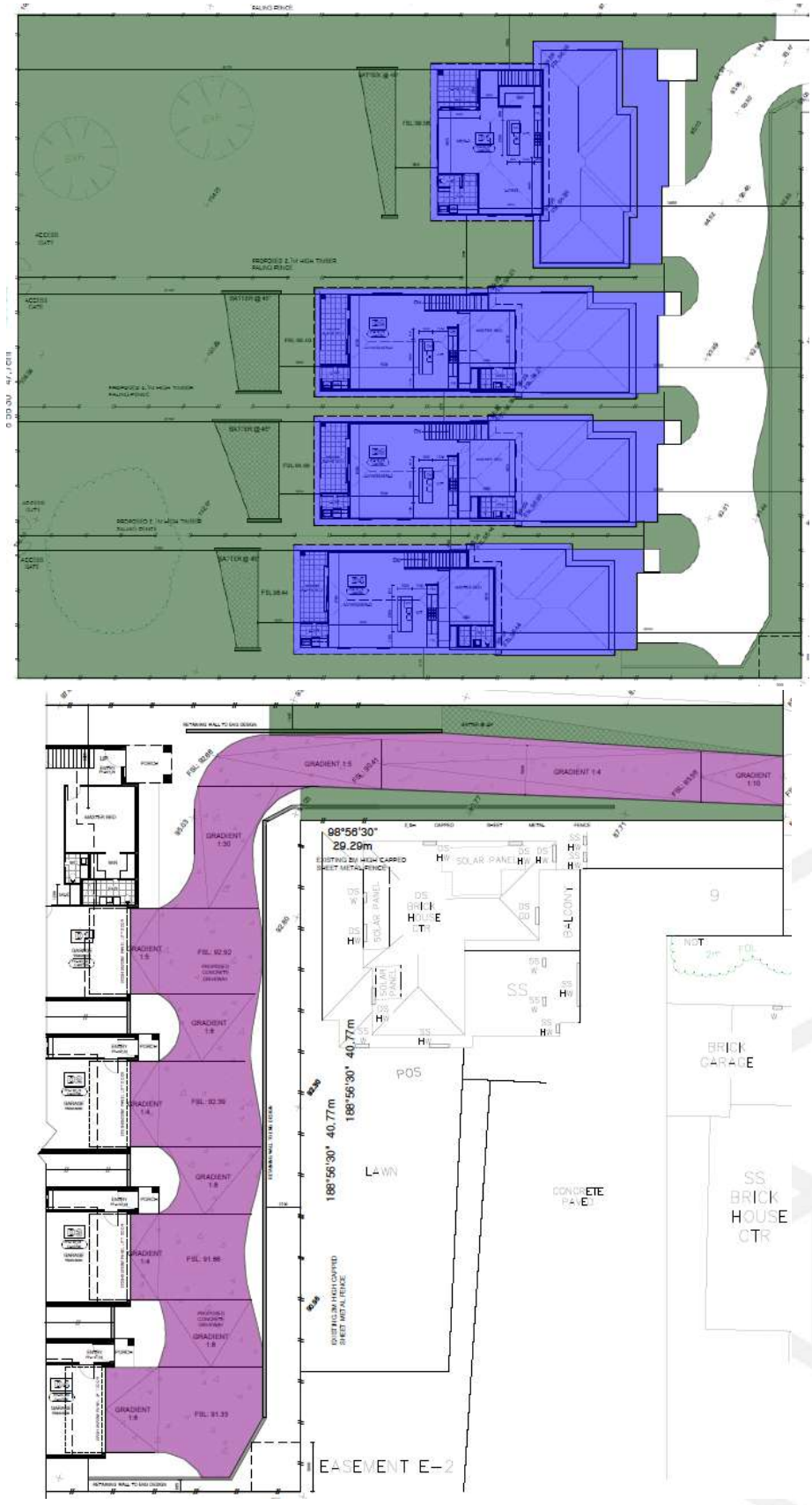

Figure 2: Roof catchment areas to RWTs (blue), permeable area (green) and driveway to RGs (purple)

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STORMWATER MANAGEMENT INITIATIVES

The following section presents the stormwater management initiatives that have been identified for the proposed development.

Rainwater Tank
(Rainwater tank for toilet flushing and laundry for each dwelling)

The roof catchment area of each townhouse (as described above) will be diverted to 3,000L rainwater tanks for each townhouse. The rainwater collected will be used for toilet flushing and laundry in all townhouses.

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

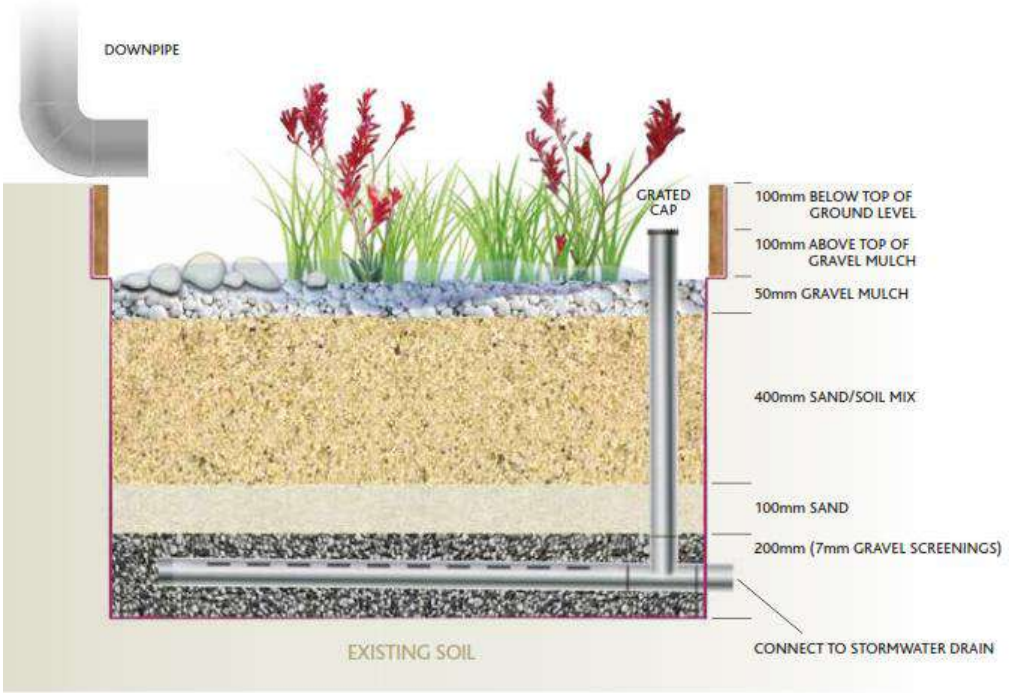
In the case of a charged pipe system, the charged pipes will not be running underneath the slab and the stakeholders (builder/developer/architect) will be required to explicitly acknowledge this solution and have the capacity to install it.

Raingarden

Part of the driveway area of 350m^2 will be diverted towards a minimum of 7m^2 of raingarden before being released at the legal point of discharge.

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

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



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The remainder of impervious areas will directly be released at the legal point of discharge on site.

Permeable areas are excluded from the STORM assessment.

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

STORMWATER ASSESSMENT RESULTS

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

Melbourne Water **STORM Rating Report**

TransactionID:	0
Municipality:	CARDINIA
Rainfall Station:	CARDINIA
Address:	11 Johnsons Place
	Pakenham
	VIC 3810
Assessor:	Frater Consulting Services
Development Type:	Residential - Multiunit
Allotment Site (m2):	2,897.00
STORM Rating %:	100

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof 1 to RWT	235.50	Rainwater Tank	3,000.00	5	83.00	90.70
Roof 2 to RWT	194.50	Rainwater Tank	3,000.00	5	96.40	90.00
Roof 3 to RWT	194.50	Rainwater Tank	3,000.00	5	96.40	90.00
Roof 4 to RWT	194.50	Rainwater Tank	3,000.00	5	96.40	90.00
Driveway to RG	350.00	Raingarden 300mm	7.00	0	130.20	0.00
Other impervious area	43.00	None	0.00	0	0.00	0.00

Please note that an additional occupant has been input in STORM for each dwelling to account for the laundry connection.

We have assumed that on average a household will have a 3 WELS star washing machine and will run two loads per week. Based on data from WELS, 3-Star washing machines have an average consumption per load of 102 L. With two loads per week, this would represent 204 L/week for laundry or 29L/day. STORM input assumes that one bedroom/occupant represents a daily consumption of 20L/day therefore connection to laundry (29L/day) has been input as an additional occupant.

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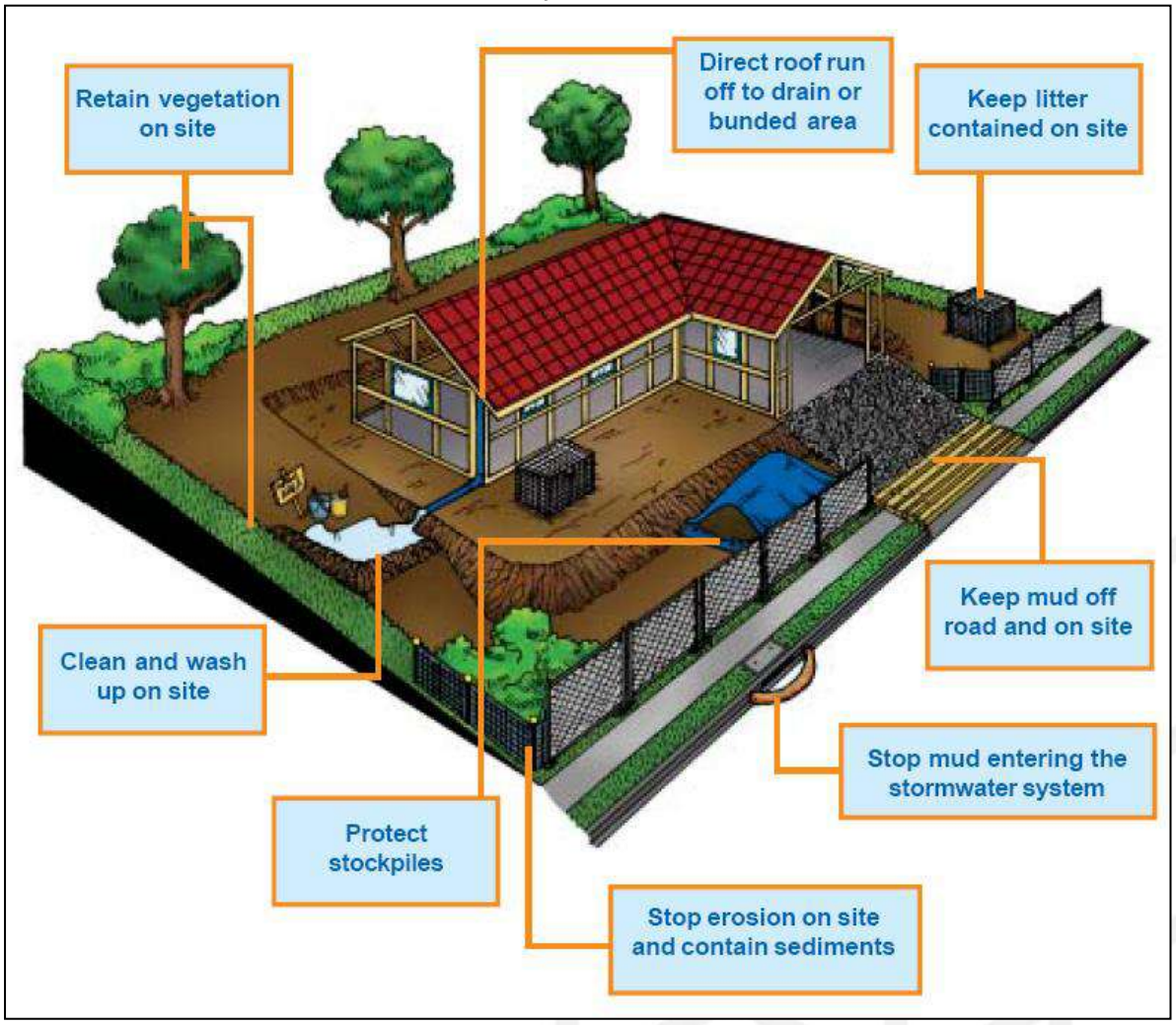
STORMWATER MANAGEMENT AT CONSTRUCTION SITE

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



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

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

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CONCLUSION

With the proposed stormwater treatment measures incorporated into the development at 11 Johnsons Place, Pakenham; the design will achieve a score of 100% for the development which meets the minimum performance standards of the City of Cardinia's planning scheme. The proposed development will incorporate a rainwater tank for each dwelling with an effective capacity of 3,000L connected to the toilets and laundry as well as 7m^2 raingarden(s) to treat the stormwater runoff from the driveway.

The development has managed the outflows and quality of stormwater runoff from the site by achieving more than 45% reduction in the typical annual load of total nitrogen, thus achieving best practice objectives. The builder will also be required to adhere to Melbourne Water's stormwater management guidelines during the construction stage.

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APPENDIX A – WSUD MAINTENANCE & INSTALLATION

Installation

Rainwater Tank(s)

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

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

Pumps

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

Raingarden

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

Inspection Requirements

Rainwater Tanks

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

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

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

Pumps

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

Raingarden

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

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

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

Clean Out / Maintenance Procedure

Rainwater Tank, Roof and Gutters

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

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

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

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

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

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

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

Pumps

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

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Raingarden

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

Item	What to check for	Action	Frequency
Civil components – Raingarden			
Inlet	No evidence of erosion, blockage, damage or standing water.	Clear inlet of accumulated sediment or debris. Eroded areas should be locally re-profiled or reinforced, and re-planted if necessary. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if the erosion is either recurring or severe.	Storm events 3 months
Outlet	No evidence of erosion, blockage, damage or standing water Outlet freely draining.	Clear outlet of accumulated sediment or debris. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if standing (backwatering into the raingarden) is present.	Storm events 3 months
Other structures	No evidence of erosion and damage to other structures, e.g. pits, pipes, access ramps, walls and rock protection.	Repair minor damage to structures. Eroded areas should be repaired (reinforced). This may involve minor re-profiling or re-planting works. For severe damage, i.e. where flows have scoured down the side of a structure refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*.	3 months
Batters and bunds	No evidence of erosion.	Eroded areas should be locally re-profiled or reinforced, and re-planted if necessary.	Annually
Hydraulic conductivity	Filter media is draining freely. No water ponded on the surface of the raingarden for more than 12 hours after rainfall.	If water is ponded on the surface of the raingarden for more than 12 hours after rainfall, refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*. Note: the disposal of raingarden filter material must comply with EPA Victoria guidelines for the disposal of contaminated soil (Appendix C).	Storm events
Vegetation cover – filter media	Greater than 90% vegetation cover. Plants healthy, free from disease and vigorously growing.	Remove any dead or diseased vegetation. Replant individual bare patches (greater than 5% of the area) using either new plants or by dividing and translocating existing plants. If bare areas represent greater than 30% of the raingarden area, refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets*.	3 months
Vegetation cover – batters	Continuous vegetation cover along the lower batter. Greater than 90% vegetation cover. Plants healthy, free from disease and vigorously growing.		Annually
Weeds – filter media – batters	Less than 10% of the filter media surface area and batters covered in weeds.	Physically remove weeds from filter media surface and batters. Do not use herbicides as these may harm the desirable raingarden vegetation and contaminate the filter media. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if weed ingress is a persistent problem (i.e. weed coverage is persistently greater than 30%).	3 months
Litter	Filter media surface and batters free of litter (i.e. less than 1 piece litter per $4m^2$).	Remove all litter and excessive debris	3 months
Pests	No damage by pest animals and insects.	Seek specialist advice if persistent insect damage is observed. Refer to Water by Design (2012) *Rectifying Vegetated Stormwater Treatment Assets* if there is evidence of pest animal damage.	3 months

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

Commissioning

Rainwater Tank

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

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

Pumps

Commissioning should occur as per the chosen manufacturer's specifications.

Raingarden

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

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Summary

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

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

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Dinith (Dane) Wanninayake

Principal Traffic Engineer - RedSquare Traffic

Suite 36, 11 Wilson Street

South Yarra VIC 3141

10 April 2025

Jake Da Ros

Planform Building Design

Subject: 11 Johnsons Place, Pakenham – Proposed Unit Development

RedSquare Traffic has been engaged to assess the traffic and parking aspects of the proposed residential development at 11 Johnsons Place, Pakenham. The development involves the construction of four residential units each providing double garages accessed via a common driveway. This report evaluates the proposed parking provision against the relevant Planning Scheme and Australian Standards requirements and examines the functionality of the car park layout and access arrangements.

1 SWEPT PATH ANALYSIS

A swept path analysis was conducted using the AutoTurn software and the Standard B85 Vehicle Template, in accordance with AS2890.1 – Off-Street Parking Facilities, applying a Design Speed of 5km/h. As allowed under AS2890.1 for Residential User Class 1A Category, all vehicle movements associated with the proposed development have been assessed as successful, requiring either no corrective manoeuvres or, at most, a single corrective manoeuvre (i.e., a three-point turn). The majority of exit movements can be completed without any corrective action, while some entry

movements may require a three-point turn. Specifically, Unit 4's right car entry requires one corrective manoeuvre.

Overall, all vehicles are able to enter and exit the site in a forward direction onto Johnsons Road, thereby satisfying the requirement that "if the accessway serves four or more car spaces or connects to a road in a Transport Zone, the accessway must be designed so that cars can exit the site in a forward direction" The swept path analysis is included in the Appendices for reference.

2 VERTICAL GRADE ASSESSMENT

The following section describes the grades found in the proposed accessway and their compliance with specifications found in the Design Standard 3 – Gradients of Clause 52.06.

2.1 Maximum Grade

In accordance with Design Standard 3, the maximum allowable gradient for a private or residential car park is 1:5 (20%), for an accessway that is longer than 20m. The proposed design complies with this requirement, with the steepest section reaching a gradient of 1:5. All other gradients within the design are less steep than this section.

2.2 Difference in Grades

Design Standard 3 specifies that "Where the change in grade between two sections of ramp or floor exceeds 1:8 (12.5%) for a summit grade change, or 1:6.7 (15%) for a sag grade change, a transition section of at least 2 metres must be provided to prevent vehicles from scraping or bottoming out"

The following section presents an assessment of the grade changes within the proposed accessway design.

- Change 1 (1:1 to 1:10) – Difference is approximately 10%, for a sag grade change, thus is compliant.
- Change 2 (1:10 to 1:5) – Difference is approximately 10% for a sag grade change, thus is compliant.

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- Section 3 (1:5 to 1:8) – Difference is approximately 7.5% for a summit grade change, thus is compliant.
- Section 4 (1:8 to 1:1 within garages) – Difference is approximately 12.5% for a summit grade change, thus is compliant.
- Section 5 (Transition between 1:11 and 1:8) – Difference is 3.4% for a sag grade change, thus is compliant.

Thus, all changes of gradients are within the specifications of Design Standard 3, and does not require any further transition grades.

2.3 Entry Gradient

Design Standard 3 specifies that "Accessway grades must not be steeper than 1:10 (10%) within 5 metres of the frontage" to ensure pedestrian and vehicle safety.

The current entry gradient is designed at 1:10, thus is compliant with this requirement.

A drawing showing vertical grades of the driveway is attached as part of the Appendices.

3 CAR PARKING LAYOUT REVIEW

An assessment of the site layout against the applicable requirements of the Planning Scheme and relevant Australian Standards is provided below:

- All double garages meet the minimum dimensions specified under Design Standard 2 of Clause 52.06, which states that car spaces within garages or carports must be at least 6.0 metres long and 5.5 metres wide for a double space (measured internally).
- The design of the accessway complies with Design Standard 1 – Accessways, providing a width that exceeds the minimum 3.0-metre requirement and allowing adequate turning radii in front of garage doors.

Based on this assessment, the proposed car park layout is considered to comply with the relevant provisions of the Planning Scheme and applicable Australian Standards.

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4 CONCLUSION

The above assessment concludes the following:

- The parking provision meets the resident parking requirements of the Planning Scheme. It is concluded that the parking provision for the development is suitable and is not expected to generate any off-site parking impacts.
- The car park layout has generally been designed in accordance with the requirements of the Planning Scheme and Australian Standards.

Overall, the proposed development is not expected to create adverse traffic or parking impacts in the precinct. If you have any questions, please feel free to contact the undersigned.

