HUME CITY COUNCIL

Office Use Only

Application No.: Date Lodged: / /

Application for
Planning Permit

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

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

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

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

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

Clear Form

The Land

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

Street Address *

Unit No.: | St. No.: 186 | St. Name: GREENVALE DRIVE

Suburb/Locality: GREENVALE | Postcode:3059

Formal Land Description *
Complete either A or B.

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

A Lot No.: 35 ○ Lodged Plan ○ Title Plan ◉ Plan of Subdivision No.: 202867W

OR

B Crown Allotment No.: | Section No.:

Parish/Township Name:

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

The Proposal

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

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

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

CONSTRUCTION OF 6 TRIPLE STOREY TOWNHOUSES AND REMOVAL OF 3 CANOPY TREES

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

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

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

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

Existing Conditions

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

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

VACANT

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

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Title Information

(5) **Encumbrances on title** *

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

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

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

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

Applicant and Owner Details

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

Applicant *

The person who wants the permit.

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

Please provide at least one contact phone number *

Owner *

The person or organisation who owns the land

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

[redacted]

Declaration

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

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

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

[redacted]

Need help with the Application?

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

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

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

(•) No ( ) Yes

Checklist

(9) Have you:

- [✓] Filled in the form completely?
- [✓] Paid or included the application fee? — ⚠ Most applications require a fee to be paid. Contact Council to determine the appropriate fee.
- [✓] Provided all necessary supporting information and documents?
  - [✓] A full, current copy of title information for each individual parcel of land forming the subject site
  - [✓] A plan of existing conditions.
  - [✓] Plans showing the layout and details of the proposal
  - [✓] Any information required by the planning scheme, requested by council or outlined in a council planning permit checklist.
  - [✓] If required, a description of the likely effect of the proposal (eg traffic, noise, environmental impacts).
  - [✓] If applicable, a current Metropolitan Planning Levy certificate (a levy certificate expires 90 days after the day on which it is issued by the State Revenue Office and then cannot be used). Failure to comply means the application is void.

- [✓] Completed the relevant Council planning permit checklist?
- [✓] Signed the declaration (section 7)?

Lodgement

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

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

Contact information:

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

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

Print Form

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

Save Form:

Save Form To Your Computer

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

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The Victorian Government acknowledges the Traditional Owners of Victoria and pays respects to their ongoing connection to their Country, History and Culture. The Victorian Government extends this respect to their Elders, past, present and emerging.

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

VOLUME 09701 FOLIO 210

Security no : 124138147208U
Produced 01/09/2026 02:22 PM

LAND DESCRIPTION

Lot 35 on Plan of Subdivision 202867W.
PARENT TITLE Volume 09596 Folio 024

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
[redacted]
BA672350P 24/07/2026

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE BA672351M 24/07/2026
PERMANENT CUSTODIANS LTD

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

DIAGRAM LOCATION

SEE LP202867W FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NUMBER		STATUS	DATE
BA670106M (E)	CONV PCT & NOM ECT TO LC	Completed	24/07/2026
BA672350P (E)	TRANSFER	Registered	24/07/2026
BA672351M (E)	MORTGAGE	Registered	24/07/2026

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

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

Street Address: 186 GREENVALE DRIVE GREENVALE VIC 3059

ADMINISTRATIVE NOTICES

NIL

eCT Control 18478R FIRST LEGAL
Effective from 24/07/2026

DOCUMENT END

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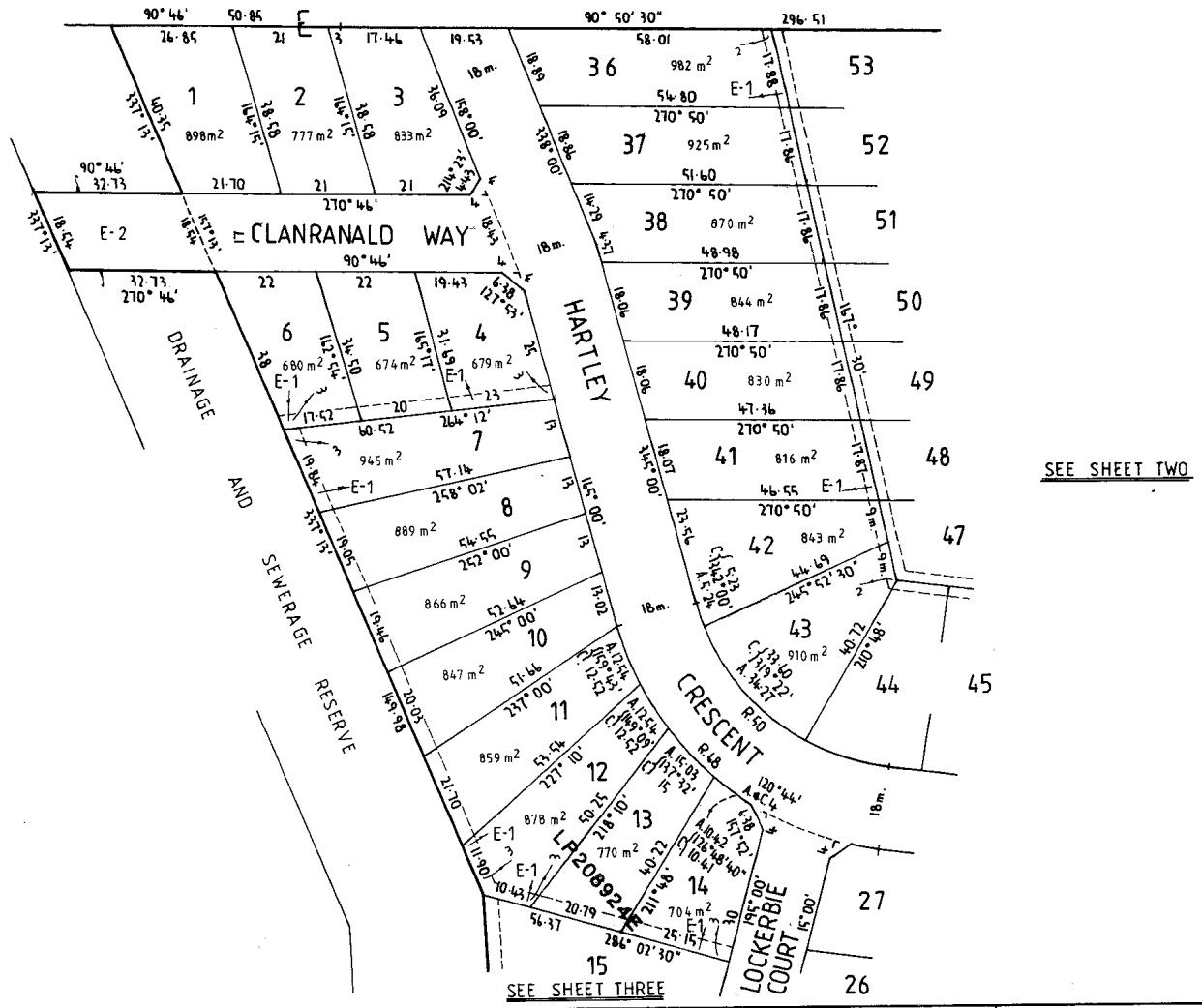

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LP202867W
EDITION 2

~~PARISH/TOWNSHIP~~/CHART 15

NOTATIONS

LAND SUBJECT TO EASEMENT

E-3 DRAINAGE AND SEWERAGE. VIDE C/E J 513724.
E-2 & E-3 DRAINAGE AND SEWERAGE. VIDE C/E J 744179.

LAND APPROPRIATED OR SET APART

E-1 DRAINAGE AND SEWERAGE

ROADS SHOWN WITHIN THICK LINES FOR WAY, DRAINAGE, SEWERAGE AND SUPPLY OF WATER, GAS, ELECTRICITY AND TELEPHONE.

TO BE COMPLETED WHERE APPLICABLE
THIS SURVEY HAS BEEN CONNECTED TO PERMANENT MARKS NOS:
IN PROCLAIMED SURVEY AREA NO. 74

THE LAND TO BE SUBDIVIDED IS SHOWN ENCLOSED BY THICK LINES
TITLE REF: Vol. 9596 Fol. 024
LAST PLAN REF: LP 202866Y (LOT 1)

CERTIFICATION BY SURVEYOR

CERTIFICATE OF MUNICIPAL CLERK

MUNICIPALITY

COUNCIL REF.

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LIST OF MODIFICATIONS

LAND	MODIFICATION	DEALING No:	A R T	NEW EDN.
LOT 90	SUBDIVISION	PS 348557		2

PLAN OF SUBDIVISION

COUNTY BOURKE
PARISH YUROKE
CROWN PORTION E (PART)
SECTION 3

NUMBER OF SHEETS IN PLAN : 3
NUMBER OF THIS SHEET : 1

AMENDMENTS

202867W

PLAN APPROVED
AT
ON 19.9.86

(ASSISTANT) REGISTRAR OF TITLES

SCALE 0 10 20 30 40 LENGTHS ARE IN METRES

ORIGINAL SCALE 1:800 SHEET SIZE A2

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VICTORIA

NEIL A. WEBSTER AND ASSOCIATES
7 KENT-HUGHES ROAD ELTHAM 3095
439 4222

SURVEYORS REF.
1960A
'New Horizons'
Stage 12

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150mm

ONLY CERTIFICATE A OR CERTIFICATE B TO BE COMPLETED
* DELETE WORDS NOT APPLICABLE

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PLAN OF SUBDIVISION

COUNTY BOURKE
PARISH YUROKE
CROWN PORTION E (PART)
SECTION 3

NUMBER OF SHEETS IN PLAN : 3
NUMBER OF THIS SHEET : 2
SCALE 1:800
LENGTHS ARE IN METRES
ORIGINAL SHEET SIZE A2

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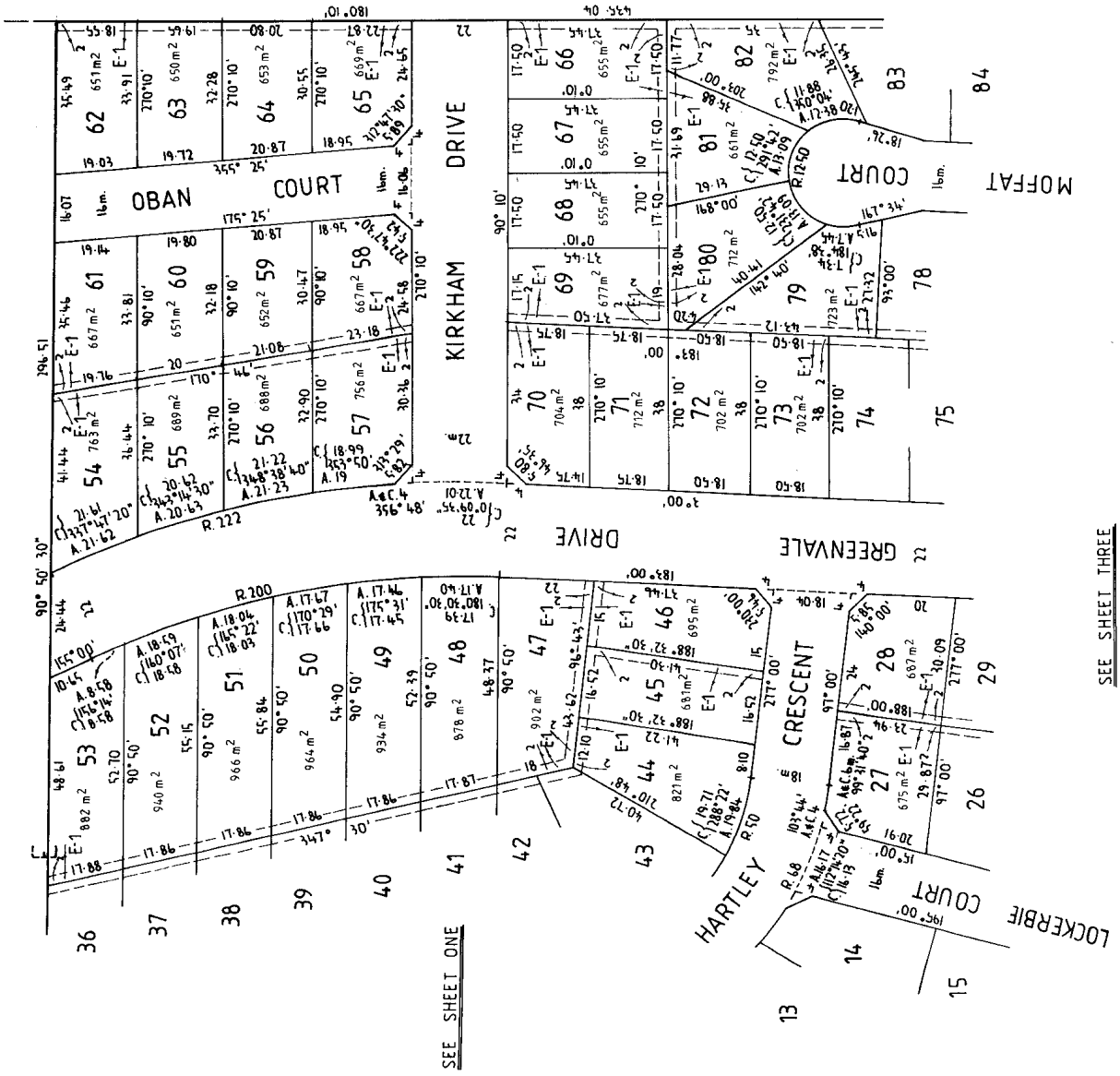
VICTORIA

CONTINUATION SHEET



SIGNATURE OF SURVEYOR
SIGNATURE OF MUNICIPAL CLERK
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SURVEYORS REF. 1960 A 'New Horizons' Stage 12

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439 4222

APPROX. TRUE NORTH

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PLAN OF SUBDIVISION

COUNTY BOURKE
PARISH YUROKE
CROWN PORTION E (PART)
SECTION 3

NUMBER OF SHEETS IN PLAN : 3
NUMBER OF THIS SHEET : 3

SCALE 1:800
LENGTHS ARE IN METRES
ORIGINAL SHEET SIZE A2

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VICTORIA

CONTINUATION SHEET

SEE SHEET TWO

SEE SHEET ONE

MOFFAT COURT

LOCKERBIE COURT

GREENVALE DRIVE

ABERDEEN AVENUE

SEWERAGE RESERVE

DRAINAGE AND SEWERAGE RESERVE

DRAINAGE AND

ROAD

APPROX TRUE NORTH

SIGNATURE OF SURVEYOR

SIGNATURE OF MUNICIPAL CLERK

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SURVEYORS REF
1960A
'New Horizons'
Stage 12

NEIL A WEBSTER AND ASSOCIATES
7 KENT-HUGHES ROAD ELTHAM 3095
439 4222

202867

[redacted]

26 October 2026

Statutory Planning
Hume City Council
PO Box 119
Dallas VIC 3047

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Dear Fearghal,

186 GREENVALE DRIVE, GREENVALE
PLANNING PERMIT APPLICATION FOR THE CONSTRUCTION OF 6 DWELLINGS

Please find enclosed, on behalf of our client, documentation in relation to the Request for Further Information letter for planning application P27582 at 186 Greenvale Drive, Greenvale.

PROVIDED DOCUMENTS:

- A set of amended architectural town planning drawings, incorporating the requested additional information, prepared by Arkham Design;
- Amended Landscape Plan and Tree Canopy Plan prepared by Bradbury Culina;
- Updated Planning Report;
- Swept Path Assessment prepared by Quantum Engineering

RFI RESPONSE:

The following amendments have been made in response to the RFI letter dated 28 September 2026:

1. A 5 x 7 metre passing area has been provided at the entrance of the accessway.
2. A swept path analysis, prepare by [redacted] has been provided. This has resulted in wider garage doors to ensure the vehicle movement works as requested by council.
3. Attempts to receive written advice from Council's Garbage Service has been unsuccessful due to strikes. As discussed on the phone, this item has not been addressed for now and can be a condition on a future planning permit.
4. The dashed blue lines on the plans are existing underground council stormwater pipes as per the enclosed copy of the Legal Point of Stormwater Discharge. This has been noted on the plans for clarification.

We trust the enclosed information is satisfactory to the Council. We look forward to your favourable consideration of the application. If you require any further information, please do not hesitate to contact our office.

Regards,
[redacted]

[redacted]

[redacted]

TOWN PLANNING REPORT

PROPOSED 6 TOWNHOUSE DEVELOPMENT
186 GREENVALE DRIVE, GREENVALE

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PREPARED FOR [redacted]

REVISION – B – RFI RESPONSE
DATE – 20.11.26

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5 CLAUSE 55 ASSESSMENT

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APPENDIX A BLUEFACTOR REPORT

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1 INTRODUCTION

This report has been prepared on behalf of [redacted] in support of an application for a planning permit for the construction of three triple storey townhouses under the Low Rise and Townhouse Code.

The key purpose of this report is to provide:

- A written neighbourhood and site description and design response pursuant to Clause 55.01 of the City of Hume Planning Scheme.
- An assessment of the proposal against relevant Planning Policies and controls contained within the City of Hume Planning Scheme.
- An assessment of the proposal against the objectives and standards of Clause 55 of the City of Hume Scheme.

This report should be read in conjunction with the architectural plans prepared by [redacted] and other supporting documentation submitted with the application.

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2 SITE AND SURROUNDS

2.1 THE SUBJECT SITE

The subject site forms a generally rectangular parcel of land (with a curved frontage), on the west side of Greenvale Drive approximately halfway between Kirkham Drive and Barrymore Road. (Refer to Figure 1 – Survey Snippet below).



[FIGURE 1 – SURVEY SNIPPET]

The site has a 28.85m wide curved frontage facing Greenvale Drive and a 45.92m wide side interface with the Greenvale Drive Linear Trail (Reserve). The overall size of the site is 1213 square metres.

The topography of the land is characterised downward slope of approximately 2.4m from north to south. A 3m wide easement exists along the southern boundary and a 2m wide easement along the western boundary. No assets exist in the southern easement. A drainage pipe exists in the western easement.

The site is vacant.

A footpath and nature strip exists to the frontage of the site and several large trees are located in the middle-rear of the site.

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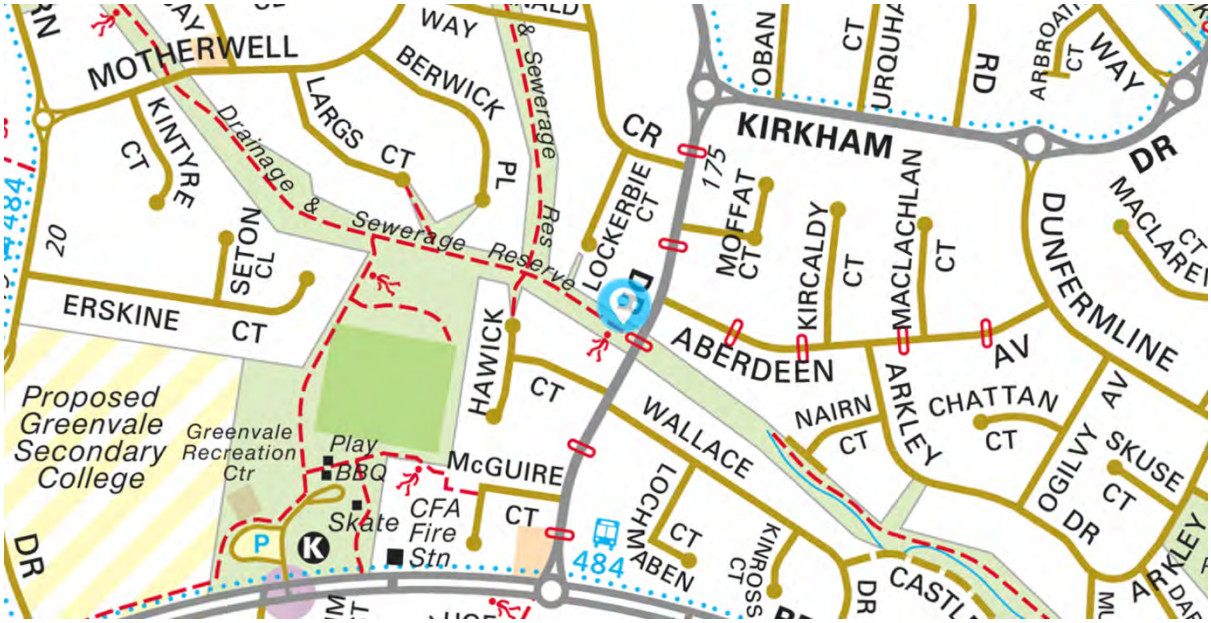
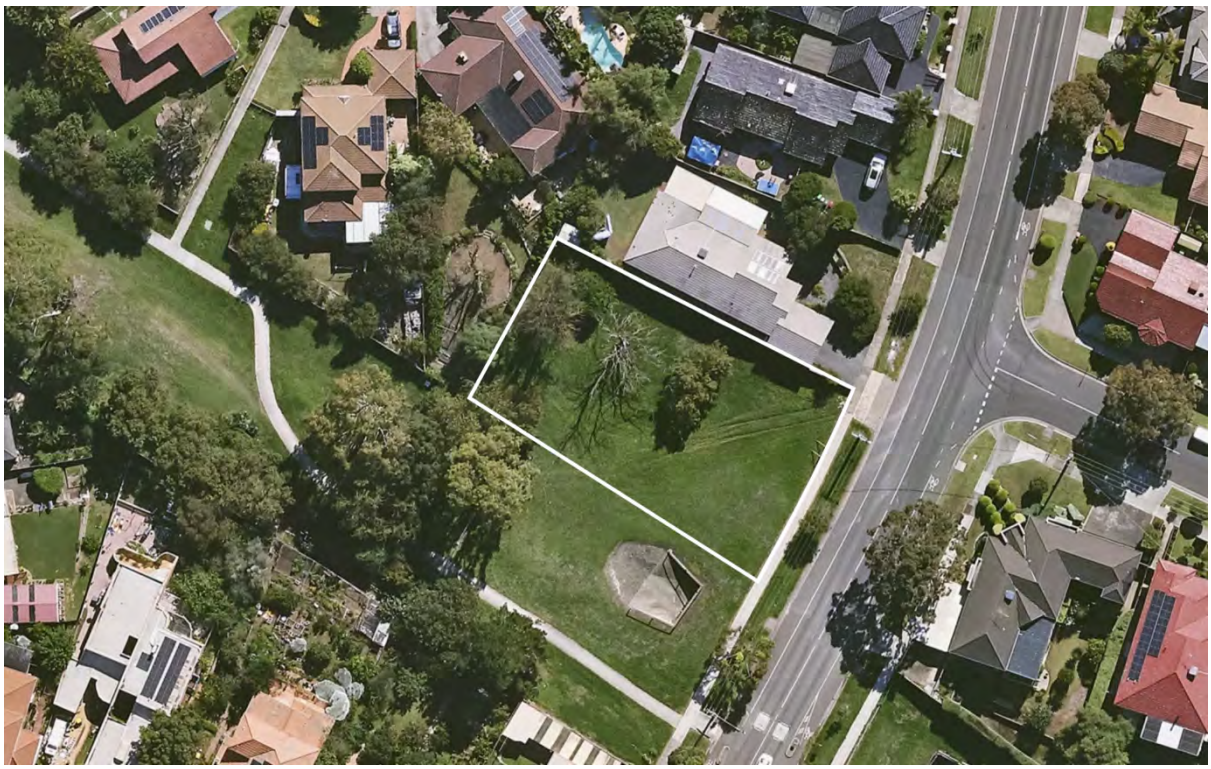


[FIGURE 2 – LOCALITY PLAN]



[FIGURE 3 – AERIAL PHOTO]

A concrete crossover exists to the north-east of the site.

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[FIGURE 4 – FRONTAGE VIEW]

2.2 THE SURROUNDS

The subject site is located in a residential neighbourhood between Kirkham Drive and Barrymore Road, but in close proximity to a variety of convenient amenities including Mickleham Road, Greenvale Village Shopping Centre, Greenvale Secondary College, Greenvale Recreation Centre, Greenvale Primary School, St Carlo Boromeo Catholic Primary School, Greenvale Reservoir and Woodlands Historic Park.

Housing stock in the area can be generally categorised as a mix of older medium to large dwellings on medium lots of land and infill townhouse / unit development. Design elements and materiality vary greatly, however face brick, render and tiled pitched roofs are common. Single and double storey dwellings are equally evident in the immediate area. Unit developments tend to be more modern in nature.

Surrounding infill townhouse development includes:

- 8 Aberdeen Avenue
- 10 Aberdeen Avenue
- 199 Greenvale Drive
- 172 Greenvale Drive

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Front setbacks are generally consistent. Garden settings are generally inconsistent, with a mix of heavily concreted front setbacks and simple landscaped settings (typically lawn and shrubs).

Greenvale Drive is a local residential street that begins at Barrymore Road to the south and curves in a general north-west direction to end at Mickleham Road, adjacent Greenvale Village Shopping Centre. One lane of traffic runs in each direction with a footpath on both sides. A nature strip exists on both sides of the street. Nature strip tree spread is inconsistent across the street.

Buses do not travel along Greenvale Drive adjacent the site, however Bus Route 484 can be accessed from Barrymore Road and Kirkham Drive, in close proximity to the subject site. Bus Route 484 connects the subject site to Roxburgh Park Train Station, Broadmeadows Shopping Centre and Broadmeadows Train Station amongst others.

A key feature of this site is its proximity to a large number of local facilities/ amenities, including:

- Greenvale Secondary College
- Greenvale Primary School
- Greenvale Recreation Centre
- Carlo Boromeo Catholic Primary School
- Bradford Avenue Reserve
- Greenvale Village Shopping Centre
- Greenvale Reservoir
- Woodland Historic Parkland
- Greenvale Reserve / Tennis
- Bus Route 484 – Roxburgh Park Station, Broadmeadows Station, Broadmeadows Shopping Centre.

Given the excellent access to a variety of recreational, educational, shopping and public transport facilities the surrounding area is undergoing a rise of respectful residential development.



[FIGURE 5 – CADASTRAL MAP]

The interfaces of the site can be described as follows:

Direction	Address/s	Interface Description
North	184 Greenvale Drive	Residential – Single Storey Brick Dwelling – Tile Roof
South	Greenvale Drain Reserve / Rear of Properties on Hawick Court	Drain Reserve – Rear of 1-5 Hawick Court Across the Reserve
East	Street Interface 2 Aberdeen Avenue	Street interface – 2 Aberdeen Across from Subject Property – Single Storey Brick Dwelling
West	11 Lockerbie Court	Residential – SPOS area of 11 Lockerbie Court

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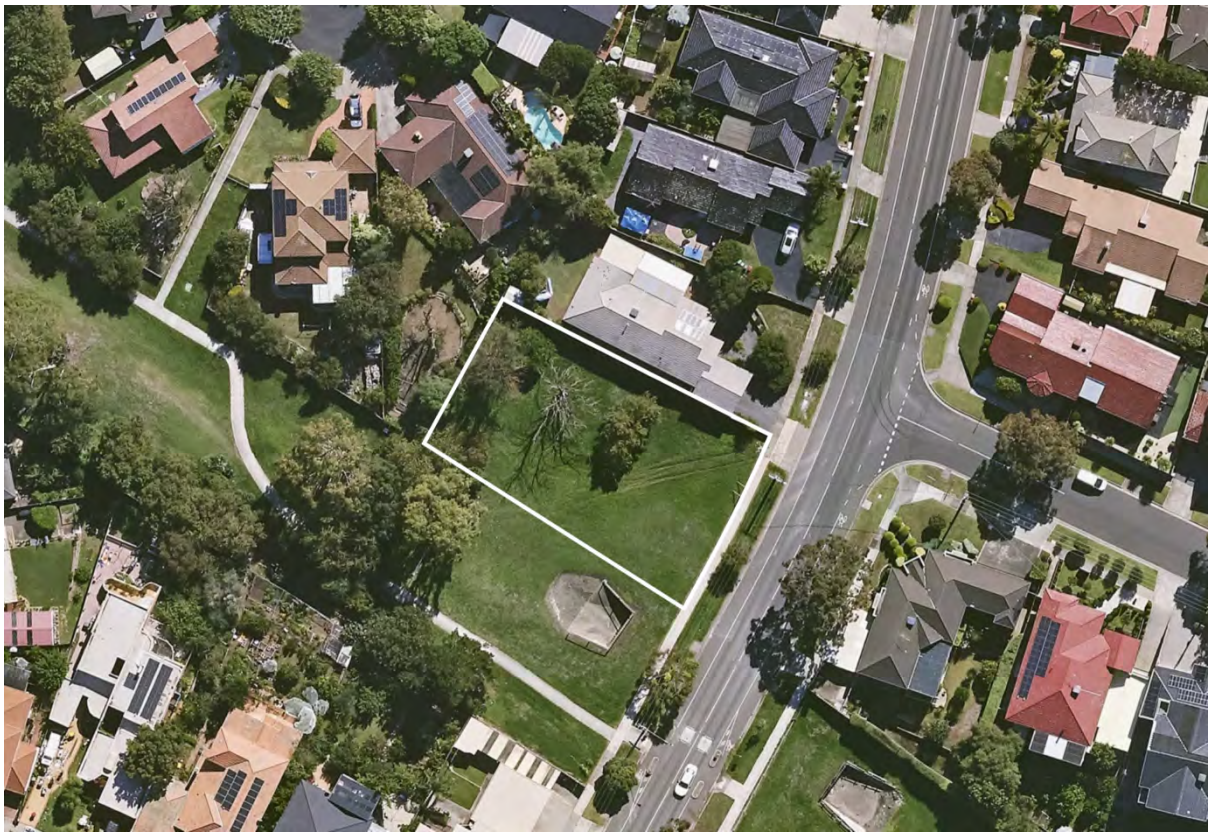
Surrounding Area:

The aerial photos below show the subject site and surrounding context.



[FIGURE 6 – Satellite Image (Wide) – Landchecker]



[FIGURE 7 – Satellite Image – Landchecker]

2.3 OPPORTUNITIES

The key opportunities for a multi-dwelling development are identified as follows:

- The site is well located in an established residential area within close proximity to major roads including Mickleham Road and Somerton Road.
- The site is also in close proximity to a variety of commercial, open space and education facilities.
- Infill development, of the nature proposed, provides an important housing response with regard to affordability and diversity.
- The site is not affected by specific neighbourhood character or heritage overlays allowing greater opportunity for a range of architectural styles as well as building typologies.
- The site has an existing context that provides an opportunity to develop the site in a meaningful way while maintaining the existing site coverage.
- The location and orientation of the site means there are minimal off-site amenity constraints in terms of overlooking and overshadowing leading to a greater flexibility for built form and balcony / window placement.

2.4 CONSTRAINTS

The development constraints for the site are identified as follows:

- The secluded private open spaces of the abutting dwellings need to be considered and protected in terms of impacts from overshadowing and overlooking.
- Adjoining windows to the north to be protected from overlooking within the context of Clause 55 requirements.
- Vehicular entry and exit to the site will need to be functional well to ensure practical use of vehicles for residents.
- Habitable windows to the adjoining dwellings will need to be considered with regards to solar access.

2.5 DESIGN RESPONSE

In response to the site analysis assessment and identification of opportunities and constraints, the following criteria have guided the design response:

- Make use of the current built form / site coverage to maximise use of the site and integrate 6 well considered triple storey townhouses.
- Provide thoughtfully designed townhouses and provide functional and practical internal layouts with good connections between internal space and external spaces.
- Ensure secluded private open spaces comply with Clause 55 requirements and are functional.
- Provide adequate (in accordance with the requirements of Clause 52.06) parking facilities to ensure the development functions at a high level.
- Ensure internal spaces are functional and practical while remaining compact and low maintenance.
- Minimise off-site amenity impacts in terms of overlooking, overshadowing and visual bulk to adjoining properties.
- Incorporate sustainable features such as water tanks with sanitary flushing and electric pump hot water systems.

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3 THE PROPOSAL

The proposal involves the removal of 3 x canopy trees pursuant to Clause 52.37 and construction of 6 x attached triple storey townhouses (with semi-basement garages).

The proposed layout includes 6 triple storey townhouses in a stacked configuration with TH01 facing Greenvale Drive. A proposed driveway is located on the southern side of the land, providing access to semi-basement garages. Each garage provides space for 2 vehicles, laundry, water tank and storage. At ground level, pedestrian access is provided on the north side with a private pathway leading to covered porch structures to each townhouse. Internally, at ground level, each townhouse is provided with a bedroom, kitchen and open plan living leading to a balcony.

At first level, each townhouse is provided with 3 bedrooms and bathroom facilities.

Externally, the development is proposed with a modern design incorporating large windows, pitched gable roof features and shroud elements. Materials include recycled-look face bricks, vertical cladding, render and aluminium feature elements.

All townhouses are provided with 2 parking spaces, in excess of the requirements of Clause 52.06.

All balconies are a minimum 11.6sqm with a 2.0m depth.

The proposed front setback is 6.046m.

The proposal includes 55.5% site coverage, 44.1% permeability. 35% Garden Area required – 35.0% is provided. The maximum overall building height is approximately 11.67m above natural ground level.

Full details of the proposed are shown on the application plans provided.

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4 PLANNING FRAMEWORK

4.1 PLANNING POLICY FRAMEWORK

The Hume Planning Policy Framework (Clause 10) provide a range of guiding principles on areas of planning ranging from broad Settlement issues to Built Environment and Neighbourhood Character.

The key elements of the PPF relevant to this proposal include:

- Clause 11 Settlement
- Clause 15 Built Environment and Heritage
- Clause 16 Housing

The main thrust of these policies as they relate to this proposal can be summarised as follows:

- Clause 11 relates to settlement and requires planning to contribute to, amongst others, 'diversity of choice', 'a high standard of urban design and amenity' and 'accessibility'.
- Clause 11 also seeks "To facilitate sustainable development that takes full advantage of existing settlement patterns, and investment in transport, utility, social, community and commercial infrastructure and services."
- Clause 11.01-1R relates to settlement in Metropolitan Melbourne and references objectives from Plan Melbourne 2017-2050: Metropolitan Planning Strategy. Objectives include maintaining "a permanent urban growth boundary" to "create a more consolidated, sustainable city", "develop the Suburban Rail Loop", "develop a network of activity centres linked by transport" and "create mixed use neighbourhoods" that "offer more choice in housing, create jobs and opportunities for local businesses and deliver better access to services and facilities."
- Clause 15.01 contains policies with regard to 'urban design' and seeks to achieve "urban environments that are safe, healthy, functional and enjoyable and that contribute to a sense of place and cultural identity."
- Other urban design strategies under Clause 15.01-2S include minimising "the detrimental impact of development on neighbouring properties, the public realm and the natural environment.", "ensure buildings and their interface with the public realm support personal safety, perceptions of safety and property security" and "encourage water efficiency and the use of rainwater, stormwater and recycled water."
- Clause 16 states that the planning process should "ensure the long term sustainability of new housing, including access to services, walkability to activity centres, public transport, schools and open space."
- Clause 16.01-1R provides strategies for housing supply in Metropolitan Melbourne, including facilitating increased housing in "established area close to existing services, jobs and public transport."

Summary:
Overall, the planning policy content supports additional housing within established areas proximate to a wide range of services and facilities, and a variety of housing styles to cater for changing household sizes and structure. Where new development occurs, it should respond to and enhance the quality and style of surrounding development.

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4.3 ZONING AND OVERLAY CONTROLS

4.3.1 – Zoning

The site is located in the General Residential Zone – Schedule 1 (GRZ1). Refer to Figure 8 below – Zoning & Overlay Map.

The purpose of GRZ is:

- 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.



[FIGURE 8 – ZONING AND OVERLAY MAP]

Under the General Residential Zone, a permit is required to construct two or more dwellings on a lot.

Schedule 1 to the General Residential Zone does not vary any Standards of Clause 55.

4.3.2 – Overlays

The land does not have any overlays.

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4.4 PARTICULAR PROVISIONS

4.4.1 – Clause 52.06 Car Parking

These provisions apply to:

- A new use.
- An increase in floor area, or increase in the number of patrons, seats, practitioners, residents or staff of an existing use.

Relevant to this application, the clause states that prior to a new use commencing or a new building being occupied, the car parking spaces required under Clause 52.06-5 must be provided on the land or as approved under Clause 52.06-3 to the satisfaction of the responsible authority. A permit can be granted to reduce this requirement.

Clause 52.06-5 provides the number of car parking spaces required for a dwelling. Specifically:

Land Use	Measure	Category 1 (Minimum Requirement)	Category 2 (Minimum Requirement)	Category 3 (Minimum and Maximum Requirement)	Category 4 (Maximum Requirement)
Dwelling	To each dwelling	1.2	1	0 – minimum 2 - maximum	2

The site is located in a Category 1 Zone. The proposal seeks to have a total of 6 dwellings. As a result, this generates a minimum statutory parking requirement of 7.2 on site car spaces. The proposal provides 2 parking spaces per dwelling (12 total) and is therefore in accordance with the requirements of Clause 52.06.



[FIGURE 9 – CAR PARKING REQUIREMENTS MAP]

4.4.2 – Clause 55 Two or More Dwellings on a Lot and Residential Buildings

An assessment against the objectives and standards of Clause 55 has been undertaken and is included in Section 5 of this report. The assessment demonstrates a complete compliance with the objectives and standards of Clause 55.

4.4.3 – Clause 65 Decision Guidelines

Clause 65 sets out decision guidelines that must be considered by the Responsible Authority before deciding on an application or approval of a plan.

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5 CLAUSE 55 ASSESSMENT

STANDARD	IS STANDARD FULLY MET?	DOES AN OBJECTOR HAVE RIGHT OF APPEAL?	COMMENTS	EXPLANATION WHERE STANDARD NOT MET
NEIGHBOURHOOD CHARACTER				
Standard B2-1 Street Setback (Clause 55.02-1) Walls of buildings are set back from streets: • At least the distance specified in a schedule to the zone if the distance specified in the schedule is less than the distance specified in Table B2-1; or • If no distance is specified in a schedule to the zone, the distance specified in Table B2-1. 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.	YES	YES, IF STANDARD NOT MET	A minimum 6.207 metre front setback is provided to the proposed development. This accords with Table B2-1.	
	NO	NO, IF STANDARD MET		
Standard B2-2 Building Height (Clause 55.02-2) The maximum building height does 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 does 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 does not exceed 10 metres.	YES	YES, IF STANDARD NOT MET	The General Residential Zone (GRZ) requires a maximum 11m building height and no more than three storeys for this property. A building may exceed the maximum building height by up to 1 metre if the slope of the natural ground level, measured at any cross section of the site of the building wider than 8 metres, is greater than 2.5 degrees.	
	NO	NO, IF STANDARD MET	At the location of TH06 the land has a 7.7 degree slope across an 8m wide cross-section – this is demonstrated on the elevation (West Elevation) drawings. The slope exceeds 2.5 degrees, therefore the allowable maximum height allowed by this Standard is 12m. The maximum proposed building height is 11.52m, as reflected on the "South Elevation – Proposed" on Sheet TP-07 of the Architectural drawings.	

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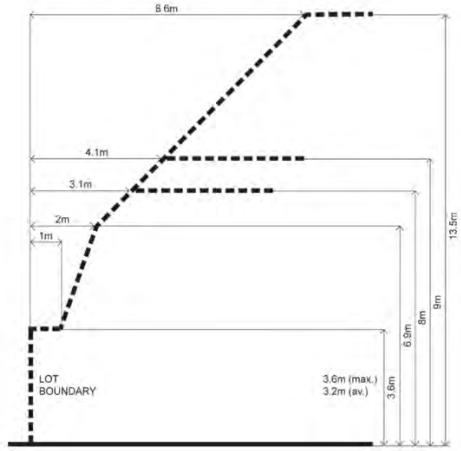
Standard B2-3 Side and Rear Setbacks (Clause 55.02-3) A new building not on or within 200mm of a boundary is set back from side or rear boundaries in accordance with either B2-3.1 or B2-3.2. Standard B2-3 is met if the building is set back in accordance with either B2-3.1 or B2-3.2, rather than needing to comply with both of these provisions: • B2-3.1: The building is set back at least 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. • B2-3.2: If the boundary is not to the south of the building, the building is set back at least 3 metres up to a height not exceeding 11 metres and at least 4.5 metres for a height over 11 metres. If the boundary is to the south of the building, the building is set back at least 6 metres up to a height not exceeding 11 metres and at least 9 metres for a height over 11 metres between south 30 degrees west to south 30 degrees east. Sunblinds, verandahs, porches, eaves, facias, 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 side and rear setbacks. Landings that have 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 side and rear setbacks.	YES	YES, IF STANDARD NOT MET	All setbacks are compliant with Standard B2-3. Setback profiles (to comply with B2-3.1) are shown on all elevations.  	
	NO	NO, IF STANDARD MET		

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<table>
<tr>
<td>Standard B2-4 Walls on Boundaries (Clause 55.02-4)

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 a lot does not abut the boundary for a length that exceeds the greater of the following distances:

• 10 metres plus 25 per cent of the remaining length of the boundary of an adjoining lot, or
• The length of existing or simultaneously constructed walls or carports abutting the boundary on an abutting lot.

