Agenda Planning Committee Meeting

Wednesday, 23rd February 2022

Commencing at 7.00pm

via the Zoom platform and live streamed

kingston.vic.gov.au

Peter Bean Chief Executive Officer Kingston City Council



Notice is given that Planning Committee Meeting of Kingston City Council will be held at 7.00pm on Wednesday, 23 February 2022 via the Zoom platform and live streamed,

1. Apologies

2. Confirmation of Minutes of Previous Meetings

Minutes of Planning Committee Meeting 20 October 2021

3. Foreshadowed Declaration by Councillors, Officers or Contractors of any Conflict of Interest

Note that any Conflicts of Interest need to be formally declared at the start of the meeting and immediately prior to the item being considered – type and nature of interest is required to be disclosed – if disclosed in writing to the CEO prior to the meeting only the type of interest needs to be disclosed prior to the item being considered.

4. Planning and Development Reports

4.1	Town Planning Application Decisions - January 2022	5
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5. Confidential Items

Nil

Planning Committee Meeting

23 February 2022

Agenda Item No: 4.1

TOWN PLANNING APPLICATION DECISIONS - JANUARY 2022

Contact Officer: Carly De Mamiel, Senior Customer Liaison and Administration

Officer

Attached for information is the report of Town Planning Decisions for the month of January 2022.

A summary of the decisions is as follows:

Type of Decision	Number of Decisions Made	Percentage (%)
Planning Permits	58	78
Notice of Decision	10	13
Refusal to Grant a Permit	1	2
Other - Withdrawn (3) - Prohibited (0) - Permit not required (0) - Lapsed (2) - Failure to Determine (0)	5	7
Total	74	100

(NB: Percentage figures have been rounded)

OFFICER RECOMMENDATION

That the report be noted.

Appendices

Appendix 1 - Town Planning Application Decisions January (Ref 22/24854)

Author/s: Carly De Mamiel, Senior Customer Liaison and Administration

Officer

Reviewed and Approved By: Naomi Crowe, Team Leader City Development Administration

Ref: IC22/202 5

4.1

TOWN PLANNING APPLICATION DECISIONS - JANUARY 2022

	Planning Decisions January 2022							
APPL. No.	PROPERTY ADDRESS	SUBURB	APPL. DATE	DATE DECIDED	PROPOSAL DESCRIPTION	DECISION	VCAT DECISION	
KP- 1997/132/A	4 Cliffe Lane	EDITHVALE	16/11/2021	4/01/2022	To develop and use this site for a dual occupancy, in accordance with plans to be submitted pursuant to Condition 1 hereof;	Permit	No	
KP-2020/776	39 Chelsea Road	CHELSEA	29/12/2020	5/01/2022	Develop the land for three (3) dwellings	Permit	No	
KP- 2002/336/A	16B Graham Road	CARRUM	20/08/2021	5/01/2022	The development of this site for two (2) dwellings, in accordance with plans submitted pursuant to condition 1 hereof	Permit	No	
KP-2020/718	129 Centre Dandenong Road	CHELTENHAM	7/12/2020	5/01/2022	The development of four (4) dwellings and to alter access to a road in a Road Zone Category 1.	Permit	No	
KP-2021/382	10 Collocott Street	MORDIALLOC	22/06/2021	5/01/2022	The development of four (4) dwellings	Permit	No	
KP-2020/15	252-258 Lower Dandenong Road	MORDIALLOC	23/12/2019	5/01/2022	The use and development of the land for twelve (12) warehouses, a reduction in the car parking requirement, create/alter access to a road in a Road Zone, Category 1 and the display of business identification signage	Permit	No	
KP-2021/434	4 11 Ashley Park Drive	CHELSEA HEIGHTS	14/07/2021	5/01/2022	Use of the land as a restricted recreation facility (24/7 gym)	Permit	No	
KP-2021/166	1084-1086 Centre Road	OAKLEIGH SOUTH	7/04/2021	5/01/2022	The use and development of twenty- two (22) storage units and to alter access to a road in a Road Zone, Category 1	Permit	No	
KP-2021/410	640 Nepean Highway	CARRUM	5/07/2021	6/01/2022	Use the land for the sale and consumption of liquor (restaurant and café licence) in accordance with the endorsed plans	Permit	No	

KP-2021/913	Warehouse 2 34 Graham Daff Boulevard	BRAESIDE	21/12/2021	6/01/2022	The construction of a mezzanine floor in an existing warehouse	Permit	No
KP-2021/903	58 Mulkarra Drive	CHELSEA	22/12/2021	7/01/2022	The construction of a double storey dwelling on land within a Special Building Overlay	Permit	No
KP-2021/711	3 Camelia Grove	CHELTENHAM	12/10/2021	7/01/2022	The construction of two (2) double storey dwellings	Permit	No
KP-2021/178	39 Bear Street	MORDIALLOC	14/04/2021	10/01/2022	The development of two (2) double storey dwellings	Notice of Decision	No
KP-2020/595	Office Ground 1001 Nepean Highway	MOORABBIN	7/10/2020	10/01/2022	The use of part of the land for Office and the removal of restrictive covenant H634525 from Plan of Consolidation 107012	Permit	No
KP-2021/559	82 Bernard Street	CHELTENHAM	27/08/2021	10/01/2022	Develop the land for the construction of two (2) double storey dwellings	Permit	No
KP-2021/526	31 St Georges Crescent	HEATHERTON	15/08/2021	10/01/2022	Develop the land for the construction of alterations and additions to an existing dwelling on a lot less than 300sqm	Permit	No
KP- 2017/647/A	14 Second Street	PARKDALE	25/08/2021	11/01/2022	Develop the land for the construction of two (2) double storey dwellings and subdivide the land into two (2) lots.	Permit	No
KP-2021/930	7 Walkers Road	CARRUM	24/12/2021	11/01/2022	The construction of a front fence	Permit	No
KP- 2011/196/A	Unit 1 37 Mount View Road	HIGHETT	25/11/2021	11/01/2022	Development of two (2) dwellings	Withdrawn	No
KP-2021/384	25 Hawke Street	PARKDALE	23/06/2021	11/01/2022	Develop the land for the construction of two (2) double storey dwellings	Permit	No
KP-2021/719	3 Narooma Street	MOORABBIN	15/10/2021	12/01/2022	The construction of two (2) double storey dwellings	Notice of Decision	No