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5 APPENDICES

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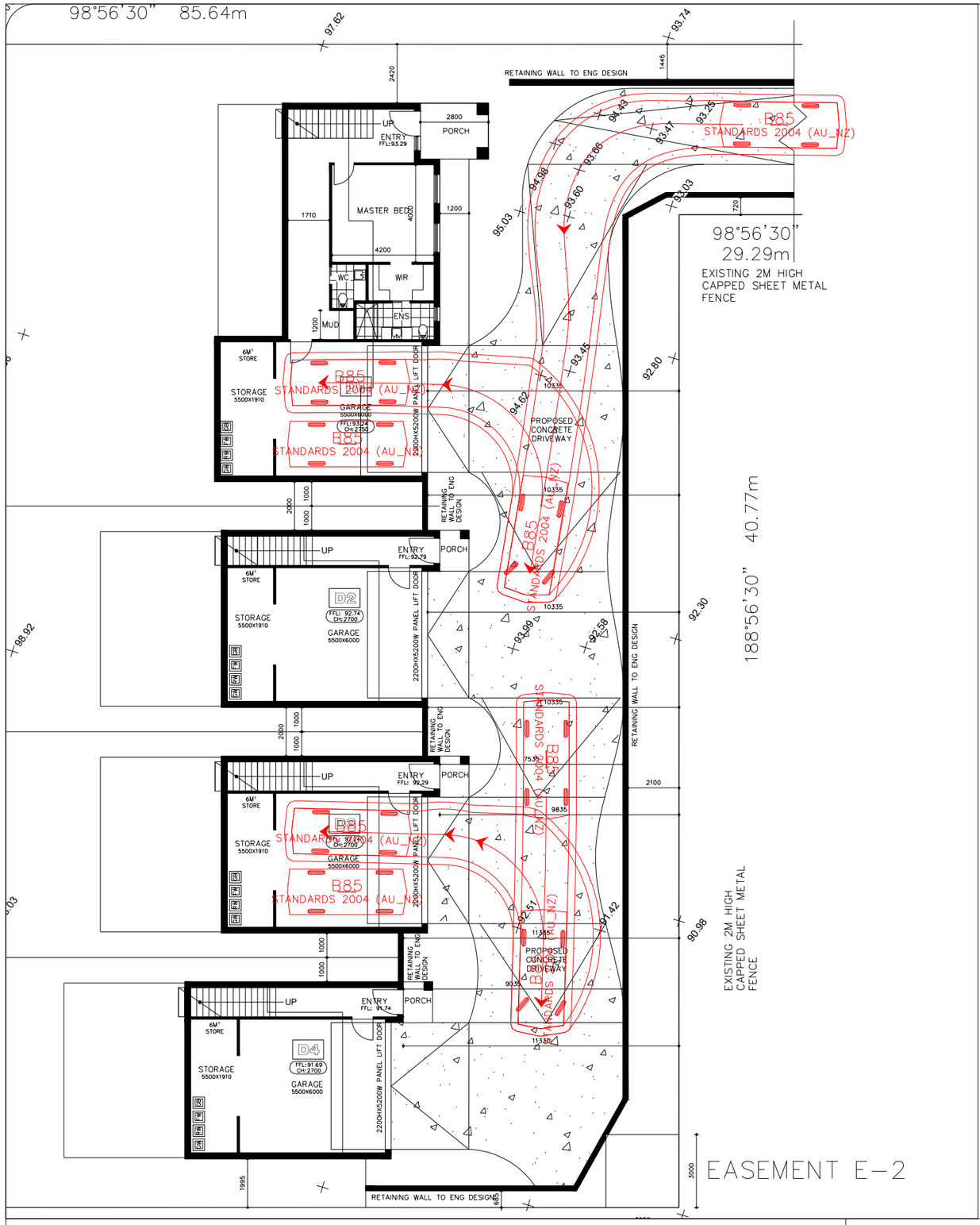

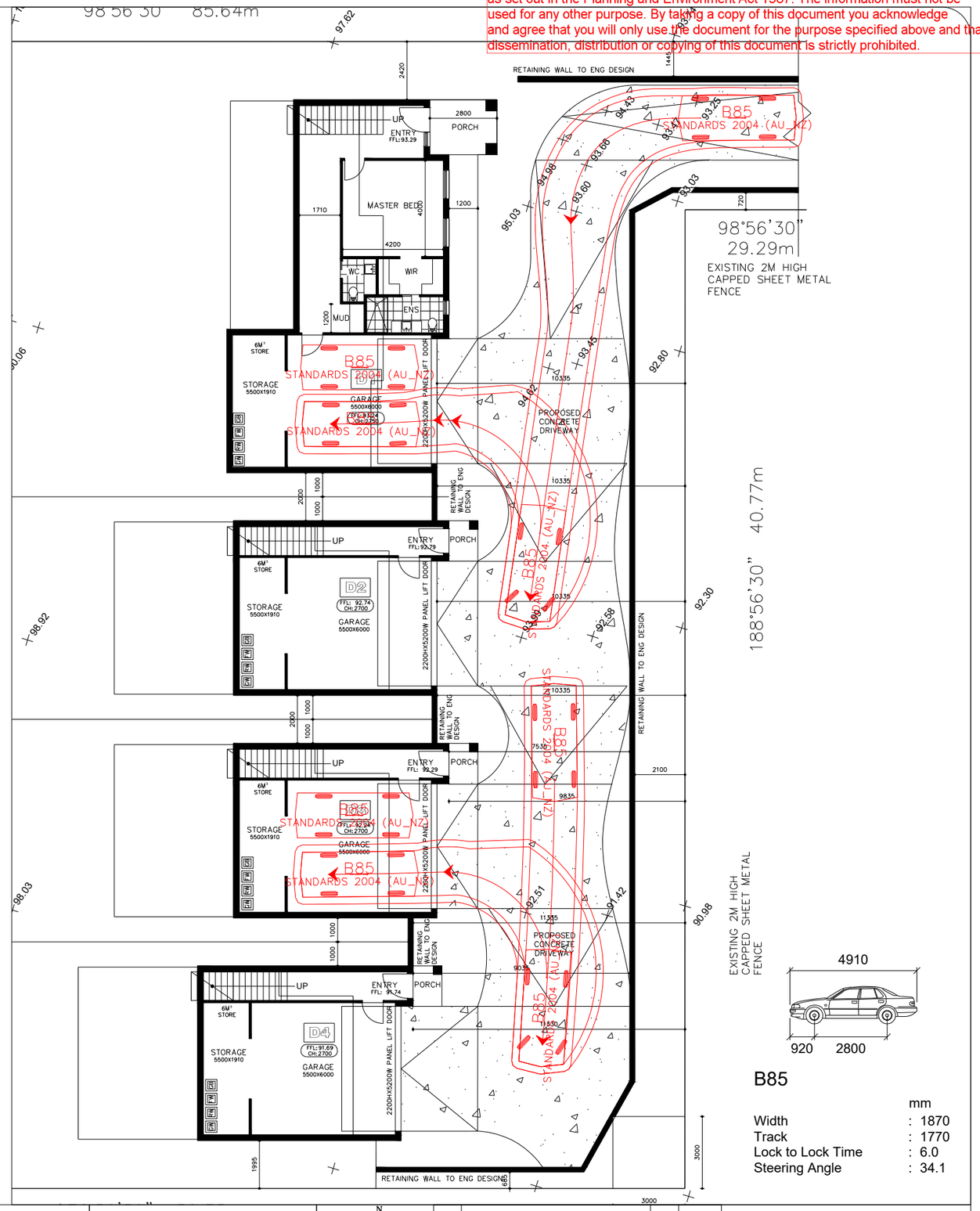

B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

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CLIENT: Planform Building Design