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 does 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.</td>
<td>YES

NO</td>
<td>YES, IF STANDARD NOT MET

NO, IF STANDARD MET</td>
<td>There is no proposed wall on boundary</td>
<td></td>
</tr>
<tr>
<td>Standard B2-5 Site Coverage (Clause 55.2-5)

The site area covered by buildings does 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, the percentage specified in Table B2-5.

If the maximum site coverage is specified in a schedule to a zone, it must be greater than the percentage specified in Table B2-5.

<table><tr><th>Zone</th><th>Area</th></tr><tr><td>Neighbourhood Residential Zone</td><td>60 per cent</td></tr><tr><td>Township Zone</td><td></td></tr><tr><td>General Residential Zone</td><td>65 per cent</td></tr></table></td>
<td>YES

NO</td>
<td>YES, IF STANDARD NOT MET

NO, IF STANDARD MET</td>
<td>65% site coverage is permitted under the General Residential Zone (GRZ)

Total site coverage provided = 673.30 m2 (55.5%)</td>
<td></td>
</tr>
</table>

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Residential Growth Zone Mixed Use Zone Housing Choice and Transport Zone	70 per cent				
Standard B2-6 Access (Clause 55.02-6) The width of accessways or car spaces (other than to a rear lane) does not exceed: • 33 per cent of the street frontage; or • 40 per cent of the street frontage if the width of the street frontage is less than 20 metres. The number of access points to a road in a Transport Zone 2 or a Transport Zone 3 is not increased. The location of a vehicle crossover or accessway does not encroach the tree protection zone of an existing tree, that is proposed to be retained in a road by more than 10 per cent.		YES	YES, IF STANDARD NOT MET	Width of accessways or car spaces must not exceed 30% of street frontage. Street frontage = 28.84m Accessway widths = 3.01m = 10.4% of site width	
		NO	NO, IF STANDARD MET		
Standard B2-7 Tree Canopy (Clause 55.02-7) Provide a minimum canopy cover as specified in Table B2-7.1. Table B2-7.1 Canopy cover Site area: 1000 square metres or less — Canopy cover: 10% of site area More than 1000 square metres — 20% of site area		YES	YES, IF STANDARD NOT MET	Total Site Area = 1213 sqm 20% Canopy cover required. Please refer to Tree Canopy Plan and Landscape Plan by Bradbury Culina for compliance details.	
		NO	NO, IF STANDARD MET		

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<table>
<tr><td>Standard B2-8 Front Fence (Clause 55.02-8)

A front fence within 3 metres of a street is:

• 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 B2-8.

Table B2-8 Maximum front fence height
<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>YES</td><td>YES, IF STANDARD NOT MET</td><td>The front fence must not exceed 1.5m as the Schedule to the Zone does not specify a variation.

No front fence exists or is proposed.</td><td></td></tr>
<tr><td></td><td>NO</td><td>NO, IF STANDARD MET</td><td></td><td></td></tr>
<tr><td colspan="5">LIVEABILITY</td></tr>
<tr><td>Standard B3-1 Dwelling Diversity (Clause 55.03-1)

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

Developments include at least:

• One dwelling that contains a kitchen, bath or shower, bedroom and a toilet and wash basin at ground floor level for every 10 dwellings.
• One dwelling that includes no more and no less than 2 bedrooms for every 10 dwellings.
• One dwelling that includes no more and no less than 3 bedrooms for every 10 dwellings.</td><td>YES</td><td>NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT</td><td>Standard not applicable – development proposes less than 10 dwellings</td><td></td></tr>
<tr><td></td><td>NO</td><td></td><td></td><td></td></tr>
</table>

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Standard B3 -2 Parking Locations (Clause 55.03-2) Habitable room windows with sill heights of less than 3 metres above ground level are setback from accessways and car parks by at least: • 1.5 metres; or • If there is a solid fence with a height of at least 1.5 metres between the accessway or car park and the window, 1 metre; or • 1 metre where window sills are at least 1.5 metres above ground level. This standard is met if an accessway or relevant car parking space is used exclusively by the resident of the building with the habitable room.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	No habitable windows interact with the proposed accessways or parking areas.	
Standard B3-3 Street Integration (Clause 55.03-3) Where a development fronts a street, a vehicle accessway or abuts public open space: • Passive surveillance is provided by a direct view from a balcony or a habitable room window to each street, vehicle accessway and public open space. • The total cumulative width of all site services to be located within 3 metres of a street, do not take up more than 20 per cent of the width of the frontage and are screened from view from the street or located behind a fence. Screens or fences are to provide no more than 25 per cent transparency. Lighting is provided to all external accessways and paths. Mailboxes are provided for each dwelling and can be communally located.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	The street is visible from TH01's Bed 01 and living and dining. The accessway is visible from the balconies of all six townhouses. No site services are visible from the street. Lighting is provided to accessways and external concreted areas. Refer to plans. Mailboxes are provided within the street facing boundary.	
Standard B3-4 Entry (Clause 55.03-4) Dwellings (other than a dwelling in or forming part of an apartment development) and residential buildings Each dwelling and each residential building has a ground level entry door that: • Has a direct line of sight from a street, accessway or shared walkway. • Is not accessed through a garage. • Has an external covered area of at least 1.44 square metres with a minimum dimension of least 1.2 metres over the entry door.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	The entry door of TH01 has a clear view of the street. TH02-TH06 have a clear view of the accessway. All six townhouses are provided with covered porches that is minimum 1.20m wide / deep. TH01 = 3.26 m2 TH02-TH05 = 1.64 m2 TH06 = 1.92 m2	

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Standard B3-5 Private Open Space (Clause 55.03-5) A dwelling or residential building has private open space of an area and dimensions specified in a schedule to the zone. If no area or dimension is specified in a schedule to the zone, a dwelling or residential building has private open space with direct access from a living area, dining area or kitchen consisting of: • An area of 25 square metres of secluded private open space, with a minimum dimension of 3 metres width; or • A balcony with at least the area and dimensions specified in Table B3-5; or • An area on a podium or similar of at least 15 square metres, with a minimum dimension of 3 metres width; or • An area on a roof of at least 10 square metres, with a minimum dimension of 2 metres width. If the area and dimensions of the private open space or secluded private open space is specified in a schedule to the zone; • The area and dimensions specified in the schedule must be 25 square metres or less; and • The area and dimensions specified for a podium, balcony or an area on a roof must be less than the area and dimensions specified in this standard. If a cooling or heating unit is located in the secluded private open space or private open space the required area is increased by 1.5 square metres. Where ground level private open space is provided an area for clothes drying is provided.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	Each dwelling is provided with a Secluded Private Open Space area that complies with this Standard, with direct access from the living area. TH01 - 13.89 m2 balcony (@ 2.55m wide) TH02- TH06 - 11.60m2 balcony (@ 2.00m wide)	
Standard B3-6 Solar Access to Open Space (Clause 55.03-6) The southern boundary of secluded private open space is 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.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	SPOS is provided in the form of a balcony, to which this standard does not apply.	

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Standard B3-7 Functional Layout (Clause 55.03-7)

Bedrooms:

- Meet the minimum internal room dimensions specified in Table B3-7.1; and
- Provide an additional area of at least 0.8 square metres to accommodate a wardrobe.

Table B3-7.1 Bedroom dimensions

Bedroom type	Minimum width	Minimum depth
Main bedroom	3 metres	3.4 metres
All other bedrooms	3 metres	3 metres

Living areas (excluding dining and kitchen areas) meet the minimum internal room dimensions specified in Table B3-7.2.

Table B3-7.2 Living area dimensions

Dwelling type	Minimum width	Minimum area
Studio and 1 bedroom dwelling	3.3 metres	10 sqm
2 or more bedroom dwelling	3.6 metres	12 sqm

</td>
<td>YES

NO</td>
<td>NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT</td>
<td>All internal areas are compliant with this Standard.

All relevant rooms are dimensioned on the Architectural plans.</td>
<td></td>
</tr>
<tr>
<td>

Standard B3-8 Room Depth (Clause 55.03-8)

The depth of a single aspect habitable room does not exceed 2.5 times the ceiling height measured from the external surface of the habitable room window to the rear wall of the room.

The depth of a single aspect, open plan, habitable room may be increased to 9 metres if all the following requirements are met:

- The room combines the living area, dining area and kitchen; and
- The kitchen is located furthest from the window; and
- The ceiling height is at least 2.7 metres measured from finished floor level to finished ceiling level, this excludes where services are provided above the kitchen; and

</td>
<td>YES

NO</td>
<td>NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT</td>
<td>The following rooms are considered single aspect habitable rooms as defined by this standard.

TH01
- First Floor Study
- Bed 01, Bed 02, Bed 03, Bed 04

TH02
- Ground Living, Dining, Kitchen
- Bed 01, Bed 02, Bed 03, Bed 04

TH06
- Bed 02, Bed 03 and Bed 04

The single aspect Living / Dining and Kitchen spaces for</td>
<td></td>
</tr>
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• An overhang extends no more than 2m beyond the window of the single aspect habitable room. In Clause 55.03-8 a single aspect habitable room is a habitable room with windows on only one wall.			TH02-TH05 do not exceed 9m depth, have a minimum 2.7m ceiling height, the kitchen is located furthest from the window and overhang is 2m deep which is compliant with this Standard. None of these rooms exceed 2.5 times the ceiling height in depth. Refer to plans for all room sizes.	
Standard B3-9 Daylight to New Windows (Clause 55.03-9) **Dwelling (other than a dwelling in or forming part of an apartment development)** A window in an external wall of the building is provided to all habitable rooms. Habitable rooms in a dwelling have a window that faces: • 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.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	All habitable rooms are provided with a window. All new habitable room windows are provided with the minimum daylight required under this Standard. Refer to the plans.	
Standard B3-10 Natural Ventilation (Clause 55.03-10) **Dwelling (other than a dwelling in or forming part of an apartment development)** Dwellings have openable windows, doors or other ventilation devices in external walls of the building that provide: • A maximum breeze path through the dwelling of 18 metres. • A minimum breeze path through the dwelling of 5 metres. • Ventilation openings with approximately the same size. The breeze path is measured between the ventilation openings on different orientations of the dwelling.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	All breeze paths are shown on relevant plans.	

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Standard B3-11 Storage (Clause 55.03-11) **Dwelling (other than a dwelling in or forming part of an apartment development)** Each dwelling has exclusive access to at least 6 cubic metres of externally accessible storage space.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	Both dwellings are provided with a minimum 6.04 m3 storage area within the garage and is externally accessible.	
Standard B3-12 Accessibility for Apartment Developments (Clause 55.03-12) At least 50 per cent of dwellings in or forming part of an apartment development have: • A clear opening width of at least 850mm at the entrance to the dwelling and main bedroom. • A clear path with a minimum width of 1.2 metres that connects the dwelling entrance to the main bedroom, an adaptable bathroom and the living area. • A main bedroom with access to an adaptable bathroom. • At least one adaptable bathroom that meets all of the requirements of either Design A or Design B specified in Table B3-12.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	Not relevant to proposed development	
EXTERNAL AMENITY				
Standard B4-1 Daylight to Existing Windows (Clause 55.0-1) Buildings opposite an existing habitable room window 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 are 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.	YES NO	YES, IF STANDARD NOT MET NO, IF STANDARD MET	All existing habitable windows are provided with a light court in excess of the requirements of this Standard.	
Standard B4-2 Existing North-facing Windows (Clause 55.04-2) Where a north-facing habitable room window of a neighbouring dwelling or small second dwelling is within 3 metres of a boundary on an abutting lot:	YES	YES, IF STANDARD NOT MET	No north-facing windows are impacted by the proposed development.	

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• A new building is to be set back from the boundary by at least 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. This setback is to be provided for a distance of at least 3 metres from the edge of each side of the window. • For new buildings that meet the Standard B2-3.2 setback, the building is set back from the boundary by at least 6 metres up to a height not exceeding 11 metres and at least 9 metres for a height over 11 metres between south 30 degrees west to south 30 degrees east. This setback is to be provided for a distance of at least 3 metres from the edge of each side of the window. For this standard a north-facing window is a window with an axis perpendicular to its surface oriented from north 20 degrees west to north 30 degrees east.	NO	NO, IF STANDARD MET		
Standard B4-3 Overshadowing Secluded Open Space (Clause 55.04-3) The area of secluded private open space that is not overshadowed by the new development is greater than 50 per cent, or 25 square metres with a minimum dimension of 3 metres, whichever is the lesser area, for a minimum of five hours 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 will not be further reduced.	YES	YES, IF STANDARD NOT MET	The proposed development creates additional overshadowing to 11 Lockerbie Court at 9am of 43.11 m2 or 7.5%. 11 Lockerbie Court has 570.37 m2 of SPOS so the additional overshadowing is well within the parameters of this Standard.	
	NO	NO, IF STANDARD MET		
Standard B4-4 Overlooking (Clause 55.04-4) In Clause 55.04-4 a habitable room does not include a bedroom. A habitable room window, balcony, podium, terrace, deck or patio is 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 are 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.	YES	YES, IF STANDARD NOT MET	No habitable windows, as defined by this Standard, overlooking adjoining properties.	
A habitable room window, balcony, terrace, deck or patio that is located 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: • Is offset a minimum of 1.5 metres from the edge of one window to the edge of the other; or • Has sill heights of at least 1.7 metres above floor level; or • Has fixed, obscure glazing in any part of the window below 1.7 metre above floor level; or	NO	NO, IF STANDARD MET		

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• Has permanently fixed external screens to at least 1.7 metres above floor level and be no more than 25 per cent transparent; or • Has fixed elements that prevent the direct view, such as horizontal ledges or vertical fins. 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 are: • 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.				
Standard B4-5 Internal Views (Clause 55.04-5) In Clause 55.04-5 a habitable room does not include a bedroom. Within the development, a habitable room window, balcony, terrace, deck or patio that is located with a direct view into the secluded private open space of another dwelling: • Is offset a minimum of 1.5 metres from the edge of the secluded private open space; or • Has a sill height of at least 1.7 metres above floor level; or • Has a fixed, visually obscure balustrade to at least 1.7 metre above floor level; or • Has permanently fixed external screens to at least 1.7 metres above floor level; or. • Has fixed elements that prevent the direct view, such as horizontal ledges or vertical fins. Direct views are measured at a height of 1.7 metres above floor level and within: • A 45 degree horizontal angle from the edge of the new window or balcony.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	There are a no possible views into the private open space and habitable room windows of buildings within the development.	

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• A 45 degree angle in the downward direction. Screens provided for overlooking are no more than 25 per cent transparent. Screens may be openable provided that this does not allow direct views as specified in this standard.				
SUSTAINABILITY				
Standard B5-1 Permeability and Stormwater Management (Clause 55.05-1) The site area covered by the pervious surfaces is at least 20 percent of the site. The development includes a stormwater management system designed to: • Meet the best practice quantitative performance objectives for stormwater quality specified in the Urban stormwater management guidance (EPA Publication 1739.1, 2021) of: ○ Suspended solids 80% reduction in mean annual load. ○ Total phosphorus and Total Nitrogen 45% reduction in mean annual load. ○ Litter 70% reduction of mean annual load.	YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	- Permeability achieved is 44.2% - Water tanks are provided to all dwellings with sanitary flushing. Refer to STORM report included at the end of this report.	
Standard B5-2 Overshadowing Domestic Solar Energy Systems (Clause 55.05-2) Any part of a new building that will reduce the sunlight at any time between 9am and 4 pm on 22 September to an existing domestic solar energy system on the roof of a building on an adjoining lot be set back from the boundary to that lot by at least 1 metre at 3.6 metres above ground level, plus 0.3 metres for every metre of building height over 3.6 metres up to 6.9 metres, plus 1 metre for every metre of height over 6.9 metres. This standard applies to an existing building in a Township Zone, General Residential Zone or Neighbourhood Residential Zone. In Clause 55.05-2 domestic solar energy system means a domestic solar energy system that existed at the date the application was lodged.	YES NO	YES, IF STANDARD NOT MET NO, IF STANDARD MET	There are no adjoining Solar Energy Systems.	

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<table>
<tr>
<td>

Standard B5-3 Rooftop Solar Energy Generation Area (Clause 55.05-3)

In Clause 55.05-3 rooftop solar energy area means an area provided on the roof of a dwelling to enable the future installation of a solar energy system.

An area on the roof is capable of siting a rooftop solar energy area for each dwelling which:

- Has a minimum dimension of 1.7 metres.
- Has a minimum area in accordance with Table B5-3.
- Is oriented to the north, west or east.
- Is positioned on the top two thirds of a pitched roof.
- Can be a contiguous area or multiple smaller areas.
- Is free of obstructions on the roof of the dwelling within twice the height of each obstruction (H), measured horizontally (D) from the centre point of the base of the obstruction to the nearest point of the rooftop solar energy area.

Table B5-3 Minimum rooftop solar energy generation area

Number of bedrooms	Minimum roof area
1 bedroom dwelling	15 square metres
2 or 3 bedroom dwelling	26 square metres
4 or more bedroom dwelling	34 square metres

</td>
<td>YES

NO</td>
<td>NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT</td>
<td>Each proposed dwelling is provided with a solar generation area in excess of 34 square metres on the upper roof, facing north, east and west.

Refer to WSUD plan for further details.</td>
<td></td>
</tr>
<tr>
<td>

Standard B5-4 Solar Protection to New North-facing Windows (Clause 55.05-4)

North facing windows are shaded by eaves, fixed horizontal shading devices or fixed awnings with a minimum horizontal depth of 0.25 times the window height.

</td>
<td>YES

NO</td>
<td>NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT</td>
<td>All new north-facing windows have been provided with solar protection in the form of a fixed window shroud. Refer to plans and elevations for further details including window heights and depth of shrouds.</td>
<td></td>
</tr>
<tr>
<td>

Standard B5-5 Waste and Recycling (Clause 55.05-5)

Dwelling (other than a dwelling in or forming part of an apartment development)

The development includes an individual bin storage area for each dwelling, or a shared bin storage area for use by each dwelling, of at least the applicable area, depth and height specified in Table B5-5.1.

Table B5-5.1 Bin storage

Type of bin storage area	Minimum area	Minimum depth	Minimum height

</td>
<td>YES

NO</td>
<td>NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT</td>
<td>Individual bin storage for each dwelling is provided in compliance with Table B5-5.1.

Each dwelling will be provided with a pull out bin in the kitchen cabinetry in excess of the requirements of this Standard.</td>
<td></td>
</tr>
</table>

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	Individual bin storage area for a dwelling.	1.8 square metres	0.8 metre	1.8 metres		
	Shared bin storage area for 3 dwellings or less.	5.4 square metres	0.8 metre	1.8 metres		
	Shared bin storage area for 4 or more dwellings.	1 square metre per dwelling plus 4 square metres	0.8 metre	1.8 metres		
	If the development includes a shared bin storage area: • The shared bin storage area: ○ Is located within 40 metres of a kerbside collection point. ○ Includes a tap for bin washing. • There is a continuous path of travel free of steps and obstructions from dwellings to the bin storage area. Where access is provided for private bin collection on the land the design of access ways must allow the vehicle to enter and exit in a forward direction. Each dwelling includes an internal waste and recycling storage space of at least 0.07 cubic metres with a minimum depth of 250 millimetres.						
	Standard B5-6 Noise Impacts (Clause 55.06-6) Mechanical plant, including mechanical car storage and lift facilities are not located immediately adjacent to bedrooms of new or existing dwellings or small second dwellings, unless a solid barrier is in place to provide a line of sight barrier to transmission of noise and the location of all relevant bedrooms.				YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	No proposed mechanical plant is located immediately adjacent to bedrooms. The heating / cooling condenser units are shown on the roof plan as far away from bedrooms as possible and in practical central locations to avoid direct views from the street and neighbouring properties.
	Standard B5-7 Energy Efficiency for Apartment Developments (Clause 55.05-7) Dwellings in or forming part of an apartment development located in a climate zone identified in Table B5-7 do not exceed the maximum NatHERS annual cooling load.				YES NO	NO, IRRESPECTIVE OF WHETHER THE STANDARD IS MET OR NOT	Not applicable to development.
	NatHERS climate zone	**NatHERS maximum cooling load MJ/M² per annum**					
	Climate zone 21 Melbourne	30					

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Climate zone 22 East Sale	22				
Climate zone 27 Mildura	69				
Climate zone 60 Tullamarine	22				
Climate zone 62 Moorabbin	21				
Climate zone 63 Warrnambool	21				
Climate zone 64 Cape Otway	19				
Climate zone 66 Ballarat	23				

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6 CONCLUSION

The design response reflects a sound understanding of the site and its context. The proposal accords with the outcomes sought by the Hume Planning Scheme for the following reasons:

- It will contribute to the respectful increase in diversity of housing available in Greenvale.
- It advances key objectives and strategies contained in the PPF of the Hume Planning Scheme.
- It is designed to ensure that the amenity of nearby residents is not unreasonably affected.
- It provides a high level of amenity for future occupants of the development.
- It complies with the requirements of the Townhouse and Low-Rise Code.

Accordingly, the proposed development is considered to be entirely appropriate and worthy of support.

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APPENDIX A – STORM REPORT

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186GREENVALE

Nitrogen reduction target has been met, and a small low-risk project is deemed to comply. Higher risk projects need to meet all targets.

166% SCORE

Project details

Name	186GREENVALE
Project ID	AF02589C
Street address	186 Greenvale Dr, Greenvale VIC 3059, Australia
Municipality	Hume
Site area	1213 m^2
Planning Number	

Results

Item	Result	Target
Total suspended solids (%)	81%	>80%
Total phosphorus (%)	78%	>45%
Total nitrogen (%)	75%	>45%
Total gross pollutants (%)	99%	>70%
Mean annual runoff volume harvested or evapotranspired (%)	73%	>29%
Mean annual runoff volume infiltrated or filtered (%)	0%	>6%

For small low-risk sites, Total Nitrogen has been used as a proxy for other pollutants indicating compliance has been adequately met for many years. This has meant that if the Blue Factor score meets 100% based on Nitrogen, the Responsible Authority has the discretion to accept stormwater management design responses that do not meet all the individual pollutant load reduction targets on small low-risk sites.

Larger, high-risk projects, with roads, car parks or activities that may yield higher than typical pollutant loads, must meet all water quality targets fully. All projects should manage flow volume reductions through harvesting and evapotranspiration as well as infiltration to a level that is reasonably practicable.

Additional considerations

Flow and other pollutant load reductions should also be considered. The EPA Urban stormwater management guidelines (EPA - Publication 1739.1) are referenced in the VPPs as a policy document and support compliance with the General Environmental Duty.

You can use the guidelines to help minimise risks from urban stormwater so far as reasonably practicable (epa.vic.gov.au/about-epa/laws ew-laws/what-is-reasonablypracticable). Doing what is reasonably practicable means putting in proportionate controls to minimise the risk of harm to human health and the environment relative to the values being protected and risks presented by the site.

A completed small-scale low risk site with no public roads or external user parking areas will usually generate very little sediment, referred to as total suspended solids (TSS). It is common that the 80% TSS target will not easily be achieved for this type of site.

Other sites may generate significant total suspended solids (TSS) as well as litter, referred to as gross pollutants and should meet all targets.

The generation of sediment and litter during the construction phase is a significant problem and must be addressed effectively for all developments.

You should demonstrate what appropriate controls will be used to ensure the generation of litter and sediment is prevented and controlled during construction to minimise risk of harm.

Blue Factor is designed to support a range of developments of less than 10,000 square metres including small scale residential, apartment developments, small scale commercial and small public use developments which must meet planning requirements including stormwater management quality objectives in the EPA Urban stormwater management guidelines (EPA - Publication 1739.1) It is recommended that MUSIC is used for larger and more complex projects to demonstrate compliance.

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Configuration 1



TH01 ROOF Roof, 111.9m2



TH01 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2



TH01 Residential Townhouse, 4 bedroom(s)

Configuration 2



TH02 ROOF Roof, 114.2m2



TH02 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2



TH02 Residential Townhouse, 4 bedroom(s)

Configuration 3



TH03 ROOF Roof, 113.7m2



TH03 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2



TH03 Residential Townhouse, 4 bedroom(s)

Configuration 4



TH04 ROOF Roof, 111.2m2



TH04 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2



TH04 Residential Townhouse, 4 bedroom(s)

Configuration 5



TH05 ROOF Roof, 108.9m2



TH05 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2



TH05 Residential Townhouse, 4 bedroom(s)

Configuration 6



TH06 ROOF Roof, 116.4m2



TH06 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2



TH06 Residential Townhouse, 4 bedroom(s)

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Catchments



TH01 ROOF Roof, 111.9m2



TH02 ROOF Roof, 114.2m2



TH03 ROOF Roof, 113.7m2



TH04 ROOF Roof, 111.2m2



TH05 ROOF Roof, 108.9m2



TH06 ROOF Roof, 116.4m2



PERMEABLE CONCRETE Pervious (garden and lawn), 153.5m2



LAWN / GARDEN AREAS Pervious (garden and lawn), 383.2m2

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Treatments



TH01 TANK Rainwater Tank, Rainwater tank retention volume in kilolitres: 2 — **167%**



TH02 TANK Rainwater Tank, Rainwater tank retention volume in kilolitres: 2 — **166%**



TH03 TANK Rainwater Tank, Rainwater tank retention volume in kilolitres: 2 — **166%**



TH04 TANK Rainwater Tank, Rainwater tank retention volume in kilolitres: 2 — **167%**



TH05 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2

169%



TH06 TANK Rainwater Tank,
Rainwater tank retention volume in kilolitres: 2

164%

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Buildings & dwellings



TH01 Residential Townhouse, 4 bedroom(s)

Water sources	I want to use the average efficiency for a typical new dwelling or building
Basin taps - Primary water source	Mains water
Showers - Primary water source	Mains water
Clothes Washer - Primary water source	Rainwater
Toilets connected to mains water	0
Toilets connected to rainwater	4
Toilets connected to recycled water	0
Garden water use	Garden water demands are not in use



TH02 Residential Townhouse, 4 bedroom(s)

Water sources	I want to use the average efficiency for a typical new dwelling or building
Basin taps - Primary water source	Mains water
Showers - Primary water source	Mains water
Clothes Washer - Primary water source	Rainwater
Toilets connected to mains water	0
Toilets connected to rainwater	4
Toilets connected to recycled water	0
Garden water use	Garden water demands are not in use



TH03 Residential Townhouse, 4 bedroom(s)

Water sources	I want to use the average efficiency for a typical new dwelling or building
Basin taps - Primary water source	Mains water
Showers - Primary water source	Mains water
Clothes Washer - Primary water source	Rainwater
Toilets connected to mains water	0
Toilets connected to rainwater	4
Toilets connected to recycled water	0
Garden water use	Garden water demands are not in use



TH04 Residential Townhouse, 4 bedroom(s)

Water sources	I want to use the average efficiency for a typical new dwelling or building
Basin taps - Primary water source	Mains water
Showers - Primary water source	Mains water
Clothes Washer - Primary water source	Rainwater
Toilets connected to mains water	0
Toilets connected to rainwater	4
Toilets connected to recycled water	0
Garden water use	Garden water demands are not in use



TH05 Residential Townhouse, 4 bedroom(s)

Water sources	I want to use the average efficiency for a typical new dwelling or building
Basin taps - Primary water source	Mains water
Showers - Primary water source	Mains water
Clothes Washer - Primary water source	Rainwater
Toilets connected to mains water	0
Toilets connected to rainwater	4
Toilets connected to recycled water	0
Garden water use	Garden water demands are not in use



TH06 Residential Townhouse, 4 bedroom(s)

Water sources	I want to use the average efficiency for a typical new dwelling or building
Basin taps - Primary water source	Mains water
Showers - Primary water source	Mains water
Clothes Washer - Primary water source	Rainwater
Toilets connected to mains water	0
Toilets connected to rainwater	4
Toilets connected to recycled water	0
Garden water use	Garden water demands are not in use

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LOCKERBIE COURT

ABERDEEN AVENUE

GREENVALE DRIVE

No.10 DOUBLE STOREY BRICK HOUSE TILED PITCHED ROOF (LOCKERBIE COURT)

No.12 DOUBLE STOREY BRICK HOUSE TILED PITCHED ROOF (LOCKERBIE COURT)

No.13 DOUBLE STOREY BRICK HOUSE TILED PITCHED ROOF (LOCKERBIE COURT)

No.09 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF (LOCKERBIE COURT)

No.11 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF (LOCKERBIE COURT)

No.180 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF

No.182 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF

No.184 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF

No.181 DOUBLE STOREY BRICK HOUSE TILED PITCHED ROOF

No.183 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF

No.185 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF

LOT 35
1213m²
No.186
VACANT SITE

No.188 GREENVALE DRIVE LINEAR TRAIL

No.11 DOUBLE STOREY BRICK HOUSE TILED PITCHED ROOF (BANKS COURT)

No.1/7 SINGLE STOREY BRICK HOUSE METAL FLAT ROOF (BANKS COURT)

No.03 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF (BANKS COURT)

No.01 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF (BANKS COURT)

No.02 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF (ABERDEEN AVENUE)

No.04 SINGLE STOREY BRICK HOUSE TILED PITCHED ROOF (ABERDEEN AVENUE)

- GREENVALE PRIMARY SCHOOL APPROX. 1.70KM
- GREENVALE DRIVE RESERVE PLAYGROUND APPROX. 900M
- BUS ROUTE 543 ACCESS APPROX. 350M
- ROXBURGH PARK TRAIN STATION APPROX. 4.50KM
- BRADFORD AVENUE PRE-SCHOOL APPROX. 1.80KM
- NORMANBY DRIVE RESERVE APPROX. 1.00KM
- GREENVALE DRIVE LINEAR TRAIL APPROX 70M
- GREENVALE SHOPPING CENTRE APPROX 2.20KM
- GREENVALE SECONDARY COLLEGE APPROX 1.2KM
- DRUMMOND STREET RESERVE APPROX 1.30KM
- BARRYMORE MEDICAL CENTRE APPROX 1.50KM
- GREENVALE RECREATION CENTRE APPROX 750M

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PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

[redacted]

REVISION

A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

LEGEND

SYMBOL	DESCRIPTION
TBM	TBM
H 5.0	TREE (TRUNK & SPREAD) DENOTES TREE APPROXIMATELY 5 METRES HIGH
SIGN	SIGN
ELECTRICITY POLE	ELECTRICITY POLE
TELSTRA PIT	TELSTRA PIT
HABITABLE WINDOW	HABITABLE WINDOW
WINDOW (NON-HABITABLE)	WINDOW (NON-HABITABLE)
DOOR	DOOR
	DENOTES DIRECTION AND POSITION OF PHOTO FOUR
HEAD HEIGHT 2.4m / SILL HEIGHT 0.9m	HEAD HEIGHT (GROUND FLOOR) SILL HEIGHT (GROUND FLOOR)

LINETYPE	DESCRIPTION
34.27	ADJOINING PROPERTY LEVEL
34.27FL	FLOOR LEVEL AT THRESHOLD UNLESS OTHERWISE SHOWNXX REPRESENTS THE LOCATION FOR THE LEVEL)
34.27DL	DECK LEVEL (X REPRESENTS THE LOCATION FOR THE LEVEL SHOWN)
116.9	PARAPETS
116.9R	RIDGELINES
116.9G	GUTTERING (LIP)
	THE ORANGE DASHED LINEWORK REPRESENTS DATA DERIVED FROM AERIAL PHOTOGRAPHY AND IS APPROXIMATE ONLY. ANY FEATURES IN THESE AREAS (SUCH AS WINDOWS & DOORS) CANNOT BE VERIFIED & FURTHER INVESTIGATION IS STRONGLY RECOMMENDED PRIOR TO ANY DESIGN OR WORKS.
	APPROXIMATE LOCATION OF RIDGELINES/GUTTERS (LIP) (HEIGHT SHOWN THUS ◆ ARE TO LIP)
	INVERT OF CONC KERB

SITE CHARACTERISTICS

- **A** – SITE FALLS APPROX. 3000mm FROM NORTH EAST TO SOUTH WEST
- **B** – ADJACENT PRIVATE OPEN SPACE
- **C** – SOLAR ACCESS TO ADJOINING WINDOWS
- **D** – DIRECTION OF MAIN VEHICULAR & PEDESTRIAN TRAFFIC ACCESS TO THE SITE
- **E** – EXISTING FRONT SETBACKS TO ADJOINING PROPERTY
- **F** – EXISTING DUAL OCCUPANCY DEVELOPMENTS WITHIN CLOSE PROXIMITY TO THE SITE

TOTAL SITE AREA = 1213 m²

ALL LEVELS ARE IN REFERENCE TO AUSTRALIAN HEIGHT DATUM, FOR FURTHER DETAILS REFER TO LAND SURVEY

SHEET TILE	
NEIGHBOURHOOD AND SITE DESCRIPTION PLAN	
1:250	A1
TP- 01	REV B
AD26-018	



DEVELOPMENT SUMMARY

SITE AREA	1213.00 m²
SITE COVERAGE	673.30 m² 55.52
SITE PERMEABILITY	468.00 m² 55.0 %
GARDEN AREA	000.00 m² 00.0 %
CONCRETE DRIVEWAY/OTHER AREAS	00.00 m² 0.0 %

CAR PARKING

RESIDENT CAR SPACES REQUIRED	12
RESIDENT CAR SPACES PROPOSED	12

TYPOLOGY SUMMARY

DWELLING 01 – 4 BEDROOMS		
GARAGE FLOOR	46.6 m²	29.5 SQ.
GROUND FLOOR + BALCONY	111.1 m²	
FIRST FLOOR	96.4 m²	
TOTAL	274.1 m²	
DWELLING 02 – 4 BEDROOMS		
GARAGE FLOOR	46.8 m²	29.3 SQ.
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	93.2 m²	
TOTAL	273.3 m²	
DWELLING 03 – 4 BEDROOMS		
GARAGE FLOOR	45.0 m²	29.1 SQ.
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	92.0 m²	
TOTAL	270.3 m²	
DWELLING 04 – 4 BEDROOMS		
GARAGE FLOOR	46.8 m²	28.8 SQ.
GROUND FLOOR + BALCONY	111.0 m²	
FIRST FLOOR	89.7 m²	
TOTAL	267.5 m²	
DWELLING 05 – 4 BEDROOMS		
GARAGE FLOOR	45.0 m²	28.4 SQ.
GROUND FLOOR + BALCONY	109.5 m²	
FIRST FLOOR	90.3 m²	
TOTAL	263.8 m²	
DWELLING 06 – 4 BEDROOMS		
GARAGE FLOOR	46.2 m²	29.0 SQ.
GROUND FLOOR + BALCONY	114.3 m²	
FIRST FLOOR	86.8 m²	
TOTAL	267.3 m²	

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LEGEND

SYMBOL	DESCRIPTION
	TBM
H.S.	TREE (TRUNK & SPREAD) DENOTES TREE APPROXIMATELY 5 METRES HIGH
	SIGN
	ELECTRICITY POLE
	TELSTRA PIT
SILL HEIGHT 1.2m HEAD HEIGHT 2.1m	HABITABLE WINDOW
SILL HEIGHT 1.8m HEAD HEIGHT 2.1m	WINDOW (NON-HABITABLE)
DOOR	DOOR
	DENOTES DIRECTION AND POSITION OF PHOTO FOUR
HEAD HEIGHT 2.1m SILL HEIGHT 0.9m	HEAD HEIGHT (GROUND FLOOR) SILL HEIGHT (GROUND FLOOR)

LINETYPE	DESCRIPTION
34.27	ADJOINING PROPERTY LEVEL
34.27FL	FLOOR LEVEL AT THRESHOLD UNLESS OTHERWISE SHOWNXX REPRESENTS THE LOCATION FOR THE LEVEL)
34.27DL	DECK LEVEL (X REPRESENTS THE LOCATION FOR THE LEVEL SHOWN)
116.5P	PARAPETS
116.5R	RIDGELINES
116.5G	GUTTERING (LIP)
	THE ORANGE DASHED LINEWORK REPRESENTS DATA DERIVED FROM AERIAL PHOTOGRAPHY AND IS APPROXIMATE ONLY. ANY FEATURES IN THESE AREAS (SUCH AS WINDOWS & DOORS) CANNOT BE VERIFIED & FURTHER INVESTIGATION IS STRONGLY RECOMMENDED PRIOR TO ANY DESIGN OR WORKS.
	APPROXIMATE LOCATION OF RIDGELINES/GUTTERS (LIP) (HEIGHT SHOWN THUS ◆ ARE TO LIP)
	INVERT OF CONC KERB

SITE CHARACTERISTICS

A	– SITE FALLS APPROX. 3000mm FROM NORTH EAST TO SOUTH WEST
B	– ADJACENT PRIVATE OPEN SPACE
C	– SOLAR ACCESS TO ADJOINING WINDOWS
D	– DIRECTION OF MAIN VEHICULAR & PEDESTRIAN TRAFFIC ACCESS TO THE SITE
E	– EXISTING FRONT SETBACKS TO ADJOINING PROPERTY
F	– EXISTING DUAL OCCUPANCY DEVELOPMENTS WITHIN CLOSE PROXIMITY TO THE SITE

TOTAL SITE AREA = 1213 m²

ALL LEVELS ARE IN REFERENCE TO AUSTRALIAN HEIGHT DATUM. FOR FURTHER DETAILS REFER TO LAND SURVEY

PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION		
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TILE	
DESIGN RESPONSE PLAN	
1:250	A1
TP– 02	REV B
AD26-018	

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SOLAR PANEL

No.11
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF
(LOCKERBIE COURT)

P.O.S.
GRASSED AND GARDEN YARD

TREE 11
HEIGHT:4M
NRZ:2.4M
SRZ:1.44M

TREE 2 REMOVE
TREE 1 REMOVE
TREE 3 REMOVE
TREE 4 REMOVE

No.184
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF

SOLAR PANEL

GRASSED AND GARDEN YARD

BRICK GARAGE

H/W W W W/D H/W H/W H/W

PALINGS 1.8m HIGH
RETAINING WALL 0.9m HIGH
108°08'
44.73
PALINGS 2.2m HIGH

CONCRETE DRIVEWAY

TREE 13
HEIGHT:3M
NRZ:2.0M
SRZ:1.5M

PALINGS 1.2m HIGH

NOT FENCED

6031

GRASSED NATURE STRIP

CONCRETE DRIVEWAY

INVERT OF CONCRETE KERB

CONCRETE FOOTPATH

EXISTING CROSSOVER TO BE REMOVED AND NATURE STRIP REINSTATED

GREENVALE DRIVE

TBM
RIVET IN KERB
RL 126.42

TREE 5 x2
HEIGHT:3-4M
NRZ:2.0M
SRZ:1.5M

TREE 6
HEIGHT:3M
NRZ:1.8M
SRZ:1.5M

TREE 7
HEIGHT:6M
NRZ:2.4M
SRZ:1.44M

P.O.S.
GRASSED AND GARDEN YARD

DRAINAGE & SEWERAGE EASEMENT 2m WIDE

20°04'
24.43

PALINGS 1.8m HIGH

DRAINAGE & SEWERAGE EASEMENT 2m WIDE

TH06 FFL 124.22 GARAGE 5800X6000
TH05 FFL 124.22 GARAGE 5800X6000
TH04 FFL 124.42 GARAGE 5800X6000
TH03 FFL 124.42 GARAGE 5800X6000
TH02 FFL 124.42 GARAGE 5800X6000
TH01 FFL 125.02 GARAGE 5800X6000

2000L TANK
LDRY
STORAGE 6.04 m³
STORAGE 6.65 m³
2250
600
800

5400 GARAGE DOOR

PERMEABLE CONCRETE DRIVEWAY

7000 PASSING AREA
5000 PASSING AREA

INDICATES EXISTING YVW SEWER PIPES AS PER SEWER DEPTH & OFFSET PLAN

INDICATES LOCATION OF EXISTING COUNCIL STORMWATER PIPES BELOW GROUND AS PER LEGAL POINT OF STORMWATER DISCHARGE

TREE 8 REMOVE

POST & RAIL

TREE 9
HEIGHT:4M
NRZ:2.4M
SRZ:2.7M

45.92
293°39'20"