KP-2021/649	Unit 3 7-9 Naples Road	MENTONE	22/09/2021	13/01/2022	Removal of an easement	Permit	No
KP-2021/638	Shop 4 6 Station Street	MOORABBIN	21/09/2021	13/01/2022	Use the land for the sale and consumption of liquor (General Licence) in accordance with the endorsed plans	Notice of Decision	No
KP-2021/654	15 Mills Street	CHELTENHAM	23/09/2021	13/01/2022	Use of land for Indoor Recreation Facility (Yoga/Wellness Centre)	Permit	No
KP-2022/8	116 Beach Road	PARKDALE	11/01/2022	13/01/2022	Subdivide the Land into Two (2) Lots	Permit	No
KP-2021/177	122 Station Street	ASPENDALE	9/04/2021	14/01/2022	The construction of one (1) double storey dwelling to the rear of the existing dwelling and the removal of an easement	Permit	No
KP-2021/426	18 James Avenue	ASPENDALE	19/07/2021	14/01/2022	Develop the land for two (2) dwellings	Permit	No
KP- 2016/1055/H	254-258 Chesterville Road	MOORABBIN	24/08/2021	14/01/2022	Use and development of the land for office, food and drink premises (other than hotel or bar)/convenience shop, restricted retail and retail (market), tavern, industry (brewery), restricted recreation facility (yoga studio), sale and consumption of liquor for a General Licence for the tavern and a R	Permit	No
KP-2021/264	5 15 Bourke Street	MENTONE	11/05/2021	14/01/2022	The extension of the existing dwelling including a first floor addition and buildings and works on common property	Notice of Decision	No
KP-2021/798	250 Station Street	EDITHVALE	16/11/2021	14/01/2022	Subdivide the Land into Three (3) Lots	Permit	No
KP-2021/635	1 19 Herbert Street	PARKDALE	21/09/2021	14/01/2022	To extend a dwelling on a lot less than 300m2 (first floor extension & new garage)	Permit	No
KP-2021/703	631 Nepean Highway	CARRUM	11/10/2021	14/01/2022	Develop the land for an extension to a dwelling on lot under 300sqm	Notice of Decision	No

KP- 2007/716/B	Unit 1 83 Chute Street	MORDIALLOC	20/08/2021	17/01/2022	The development of this site for two (2) dwellings, in accordance with the endorsed plans and subject to the following conditions.	Notice of Decision	No
KP-2021/448	2 Main Road	CLAYTON SOUTH	20/07/2021	17/01/2022	Subdivide the Land into One Hundred and Twenty-Nine (129) Lots	Permit	No
KP-2021/665	6 Rae Avenue	EDITHVALE	28/09/2021	17/01/2022	Subdivide the Land into Two (2) Lots	Permit	No
KP-2021/133	1 21 Citrus Street	BRAESIDE	29/03/2021	17/01/2022	Change of Use to a Place of Assembly (Wedding Ceremonies, and Training Sessions, Seminars & Business Conferences) and the sale and provision of photoshoot services (innominate use), on Land affected by the Airport Environs Overlay, and to reduce the car parking requirements pursuant to Clause 52.06	Permit	No
KP-2019/769	17 Camelia Grove	CHELTENHAM	4/12/2019	18/01/2022	Removal and Creation of Reserve, Removal and Creation of Easement, Creation of Road and Subdivision of the land into Three (3) Lots generally in accordance with the submitted plans	Permit	No
KP- 2016/257/A	26 Friendship Square	CHELTENHAM	28/07/2021	18/01/2022	Develop the land for the construction of ten (10) dwellings	Lapsed	No
KP- 2021/241/A	95 Warren Road	PARKDALE	5/01/2022	18/01/2022	Construct a dwelling and associated outbuilding on land within a Special Building Overlay	Permit	No
KP-2021/575	37 Whatley Street	CARRUM	31/08/2021	18/01/2022	The construction of two (2) double storey dwellings	Notice of Decision	No
KP-2020/701	Warehouse 4 30 Christensen Street	CHELTENHAM	6/01/2021	19/01/2022	Use of the land as an Indoor Recreation Facility (training facility)	Permit	No
KP-2021/897	12B Mascot Avenue	BONBEACH	16/12/2021	19/01/2022	Alterations and additions to an existing dwelling	Withdrawn	No