DRAWN BY: DK

CHECKED BY: DW

SHEET NO: 01

SHEET & SCALE: 1:200 @ A3

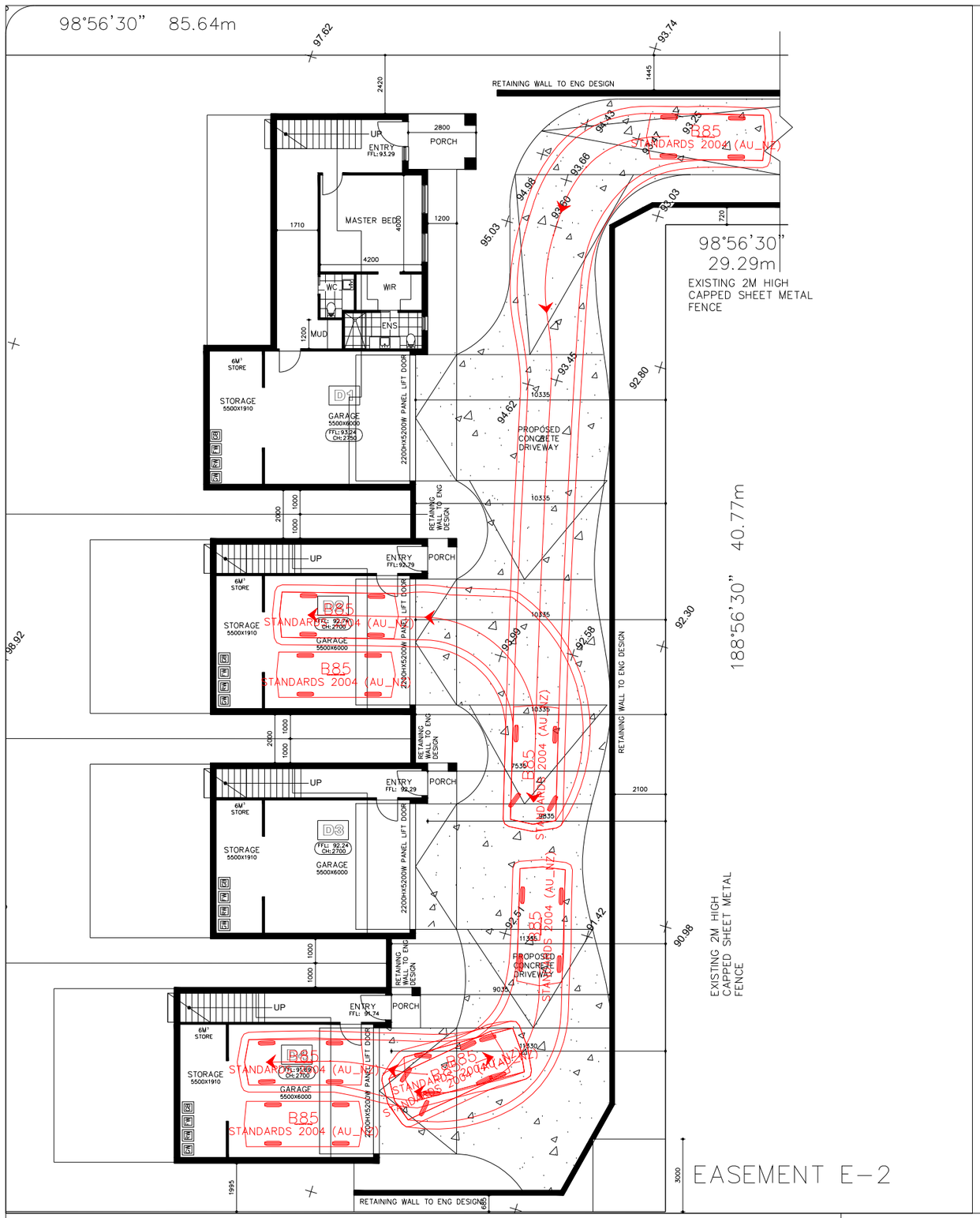
A	Final	DW	31/03/2025

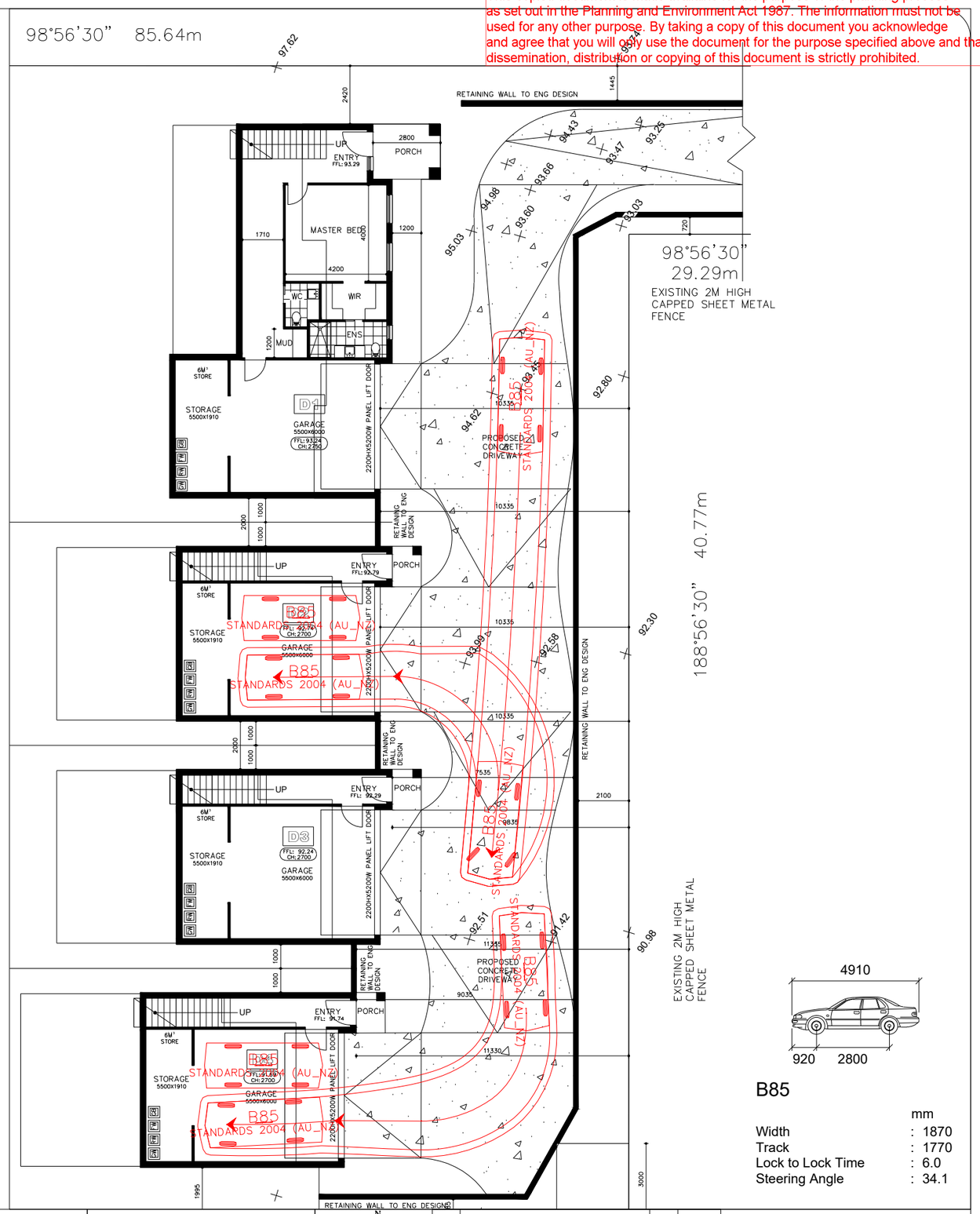
PROJECT NO: J842RT1056-0125

DRAWING NO: J842RT1056-0125-D1

PROJECT:
11 Johnsons Place, Pakenham

DRAWING TITLE:
Swept Path Analysis - B85 Car Access and Egress





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DRAWN BY: DK

CHECKED BY: DW

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A	Final	DW	31/03/2025

SHEET NO: 01

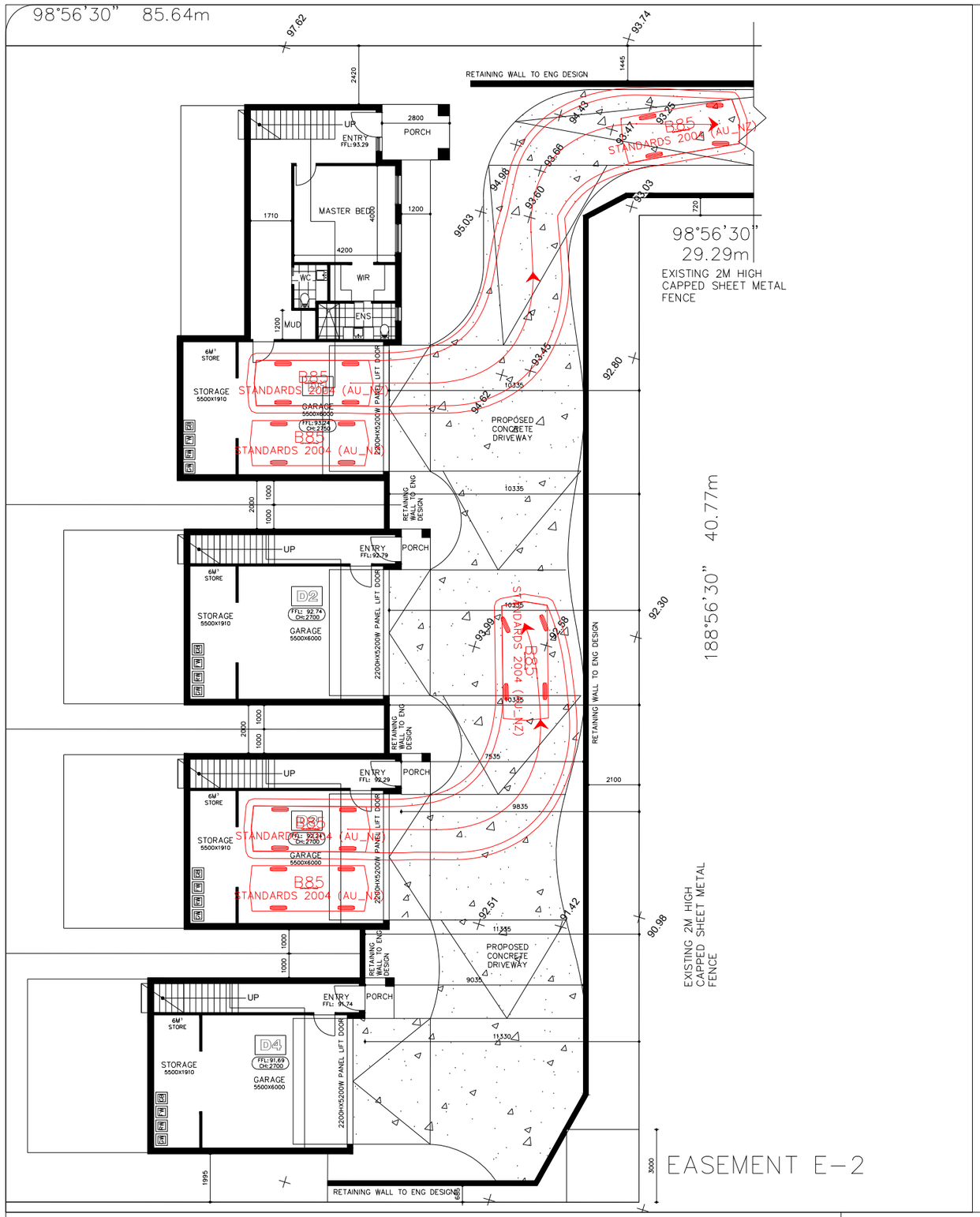
SHEET & SCALE: 1:200 @ A3

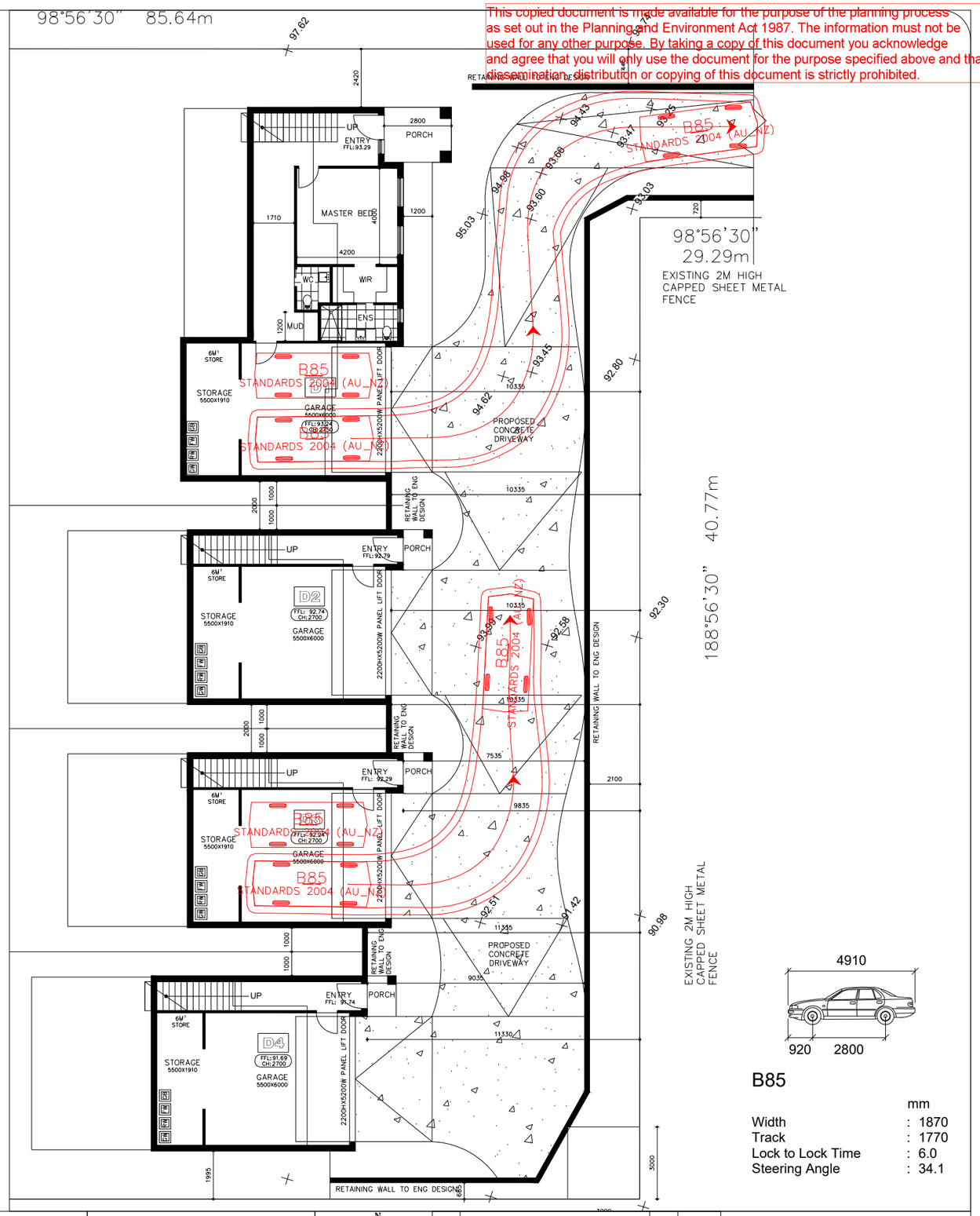
PROJECT NO: J842RT1056-0125

DRAWING NO: J842RT1056-0125-D2

PROJECT:
11 Johnsons Place, Pakenham

DRAWING TITLE:
Swept Path Analysis - B85 Car Access and Egress





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CHECKED BY: DW

SHEET NO: 01

SHEET & SCALE: 1:200 @ A3

PROJECT NO: J842RT1056-0125

DRAWING NO: J842RT1056-0125-D3

A	Final	DW	31/03/2025

PROJECT:
11 Johnsons Place, Pakenham

DRAWING TITLE:
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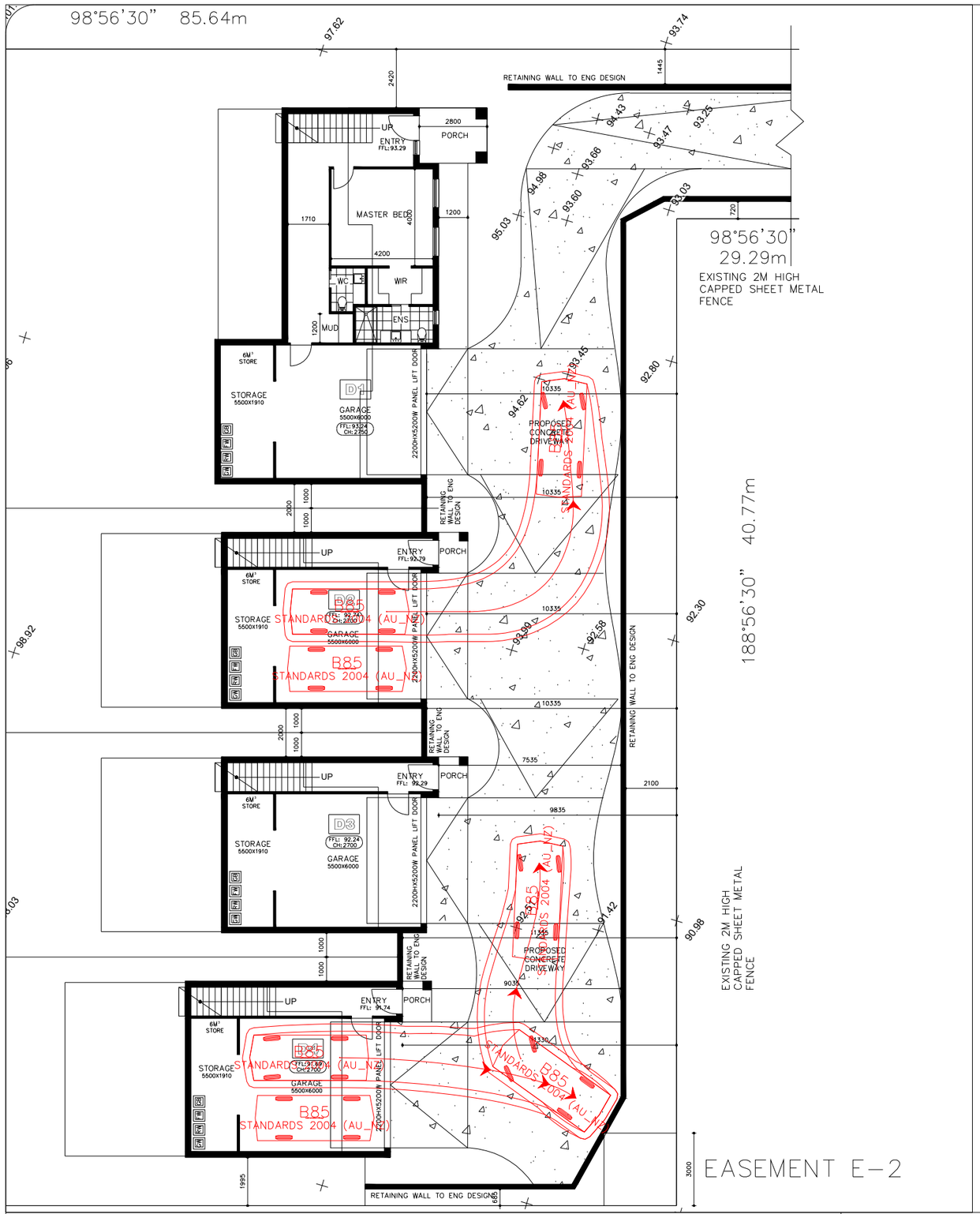

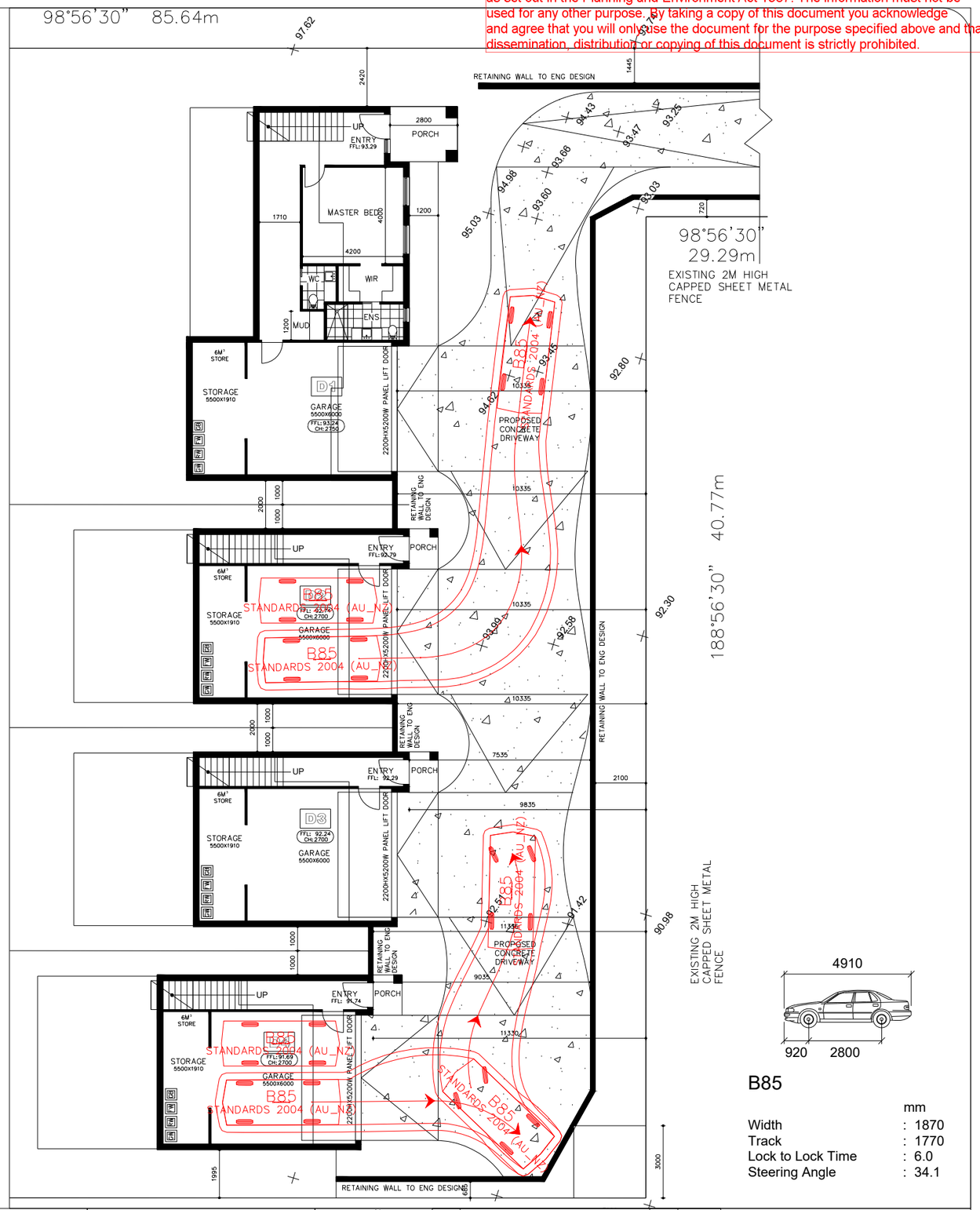

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Suite 11/36 Wilson Street, South Yarra

CLIENT: Planform Building Design

DRAWN BY: DK

CHECKED BY: DW

SHEET NO: 01

SHEET & SCALE: 1:200 @ A3

A	Final	DW	31/03/2025

PROJECT NO: J842RT1056-0125

DRAWING NO: J842RT1056-0125-D4

PROJECT:
11 Johnsons Place, Pakenham

DRAWING TITLE:
Swept Path Analysis - B85 Car Access and Egress

JOHNSONS PLACE

CONCRETE DRIVEWAY

98°56'30" 85.64m

97.62 | 93.74 | 90.89 | 87.78 | 85.06

TBM RIVET IN KERB 84.56

LAMP

188°56'30" 7.00m

RETAINING WALL TO ENG DESIGN

1445

BATTER @ 45°

7500

PASSING BAY

FSL: 85.56

FSL: 85.06

GRADIENT 1:10

GRADIENT 1:5

FSL: 91.71

95.03

92.03 | 90.77 | 87.71 | 85.02

GRADIENT 1:8

2.0m CAPPED SHEET METAL FENCE

98°56'30" 29.29m

EXISTING 2M HIGH CAPPED SHEET METAL FENCE

SOLAR PANEL

DS BRICK HOUSE CTR

BALCONY

9

8X7

UP ENTRY FFL:93.29

PORCH

MASTER BED

WC

WIR

ENS

MUD

1200

GARAGE 5500X6000 FFL:92.01 CH:2750

2200HX5200W PANEL LIFT DOOR

GRADIENT 1:8

FSL: 92.01

PROPOSED CONCRETE DRIVEWAY

92.80

40.77m

188°56'30"

POS

NOT FENCED

2m FOL

7

BRICK GARAGE

3m FOL

FENCE

ENTRY FFL:92.59 PORCH

GARAGE 5500X6000 FFL: 92.59 CH:2900

GRADIENT 1:11

GRADIENT 1:8

FSL: 92.39

92.30

LAWN

CONCRETE PAVED

SS BRICK HOUSE CTR

LAWN

PALING

2.0m

ENTRY PORCH

GARAGE 5500X6000 FFL: 92.05 CH:2935

GRADIENT 1:8

FSL: 91.86

2100

EXISTING 2M HIGH CAPPED SHEET METAL FENCE

90.98

PROPOSED CONCRETE DRIVEWAY

GRADIENT 1:8

ENTRY PORCH FFL: 91.74

GARAGE 5500X6000 FFL:91.80 CH:2750

GRADIENT 1:8

FSL: 91.33

EASEMENT E-2

3000

RETAINING WALL TO ENG DESIGN

278°56'30" 56.35m

DRAWING TITLE

PROPOSED DRIVEWAY

PROJECT: PROPOSED DWELLING
AT: NO.11 JOHNSONS PLACE, PAKENHAM, VIC, 3810
FOR: ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:100 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 05

REV	DATE	AMENDMENT
A	21/02	RFI

PLANFORM BUILDING DESIGN

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REGISTERED Building Practitioner

Design Matters National The peak body for the building design profession Member

RedSquare Traffic

Creativity in Transport Engineering

11 Johnsons Place, Pakenham
Waste Management Plan

Prepared for Planform Building Design

02 April 2025

Reference J842RT1056-0125

REVISION HISTORY

REVISION NO.	DATE	PREPARED BY	REVIEWED BY	APPROVED FOR ISSUE BY
1.0	02/04/2025	Dinuka K.	Dane W.	Dane W.

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ACN	656 924 757

DISTRIBUTION LIST

CLIENT	DATE ISSUED
Planform Building Design	02 April 2025

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1 INTRODUCTION

RedSquare Traffic has been engaged by Planform Building Design ('Client') to prepare a Waste Management Plan in relation to the proposed 4-unit residential development at 11 Johnsons Place, Pakenham ('Subject Site', 'Site').

On 12th of December 2024 Cardinia Shire Council issued a Request for Further Information (RFI), requesting the following:

A Waste Management Plan that includes:

- Plan to clearly show 120lt garbage (mandatory) + 240lt recycling (mandatory) + 120 OR 240lt green waste bin (mandatory)+ Glass bin (optional) + hard waste collection location, that is 3 bin plus hard waste presentation.
- Bin storage area to allow a minimum of 4 bins per dwelling.
- Storage area to not exceed 40 meters from bin presentation area.
- Presentation area must provide space for a minimum of 3 bins to be presented kerbside at the same time per dwelling.
- Maps of sufficient size (to scale 1:100 and/or 1:200) showing:
  - i. Adequate access and turning circles for Councils waste Vehicles for Aus Roads 8.8 Service vehicle.
  - ii. Gradients of the development and/or street.
  - iii. Existing or proposed parking bays (both within property and/or on street).
  - iv. Existing or proposed parking signage (both within property and/or on street).
  - v. Any other existing or proposed feature(s) or hazard(s) that has or will have the potential to affect waste & recycling collections in any way, whether within the property, on the nature strip or the roadway.
  - vi. Designated hard waste collection area.

The report reviews the waste management strategies for the development, estimates the waste and recyclable volumes, reviews the on-site bin provision and assesses the proposed removal of waste from the site.

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This Waste Management Plan does not cover waste management during the construction phase of the development but outlines how the development will manage waste during its occupation and operation.

1.1 REFERENCES

The following documents have been reviewed and referred to in this report:

- Waste Management and Recycling in Multi-Unit Developments – Better Practice Guide – Sustainability Victoria.
- Waste guidelines for new residential, commercial and mixed-use developments – Cardinia Shire Council (2020).
- Waste and Recycling Guide - Cardinia Shire Council.

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2 LAND USE

The subject site is situated at 11 Johnsons Place, Pakenham, within the Cardinia Shire Council jurisdiction. Positioned at the cul-de-sac of Johnsons Place, the site is accessible from this location and encompasses a total land area of 2,897 sqm in its current state. The land belongs to the General Residential Zone – Schedule 1 and is identified in Figure 1.

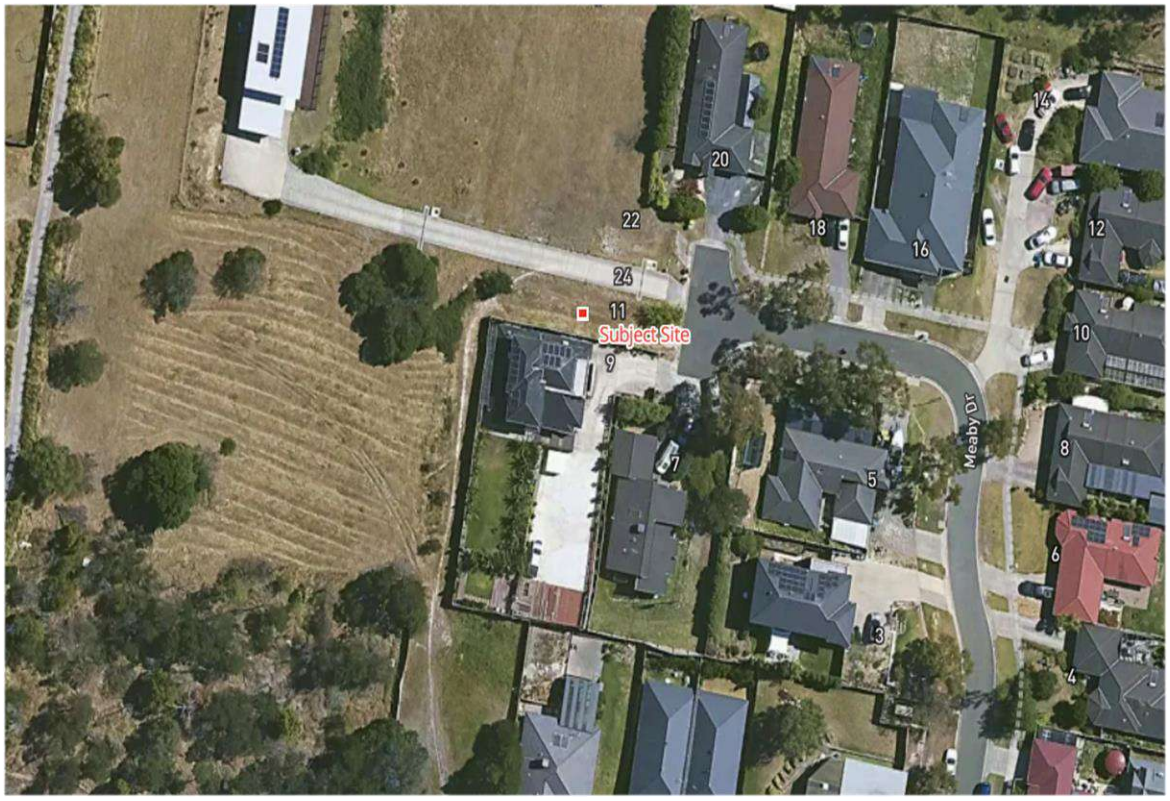

FIGURE 1: AERIAL VIEW OF SUBJECT SITE (METROMAP)

The land is planned to be developed into four residential dwellings, each spanning three floors and accessible via a shared driveway extending from the cul-de-sac of Johnsons Place. Figure 2 presents the site development plan for the subject site.

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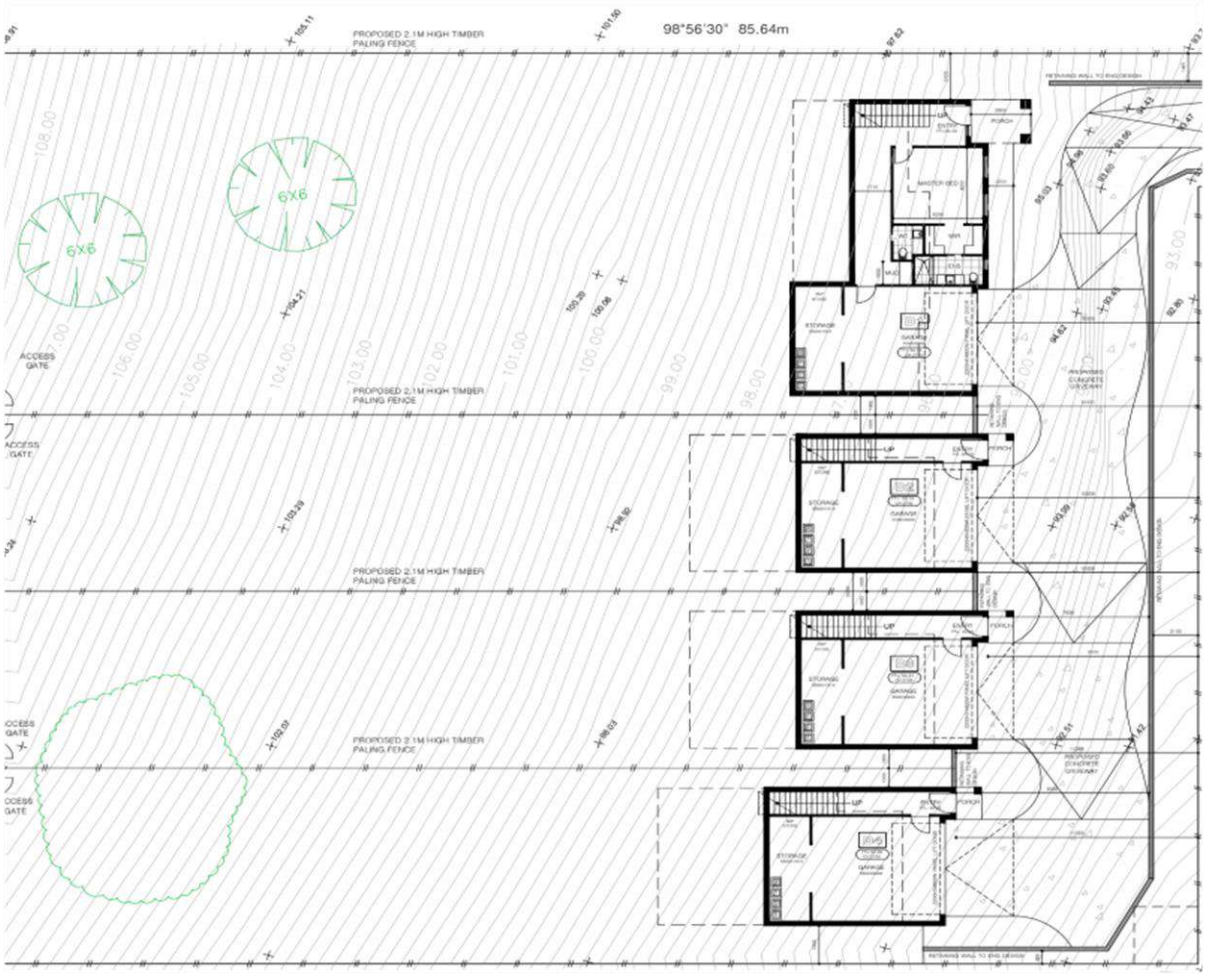

FIGURE 2: GROUND FLOOR PLAN (SOURCE: PLANFORM BUILDING DESIGN)

The lack of a suitable nature strip for bin presentation necessitates the use of private waste collection instead of council waste services.