No.188
GREENVALE DRIVE LINEAR TRAIL

WING WALL

POST & WIRE

197°00'
C20.93
A20.94
R200

7.91
200°00'

NOT FENCED

CONCRETE FOOTPATH

INVERT OF CONCRETE KERB

TREE 10
HEIGHT:6M
NRZ:3.0M
SRZ:2.8M

TREE 12
HEIGHT:2M
NRZ:3.0M

GRASSED NATURE STRIP

PROPOSED CONCRETE CROSSOVER

PROPOSED NEW CONCRETE CROSSOVER TO ALIGN WITH INTERNAL ACCESSWAY AND TO BE CONSTRUCTED TO COUNCIL STANDARDS

DEVELOPMENT SUMMARY

SITE AREA	1213.00 m²
SITE COVERAGE	673.30 m² 55.5%
SITE PERMEABILITY	534.91 m² 44.1 %
GARDEN AREA	425.12 m² 35.0 %
PERMEABLE CONCRETE / PATHS	292.31 m² 24.1 %

CAR PARKING

RESIDENT CAR SPACES REQUIRED	7.2
RESIDENT CAR SPACES PROPOSED	12

TYPOLOGY SUMMARY

DWELLING 01 – 4 BEDROOMS		
GARAGE FLOOR	66.6 m²	29.5 SQ.
GROUND FLOOR + BALCONY	111.1 m²	
FIRST FLOOR	96.4 m²	
TOTAL	274.1 m²	
DWELLING 02 – 4 BEDROOMS		
GARAGE FLOOR	66.8 m²	29.3 SQ.
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	92.2 m²	
TOTAL	272.3 m²	
DWELLING 03 – 4 BEDROOMS		
GARAGE FLOOR	65.0 m²	29.1 SQ.
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	92.0 m²	
TOTAL	270.3 m²	
DWELLING 04 – 4 BEDROOMS		
GARAGE FLOOR	66.8 m²	28.8 SQ.
GROUND FLOOR + BALCONY	111.9 m²	
FIRST FLOOR	99.7 m²	
TOTAL	267.5 m²	
DWELLING 05 – 4 BEDROOMS		
GARAGE FLOOR	65.0 m²	28.4 SQ.
GROUND FLOOR + BALCONY	108.5 m²	
FIRST FLOOR	90.3 m²	
TOTAL	263.8 m²	
DWELLING 06 – 4 BEDROOMS		
GARAGE FLOOR	66.2 m²	29.0 SQ.
GROUND FLOOR + BALCONY	114.3 m²	
FIRST FLOOR	86.8 m²	
TOTAL	269.3 m²	

SPOS / FPOS SUMMARY

DWELLING	SPOS	FPOS (BALCONY)
TOWNHOUSE 01	114.89 m²	13.9 m²
TOWNHOUSE 02	-	11.6 m²
TOWNHOUSE 03	-	11.6 m²
TOWNHOUSE 04	-	11.6 m²
TOWNHOUSE 05	-	11.6 m²
TOWNHOUSE 06	-	11.6 m²

TREE LEGEND

- EXISTING TREE BEING RETAINED
- INDICATES TREE TO BE REMOVED (REFER TO PLAN FOR TREE NUMBER)
- NR2.0M — INDICATES EXTENT OF TREE PROTECTION ZONE (REFER TO PLAN FOR TREE NUMBER)
- SR2.0M — INDICATES STRUCTURE ROOT ZONE (REFER TO PLAN FOR TREE NUMBER)

HATCH LEGEND

- INDICATES EXTENT OF PERMEABLE PAVING TO ACCESSWAY AREA
- INDICATES EXTENT OF PROPOSED DWELLING FOOTPRINT
- INDICATES EXTENT OF CONCRETE PAVING INCLUDING ACCESSWAY, LANDINGS AND PATHWAYS
- INDICATES EXTENT OF PEDESTRIAN SPLAY TO FRONT BOUNDARY ADJOINING ACCESSWAY NO STRUCTURES OR LANDSCAPING ABOVE 900mm PERMITTED WITHIN THIS ZONE
- INDICATES EXTENT OF GRASSED OR LANDSCAPED AREAS

PLAN LEGEND

- DRYING LINE — WALL OR FENCE MOUNTED RETRACTABLE CLOTHING LINE
- 2250 × 800 — LOCATION OF BIN STORAGE FOR INDIVIDUAL DWELLING AS PER STANDARD B5-5 MIN 1.0 SQUARE METRES
- 2000L TANK — GENERAL LOCATION OF RAINWATER TANK CAPACITY AS SHOWN ON PLANS
- AC — OUTDOOR CONDENSER UNIT POSITION AWAY FROM BEDROOMS
- HWS — ELECTRIC HEAT PUMP HOT WATER SYSTEM

[redacted]

PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION

A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TLE	
GARAGE FLOOR PLAN	
1:100	A1
TP- 03	REV B
AD26-018	

[redacted]

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SOLAR PANEL

No.11
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF
(LOCKERBIE COURT)

P.O.S.
GRASSED AND GARDEN YARD

No.184
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF

SOLAR PANEL

GRASSED AND GARDEN YARD

BRICK GARAGE

CONCRETE DRIVEWAY

NOT FENCED

GRASSED NATURE STRIP

INVERT OF CONCRETE KERB

CONCRETE FOOTPATH

CONCRETE DRIVEWAY

GREENVALE DRIVE

TBM
RIVET IN KERB
RL 126.42

TREE 11
HEIGHT:4M
NRZ:2.4M
SRZ:1.44M

TREE 13
HEIGHT:5M
NRZ:2.8M
SRZ:1.5M

TREE 12
HEIGHT:7M
NRZ:3.6M

TREE 10
HEIGHT:4M
NRZ:2.8M
SRZ:1.5M

TREE 9
HEIGHT:6M
NRZ:2.8M
SRZ:2.2M

TREE 8 (X2)
HEIGHT:3-4M
NRZ:2.0M
SRZ:1.5M

TREE 7
HEIGHT:6M
NRZ:2.4M
SRZ:1.44M

TREE 6
HEIGHT:5M
NRZ:2.8M
SRZ:1.5M

H/W W W W/D H/W H/W H/W

PALINGS 1.8m HIGH

108°08'

44.73

PALINGS 2.2m HIGH

PALINGS 1.2m HIGH

RETAINING WALL 0.9m HIGH

600 DEEP WINDOW SHADING SHROUDS (600 REQUIRED)

LIGHT BOLLARD

LOCATION OF GAS METERS AND WATER METERS

EXISTING CROSSOVER TO BE REMOVED AND NATURE STRIP REINSTATED

MAILBOXES FOR TH02-06

MAILBOX FOR TH01

PERMEABLE CONCRETE PATHWAY

PERMEABLE CONCRETE PATH BELOW

SERVICES

TH06 TH05 TH04 TH03 TH02 TH01

FFL 127.07 FFL 127.07 FFL 127.27 FFL 127.27 FFL 127.27 FFL 127.87

PORCH 1.92m² PORCH 1.64m² PORCH 1.64m² PORCH 1.64m² PORCH 1.64m² PORCH 3.26m²

BED 01 3000X3200 BED 02 3000X3200 BED 03 3000X3200 BED 04 3000X3200 BED 05 3200X3200

LIVING 5900X3600 21.24m² LIVING 5800X3600 20.88m² LIVING 5800X3600 20.88m² LIVING 5800X3600 20.88m² LIVING 3600X5480 19.72m²

BALCONY 11.90m² BALCONY 11.60m² BALCONY 11.60m² BALCONY 11.60m² BALCONY 13.89m²

TH01 FPOS 114.89 m²

197°00'
C20.93
A20.94
R200

200°00'
7.91

6046 6425 6777

P.O.S.
GRASSED AND GARDEN YARD

PALINGS 1.8m HIGH
DRAINAGE & SEWERAGE EASEMENT 2m WIDE

29°04'
24.43

INDICATES EXISTING YVW SEWER PIPES AS PER SEWER DEPTH & OFFSET PLAN

INDICATES LOCATION OF EXISTING COUNCIL STORMWATER PIPES BELOW GROUND AS PER LEGAL POINT OF STORMWATER DISCHARGE

DRAINAGE & SEWERAGE EASEMENT 3m WIDE

NOT FENCED

45.92
293°39'20"

POST & RAIL

No.188
GREENVALE DRIVE LINEAR TRAIL

WING WALL

POST & WIRE

PROPOSED CONCRETE CROSSOVER

PROPOSED NEW CONCRETE CROSSOVER TO ALIGN WITH INTERNAL ACCESSWAY AND TO BE CONSTRUCTED TO COUNCIL STANDARDS

DEVELOPMENT SUMMARY

SITE AREA	1213.00 m²	
SITE COVERAGE	673.30 m² 55.5%	
SITE PERMEABILITY	534.91 m² 44.1 %	
GARDEN AREA	425.12 m² 35.0 %	
PERMEABLE CONCRETE / PATHS	292.31 m² 24.1 %	

CAR PARKING

RESIDENT CAR SPACES REQUIRED	7.2
RESIDENT CAR SPACES PROPOSED	12

TYPOLOGY SUMMARY

DWELLING 01 - 4 BEDROOMS		29.5 SQ.
GARAGE FLOOR	44.4 m²	
GROUND FLOOR + BALCONY	111.1 m²	
FIRST FLOOR	96.4 m²	
TOTAL	274.1 m²	
DWELLING 02 - 4 BEDROOMS		29.3 SQ.
GARAGE FLOOR	44.8 m²	
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	92.2 m²	
TOTAL	272.3 m²	
DWELLING 03 - 4 BEDROOMS		29.1 SQ.
GARAGE FLOOR	65.0 m²	
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	92.0 m²	
TOTAL	270.3 m²	
DWELLING 04 - 4 BEDROOMS		28.8 SQ.
GARAGE FLOOR	44.8 m²	
GROUND FLOOR + BALCONY	111.0 m²	
FIRST FLOOR	89.7 m²	
TOTAL	267.5 m²	
DWELLING 05 - 4 BEDROOMS		28.4 SQ.
GARAGE FLOOR	65.0 m²	
GROUND FLOOR + BALCONY	108.5 m²	
FIRST FLOOR	90.3 m²	
TOTAL	263.8 m²	
DWELLING 06 - 4 BEDROOMS		29.0 SQ.
GARAGE FLOOR	44.2 m²	
GROUND FLOOR + BALCONY	116.3 m²	
FIRST FLOOR	86.8 m²	
TOTAL	269.3 m²	

SPOS / FPOS SUMMARY

DWELLING	SPOS	FPOS (BALCONY)
TOWNHOUSE 01	114.89 m²	13.9 m²
TOWNHOUSE 02	-	11.6 m²
TOWNHOUSE 03	-	11.6 m²
TOWNHOUSE 04	-	11.6 m²
TOWNHOUSE 05	-	11.6 m²
TOWNHOUSE 06	-	11.6 m²

TREE LEGEND

- EXISTING TREE BEING RETAINED
- INDICATES TREE TO BE REMOVED (REFER TO PLAN FOR TREE NUMBER)
- NRZ:4.0M — INDICATES EXTENT OF TREE PROTECTION ZONE (REFER TO PLAN FOR TREE NUMBER)
- SRZ:8.0M — INDICATES STRUCTURE ROOT ZONE (REFER TO PLAN FOR TREE NUMBER)

HATCH LEGEND

- INDICATES EXTENT OF PERMEABLE PAVING TO ACCESSWAY AREA
- INDICATES EXTENT OF PROPOSED DWELLING FOOTPRINT
- INDICATES EXTENT OF CONCRETE PAVING INCLUDING ACCESSWAY, LANDINGS AND PATHWAYS
- INDICATES EXTENT OF PEDESTRIAN SPLAY TO FRONT BOUNDARY ADJOINING ACCESSWAY NO STRUCTURES OR LANDSCAPING ABOVE 900mm PERMITTED WITHIN THIS ZONE
- INDICATES EXTENT OF GRASSED OR LANDSCAPED AREAS

PLAN LEGEND

- DRYING LINE — WALL OR FENCE MOUNTED RETRACTABLE CLOTHING LINE
- 850 / 2250 — LOCATION OF BIN STORAGE FOR INDIVIDUAL DWELLING AS PER STANDARD B5-5 MIN 1.8 SQUARE METRES
- 6000L TANK — GENERAL LOCATION OF RAINWATER TANK CAPACITY AS SHOWN ON PLANS
- AC — OUTDOOR CONDENSER UNIT POSITION AWAY FROM BEDROOMS
- HWS — ELECTRIC HEAT PUMP HOT WATER SYSTEM

[redacted]

PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION		
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TILE	
GROUND FLOOR PLAN	
1:100	A1
TP- 04	REV B
AD26-018	

[redacted]

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SOLAR PANEL

No.11
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF
(LOCKERBIE COURT)

P.O.S.
GRASSED AND GARDEN YARD

No.184
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF

SOLAR PANEL

GRASSED AND GARDEN YARD

BRICK GARAGE

H/W W W W/D H/W H/W H/W

PALINGS 1.8m HIGH

108°08'

44.73

PALINGS 2.2m HIGH

RETAINING WALL 0.9m HIGH

350 DEEP WINDOW SHADING SHROUDS TO 2050 HIGH WINDOWS (512.5MM REQUIRED)

TH06 TH05 TH04 TH03 TH02 TH01

BED 04 3450X3800 | BED 04 3800X3100 | BED 04 3800X3100 | BED 04 3800X3100 | BED 04 3800X3100 | BED 04 3450X3200
BED 03 3200X3200 | BED 03 3500X3100 | BED 03 3500X3100 | BED 03 3500X3100 | BED 03 3500X3200 | BED 03 3500X3200
BED 02 3600X3600 | BED 02 5100X3600 | BED 02 5100X3600 | BED 02 5100X4000 | BED 02 5100X4000 | BED 02 5100X4200
STUDY 3200X2000 SKYLIGHT
ROBE | BATH | ENSUITE | LINEN
FFL 130.07 | FFL 130.07 | FFL 130.27 | FFL 130.27 | FFL 130.27 | FFL 130.87

2845 2993 4565 2692 4885 515 453 4652 6207

6242

197°00'
C20.93
A20.94
R200

7.91
200°00'

6460
6810

6374

CONCRETE DRIVEWAY

CONCRETE FOOTPATH

INVERT OF CONCRETE KERB

GRASSED NATURE STRIP

EXISTING CROSSOVER TO BE REMOVED AND NATURE STRIP REINSTATED

PROPOSED CONCRETE CROSSOVER

GREENVALE DRIVE

TBM
RIVET IN KERB
RL 126.42

NOT FENCED

6031

TREE 11 HEIGHT:4M NRZ:2.4M SRZ:1.44M

TREE 13 HEIGHT:6M NRZ:2.8M SRZ:1.8M

TREE 6 X7 HEIGHT:3-4M NRZ:2.0M SRZ:1.5M

TREE 4 HEIGHT:3M NRZ:2.0M SRZ:1.5M

TREE 7 HEIGHT:6M NRZ:2.4M SRZ:1.44M

TREE 9 HEIGHT:6M NRZ:1.2M SRZ:2.2M

TREE 10 HEIGHT:4M NRZ:2.0M SRZ:1.5M

TREE 12 HEIGHT:2M NRZ:2.0M

P.O.S.
GRASSED AND GARDEN YARD

PALINGS 1.2m HIGH

PALINGS 1.9m HIGH

DRAINAGE & SEWERAGE EASEMENT 2m WIDE

20°04'
24.43

DRAINAGE & SEWERAGE EASEMENT 3m WIDE

NOT FENCED

45.92
293°39'20"

INDICATES EXISTING YVW SEWER PIPES AS PER SEWER DEPTH & OFFSET PLAN

INDICATES LOCATION OF EXISTING COUNCIL STORMWATER PIPES BELOW GROUND AS PER LEGAL POINT OF STORMWATER DISCHARGE

POST & RAIL

No.188
GREENVALE DRIVE LINEAR TRAIL

WING WALL

POST & WIRE

DEVELOPMENT SUMMARY

SITE AREA	1213.00 m²
SITE COVERAGE	673.30 m² 55.5%
SITE PERMEABILITY	534.91 m² 44.1 %
GARDEN AREA	425.12 m² 35.0 %
PERMEABLE CONCRETE / PATHS	292.31 m² 24.1 %

CAR PARKING

RESIDENT CAR SPACES REQUIRED	7.2
RESIDENT CAR SPACES PROPOSED	12

TYPOLOGY SUMMARY

DWELLING 01 – 4 BEDROOMS		
GARAGE FLOOR	44.6 m²	29.5 SQ.
GROUND FLOOR + BALCONY	111.1 m²	
FIRST FLOOR	96.4 m²	
TOTAL	274.1 m²	
DWELLING 02 – 4 BEDROOMS		
GARAGE FLOOR	44.8 m²	29.3 SQ.
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	92.2 m²	
TOTAL	272.3 m²	
DWELLING 03 – 4 BEDROOMS		
GARAGE FLOOR	65.0 m²	29.1 SQ.
GROUND FLOOR + BALCONY	113.3 m²	
FIRST FLOOR	92.0 m²	
TOTAL	270.3 m²	
DWELLING 04 – 4 BEDROOMS		
GARAGE FLOOR	44.8 m²	28.8 SQ.
GROUND FLOOR + BALCONY	111.0 m²	
FIRST FLOOR	89.7 m²	
TOTAL	267.5 m²	
DWELLING 05 – 4 BEDROOMS		
GARAGE FLOOR	65.0 m²	28.4 SQ.
GROUND FLOOR + BALCONY	108.5 m²	
FIRST FLOOR	90.3 m²	
TOTAL	263.8 m²	
DWELLING 06 – 4 BEDROOMS		
GARAGE FLOOR	44.2 m²	29.0 SQ.
GROUND FLOOR + BALCONY	116.3 m²	
FIRST FLOOR	86.8 m²	
TOTAL	269.3 m²	

SPOS / FPOS SUMMARY

DWELLING	SPOS	FPOS (BALCONY)
TOWNHOUSE 01	114.89 m²	13.9 m²
TOWNHOUSE 02	-	11.6 m²
TOWNHOUSE 03	-	11.6 m²
TOWNHOUSE 04	-	11.6 m²
TOWNHOUSE 05	-	11.6 m²
TOWNHOUSE 06	-	11.6 m²

TREE LEGEND

- EXISTING TREE BEING RETAINED
- INDICATES TREE TO BE REMOVED (REFER TO PLAN FOR TREE NUMBER)
- NRZ:6.0M — INDICATES EXTENT OF TREE PROTECTION ZONE (REFER TO PLAN FOR TREE NUMBER)
- SRZ:6.0M — INDICATES STRUCTURE ROOT ZONE (REFER TO PLAN FOR TREE NUMBER)

HATCH LEGEND

- INDICATES EXTENT OF PERMEABLE PAVING TO ACCESSWAY AREA
- INDICATES EXTENT OF PROPOSED DWELLING FOOTPRINT
- INDICATES EXTENT OF CONCRETE PAVING INCLUDING ACCESSWAY, LANDINGS AND PATHWAYS
- INDICATES EXTENT OF PEDESTRIAN SPLAY TO FRONT BOUNDARY ADJOINING ACCESSWAY NO STRUCTURES OR LANDSCAPING ABOVE 900mm PERMITTED WITHIN THIS ZONE
- INDICATES EXTENT OF GRASSED OR LANDSCAPED AREAS

PLAN LEGEND

- DRYING LINE — WALL OR FENCE MOUNTED RETRACTABLE CLOTHING LINE
- 2250 / 850 — LOCATION OF BIN STORAGE FOR INDIVIDUAL DWELLING AS PER STANDARD B5-5 MIN 1.8 SQUARE METRES
- RAINWATER TANK — GENERAL LOCATION OF RAINWATER TANK CAPACITY AS SHOWN ON PLANS
- AC — OUTDOOR CONDENSER UNIT POSITION AWAY FROM BEDROOMS
- HWS — ELECTRIC HEAT PUMP HOT WATER SYSTEM

[redacted]

PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION

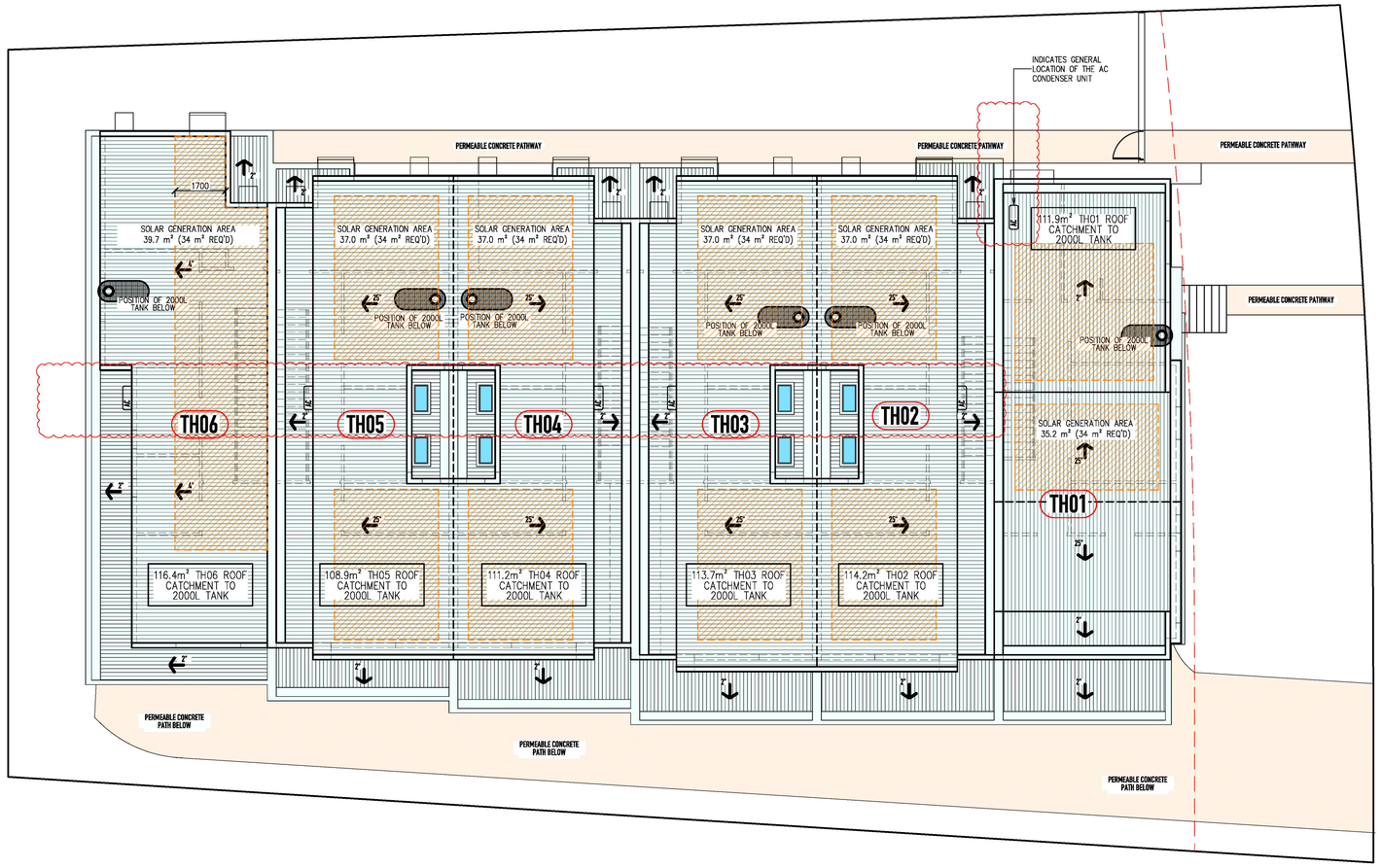
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TILE
FIRST FLOOR PLAN

1:100	A1
TP- 05	REV B

AD26-018

[redacted]



GREENVALE DRIVE

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WSUD LEGEND

- TREATED ROOF AREA TO RAINWATER TANKS
- ANY UNTREATED ROOF AREAS
- PERMEABLE PAVERS
- PERMEABLE CONCRETE WATERPAVE DRYCON ON SIMILAR
- UNTREATED CONCRETE AREAS

[redacted]

186GREENVALE

Nitrogen reduction target has been met, and a small low-risk project is deemed to comply. Higher risk projects need to meet all targets.

166% SCORE

Project details

Name	186GREENVALE
Project ID	AF02589C
Street address	186 Greenvale Dr, Greenvale VIC 3059, Australia
Municipality	Hume
Site area	1213 m²
Planning Number	

Results

Item	Result	Target
Total suspended solids (%)	81%	>80%
Total phosphorus (%)	78%	>45%
Total nitrogen (%)	75%	>45%
Total gross pollutants (%)	99%	>70%
Mean annual runoff volume harvested or evapotranspired (%)	73%	>29%
Mean annual runoff volume infiltrated or filtered (%)	0%	>6%

PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION

A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TILE

ROOF PLAN
WATER SENSITIVE URBAN DESIGN PLAN

1:100	A1
TP- 06	REV B

AD26-018

[redacted]

GARDEN AREA ANALYSIS

SITE AREA	1213.00 m²
GARDEN AREA REQUIRED	424.55 m² 35.0%
GARDEN AREA PROVIDED	425.12 m² 35.0 %

GARDEN AREA LEGEND

INDICATES EXTENT OF GARDEN AREA INCLUDED IN ABOVE CALCULATION

AREAS BELOW 1M IN WIDTH ARE EXCLUDED.

[redacted]

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PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION		
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TILE	
GARDEN AREA PLAN	
1:100	A1
TP- 07	REV B
AD26-018	

[redacted]

No.11
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF
(LOCKERBIE COURT)

No.184
SINGLE STOREY BRICK HOUSE
TILED PITCHED ROOF

No.188
GREENVALE DRIVE LINEAR TRAIL

GREENVALE DRIVE

P.O.S.
GRASSED AND GARDEN YARD

GRASSED AND GARDEN YARD

SOLAR PANEL

BRICK GARAGE

CONCRETE DRIVEWAY

CONCRETE DRIVEWAY

CONCRETE FOOTPATH

INVERT OF CONCRETE KERB

GRASSED NATURE STRIP

NOT FENCED

PALINGS 1.8m HIGH

PALINGS 2.2m HIGH

PALINGS 1.2m HIGH

RETAINING WALL 0.9m HIGH

108°08'

44.73

20°04'
24.43

197°00'
C20.93
A20.94
R200

7.91
200°00'

45.92
293°39'20"

DRAINAGE & SEWERAGE EASEMENT 2m WIDE

DRAINAGE & SEWERAGE EASEMENT 3m WIDE

PALINGS 1.8m HIGH

TH01 FFL 127.87
TH02 FFL 127.27
TH03 FFL 127.27
TH04 FFL 127.27
TH05 FFL 127.07
TH06 FFL 127.07

TH01 FPOS 114.89m²

TREE 11 HEIGHT:4M NRZ:3.4M SRZ:3.4M

TREE 13 HEIGHT:3M NRZ:2.0M SRZ:1.5M

TREE 5 X3 HEIGHT:3-4M NRZ:2.0M SRZ:1.5M

TREE 6 HEIGHT:3M NRZ:2.0M SRZ:1.5M

TREE 7 HEIGHT:6M NRZ:3.4M SRZ:3.4M

TREE 9 HEIGHT:6M NRZ:3.5M SRZ:3.7M

TREE 10 HEIGHT:4M NRZ:2.0M SRZ:2.0M

TREE 12 HEIGHT:7M NRZ:3.8M SRZ:2.8M

TBM
RIVET IN KERB
RL 126.42

MAILBOX FOR TH01

MAILBOXES FOR TH02-06

EXISTING CROSSOVER TO BE REMOVED AND NATURE STRIP REINSTATED

PROPOSED NEW CONCRETE CROSSOVER TO ALIGN WITH INTERNAL ACCESSWAY AND TO BE CONSTRUCTED TO COUNCIL STANDARDS

PROPOSED CONCRETE CROSSOVER

INDICATES EXISTING YVW SEWER PIPES AS PER SEWER DEPTH & OFFSET PLAN

INDICATES LOCATION OF EXISTING COUNCIL STORMWATER PIPES BELOW GROUND AS PER LEGAL POINT OF STORMWATER DISCHARGE

POST & RAIL

WING WALL

POST & WIRE

LOCATION OF GAS METERS AND WATER METERS

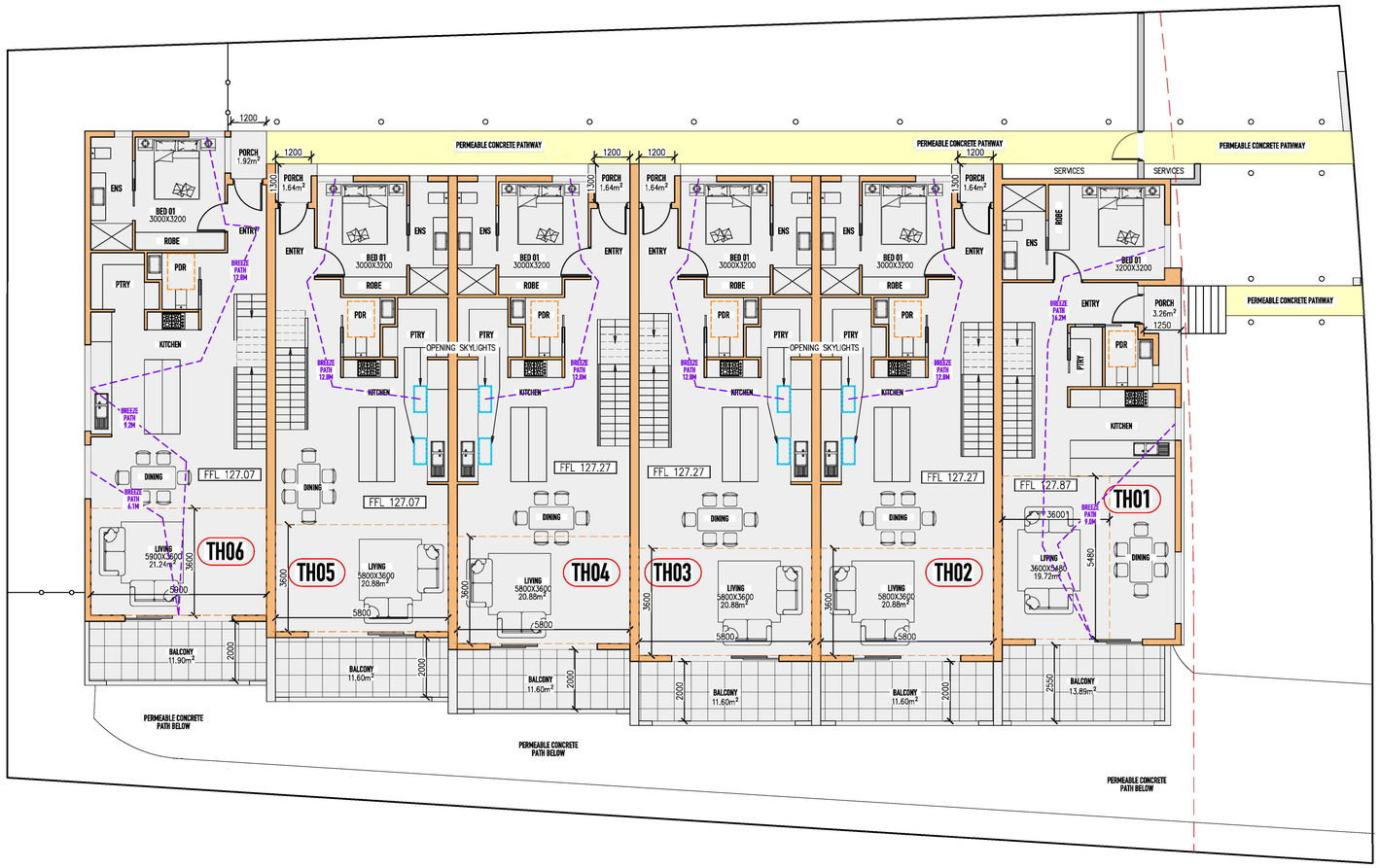
600 DEEP WINDOW SHADING SHROUDS (600 REQUIRED)

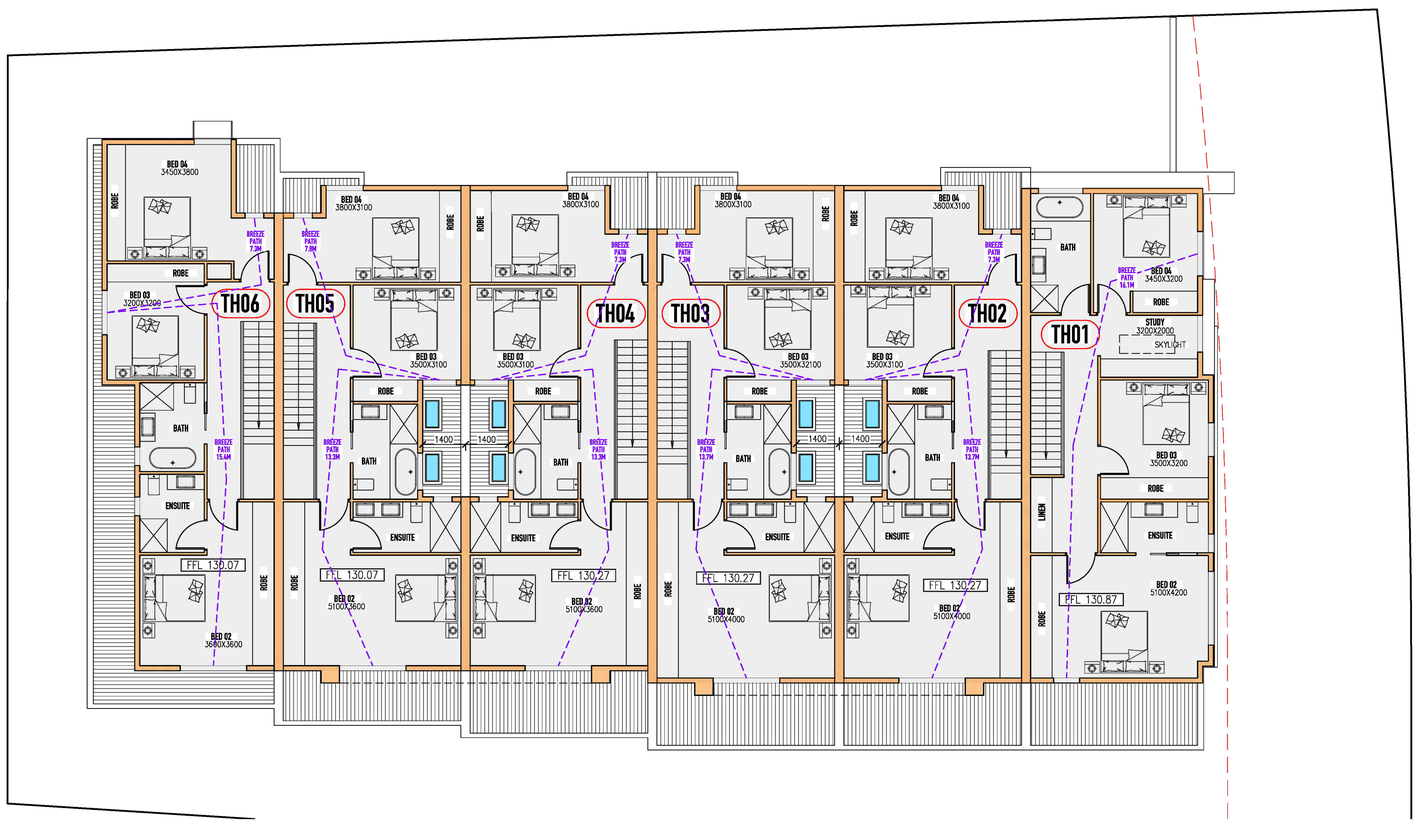
FLIGHT BOLLARD

PERMEABLE CONCRETE PATHWAY

PERMEABLE CONCRETE PATH BELOW

NOT FENCED





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[redacted]

PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION		
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TILE	
BREEZE PATHS	
1:100	A1
TP- 08	REV B
AD26-018	

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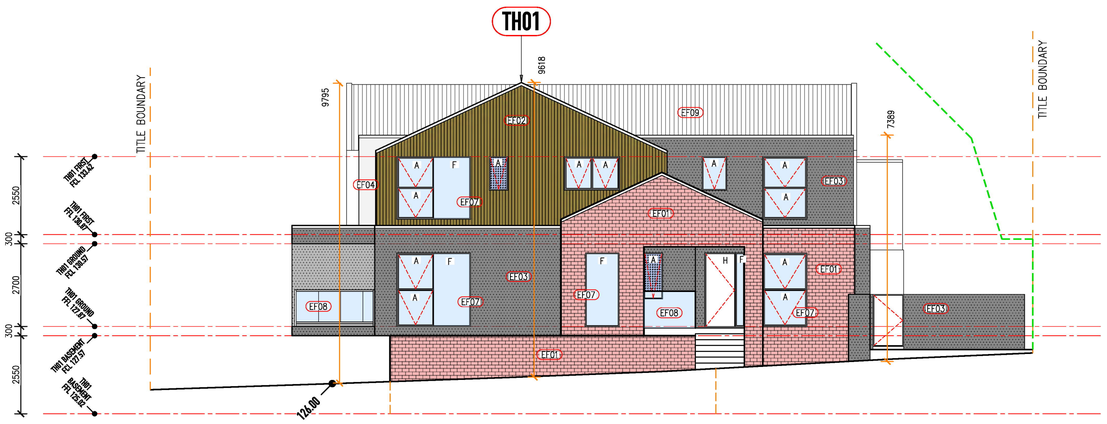
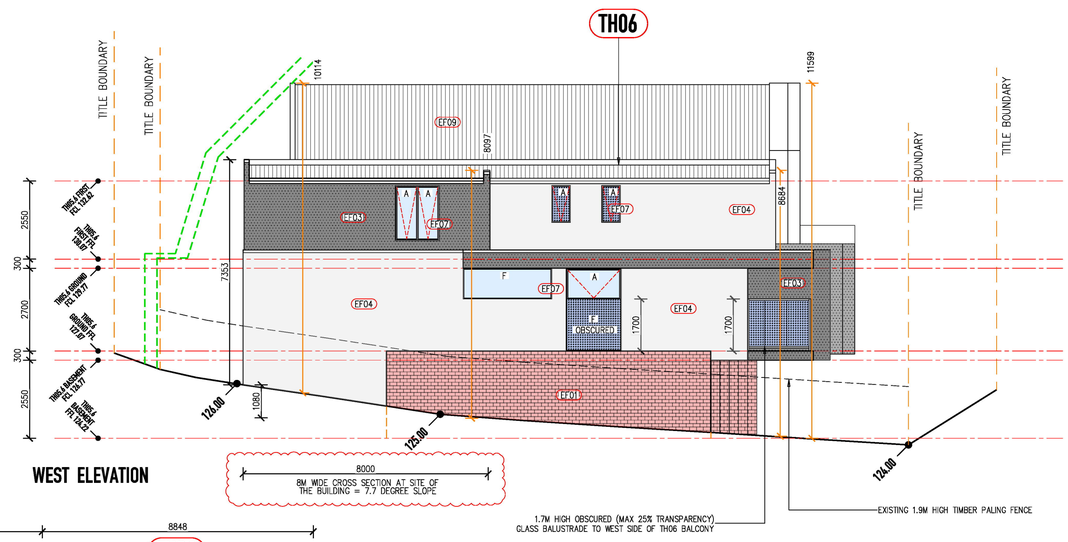
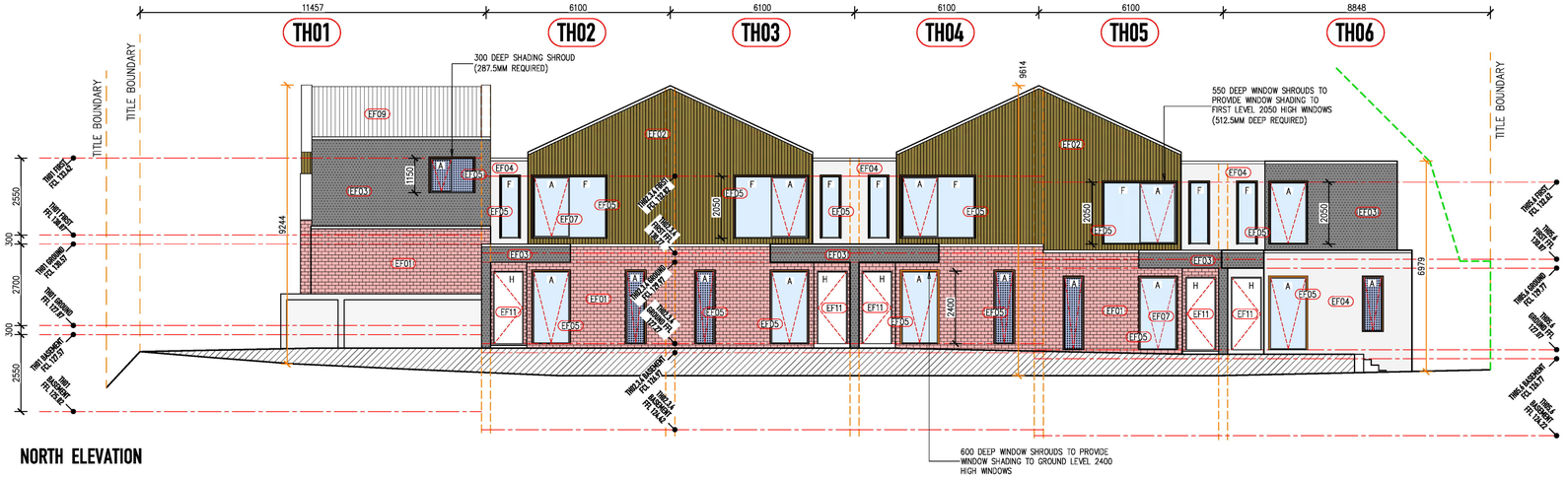