KP-2021/619	1 3 Centre Court	HIGHETT	14/09/2021	19/01/2022	Develop the land for a dwelling extension on a lot less than 300 square metres	Permit	No
KP- 2016/226/A	40 Cannes Avenue	BONBEACH	10/06/2021	19/01/2022	Develop the land for the construction of three (3) double storey dwellings	Permit	No
KP-2021/593	25 Crawford Road	CLARINDA	6/09/2021	19/01/2022	The construction of three (3) double storey dwellings	Permit	No
KP-2021/677	1 8 Barrett Street	CHELTENHAM	1/10/2021	19/01/2022	Develop the land for a dwelling extension on a lot less than 300 square metres	Permit	No
KP-2021/598	183A Nepean Highway	ASPENDALE	7/09/2021	19/01/2022	Alterations and additions to an existing dwelling on land affected by a Design and Development Overlay 1	Permit	No
KP-2021/328	26 Knight Street	CLAYTON SOUTH	1/06/2021	19/01/2022	Develop three (3) dwellings in a Special Building Overlay	Permit	No
KP-2020/771	100 Bernard Street	CHELTENHAM	23/12/2020	20/01/2022	Develop the land for two (2) dwellings	Permit	No
KP-2021/740	31 Steedman Street	MORDIALLOC	25/10/2021	20/01/2022	Develop the land for a replacement garage in the Land Subject to Inundation Overlay	Permit	No
KP-2021/775	6 122-124 Patty Street	MENTONE	14/01/2022	20/01/2022	Develop a dwelling on land within a Special Building Overlay	Permit	No
KP-2021/738	2 136 Keys Road	CHELTENHAM	22/10/2021	20/01/2022	Use the land for trade supplies (paint centre) and to construct and put up for display business identification signage	Notice of Decision	No
KP-2021/376	38 Second Street	PARKDALE	21/06/2021	20/01/2022	The construction of two (2) double storey dwellings	Permit	No
KP-2021/702	277-279 Chesterville Road	MOORABBIN	11/10/2021	20/01/2022	Alter access to a road in a Road Zone, Category 1	Permit	No
KP-2021/517	33 Nepean Highway	ASPENDALE	10/08/2021	21/01/2022	Develop the land for the construction of two (2) double storey dwellings and to create access to a road in a Road Zone, Category 1	Permit	No

KP- 2001/475/A	36 Lanark Street	CLAYTON SOUTH	10/01/2022	21/01/2022	The development of the site for the construction of three (3) dwellings, in accordance with plans to be submitted pursuant to Condition 1 hereof.	Notice of Decision	No
57A-2022/5	284 Como Parade West	PARKDALE	19/01/2022	24/01/2022	ePathway	Withdrawn	No
KP- 2018/523/A	32-60 Linton Street	MOORABBIN	10/09/2021	24/01/2022	Buildings and works in a Special Building Overlay, in association with a minor sports and recreation facility and restricted place of assembly, to construct and display business identification signs and to provide car parking to the satisfaction of the Responsible Authority	Permit	No
KP-2021/730	430A South Road	MOORABBIN	28/10/2021	25/01/2022	Extrernally Paint an Existing Dwelling, on Land affected by the Heritage Overlay (Schedule 81)	Lapsed	No
KP-2021/509	1 15 Alison Street	MOORABBIN	5/08/2021	25/01/2022	Develop the land for one (1) dwelling on a lot less than 300 square metres	Permit	No
KP-2022/15	8 Edgecombe Court	MOORABBIN	13/01/2022	25/01/2022	External alterations to the existing warehouse	Permit	No
KP- 2019/256/A	2 244 Nepean Highway	EDITHVALE	8/07/2021	25/01/2022	Use the land for a place of assembly (cafe) for 20 patrons with a reduction in the car parking requirement	Permit	No
KP- 2010/580/A	13 Station Road	CHELTENHAM	7/10/2021	25/01/2022	To use the rear courtyard and the front footpath area to sell and consume liquor (on-premises license) under Clause 52.27 in accordance with the endorsed plans.	Permit	No
KP-2021/834	70 Voltri Street	MENTONE	26/11/2021	25/01/2022	Subdivide the land into two (2) lots	Permit	No
KP-2021/748	58-64 Nepean Highway	MENTONE	27/10/2021	26/01/2022	Put up for display seven (7) illuminated business identification signage	Permit	No

KP-2022/23	80 Albenca Street	CHELTENHAM	19/01/2022	27/01/2022	Subdivide the Land into Two (2) Lots	Permit	No
KP-2021/826	9 Sinclair Avenue	EDITHVALE	23/11/2021	27/01/2022	Subdivide the Land into Two (2) Lots	Permit	No
KP-2021/587	42 McLeod Road	CARRUM	3/09/2021	28/01/2022	The development of three (3) dwellings	Notice of Decision	No
KP- 2019/224/B	117 Bondi Road	BONBEACH	24/11/2021	28/01/2022	Three (3) dwellings and associated works in accordance with the endorsed plans	Permit	No
KP-2021/785	36 Barkly Street	MORDIALLOC	5/11/2021	28/01/2022	The development of three (3) dwellings and associated works in accordance with the endorsed plans	Permit	No
KP-2021/274	278-279 Nepean Highway	EDITHVALE	14/05/2021	28/01/2022	The development of a mixed-use building, comprising two (2) shops and five (5) dwellings, to use the land for dwellings, a reduction in the car parking requirements associated with the shops and to construct internal storey heights greater than 3.5 metres	Refused	No
KP-2022/21	4 Kershaw Street	PARKDALE	19/01/2022	28/01/2022	Subdivide the Land into Two (2) Lots	Permit	No
KP-2021/656	21 Mills Road	BRAESIDE	23/09/2021	28/01/2022	Development of a warehouse	Permit	No
KP-2021/345	62 Langrigg Avenue	EDITHVALE	7/06/2021	31/01/2022	The development of three (3) dwellings in a Special Building Overlay	Permit	No

Planning Committee Meeting

23 February 2022

Agenda Item No: 4.2

KP-2021/55 - 11 POWLETT STREET, MORDIALLOC

Contact Officer: Nikolas Muhllechner, Team Leader Statutory Planning

Purpose of Report

This report is for the Planning Committee to consider planning permit application KP-2021/55 - 11 Powlett Street, Mordialloc.

Disclosure of Officer / Contractor Direct or Indirect Interest

No Council officer/s and/or contractor/s who have provided advice in relation to this report have declared a conflict of interest regarding the matter under consideration.

RECOMMENDATION

That the Planning Committee determine to support the proposal and issue a notice of decision to grant a planning permit for the construction of a double storey building containing six (6) dwellings plus basement car parking at 11 Powlett Street, Mordialloc, subject to the conditions contained within this report.

This application requires a decision by the Planning Committee as it is a repeat application and the previous application was determined by Council.