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3 WASTE GENERATION VOLUME ESTIMATES

The following waste generation rates are derived from Sustainability Victoria's Waste Management and Recycling in Multi-Unit Developments: Better Practice Guide, 2018 and where applicable from, Waste guidelines for new residential, commercial and mixed-use developments – Cardinia Shire Council (2020). Where appropriate, assumptions have been made to derive waste generation rates by referring to empirical evidence.

Note: The most relevant waste generation rates are found in the Residential waste Generation section those of the land use type as specified in Sustainability Victoria's Waste Management and Recycling in Multi-Unit Developments: Better Practice Guide, 2018.

TABLE 1: DAILY WASTE GENERATION RATES

Land Use	Garbage	Recycling	FOGO	Glass (Optional[3])
Individual Dwellings	120L/week	120L/week	36L/week[1]	36L/week[2]
4 Units	480L/week	480L/week	144L/week	144L/week

[1]30% of Garbage Waste considered as Food Organics & Garden Organics Waste (FOGO).

[2]30% of Recycle Waste considered as Glass Waste.

[3]Glass waste bin does not have to be purchased, until four-stream waste collection systems comes into effect fully.

Using the standard residential dwelling rates and allocating 35% for FOGO and Glass under the future 4-bin system, the four units are expected to generate a total of 480L of uncompacted garbage waste and 480L of uncompacted recycling. Additionally, the townhouse development is projected to produce 144L of FOGO and Glass waste.

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Cardinia Shire Council currently operates a three-bin system, which includes Garbage (Household Waste), Recycling, and FOGO. By 2030, a four-stream waste collection system will be implemented across Victoria, introducing a separate fourth bin for Glass. Future scenario calculations (Table 1) indicate that this development will generate 144L of Glass waste under the 4-bin system. In the meantime, recycling waste is calculated at the standard rate (120L per week), as shown in Table 1.

3.1 HARD WASTE

Cardinia Shire Council offers hard waste collection for residential properties through a prior booking system, allowing each household to schedule two free collections per year. For more details, visit Cardinia Shire Council's Residential Hard Waste Collection.

Nonetheless, due to the absence of a suitable nature strip for hard waste presentation, private waste collection will be required instead of council services. Hard waste is expected to be stored in the designated ground-floor storage area and presented to the private collection contractor at the regular bin collection point on days when the private waste truck is not servicing the site.

3.2 E-WASTE

Electronic waste, or 'e-waste', describes electrical or electronic equipment with a power cord or battery (including batteries) at the end of its useful life and covers a range of electronic items including televisions, computers, mobile phones, kitchen appliances and white goods.

A four-unit residential development of this nature is unlikely to generate notable amounts of e-waste on a regular basis. Thus, if required, the Operator shall engage the service of a private contractor for any e-waste removal.

3.3 GREEN WASTE

Any landscaping in common areas shall be maintained by a private contractor arranged by the Owners Corporation. The private contractor will be responsible to remove any generated green waste. No dedicated green bin infrastructure has been included, apart from the provision of FOGO bins. The private contractor will be responsible to remove any generated green waste.

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4 WASTE DISPOSAL & STORAGE

Based on the information provided, the proposed townhouse development will require four-bins each to accommodate waste generation. Table 2 details the types and quantities of bins designated for this development.

TABLE 2: PROPOSED BIN SYSTEM

Waste Stream	Quantity	Bin Quantity	Bin Litres	Collections
Garbage	120L/week/unit	1 per unit	120L	Weekly
Recycling	120L/week/unit	1 per unit	240L	Fortnightly
FOGO	36L/week/unit	1 per unit	80L	Fortnightly
Glass	36L/week/unit	1 per unit	80L	Fortnightly
Hard Waste	Varies	N/A	-	As Required
Total	-	4	80-240L	Varies

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4.1 PROPOSED BIN CONFIGUARATION

All waste bins are to be placed in the designated storage area shown in Figure 3. This area includes space for all four waste bins as well as an allocated section for hard waste storage.

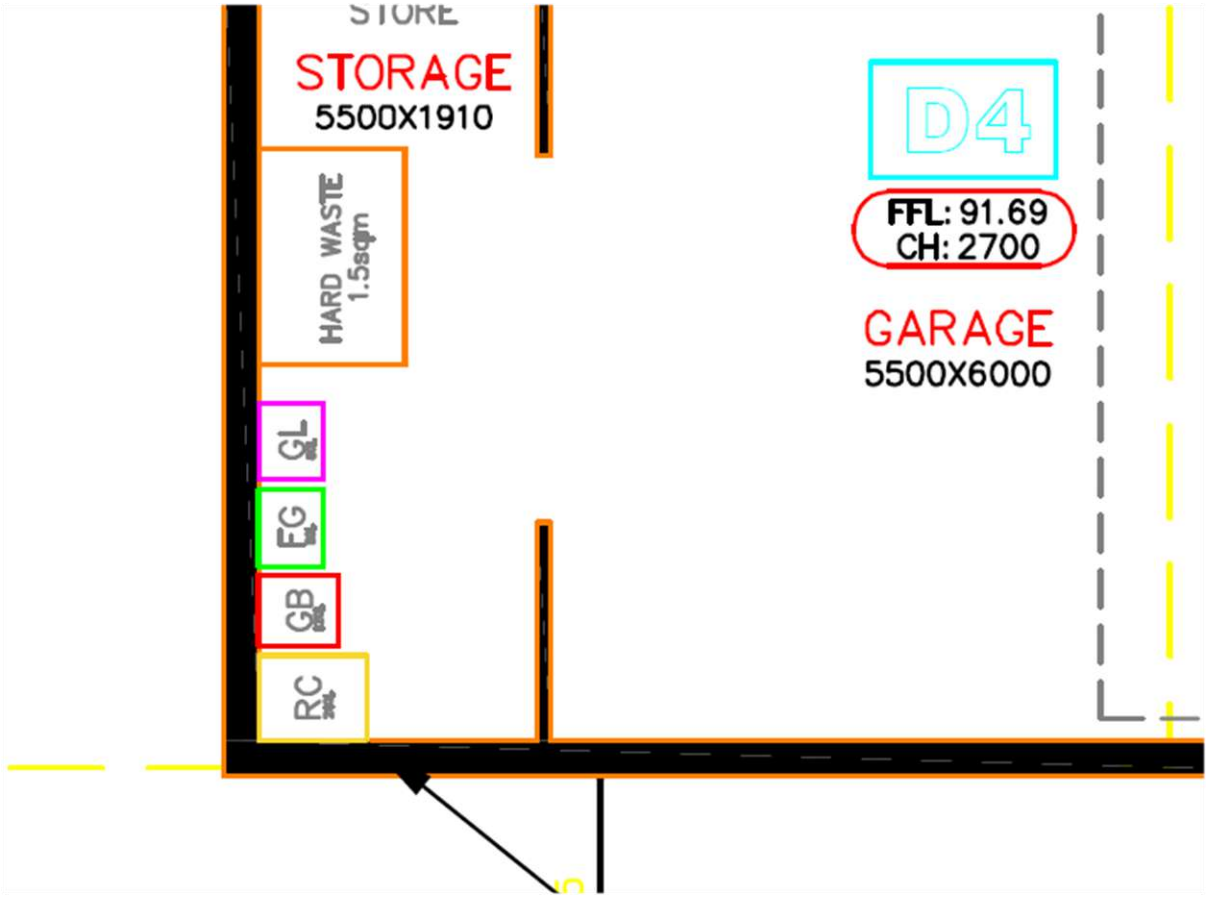

FIGURE 3: TYPICAL BIN STORAGE AREA

The number of bins required per unit is outlined below:

- Garbage Bin – 1 x 120L MGBs;
- Recycle Bins – 1 x 240L MGBs;
- Food and Organics –1 x 80L MGB; and
- Glass – 1 x 80L MGB.

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To allow for easy transferability, Mobile Garbage Bins (MGBs) have been recommended. The bins are to have permanent well-fitting lids and conform to appropriate Australian Standards. It is recommended that all bins are fitted with signage shown in Figure 4.

FIGURE 4 SIGNAGE FOR BINS

Typical dimensions of the chosen bin types are provided below:

- 80L Bins – 930mm (H) x 520mm (D) x 445mm (W).
- 120L Bins – 930mm (H) x 550mm (D) x 480mm (W).
- 240L Bin – 1070mm (H) x 740mm (D) x 580mm (W).

General waste shall be placed in tied plastic bags and stored within waste bins, while all recyclables including loose paper, cardboard, glass, aluminium etc. must be placed in the recycling bin without plastic bags.

Red bins are for garbage, yellow bins are for recycle waste and green bins are for food and organics. Thus, it is encouraged that the private waste collection contractor applies a similar, consistent methodology, where feasible. Whilst this is a recommendation, the colour scheme could vary and be in compliance with AS4123.7.

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Residents are to ensure that:

- All waste placed in the waste bin is wrapped or in plastic bags;
- The bins are not overloaded, and the lids can be fully closed;
- Waste and recycling is not forced into the respective bins as it may jam in the bin and not be emptied;
- The bins are regularly cleaned.

The cleaning of bins is the responsibility of the Residents. If any bins need replacing or fixing, then the cost associated with this, if any, is to be borne by the Residents. Waste or recyclables which exceed the capacity of the bins provided need to be disposed of via an appropriate disposal method by the residents.

4.2 CONTRACTS

The Owners Corporation is to enter, and maintain, a valid contract with a contractor to provide a waste collection service for the residential development. The contract is to specify the collection of garbage (4 x 120L bins), recycling (4 x 240L bins), organics (4 x 80L bins) and glass (4 x 80L bins) bins, through internal waste collection within the land.

The contract will allow for the following:

- Emptying of garbage bins once a week, on a specified day;
- Emptying of recycling bins once a fortnight, on a specified day.
- Emptying of organic waste once a fortnight, on a specified day.
- Emptying of glass waste once a fortnight, on a specified day.
- Emptying of e-waste/hard waste, as required.

All bin collections are encouraged to be completed between 7:00 am and 9:00 am on the specified days to minimise disruption. These times are in accordance with EPA guidelines, where collection times must occur between 7:00am and 8:00pm for Monday to Saturday, and between 9:00am and 8:00pm for Sundays and public holidays.

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4.3 BIN COLLECTION

To simplify the manoeuvring process, it is recommended that the collection is carried out using 6.4m Rear-Loader Waste Collection Truck (Source: Waste Wise). The dimensions of the vehicle are provided below.

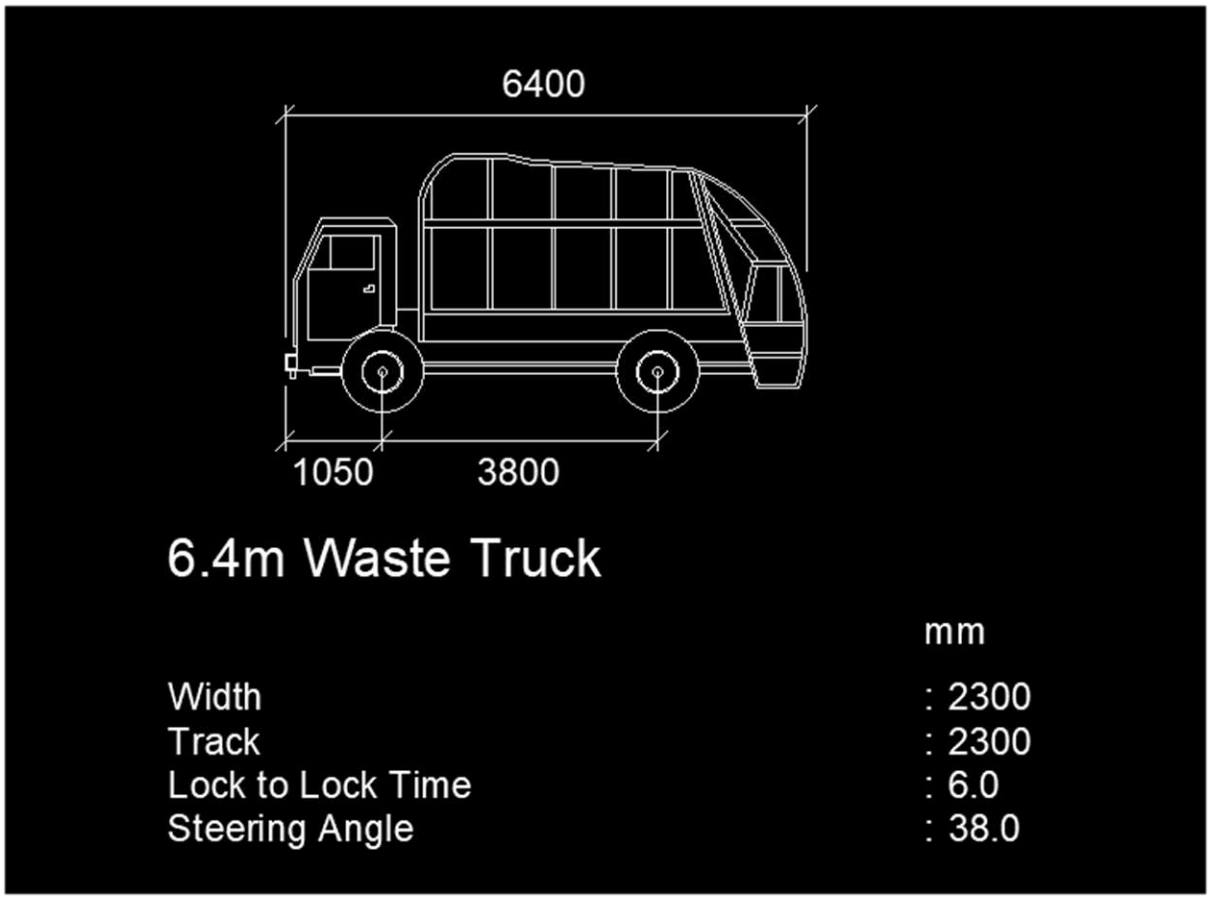

FIGURE 5: 6.4M REAR LOADER TRUCK SPECIFICATIONS (SOURCE: WASTE WISE)

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On the evening preceding the scheduled bin collection day, residents are required to place their bins at the landscape islands located in front of each unit, as seen in Figure 7.

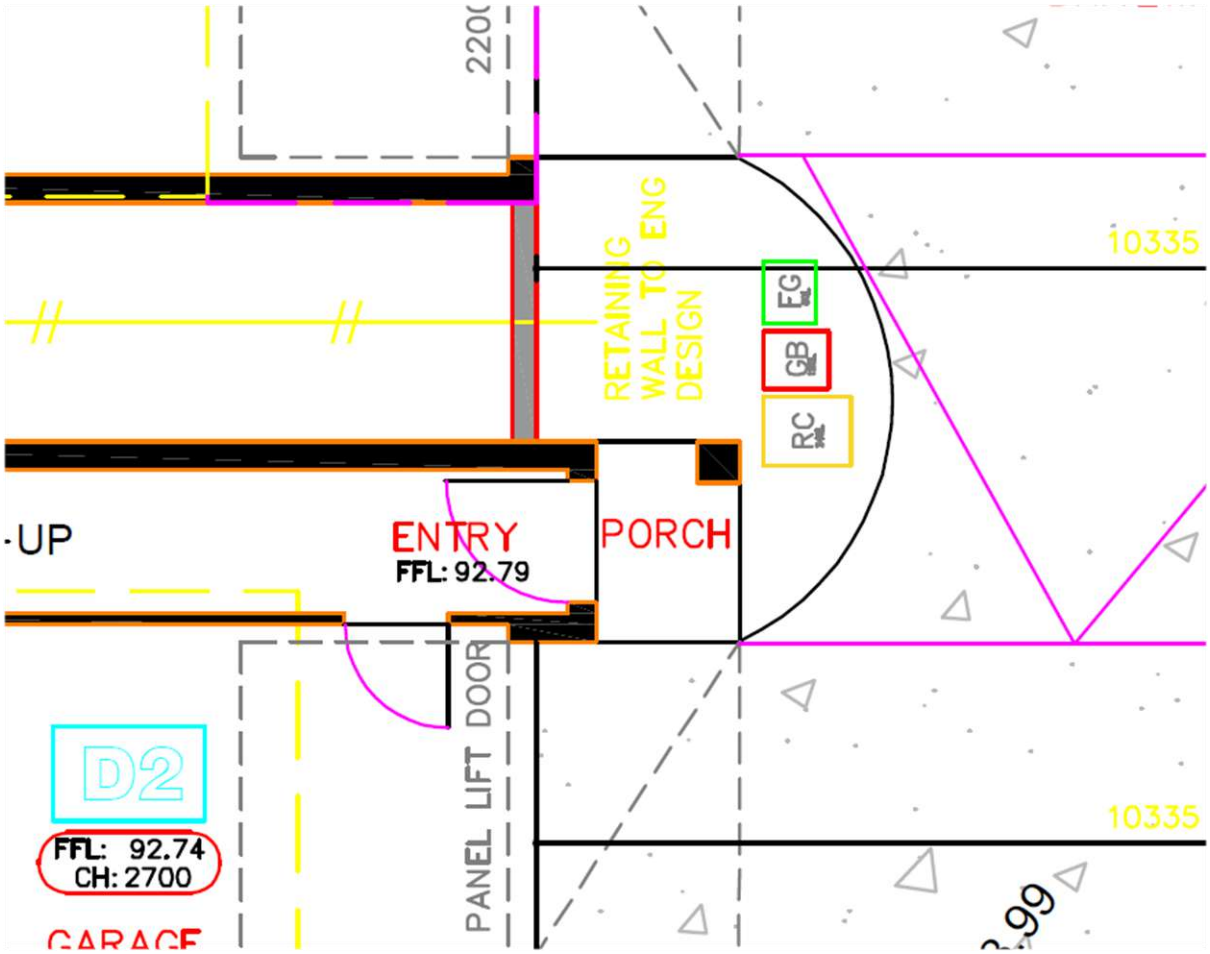

FIGURE 6: BIN PRESENTATION LOCATION

The waste collection vehicle will park at the beginning of the driveway (utilising the cul-de-sac) and use a bin tug to move the bins. After emptying the bins, the waste collection contractor is responsible

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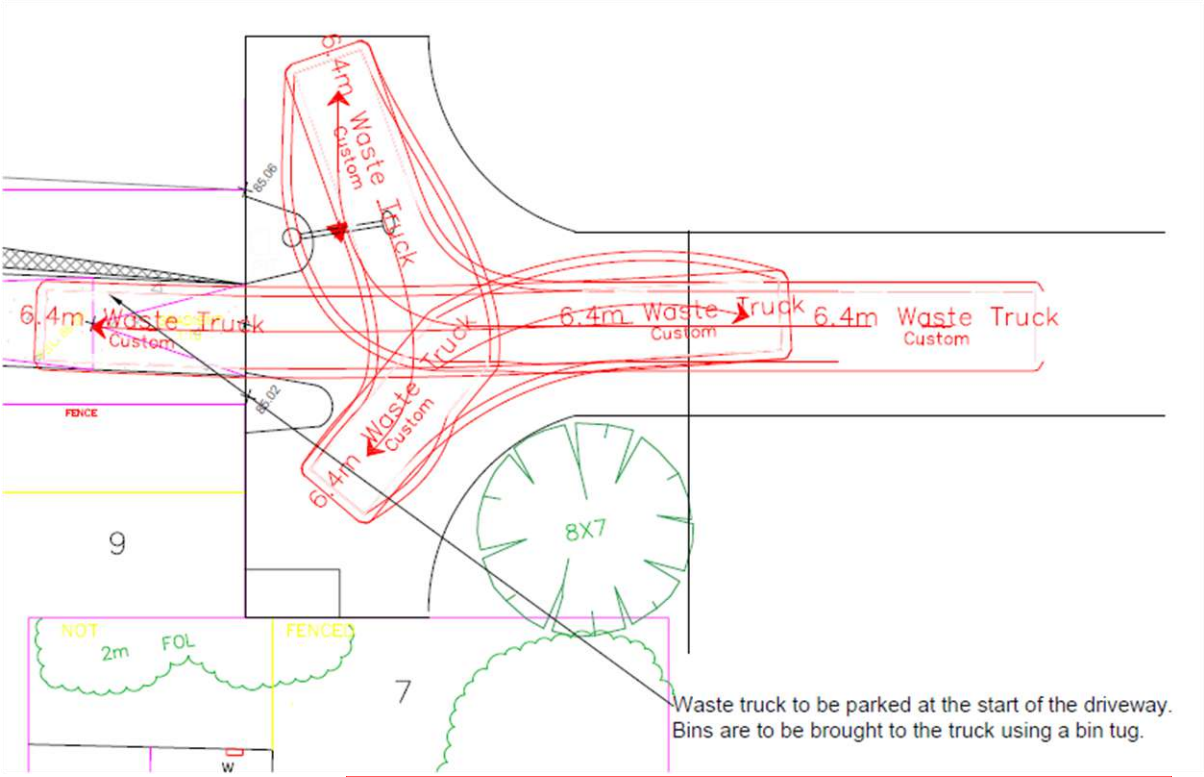
for returning them to their original positions and exiting the development in a forward direction. It is recommended that a bin tug be used for dragging the bins to the waste truck.