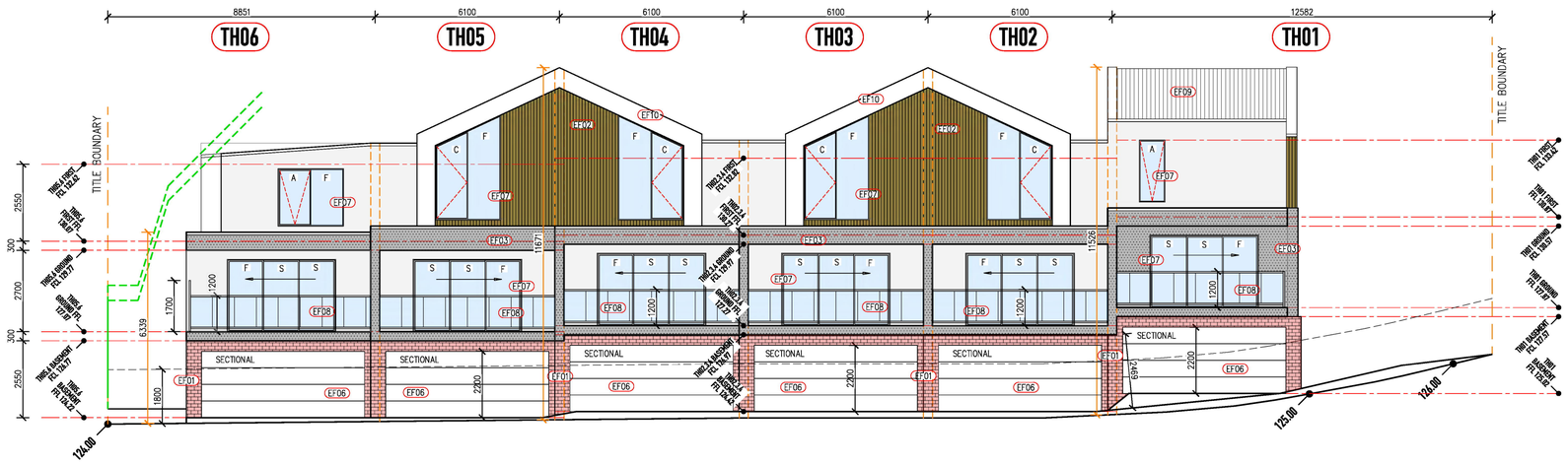
EAST ELEVATION



WEST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION

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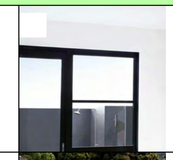
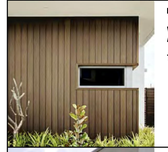
EXTERNAL MATERIAL SCHEDULE



EF01
RECYCLED-LOOK FACE BRICKS



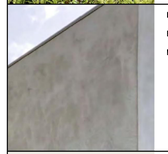
EF07
ALUMINIUM WINDOWS AND SLIDING DOORS
BLACK



EF02
VERTICAL TIMBER LOOK COMPOSITE AND ALUMINIUM CLADDING
TEAK OR SIMILAR



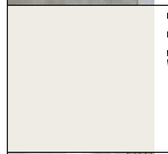
EF08
GLASS BALUSTRADE TO BALCONIES SOLID BLACK TOP RAIL
BLACK FIXINGS



EF03
RENDER FINISH
MEDIUM CONCRETE WASH



EF09
METAL SHEET ROOFING
SURFMIST OR SIMILAR LIGHT COLOUR



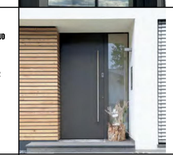
EF04
RENDER FINISH
NATURAL WHITE OR SIMILAR WHITE



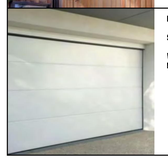
EF10
EXTRUDED GABLE FEATURE TO SOUTH ELEVATION
BLACK ALUMINIUM FINISH



EF05
BLACK ALUMINIUM SHADING SHROUD
TOP AND SIDES (OPEN BOTTOM)
REFER TO PLANS / ELEVATIONS FOR DEPTH



EF11
ENTRANCE DOORS - SOLID CORE - MONUMENT



EF06
SECTIONAL OVERHEAD GARAGE DOOR
WHITE
MOTORISED

PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

REVISION

A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHEET TILE
ELEVATIONS
COLOUR & MATERIAL SCHEDULE

1:100	A1
TP- 09	REV B

AD26-018



[redacted]

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PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION		
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHADOW DIAGRAM @ 9AM
(22ND SEPTEMBER)

- PROPOSED BUILDING SHADOW
- FENCING SHADOW
- EXTENT OF ADJOINING SPOS
- ADDITIONAL OVERSHADOWING TO ADJOINING SPOS CAUSED BY PROPOSED DEVELOPMENT

SHEET TITLE	
SHADOW DIAGRAM 9AM	
1:200	A1
TP- 10	REV B
AD26-018	

[redacted]



[redacted]

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PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

REVISION		
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHADOW DIAGRAM @ 12PM
(22ND SEPTEMBER)

- PROPOSED BUILDING SHADOW
- FENCING SHADOW
- EXTENT OF ADJOINING SPOS
- ADDITIONAL OVERSHADOWING TO ADJOINING SPOS CAUSED BY PROPOSED DEVELOPMENT

SHEET TILE	
SHADOW DIAGRAM 12PM	
1:200	A1
TP- 11	REV B
AD26-018	

[redacted]



[redacted]

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PROPOSED MULTI-DWELLING DEVELOPMENT

186 GREENVALE DRIVE
GREENVALE

[redacted]

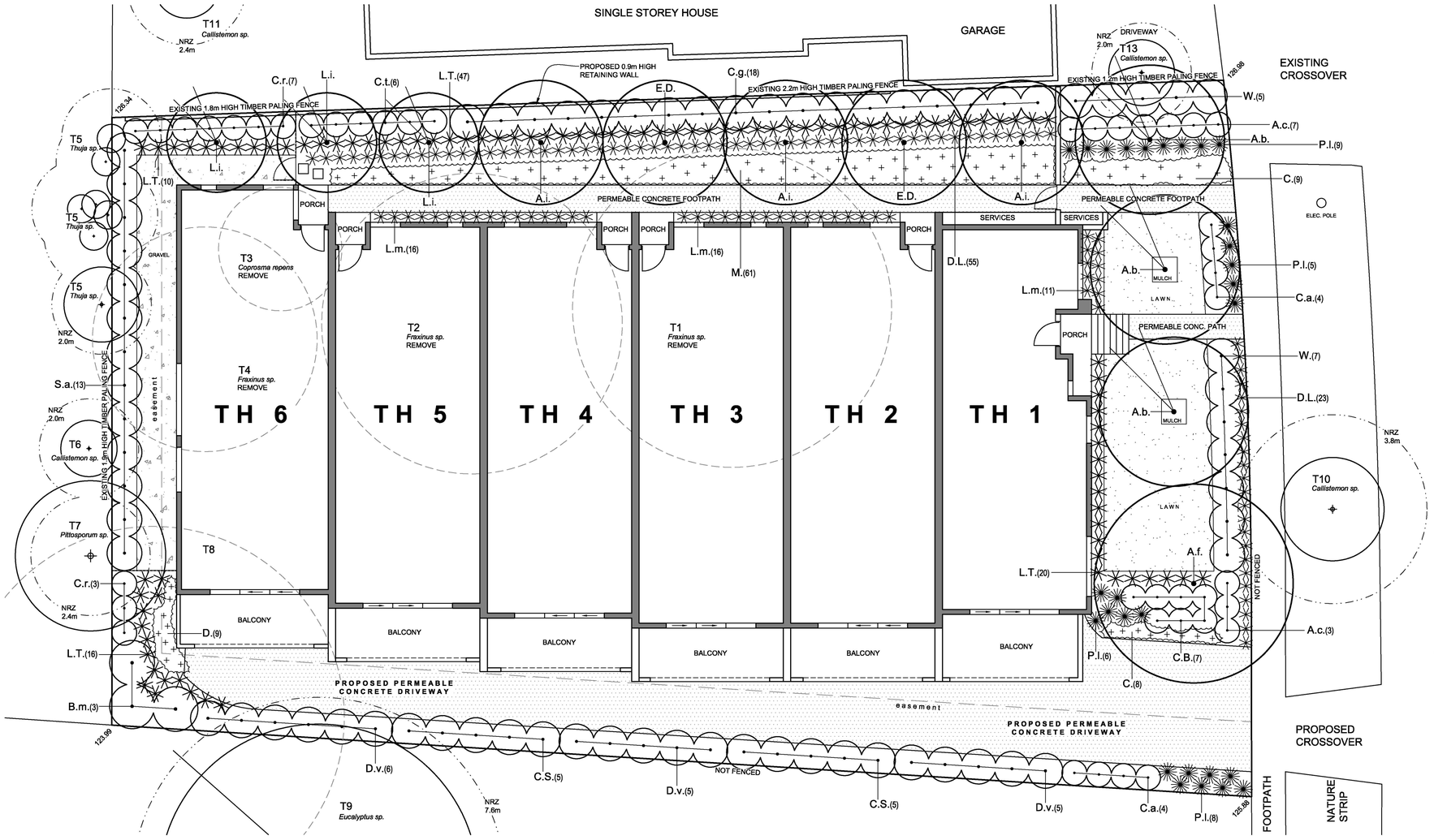
REVISION		
A	23.10.26	RFI RESPONSE
B	20.11.26	ADDITIONAL RFI ITEMS

SHADOW DIAGRAM @ 3PM
(22ND SEPTEMBER)

- PROPOSED BUILDING SHADOW
- FENCING SHADOW
- EXTENT OF ADJOINING SPOS
- ADDITIONAL OVERSHADOWING TO ADJOINING SPOS CAUSED BY PROPOSED DEVELOPMENT

SHEET TILE	
SHADOW DIAGRAM 3PM	
1:200	A1
TP- 12	REV B
AD26-018	

[redacted]



LEGEND

- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED DECIDUOUS / EVERGREEN TREE (A.b. A.b.)
- PROPOSED SHRUBS (A.b.(3))
- PROPOSED TUFTING PLANTS (A.b.(5))
- PROPOSED GROUND COVERS (A.b.(3))
- GRASSED AREA
- GRAVEL SURFACE
- SELECTED PAVERS

NOTES

EXISTING TREES: Existing trees to remain are to be adequately protected during site works. Tree protection measures are to be in accordance with Australian Standard AS4970-2025 Protection of Trees on Development Sites.

TOPSOIL: Soil, if imported to the site is to be screened and free from perennial weeds. Cultivate existing site soil to 200mm depth. To garden areas spread imported topsoil to a lightly rolled depth of 150mm over cultivated site soil. To lawn areas spread imported topsoil to lightly rolled depth of 100mm. Imported topsoil to be a 70/30 mix of screened topsoil and organic compost, pH range 6-7. Apply gypsum where necessary.

TREES: All canopy trees to be a minimum 2.0 metres tall when planted.

PLANTS AND PLANTING: All plants to be healthy disease-free specimens. Over-excavate all plant holes by at least twice pot volume. Spread a slow release fertiliser to each plant hole at the manufacturers specifications. Stake and tie trees by two 2100x32x32 pointed stakes and large shrubs with one 1800x25x25 pointed stake. All ties to be flexible rubber or canvas ties in 'figure 8' configuration. Immediately after planting, water-in all plants and maintain regular follow-up watering during establishment period.

LAWN: Soil to finish as a lightly rolled layer 8mm above adjacent paved surfaces, or plinth board. Spread lawn seed at the rate of 40gms/m squared. For instant turf grass finish top soil as lightly rolled layer flush to adjacent paved surfaces. Ensure seed bed and instant turf areas are kept moist during the establishment period.

EDGING: Separate garden bed, gravel and lawn areas by a 100x20 C.C.A. treated pine plinth board pegged at 1200mm centres, or similar hard edging.

MULCH: After planting spread shredded pinewood mulch to a depth of 75mm to all garden beds.

IRRIGATION: The garden areas to be irrigated by an in-ground poly-pipe and emitter dripper system (with an automatic timer), connected to the water tanks.

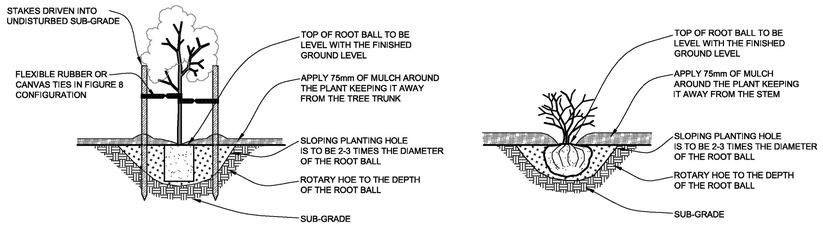
MAINTENANCE: Maintain all garden beds in a neat and tidy condition. Regularly water garden beds and lawn areas during establishment period and during dry spells. Eradicate any weed growth.

DISCLAIMER: Bradbury Culina shall not be liable for any damage caused to the existing vegetation retained on and surrounding the site, it is the sole responsibility of the owner or builder. It is the Landscape Contractor's responsibility to locate and prove all services prior to undertaking works and various authorities are to be notified. Should any existing services be damaged during construction works, the contractor shall make arrangement for repairs. All costs for this shall be borne by the contractor.

PLANTING SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	HEIGHT*	WIDTH*	POT SIZE	QTY
EVERGREEN TREES						
A.f.	Agonis flexuosa	Willow Myrtle	9m	8m	2m TALL	1
A.i.	Acacia implexa	Lightwood	6m	5m	2m TALL	3
E.D.	Euc. leucoxylon 'Euky Dwarf'	Yellow Gum 'Euky Dwarf'	7m	5m	2m TALL	2
DECIDUOUS TREES						
A.b.	Acer buergerianum	Trident Maple	7m	6m	2m TALL	3
L.i.	Lagerstroemia 'Tuscarora'	Crepe Myrtle 'Tuscarora'	6m	4m	2m TALL	3
SHRUBS						
A.c.	Acacia cognata 'Mini Cog'	Wattle 'Mini Cog'	0.8m	1.2m	150mm	10
B.m.	Banksia marginata	Silver Banksia	4m	2m	200mm	3
C.a.	Correa alba	White Correa	1.2m	1m	150mm	8
C.B.	Callistemon 'Better John'	Bottlebrush 'Better John'	1m	0.8m	150mm	7
C.g.	Correa glabra 'Coliban River'	Rock Correa	1.5m	1.5m	150mm	18
C.r.	Correa reflexa	Common Correa	1.2m	1.2m	150mm	10
C.S.	Callistemon 'Slim'	Bottlebrush 'Slim'	3m	1.5m	200mm	10
C.t.	Choisya ternata	Mexican Orange Blossom	1-1.5m	1-1.5m	150mm	6
D.v.	Dodonaea viscosa 'Purpurea'	Purple Sticky Hop-Bush	3m	1.5m	200mm	16
S.a.	Syzygium australe 'Elite'	Lilly Pilly 'Elite'	3m	1.5m	200mm	13
W.	Westringia 'Wynyabbie Gem'	Native Rosemary	1.5m	1.5-2m	200mm	12
GROUNDCOVERS AND TUFTING PLANTS						
C.	Carpobrotus rossii	Karkalla	0.2m	1m	100mm	17
D.	Dichondra repens	Kidney Weed	0.2m	1m	100mm	9
D.L.	Dianella 'Little Jess'	Flax Lily 'Little Jess'	0.4m	0.5m	150mm	78
L.m.	Liriope muscari 'Just Right'	Liriope 'Just Right'	0.4m	0.5m	150mm	43
L.T.	Lomandra longifolia 'Tanika'	Mat-Rush 'Tanika'	0.6m	0.7m	150mm	93
M.	Myoporum parvifolium	Creeping Boobialla	0.1m	1m	100mm	61
P.l.	Poa labillardieri	Common Tussock Grass	0.7m	0.7m	150mm	28

* Denotes height and width at maturity



TYPICAL TREE AND SHRUB PLANTING DETAIL

NOT TO SCALE

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0 5m 10m

DATE: 26 October 2026

SCALE (@A1): 1:100

DRAWING TITLE: Landscape Plan

FOR TOWN PLANNING

DRAWING NUMBER: 5031-A

SHEET: 1 / 1

GENERAL LOCAL LAW No. 1
2013 - PART 4
TO CONNECT LAND TO A STORMWATER DRAIN
(SINGLE DWELLING / COMMERCIAL DEVELOPMENT ONLY)

HUME CITY COUNCIL

1079 PASCOE VALE ROAD
BROADMEADOWS
VICTORIA 3047

Postal Address:
PO BOX 119
DALLAS 3047

Telephone: 03 9205 2200
Facsimile: 03 9309 0109
www.hume.vic.gov.au

Applicant Details:

[redacted]

This permit, including any conditions, is issued pursuant to the provisions of Part 4 of General Local Law No. 1 - 2013, Asset Protection. A person to whom an Asset Protection Permit has been issued must comply with any conditions contained in that Asset Protection Permit. The Person in Charge must, in respect of building works or a building site, ensure that the Building Site Code is not contravened.

Site Address Details:

Lot 35 LP 202867 Vol 9701 Fol 210
186 GREENVALE DR GREENVALE VIC 3059

Council Property Number: 301676

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Asset Protection Permit Details:

Permit No. eLPD029789

Permit category: App R133 for a Legal Point of S/Water Discharge

Description of works:
App R133 for a Legal Point of S/Water Discharge

This Asset Protection Permit in accordance with the requirements of General Local Law No. 1 which constitutes a report under regulation 133 of the Building Regulations 2018 is issued with the following conditions:

1. That all works shall be carried out in accordance with the provisions of General Local Law No. 1 - 2013 and the Building and Works Code of Practice.
2. The person in charge must ensure that appropriate measures are in place to ensure the retention of all silt and soil on site, and the retention of other water borne particles and pollutants for later transportation to a legal place of disposal, in accordance with the provisions of clause 17.3 of the building site code.
3. The person in charge must ensure that building or other works on site are only carried out during the permissible hours of operation in accordance with clause 18 of the Building Site Code.
4. That all works shall be carried out in accordance with the provisions of The Plumbing Regulations 2008, the Building Regulations 2018, The Building Code of Australia, AS1273-1991, AS/NZS2179.1-1994, MP52-2001 and any other relevant Australian Standards or Codes.
5. This permit only applies where there is a legal point of discharge provided to the land and the location of that point accords with this permit.
6. This permit only allows connection to the legal point of stormwater discharge. Any works requiring alteration or opening of any Council drain or road must not commence until the appropriate permits have been issued by the Council.

7 The drainage plan is attached to this permit and is referred to as Appendix A. This plan shows your connection point into Council's drain. This information is in accordance with Hume City Council's best available records at the time of issue.

8 The applicant must verify on site as to the existence of the stormwater drain and its size, offset and depth to invert where applicable, and undertake a survey to determine that the invert level is such that stormwater from the property can discharge freely into it and that the drain is not adversely affected by the proposed development.

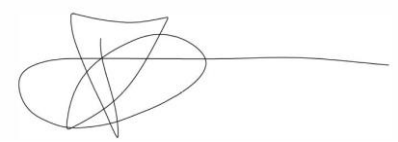
9 The person in charge must notify Council's Assets department of any anomalies between this permit information and on site conditions. Work must not be undertaken until such time as such anomalies are resolved by an authorized officer of the Council.

10 If the existing underground drainage connection pipe cannot be located or is inadequate and requires updating, you are required to connect to Council's stormwater pipe using a saddle-type adapter such as 'Conconnect' by Flowcon or an approved device.

11 Any new or modified connections to Council's Stormwater Pit/Pipe require an inspection by Council's Technical Services Officers. Connections/Alterations to be left exposed and easily visible for the inspection until approval is received. Please notify Council's Technical Services Department on **9205 2577** at least 24 hours (weekdays) prior to commencement of works.

Location of connection to the Legal Point of Stormwater Discharge:	Front of property as shown in the attached plan
Plan Attached:	Yes
Plan Reference:	GIS
Assessing Officer:	PW
Additional Comments:	

Please note: if you require the size depth & offset of Council's drainage assets located inside your property or adjacent to your property, please submit an application called 'Stormwater Asset Details". You can apply here via eHume.



.....

Signature of Authorised Officer

Date: 21 May 2026

Authorised Officer's name: Trent Daisley

Permit fees payment received details:

Fees: $164.23	Fees Balance: $0

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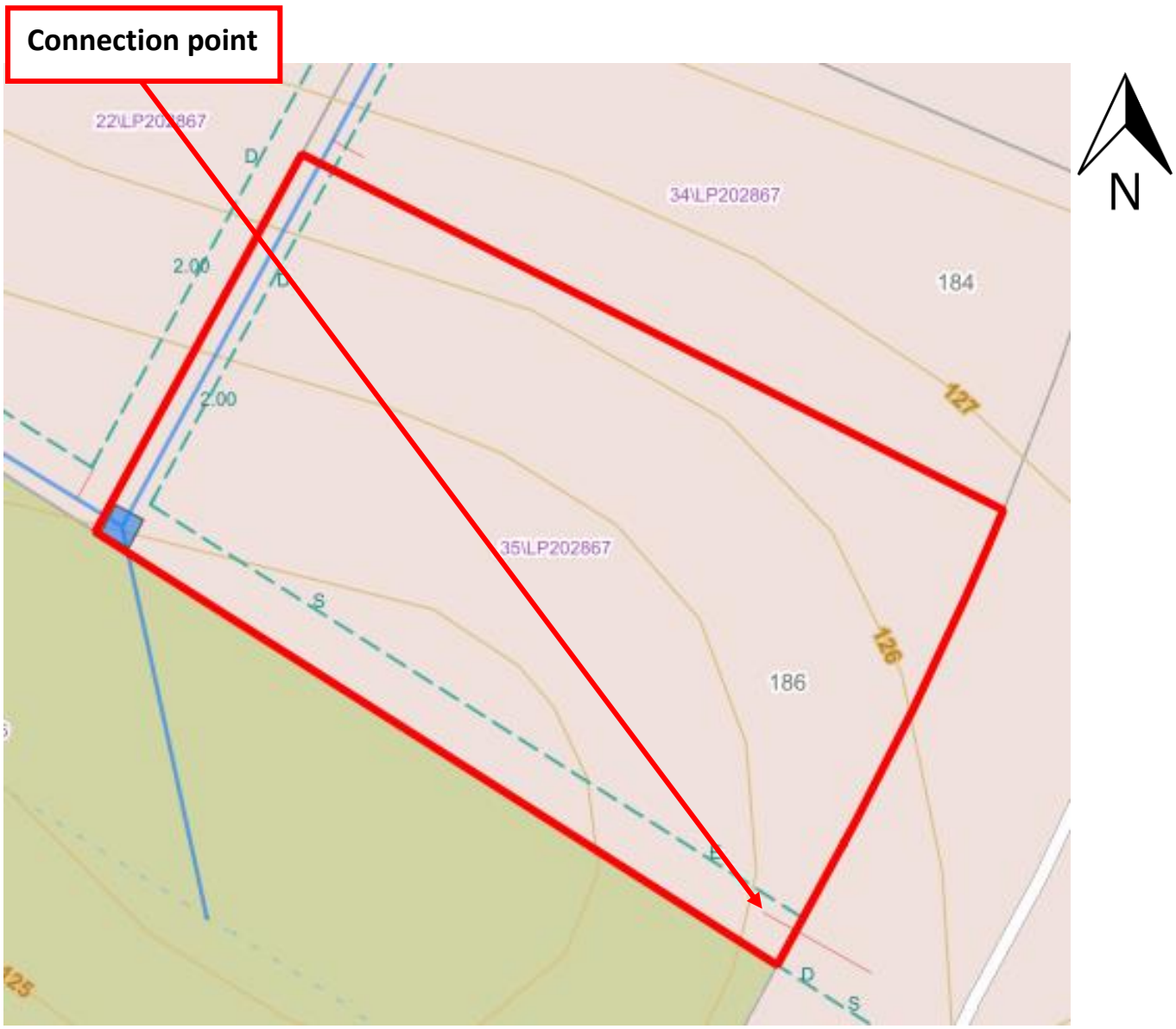
Attached: Appendix A

(Please note that this arrow points to the provided house connection to your Legal Point of Discharge)

You can view Council's drainage assets on a map on our website here.



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[redacted]

Tree Reports

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Arboricultural Construction Impact Assessment

Site location

186 Greenvale Drive, Greenvale

Report date:

19th August 2026

Site assessment date:

18th May 2026

Prepared For:

[redacted]

Prepared by

[redacted]

[redacted]

[redacted]

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1. Introduction

1.1 Purpose of report

[redacted] was instructed by [redacted] in May 2026 to provide a ground based visual assessment of all the trees on the site at 186 Greenvale Road, Greenvale as the owner of the property is proposing that a multi-dwelling is constructed on the site. An Arboricultural Impact Assessment to Australian Standard AS4970-2025 (Australian Standards- Protection of trees on development sites) has been requested to make an assessment and recommendations of all the trees surrounding the proposed construction site including trees in neighbouring properties to provide

- The species, height, crown spread, DBH, NRZ, DAB, SRZ, Circumfence at 1.5m and at buttress, TPZ, Age Class, Useful Life Expectancy, Location relevance and to assess each tree to provide its health, structure, retention value and NRZ encroachment. (Abbreviations definitions in 6. Appendices for Tree Data Table)
- Identify the trees on the site, in neighbouring properties and nature strip that maybe impacted from an encroachment into their Notation Rotational Zone (NRZ) or Structural Root Zone (SRZ) because of the proposed construction works.
- To provide an assessment of the potential impact on each tree of the development and determine which trees can be retained in the context of the current plans,
- To recommended measures to be taken to protect any trees that are recommended to be retained during the proposed construction works under the guide lines of AS 4970-2025 (Australian Standards- Protection of trees on development sites)

1.2 Summary of report

The site under review is a residential allotment with a single dwelling constructed on the site. Greenvale Drive is the street frontage with neighbouring properties to the south, west and north.

The site has canopy trees and a smaller weed tree. The neighbouring properties are single dwelling residential allotments and a reserve a with mixture of canopy trees and smaller trees. The neighbouring properties have several canopy trees located along the property boundaries.

A total of thirteen were assessed for this report. This includes five trees that are located on the property, six trees that are located in neighbouring properties and two trees located on the nature strip. With one of the trees consisting of a group of multiple trees. Each tree had been individually assessed and the results provide in table format. Each tree has been numbered and this number corresponds to assessment table and any plans

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Four trees were assessed on the site, four trees have been given a low retention value (Trees numbered 2, 3, 4 & 8) one trees and have been given a medium retention value (Trees numbered 1)

Two trees were assessed that are located on the nature strips and have been given a high retention value (Trees 10 & 12)

Six trees were as assessed that are that are located in neighbouring and have been given a high retention value based upon their location (Trees 5, 6, 7, 9, 11 & 13)

1.3 Planning overlays

GRZ General Residential Zone
GRZ1 General Residential Zone- Schedule 1
Victoria Planning Canopy Tree Law- Clause 52.37

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2. Methodology

2.1 Date of inspection and Inspections procedure

A ground-based visual site and tree inspection was carried out by Sherrin Wiggans on the 18th May 2026 at 186 Greenvale Drive, Greenvale.

The assessment was to record

- Tree Species
- Location
- Height and Crown spread
- Age Class and Safe Useful Life Expectancy,
- Circumference 1.4m above ground level to calculate DSH (Diameter at standards height)
- Circumference at ground level, DAB (Diameter above buttress)
- Health and Structure,
- Retention value
- Photograph of tree

A ground based visual inspection of the tree was carried out according to the principes in Mattheck, Dr. Claus & Breloer, Helge (1994) – Sixth Edition (2001) The Body Language of Trees and Harris, Clark and Matheny (1999) Arboriculture, integrated management of landscape trees, shrubs, and vines, 3rd ed.

Tree location was determined by using site feature survey provide by the client. Trees have been numbered and this number corresponds to assessment table and any plans.

The height and canopy spread of the trees were estimated.

Health and structure are assessed based upon visual inspections and experience; Assessment was limited only to parts of the tree that were visible from ground level within the subject site.

A diameter tape was used to determine the trunk circumference of the tree and rounded up to the nearest whole number.

A proposed ground floor has been provided by client for analysis. Trees have been numbered and Notational Root Zone and Structural Roots Zones are provided for specific trees.

Council Arboriculture Victoria- AS-4970-2009 Calculator was used to calculate diameter of tree.

Encroachment into NRZ and SRZ by the proposed construction works have been calculated using Act Cad.

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2.2 Limitation of assessment

- Tree defects not visible from the ground up have not been discussed and the risk associated is excluded from this report
- Health and structure are assessed based upon visual inspections and experience; Assessment was limited only to parts of the tree that were visible from ground level within the subject site. Airal inspection was not carried out
- Height and canopy spread were estimated
- Circumference of some trees was estimated where access to the trunk was restricted due to site access restrictions.

2.3 References to plans provide for report

- JCA Land Consultants, Plan of feature Survey, 186 Greenvale Drive, Greenvale, 16.4.2026
- Arkham Architecture, Garage Floor Plan, 186 Greenvale Drive, Greenvale, August 2026
- Arkham Architecture, Ground Floor Plan, 186 Greenvale Drive, Greenvale, August 2026

2.4 Referenced document used

- Australian standard AS4970-2025 Protection of trees on development sites.
- Australian Standards AS4373 (2007) Pruning of Amenity Trees.

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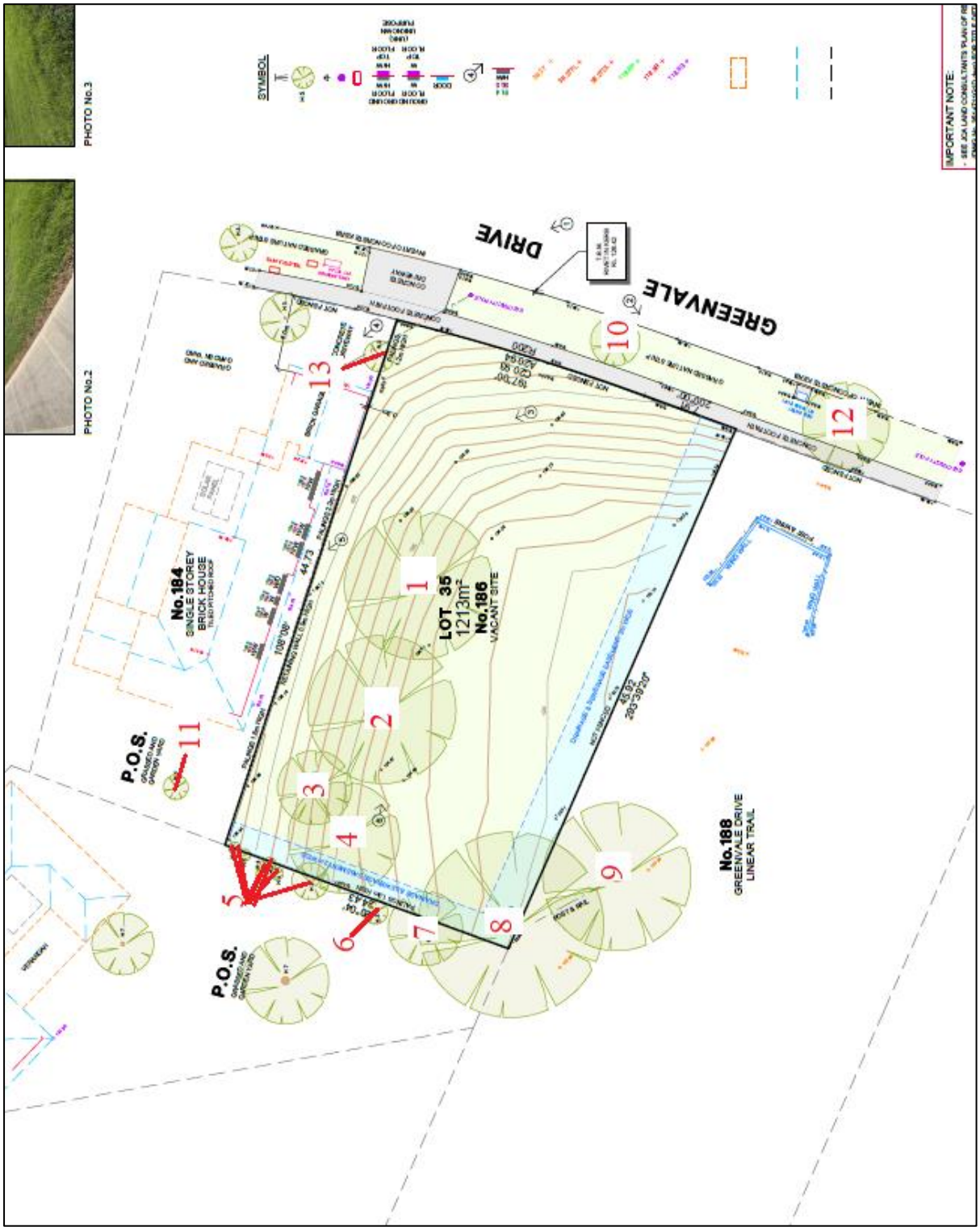
3. Observations

3.1 Site plan



3.2 Tree Data Table

Tree No.	Botanical Name Common Name	Origin	Height (m)	Crown Spread diameter (m)	DSH (cm)	NRZ (m)	DAB (cm)	SRZ (m)	Circum at 1.5m (cm)	Circum above root buttress (cm)	TPZ (m)	Age Class	SULE	Location Relevance	Retention Value	Vigour /Health	Structure /Form	NRZ (%) encroachment	Comments	Permit required for tree removal pursuant Clause 52.37	Arborist's recommendations
1	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	6.5	8	50.9	6.1	50.9	2.5	160	160	6.1	Mature	8yrs	Subject site	Medium	Good	Fair	100.00%	Tree bifurcated at 1.5m.	Yes, Vacant Lot tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Major encroachment. Tree removal required to facilitate proposed construction works.
2	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	8	12	50.9	6.1	50.9	2.5	160	160	6.1	Dead	0yrs	Subject site	Low	Poor	Poor	100.00%	Tree is dead. Broken canopy limbs. Deacy in trunk of tree. Extensive decay at base of tree. Fungal bract at base of tree. High risk of structural failure.	No, tree is dead	Major encroachment. Tree removal required to facilitate proposed construction works.
3	*Coprosma repens* Mirror Bush	Exotic	4	8	29.6	3.6	29.6	1.99	93	93	3.6	Mature	8yrs	Subject site	Low	Good	Fair	100.00%	Tree classified as a weed species.	No	Major encroachment. Tree removal required to facilitate proposed construction works.
4	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	18	16	89.1	10.7	89.1	3.2	280	280	10.7	Mature	2yrs	Subject site	Low	Fair	Fair	100.00%	Tree bifurcated at 2m. Dead canopy limbs. Extensive dieback at tips of branches. Extensive epicormic growth in canopy. Health of tree declining.	Yes, Canopy boundary tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Major encroachment. Tree removal required to facilitate proposed construction works.
5	*Thuja occidentalia* Thuja x 7	Exotic	4	2	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height, spread less than 4m and circumfence less than 50cm.	7 x Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
6	*Callistemon viminalis* Weeping Bottle Brush	Native	3	4	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height and circumfence less than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
7	*Pittosporum tenuifolium* James Stirling Pittosporum	Exotic	7	8	19.7	2.4	19.7	1.66	62	62	2.4	Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		Yes, Canopy boundary tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
8	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	10	16	58	7	58	2.6	120 + 80 + 60 + 60 + 40 + 60	182	7	Mature	8yrs	Subject site	Low	Good	Poor	23.20%	Tree bifurcated at base into 6 leaders.	Yes, Canopy boundary tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Major encroachment. Tree removal required to facilitate proposed construction works.
9	*Eucalyptus species* Eucalyptus	Native	16	12	63.7	7.6	63.7	2.7	200	200	7.6	Mature	10yrs	Council Asset, 3rd party tree, located in reserve.	High	Good	Fair	2.00%	Tree bifurcated at 4m. One leader has large wound on western side of trunk.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. Minor encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
10	*Callistemon salignus* Willow Bottlebrush	Native	4.5	4	31.3	3.8	31.3	2	90 + 40	100	3.8	Semi-Mature	10yrs	Council Asset, 3rd party tree, located on nature strip.	High	Fair	Fair	0.00%	Sooty mould in canopy.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
11	*Callistemon viminalis* Weeping Bottle Brush	Native	4	4	19.7	2.4	19.7	1.66	62	62	2.4	Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
12	*Angophora costata* Smooth Apple Bark	Native	7	9	31.3	3.8	31.3	2	90 + 40	100	3.8	Semi-Mature	10yrs	Council Asset, 3rd party tree, located on nature strip.	High	Good	Fair	0.00%	Canopy pruned from overhead power lines.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
13	*Callistemon viminalis* Weeping Bottle Brush	Native	4	4	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height, spread less than 4m and circumfence less than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.

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3.3 Tree Data table on retention value

Low retention

Tree No.	Botanical Name Common Name	Location Relevance	Retention Value	Arborist's recommendations
2	*Fraxinus anguifolia* Narrow Leaved Ash	Subject site	Low	Major encroachment. Tree removal required to facilitate proposed construction works.
3	*Coprosma repens* Mirror Bush	Subject site	Low	Major encroachment. Tree removal required to facilitate proposed construction works.
4	*Fraxinus anguifolia* Narrow Leaved Ash	Subject site	Low	Major encroachment. Tree removal required to facilitate proposed construction works.
8	*Fraxinus anguifolia* Narrow Leaved Ash	Subject site	Low	Major encroachment. Tree removal required to facilitate proposed construction works.

Medium retention

Tree No.	Botanical Name Common Name	Location Relevance	Retention Value	Arborist's recommendations
1	*Fraxinus anguifolia* Narrow Leaved Ash	Subject site	Medium	Major encroachment. Tree removal required to facilitate proposed construction works.

High Retention

Tree No.	Botanical Name Common Name	Location Relevance	Retention Value	Arborist's recommendations
5	*Thuja occidentalia* Thuja x 7	3rd party tree, located in neighbouring property.	High	7 x Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
6	*Callistemon viminalis* Weeping Bottle Brush	3rd party tree, located in neighbouring property.	High	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
7	*Pittosporum tenuifolium* James Stirling Pittosporum	3rd party tree, located in neighbouring property.	High	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
9	*Eucalyptus species* Eucalyptus	Council Asset, 3rd party tree, located in reserve.	High	Tree to be retained. Minor encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
10	*Callistemon salignus* Willow Bottlebrush	Council Asset, 3rd party tree, located on nature strip.	High	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
11	*Callistemon viminalis* Weeping Bottle Brush	3rd party tree, located in neighbouring property.	High	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
12	*Angophora costata* Smooth Apple Bark	Council Asset, 3rd party tree, located on nature strip.	High	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
13	*Callistemon viminalis* Weeping Bottle Brush	3rd party tree, located in neighbouring property.	High	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.