Ref: IC22/161

23 February 2022 Agenda

EXECUTIVE SUMMARY

11 Powlett Street, Mordialloc **Address Legal Description** Lot 1 on Title Plan 447937F **Applicant** ABP Architecture Ptv Ltd **Planning Officer** Nikolas Muhllechner

PLANNING REQUIREMENTS

Planning Scheme Kingston

Clause 32.08 - General Residential Zone (Schedule 2) Zoning

Overlays

Particular Clause 52.06 - Car Parking

Clause 55 - Two or More Dwellings on a Lot **Provisions**

Permit Trigger/s Clause 32.08-6 – To construct to or more dwellings on a lot.

APPLICATION / PROCESS

The construction of a double storey building containing six (6) **Proposal**

dwellings plus basement car parking.

Reference No. KP-2021/55 RFI Received 26 May 2021

App. Received 10 February 2021

Site Inspection 1 March 2021

S.52 Advertising Commenced: Advertising

> 9 June 2021 Completed 28 June 2021

App. Amended

NA

S.55 Referrals None

Internal Referrals Traffic engineers

Development Approvals Engineer

Roads and drains

Waste management officer Sustainable design advisor Vegetation management officer

Objection(s) Eighteen (18) (TRIM checked on 13 January 2022)

Lot Size 688.6 square metres Mandatory

11 metres and three

Mandatory Garden Building (3) stories

Area Requirement Height Complies – 35 per cent

> Requirement Complies

LEGISLATIVE

Complies: NA Covenant/Other No

Restriction

Aboriginal Cultural No

Sensitivity Area

CHMP NA

Considered Plans Prepared by ABP Arc Pty Ltd, sheets 1 to 11 of 13, revision B and

dated 25 May 2021.

1. SITE HISTORY

- Planning permit application KP-2019/48 sought approval for the construction of a double 1.1 storey building containing eight (8) dwellings plus basement car parking. The application was presented to the Planning Committee meeting on the 21 August 2019 where planning officers recommended that a notice of decision to grant a planning permit be issued.
- 1.2 However, the Planning Committee determined to refuse the application on the following grounds:
 - The proposal is not consistent the General Residential Zone (Schedule 2) at Clause 1. 32.08 of the Kingston Planning Scheme as the proposal does not provide a design outcome that is respectful of the prevailing and preferred neighbourhood character.

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- 2. The proposal fails to satisfy all the requirements of Clause 55 of the Kingston Planning Scheme (ResCode), in particular Clause 55.02-1 Neighbourhood Character Objective, Clause 55.02-2 Residential Policy Objective, Clause 55.02-5 Integration with the Street Objective, Clause 55.03-1 Street Setback Objective, Clause 55.05-5 Solar Access to Open Space Objective and Clause 55.06-1 Design Detail Objective.
- 3. The proposed extent of massing is visually intrusive and unresponsive to the context of the site and would result in unreasonable amenity impacts on adjoining properties.
- 4. The proposal fails to provide an acceptable built form outcome having regard to the physical and policy context. In particular, the proposal includes an unacceptable separation and continuous built form on upper levels and lack of activation to the street.
- 5. The proposal represents an overdevelopment of the subject site providing an inappropriate response to local policy expectations and the character of the area.
- 1.3 The permit applicant subsequently appealed that decision to the Victorian Civil and Administrative Tribunal, with the merits hearing conducted over two days on the 9 and 10 September 2020. Ultimately, the Tribunal upheld Council's decision to refuse the application.
- 1.4 In refusing the application, the Tribunal formed the view "that the combination of these design elements will produce unacceptably poor levels of internal amenity for future residents" and "the level of internal amenity to be provided cannot be addressed by way of permit conditions, particularly as there is no apparent way to increase the sizes of the bedrooms proposed for each of the dwellings" (paragraph 47).
- 1.5 Further, the Tribunal noted that "the extent to which a poor level of internal amenity will be provided to each of the proposed dwellings, outweighs the benefits associated with providing additional and more diverse housing in this well serviced location" (paragraph 47).
- 1.6 Relevantly, the Tribunal also made the following comments in relation to the site and the proposed development that are directly applicable to the current application before Council:
 - a. In relation to the proposed built form, "the proposed development is an appropriate response to the character of the surrounding neighbourhood, and the guidance provided by the Kingston Planning Scheme" (paragraph 32). It is noted that the current proposal has a similar footprint and scale as the proposed previously considered by the Tribunal.
 - b. In relation to car parking and traffic, "the proposed development will appropriately provide for car parking and traffic movements" (paragraph 52), noting both applications proposed a similar basement car parking layout meeting the car parking requirements and with a similar amount of traffic to be generated.
- 1.7 The final order of the Tribunal will be further discussed throughout this report, where relevant.

2. SUBJECT LAND

2.1 The photograph below illustrates the subject site from a streetscape perspective.



Image 1: View looking north towards the Powlett Street frontage of the site (1 March 2021).

Built Form	A single storey weatherboard dwelling with corrugated iron gabled roof previously occupied the land. The dwelling was set back 11.2 metres from the front property boundary. It appears the dwelling was demolished in 2021.
Lot Size (m ²)	688.6 square metres Dimensions Width: 17.135 metres Length: 40.32 metres
Topography	The land is generally flat with only a slight slope in the front south-east corner of the site.
Fencing	Approximately 1 metre high timber picket fencing along the Powlett Street frontage. A 1.9 metre high timber paling fence along the Eurythmic Street frontage tapered down to the corner with Powlett Street. The side and rear property boundaries are enclosed with 1.8 metre high timber paling fencing.
Vegetation	Void of any significant vegetation.
Easement(s)	None.
Footpath Assets / Access	Two (2) existing crossovers (one to each street frontage) currently provide vehicle access to the site. Two (2) power poles including one on the corner and another on the Eurythmic Street frontage are in front of the site. There are three (3) street trees in front of the site, including two (2) <i>Agonis flexuosa</i> on the Eurythmic Street frontage and one (1) <i>Melaleuca linariifolia</i> on the Powlett Street frontage.
Covenant(s) / Restrictions	There are no restrictions listed on the Certificate of Title.