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5 OTHER CONSIDERATIONS

5.1 NOISE

Being located within the ground level, noise associated with the waste disposal process shall be minimal.

5.2 CLEANING FACILITIES

It is recommended to provide the storage with hot and cold water taps for cleaning purposes. The area shall be appropriately drained and completely isolated from stormwater. Alternatively, this service can be obtained off-site through a contractor.

5.3 WASTE TRANSFER

Garbage shall be placed within tied plastic bags prior to transferring into the collection bins. Cardboard shall be flattened, and recycling containers un-capped, drained and rinsed prior to disposal into the appropriate bin. Bagged recycling is not permitted.

5.4 GREEN WASTE

The residents of the development shall employ a gardener to maintain any garden areas. It will be the responsibility of the gardeners to remove any green waste and dispose these into the green waste bins as required

5.5 RESPONSBILITY

The development's residents shall be responsible for cleaning and maintaining the bin storage area. This will involve using the provided facilities to clean the enclosure and bins. Management shall also be responsible for Council dealings, including, but not limited to:

- Ordering initial bins;

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- Ordering replacements or additional bins; and
- Organising Council clean-ups or other special services.

Prior to moving in, management shall provide the residents with information regarding the adopted waste management system.

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6 SUMMARY

We trust that the information provided within this report sufficiently outlines the on-going waste management strategy to be adopted by the development. Should Council require further information or clarification, please contact the undersigned.

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7 DRAWINGS

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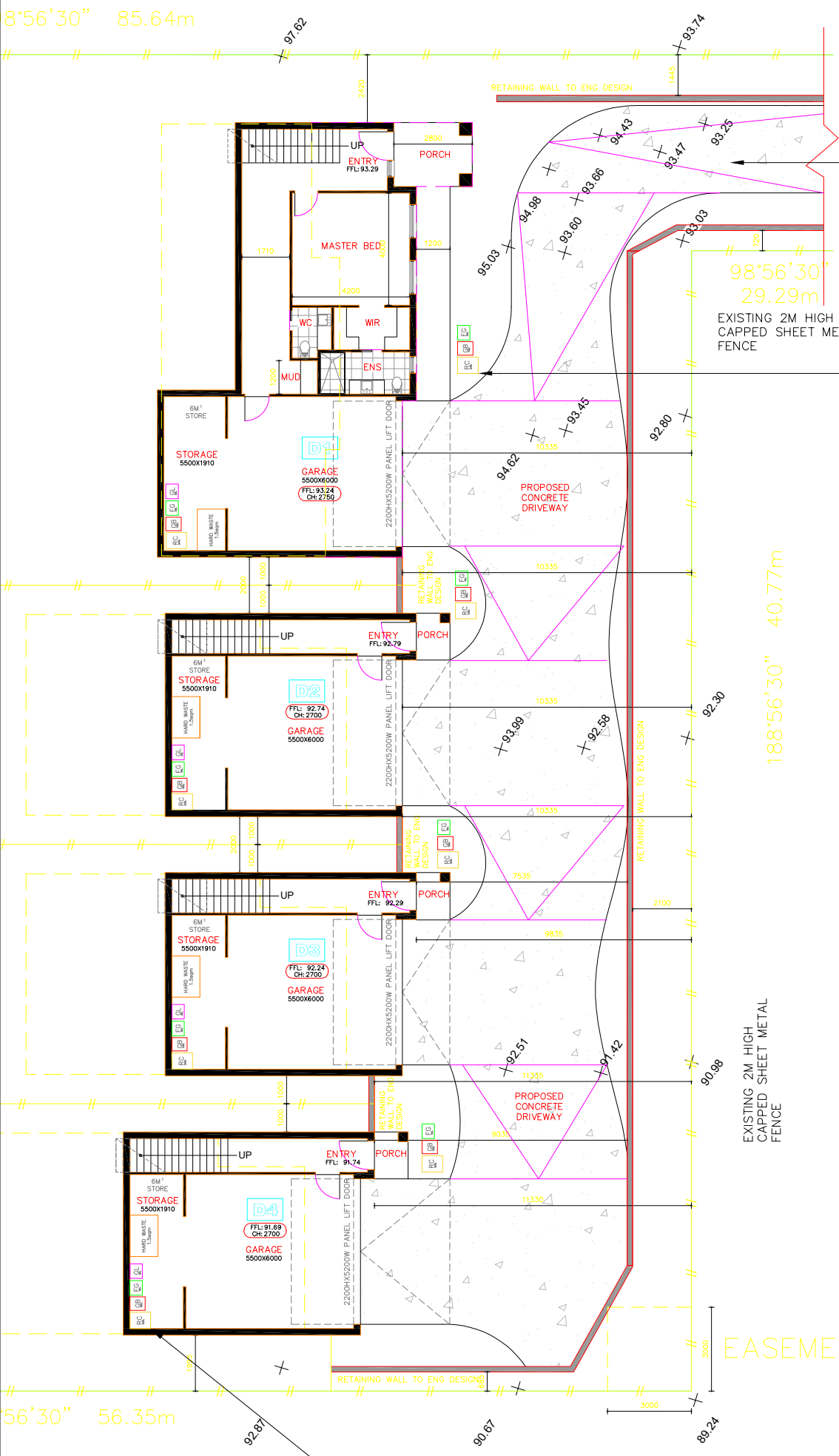
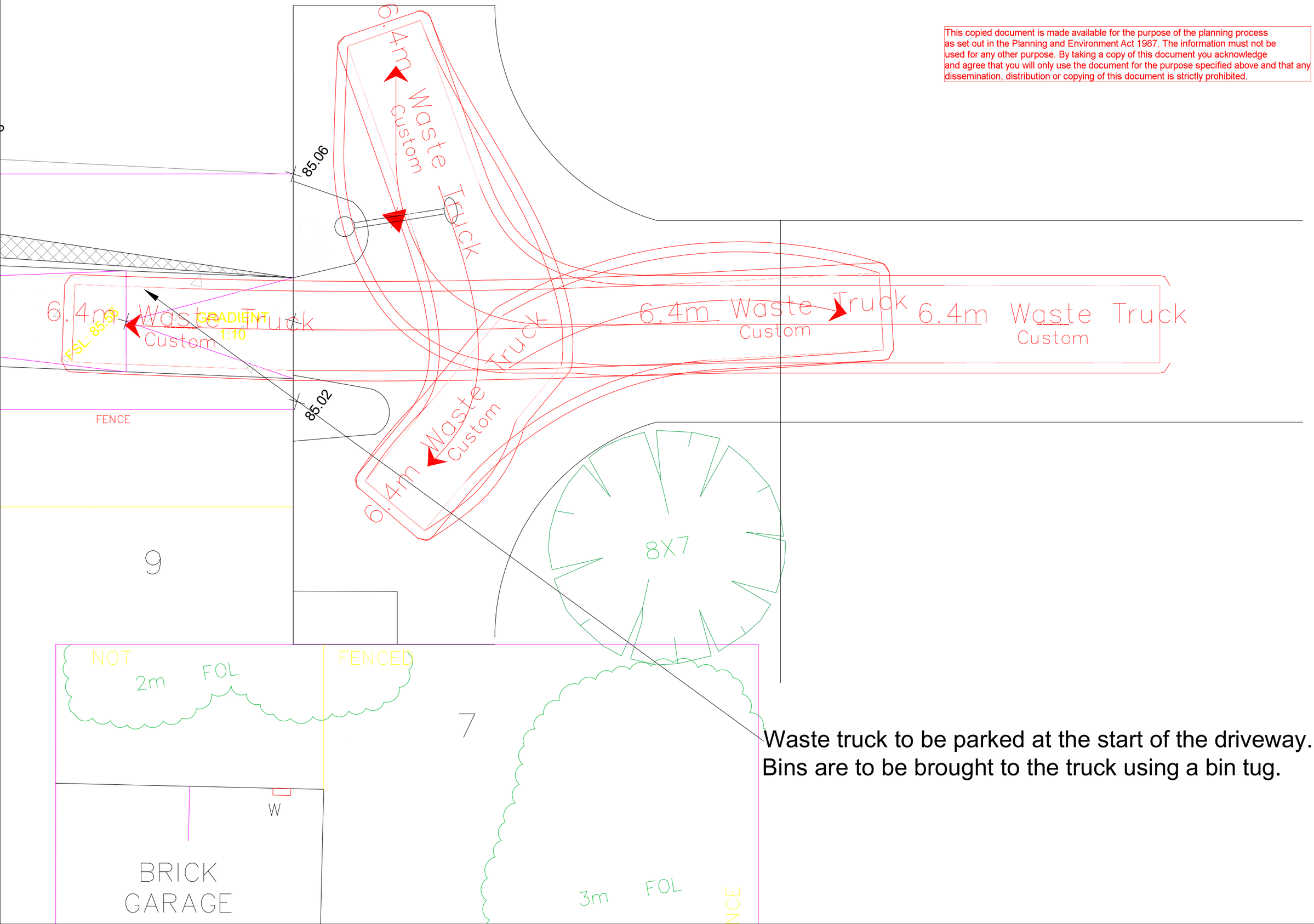


Bin tug to be used to drag bins to the collection point, as shown in the Swept Path Analysis.

Bin Presentation Point
(3-stream waste collection day, potential worst case scneario)

Designation bin storage areas for all waste types



Waste truck to be parked at the start of the driveway.
Bins are to be brought to the truck using a bin tug.

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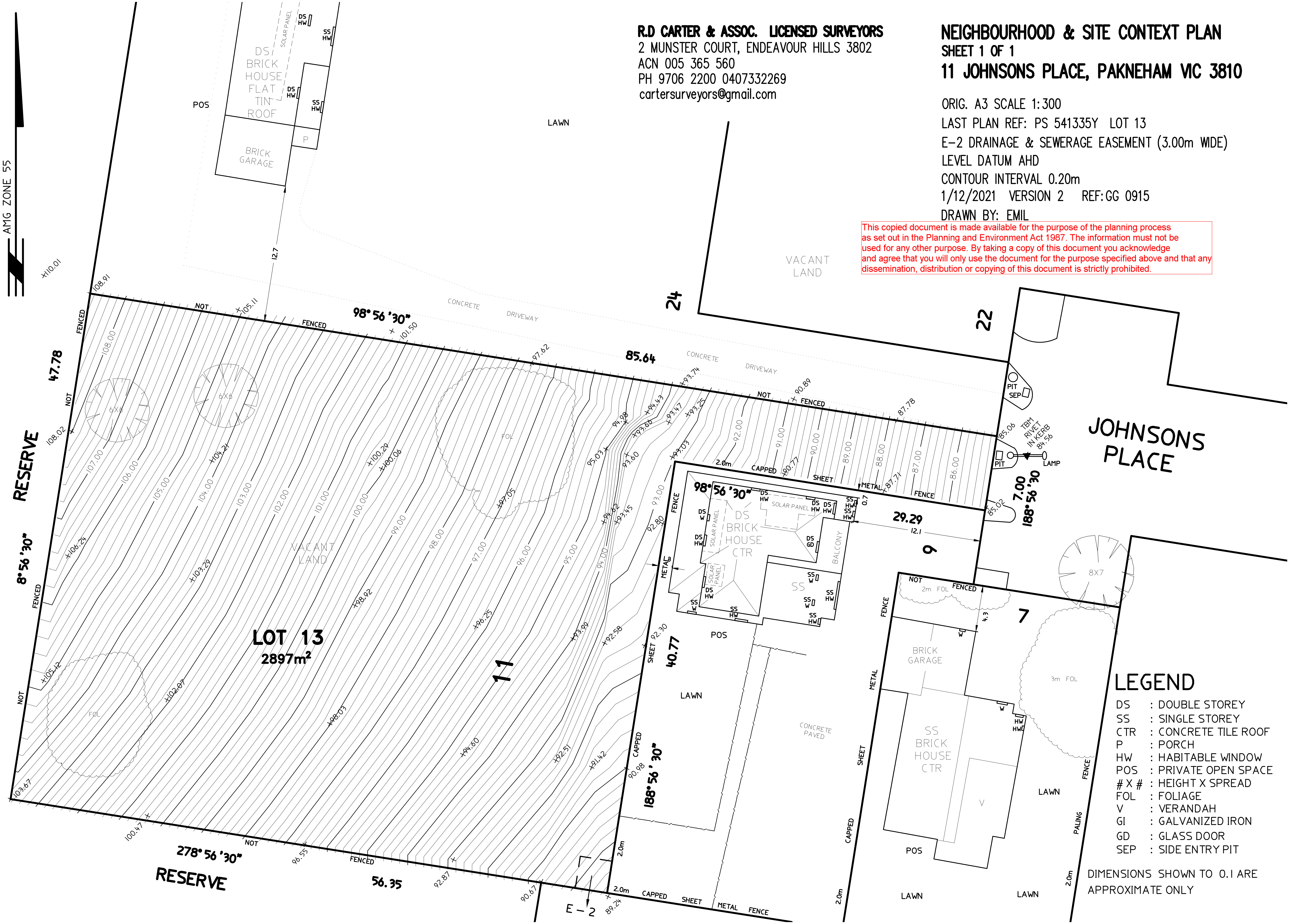
2 MUNSTER COURT, ENDEAVOUR HILLS 3802
ACN 005 365 560
PH 9706 2200 0407332269
cartersurveyors@gmail.com

NEIGHBOURHOOD & SITE CONTEXT PLAN
SHEET 1 OF 1
11 JOHNSONS PLACE, PAKNEHAM VIC 3810

ORIG. A3 SCALE 1:300
LAST PLAN REF: PS 541335Y LOT 13
E-2 DRAINAGE & SEWERAGE EASEMENT (3.00m WIDE)
LEVEL DATUM AHD
CONTOUR INTERVAL 0.20m
1/12/2021 VERSION 2 REF:GG 0915
DRAWN BY: EMIL



LEGEND

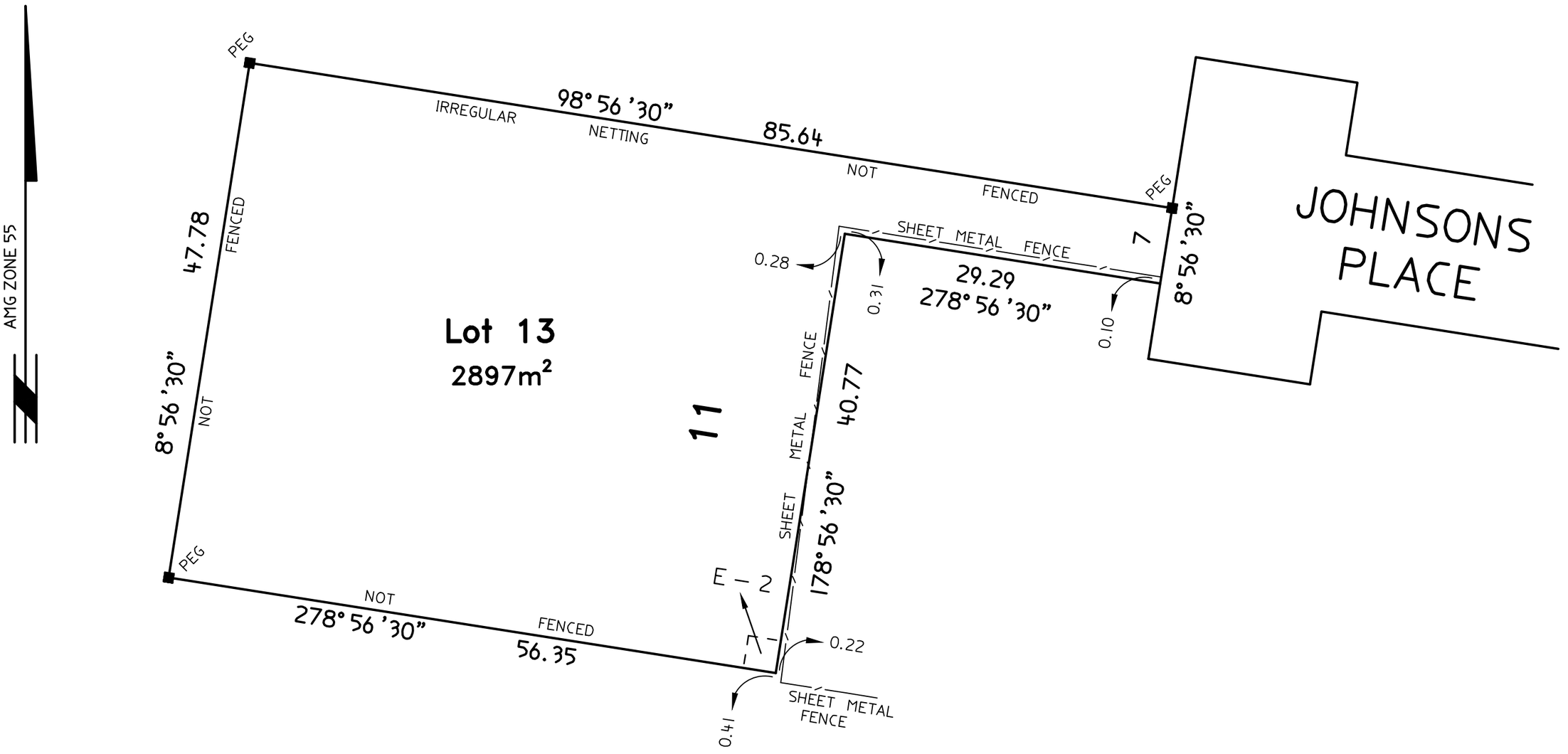
DS	:	DOUBLE STOREY
SS	:	SINGLE STOREY
CTR	:	CONCRETE TILE ROOF
P	:	PORCH
HW	:	HABITABLE WINDOW
POS	:	PRIVATE OPEN SPACE
# X #	:	HEIGHT X SPREAD
FOL	:	FOLIAGE
V	:	VERANDAH
GI	:	GALVANIZED IRON
GD	:	GLASS DOOR
SEP	:	SIDE ENTRY PIT

DIMENSIONS SHOWN TO 0.1 ARE APPROXIMATE ONLY

PLAN OF RE-ESTABLISHMENT SURVEY
11 JOHNSONS PLACE, PAKENHAM VIC 3810

LAST PLAN REFERENCE: PS 541335 LOT 13

E-2 DRAINAGE & SEWERAGE EASEMENT (3.00m WIDE)



NOTE: FENCE POSITIONS IN RELATION TO TITLE ARE NOT TO SCALE AND HAVE BEEN EXAGGERATED FOR DIAGRAMMATIC PURPOSES.