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3.4 Tree photo



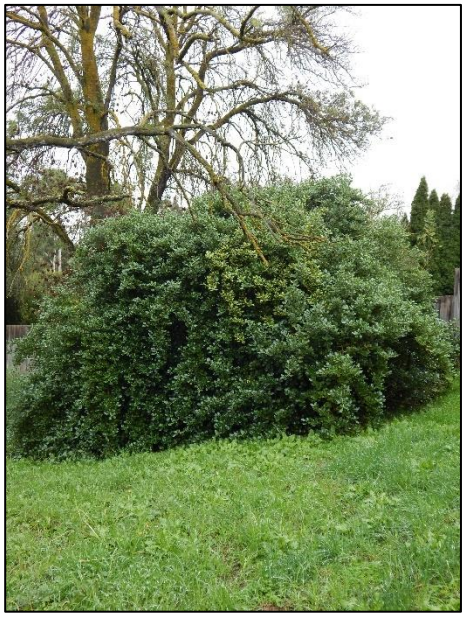
Tree 1



Tree 2



Tree 3



Tree 4

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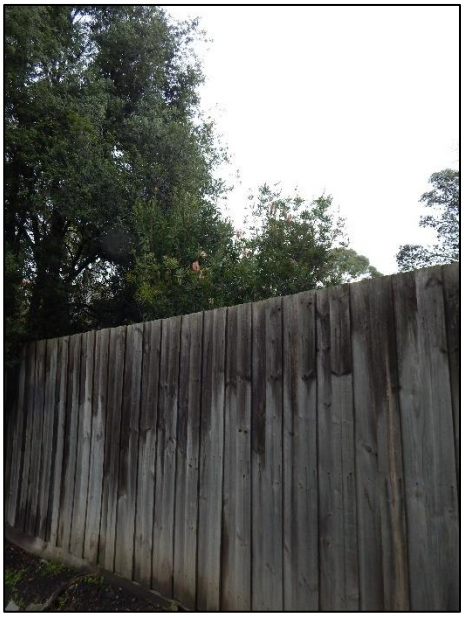
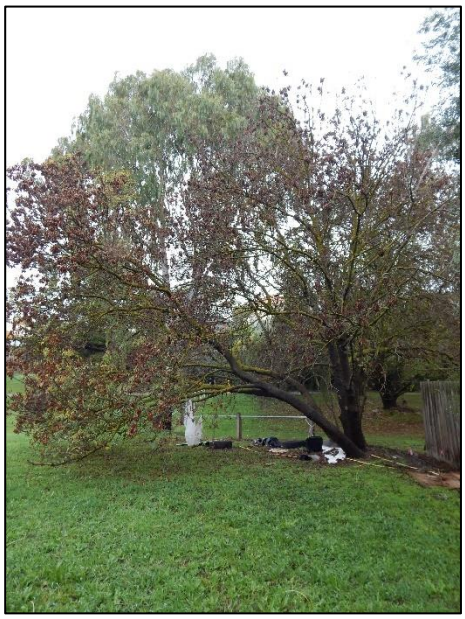
Tree 5



Tree 6



Tree 7



Tree 8

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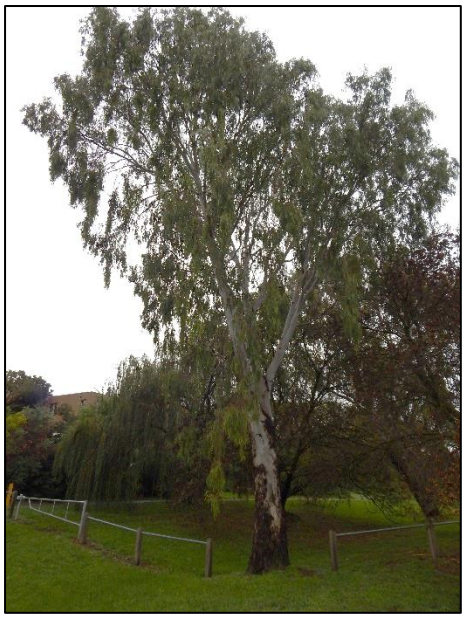


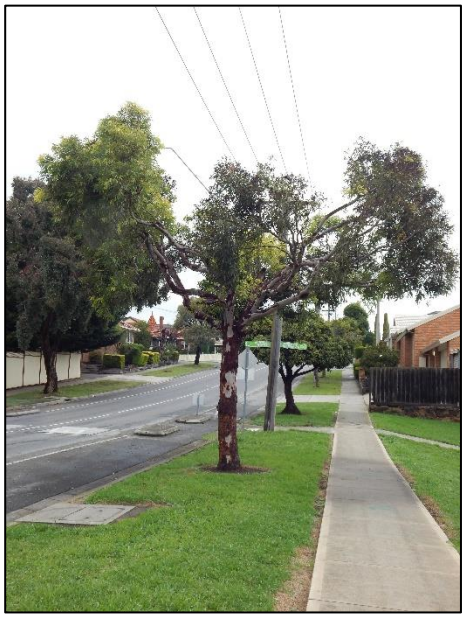
Tree 9



Tree 10



Tree 11



Tree 12

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Tree 13

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4. Discussion

Australian Standards AS4970-2025 Protection of trees on development sites:

The Australian standards cover tree management guidelines for the proper care and protection of trees recommended to be retained and integrated into construction sites throughout all stages of the development. It also has guidelines for establishing which trees should be retained and the impact the proposed works will have upon trees. The standards ensure a uniform approach to trees on development sites and calculations of tree protection zones and crown area that require protection during construction. It also states what construction activities are restricted or excluded within the Notional Root Zone and the tree protection measures required during the development of the site.

The Notional Root Zone (NRZ) is the principal means of protecting trees on development sites. The NRZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. Australian Standards AS4970 allow for minor encroachment into NRZ of less than 10% of the area of the NRZ and is outside the SRZ. Moderate encroachment where the area of encroachment is greater than 10% and up to 20% but outside the SRZ, with no recent NRZ encroachments. The Project Arborist must review the proposal and demonstrate whether the tree's viability can be maintained. This may involve site-specific mitigation strategies and appropriate design or construction controls. The area lost to this encroachment should be compensated for elsewhere and contiguous with the NRZ. However, if the proposed encroachment is greater than 10% of the NRZ or inside the SRZ the project arborist must demonstrate that the tree(s) would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the NRZ. This may require root investigation by non-destructive methods and consideration of relevant factors. Also design factors like tree sensitive construction measures such as pier and beam, suspended slabs, cantilevered building sections, screw piles and contiguous piling can minimize the impact of encroachment. Also, the future growth of the tree, both above and below ground should be taken into account. Precautions should be taken at the planning and design stage to minimize potential conflict between trees and new structures.

The structural root zone (SRZ) is the area required for tree stability. A larger area is required to maintain a viable tree. The SRZ only needs to be calculated when major encroachment into a NRZ is proposed.

Tree crowns may be injured by machinery such as excavators, drilling rigs, cranes, trucks, hoarding installation and scaffolding. The NRZ may need to include additional protection of the above ground parts of the tree. Crown protection may include pruning, tying-back of branches or other measures. If pruning is required, requirements are specified in Australian Standards AS4373 (2007) Pruning of Amenity Trees. The pruning to be undertaken by an arborist with a minimum qualification of AQF Level 3.

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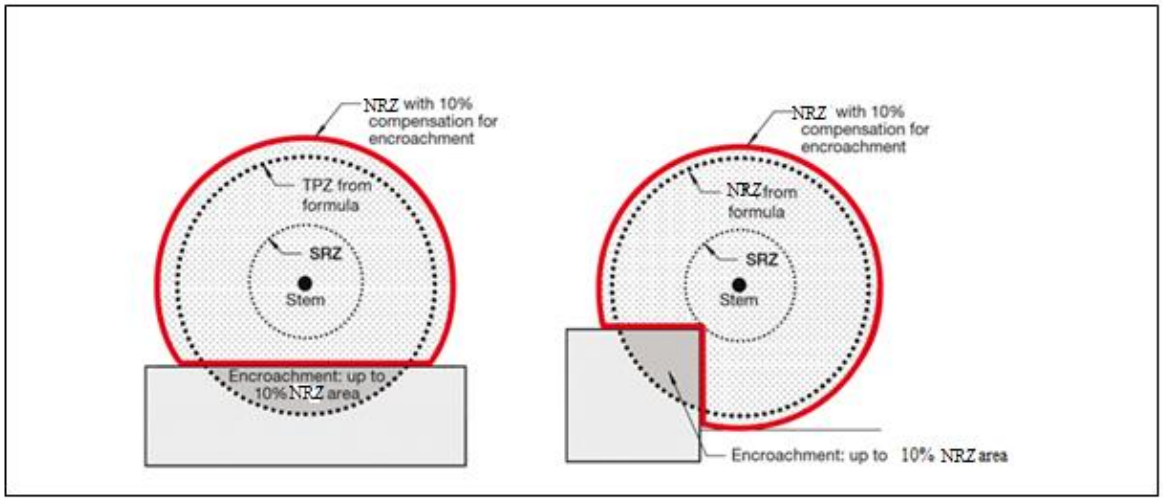

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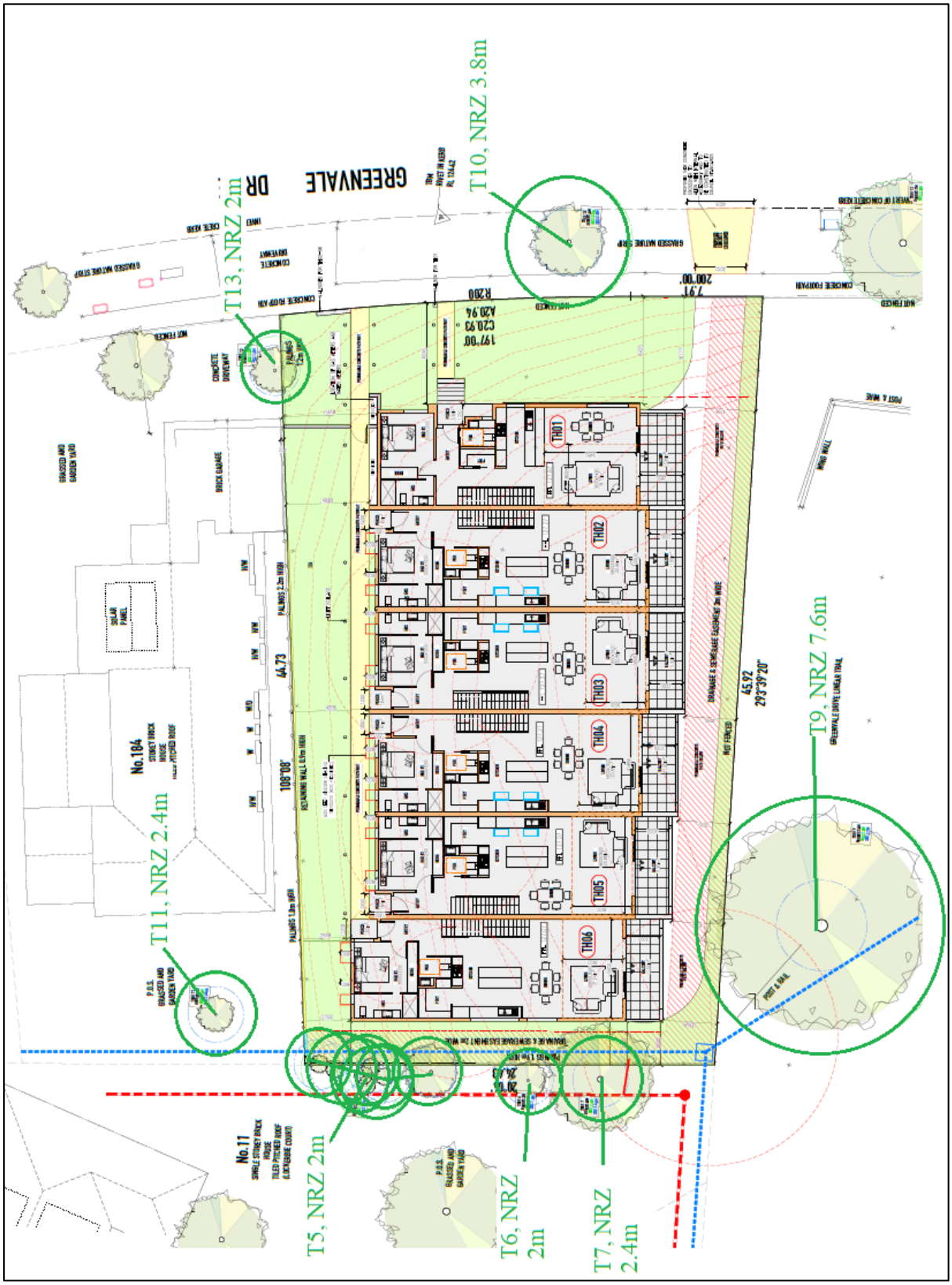
4.2 Site Plan Proposed Works



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4.3 Review of work and impacts table and Analysis of NRZ or SRZ encroachment

Trees to be removed

Tree No.	Botanical Name Common Name	Origin	Height (m)	Crown Spread diameter (m)	DSH (cm)	NRZ (m)	DAB (cm)	SRZ (m)	Circum at 1.5m (cm)	Circum above root buttress (cm)	TPZ (m)	Age Class	SULE	Location Relevance	Retention Value	Vigour /Health	Structure /Form	NRZ (%) encroachment	Comments	Permit required for tree removal pursuant Clause 52.37	Arborist's recommendations
1	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	6.5	8	50.9	6.1	50.9	2.5	160	160	6.1	Mature	8yrs	Subject site	Medium	Good	Fair	100.00%	Tree bifurcated at 1.5m.	Yes, Vacant Lot tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Major encroachment. Tree removal required to facilitate proposed construction works.
2	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	8	12	50.9	6.1	50.9	2.5	160	160	6.1	Dead	0yrs	Subject site	Low	Poor	Poor	100.00%	Tree is dead. Broken canopy limbs. Deacy in trunk of tree. Extensive decay at base of tree. Fungal bract at base of tree. High risk of structural failure.	No, tree is dead	Major encroachment. Tree removal required to facilitate proposed construction works.
3	*Coprosma repens* Mirror Bush	Exotic	4	8	29.6	3.6	29.6	1.99	93	93	3.6	Mature	8yrs	Subject site	Low	Good	Fair	100.00%	Tree classified as a weed species.	No	Major encroachment. Tree removal required to facilitate proposed construction works.
4	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	18	16	89.1	10.7	89.1	3.2	280	280	10.7	Mature	2yrs	Subject site	Low	Fair	Fair	100.00%	Tree bifurcated at 2m. Dead canopy limbs. Extensive dieback at tips of branches. Extensive epicormic growth in canopy. Health of tree declining.	Yes, Canopy boundary tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Major encroachment. Tree removal required to facilitate proposed construction works.
8	*Fraxinus anguifolia* Narrow Leaved Ash	Exotic	10	16	58	7	58	2.6	120 + 80 + 60 + 60 + 40 + 60	182	7	Mature	8yrs	Subject site	Low	Good	Poor	23.20%	Tree bifurcated at base into 6 leaders.	Yes, Canopy boundary tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Major encroachment. Tree removal required to facilitate proposed construction works.

Tree 1: Tree is located on subject site. Tree is bifurcated at 1.5m. Proposed multi-dwelling will require the removal of this tree. This tree is recommended for removal to allow for the proposed construction works as it is not a significant native canopy tree and its retention will reduce the building envelope. Tree is of medium retention value. A permit is required to remove this tree under Clause 52.37 as it is a vacant lot tree over 5m in height, its spread is more than 4m and circumfence is more than 50cm.

Tree 2: Tree is located on subject site. Tree is dead. There are broken canopy limbs and decay in trunk of tree. There is extensive decay at base of tree and a fungal bract which has weakened the structure of the tree at this point. Ther is a very high risk of structural failure and no Arboricultural work will reduce or remove this risk. Proposed multi-dwelling will require the removal of this tree. This tree is recommended for removal to allow for the proposed construction works as it is dead. Tree is of low retention value. No permit is required to remove this tree as it is dead.

Tree 3: Tree is located on subject site. Tree is a weed species. Proposed multi-dwelling will require the removal of this tree. This tree is recommended for removal to allow for the proposed construction works as it is not a significant native canopy tree. Tree is of low retention value. No permit is required to remove this tree as it is not a boundary canopy tree.

Tree 4: Tree is located on subject site. Tree bifurcated at 2m. There are dead canopy limbs and extensive dieback at tips of branches. Ther is also extensive epicormic growth in canopy. The health of tree declining and it will not recover. Proposed multi-dwelling will require the removal of this tree. This tree is recommended for removal to allow for the proposed construction works due to its declining health. Tree is of low retention value. A permit is required to remove this tree under Clause 52.37 as it is a canopy boundary tree over 5m in height, its spread is more than 4m and circumfence is more than 50cm.

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Tree 8: Tree is located on subject site. Tree bifurcated at base into 6 leaders. Proposed driveway and multi-dwelling will be 1.7m from the trunk of the tree entering the NRZ by 5.3m and entering the SRZ by 0.9m. Construction will enter 35.9m^2, 23.2% of the total NRZ which is 154.2m^2. The encroachment is major, as it is more than 20%, based upon the guide lines of the Australian Standards AS4970. The proposed construction works will require the removal of this tree. This tree is recommended for removal to allow for the proposed construction works due to its poor structure. Tree is of low retention value. A permit is required to remove this tree under Clause 52.37 as it is a canopy boundary tree over 5m in height, its spread is more than 4m and circumfence is more than 50cm.

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Trees to be retained, 3rd party trees

Tree No.	Botanical Name Common Name	Origin	Height (m)	Crown Spread diameter (m)	DSH (cm)	NRZ (m)	DAB (cm)	SRZ (m)	Circum at 1.5m (cm)	Circum above root buttress (cm)	TPZ (m)	Age Class	SULE	Location Relevance	Retention Value	Vigour /Health	Structure /Form	NRZ (%) encroachment	Comments	Permit required for tree removal pursuant Clause 52.37	Arborist's recommendations
5	*Thuja occidentalia* Thuja x 7	Exotic	4	2	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height, spread less than 4m and circumfence less than 50cm.	7 x Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
6	*Callistemon viminalis* Weeping Bottle Brush	Native	3	4	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height and circumfence less than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
7	*Pittosporum tenuifolium* James Stirling Pittosporum	Exotic	7	8	19.7	2.4	19.7	1.66	62	62	2.4	Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		Yes, Canopy boundary tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
9	*Eucalyptus species* Eucalyptus	Native	16	12	63.7	7.6	63.7	2.7	200	200	7.6	Mature	10yrs	Council Asset, 3rd party tree, located in reserve.	High	Good	Fair	2.00%	Tree bifurcated at 4m. One leader has large wound on western side of trunk.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. Minor encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
10	*Callistemon salignus* Willow Bottlebrush	Native	4.5	4	31.3	3.8	31.3	2	90 + 40	100	3.8	Semi-Mature	10yrs	Council Asset, 3rd party tree, located on nature strip.	High	Fair	Fair	0.00%	Sooty mould in canopy.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
11	*Callistemon viminalis* Weeping Bottle Brush	Native	4	4	19.7	2.4	19.7	1.66	62	62	2.4	Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
12	*Angophora costata* Smooth Apple Bark	Native	7	9	31.3	3.8	31.3	2	90 + 40	100	3.8	Semi-Mature	10yrs	Council Asset, 3rd party tree, located on nature strip.	High	Good	Fair	0.00%	Canopy pruned from overhead power lines.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
13	*Callistemon viminalis* Weeping Bottle Brush	Native	4	4	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height, spread less than 4m and circumfence less than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.

Tree 5: Consists of a group of 7 trees. Trees are located in neighbouring property. Proposed multi-dwelling will be 2.9m from the trunk of the trees and will not enter the NRZ or SRZ. Therefore, the proposed construction works will not cause the health or stability of these trees to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of these trees do not decline as a direct result of the proposed construction works (see tree protection plan). Trees are of high retention value. No permit required to remove these trees as they are under 5m in height, thier circumfence is less than 50cm and thier canopy spread is less than 4m.

Tree 2: Tree is located in neighbouring property. Proposed multi-dwelling will be 3.3m from the trunk of the tree and will not enter the NRZ or SRZ. Therefore, the proposed construction works will not cause the health or stability of this tree to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of this tree do not decline as a direct result of the proposed construction works (see tree protection plan). Tree is of high retention value. No permit required to remove this tree as it is under 5m in height and its circumfence is less than 50cm.

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Tree 7: Tree is located in neighbouring property. Proposed multi-dwelling will be 3.2m from the trunk of the tree and will not enter the NRZ or SRZ. Therefore, the proposed construction works will not cause the health or stability of this tree to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of this tree do not decline as a direct result of the proposed construction works (see tree protection plan). Tree is of high retention value. A permit is required to remove this tree under Clause 52.37 as it is a canopy boundary tree over 5m in height, its spread is more than 4m and circumfence is more than 50cm.

Tree 9: Tree is located in neighbouring reserve. Tree bifurcated at 4m. One leader has large wound on western side of trunk. Proposed driveway for multi-dwelling will be 6.7m from the trunk of the tree entering the NRZ by 0.9m but not entering the SRZ. Construction will enter $3.7m^2$, 2% of the total NRZ which is $181.7m^2$. The encroachment is minor, as it is less than 10%, based upon the guide lines of the Australian Standards AS4970. Therefore, the proposed construction works will not cause the health or stability of these trees to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of these trees do not decline as a direct result of the proposed construction works (see tree protection plan). Tree is of high retention value. A permit is required to remove this tree. Any removal or pruning of council owned trees must be undertaken by a council approved contractor.

Tree 10: Tree is located on nature strip. Sooty mould in canopy. Proposed cross over for multi-dwelling will be 7m from the trunk of the tree and will not enter the NRZ or SRZ of this tree. Therefore, the proposed construction works will not cause the health or stability of these trees to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of these trees do not decline as a direct result of the proposed construction works (see tree protection plan). Tree is of high retention value. A permit is required to remove this tree. Any removal or pruning of council owned trees must be undertaken by a council approved contractor.

Tree 11: Tree is located in neighbouring property. Proposed multi-dwelling will be 7.9m from the trunk of the tree and will not enter the NRZ or SRZ of this tree. Therefore, the proposed construction works will not cause the health or stability of these trees to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of these trees do not decline as a direct result of the proposed construction works (see tree protection plan). Tree is of high retention value. No permit required to remove this tree as it is under 5m in height.

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Tree 12: Tree is located on nature strip. Canopy has been pruned from overhead powerlines. Proposed cross over for multi-dwelling will be 9.1m from the trunk of the tree and will not enter the NRZ or SRZ of this tree. Therefore, the proposed construction works will not cause the health or stability of these trees to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of these trees do not decline as a direct result of the proposed construction works (see tree protection plan). Tree is of high retention value. A permit is required to remove this tree. Any removal or pruning of council owned trees must be undertaken by a council approved contractor.

Tree 13: Tree is located in neighbouring property. Proposed path to multi-dwelling will be 4.4m from the trunk of the tree and will not enter the NRZ or SRZ of this tree. Therefore, the proposed construction works will not cause the health or stability of these trees to decline and no design alterations are recommended. However, general requirements for construction apply (see below) and tree protection measures must be installed to ensure that the health and stability of these trees do not decline as a direct result of the proposed construction works (see tree protection plan). Tree is of high retention value. No permit required to remove this tree as it is under 5m in height, its spread is under 4m and its circumfence is less than 50cm.

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5. Conclusion

A total of thirteen were assessed for this report. This includes five trees that are located on the property, six trees that are located in neighbouring properties and two trees located on the nature strip. With one of the trees consisting of a group of multiple trees. Each tree had been individually assessed and the results provide in table format. Each tree has been numbered and this number corresponds to assessment table and any plans

Four trees were assessed on the site, four trees have been given a low retention value (Trees numbered 2, 3, 4 & 8) one trees and have been given a medium retention value (Trees numbered 1)

Two trees were assessed that are located on the nature strips and have been given a high retention value (Trees 10 & 12)

Six trees were as assessed that are that are located in neighbouring and have been given a high retention value based upon their location (Trees 5, 6, 7, 9, 11 & 13)

Five trees have been recommended for removal.

Trees 1, 2, 3, 4 & 8: These trees are located on site and required to be removed due to the proposed construction works.

Eight trees have been recommended to retained.

Tree 12: Tree is located in the neighbouring reserve nature strip. Proposed construction works will not enter the NRZ or SRZ.

Tree 10: Tree is located on the nature strip. Proposed construction works will not enter the NRZ or SRZ.

Tree 5, 6, 7, 11 & 13: Tree are located in neighbouring property. Tree 5 consists of a group of trees. Proposed construction works will not enter the NRZ or SRZ.

Tree 9: Tree is located in the neighbouring reserve. The encroachment is minor, as it is less than 10%, based upon the guide lines of the Australian Standards AS4970. Therefore, the proposed construction works will not cause the health or stability of this tree to decline and no design alterations are recommended.

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6. Recommendations

Trees 5, 6, 7, 9, 10, 11, 12 & 13: General requirements for construction for all trees recommended to be retained.

Root Barriers: There is also a risk that the root system of this tree may cause damage to the property in the future. Therefore, it is recommended that root barriers are installed. Any root barrier must be installed outside the NRZ of this tree and the installation of the root barrier must be approved by the Project arborist or Responsible Authority prior to installation to determine the impact upon retained trees.

Services: All services and pits must be routed outside the NRZ's of the trees. If underground services must be routed within the NRZ, they must be installed by boring under the tree protection zone or installed using hydro excavation under the supervision of the project arborist. The direct drilling bore must be at least 600mm deep. The project arborist must be advised that the work is going to be carried out and present if roots larger than 20mm are to be cut or damaged. Any root pruning must be carried out by the project Arborist, and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.

Landscaping within NRZ: Changes to soil conditions for landscaping must be avoided within NRZ of trees, all landscaping must be above existing grade level. There must be no grade changes within the NRZ and no roots are to be cut or damaged during any part of the construction process. If excavations of fill are required for approved landscaping works then root investigation must be carried out to establish if any significant root will be damaged. (Tree roots with a diameter large than 20mm are significant roots) Root investigation will allow the location and distribution of the root to be determined through non-destructive methods like pneumatic, hydraulic, hand digging or ground penetrating radar. Any approved excavations or fill are to be carried out manually within the NRZ of the tree. Mechanical digging is not permitted. This includes excavations for paths. Any root severance with the NRZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction.

Fencing: All foundations for fences within the NRZ/TPZ of the tree must be designed and constructed using an approved tree sensitive non-destructive footing design to the satisfaction of the Responsible Authority. Any holes for posts for new or replacement boundary fences or with the NRZ of this tree must be re positioned around significant roots (tree roots with a diameter large than 25mm are significant roots) if required. All excavations within the NRZ of trees for the construction of foundations for posts must be dug under the direct supervision of the project Arborist and no roots greater than 25mm in diameter are to be cut or damaged during any part of the construction process. If posts are required in the SRZ of this tree, holes must be hand dug under the direct supervision of the project Arborist and no roots greater than 25mm in diameter are to be cut or damaged during any part of the construction process. Any pruning must be carried out by the project Arborist, and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.

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Pruning: Any removal or pruning of council owned trees must be undertaken by a council approved contractor. The lower limbs of any tree to be retained maybe lifted to ensure that they are not damaged. Any pruning to be carried out before any excavation/construction works begin to ensure that the tree is not damaged by machinery. This work must be carried out to Australian Standards AS4373 (2007) Pruning of Amenity Trees. The pruning to be undertaken by an arborist with a minimum qualification of AQF Level 3.

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7. Appendices for Tree Data Table

Genus/Species: The identification of the tree is based upon visual characteristics and given that the key identifying features of a tree are not often available the accuracy of identification cannot be guaranteed. Where the species of any tree is not known, sp. is used.

Native/Exotic: Native. Original origin of that Genus/Species is Australia

Exotic. Original origin of that Genus/Species is not Australia

Height and Spread: The height and crown spread were estimated from the ground level.

DSH (Diameter at Standard Height): The diameter of the trunk (DSH) of the tree is the nominal trunk diameter at 1.4m above ground level and is determined from the circumference of the trunk divided by *pi*. Where a tree is multi-stemmed the combined DSH is calculated using the formula

Total DSH= $\sqrt{(DSH_1)^2 + (DSH_2)^2 + (DSH_3)^2}$

Notional Root Zone (NRZ:) represents the theoretical area required to sustain a tree's health and long-term viability. It continues to include the Structural Root Zone (SRZ), which is the innermost zone critical for tree stability due to woody root growth and soil cohesion. Importantly, the term Tree Protection Zone (TPZ) is still in use, but it now refers specifically to the area protected during development activities, typically through physical barriers and site management measures to ensure tree viability.

Tree Protection Zone: The tree protection zone (TPZ) is the principal means of protecting trees on development sites. 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 TPZ incorporates the structural root zone (SRZ). The radius of the TPZ is calculated for each tree by multiplying its DSH x 12.

DAB: Diameter above buttress in cm, measured above root buttress and is determined from the circumference of the trunk divided by *pi*. Where a tree is multi-stemmed the combined DAB is calculated using the formula

Total DAB= $\sqrt{(DAB_1)^2 + (DAB_2)^2 + (DAB_3)^2}$

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Structural Root Zone: The structural root zone (SRZ) is the area required for tree stability. The SRZ only need to be calculated when encroachment of larger than 10 % is proposed into a TPZ. The radius of the SRZ is calculated for each tree by the formula.

SRZ radius = (D x 50)0.42 x 0.64.

D= trunk diameter, in m, measured above the root buttress.

Age Class:

Young	80% of life expectancy remaining
Semi-Mature	60%of life expectancy remaining
Mature	40% of life expectancy remaining
Senescent	10% of life expectancy remaining
Dead	0% of life expectancy remaining

S.U.L.E (Safe Useful Life Expectancy);

0 yrs	The tree is dead or almost dead and constitutes a hazard or has structural faults that poses a real threat to life and property.
5 yrs	The trees health is in decline and unlikely to recover or has structural faults that poses a real threat to life and property.
5-15yrs	The health of the tree is likely to decline during the next 15 years. This may be due to it being a short-lived species. It also may require high levels of maintenance after 15 years
15-25 yrs	The health and structure of the tree are likely to decline in the next 15-25 years. This may be due to it being a short-lived species. It also may require high levels of maintenance after 15 years.
25-50yrs	The health and structure of the tree are likely to still to be in good condition in the next 25-50 years. It may require a moderated level of maintenance after 25 years.
>50yrs	The health and structure of the tree are likely to still to be good condition in the next 50 years. It may require a low level of maintenance after 50 years.

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Location relevance:

- On Site Tree is located on the property.
- 3rd Party Tree is located in a neighbouring property, reserve or on the nature strip.

Retention Value:

High Retention Value	The tree must be retained and the design must accommodate its long-term retention.
Medium Retention Value	The tree may be retained if it does not hamper the design intent.
Low Retention Value	The tree is recommended for removal.

Vigor/Health:

Excellent	Crown full with full foliage density. Good new leaf and shoot growth with no dieback. Less than 30% deadwood. Tree is considered to be an excellent example of that species.
Good	Crown full with good foliage density. Average new leaf and shoot growth with little or no dieback. Less than 30% deadwood.
Fair	Crown foliage density below average. Less than average new leaf and shoot growth with minor dieback. More than 30% deadwood.
Poor	Poor new leaf and shoot growth. Extensive dieback and epicormic growth. Pathogens maybe present. More than 30% deadwood.
Dead	Tree is dead.

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Structure:

Excellent	Tree has an excellent defined and balanced canopy. Good branch union with no defects visible. No defect visible in the trunk. Tree is considered to be an excellent example of that species.
Good	Tree has a well-defined and balanced canopy. Good branch unions with little or no defects visible. Little or no defects visible in the trunk.
Fair	Tree has minor defaults in crown. Maybe unbalanced or some branch unions may show minor faults. Defects in trunk, bifurcated, leaning, wounds or decay.
Poor	Tree has significant faults with canopy or trunk. Poor branch unions with visible defects. Visible defects in trunk. The tree may have suffered significant root damage.

Percentage encroachment:

- **Major Encroachment**: More than 20% of the NRZ area, and/or encroachment into the SRZ. Response: The Project Arborist must be engaged to investigate alternative designs or demonstrate whether the tree can remain viable. This requires a detailed assessment of the tree and site, and may involve non-destructive root investigations.

- **Moderate Encroachment**: Greater than 10% and up to 20% of the NRZ area, outside the SRZ, with no recent NRZ encroachments. The Project Arborist must review the proposal and demonstrate whether the tree's viability can be maintained. This may involve site-specific mitigation strategies and appropriate design or construction controls.

- **Minor Encroachment:** 10% or less of the NRZ area, outside the SRZ, with no recent NRZ encroachments. Generally considered low-risk. If standard tree protection measures are implemented, significant impacts to tree health, structure, or longevity are unlikely.

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8. Glossary: Explanation of Terms

Air Knife: To reduce the damage to the root system of this tree it is recommended that the soil excavated for the services within the optimum tree protection zone of this tree is cleared away with an air knife. This will allow the roots to be exposed without damaging them. This work is to be carried out by a qualified Arborist to recommended Australian Arboricultural standards. Where possible the pipes for the services to the proposed units must be placed under the tree roots and tree roots may only be cut by a qualified Arborist.

Bifurcated: Bifurcations are where two or more stems arise near or at the same position on a trunk. As a result of these stems growing simultaneously they do not develop layers of supporting wood which is normally associated with branch development. This point of attachment is further weakened by included bark, which is the result of the bark of the internal faces of the stem becoming enclosed. There is also a risk of failure at this point due to the weight and leverage of these branches in relation to the strength of their attachment. This risk increases as this tree matures the branches spread, further increasing the stress on this point of attachment.

Building up of soil: The build-up of soil around the base of the tree will result in serious structural problems in the future. The building up of soil around the base of trees smothers the root system. Most of the trees woody transport roots and fine absorption roots, which absorb and transport water and nutrients are found in the top 150mm of soil. The loss of these roots will result in a decline in the health of the tree. The build-up of soil around the trunk of the tree also encourages diseases and causes the trunk of the tree to rot, resulting in an increased risk of structural failure.

Central leader: The main steam of the tree.

Cracks in outer bark of trees: the crack/splits due to irregular watering. The cracks/splits are a result of the trunk of the tree swelling as it takes up water after a period of drought. These crack/splits do not weakening the structure of the tree but deep cracks can create wounds that are vulnerable to decay and diseases.

Crowded out by neighbouring trees: As a result of this tree being crowded out by neighbouring trees there are few lateral branches. The lateral branches in the canopy of this tree concentrated at the top of the tree. An ideal branch distribution would centre the wind load acting on the tree at about two thirds of the total height. Ideally, one-half or more of the foliage should be on branches originating on the lower two-thirds of the trunk, and one-half or less should originate on the upper one-third. Pruning will not improve the shape or stability of this tree, nor will it reduce the potential of limb failure.

Dead tree: This tree is dead, there is no foliage on this tree and the bark is starting to peel off the trunk and canopy limbs. The health of this tree will not recover. This tree has died due to old age and a lack of water.

Deadwood: Branch or stem bearing no live tissue

Decay: The process of degradation of woody tissue by fungi or bacteria through decomposition. The decomposition of woody tissue had an effect upon the health and structural integrity of trees.

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Decline due to old age: The health of this tree is in decline due to the natural process of old age. Trees slow in growth as they approach maximum age, and become more vulnerable to disease and wind. The indicators that the health of a tree is in decline are the die back of the branches at the tips and the epicormic growth in the canopy.

Dieback: The progressive death of small branches generally from the tipoff the branch to the base.

Epicormic growth: Epicormic growth are shoots that arise from latent buds on mature branches. When a mature tree is stressed by drought, nutrient deficiency, old age, or disease, inside branches are exposed to more light due to the loss of foliage. Higher light intensity causes many low vigor epicormic shoots to sprout along the upper sides of the main branches to replace the loss of foliage and to increase photosynthesis. These epicormic shoots have a high risk of failure as they are only attached to the outside of the stem they grow from. As an epicormic shoot increases in size there is a high risk that it will fail at the point of attachment, as it is not strong enough to support its weight.

Fungal Bract: The fungal bracts are an indicator of fungal disease in the tree. Airborne fungal spores enter a tree through wounds and will have entered this tree thought the wound in the trunk of the tree. Fungal diseases infect and decompose the heartwood in the centre of trees; they break down the cell walls and reduce the structural strength of the tree. The wood in the center of a tree trunk is not living tissue, so a tree continues to look and function normally until the disease is quite advanced. When you see bracts, the tree has probably been infected for several years. The fungi destroy the internal framework of the tree and in advanced stages, splits; cavities and cracks develop in the trunk and branches.

The number, location and size of the fungal bracts are indicative of the extent of fungal disease in the tree. The large number of the fungal bracts on this tree indicates that the disease is active. This disease has weakened the tree's structure; it will cause the failure of limbs, failure of the trunk of the tree at the point where the fungal bracts are located and it will eventually kill the tree. The health of this tree will decline in the future as a direct result of the fungal disease. There is a very high risk of limb and structural failure due to the fungal disease in trees and this poses an immediate threat to life and property.

Included Bark: Pattern of development at branch junction where bark is turned inwards rather then pushed out.

Lopping: The removal of the crown or several of the major canopy limbs. This method of pruning leaves large wounds exposed vulnerable to attack by decay fungus. It also promotes the growth of new shoots from epicormic buds. These new shoots have a high risk of failure as they are only attached to the outside of the stem they grow from. As a shoot increases in size there is a high risk that it will fail at the point of attachment, as it is not strong enough to support its weight.

Noxious weed: This tree is classified as a noxious weed due to its ability to self-seed prolifically and it's potential to displace indigenous vegetation.

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Root damage: Tree roots cause movement in the soil as they take up water and nutrients; and this results in cracks and movement in structures. There are two types of damage trees may cause to property, namely direct (through physical contact) and indirect (subsidence). Direct damage is the result of pressure that may be exerted by a tree's roots or trunk. This pressure can affect lightly loaded structures such as garden walls, driveways and paved surfaces but rarely affect heavily loaded structures such as houses. And indirect damage that is the result of tree roots extracting moisture and nutrients from the soils and this results in subsidence and cracks appearing in the building.

Soil Compaction: Soil compaction is the loss of the large pore spaces within the soil. These pore spaces are essential for aeration, the exchange of gases between the soil air and the atmosphere and drainage, the removal of excess water from the soil. Soil compaction is caused by the stress forces applied by foot and vehicle traffic and the storage of materials. The degree of the soil compaction will depend upon the weight of vehicles, number of vehicles, soil moisture levels and clay content.

The loss of the pore spaces results in reduced aeration, loss of root growth, reduced infiltration of water, increased water run-off, reduced availability of plant nutrients and a reduction in the number and diversity of beneficial soil organisms. Damage to the root system of a tree can also result in the loss of structural woody roots, which will leave the tree unstable, reduce water and nutrient uptake which results in the eventual loss of leaves, reduced photosynthesis and thus sugar production. It may take many years for the health of the tree to decline and for the tree to eventually die from root damaged caused by soil compaction.

Windrow Tree: Trees that have grown close together are largely protected from wind forces by adjacent trees. However, they must also compete for light, space, soil area, water and nutrients and unless evenly spaced some trees will outperform other adjacent trees and will suppress the weaker trees. Weak performing trees may grow asymmetrically, with poor stem taper, little canopy and lack a well-developed root system. It is also essential in situations where trees are growing in close proximity to one another and where their canopies and root systems are intertwined that they are removed at the same time. Also, removing just one tree or just several trees resulted in the remaining trees becoming vulnerable to failure as they are now exposed to the elements.

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9. References

- Australian Standards AS4373 (2007) Pruning of amenity Trees,
- Australian Standards AS4970 -20025 Protection of trees on development sites.
- Mattheck, Dr. Claus & Breloer, Helge (1994) – Sixth Edition (2001) The Body Language of Trees – A Handbook for Failure Analysis the Stationery Office, London, England

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10. Terms and Conditions

This Report has been prepared in accordance with and is provided subject to the Terms and Conditions hereinafter contained and/or endorsed

1. Reference in this Report to-

"Arbor Scribe" means and includes all principals, partners or other proprietors, employees, agents, licensees, sub-contractors, consultants and representatives of [redacted]

"the stipulated constraints" means a ground level inspection conducted at the Location during day light hours subject to prevailing weather conditions on the day of inspection

"special activities" means climbing, lifting, excavating or use of special equipment

"special equipment" includes a cherry picker, ladder or other apparatus or appliance

2. Possession of this report or a copy thereof does not imply right of publication or use of any purpose by anyone but the client or their directed representatives, without the prior written consent of Arbor Scribe.