3. SURROUNDING LAND

3.1 The following map illustrates the subject site in its surrounding context.



Image 2: Aerial image of the subject site and surrounding area (NearMap, 22 November 2021).

North

The property to the north is occupied by two (2) single storey brick and weatherboard dwellings with metal hipped roofs (9 and 9A Eurythmic Street). The dwellings are positioned in a tandem arrangement. The front dwelling and garage are set back 5.09 metres from the street. There is a high horizontal timber board and brick pillar fence along the front boundary. There is no vegetation located on this site which would be impacted by the proposed development. The driveway of the rear dwelling runs along the common boundary with the subject site. Highlight windows for the front dwelling face this driveway as shown in the image below.



Image 3: View, looking east, of the driveway to the rear dwelling and the highlight windows of the front dwelling (1 March 2021).

East

To the east is a single storey bungalow style dwelling (13 Powlett Street) with weatherboard walls and a corrugated iron gable roof. The dwelling is setback 9.68 metres from the street, with no front fencing. The property contains trees in proximity to the common boundary of the subject site. The dwelling has secluded private open space, a service yard and habitable room windows adjacent to the shared boundary with the subject site.

Powlett Street borders the site to the south, a local east-west road linking South Albert Street in the west to Barkly Street in the east. On the opposite side of Powlett Street is a single storey bungalow style dwelling with weatherboard

walls and a corrugated iron gable roof (8 Powlett Street). The dwelling is setback 12.11 metres from the street. There is a low timber picket fence along the front property boundary.

To the east of that dwelling are two (2) single storey brick dwellings with hip tiled roofs. These two dwellings are in a side by side arrangement and have a minimum setback of 6.1 metres from the street. A low brick wall runs along the property frontage of each dwelling.

West

Eurythmic Street abuts the site to the west, a local north-south road that commences at Powlett Street and terminates 80 metres north of the site. On the opposite side of Eurythmic Street and the north-west corner with Powlett Street is a single storey brick dwelling with hipped tile roof (7 Powlett Street). The dwelling is set back 5.95 metres to Powlett Street and has a side set back of 3.09 metres to Eurythmic Street. A high picket and brick fence runs along each street frontage.

North of that dwelling is a single storey brick dwelling with hipped tile roof (8B Eurythmic Street). That dwelling is set back 3.15 metres to Eurythmic Street. A high picket and brick fence runs along the front boundary.

Describe Neighbourhood Character

The surrounding area incorporates a mix of housing types and styles. This is due to the area being identified for increased housing diversity given its proximity to the Mordialloc major activity centre. The Mordialloc train station is located less than 580 metres away to the south.

In the immediate vicinity of the subject site, the built form consists of older housing stock including single storey bungalows with weatherboard walls and corrugated iron gable roofing. Post-war style brick dwellings with hipped tile roofing are also featured.

Older and contemporary medium density housing can be found further afield on Powlett Street and the surrounding neighbourhood. Villa unit, side by side developments and two dwelling tandem developments are all commonplace in the neighbourhood. More intensive medium density developments in the form of townhouses have occurred at 21 Powlett Street and 34 Barkly Street which have each been developed with four (4) attached double storey dwellings with brick, render, vertical clad walls and gable/flat Colorbond roofing.

There is also more intensive housing typologies in the area, with a three storey contemporary apartment development at 55-57 Barkly Street. Additionally, a multi-unit double storey development consisting of ten (10) dwellings with basement parking has recently been completed at 81 Barkly Street. That development is like the one proposed under this application.

Approval has also been granted for the development of seven (7) attached double storey dwellings with basement at 4 Eurythmic Street (KP-2017/21). The approved built form consists of render and horizontal clad walls with both flat and skillion Colorbond roof forms. That planning permit remains valid and plans have been endorsed.

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4. PROPOSAL

4.1 A summary of the proposal is provided in the table below.

Description	The construction of a double storey building containing six (6) dwellings plus basement car parking.
Storeys	Two (2) storeys plus one (1) level of basement car parking.
Maximum Building Height	8.6 metres
Bedrooms	A mix of dwelling types are proposed, consisting of:
(including study)	Four (4) two-bedroom dwellings.
	Two (2) three-bedrooms dwellings.
Car Parking	A total of nine (9) car parking spaces, comprising:
	Eight (8) resident car parking spaces.
	One (1) residential visitor car parking space.
Front Setback	7.2 metres to Powlett Street and 2.46 metres to Eurythmic Street.
Private Open	Between 18.6 square metres and 49.9 square metres.
Space	
Site Coverage	45 per cent Permeability 39.6 per cent
Access	The two (2) existing crossovers are to be reinstated with a new 3 metre wide crossover proposed on Eurythmic Street towards the site's north property boundary.
Vegetation	No significant vegetation located on subject site. Three (3) street trees to
Removal/Retention	be retained and one (1) tree on the neighbouring property to the east within close proximity of the common boundary.
Building Materials	A contemporary building form is proposed that includes light grey rendered finish, black roof tiles, black aluminium window and door frames, dark grey rendered finish, white weatherboard cladding, timber entry doors, picket front fence and black Colorbond gutters.