R.D.CARTER & ASSOCIATES
LICENSED SURVEYORS
2 MUNSTER COURT,
ENDEAVOUR HILLS, VIC 3802
PH. 9706 2200
cartersurveyors@gmail.com

4 0 4 8 12 16 20
LENGTHS ARE IN METRES

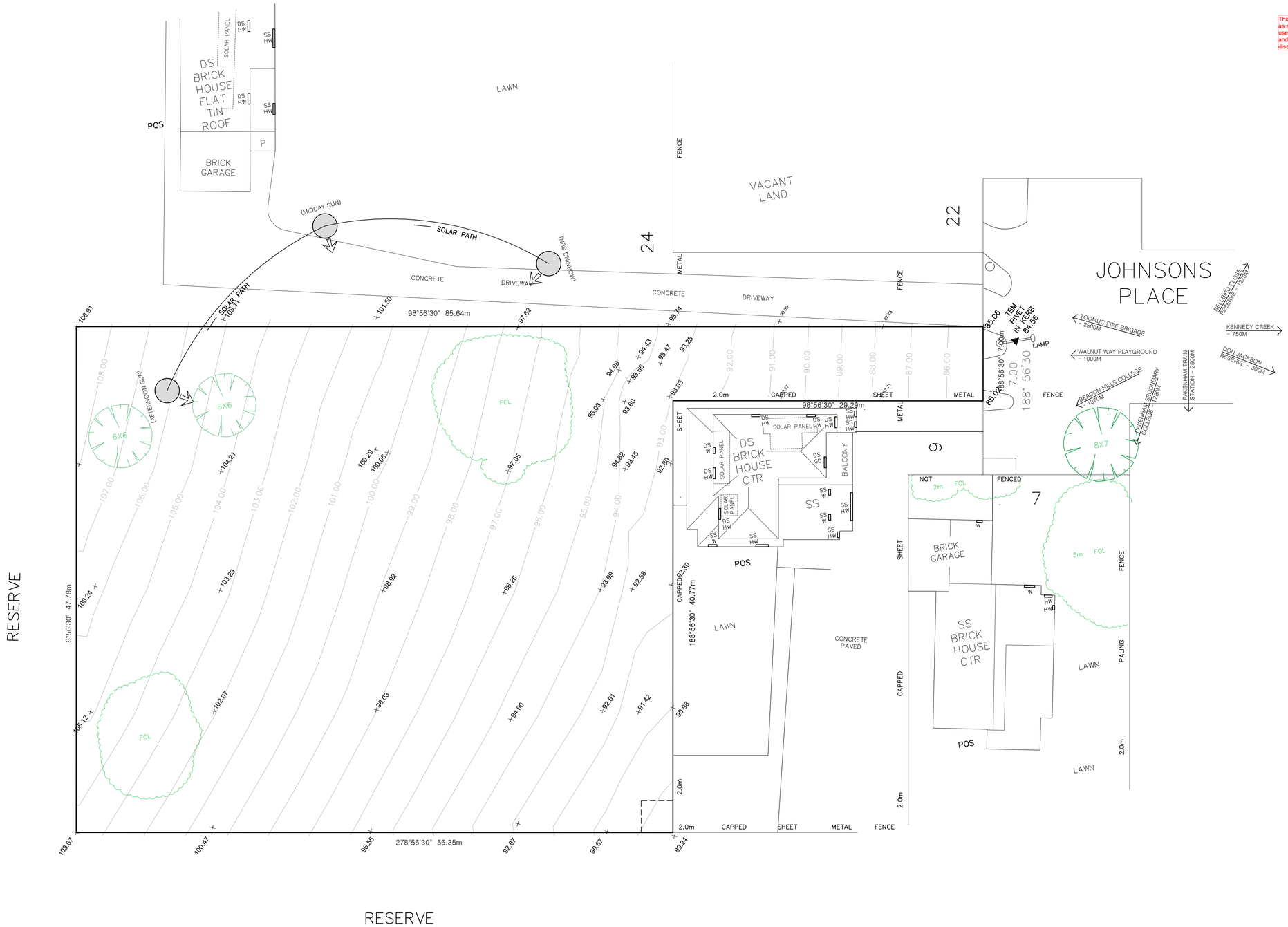
ORIGINAL	
SCALE	SHEET SIZE
1:400	A3

LICENSED SURVEYOR (VIC) RICHARD DENNIS CARTER

SIGNATURE..... DATE 29 / 9 / 2021

REF GG 0915 DRAWN BY EM VERSION 1

SHEET 1 OF 1 SHEET



DRAWING TITLE

NEIGHBORHOOD SITE DESCRIPTION

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE,
PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:200 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 01

REV	DATE	AMENDMENT
A	21/02	RFI

PLANFORM
BUILDING DESIGN

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THE GREENHOUSE – LEVEL 1, SUITE 22, 797
PLENTY ROAD SOUTH MORANG VIC 3752

REGISTERED Building Practitioner

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The peak body for the building design profession
Member

DESIGN RESPONSE

01 EXISTING CROSSOVER ON JOHNSONS PLACE TO BE USED AND RETAINED

02 PROPOSED PRIVATE OPEN SPACE WITH CONVENIENT NORTH LIGHT WITH A MIN 3M DIMENSION

03 NEW MAILBOX UNIT FOR DEVELOPMENT

04 MAX BUILDING HEIGHT OF DEVELOPMENT IS 8140MM

05 SEPARATION BETWEEN DWELLINGS

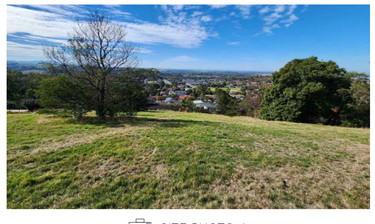
06 GENEROUS LANDSCAPE AREAS

07 NORTH WINDOWS

08 PROPOSED CONCRETE DRIVEWAYS

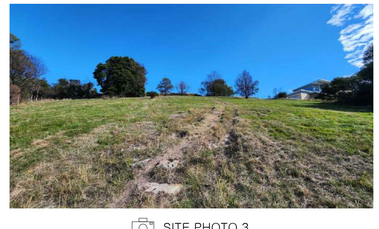
SITE PHOTO 5.
05

SITE PHOTO 1.
01

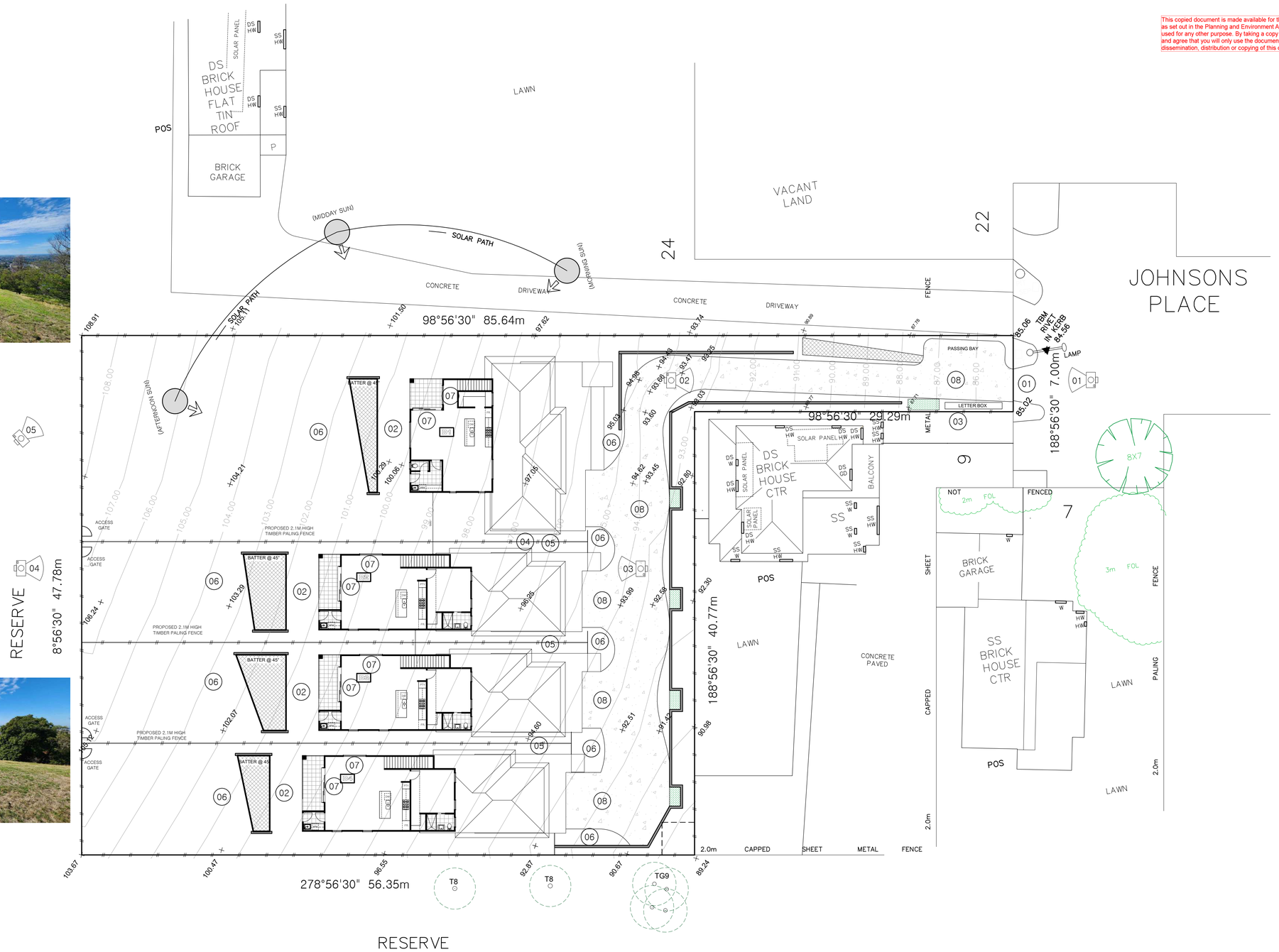


SITE PHOTO 4.
04

SITE PHOTO 2.
02



SITE PHOTO 3.
03



PLANFORM
BUILDING DESIGN

DRAWING TITLE
DESIGN RESPONSE PLAN

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE,
PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:200 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 02

REV	DATE	AMENDMENT
A	21/02	RFI

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PLENTY ROAD SOUTH MORANG VIC 3752

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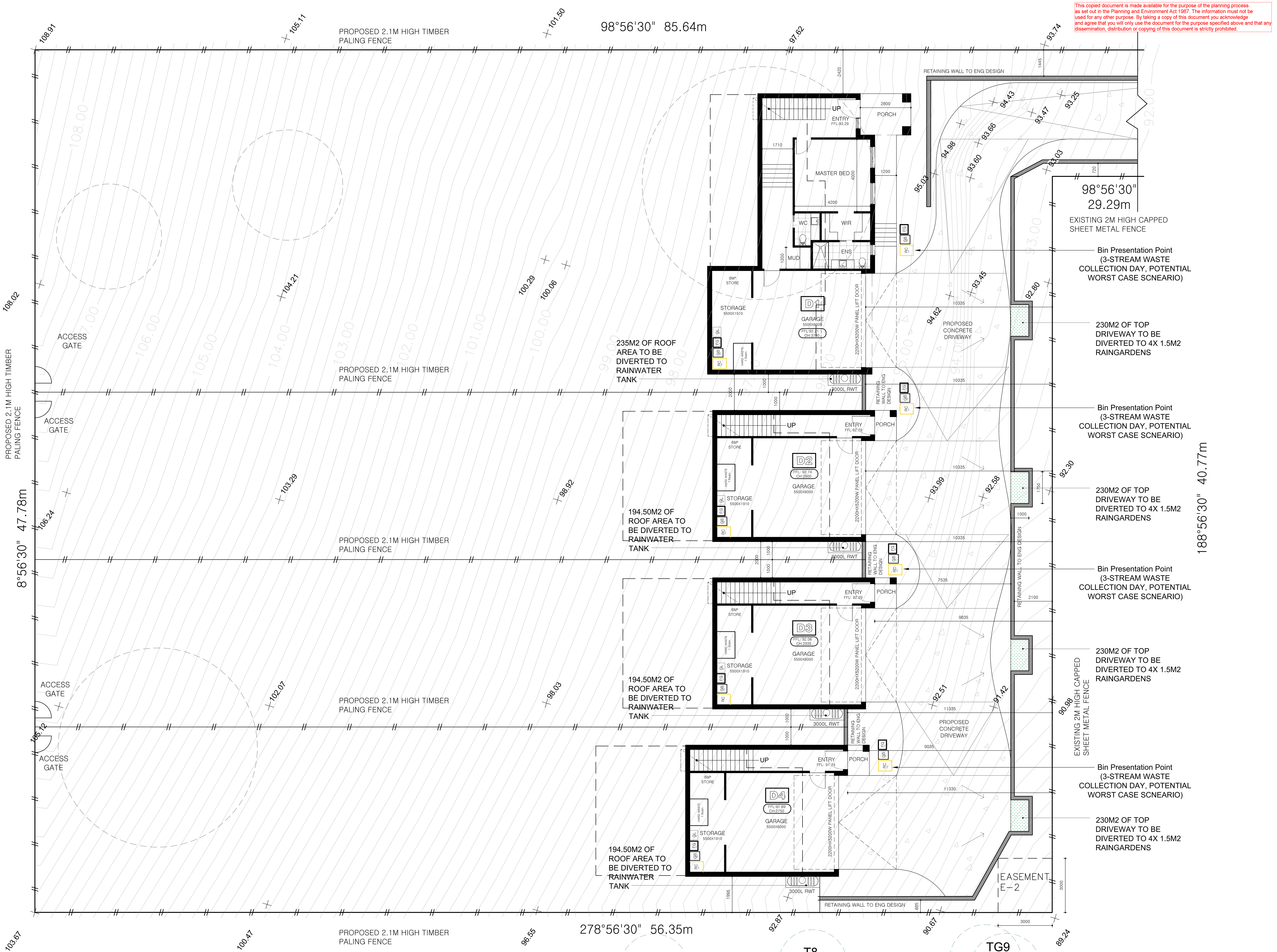

DRAWING TITLE

PROPOSED GROUND FLOOR PLAN

PLANFORM
BUILDING DESIGN

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE, PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:100 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 03

REV	DATE	AMENDMENT
A	21/02	RFI

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SITE & AREA ANALYSIS

SITE (APPROX)	2897m2	
SITE COVERAGE	748.74m2	25.85% approx.
PERMEABILITY	1728.77m2	59.67% approx.
GARDEN AREA	1451.86m2	50.12% approx.

UNIT 1		
GROUND	61.21m²	
FIRST	94.88m²	
SECOND	71.27m²	
GARAGE	51.51m²	
PORCH	15.62m²	
ALFRESCO	8.40m²	
TOTAL	302.89m²	32.60 SQS
UNIT 2		
GROUND	13.05m²	
FIRST	78.39m²	
SECOND	85.51m²	
GARAGE	49.44m²	
PORCH	2.02m²	
ALFRESCO	10.18m²	
TOTAL	238.59m²	25.68 SQS
UNIT 3		
GROUND	13.05m²	
FIRST	78.39m²	
SECOND	85.51m²	
GARAGE	49.44m²	
PORCH	2.02m²	
ALFRESCO	10.18m²	
TOTAL	238.59m²	25.68 SQS
UNIT 4		
GROUND	13.05m²	
FIRST	78.39m²	
SECOND	85.51m²	
GARAGE	49.44m²	
PORCH	2.02m²	
ALFRESCO	10.18m²	
TOTAL	238.59m²	25.68 SQS

LEGEND

W/H	NEIGHBORING HABITABLE WINDOW
W/NH	NEIGHBORING NON-HABITABLE WINDOW
DOOR	NEIGHBORING DOOR
P.O.S	ALLOCATED PRIVET OPEN SPACE
	EXISTING STRUCTURE
	PROPOSED STRUCTURE
	EXISTING FENCE
	PROPOSED FENCE
	EXISTING TREE
GB	PROPOSED GENERAL WASTE RUBBISH BIN (120L)
RC	PROPOSED RECYCLE RUBBISH BIN (240L) COMPOST BIN (90L)
EG	
CLOTHES	PROPOSED FOLD DOWN CLOTHES LINE WALL OR GROUND MOUNTED
GAS	PROPOSED GAS METER
LETTER BOXES	PROPOSED LETTER BOXES
6M³ STORAGE	DENOTES MIN. 6M3 STORAGE SHED WITH AVERAGE 2.2M HEIGHT
	3000L SLIM LINE RAINWATER TANK
S/L	PROPOSED SKY LIGHT
D.G	DOUBLE GLAZED WINDOW
S.D	DENOTES OPERABLE SHADING DEVICE
	PROPOSED GARDEN AREA
	RAIN GARDEN
	TREE PROTECTION ZONE (TPZ)
	TREE or VEGETATION TO BE REMOVED

Basic Tree Protection Requirements

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

1. Before commencing work on site, the contractor is required to meet with the consultant arborist to review all work procedures, access routes, storage areas and tree protection measures.
2. Temporary protective fencing to a minimum height of 1.8m must be erected along the perimeter of the TPZ (or modified TPZ) for any trees that are to be retained on the site. Prior to any machinery or materials being brought on site and before any works including demolition commences.
3. Once erected protective fencing must not be removed or altered without approval from the project arborist.
4. Protective fencing needs to be in accordance with AS 4687. Signs identifying the TPZ should be placed around the protective fencing.
5. Construction vehicles and storage areas must remain outside fenced areas always.
6. If tree roots are encountered or damaged during construction, they need to be cut cleanly to sound tissue with sharp secateurs or a pruning saw.
7. Surplus construction materials (e.g., soil, cement, base rock etc.) are not to be stored or allowed to remain inside the trees' TPZ.
8. Additional tree pruning required during construction must be carried out by an appropriately qualified contractor and in accordance with Australian Standards 4373: 2007, Pruning of Amenity Trees and not by construction personnel.
9. All underground services including drainage and irrigation must be routed outside of trees' TPZs, If this is not possible excavation is to be carried out by tunneling or boring beneath the tree protection zone.
10. Trees retained on site are to be regularly watered (minimum weekly) during periods of dry conditions within the tree protection zone.
11. If trees are damaged during construction, it should be evaluated as soon as possible by the project arborist so that appropriate treatments can be applied.
12. Erosion control such as silt fencing, debris basins and water diversion methods shall be installed to prevent siltation and/or erosion within the tree protection zone.
13. If temporary access roads must pass over the root areas (TPZ) of trees to be retained a roadbed of 150mm of mulch or crushed rock shall be created to prevent soil compaction within the tree's root area. The roadbed material shall be maintained to a depth of 150mm throughout construction.
14. Once construction is completed all foreign (non-organic) debris needs to be removed from within the tree protection zone

DRAWING TITLE

PROPOSED FIRST FLOOR PLAN

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE, PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:100 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 04

REV	DATE	AMENDMENT
A	21/02	RFI

PLANFORM
BUILDING DESIGN

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THE GREENHOUSE – LEVEL 1, SUITE 22, 797
PLENTY ROAD SOUTH MORANG VIC 3752

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PROPOSED 2.1M HIGH TIMBER PALING FENCE

98°56'30" 85.64m

EXISTING 2M HIGH CAPPED SHEET METAL FENCE

98°56'30" 29.29m

188°56'30" 40.77m

278°56'30" 56.35m

8°56'30" 47.78m

ACCESS GATE

BATTER @ 45°

FSL:98.68

FSL:98.49

FSL:97.99

FSL:97.44

ALFRESCO 5090X2000

LIVING/MEALS

MEALS

KIT.

DW

WIP

FR.