3. The Client warrants to Arbor Scribe that –
   - 3.1. this Report has neither been commissioned and nor will it be used for or in connection with any legal proceedings and acknowledges that Arbor Scribe is not compelled to attend or provide evidence before any Court or Tribunal in connection herewith and may rely on this warranty as a fundamental term and bar to any summons or subpoena being issued against or complied with by Arbor Scribe.
   - 3.2. the Client is the owner or occupier and has a legal right or permission to authorize Arbor Scribe's entry upon the Location.
   - 3.3. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership to any property assumed to be good. No responsibility is assumed for matters legal in character. It is assumed that nay property/project is not in violation of any codes, ordinances, statutes or other government regulation.

4. [redacted] has in accordance with the stipulated constraints exercised due care and skill in conducting an inspection at the Location and preparing this Report. [redacted] will not and is not obliged in connection therewith to carry out any special activities but recommend the Client engages a specialist contractor where appropriate. Information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection. The inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee, expressed or implied that the problems or deficiencies of the plants or property in question may not arise in future.

5. Care has been taken to obtain all information from reliable sources. All data has been verified in so far as possible; however the consultant can neither guarantee nor be responsible for the accuracy of the information provided by others.

6. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

7. Loss or alteration of any part of this report invalidates the entire report.

8. The Client acknowledges having been provided with a copy of both read and understood these Terms and Conditions prior to engaging the services of [redacted]

9. [redacted]s terms of payment are (unless otherwise stated in writing) 7 days nett upon issue of Invoice. An administration charge of $1.00 applies per day and accrues calendar monthly commencing 14 days from the date of Arbor Scribe's invoice.

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11 Expertise to report

Qualification & Experience

- Advanced Certificate in Arboriculture
- Certificate in Horticulture
- 24 years experience in Arboriculture
- 12 years in private sector as a consultant Arborist
- 3 years at Daryl's Tree Care & Surgery, as a crew member and consulting Arborist
- 4 years at City of Banyule, as apprentice Gardener/Arborist
- 5 years at The Hurlingham Club, London, England, as Senior gardener

Expertise to report

Australian Standards AS4970, 1.4.4 Project Arborist

The person responsible for carrying out the tree assessment, report preparation, consultation with designer, specifying tree protection measures, monitoring and certification. The project arborist will be suitably experienced and competent in arboriculture, having acquired through training, qualifications (minimum Australian Qualification Framework (AQF) Level 5, Diploma of Horticulture (Arboriculture) and/**or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard.**

I have been a qualified Arborist for 27 years and have been writing tree reports for the past 16 Years. Therefore, I am qualified to write tree report to Australian standards AS4970 based upon **'or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard.'**

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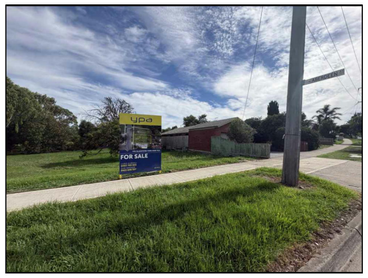

PHOTO No.1



PHOTO No.4



PHOTO No.5



PHOTO No.6



PHOTO No.2



PHOTO No.3

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SYMBOL	DESCRIPTION
	T.B.M.
H 5	TREE (TRUNK & SPREAD) DENOTES TREE APPROXIMATELY 5 METRES HIGH
	SIGN
	ELECTRICITY POLE
	TELSTRA PIT
GROUND FLOOR HW, TOP FLOOR HW	HABITABLE WINDOW
GROUND FLOOR W, TOP FLOOR W, (UNK) UNKNOWN PURPOSE	WINDOW (NON-HABITABLE)
DOOR	DOOR
4	DENOTES DIRECTION AND POSITION OF PHOTO FOUR
51.4 HW, 50.5 HW	HEAD HEIGHT (GROUND FLOOR) SILL HEIGHT (GROUND FLOOR)
36.27	ADJOINING PROPERTY LEVEL
36.27FL	FLOOR LEVEL AT THRESHOLD UNLESS OTHERWISE SHOWN(X REPRESENTS THE LOCATION FOR THE LEVEL)
36.27DL	DECK LEVEL (X REPRESENTS THE LOCATION FOR THE LEVEL SHOWN)
118.5P	PARAPETS
118.5R	RIDGELINES
118.5G	GUTTERING (LIP)
	THE ORANGE DASHED LINEWORK REPRESENTS DATA DERIVED FROM AERIAL PHOTOGRAPHY AND IS APPROXIMATE ONLY. ANY FEATURES IN THESE AREAS (SUCH AS WINDOWS & DOORS) CANNOT BE VERIFIED & FURTHER INVESTIGATION IS STRONGLY RECOMMENDED PRIOR TO ANY DESIGN OR WORKS.
	APPROXIMATE LOCATION OF RIDGELINES/GUTTERS (LIP) (HEIGHT SHOWN THUS 118.0 ARE TO LIP)
	INVERT OF CONC KERB

LAND SURVEYED:
COUNTY OF BOURKE, PARISH OF YUROKE
PART OF CROWN PORTION E, SECTION 3
LOT 35 ON LP202867W
VOL. 9701 FOL. 210

IMPORTANT NOTE:
- SEE JCA LAND CONSULTANTS 'PLAN OF RE-ESTABLISHMENT' (DWG No. 3514711G1D.dwg) FOR TITLE DETAILS AND RELATIONSHIP TO FENCING.

DATUM NOTES:
- LEVELS SHOWN THUS 126.42 ARE BASED ON AUSTRALIAN HEIGHT DATUM
- LEVEL DATUM BASED ON GPSNET CORRECTED RTK GNSS OBSERVATIONS
- CONTOUR INTERVAL AT 0.2m

REV.	REVISION	DATE	APP'D	CHECK

EXPLANATORY NOTES:
- DATA ON THIS PLAN MAY ONLY BE MANIPULATED WITH THE PERMISSION OF [redacted]
- ACCURACY OF DETAIL LOCATION ± 0.05
- ACCURACY OF REDUCED LEVELS ± 0.02
- THIS HARDCOPY PLAN IS A VERIFICATION PLOT OF COMPUTER FILE : DWG: 3514711F1D.dwg DATE: 16/04/26
- LOCATION OF ABUTTING BUILDINGS AND ENVIRONS IS INDICATIVE ONLY UNLESS OTHERWISE SHOWN.
- TREE SPREAD SHOWN ON THIS PLAN IS INDICATIVE ONLY.
- ONLY SIGNIFICANT TREES HAVE BEEN LOCATED AND SHOWN ON THIS PLAN.
- ALL VEGETATION SHOWN ON THIS PLAN IS TO BE VERIFIED BY AN ARBORIST.
- WINDOW DESCRIPTIONS ANNOTATED ON THIS PLAN ARE INDICATIVE ONLY AND SHOULD BE VERIFIED BY THE ARCHITECT, OWNER OR BUILDER PRIOR TO ANY DESIGN.
- ONLY VISIBLE SERVICES ARE SHOWN ON THIS PLAN.
- IT IS STRONGLY RECOMMENDED THAT A 'BEFORE YOU DIG' (www.byda.com.au) ENQUIRY BE MADE TO DETERMINE THE LOCATION OF ANY UNDERGROUND SERVICES WITHIN THE SITE.

N APPROX

Scale: 1:250 @ A2

[redacted]

Municipality : HUME

PLAN OF FEATURE SURVEY

186 GREENVALE DRIVE

GREENVALE

DWG: 3514711F1D
Job No: 35147
Sheet: 1 OF 1

Tree protection requirements during construction:

- Any works within the Tree Protection Zone of any tree, whether the zone is fully enclosed by Tree protection fencing/Ground protection or not, MUST comply with tree protection measures described.
- Temporary irrigation - A manually operated surface/drip irrigation system should be used to water the root zones of the trees within TPZ's during dry spells and after construction works have been completed.
- Excavation work must be carried out manually within the TPZ of the tree. No roots larger than 20mm in diameter are to be cut and the project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged.
- Any holes for post within the TPZ of tree for new or replacement boundary fences or replacement retaining walls must be excavated manually and re positioned around significant roots (tree roots with a diameter large than 20mm are significant roots). If tree roots must be cut inside or outside the TPZ any pruning must be carried out by the project Arborist. No roots to be pruned with machinery such as backhoes or excavators.
- All services and pits must be routed outside the TPZ's of the trees. If underground services must be routed within the TPZ, they must be installed by boring under the tree protection zone or installed using hydro excavation under the supervision of the project arborist.
- Where roots are left exposed by excavations, temporary root protection must be installed to prevent them drying out.
- No persons, vehicles or machinery to enter TPZ without written consent of the responsible authority. No fuel, oil dumps, waste or chemicals are allowed in or are to be stored within TPZ and the servicing of equipment or vehicles should be carried out away from the TPZ. No temporary buildings or waste to be stored within the TPZ.
- The area within the TPZ must be mulched with organic woodchip mulch within the designated TPZ that is recommended to be protected. Where the existing landscape within the TPZ is to remain unaltered (e.g., garden beds or turf) mulch may not be required.
- All weeds that grow during construction works within the designated protected TPZ must be removed by hand without soil disturbance or controlled with appropriate use of non-residual herbicide.
- Removal of protection measures and cessation of the tree management plan must be authorized by the responsible authority.

LANDSCAPING WORKS: Where the landscaping works enter the TPZ of the trees the changes to soil condition shall be avoided wherever possible. Where unavoidable in order to carry out approved works to be carried out manually to the maximum depth of excavations or fill to be 100mm within the TPZ of this tree. Mechanical digging is not permitted. Any root severance with the TPZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction. If excavations deeper than 100mm are required then root investigation must be carried out to establish if any significant root will be damaged.

Any holes for post or foundations for decks or retaining walls within the TPZ of this tree must be excavated manually and reposition around roots with a diameter large than 20mm. Any root severance with the TPZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction. Any planting holes for new trees and shrubs must be excavated manually and reposition around roots with a diameter large than 20mm. Any root severance with the TPZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction. The removal of any protective fencing to allow for landscaping works must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction.

Refer to Tree Protection Specifications Report for further details

PROTECTIVE FENCING:

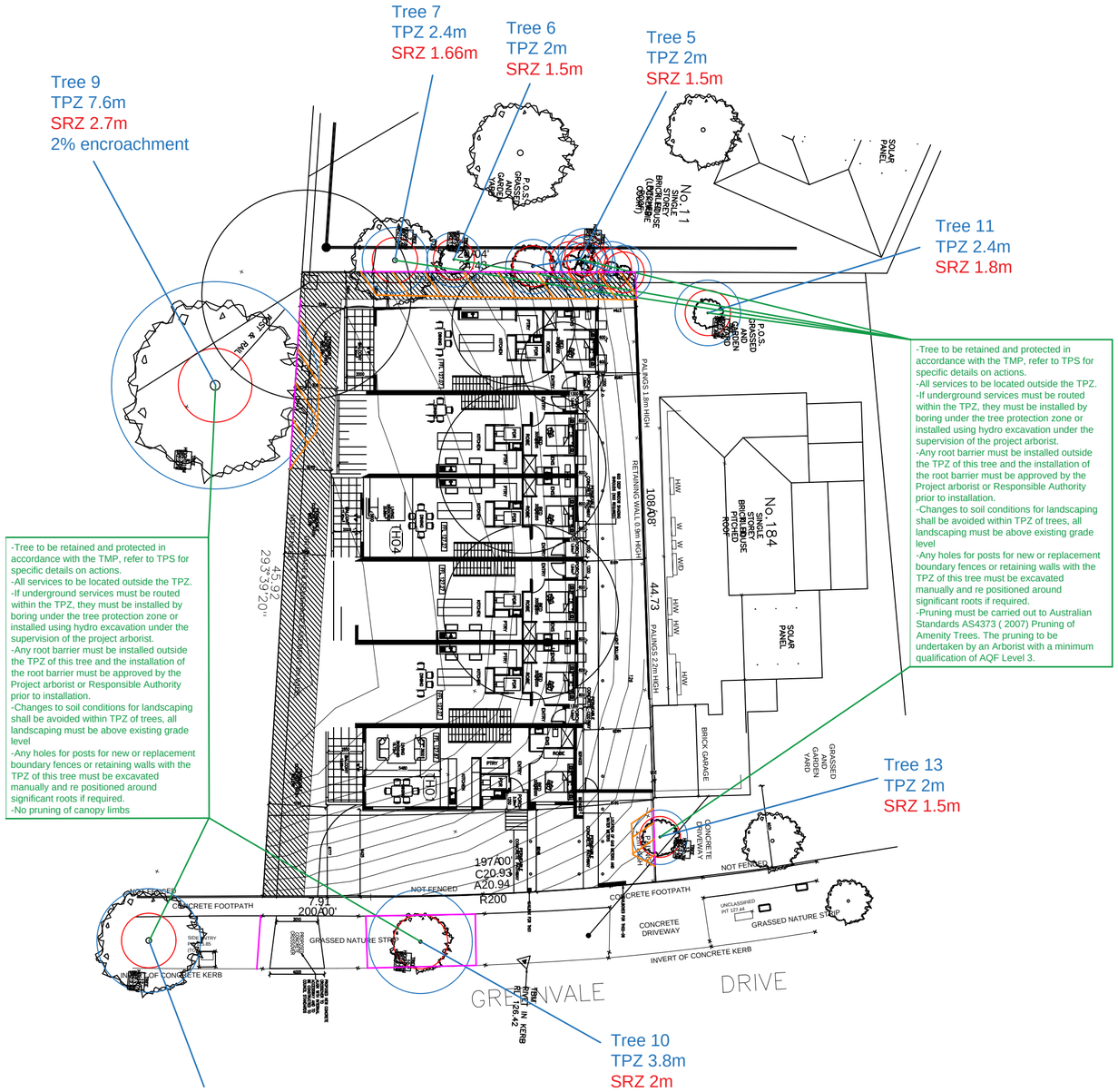
- Must be chain wire mesh panels, high wire mesh fencing or high wire reinforced para-web mesh with reinforcing fencing wire to a height of 1.8m, held in place with concrete feet or 1.8m star pickets every 3-4m. Alternatively plywood or wooden paling fence panels to a height of 1.8m may be used. If excavation is required for the insertion of supports posts for the fencing it must not involve the severance of any roots greater than 20mm in diameter and must be carried out by the project Arborist, and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.
- The protective fencing must not be removed or altered without approval of the responsible authority and must remain in place until its removal is approved by project arborist. Existing perimeter fencing and other structures may be suitable as part of the protective fencing. No temporary services, wires, nails, screws or any other fixing device to be attached to the tree. Signs identifying the TPZ should be placed around all sides of the TPZ and be visible from within the development site. The lettering on the sign must comply with Australian standard AS1319.

Refer to Tree Protection Specifications Report for further details

GROUND PROTECTION:

- If temporary access is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards. For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed. Rumble boards should be of a suitable thickness to prevent soil compaction and root damage
- Ground protection must not be removed or altered without approval of the responsible authority and must remain in place until its removal is approved by project arborist.

Refer to Tree Protection Specifications Report for further details



Tree No.	Botanical Name Common Name	DSH (cm)	NRZ (m)	DAB (cm)	SRZ (m)	TPZ (m)
5	*Thuja occidentalia* Thuja x 7	15.6	2	15.6	1.5	2
6	*Callistemon viminalis* Weeping Bottle Brush	15.6	2	15.6	1.5	2
7	*Pittosporum tenuifolium* James Stirling Pittosporum	19.7	2.4	19.7	1.66	2.4
9	*Eucalyptus species* Eucalyptus	63.7	7.6	63.7	2.7	7.6
10	*Callistemon salignus* Willow Bottlebrush	31.3	3.8	31.3	2	3.8
11	*Callistemon viminalis* Weeping Bottle Brush	19.7	2.4	19.7	1.66	2.4
12	*Angophora costata* Smooth Apple Bark	31.3	3.8	31.3	2	3.8
13	*Callistemon viminalis* Weeping Bottle Brush	15.6	2	15.6	1.5	2

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Tree protection management plan	186 Greenvale Road, Greenvale	19.8.2026

Protective fencing — Ground protection — Tree protection zone (TPZ) — Structural Root Zone (SRZ)

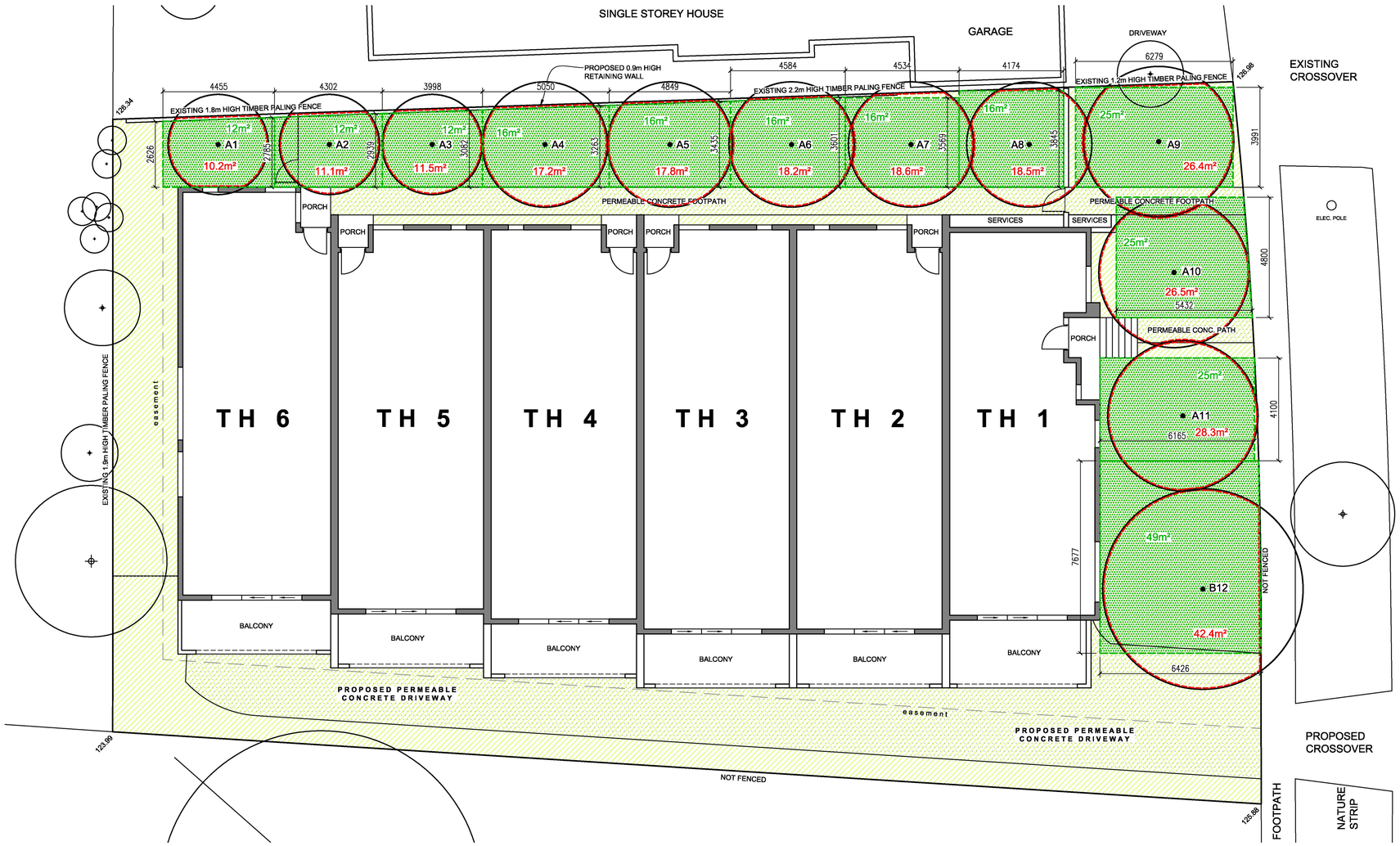
Project Arborist role and responsibilities

Time table/schedule for tree protection measures and monitoring trees:

A project Arborist in conjunction with any requirements from the responsible authority to be appointed to implement tree protection management plan. They must ensure tree protection measures have been installed correctly and must supervise works within Tree Protection Zones during pre-demolition work, pre-construction work, construction works, landscaping works and final certification. The owner of the property is responsible for the installation and retention of the tree protection measures.

- Contractors to be advised of trees to be retained. The owner and occupier of the site must ensure that, prior to the commencement of demolition, buildings and works, all contractors and trades persons operating on the site are advised of the status of trees to be retained as detailed in the Tree Protection Specifications Report (TPS) and are advised of any obligations in relation to the protection of those trees, including the attendance of site meetings.
- If any canopies, trunk or root system of trees recommended to be retained are damaged at any stage of demolition/construction this damage must be reported to the project arborist immediately. All works must stop around the tree immediately. The damage must be assessed by the project arborist. The responsible authority must be notified by the project arborist to establish the appropriate action to be taken. The local council is to be notified within 24 hours of any breach of the Tree Protection Management Plan of where damage has occurred to a tree.
- **Pre-demolition:** Site induction meeting, Tree pruning and root pruning as per TPS, The tree protection measures must be installed in the location shown on the tree protection plan prior to demolition works, excavation works, and delivery of goods etc. occurring. The protection fencing and ground protection systems are inspected by project arborist prior to demolition works. The temporary repositioning of tree protection fencing/ground protection as may be required to provide access in situations where this relocation, both in terms of its repositioning and its purpose, are approved and supervised by the project's arborist, and the approved fencing position/ ground protection reinstated immediately following any such access.
- Pre-**Construction:** Site induction meeting. Designated storage area, Installation of utility services, Inspection of tree protection measures. The temporary repositioning of tree protection fencing/ground protection as may be required to provide access in situations where this relocation, both in terms of its repositioning and its purpose, are approved and supervised by the project's arborist, and the approved fencing position/ ground protection reinstated immediately following any such access.
- **Construction works:** The building site to be inspected a minimum of every 3 months by project arborist. The project arborist to be present during excavations with TPZ of trees to be retained and is to undertake any root severance within the TPZ of trees recommended to be retained. **Supervision** of approved footings, driveway and cross overs within the TPZ as per TSP , inspection of tree protection measures. The temporary repositioning of tree protection fencing/ground protection as may be required to provide access in situations where this relocation, both in terms of its repositioning and its purpose, are approved and supervised by the project's arborist, and the approved fencing position/ ground protection reinstated immediately following any such access.
- **Landscaping works:** Site induction meeting. The project arborist may need to approve removal of protective measures to allow for landscaping works. Tree pruning and root pruning as per TPS, On going care including mulching and watering of trees. P
- **Final Certification:** Project arborist will confirm if all inspections carried out at all stages of construction works and attached copies of the inspection reports. They will provide a statement on condition of the retained trees and details of deviations from the tree protection management plan and the impact upon tree if any. A detail report maybe required if significant deviation form tree management plan or significant damage to trees.

Refer to Tree Protection Specifications report for further details



GREENVALE DRIVE

LEGEND

- EXISTING CANOPY TREE TO BE RETAINED
- A.b. — PROPOSED CANOPY TREE
- m² — MATURE CANOPY COVER AREA (WITHIN SUBJECT SITE)
- m² — DEEP SOIL AREAS
- PERMEABLE SURFACE

CANOPY TREE SCHEDULE

TYPE	CODE	BOTANICAL NAME	COMMON NAME	HEIGHT*	WIDTH*	DEEP SOIL AREA REQUIRED / PROVIDED	MATURE CANOPY COVER AREA EXCLUDING OVERLAP & AREAS OUTSIDE OF SITE	QTY
	PROPOSED CANOPY TREES							
A	A1	Lagerstroemia 'Tuscarora'	Crepe Myrtle 'Tuscarora'	6m	4m	12m² 12m²	10.2m²	1
A	A2	Lagerstroemia 'Tuscarora'	Crepe Myrtle 'Tuscarora'	6m	4m	12m² 12m²	11.1m²	1
A	A3	Lagerstroemia 'Tuscarora'	Crepe Myrtle 'Tuscarora'	6m	4m	12m² 12m²	11.5m²	1
A	A4	Acacia implexa	Lightwood	6m	5m	16m² 16m²	17.2m²	1
A	A5	Euc. leucoxylon 'Euky Dwarf'	Yellow Gum 'Euky Dwarf'	7m	5m	16m² 16m²	17.8m²	1
A	A6	Acacia implexa	Lightwood	6m	5m	16m² 16m²	18.2m²	1
A	A7	Euc. leucoxylon 'Euky Dwarf'	Yellow Gum 'Euky Dwarf'	7m	5m	16m² 16m²	18.6m²	1
A	A8	Acacia implexa	Lightwood	6m	5m	16m² 16m²	18.5m²	1
A	A9	Acer buergerianum	Trident Maple	7m	6m	25m² 25m²	26.4m²	1
A	A10	Acer buergerianum	Trident Maple	7m	6m	25m² 25m²	26.5m²	1
A	A11	Acer buergerianum	Trident Maple	7m	6m	25m² 25m²	28.3m²	1
B	B12	Agonis flexuosa	Willow Myrtle	9m	8m	49m² 49m²	42.4m²	1

* Denotes height and width at maturity

Total canopy cover area achieved	246.7m²

SITE AREA:		1,213m²
CANOPY COVER AREA REQUIRED: (20% of site area)		242.6m²
CANOPY COVER AREA SUPPLIED: (excludes overlap and outside of site)	20.3%	246.7m²

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N

0 5m 10m

[redacted]

DATE: 28 October 2026

SCALE (@A1): 1:100

DRAWING TITLE: Canopy Tree Plan FOR TOWN PLANNING

DRAWING NUMBER: 5031.T-A

SHEET: 1 / 1

Arborscribe
Tree Reports

Tree Protection Specifications Report

Site location

186 Greenvale Road, Greenvale

Report date:

19th August 2026

Site assessment date:

18th May 2026

Prepared For:

[redacted]

Prepared by

[redacted]

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12. **Tree protection management plan**

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1. Introduction

1.1 Purpose of report

[redacted] was instructed by [redacted] in May 2026 to provide a tree protection specifications report and a tree protection management plan to Australian Standard AS4970 (Australian Standards- Protection of trees on development sites) on and surrounding the site at 186 Greenvale Road, Greenvale, to recommended measures to be taken to ensure that the trees are maintained and protected appropriately during proposed works.

- The species, height, crown spread, DBH, NRZ, DAB, SRZ, Circumfence at 1.5m and at buttress, TPZ, Age Class, Useful Life Expectancy, Location relevance and to assess each tree to provide its health, structure, retention value and NRZ encroachment. (Abbreviations definitions in 6. Appendices for Tree Data Table)
- Identify the trees on the site, in neighbouring properties and nature strip that maybe impacted from an encroachment into their Notation Rotational Zone (NRZ) or Structural Root Zone (SRZ) because of the proposed construction works.
- To provide an assessment of the potential impact on each tree of the development and determine which trees can be retained in the context of the current plans,
- To recommended measures to be taken to protect any trees that are recommended to be retained during the proposed construction works under the guide lines of AS 4970-2025 (Australian Standards- Protection of trees on development sites)

1.2 Summary of report

The site under review is a vacant allotment. Greenvale Road is the street frontage with neighbouring properties to the south, west and north.

The site has canopy trees and a smaller weed tree. The neighbouring properties are single dwelling residential allotments and a reserve a with mixture of canopy trees and smaller trees. The neighbouring properties have several canopy trees located along the property boundaries.

A total of thirteen were assessed for this report. This includes five trees that are located on the property, six trees that are located in neighbouring properties and two trees located on the nature strip. With one of the trees consisting of a group of multiple trees. Each tree had been individually assessed and the results provide in table format. Each tree has been numbered and this number corresponds to assessment table and any plans

1.3 Planning overlays

GRZ General Residential Zone
GRZ1 General Residential Zone- Schedule 1
Victoria Planning Canopy Tree Law- Clause 52.37

2. Methodology

2.1 Date of inspection and Inspections procedure

A ground-based visual site and tree inspection was carried out by [redacted] on the 18th May 2026 at 186 Greenvale Drive, Greenvale.

The assessment was to record

- Tree Species
- Location
- Height and Crown spread
- Age Class and Safe Useful Life Expectancy,
- Circumference 1.4m above ground level to calculate DSH (Diameter at standards height)
- Circumference at ground level, DAB (Diameter above buttress)
- Health and Structure,
- Retention value
- Photograph of tree

A ground based visual inspection of the tree was carried out according to the principes in Mattheck, Dr. Claus & Breloer, Helge (1994) – Sixth Edition (2001) The Body Language of Trees and Harris, Clark and Matheny (1999) Arboriculture, integrated management of landscape trees, shrubs, and vines, 3rd ed.

Tree location was determined by using site feature survey provide by the client. Trees have been numbered and this number corresponds to assessment table and any plans.

The height and canopy spread of the trees were estimated.

Health and structure are assessed based upon visual inspections and experience; Assessment was limited only to parts of the tree that were visible from ground level within the subject site.

A diameter tape was used to determine the trunk circumference of the tree and rounded up to the nearest whole number.

A proposed ground floor has been provided by client for analysis. Trees have been numbered and Notational Root Zone and Structural Roots Zones are provided for specific trees.

Council Arboriculture Victoria- AS-4970-2009 Calculator was used to calculate diameter of tree.

Encroachment into NRZ and SRZ by the proposed construction works have been calculated using Act Cad.

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2.2 Limitation of assessment

- Tree defects not visible from the ground up have not been discussed and the risk associated is excluded from this report
- Health and structure are assessed based upon visual inspections and experience; Assessment was limited only to parts of the tree that were visible from ground level within the subject site. Airal inspection was not carried out
- Height and canopy spread were estimated
- Circumference of some trees was estimated where access to the trunk was restricted due to site access restrictions.

2.3 References to plans provide for report

- [redacted], Plan of feature Survey, 186 Greenvale Drive, Greenvale, 16.4.2026
- [redacted], Garage Floor Plan, 186 Greenvale Drive, Greenvale, August 2026
- [redacted], Ground Floor Plan, 186 Greenvale Drive, Greenvale, August 2026

2.4 Referenced document used

- Australian standard AS4970-2025 Protection of trees on development sites.
- Australian Standards AS4373 (2007) Pruning of Amenity Trees.
- Impact assessment, Arborscribe Tree Reports, 186 Greenvale Road, Greenvale 19.8.26

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3.Tree data

3.1 Trees to be retained, 3rd party trees

Tree No.	Botanical Name Common Name	Origin	Height (m)	Crown Spread diameter (m)	DSH (cm)	NRZ (m)	DAB (cm)	SRZ (m)	Circum at 1.5m (cm)	Circum above root buttress (cm)	TPZ (m)	Age Class	SULE	Location Relevance	Retention Value	Vigour /Health	Structure /Form	NRZ (%) encroachment	Comments	Permit required for tree removal pursuant Clause 52.37	Arborist's recommendations
5	*Thuja occidentalia* Thuja x 7	Exotic	4	2	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height, spread less than 4m and circumfence less than 50cm.	7 x Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
6	*Callistemon viminalis* Weeping Bottle Brush	Native	3	4	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height and circumfence less than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
7	*Pittosporum tenuifolium* James Stirling Pittosporum	Exotic	7	8	19.7	2.4	19.7	1.66	62	62	2.4	Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		Yes, Canopy boundary tree, over 5m in height, spread more than 4m and circumfence more than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
9	*Eucalyptus species* Eucalyptus	Native	16	12	63.7	7.6	63.7	2.7	200	200	7.6	Mature	10yrs	Council Asset, 3rd party tree, located in reserve.	High	Good	Fair	2.00%	Tree bifurcated at 4m. One leader has large wound on western side of trunk.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. Minor encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
10	*Callistemon salignus* Willow Bottlebrush	Native	4.5	4	31.3	3.8	31.3	2	90 + 40	100	3.8	Semi-Mature	10yrs	Council Asset, 3rd party tree, located on nature strip.	High	Fair	Fair	0.00%	Sooty mould in canopy.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
11	*Callistemon viminalis* Weeping Bottle Brush	Native	4	4	19.7	2.4	19.7	1.66	62	62	2.4	Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
12	*Angophora costata* Smooth Apple Bark	Native	7	9	31.3	3.8	31.3	2	90 + 40	100	3.8	Semi-Mature	10yrs	Council Asset, 3rd party tree, located on nature strip.	High	Good	Fair	0.00%	Canopy pruned from overhead power lines.	Yes, Any removal or pruning of council owned trees must be undertaken by a council approved contractor.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.
13	*Callistemon viminalis* Weeping Bottle Brush	Native	4	4	15.6	2	15.6	1.5	49	49	2	Semi-Mature	8yrs	3rd party tree, located in neighbouring property.	High	Good	Good	0.00%		No under 5m in height, spread less than 4m and circumfence less than 50cm.	Tree to be retained. No encroachment. General requirements for construction apply outlined in discussion and tree is to be protected during proposed construction works. Protection measures outlined in Tree Management Plan.

General requirements for construction for all trees recommended to be retained.

Root Barriers: There is also a risk that the root system of this tree may cause damage to the property in the future. Therefore, it is recommended that root barriers are installed. Any root barrier must be installed outside the NRZ/TPZ of this tree and the installation of the root barrier must be approved by the Project arborist or Responsible Authority prior to installation to determine the impact upon retained trees.

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Services: All services and pits must be routed outside the NRZ/TPZ's of the trees. If underground services must be routed within the NRZ/TPZ, they must be installed by boring under the tree protection zone or installed using hydro excavation under the supervision of the project arborist. The direct drilling bore must be at least 600mm deep. The project arborist must be advised that the work is going to be carried out and present if roots larger than 20mm are to be cut or damaged. Any root pruning must be carried out by the project Arborist, and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.

Landscaping within NRZ/TPZ: Changes to soil conditions for landscaping must be avoided within NRZ/TPZ of trees, all landscaping must be above existing grade level. There must be no grade changes within the NRZ/TPZ and no roots are to be cut or damaged during any part of the construction process. If excavations of fill are required for approved landscaping works then root investigation must be carried out to establish if any significant root will be damaged. (Tree roots with a diameter large than 20mm are significant roots) Root investigation will allow the location and distribution of the root to be determined through non-destructive methods like pneumatic, hydraulic, hand digging or ground penetrating radar. Any approved excavations or fill are to be carried out manually within the NRZ of the tree. Mechanical digging is not permitted. This includes excavations for paths. Any root severance with the NRZ/TPZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction.

Fencing: All foundations for fences within the NRZ/TPZ of the tree must be designed and constructed using an approved tree sensitive non-destructive footing design to the satisfaction of the Responsible Authority. Any holes for posts for new or replacement boundary fences or with the NRZ/TPZ of this tree must be re positioned around significant roots (tree roots with a diameter large than 25mm are significant roots) if required. All excavations within the NRZ/TPZ of trees for the construction of foundations for posts must be dug under the direct supervision of the project Arborist and no roots greater than 25mm in diameter are to be cut or damaged during any part of the construction process. If posts are required in the SRZ of this tree, holes must be hand dug under the direct supervision of the project Arborist and no roots greater than 25mm in diameter are to be cut or damaged during any part of the construction process.
Any pruning must be carried out by the project Arborist, and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.

Pruning: Any removal or pruning of council owned trees must be undertaken by a council approved contractor. The lower limbs of any tree to be retained maybe lifted to ensure that they are not damaged. Any pruning to be carried out before any excavation/construction works begin to ensure that the tree is not damaged by machinery. This work must be carried out to Australian Standards AS4373 (2007) Pruning of Amenity Trees. The pruning to be undertaken by an arborist with a minimum qualification of AQF Level 3.

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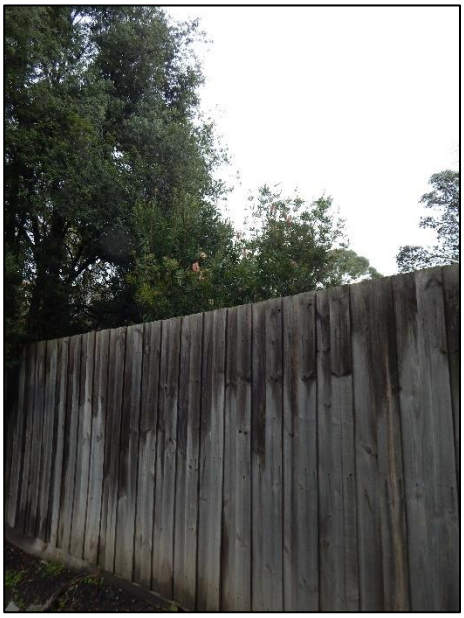
3.3 Tree photos



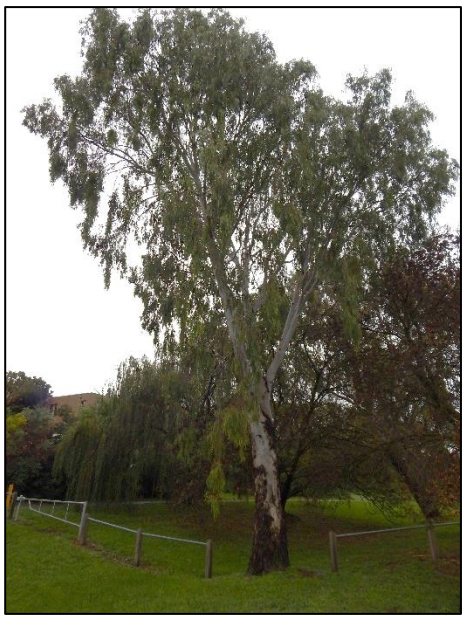
Tree 5



Tree 6



Tree 7



Tree 9

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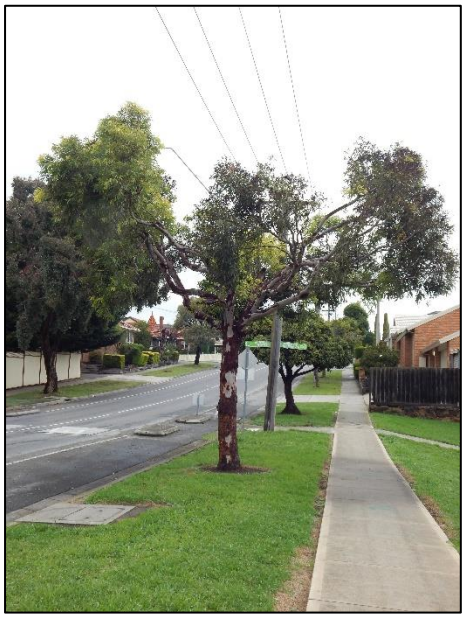
Tree 10



Tree 11



Tree 12



Tree 13

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4. Tree protection measures

The tree protection guidelines are to ensure that the health and stability of retained trees do not decline as a direct result of the proposed construction works and to minimize the risk of decline or structural deterioration of retained trees following development.
The main function of roots is to take up water and nutrients, anchorage, storage of sugar reserves and the production of some plant hormones required by the shoots. In order for the roots to function, they must be provided with oxygen from the soil. A root system consists of three main parts. The structural woody roots and the lower order roots for anchorage, storage and transports or water and nutrients. And the non-woody roots for absorption of water and nutrients, extensions, synthesis of amino acids and growth regulators. Most of the tree roots are found at the very top of the soil and the vast majority of these roots are small non-woody roots. This delicate, non-woody system is very vulnerable to damage due to its close proximity to the surface.
The root system of a tree can be damaged in many ways. Excavation works, building up of soil, trenching, chemical contamination, laying of pavements, changes in drainage patterns and changes in water availability. However, the major cause of damage to the root system of tree on development sites is soil compaction. Soil compaction is the loss of the large pore spaces within the soil. These pore spaces are essential for aeration, the exchange of gases between the soil air and the atmosphere and drainage, the removal of excess water from the soil. Soil compaction is caused the stress forces applied by foot and vehicle traffic and the storage of materials. The degree of the soil compaction will depend upon the weight of vehicles, number of vehicles, soil moisture levels and clay content.
The loss of the pore spaces results in reduced aeration, loss of root growth, reduced infiltration of water, increased water run-off, reduced availability of plant nutrients and a reduction in the number and diversity of beneficial soil organisms. Damage to the root system of a tree can also result in the loss of structural woody roots, which will leave the tree unstable, reduce water and nutrient uptake which results in the eventual loss of leaves, reduced photosynthesis and thus sugar production. There will also be decay developing as a result of wounding and the exposure to soil borne pathogens. It may take many years for the health of the tree to decline and for the tree to eventually die from root damage.
Therefore, it is essential that the TPZ of this tree is protected prior to the commencement of any site works including demolition, excavations, delivery of materials etc.