5. PLANNING CONTROLS

5. PLANNING C	ONTROLS
Zone / Overlay /	Rationale
Particular	
Provisions	
Clause 32.08 –	The proposal generally accords with the purpose of the zone by providing a
General	multi-unit residential development that will provide residential uses at a
Residential	density that is complementary to the role and scale of the surrounding area.
	density that is complementary to the role and scale of the surrounding area.
Zone (Schedule	
2)	
Clause 52.06	The following car parking rates apply:
Car parking	 One car parking space to each one or two-bedroom dwelling.
	Two car parking spaces to each three or more bedroom dwelling.
	 One car parking space per five dwellings for visitors.
	This equates to a car parking requirement of nine (9) car parking spaces,
	comprising:
	 Four (4) car parking spaces for the two-bedroom dwellings.
	 Four (4) car parking spaces for the three-bedroom dwellings.
	 One (1) residential visitor car parking space for the dwellings.
	- One (1) residential visitor car parking space for the dwellings.
	The proposed development mosts the ear parking requirements of Clause
	The proposed development meets the car parking requirements of Clause
	52.06. As discussed in more detail in the assessment section of this report,
	the car parking and traffic impacts of the proposed development are
	considered acceptable.

Zone / Overlay / Particular Provisions	Rationale
Clause 55 –	The proposed development is generally considered to respond appropriately
Two or More	to the relevant standards and objectives of Clause 55. Refer to assessment
Dwellings on a	against Clause 55 provided later in this report.
Lot	

6. POLICY CONSIDERATIONS Planning Policy Framework

- 6.1 The Planning Policy Framework sets out the relevant state-wide policies for residential development at Clause 11 (Settlement), Clause 15 (Built Environment and Heritage) and Clause 16 (Housing). Essentially, the provisions within these clauses seek to achieve the fundamental objectives and policy outcomes sought by 'Plan Melbourne 2017-2050: Metropolitan Planning Strategy' (Department of Environment, Land, Water and Planning, 2017.
- 6.2 The settlement policies at **Clause 11** seek to promote sustainable growth and development and deliver choice and opportunity through a network of settlements. Of particular relevance to housing, **Clause 11** promotes housing diversity and urban consolidation objectives in the established urban realm.
- 6.3 Clause 11.02-1S (Supply of Urban Land) states that Planning Authorities should plan to accommodate projected population growth over at least a fifteen (15) year period, taking account of opportunities for redevelopment and intensification of existing urban areas as well consideration being had for environmental aspects, sustainable development and the costs associated with providing infrastructure. This clause states:

Planning for urban growth should consider:

- Opportunities for the consolidation, redevelopment and intensification of existing urban areas.
- Neighbourhood character and landscape considerations.
- The limits of land capability and natural hazards and environmental quality.
- Service limitations and the costs of providing infrastructure.
- 6.4 Clause 11.01-1R1 (Settlement Metropolitan Melbourne) and Clause 11.03-1S (Activity Centres) places particular emphasis on providing increased densities of housing in and around activity centres or sites that have good access to a range of services, facilities and transport options.
- 6.5 Clause 11.02 (Managing Growth) aims to ensure a sufficient supply of land is made available for a variety of purposes, including residential. To achieve this, it takes into account sufficient land availability to meet forecasted demand. Clause 11.03-1S places particular emphasis on providing a diversity of housing, including forms of higher density housing, in defined activity centres to cater for different households that are close to jobs and services.
- 6.6 Clause 15 (Built Environment and Heritage) aims to ensure all new land use and development appropriately responds to its landscape, valued built form and cultural context, and protect places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.
- 6.7 Policies pertaining to urban design, built form and heritage outcomes are found at Clause 15 of the Planning Policy Framework. Of particular significance, Clause 15.01-1S (Urban Design) and Clause 15.01-1R (Urban Design Metropolitan Melbourne) encourages development to achieve high quality architectural and urban design outcomes that contribute

- positively to neighbourhood character, minimises detrimental amenity impacts and achieves safety for future residents, and the community, through good design.
- 6.8 The provisions of **Clause 15.02** (Sustainable Development) promote energy and resource efficiency through improved building design, urban consolidation and promotion of sustainable transport.
- 6.9 **Clause 15.03-2S** (Aboriginal Cultural Heritage) seeks to ensure the protection and conservation of places of Aboriginal cultural heritage significance.
- 6.10 The subject land is identified in an area of aboriginal cultural heritage sensitivity. However, the proposed activity is exempt from requiring a cultural heritage management plan under Regulation 10 of the Aboriginal Heritage Regulations 2018, as the development of three or more dwellings is exempt if the land is not within 200 metres of the coastal waters of Victoria, any sea within the limits of Victoria or the Murray River and is less than 0.11 hectares in size.
- 6.11 Housing objectives are further advanced at **Clause 16**. This Clause aims to encourage increased diversity in housing to meet the needs of the community through different life stages and respond to market demand for housing. In much the same vein as **Clause 11**, this clause advances notions of consolidation of existing urban areas, particularly in and around activity centres and employment corridors that are well served by all infrastructure and services.
- 6.12 The policies contained within **Clause 16.01-3S** (Housing Diversity) encourage the provision of range of housing types to meet the increasingly diverse needs of the community. Emphasis is placed on development of well-designed medium density housing with respect to neighbourhood character. Further, this Clause aims to make better use of the existing infrastructure and provide more energy efficient housing. **Clause 16.01-4S** (Housing Affordability) raises the objective of delivering more affordable housing closer to jobs, transport and services.
- 6.13 It is submitted that the proposed development satisfies the aforementioned State strategies and policy direction. Specifically, the subject site is located on land earmarked for residential purposes, whereby residential development is an 'as of right' use under the zoning provisions. Subject to appropriate conditions on any planning permit issued, the development itself achieves an acceptable design outcome for the site and its immediate abuttals, whilst enjoying convenient and direct access to community facilities and the like, including public transport nodes.