WC

LDRY

W/M

LIVING

DN

MASTER BED

ENS

FTY

D1 FFL: 98.88 CH:2700

D2 FFL: 98.79 CH:2700

D3 FFL: 98.28 CH:2700

D4 FFL: 97.74 CH:2700

EASEMENT E-2

DRAWING TITLE

PROPOSED SECOND FLOOR PLAN

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE,
PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:100 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 05

REV	DATE	AMENDMENT
A	21/02	RFI

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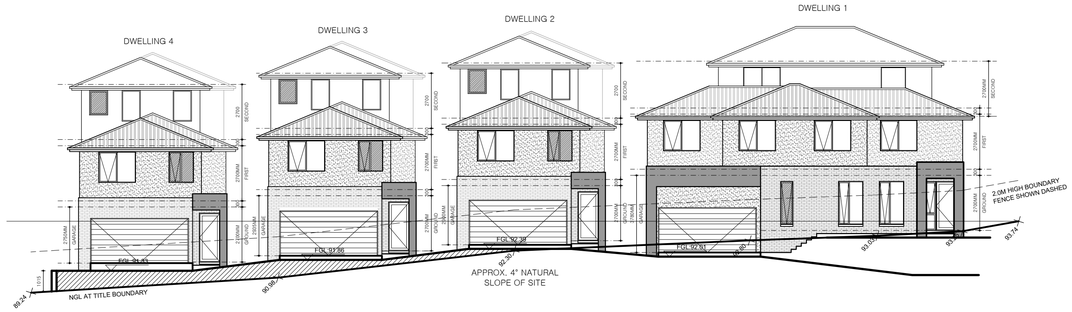

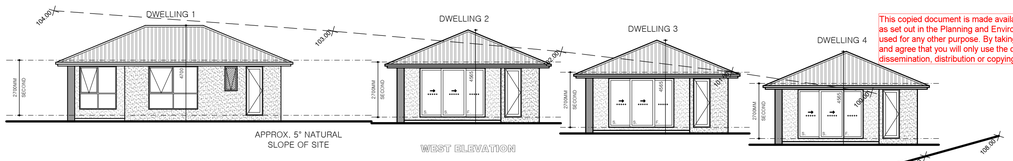

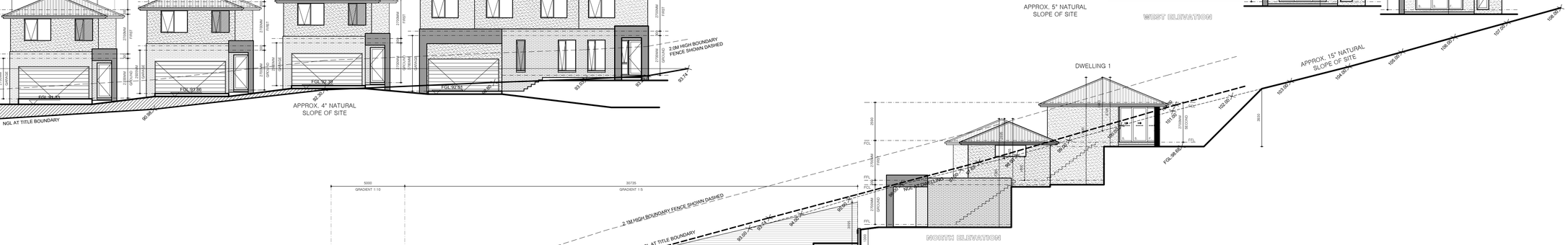

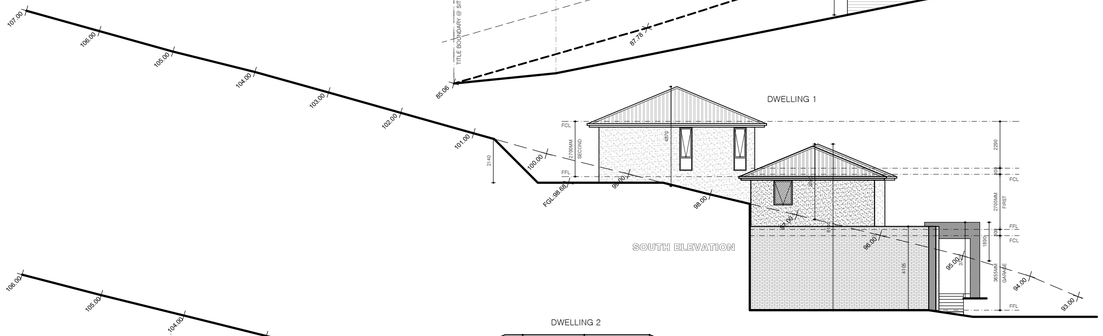

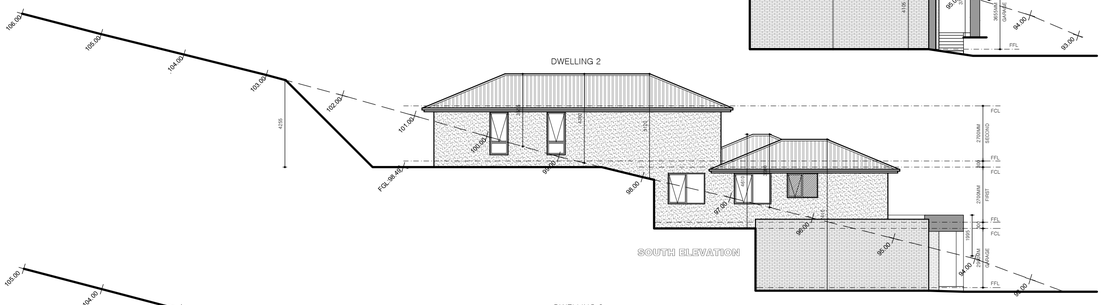

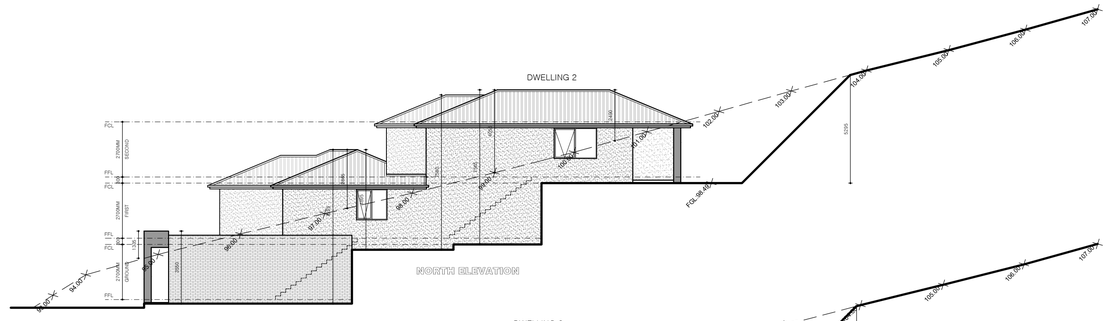

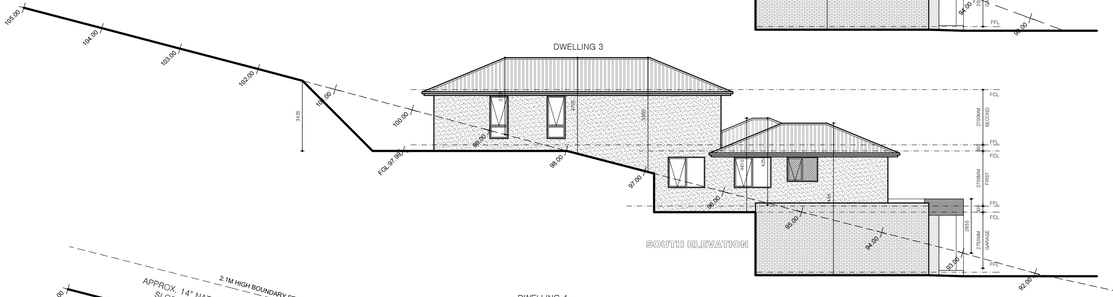

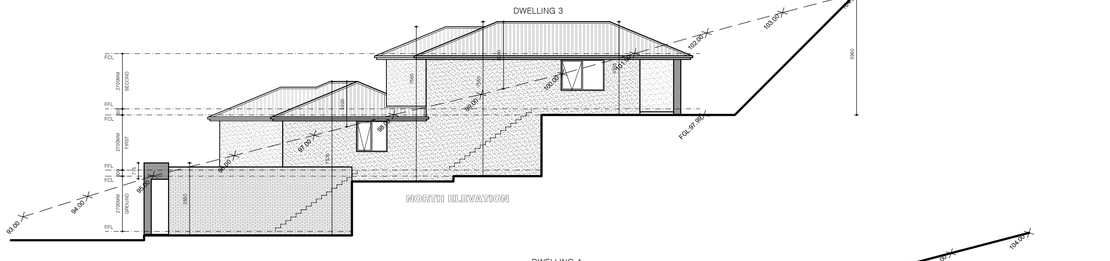

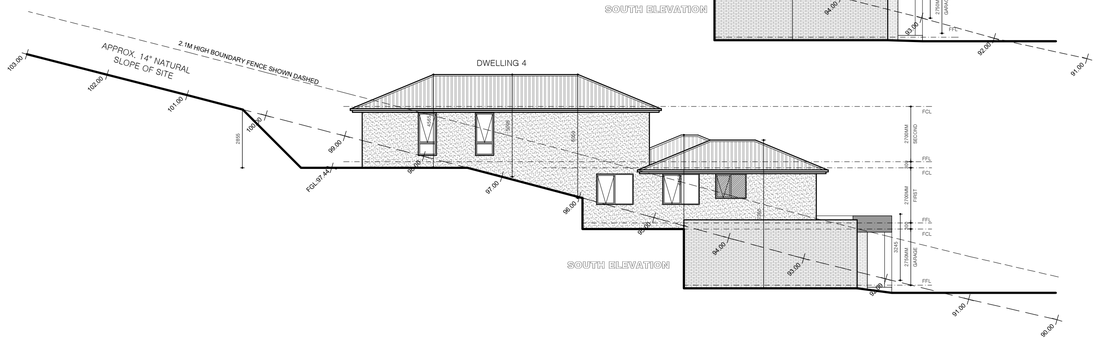

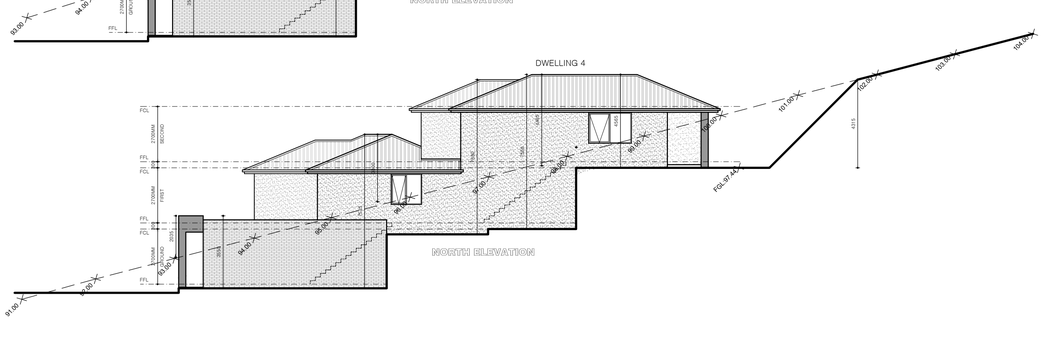

PLANFORM
BUILDING DESIGN

DRAWING TITLE
ELEVATIONS

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE,
PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:150 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 06

REV	DATE	AMENDMENT
A	21/02	RFI

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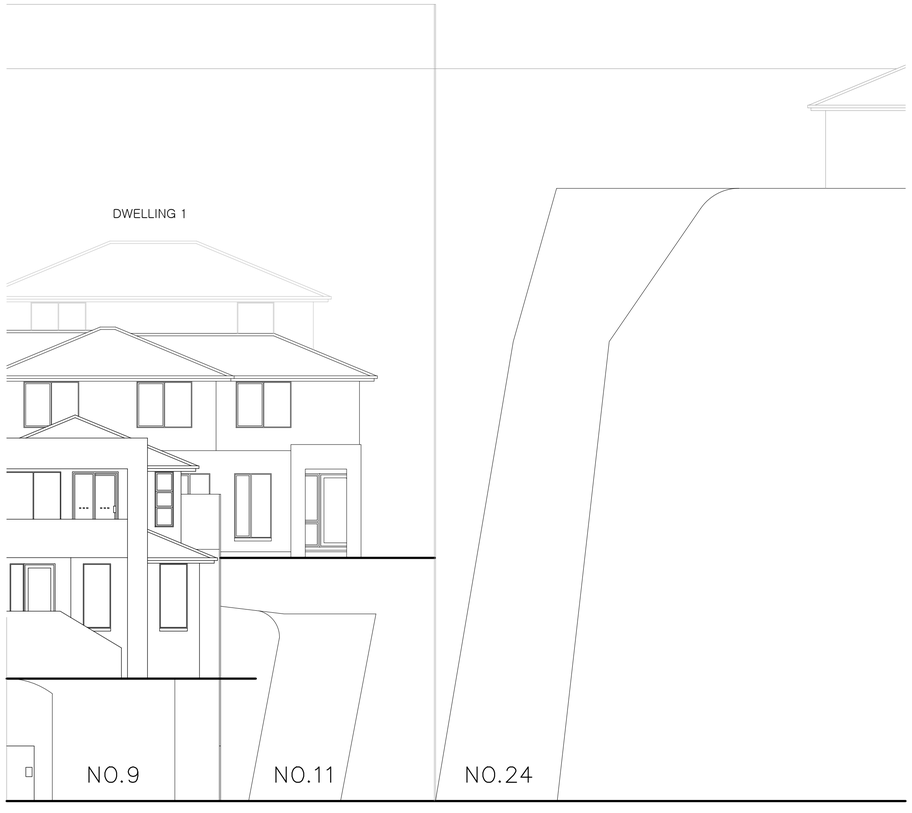

JOHNSONS PLACE

PLANFORM
BUILDING DESIGN

DRAWING TITLE
STREET SCAPE ELEVATION

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE,
PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:100 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 07

REV	DATE	AMENDMENT
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Waste truck to be parked at the start of the driveway.
Bins are to be brought to the truck using a bin tug.
CONCRETE DRIVEWAY
98°56'30" 85.64m
LEVEL DATUM TO AHD AS PER SURVEY PREPARED BY R.D CARTER & ASSOC. REF : GG0915
TBM RIVET IN KERB 84.56
JOHNSONS PLACE
LAMP
RETAINING WALL TO ENG DESIGN
BATTER @ 45°
GRADIENT 1:10
GRADIENT 1:5
FSL: 91.71
FSL: 85.56
FSL: 85.06
6.4m Waste Truck Custom
7.00m
188°56'30"
120M2 OF MAIN DRIVEWAY TO BE DIVERTED TO 1X 1.5M2 RAINGARDEN
98°56'30" 29.29m
EXISTING 2M HIGH CAPPED SHEET METAL FENCE
2.0m CAPPED SHEET METAL FENCE
DS BRICK HOUSE CTR
SOLAR PANEL
BALCONY
9
NOT FENCED
7
8X7
2m FOL
3m FOL
BRICK GARAGE
SS BRICK HOUSE CTR
LAWN
FENCE
PALING
2.0m
UP
ENTRY
PORCH
MASTER BED
WC
WIR
MUD
ENS
D1
D2
D3
D4
GARAGE 5500X6000
2200HX5200W PANEL LIFT DOOR
GRADIENT 1:8
GRADIENT 1:11
FSL: 92.01
PROPOSED CONCRETE DRIVEWAY
FSL: 92.39
FSL: 91.86
FSL: 91.33
188°56'30" 40.77m
POS
LAWN
CONCRETE PAVED
EXISTING 2M HIGH CAPPED SHEET METAL FENCE
EASEMENT E-2
278°56'30" 56.35m

PLANFORM
BUILDING DESIGN

DRAWING TITLE
PROPOSED DRIVEWAY

PROJECT: PROPOSED DWELLING
AT: NO.11 JOHNSONS PLACE, PAKENHAM, VIC, 3810
FOR: ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:100 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 08

REV	DATE	AMENDMENT
A	21/02	RFI

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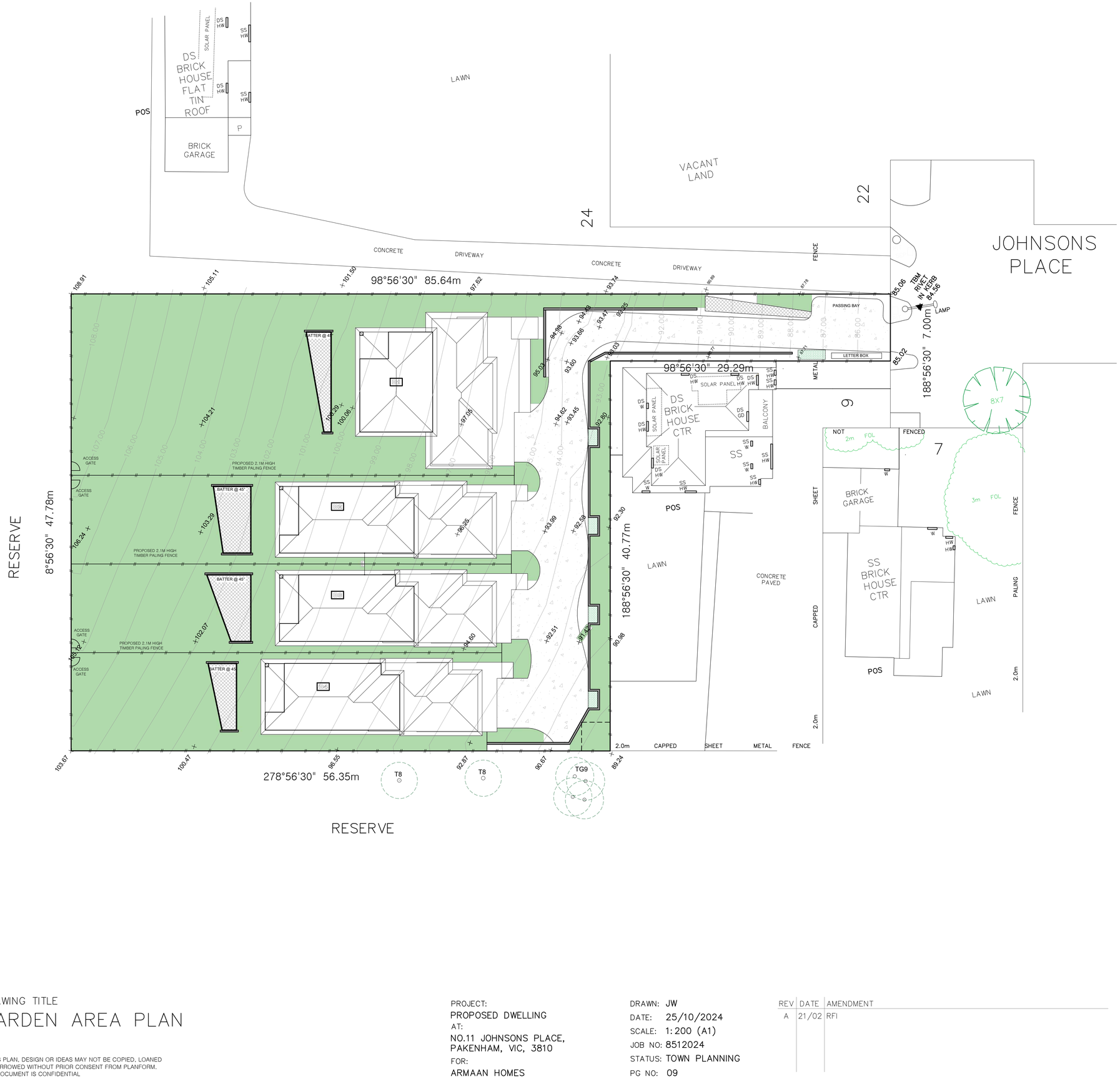
LEGEND

PROPOSED GARDEN AREA
GARDEN AREA 1451.86m2 50.12% approx.



DRAWING TITLE
GARDEN AREA PLAN

PLANFORM
BUILDING DESIGN

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE,
PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:200 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 09

REV	DATE	AMENDMENT
A	21/02	RFI

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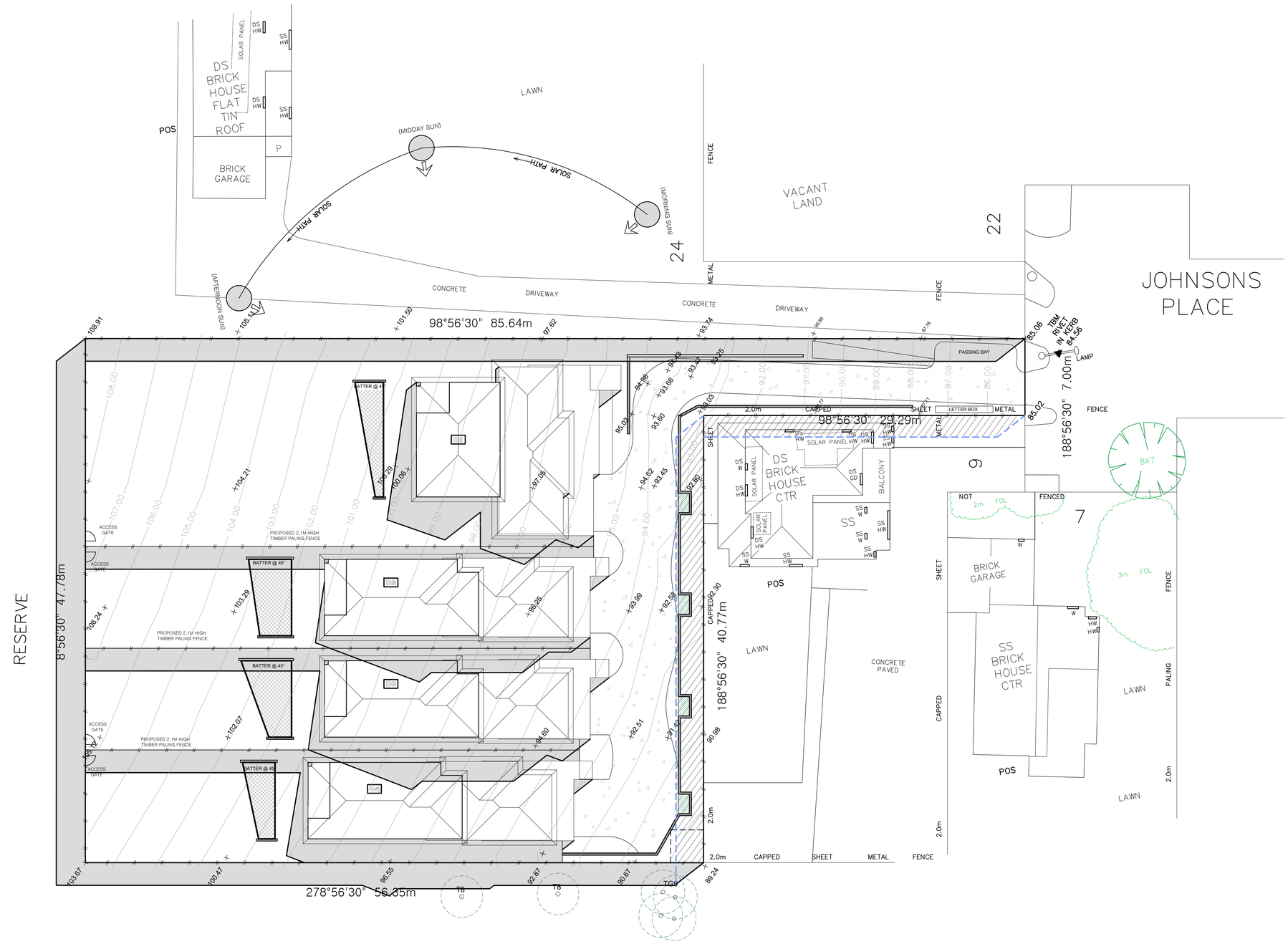