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4.1 Demolition and Pre-construction

Protective fencing and ground protection to extend where shown on tree protection management plan. Protective fencing and ground protection must be in place before demolition commences.

- **Project Arborist to be appointed to implement tree protection management plan**
  Project arborist must meet 1.4.4 of Australian standards AS 4970-2025 Protection of trees on development sites. The project arborist will be suitably experienced and competent in arboriculture, having acquired through training, qualifications (minimum Australian Qualification Framework (AQF) Level 5, Diploma of Horticulture (Arboriculture) and/or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard. Project arborist must ensure tree protection measures have been installed correctly and must supervise works if protective measures are removed within Tree Protection Zones during demolition works, pre-construction work, construction works, landscaping works and practical completion.

- **Contractors to be advised of trees to be retained**
  The owner and occupier of the site must ensure that, prior to the commencement of demolition, buildings and works, all contractors and tradespersons operating on the site are advised of the status of trees to be retained as detailed in the tree protection management plan and are advised of any obligations in relation to the protection of those trees.

- If any canopies, trunk or root system of trees recommended to be retained are damaged at any stage of demolition/construction this damage must be reported to the project arborist immediately. All works must stop around the tree immediately. The damage must be assessed by the project arborist. The responsible authority must be notified by the project arborist to establish the appropriate action to be taken. The local council is to be notified within 24 hours of any breach of the Tree Protection Management Plan of where damage has occurred to a tree.

- The tree protection measures must be installed in the location shown on the tree protection plan prior to demolition works, excavation works, and delivery of goods etc. occurring. The protection fencing and ground protection systems are inspected by project arborist prior to demolition works, pre-construction work, construction works, landscaping works and practical completion. The temporary repositioning of tree protection fencing/ground protection as may be required to provide access in situations where this relocation, both in terms of its repositioning and its purpose, are approved and supervised by the project's arborist, and the approved fencing position/ ground protection reinstated immediately following any such access.

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- **PROTECTIVE FENCING:** Must be chain wire mesh panels, high wire mesh fencing or high wire reinforced para-web mesh with reinforcing fencing wire to a height of 1.8m, held in place with concrete feet or 1.8m star pickets every 3-4m. Alternatively plywood or wooden paling fence panels to a height of 1.8m may be used. If excavation is required for the insertion of supports posts for the fencing it must be carried out by the project Arborist in accordance with AS4373-2007 and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.

- The protective fencing must not be removed or altered without approval of the responsible authority and must remain in place until the completion of all works at the site and its removal is approved by project arborist. Existing perimeter fencing and other structures may be suitable as part of the protective fencing. No temporary services, wires, nails, screws or any other fixing device to be attached to the tree. Signs identifying the TPZ should be placed around all sides of the TPZ and be visible from within the development site. The lettering on the sign must comply with Australian standard AS1319.



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- **GROUND PROTECTION:** If temporary access is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards. For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed. Rumble boards should be of a suitable thickness to prevent soil compaction and root damage
- Ground protection must not be removed or altered without approval of the responsible authority and must remain in place until the completion of all works at the site and its removal is approved by project arborist.

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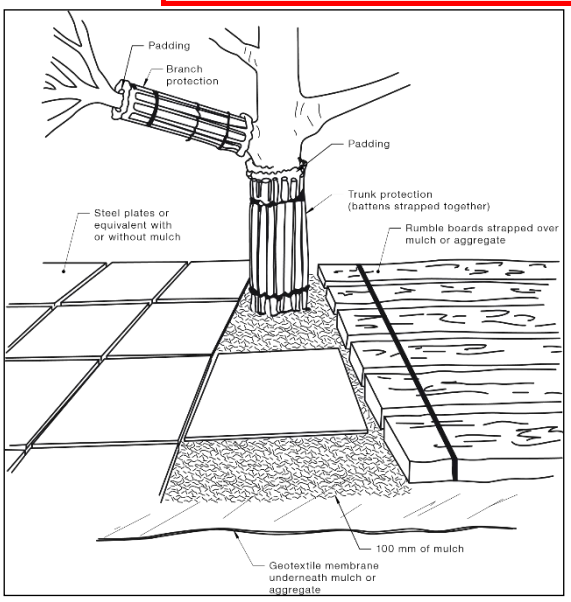

- Stumps to be removed from within a TPZ must be removed in a manner that avoid damaging or disturbing roots of trees to be retained before protective fencing/ground protection is installed.

4.2 During Construction

- Any works within the Tree Protection Zone of any tree, whether the zone is fully enclosed by Tree protection fencing/Ground protection or not, MUST comply with tree protection measures described.

- Temporary irrigation - A manually operated surface/drip irrigation system should be used to water the root zones of the trees within TPZ's during dry spells and after construction works have been completed. The watering regime and its duration to be established when root protection measures are installed and based upon the time of the year and soil moisture levels at the time by the project arborist. Early morning watering to the outer areas of the root zone once a week when there is no rain, to provide 30-50mm of water, will meet the needs of most trees. Such a system should be installed beneath mulch and should only be operated in compliance with any relevant water restrictions

- Excavation work must be carried out manually within the TPZ of the tree. No roots larger than 20mm in diameter are to be cut and the project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged.

- Any holes for post within the TPZ of tree for new or replacement boundary fences or replacement retaining walls must be excavated manually and re positioned around significant roots (tree roots with a diameter large than 20mm are significant roots). The project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged. If excavation is required for the insertion of supports posts for the fencing it must be carried out by the project Arborist in accordance with AS4373-2007 and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.

- All services and pits must be routed outside the TPZ's of the trees. If underground services must be routed within the TPZ, they must be installed by boring under the tree protection zone or installed using hydro excavation under the supervision of the project arborist. The direct drilling bore must be at least 600mm deep. The project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged. Any root pruning must be carried out by the project Arborist in accordance with AS4373-2007 and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.

- Where roots are left exposed by excavations, temporary root protection must be installed to prevent them drying out. Jute mesh or hessian sheeting must be placed in multiple layers over exposed roots and the excavations soil profile to the full depth of the root zone. The protective sheeting is to be pegged down and kept moist during for the periods of time that the roots are left exposed. The watering regime and its duration to be established when root protection measures are installed and based upon the time of the year and soil moisture levels at the time by the project arborist.

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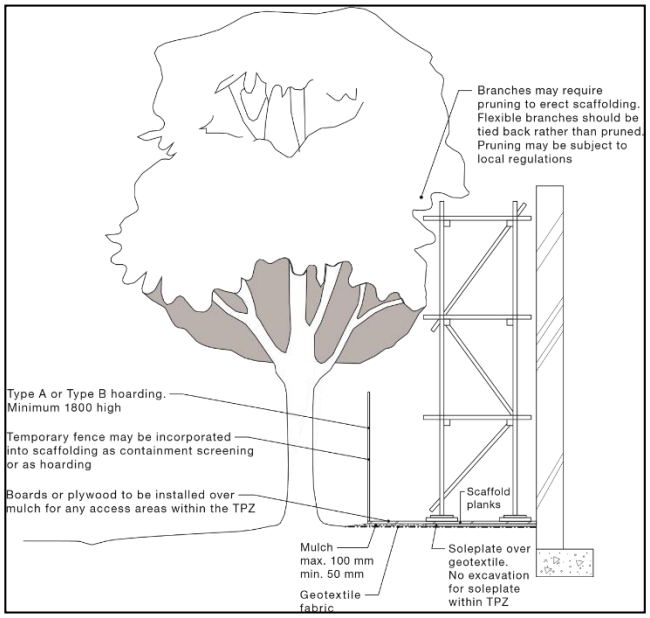
- No persons, vehicles or machinery to enter TPZ without written consent of the responsible authority. No fuel, oil dumps, waste or chemicals are allowed in or are to be stored within TPZ and the servicing of equipment or vehicles should be carried out away from the TPZ. No temporary buildings or waste to be stored within the TPZ.

- The area within the TPZ must be mulched with organic woodchip mulch within the designated TPZ that is recommended to be protected. The mulch must be maintained to a depth of 50-100mm using material that complies with AS4454. Where the existing landscape within the TPZ is to remain unaltered (e.g., garden beds or turf) mulch may not be required.

- All weeds that grow during construction works within the designated protected TPZ must be removed by hand without soil disturbance or controlled with appropriate use of non-residual herbicide.

- **SCAFFOLDING:** Where scaffolding is required by the building contractor or sub-contractor or OH&S regulations it must be erected outside the TPZ. Where it is essential for scaffolding to be erected within the TPZ, the tree trunk and branched must be avoided. This can be achieved by designing scaffolding to avoid the tree trunk and branches.

- Ground below the scaffolding must be protected by boarding (e.g., scaffold board or plywood sheeting). Where access is required, a board walk or other surface material must be installed to minimize soil compaction. Boarding must be placed over a layer of mulch and impervious sheeting to prevent soil contamination. The boarding must be left in place until the scaffolding is removed. Excavation required for the insertion of support posts for tree protection fencing must not involve the severance of any roots. The project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged. Any root pruning must be carried out by the project Arborist in accordance with AS4373-2007 and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.



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- Removal of protection measures and cessation of the tree management plan must be authorized by the responsible authority.

- **LANDSCAPING WORKS:** Where the landscaping works enter the TPZ of the trees the changes to soil condition must be avoided wherever possible. Where unavoidable in order to carry out approved works the maximum depth of excavations or fill to be 100mm within the TPZ of this tree. Any excavations or fill must be carried out manually within the TPZ of the tree. Mechanical digging is not permitted. This includes excavations for paths. Any root severance with the TPZ must be approved by the Responsible Authority and undertaken by the project Arborist in accordance with AS4373-2007. If excavations deeper than 100mm are required then root investigation must be carried out to establish if any significant root will be damaged. Root investigation will allow the location and distribution of the root to be determined through non-destructive methods like pneumatic, hydraulic, hand digging or ground penetrating radar.
  Also, any holes for post or foundations for decks or retaining walls within the TPZ of this tree must be excavated manually and reposition around significant roots if required (tree roots with a diameter large than 20mm are significant roots). The project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged. Any root pruning must be carried out by the project Arborist in accordance with AS4373-2007 and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.
  And any planting holes for new trees and shrubs must be excavated manually and reposition around significant roots if required (tree roots with a diameter large than 20mm are significant roots) The project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged. Any root pruning must be carried out by the project Arborist in accordance with AS4373-2007 and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.
  The removal of any protective fencing to allow for landscaping works must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction.

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5. Time Table for monitoring of trees by project arborist

Project Arborist to be appointed to implement tree protection management plan
Project arborist must meet 1.4.4 of Australian standards AS 4970-2025 Protection of trees on development sites.
The project arborist will be suitably experienced and competent in arboriculture, having acquired through training, qualifications (minimum Australian Qualification Framework (AQF) Level 5, Diploma of Horticulture (Arboriculture) and/or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard.
Project arborist in conjunction with any requirements from the responsible authority must ensure tree protection measures have been installed correctly and must supervise works within Tree Protection Zones during demolition works, pre-construction work, construction works, landscaping works and practical completion.

Pre-Demolition:
- Pre-Demolition Site Induction meeting.
- Establish Site access and removal of infrastructure within the Tree Protection Zone.
- Tree pruning and Vegetation clearance within the Tree protection zone to be carried out. If root pruning required it is to be carried out.
- Protective fencing and ground protection must be in place, including signage.
- The owner of the property, builder and contractors are responsible for the installation and retention of the tree protection measures.
- Certifications of the above activities by the Project arborist.

Pre-construction: Must be undertaken prior to the establishment of any services and foots/foundations and the delivery of goods.
- Pre-Construction Site Induction meeting.
- Designated Storage areas established.
- Installation of utility services
- The trees recommended for retention will need to be monitored by the project arborist in conjunction with any requirements from the responsible authority to ensure that the tree protection measures have been installed correctly.
- Certifications of the above activities by the Project arborist.

Construction works:
- The building site to be inspected a minimum of every 3 months by project arborist.
- The project arborist to be present during excavations or installation of approved footings with TPZ of trees to be retained and is to undertake any root severance within the TPZ of trees recommended to be retained.
- Identify construction methods of any building works and materials for any proposed driveway or cross overs including where necessary bridging over Tree Protection Zones.
- The Project arborist is to ensure that the tree protection measures have been installed correctly. The owner of the property is responsible for the installation and retention of the tree protection measures.
- Certifications of the above activities by the Project arborist.

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Post Construction Landscaping works:

- Landscaping Construction site Induction meeting.
- The Project arborist is to ensure that the tree protection measures have been installed correctly. The owner of the property is responsible for the installation and retention of the tree protection measures.
- Tree pruning and Vegetation clearance within the Tree protection zone to be carried out. If root pruning required it is to be carried out.
  On going car measures including mulching, water regime and monitoring to be established.
- Certifications of the above activities by the Project arborist.

Post Construction/Final Certification: At conclusion of the landscaping works.

- Trees will need to be inspected by project arborist in conjunction with any requirements from the responsible authority when all the construction works are completed to assess the condition of the trees and to certify that the competed works have been carried out in compliance with the permit condition and specifications for tree protection and to approve the removal of protective measures.
- Project arborist will confirm if all inspections carried out at all stages of construction works and attached copies of the inspection reports. They will comment if actions were required as part of inspections and if action required that it was rectified in accordance with tree management plan. That all works and recommendations were undertaken in accordance with tree management plan and that any alterations to the tree management plan were approved in writing by local responsible authority. They will provide a statement on condition of the retained trees and details of deviations from the tree protection management plan and the impact upon tree if any. A detail report maybe required if significant deviation from tree management plan or significant damage to trees.
- If any canopies, trunk or root system of trees recommended to be retained are damaged at any stage of construction this damage must be reported to the project arborist immediately. All works must stop around the tree immediately. The damage must be assessed by the project arborist. The responsible authority must be notified by the project arborist to establish the appropriate action to be taken. The local council is to be notified within 24 hours of any breach of the Tree Protection Management Plan of where damage has occurred to a tree.

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6. Tree Protection Management Plan Certification Template

Site address:

Project Arborist:	Contact number:

Project manager:	Contact Number:

Pre-Demolition

Meeting on Site held	Yes / No	Date/Time of meeting	

Persons present:

TMP copy given to all parties present?	Yes / No

Site access available and acceptable?	Yes / No
Modifications Required to Tree Protection Plan?	Yes/ No/ NA

Tree pruning required?	Yes / No/ NA
Tree pruning undertaken to AS4373?	Yes / No/ NA
Tree pruning undertaken in accordance with TMP recommendations?	Yes / No/ NA
Has root pruning been undertaken in in accordance with TMP recommendations?	Yes / No/ NA

Tree pruning required?	Yes / No/ NA
Tree pruning undertaken to AS4373?	Yes / No/ NA
Tree pruning undertaken in accordance with TMP recommendations?	Yes / No/ NA
Has root pruning been undertaken in in accordance with TMP recommendations?	Yes / No/ NA
Vegetation cleared from TPZ in accordance with TMP recommendations?	Yes / No/ NA
Infrastructure cleared from TPZ in accordance with TMP recommendations?	Yes / No/ NA

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Fencing installed in correct location as per TMP?	Yes / No/ NA
Ground Protection installed correctly as per TMP?	Yes / No/ NA
Trunk and Branch protection installed correctly as per TMP?	Yes / No/ NA
Signage present on TPZ protection?	Yes / No/ NA
Signage has project Arborist contact details?	Yes / No/ NA

Mulch type in accordance the TMP?	Yes / No/ NA
TPZ mulched to a depth of 100mm?	Yes / No/ NA
Has the tree been watered in accordance the TMP?	Yes / No/ NA

Have any canopies, trunk or root system of trees been damaged? if yes this must be report to responsible authority, please detail in comments	Yes / No

Comments:

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Photographs taken?	Yes / No	Date inspected:	
Compliance date:		Signed:	

Tree Protection Management Plan Certification Template

Site address:	

Project Arborist:	Contact number:

Project manager:	Contact Number:

Pre-Construction

Meeting on Site held with Builders/Construction trades	Yes / No	Date/Time of meeting	

Persons present:

TMP copy given to all parties present?	Yes / No

Site access available and acceptable?	Yes / No
Modifications Required to Tree Protection Plan?	Yes/ No/ NA

Area designated on site for the storage of materials/goods?	Yes / No/ NA
Does the storage area for materials/goods comply with the TMP?	Yes / No/ NA

Have all utilities services been marked out on site?	Yes / No/ NA
Are all service located outside the TPZ?	Yes / No/ NA
Are service required to be bored under TPZ?	Yes / No/ NA

Fencing in correct location as per TMP?	Yes / No/ NA
Ground Protection in correct location as per TMP?	Yes / No/ NA
Does the TMP need to be modified?	Yes / No/ NA
Trunk and Branch protection correct as per TMP?	Yes / No/ NA
Signage present on TPZ protection?	Yes / No/ NA
Signage has project Arborist contact details?	Yes / No/ NA
Mulch type in accordance the TMP?	Yes / No/ NA
TPZ mulched to a depth of 100mm?	Yes / No/ NA
Has the tree been watered in accordance the TMP?	Yes / No/ NA

Have any canopies, trunk or root system of trees been damaged? if yes this must be report to responsible authority, please detail in comments	Yes / No

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Photographs taken?	Yes / No	Date inspected:	
Compliance date:		Signed:	

Tree Protection Management Plan Certification Template

Site address:	

Project Arborist:	Contact number:

Project manager:	Contact Number:

Construction

Site access available and acceptable?	Yes / No
Modifications Required to Tree Protection Plan?	Yes/ No/ NA

Area designated on site for the storage of materials/goods?	Yes / No/ NA
Does the storage area for materials/goods comply with the TMP?	Yes / No/ NA

Are all footings and installation in accordance the TMP?	Yes / No/ NA
Project arborist contacted when works enter the TPZ in accordance with tree management plan?	Yes / No/ NA

Fencing in correct location as per TMP?	Yes / No/ NA
Ground Protection in correct location as per TMP?	Yes / No/ NA
Does the TMP need to be modified?	Yes / No/ NA
Trunk and Branch protection correct as per TMP?	Yes / No/ NA
Signage present on TPZ protection?	Yes / No/ NA
Signage has project Arborist contact details?	Yes / No/ NA
Mulch type in accordance the TMP?	Yes / No/ NA
TPZ mulched to a depth of 100mm?	Yes / No/ NA
Has the tree been watered in accordance the TMP?	Yes / No/ NA

Have any canopies, trunk or root system of trees been damaged? if yes this must be report to responsible authority, please detail in comments	Yes / No

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Photographs taken?	Yes / No	Date inspected:	
Compliance date:		Signed:	

Tree Protection Management Plan Certification Template

Site address:	

Project Arborist:	Contact number:

Project manager:	Contact Number:

Post Construction and Landscaping Works

Meeting on Site held with Landscaping trades	Yes / No	Date/Time of meeting	

Persons present:

TMP copy given to all parties present?	Yes / No

Site access available and acceptable for landscaping?	Yes / No
Modifications Required to Tree Protection Plan?	Yes/ No/ NA

Area designated on site for the storage of materials/waste?	Yes / No/ NA
Does the storage area for materials/goods comply with the TMP?	Yes / No/ NA

Can the tree protection fencing and ground protection be removed	Yes / No/ NA
Are specialised tree protection measures required?	Yes / No/ NA
Project arborist contacted when works enter the TPZ in accordance with tree management plan	Yes / No/ NA

Do all works wihtinthe TPZ comply with the TMP?	Yes / No/ NA
Has the tree been watered in accordance the TMP?	Yes / No/ NA

Have any canopies, trunk or root system of trees been damaged? if yes this must be report to responsible authority, please detail in comments	Yes / No

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Comments:

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Photographs taken?	Yes / No	Date inspected:	
Compliance date:		Signed:	

Tree Protection Management Plan Certification Template

Site address:	

Project Arborist:	Contact number:

Project manager:	Contact Number:

Post Construction/Final Certification:

Where inspections carried out at all stages of construction works? please attached copies of inspection reports	Yes / No
If actions were required as part of inspections where they rectified in accordance with tree management plan?	Yes / No / NA
Have all works and recommendations been undertaken in accordance with tree management plan?	Yes / No
Have alterations to the Tree Management plan been undertaken and if so were they approved in writing by local responsible authority?	Yes / No

The Project Arborist has inspected all stages of the project has defined by the TMP. Amy action that has not complied has been rectified and approved by the Project Arborist. All works as noted within the approved TMP have been undertaken and any modifications to the TMP have been approved in writing by the local responsible authority.

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Photographs taken?	Yes / No	Date inspected:	
Final Certification approved?	Yes / No	Signed:	

Date of Final Certification:

7. Appendices for Tree Data Table

Genus/Species: The identification of the tree is based upon visual characteristics and given that the key identifying features of a tree are not often available the accuracy of identification cannot be guaranteed. Where the species of any tree is not known, sp. is used.

Native/Exotic: Native. Original origin of that Genus/Species is Australia

Exotic. Original origin of that Genus/Species is not Australia

Height and Spread: The height and crown spread were estimated from the ground level.

DSH (Diameter at Standard Height): The diameter of the trunk (DSH) of the tree is the nominal trunk diameter at 1.4m above ground level and is determined from the circumference of the trunk divided by *pi*. Where a tree is multi-stemmed the combined DSH is calculated using the formula

Total DSH= $\sqrt{(DSH_1)^2 + (DSH_2)^2 + (DSH_3)^2}$

Notional Root Zone (NRZ:) represents the theoretical area required to sustain a tree's health and long-term viability. It continues to include the Structural Root Zone (SRZ), which is the innermost zone critical for tree stability due to woody root growth and soil cohesion. Importantly, the term Tree Protection Zone (TPZ) is still in use, but it now refers specifically to the area protected during development activities, typically through physical barriers and site management measures to ensure tree viability.

Tree Protection Zone: The tree protection zone (TPZ) is the principal means of protecting trees on development sites. 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 TPZ incorporates the structural root zone (SRZ). The radius of the TPZ is calculated for each tree by multiplying its DSH x 12.

DAB: Diameter above buttress in cm, measured above root buttress and is determined from the circumference of the trunk divided by *pi*. Where a tree is multi-stemmed the combined DAB is calculated using the formula

Total DAB= $\sqrt{(DAB_1)^2 + (DAB_2)^2 + (DAB_3)^2}$

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Structural Root Zone: The structural root zone (SRZ) is the area required for tree stability. The SRZ only need to be calculated when encroachment of larger than 10 % is proposed into a NRZ. The radius of the SRZ is calculated for each tree by the formula.

SRZ radius = (D x 50)0.42 x 0.64.

D= trunk diameter, in m, measured above the root buttress.

Age Class:

Young	80% of life expectancy remaining
Semi-Mature	60%of life expectancy remaining
Mature	40% of life expectancy remaining
Senescent	10% of life expectancy remaining
Dead	0% of life expectancy remaining

S.U.L.E (Safe Useful Life Expectancy);

0 yrs	The tree is dead or almost dead and constitutes a hazard or has structural faults that poses a real threat to life and property.
5 yrs	The trees health is in decline and unlikely to recover or has structural faults that poses a real threat to life and property.
5-15yrs	The health of the tree is likely to decline during the next 15 years. This may be due to it being a short-lived species. It also may require high levels of maintenance after 15 years
15-25 yrs	The health and structure of the tree are likely to decline in the next 15-25 years. This may be due to it being a short-lived species. It also may require high levels of maintenance after 15 years.
25-50yrs	The health and structure of the tree are likely to still to be in good condition in the next 25-50 years. It may require a moderated level of maintenance after 25 years.
>50yrs	The health and structure of the tree are likely to still to be good condition in the next 50 years. It may require a low level of maintenance after 50 years.

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Location relevance:

- On Site Tree is located on the property.
- 3rd Party Tree is located in a neighbouring property, reserve or on the nature strip.

Retention Value:

High Retention Value	The tree must be retained and the design must accommodate its long-term retention.
Medium Retention Value	The tree may be retained if it does not hamper the design intent.
Low Retention Value	The tree is recommended for removal.

Vigor/Health:

Excellent	Crown full with full foliage density. Good new leaf and shoot growth with no dieback. Less than 30% deadwood. Tree is considered to be an excellent example of that species.
Good	Crown full with good foliage density. Average new leaf and shoot growth with little or no dieback. Less than 30% deadwood.
Fair	Crown foliage density below average. Less than average new leaf and shoot growth with minor dieback. More than 30% deadwood.
Poor	Poor new leaf and shoot growth. Extensive dieback and epicormic growth. Pathogens maybe present. More than 30% deadwood.
Dead	Tree is dead.

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Structure:

Excellent	Tree has an excellent defined and balanced canopy. Good branch union with no defects visible. No defect visible in the trunk. Tree is considered to be an excellent example of that species.
Good	Tree has a well-defined and balanced canopy. Good branch unions with little or no defects visible. Little or no defects visible in the trunk.
Fair	Tree has minor defaults in crown. Maybe unbalanced or some branch unions may show minor faults. Defects in trunk, bifurcated, leaning, wounds or decay.
Poor	Tree has significant faults with canopy or trunk. Poor branch unions with visible defects. Visible defects in trunk. The tree may have suffered significant root damage.

Percentage encroachment:

- **Major Encroachment**: More than 20% of the NRZ area, and/or encroachment into the SRZ. Response: The Project Arborist must be engaged to investigate alternative designs or demonstrate whether the tree can remain viable. This requires a detailed assessment of the tree and site, and may involve non-destructive root investigations.

- **Moderate Encroachment**: Greater than 10% and up to 20% of the NRZ area, outside the SRZ, with no recent NRZ encroachments. The Project Arborist must review the proposal and demonstrate whether the tree's viability can be maintained. This may involve site-specific mitigation strategies and appropriate design or construction controls.

- **Minor Encroachment:** 10% or less of the NRZ area, outside the SRZ, with no recent NRZ encroachments. Generally considered low-risk. If standard tree protection measures are implemented, significant impacts to tree health, structure, or longevity are unlikely.

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8. Glossary: Explanation of Terms

Air Knife: To reduce the damage to the root system of this tree it is recommended that the soil excavated for the services within the optimum tree protection zone of this tree is cleared away with an air knife. This will allow the roots to be exposed without damaging them. This work is to be carried out by a qualified Arborist to recommended Australian Arboricultural standards. Where possible the pipes for the services to the proposed units must be placed under the tree roots and tree roots may only be cut by a qualified Arborist.

Bifurcated: Bifurcations are where two or more stems arise near or at the same position on a trunk. As a result of these stems growing simultaneously they do not develop layers of supporting wood which is normally associated with branch development. This point of attachment is further weakened by included bark, which is the result of the bark of the internal faces of the stem becoming enclosed. There is also a risk of failure at this point due to the weight and leverage of these branches in relation to the strength of their attachment. This risk increases as this tree matures the branches spread, further increasing the stress on this point of attachment.

Building up of soil: The build-up of soil around the base of the tree will result in serious structural problems in the future. The building up of soil around the base of trees smothers the root system. Most of the trees woody transport roots and fine absorption roots, which absorb and transport water and nutrients are found in the top 150mm of soil. The loss of these roots will result in a decline in the health of the tree. The build-up of soil around the trunk of the tree also encourages diseases and causes the trunk of the tree to rot, resulting in an increased risk of structural failure.

Central leader: The main steam of the tree.

Cracks in outer bark of trees: the crack/splits due to irregular watering. The cracks/splits are a result of the trunk of the tree swelling as it takes up water after a period of drought. These crack/splits do not weakening the structure of the tree but deep cracks can create wounds that are vulnerable to decay and diseases.

Crowded out by neighbouring trees: As a result of this tree being crowded out by neighbouring trees there are few lateral branches. The lateral branches in the canopy of this tree concentrated at the top of the tree. An ideal branch distribution would centre the wind load acting on the tree at about two thirds of the total height. Ideally, one-half or more of the foliage should be on branches originating on the lower two-thirds of the trunk, and one-half or less should originate on the upper one-third. Pruning will not improve the shape or stability of this tree, nor will it reduce the potential of limb failure.

Dead tree: This tree is dead, there is no foliage on this tree and the bark is starting to peel off the trunk and canopy limbs. The health of this tree will not recover. This tree has died due to old age and a lack of water.

Deadwood: Branch or stem bearing no live tissue

Decay: The process of degradation of woody tissue by fungi or bacteria through decomposition. The decomposition of woody tissue had an effect upon the health and structural integrity of trees.

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Decline due to old age: The health of this tree is in decline due to the natural process of old age. Trees slow in growth as they approach maximum age, and become more vulnerable to disease and wind. The indicators that the health of a tree is in decline are the die back of the branches at the tips and the epicormic growth in the canopy.

Dieback: The progressive death of small branches generally from the tipoff the branch to the base.

Epicormic growth: Epicormic growth are shoots that arise from latent buds on mature branches. When a mature tree is stressed by drought, nutrient deficiency, old age, or disease, inside branches are exposed to more light due to the loss of foliage. Higher light intensity causes many low vigor epicormic shoots to sprout along the upper sides of the main branches to replace the loss of foliage and to increase photosynthesis. These epicormic shoots have a high risk of failure as they are only attached to the outside of the stem they grow from. As an epicormic shoot increases in size there is a high risk that it will fail at the point of attachment, as it is not strong enough to support its weight.

Fungal Bract: The fungal bracts are an indicator of fungal disease in the tree. Airborne fungal spores enter a tree through wounds and will have entered this tree thought the wound in the trunk of the tree. Fungal diseases infect and decompose the heartwood in the centre of trees; they break down the cell walls and reduce the structural strength of the tree. The wood in the center of a tree trunk is not living tissue, so a tree continues to look and function normally until the disease is quite advanced. When you see bracts, the tree has probably been infected for several years. The fungi destroy the internal framework of the tree and in advanced stages, splits; cavities and cracks develop in the trunk and branches.

The number, location and size of the fungal bracts are indicative of the extent of fungal disease in the tree. The large number of the fungal bracts on this tree indicates that the disease is active. This disease has weakened the tree's structure; it will cause the failure of limbs, failure of the trunk of the tree at the point where the fungal bracts are located and it will eventually kill the tree. The health of this tree will decline in the future as a direct result of the fungal disease. There is a very high risk of limb and structural failure due to the fungal disease in trees and this poses an immediate threat to life and property.

Included Bark: Pattern of development at branch junction where bark is turned inwards rather then pushed out.

Lopping: The removal of the crown or several of the major canopy limbs. This method of pruning leaves large wounds exposed vulnerable to attack by decay fungus. It also promotes the growth of new shoots from epicormic buds. These new shoots have a high risk of failure as they are only attached to the outside of the stem they grow from. As a shoot increases in size there is a high risk that it will fail at the point of attachment, as it is not strong enough to support its weight.

Noxious weed: This tree is classified as a noxious weed due to its ability to self-seed prolifically and it's potential to displace indigenous vegetation.

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Root damage: Tree roots cause movement in the soil as they take up water and nutrients; and this results in cracks and movement in structures. There are two types of damage trees may cause to property, namely direct (through physical contact) and indirect (subsidence). Direct damage is the result of pressure that may be exerted by a tree's roots or trunk. This pressure can affect lightly loaded structures such as garden walls, driveways and paved surfaces but rarely affect heavily loaded structures such as houses. And indirect damage that is the result of tree roots extracting moisture and nutrients from the soils and this results in subsidence and cracks appearing in the building.

Soil Compaction: Soil compaction is the loss of the large pore spaces within the soil. These pore spaces are essential for aeration, the exchange of gases between the soil air and the atmosphere and drainage, the removal of excess water from the soil. Soil compaction is caused by the stress forces applied by foot and vehicle traffic and the storage of materials. The degree of the soil compaction will depend upon the weight of vehicles, number of vehicles, soil moisture levels and clay content.

The loss of the pore spaces results in reduced aeration, loss of root growth, reduced infiltration of water, increased water run-off, reduced availability of plant nutrients and a reduction in the number and diversity of beneficial soil organisms. Damage to the root system of a tree can also result in the loss of structural woody roots, which will leave the tree unstable, reduce water and nutrient uptake which results in the eventual loss of leaves, reduced photosynthesis and thus sugar production. It may take many years for the health of the tree to decline and for the tree to eventually die from root damaged caused by soil compaction.

Windrow Tree: Trees that have grown close together are largely protected from wind forces by adjacent trees. However, they must also compete for light, space, soil area, water and nutrients and unless evenly spaced some trees will outperform other adjacent trees and will suppress the weaker trees. Weak performing trees may grow asymmetrically, with poor stem taper, little canopy and lack a well-developed root system. It is also essential in situations where trees are growing in close proximity to one another and where their canopies and root systems are intertwined that they are removed at the same time. Also, removing just one tree or just several trees resulted in the remaining trees becoming vulnerable to failure as they are now exposed to the elements.

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9. References

- Australian Standards AS4373 (2007) Pruning of amenity Trees,
- Australian Standards AS4970 -2025 Protection of trees on development sites.
- Mattheck, Dr. Claus & Breloer, Helge (1994) – Sixth Edition (2001) The Body Language of Trees – A Handbook for Failure Analysis the Stationery Office, London, England

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10. Terms and Conditions

This Report has been prepared in accordance with and is provided subject to the Terms and Conditions hereinafter contained and/or endorsed

1. Reference in this Report to-

"Arbor Scribe" means and includes all principals, partners or other proprietors, employees, agents, licensees, sub-contractors, consultants and representatives of [redacted]

"the stipulated constraints" means a ground level inspection conducted at the Location during day light hours subject to prevailing weather conditions on the day of inspection

"special activities" means climbing, lifting, excavating or use of special equipment

"special equipment" includes a cherry picker, ladder or other apparatus or appliance

2. Possession of this report or a copy thereof does not imply right of publication or use of any purpose by anyone but the client or their directed representatives, without the prior written consent of Arbor Scribe.

3. The Client warrants to [redacted]hat –
   3.1. this Report has neither been commissioned and nor will it be used for or in connection with any legal proceedings and acknowledges that [redacted] is not compelled to attend or provide evidence before any Court or Tribunal in connection herewith and may rely on this warranty as a fundamental term and bar to any summons or subpoena being issued against or complied with by[redacted]
   3.2. the Client is the owner or occupier and has a legal right or permission to authorize [redacted] [redacted] entry upon the Location.
   3.3. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership to any property assumed to be good. No responsibility is assumed for matters legal in character. It is assumed that nay property/project is not in violation of any codes, ordinances, statutes or other government regulation.

4. [redacted] has in accordance with the stipulated constraints exercised due care and skill in conducting an inspection at the Location and preparing this Report. [redacted] will not and is not obliged in connection therewith to carry out any special activities but recommend the Client engages a specialist contractor where appropriate. Information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection. The inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee, expressed or implied that the problems or deficiencies of the plants or property in question may not arise in future.

5. Care has been taken to obtain all information from reliable sources. All data has been verified in so far as possible; however the consultant can neither guarantee nor be responsible for the accuracy of the information provided by others.

6. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

7. Loss or alteration of any part of this report invalidates the entire report.

8. The Client acknowledges having been provided with a copy of both read and understood these Terms and Conditions prior to engaging the services of Arbor Scribe.

9. [redacted] terms of payment are (unless otherwise stated in writing) 7 days nett upon issue of Invoice. An administration charge of $1.00 applies per day and accrues calendar monthly commencing 14 days from the date of Arbor Scribe's invoice.

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11. Expertise to report

Qualification & Experience

- Advanced Certificate in Arboriculture
- Certificate in Horticulture
- 24 years experience in Arboriculture
- 12 years in private sector as a consultant Arborist
- 3 years at Daryl's Tree Care & Surgery, as a crew member and consulting Arborist
- 4 years at City of Banyule, as apprentice Gardener/Arborist
- 5 years at The Hurlingham Club, London, England, as Senior gardener

Expertise to report

Australian Standards AS4970, 1.4.4 Project Arborist

The person responsible for carrying out the tree assessment, report preparation, consultation with designer, specifying tree protection measures, monitoring and certification. The project arborist will be suitably experienced and competent in arboriculture, having acquired through training, qualifications (minimum Australian Qualification Framework (AQF) Level 5, Diploma of Horticulture (Arboriculture) and/**or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard.**

I have been a qualified Arborist for 24 years and have been writing tree reports for the past 14 Years. Therefore, I am qualified to write tree report to Australian standards AS4970 based upon '**or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard.'**

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Tree protection requirements during construction:

- Any works within the Tree Protection Zone of any tree, whether the zone is fully enclosed by Tree protection fencing/Ground protection or not, MUST comply with tree protection measures described.
- Temporary irrigation - A manually operated surface/drip irrigation system should be used to water the root zones of the trees within TPZ's during dry spells and after construction works have been completed.
- Excavation work must be carried out manually within the TPZ of the tree. No roots larger than 20mm in diameter are to be cut and the project arborist must be advised that the work is going to be carried out and present if roots are to be cut or damaged.
- Any holes for post within the TPZ of tree for new or replacement boundary fences or replacement retaining walls must be excavated manually and re positioned around significant roots (tree roots with a diameter large than 20mm are significant roots). If tree roots must be cut inside or outside the TPZ any pruning must be carried out by the project Arborist. No roots to be pruned with machinery such as backhoes or excavators.
- All services and pits must be routed outside the TPZ's of the trees. If underground services must be routed within the TPZ, they must be installed by boring under the tree protection zone or installed using hydro excavation under the supervision of the project arborist.
- Where roots are left exposed by excavations, temporary root protection must be installed to prevent them drying out.
- No persons, vehicles or machinery to enter TPZ without written consent of the responsible authority. No fuel, oil dumps, waste or chemicals are allowed in or are to be stored within TPZ and the servicing of equipment or vehicles should be carried out away from the TPZ. No temporary buildings or waste to be stored within the TPZ.
- The area within the TPZ must be mulched with organic woodchip mulch within the designated TPZ that is recommended to be protected. Where the existing landscape within the TPZ is to remain unaltered (e.g., garden beds or turf) mulch may not be required.
- All weeds that grow during construction works within the designated protected TPZ must be removed by hand without soil disturbance or controlled with appropriate use of non-residual herbicide.
- Removal of protection measures and cessation of the tree management plan must be authorized by the responsible authority.