Local Planning Policy Framework

- 6.14 The Municipal Strategic Statement at Clause 21.07 (Housing) seeks to provide guidance for development in residentially zoned land, mixed use zoned lands and land within activity centres. The Residential Land Use Framework Plan illustrates the range of housing outcomes sought across the City of Kingston.
- 6.15 Relevant objectives and strategies in Clause 21.07 (Housing) include:
 - To provide a range of housing types across the municipality to increase housing diversity and cater for the changing housing needs of current and future populations, taking account of the capacity of local areas in Kingston to accommodate different types and rates of housing change. This is to be achieved through encouraging residential development within activity centres via mixed-use development, and on transitional sites at the periphery of activity centres.
 - To ensure new residential development respects neighbourhood character and is site responsive, and that medium density dwellings are of the highest design quality. This is to be achieved through promoting new residential development, which is of a high

- standard, responds to the local context and positively contributes to the character and identity of the local neighbourhood.
- To promote more environmentally sustainable forms of residential development. To be achieved through promoting medium density housing development in close proximity to public transport facilities, particularly train stations.
- To manage the interface between residential development and adjoining or nearby sensitive/strategic land uses.
- To ensure residential development does not exceed known physical infrastructure capacities.
- To recognise and response to special housing needs within the community.
- 6.16 Council's local planning policy at **Clause 21.07** essentially reinforces State planning policy relevant to housing, stressing the need to encourage urban consolidation in appropriate locations and to accommodate projected population increases.
- 6.17 Clause 22.06 (Residential Development Policy) extends upon the provision contained at Clause 21.07 (Housing), relating to increased housing diversity areas, incremental housing change areas, minimal housing change areas, residential renewal areas and neighbourhood character. It provides design guidance on how new residential development should achieve architectural and urban design outcomes that positively respond to neighbourhood character.
- 6.18 Relevant objectives in Clause 22.06-2 (Residential Development Policy) include:
 - To promote a managed approach to housing change, taking account of the differential capacity of local areas in Kingston to accommodate increased housing diversity, incremental housing change, residential renewal or minimal housing change, as identified within the MSS.
 - To encourage new residential development to achieve architectural and urban design outcomes that positively respond to neighbourhood character having particular regard to that identified in the Kingston Neighbourhood Character Guidelines – August 2007.
 - To promote on-site car parking which is adequate to meet the anticipated needs of future residents.
 - To ensure that landscaping and trees remain a major element in the appearance and character of the municipality's residential environments.
 - To limit the amount and impact of increased stormwater runoff on local drainage systems.
 - To ensure that the siting and design of new residential development takes account of interfaces with sensitive and strategic land uses.
- 6.19 Clause 22.06 nominates the surrounding General Residential Zone (Schedule 2) area for increased housing, and states:
 - Encourage increased residential densities and a wider diversity in housing types and sizes in areas which are within convenient walking distance of public transport and activity centres. These areas are identified for 'increased housing diversity' on the Residential Framework Plan within the MSS.
- 6.20 Clause 22.13 (Environmentally Sustainable Development) applies to the consideration of residential development of three (3) or more dwellings (refer to Table 1 ESD Application Requirements). As required, the application for planning permit was accompanied by a sustainable design assessment.
- 6.21 It is considered that the commitments expressed in the sustainable design assessment, coupled with the proposed development plans and dwelling layouts, result in the proposal almost achieving an appropriate best practice environmentally sustainable design standard.

Further, the sustainable design assessment was referred to Council's sustainable design advisor who has advised that the application can meet Council's expectations, subject to conditions included in the recommendation section of this report. This will ensure the proposal will meet the sustainable design objectives of this policy.

General Provisions

6.22 **Clause 65.01** of the Kingston Planning Scheme is relevant to this application and requires consideration to be given to a variety of matters including planning scheme policies, the purpose of the zone, orderly planning and the impact on amenity.

Other

- 6.23 The Kingston Neighbourhood Character Guidelines (2007) are an incorporated document under Clause 22.06 (Residential Development Policy). The subject site is located within the neighbourhood character area 25 of the Neighbourhood Character Guidelines.
- 6.24 The Kingston Designing Contextual Housing guidelines (2003) is a background document within Clause 21.06 (Built Environment and Heritage), Clause 21.07 (Housing) and Clause 22.06 (Residential Development Policy). The Designing Contextual Housing guidelines offer a range of design techniques and suggestions to assist with residential design, which is responsive to local character.

7. INTERNAL REFERRALS

7.1 The application was referred to the following Council departments for comment:

Department / Area	Comments / Rationale / Recommended Conditions
Traffic Engineer	No comment provided.
Development Approvals Engineer	No objection raised, subject to conditions included on any permit issued relating to water sensitive urban design, stormwater management, drainage, ground water assessment for the basement and basement design.
Roads and Drains	No objection raised, subject to standard conditions included on any permit issued.
Waste Management Officer	A waste management plan will be required for this site detailing the waste generation and types, bin types and sizes, collection frequencies and storage locations. The basement plan indicates a 660L garbage and 660L recycle bin. Council cannot service this type of bin and it is recommended that private collections are utilised due to the 2 metre height difference between the street and the basement.
Sustainable Design Officer	The application almost meets Council's expectations in relation to ESD conditions. Alterations to the report and application drawings need to be undertaken before the application can be deemed to meet Council's environmentally sustainable design standards. Items to be addressed include a building user guide, water efficient fixtures, heating and cooling systems, vegetation, external taps and light coloured materials for urban cooling. Conditions contained within the recommendation section of this report address the above concerns.
Council's Vegetation Management Officer	No vegetation on the subject site is worthy of retention. The submission of a tree management plan addressing the protection of the neighbouring Snow-in-Summer should be a condition of any permit issued. Generally supportive of the conceptual landscape plan and requires the submission of a detailed landscape plan as a condition of any permit issued.