RESERVE

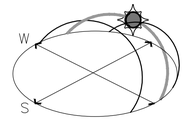
SHADOW DIAGRAM 9:00 AM

MARCH 21 – SEPTEMBER 23 (EQUINOX)
Melbourne Standard Time (Latitude 38.0° South)

SHADOW NOTES

PROPOSED SHADOWS

EXISTING SHADOWS



SEPTEMBER EQUINOX
Date: Sept 22nd
Season: September Equinox
Scale: 1:200

PLANFORM
BUILDING DESIGN

DRAWING TITLE
9:00AM SHADOW DIAGRAM

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE, PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:200 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 10

REV	DATE	AMENDMENT
A	21/02	RFI

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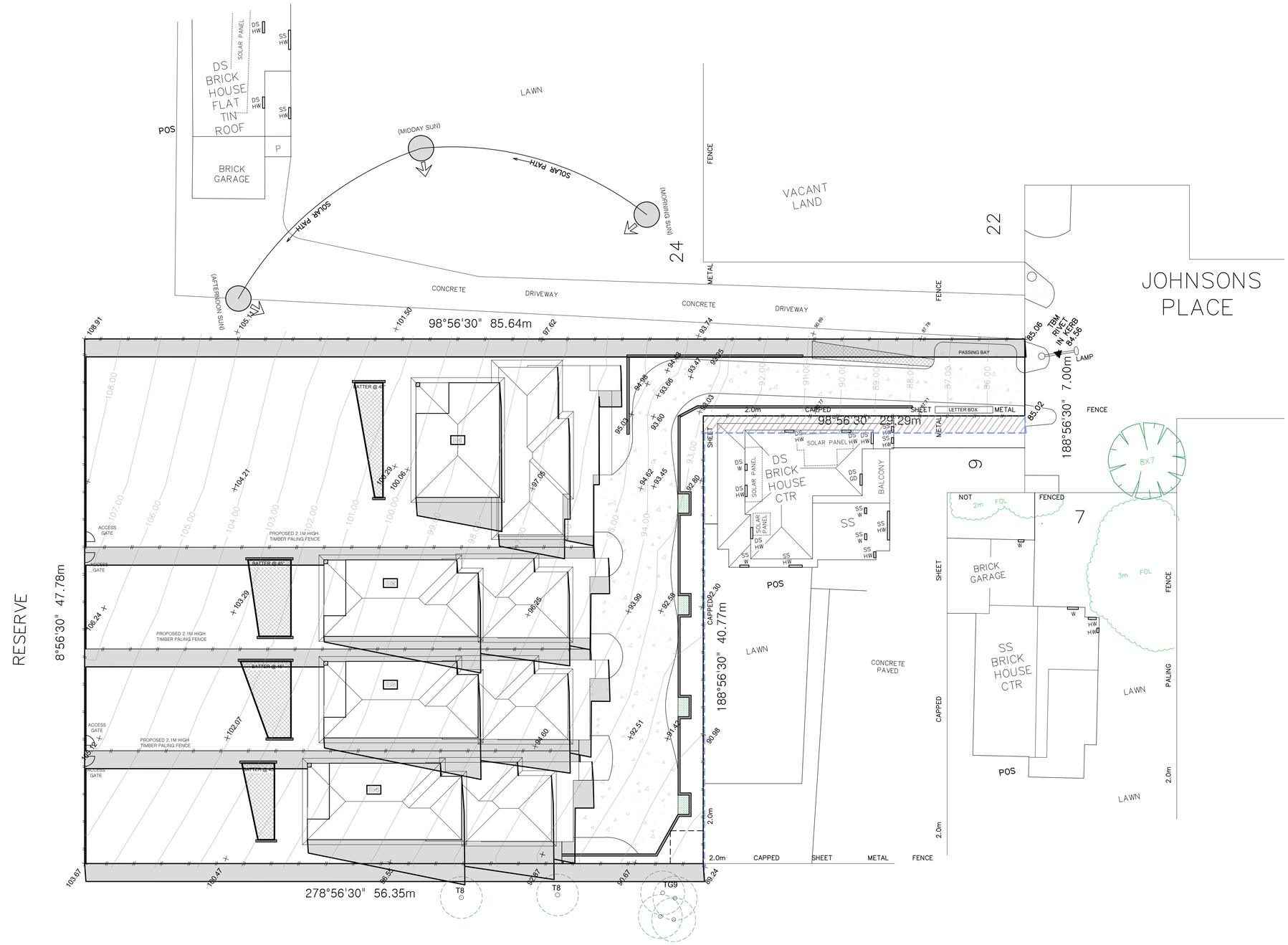
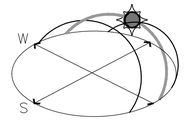


SHADOW NOTES

PROPOSED SHADOWS

EXISTING SHADOWS



SEPTEMBER EQUINOX

Date: Sept 22nd
Season: September Equinox
Scale: 1:200

DRAWING TITLE

12:00PM SHADOW DIAGRAM

PLANFORM
BUILDING DESIGN

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE, PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:200 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 11

REV	DATE	AMENDMENT
A	21/02	RFI

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REGISTERED Building Practitioner

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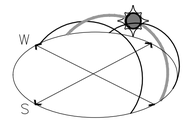
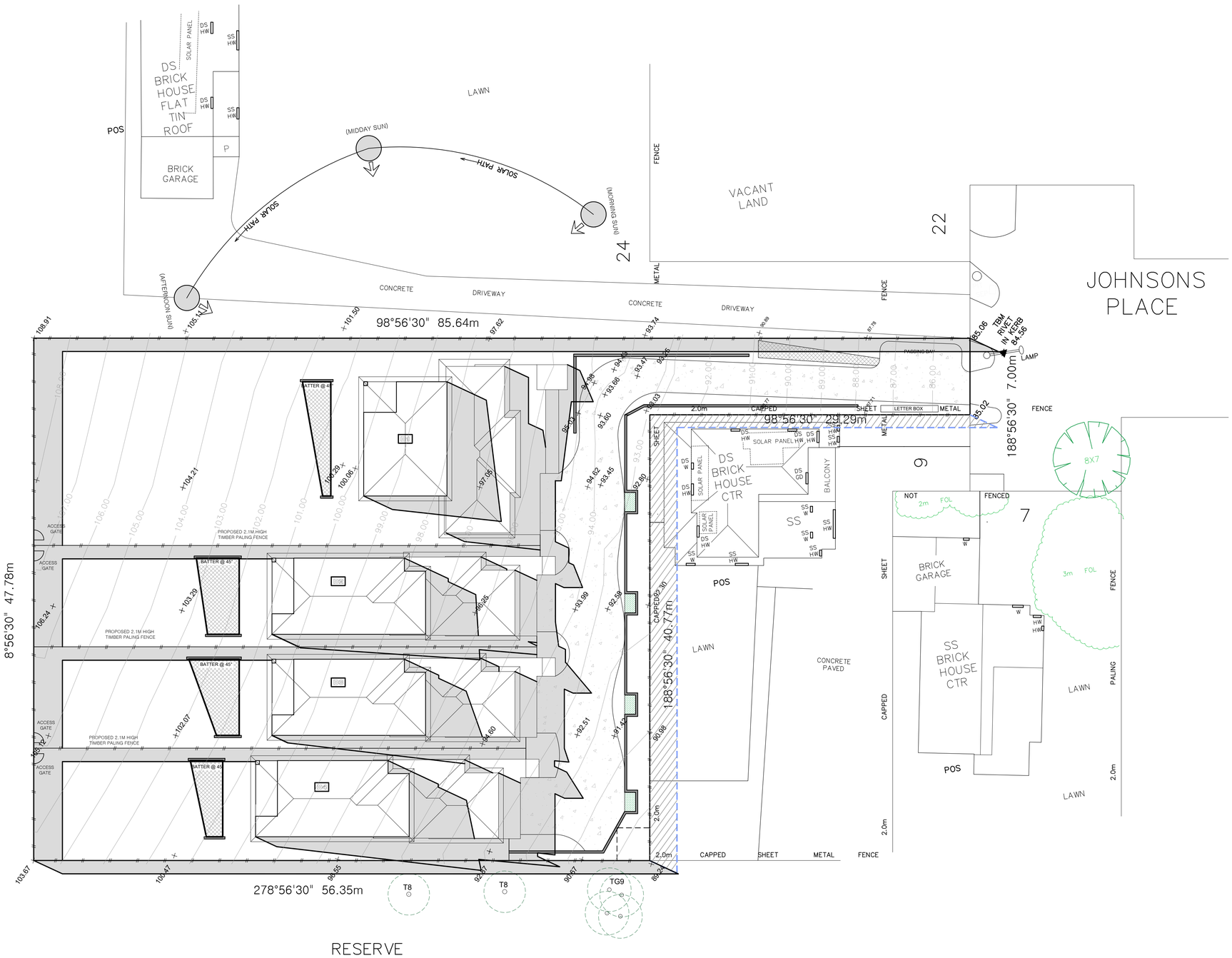
SHADOW NOTES

PROPOSED SHADOWS

EXISTING SHADOWS



SEPTEMBER EQUINOX
Date: Sept 22nd
Season: September Equinox
Scale: 1:200



SHADOW DIAGRAM 3:00 PM

MARCH 21 – SEPTEMBER 23 (EQUINOX)
Melbourne Standard Time (Latitude 38.0° South)

PLANFORM
BUILDING DESIGN

DRAWING TITLE
3:00PM SHADOW DIAGRAM

PROJECT:
PROPOSED DWELLING
AT:
NO.11 JOHNSONS PLACE, PAKENHAM, VIC, 3810
FOR:
ARMAAN HOMES

DRAWN: JW
DATE: 25/10/2024
SCALE: 1:200 (A1)
JOB NO: 8512024
STATUS: TOWN PLANNING
PG NO: 12

REV	DATE	AMENDMENT
A	21/02	RFI

N

E | INFO@PLANFORM.COM.AU
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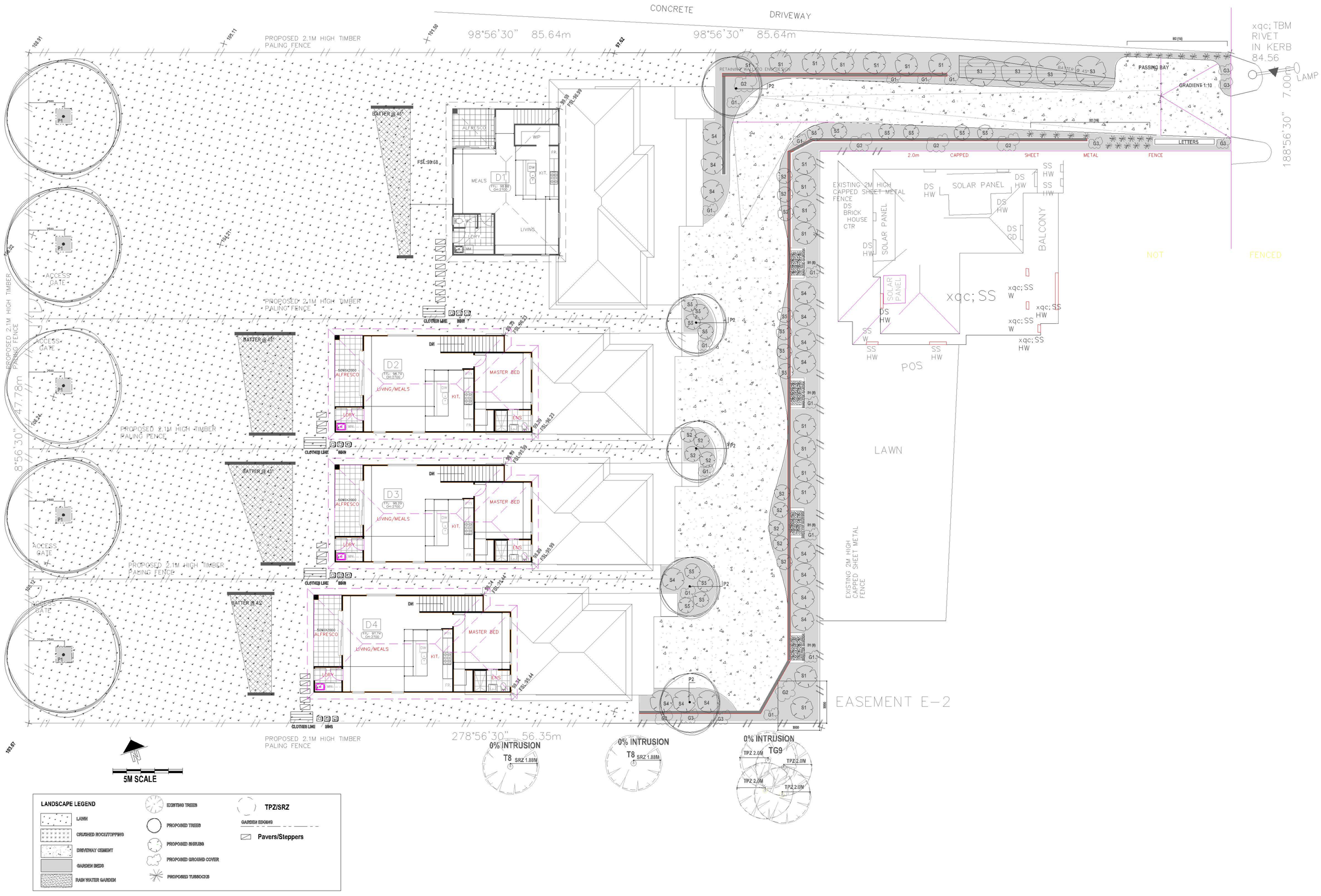
THE GREENHOUSE – LEVEL 1, SUITE 22, 797
PLENTY ROAD SOUTH MORANG VIC 3752

REGISTERED Building Practitioner

Design Matters National
The peak body for the building design profession
Member

CURVES LANDSCAPE DESIGN

Project	Date Completed	Designer
11 Johnsons Place, Pakenham	14 April 2025	Curves Landscape Design Theo Afkoudias P: 0412 800440 E: curvesld@gmail.com www.curvesld.com.au
Drawing Title Landscape Drawings	**Version** 1.0	
	Scale 1.200	



LANDSCAPE LEGEND

- LAWN
- CRUSHED ROCK/TOPPING
- DRIVEWAY CEMENT
- GARDEN BEDS
- RAIN WATER GARDEN
- EXISTING TREES
- PROPOSED TREES
- PROPOSED SHRUBS
- PROPOSED GROUND COVER
- PROPOSED TUSSOCKS
- TPZ/SRZ
- GARDEN EDGING
- Pavers/Steppers

Appendix 3 – Tree Species

Tree #	Botanical & common names	Origin	Health	Structure	Height	Canopy spread	Total DBH	DAB	Age	ULE	Amenity value	Retention value	TPZ	SRZ	Comments	Recommendations
1	*Acacia mearnsii (Black Wattle)*	Locally occurring	Good	Average	5.5	4	0.11	0.13	Early mature	Medium (15-40 years)	Moderate	Low	2	1.5		Remove and replace
2	*Acacia mearnsii (Black Wattle)*	Locally occurring	Average to Poor	Removal	9	14	0.57	0.68	Over-mature	Removal (0-5 years)	Moderate	Remove	6.84	2.81		Remove and replace
3	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	8	5	0.26	0.37	Over-mature	Removal (0-5 years)	Moderate	Remove	3.12	2.18		Remove and replace
4	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	9	6	0.26	0.37	Over-mature	Removal (0-5 years)	Moderate	Remove	3.12	2.18		Remove and replace
5	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	7	4	0.24	0.26	Over-mature	Removal (0-5 years)	Moderate	Remove	2.88	1.88		Remove and replace
6	*Pittosporum undulatum (Sweet Pittosporum)*	Environmental weed	Good	Average	9	5	0.37	0.46	Mature	Medium (15-40 years)	Moderate	Low	4.44	2.39	TGx2	Remove and replace
7	*Acacia mearnsii (Black Wattle)*	Locally occurring	Poor	Average to Poor	7	5	0.18	0.25	Over-mature	Removal (0-5 years)	Moderate	Remove	2.16	1.85		Remove and replace
8	*Acacia mearnsii (Black Wattle)*	Locally occurring	Dead	Removal	6	4	0.23	0.26	Over-mature	Removal (0-5 years)	Moderate	3rd Party Tree	n/a	1.88	NT, 2.5m, TGx2	Neighbouring tree, no intrusion
9	*Acacia mearnsii (Black Wattle)*	Locally occurring	Very Poor	Removal	8	4	0.17	0.23	Over-mature	Removal (0-5 years)	Moderate	3rd Party Tree	2.04	1.79	NT, 1.5m, TGx4	Neighbouring tree, no intrusion

** Please Note: All measurements are in metres. * Note: unless otherwise stated the diameters of neighbouring trees have been estimated.*

CODE	PLANT LIST BOTANICAL NAME	COMMON NAME	MATURE HxW (M)	SOURCE SIZE	QTY
	TREES				
P1	Acacia melanoxylon	Blackwood	12 x 8	1.5 m hgt	5
P2	Magnolia grandiflora 'Little Gem'	Little Gem	6 x 4	1.5 m hgt	5
	SHRUBS				
S1	Correa Alba	White Correa	1.5 x 1.5	15 CM	17
S2	Westringia fruticosa Jervis Gem	Coastal Rosemary	1 x 1	15 CM	12
S3	Rhagodia candolleana	Seaberry Saltbush	2 x 2	15 CM	4
S4	Westringia fruticosa Naranga	Coastal Rosemary	1.5 x 1.5	15 CM	16
S5	Hebe Purple Haze	Hebe Purple Haze	1 x 1	15 CM	18
	STRAPPY /TUSSOCK				
B1	Lomandra Longifolioa	Spiny-headed Mat-rush	0.5 x 0.5	15 CM	32
B2	Poa labillardierei	Common Tussock-grass	0.5 x 0.5	15 CM	25
	GROUND COVER				
G1	Dichondra repens	Kindey Weed	0.1 x Prostrate	15 CM	14
G2	Rosmarinus officinalis Prostrata	Rosemary prostrate	0.5 x 1	15 CM	5
G3	Scaevola humilis	Purple Fusion	0.2 x 1	15 CM	7

NOTES

LANDSCAPE STRATEGY

Provide low maintenance, attractive gardens whilst blending with local streetscape and environment.

PREPARING SITE

Weeds - All weeds are to be removed from the site by physical removal or spraying with a glyphosate-based herbicide.
Any areas of soil contaminated by paint or building rubble/materials should be removed and replaced with suitable topsoil from the site or imported.

PLANTING

Garden Beds Preparation - Existing garden beds can be prepared with added organic material such as well-rotted manure or materials from plant and animal sources sold as improvers or compost and prepared to AS 4454 – 2003. These can just be top-dressed (placed over the top of the soil) and then covered with mulch. If there is no existing topsoil left, then imported topsoil that complies with AS 4419 – 2003 shall be used with mulch on top.
All tree stock used must be in accordance with AS2303-2015 Tree Stock for Landscape Use.
Topsoil levels at 125mm. Cultivate to improve permeability and break up areas of compaction.
Mulch – Sustainably sourced pine mulch with an average particle size of 10mm, maintained at 75 -100 mm on all garden beds,
Hard Garden Edging –All garden beds and lawn areas are to be framed by hard garden edging. Recommended garden edging includes; treated pine, plantation sugar gum, recycled plastic sleepers, recycled railway sleepers, local stone, and recycled brick or concrete.
Lawn Areas - Topsoil levels at 75 mm. Lawn areas are to be established with seeds.
Nature Strip Lawn Areas – Nature strip lawn to be repaired/reinstated.
Tree Planting methods– Refer to image.

MAINTENANCE – 24 Months

Tree guards are removed when plants are established
Watering -Water in accordance with current water restrictions using a programmable irrigation system according to weather conditions but generally 10 minutes every second day to garden beds during the establishment period (6 months) and during summer dry periods. At other times and as plants become established watering should gradually be reduced to conserve water and promote deep root systems.
Weeding and trimming every 30 days.
Plant replacement - As required particularly during the establishment period (6 months).
Pruning - All plants are to be pruned/shaped to an appropriate size and spread on an ongoing basis.

TREE PLANTING DETAILS

(NOT TO SCALE)