LANDSCAPING WORKS: Where the landscaping works enter the TPZ of the trees the changes to soil condition shall be avoided wherever possible. Where unavoidable in order to carry out approved works to be carried out manually to the maximum depth of excavations or fill to be 100mm within the TPZ of this tree. Mechanical digging is not permitted. Any root severance with the TPZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction. If excavations deeper than 100mm are required then root investigation must be carried out to establish if any significant root will be damaged.
Any holes for post or foundations for decks or retaining walls within the TPZ of this tree must be excavated manually and reposition around roots with a diameter large than 20mm. Any root severance with the TPZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction. Any planting holes for new trees and shrubs must be excavated manually and reposition around roots with a diameter large than 20mm. Any root severance with the TPZ must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction. The removal of any protective fencing to allow for landscaping works must be approved by the Responsible Authority and undertaken by the project Arborist to their satisfaction.
Refer to Tree Protection Specifications Report for further details

PROTECTIVE FENCING:

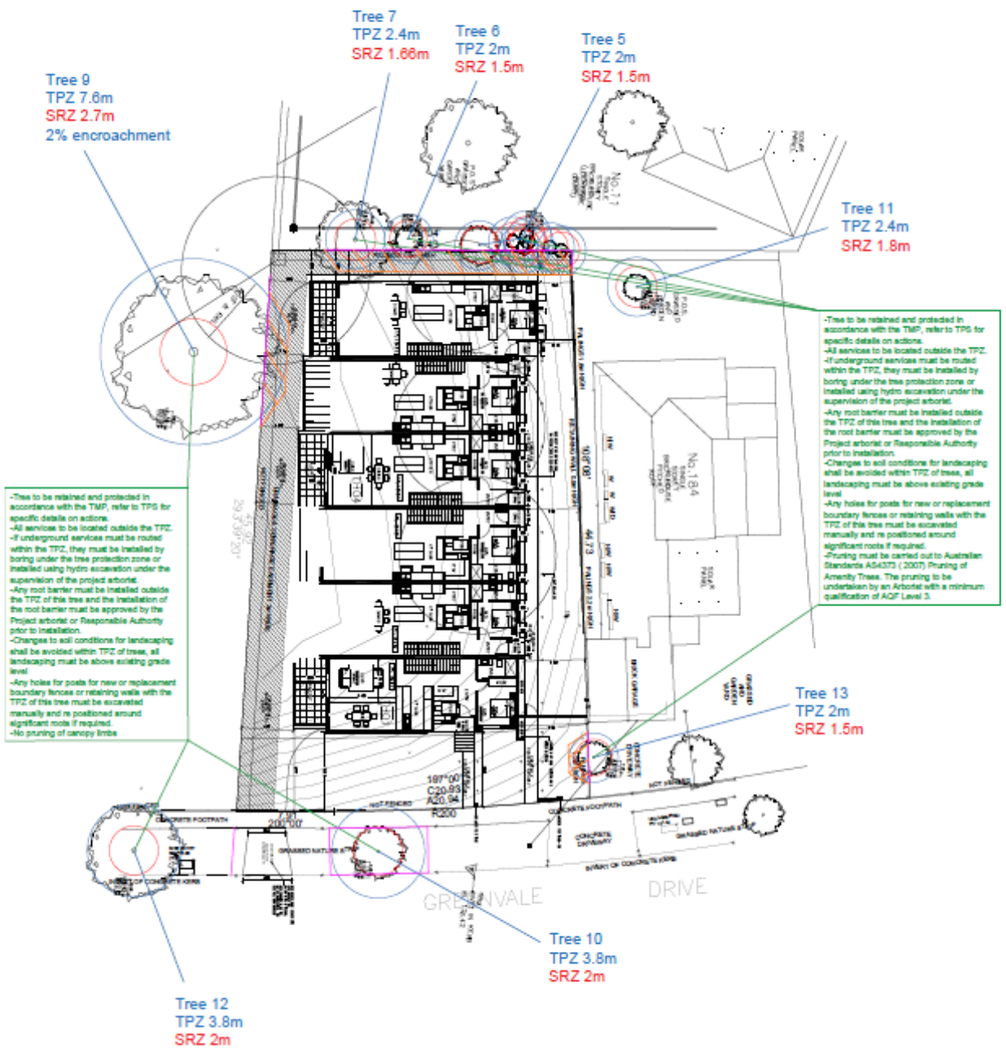
- Must be chain wire mesh panels, high wire mesh fencing or high wire reinforced para-web mesh with reinforcing fencing wire to a height of 1.8m, held in place with concrete feet or 1.8m star pickets every 3-4m. Alternatively plywood or wooden paling fence panels to a height of 1.8m may be used. If excavation is required for the insertion of supports posts for the fencing it must not involve the severance of any roots greater than 20mm in diameter and must be carried out by the project Arborist, and they must be pruned with a final cut to undamaged wood. Pruning cuts must be made with a sharp secateurs, pruners, handsaw or chainsaw. Pruning cuts must NOT be treated with dressings or paints. No roots to be pruned with machinery such as backhoes or excavators.
- The protective fencing must not be removed or altered without approval of the responsible authority and must remain in place until its removal is approved by project arborist. Existing perimeter fencing and other structures may be suitable as part of the protective fencing. No temporary services, wires, nails, screws or any other fixing device to be attached to the tree. Signs identifying the TPZ should be placed around all sides of the TPZ and be visible from within the development site. The lettering on the sign must comply with Australian standard AS1319.

Refer to Tree Protection Specifications Report for further details

GROUND PROTECTION:

- If temporary access is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards. For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed. Rumble boards should be of a suitable thickness to prevent soil compaction and root damage
- Ground protection must not be removed or altered without approval of the responsible authority and must remain in place until its removal is approved by project arborist.

Refer to Tree Protection Specifications Report for further details



Tree No.	Botanical Name / Common Name	DAB (cm)	NRZ (m)	DAB (cm)	SRZ (m)	TPZ (m)
9	Stupa ocydentalis Brejo x T	13.6	2	13.6	1.8	2
6	Callistemon viminalis Weeping Bottle Brush	13.6	2	13.6	1.8	2
7	Pittosporum tenuifolium Tawa Sterling Pittosporum	18.7	2.4	18.7	1.66	2.4
8	Eucalyptus species Eucalyptus	63.7	7.6	63.7	2.7	7.6
10	Callistemon salignus Willow Bottlebrush	51.3	3.8	51.3	2	3.8
11	Callistemon viminalis Weeping Bottle Brush	18.7	2.4	18.7	1.66	2.4
12	Angophora costata Smooth-Apple Bark	51.3	3.8	51.3	2	3.8
13	Callistemon viminalis Weeping Bottle Brush	13.6	2	13.6	1.8	2

Tree protection management plan	186 Greenvale Road, Greenvale	19.8.2026

Protective fencing | Ground protection | Tree protection zone (TPZ) | Structural Root Zone (SRZ)

Project Arborist role and responsibilities

Time table/schedule for tree protection measures and monitoring trees:

A project Arborist in conjunction with any requirements from the responsible authority to be appointed to implement tree protection management plan. They must ensure tree protection measures have been installed correctly and must supervise works within Tree Protection Zones during pre-demolition works, pre-construction work, construction works, landscaping works and final certification. The owner of the property is responsible for the installation and retention of the tree protection measures.

- Contractors to be advised of trees to be retained. The owner and occupier of the site must ensure that, prior to the commencement of demolition, buildings and works, all contractors and trades persons operating on the site are advised of the status of trees to be retained as detailed in the Tree Protection Specifications Report (TPS) and are advised of any obligations in relation to the protection of those trees, including the attendance of site meetings.
- If any canopies, trunk or root system of trees recommended to be retained are damaged at any stage of demolition/construction this damage must be reported to the project arborist immediately. All works must stop around the tree immediately. The damage must be assessed by the project arborist. The responsible authority must be notified by the project arborist to establish the appropriate action to be taken. The local council is to be notified within 24 hours of any breach of the Tree Protection Management Plan of where damage has occurred to a tree.
- **Pre-demolition:** Site induction meeting, Tree pruning and root pruning as per TPS, The tree protection measures must be installed in the location shown on the tree protection plan prior to demolition works, excavation works, and delivery of goods etc. occurring. The protection fencing and ground protection systems are inspected by project arborist prior to demolition works. The temporary repositioning of tree protection fencing/ground protection as may be required to provide access in situations where this relocation, both in terms of its repositioning and its purpose, are approved and supervised by the project's arborist, and the approved fencing position/ ground protection reinstated immediately following any such access.
- **Pre-Construction:** Site induction meeting. Designated storage area, Installation of utility services, Inspection of tree protection measures. The temporary repositioning of tree protection fencing/ground protection as may be required to provide access in situations where this relocation, both in terms of its repositioning and its purpose, are approved and supervised by the project's arborist, and the approved fencing position/ ground protection reinstated immediately following any such access.
- **Construction works:** The building site to be inspected a minimum of every 3 months by project arborist. The project arborist to be present during excavations with TPZ of trees to be retained and is to undertake any root severance within the TPZ of trees recommended to be retained. **Supervision** of approved footings, driveway and cross overs within the TPZ as per TSP , Inspection of tree protection measures. The temporary repositioning of tree protection fencing/ground protection as may be required to provide access in situations where this relocation, both in terms of its repositioning and its purpose, are approved and supervised by the project's arborist, and the approved fencing position/ ground protection reinstated immediately following any such access.
- **Landscaping works:** Site induction meeting. The project arborist may need to approve removal of protective measures to allow for landscaping works. Tree pruning and root pruning as per TPS, On going care including mulching and watering of trees. P
- **Final Certifioation:** Project arborist will confirm if all inspections carried out at all stages of construction works and attached copies of the inspection reports. They will provide a statement on condition of the retained trees and details of deviations from the tree protection management plan and the impact upon tree if any. A detail report maybe required if significant deviation form tree management plan or significant damage to trees.

Refer to Tree Protection Specifications report for further details

[redacted]

Memorandum

To: City of Hume

From: [redacted]

Subject: Design Review & Swept Path Assessment

Project Address: 186 Greenvale Drive, Greenvale

Date: 23rd October, 2026 **Reference No.:** 26-0585

1. Scope / Context

This memo provides a traffic engineering design review and swept path assessment of the proposed townhouse development at 186 Greenvale Drive, Greenvale.

The assessment is based on the architectural drawings prepared by [redacted]

2. Review of Parking Dimensions

The following table reviews car parking dimensions against Design Standard 2 of Clause 52.06-9.

Table 1: Review of Parking Dimensions

Parking	Dimensions	Compliance
All double garages	5.8m wide by 6.0m long	Complies with Design Standard 2

3. Swept Path Analysis

Swept path diagrams have been prepared for critical garages in the development.

The critical garages are identified at the first and last garage (being closest to the entry and the dead-end), as well as one garage from the middle to represent the remaining garages. The middle garage selected for the assessment is TH05, which has slightly less aisle width than the other garages.

The diagrams use the B85 design vehicle from AS2890.1:2004.

The diagrams confirm that the design vehicle can access each parking space, whilst entering and exiting the site in a forward direction.

Refer to Appendix A for the swept path diagrams.

4. Three-Point Turns and Reversing into Parking Spaces

Three-point turns are expressly permitted for resident car parking under AS/NZS 2890.1:2004 for User Class 1/1A (long term users).

Reverse manoeuvres when entering a parking space are permitted under AS/NZS 2890.1:2004 for resident parking.

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5. Vehicle Clearance and Landscaping

Minor overhang of vehicle bodies into landscape/garden areas have been minimised, however these occur in some locations. This is a common design practice to minimise hard stand and maximise landscape/garden areas. The following is noted:

- The swept path diagrams avoid all physical obstructions (i.e. retaining walls, porches etc).
- Wheel tracks (black lines) remain fully clear of landscaping.
- Clearances (red lines) and the vehicle body (orange lines) slightly overhang landscape/garden areas. However, this area is expected to feature low-level planting only.

We recommend that the landscape design avoids significant planting adjacent to the driveway to prevent potential conflict and is limited to low level and 'soft' landscaping.

6. Summary

The parking dimensions are in accordance with Design Standard 2 of Clause 52.06-9.

Swept paths confirm the layout has been appropriately designed based on the criteria under AS2890.1.

The sought planning permit application is supported from a parking design perspective.

For further information or clarification, please contact us at:

[redacted]

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Appendix A

Swept Path Diagrams

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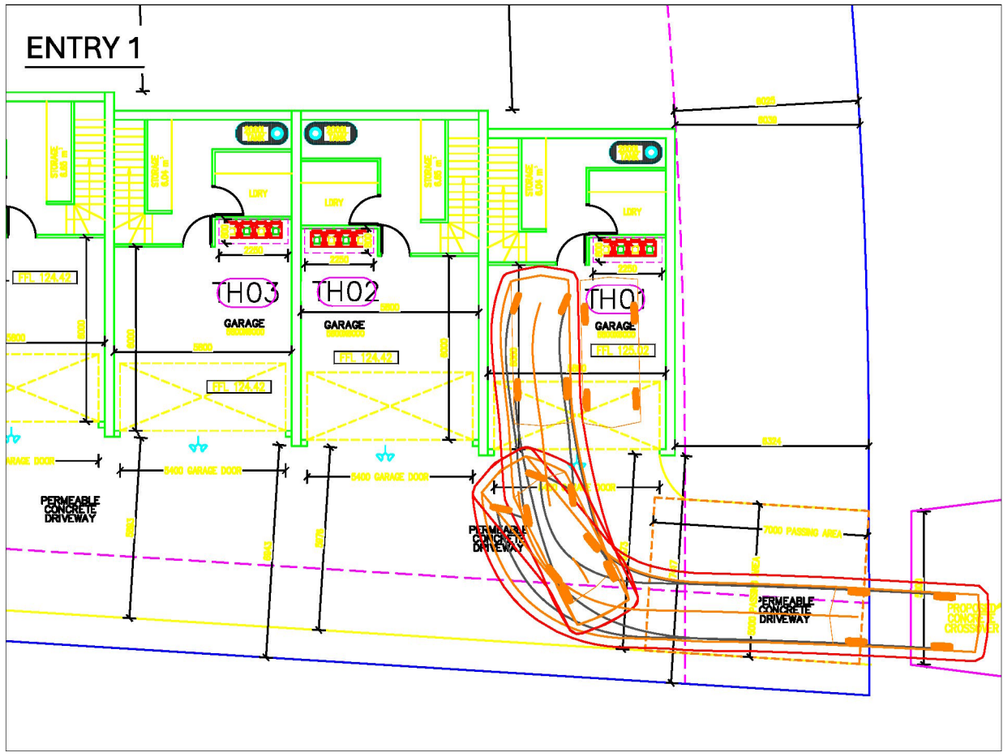
ENTRY 1



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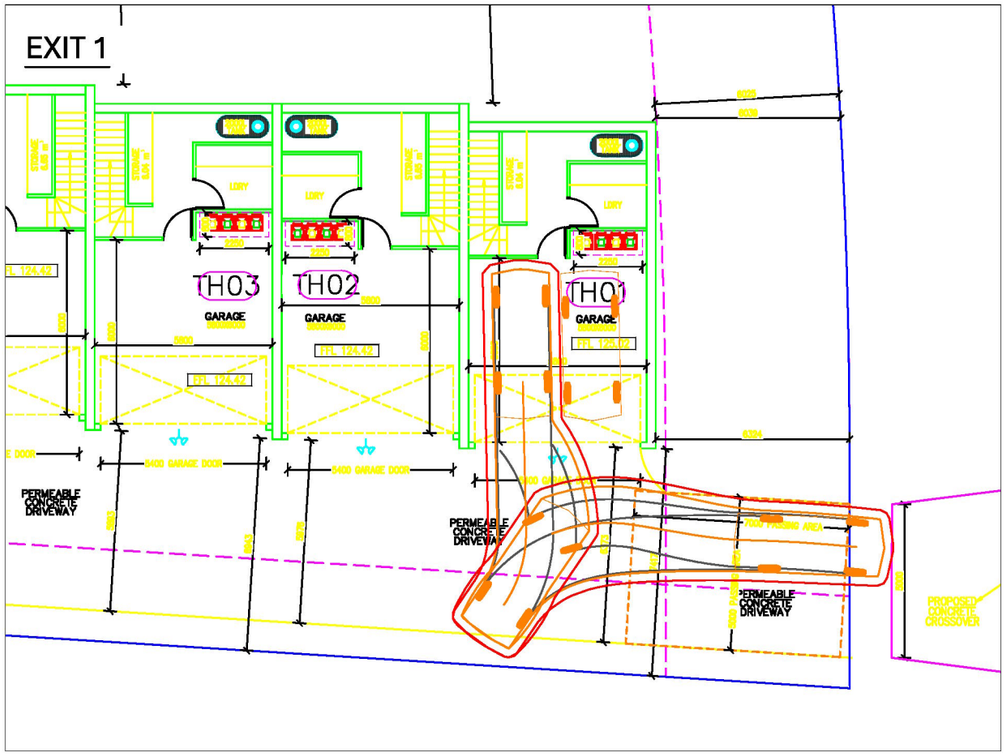

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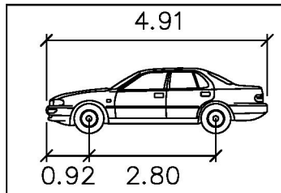


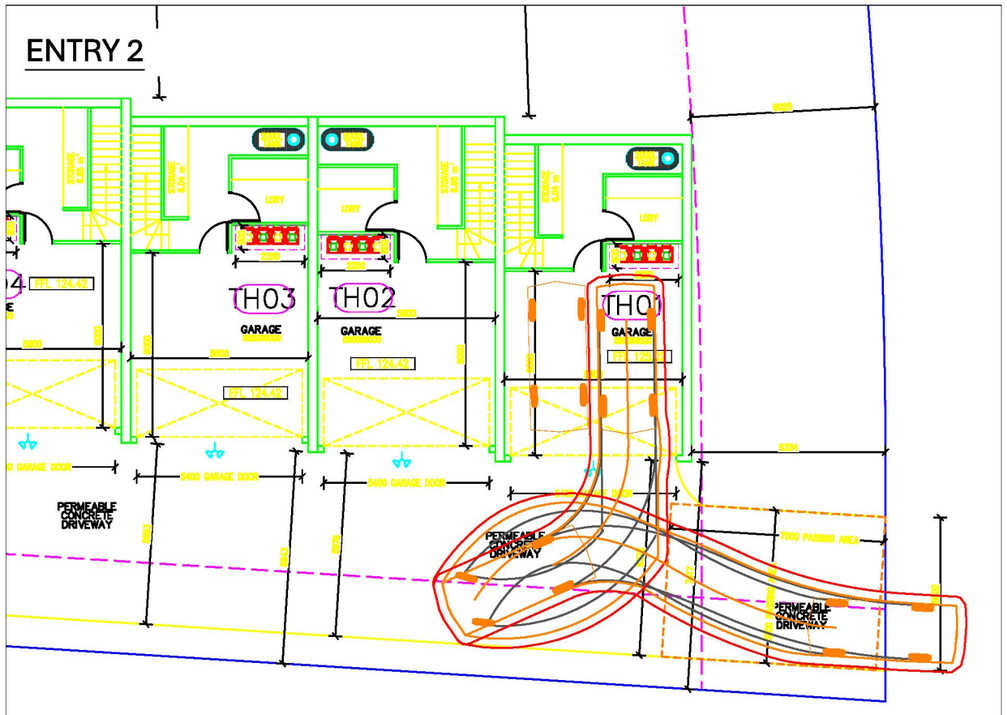
B85 Design Car - AS2890.1:2004

Width	: 1870 mm
Track	: 1770 mm
Lock to Lock Time	: 6.0 sec
Steering Angle	: 34.1 degrees
Speed	: 5 km/h

LEGEND

- Vehicle Body
- Wheel Tracks
- Clearance Lines (300mm)

ENTRY 2



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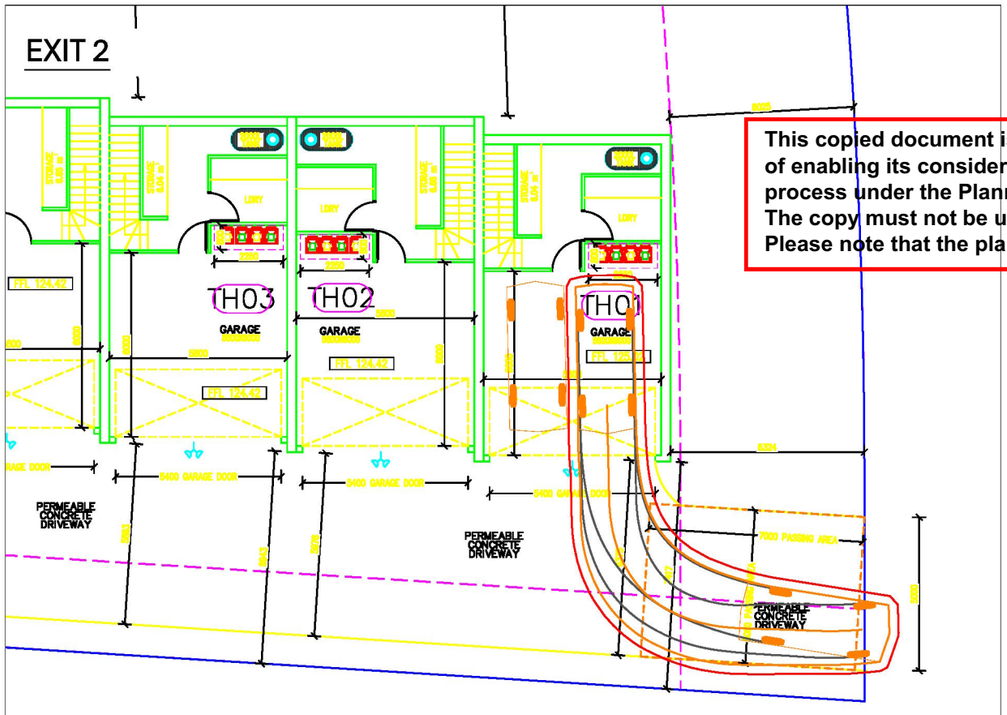

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Address: 186 GREENVALE DRIVE, GREENVALE
Development Type: RESIDENTIAL
Assessment: ACCESS & PARKING REVIEW

SWEPT PATH DIAGRAMS

REVISION	DATE	DESCRIPTION
A	05/10/26	DRAFT FOR DISCUSSION
B	23/10/26	ORIGINAL ISSUE

NOTES:
- BASE PLANS PREPARED BY ARKHAM ARCHITECTURE
- 3 POINT MANOEUVRE PERMITTED UNDER AS2890.1:2004 FOR RESIDENT CAR PARKING
- SIMULATION SOFTWARE - AUTOTURN

REFERENCE	REVISION	SHEET	SCALE
26-0585	A	1 of 3	1:200 @ A3

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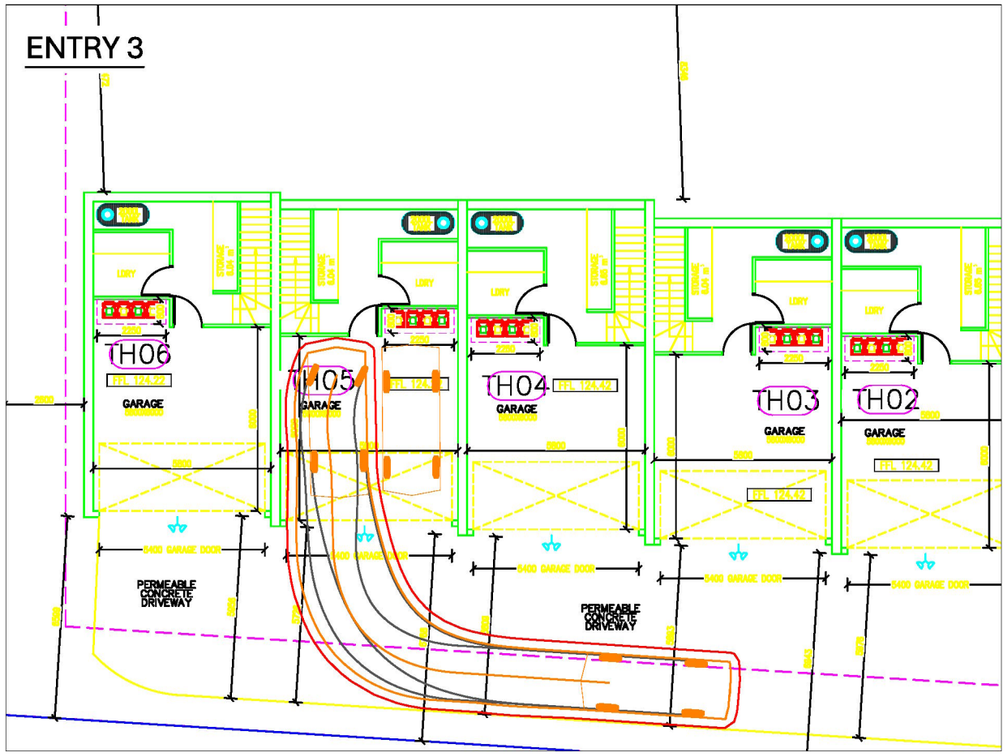
ENTRY 3



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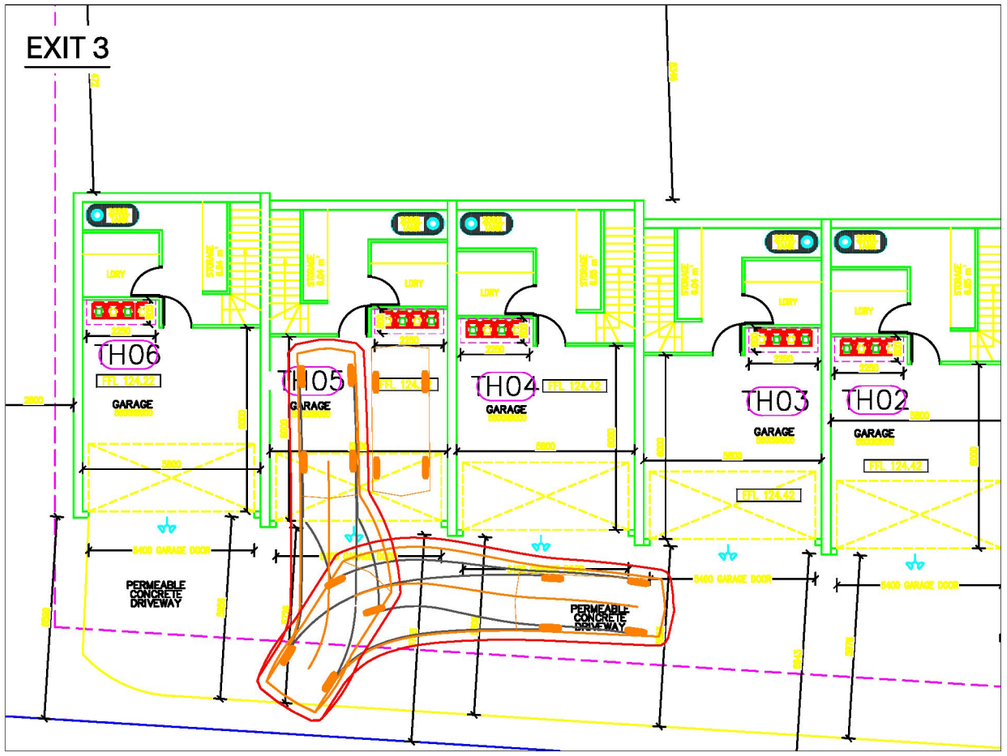

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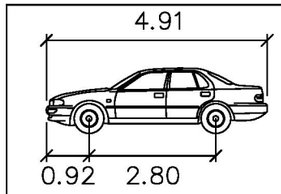

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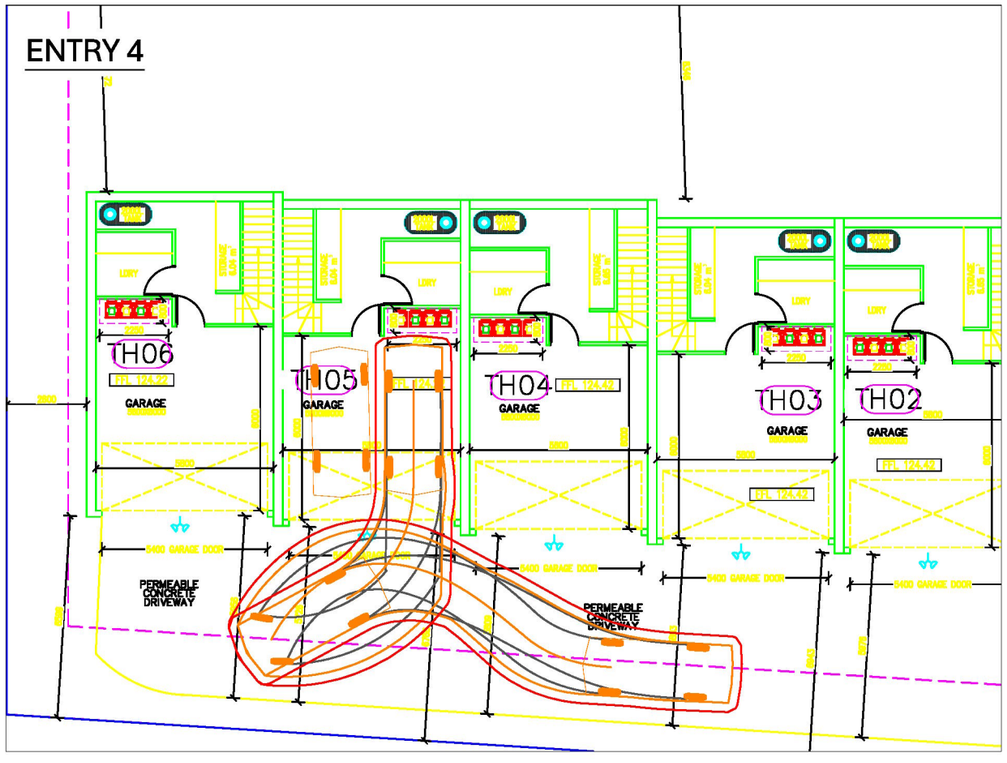
Speed	: 5 km/h

LEGEND

- Vehicle Body
- Wheel Tracks
- Clearance Lines (300mm)

ENTRY 4



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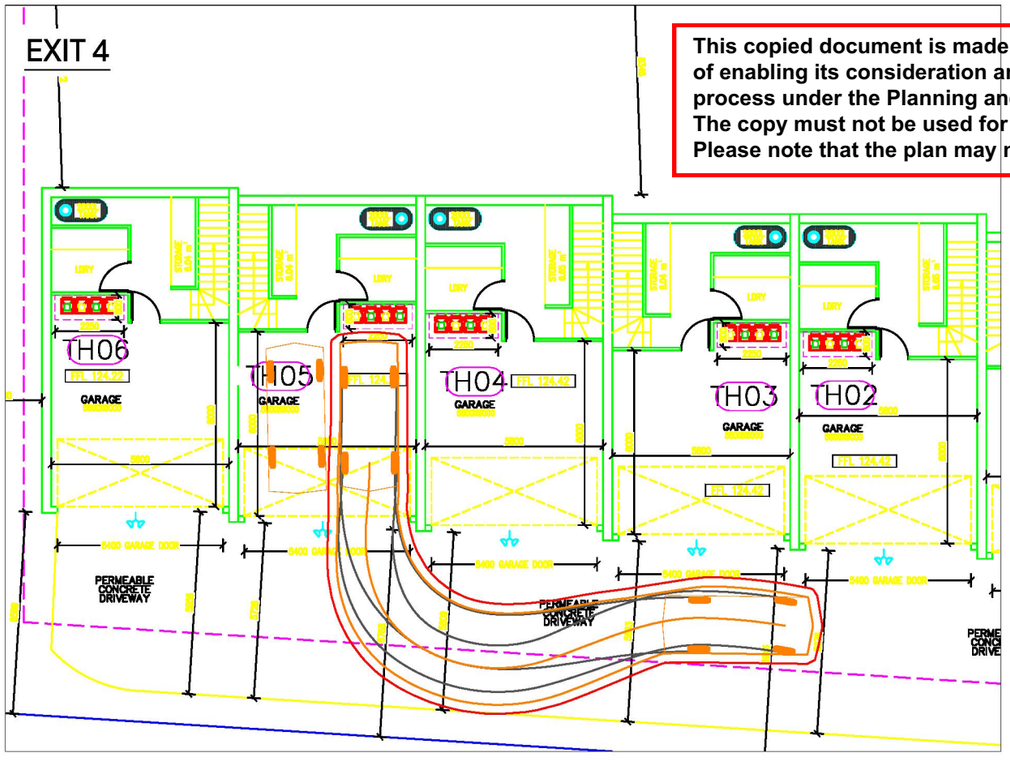

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Development Type: RESIDENTIAL
Assessment: ACCESS & PARKING REVIEW

SWEPT PATH DIAGRAMS

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REFERENCE	REVISION	SHEET	SCALE
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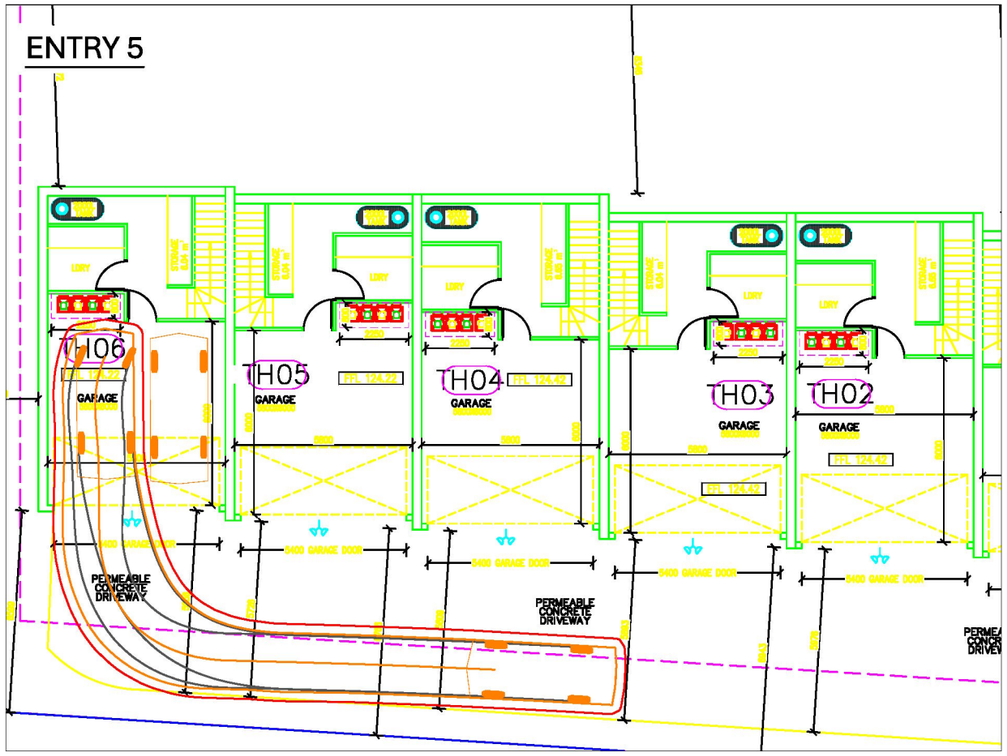
ENTRY 5



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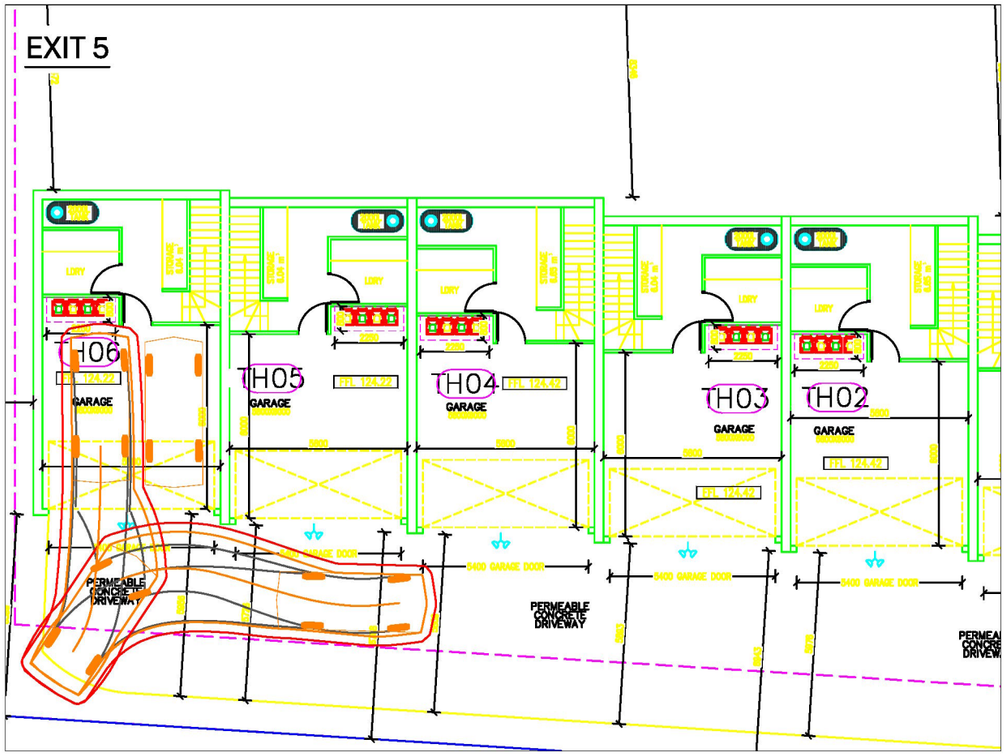

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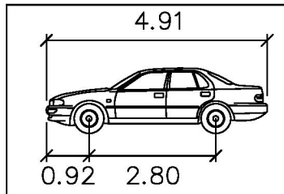

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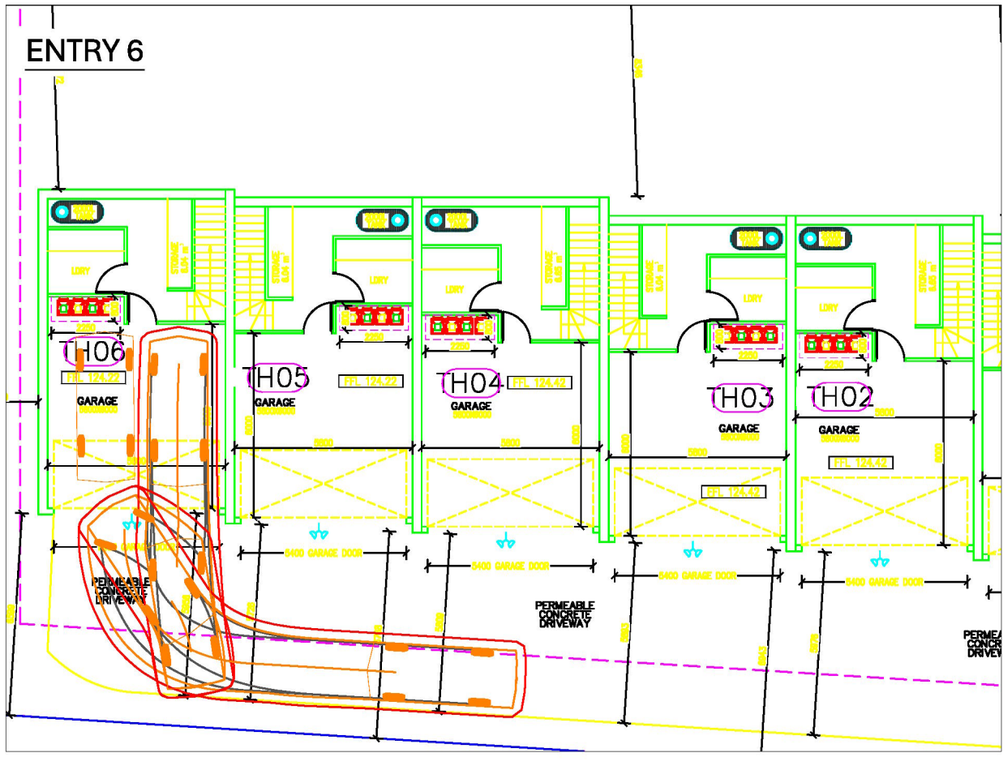
- Wheel Tracks
- Clearance Lines (300mm)

ENTRY 6



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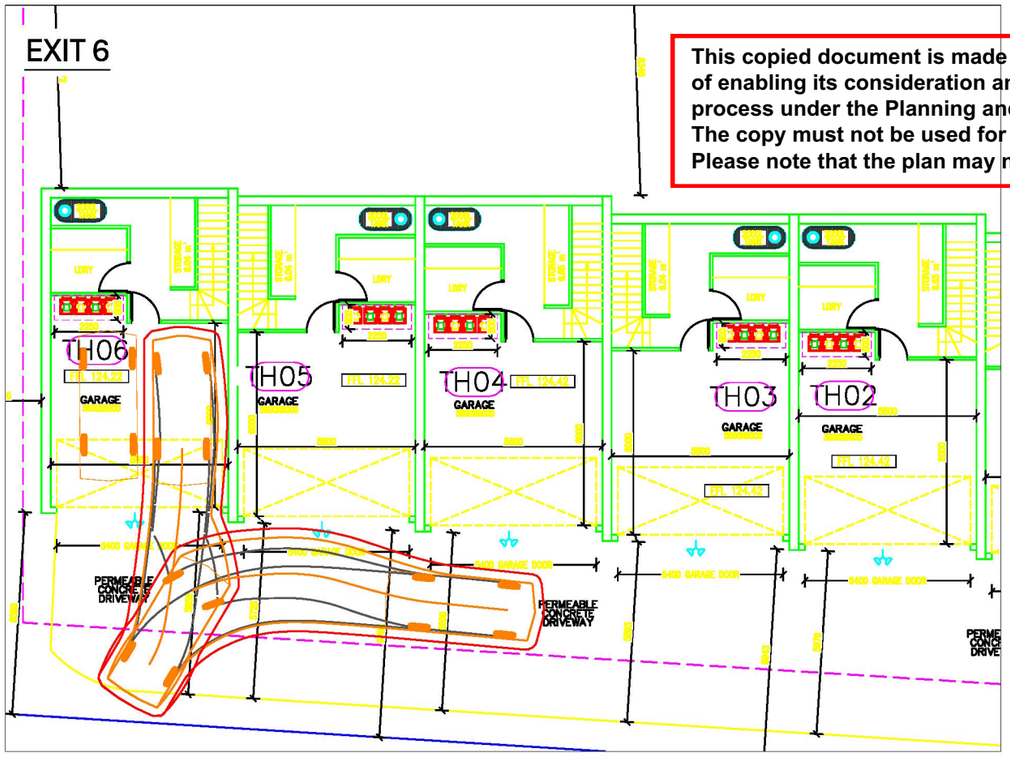

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