8. EXTRERNAL REFERRALS

8.1 There are no external referrals required to be made in accordance with Clause 66 of the Kingston Planning Scheme.

9. OBJECTIONS

- 9.1 The application was advertised pursuant to Sections 52(1)(a), (c) and (d) of the *Planning and Environment Act 1987* and eighteen (18) objections were received. All objections remain outstanding at the time of writing this report. The following concerns were raised:
 - Out of character with surrounding area.
 - Excessive height, built form, visual bulk and scale.
 - Street setback inadequate.
 - Overdevelopment of the site.
 - Amenity impacts, including noise, overshadowing and overlooking.
 - Poor level of internal amenity.
 - Loss of trees.
 - Lack of car parking, impact on on-street car parking.
 - Traffic impacts/vehicle access.
 - Stormwater runoff/drainage.
 - Impacts on infrastructure/open space.
 - Impacts during construction.
 - Will set a precedent.
- 9.2 A planning consultation meeting was held on 21 October 2021 with the relevant Council officers, the permit applicant and numerous objector(s) in attendance. The above-mentioned issues were discussed at length. The above concerns were unable to be resolved at the meeting and the objections still stand.

10. ASSESSMENT

Strategic Justification

- 10.1 The subject site is located within the General Residential Zone (Schedule 2). Relevantly, the purpose of the zone includes to encourage development that respects the neighbourhood character of the area and to encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.
- 10.2 The site is also located within the increased housing diversity area in the Residential Land Use Framework Plan. As identified in Table 1 at Clause 21.07-1, the intention in these areas is that new medium density housing comprising a variety of housing types and layouts will be promoted responding to the established but evolving urban character. Because these are already established as residential areas, the design of new medium density housing proposals will need to display sensitivity to the existing residential context and amenity standards in these areas.
- 10.3 The subject site has an overall site area of 688.6 square metres. This application seeks approval for six (6) dwellings, resulting in a dwelling yield of approximately one (1) dwelling per 115 square metres. This is generally consistent with the surrounding area where many multi-unit developments are already located, including 21 Powlett Street and 34 Barkly Street. Some of them more recent developments also have a higher dwelling yield than that proposed, including the multi-unit developments at both 55-57 Barkly Street and 81 Barkly Street.
- 10.4 The proposal incorporates double storey built form with a maximum height of 8.6 metres. The General Residential Zone (Schedule 2) allows development up to 11 metres and three storeys, which the proposal comfortably achieves. Moreover, as detailed in the Clause 55 assessment later in this report, the double storey form is afforded generous setbacks to sensitive interfaces

with adjoining secluded private open space areas. The proposed built form is therefore considered appropriate for the surrounding residential context.

- 10.5 As the Tribunal noted in the decision for the previous application (P55 Pty Ltd v Kingston CC [2020] VCAT 1040), "the review site is located in a neighbourhood where new medium density housing will be promoted and encouraged, comprising increased densities, and a diversity of housing types and sizes, which brings about real and meaningful housing change" (paragraph 11).
- 10.6 Further, the Tribunal stated that this "is not a policy framework that supports more of the existing style of development in this neighbourhood, though new development is encouraged to display sensitivity to the existing context and amenity standards" (paragraph 11). Importantly, the Tribunal commented that "respect for neighbourhood character is to be achieved in the increased housing diversity areas in a way that provides for the achievement of additional and more diverse housing forms" (paragraph 11).
- 10.7 The proposed development, comprising six (6) dwellings, is therefore supported by the broader policy objectives for urban consolidation. The subject site is well located to take advantage of a range of services and facilities in the surrounding area.

Internal Amenity

- 10.8 The previous application was refused by the Tribunal as "the combination of these design elements will produce unacceptably poor levels of internal amenity for future residents" (paragraph 47). Specifically, the Tribunal raised concern with the bedroom sizes, bedroom storage, kitchen and dining area sizes, the siting of secluded private open space within the front and side street setbacks and around the basement ramp, the size of the bathrooms and powder rooms and the lack of suitable externally accessible storage.
- 10.9 The Tribunal reiterated "that none of these design issues, perhaps aside from the proposed bedroom sizes, are necessarily wrong when applied in isolation" (paragraph 46). However, each will be addressed in turn in the assessment below.

Bedroom Sizes and Storage

- 10.10While technically not applicable to this application, Standard B46 (Functional Layout) provides useful guidance on bedroom sizes. Standard B46 recommends that bedrooms should have minimum dimensions of 3 metres and should provide an area in addition to the minimum internal room dimensions to accommodate a wardrobe.
- 10.11 Concern was raised by neighbours at the Planning Consultation meeting that the bedroom dimensions were not shown on the plans. The applicant subsequently submitted revised plans showing the bedroom dimensions and demonstrating that each bedroom complies with the minimum dimensions mentioned above and provides an area in addition to the minimum internal room dimensions that accommodates a wardrobe.
- 10.12This is a considerable improvement on the previous application and results in bedroom sizes and associated storage with appropriate dimensions.

Kitchen and Dining Area Sizes

- 10.13In the previous application, the Tribunal raised concerns with the "very small size of some of the kitchens, and combined kitchens and dining areas" (paragraph 45(b)). In response, the number of dwellings has been reduced from eight (8) dwellings in the previous application to six (6) dwellings in the current application.
- 10.14The reduction of two (2) dwellings from the proposal has resulted in much more generous living areas, including the size and bench space afforded to kitchens and the space available

for dining areas. Again, this is a considerable improvement on the previous application and demonstrates adequate space has been provided for kitchen and dining areas.

Siting of Secluded Private Open space

- 10.15The Tribunal noted that the areas of secluded private open space within the front and side street setbacks in the previous application "are enclosed from the street by open picket style fencing, and as such will not offer the same level of privacy as would secluded private open space that is positioned elsewhere on the site" (paragraph 45(c)).
- 10.16The Tribunal also noted that while "this arrangement may often be found to be acceptable, in this proposal its combination with relatively small internal living areas creates a low level of internal amenity for future occupants" (paragraph 45(c)). Given the internal living areas have been significantly improved by the reduction in the number of dwellings from eight (8) to six (6), the siting of secluded private open space within the front and side setbacks and around the basement access ramp are now considered acceptable.

Size of the Bathrooms and Powder Rooms

- 10.17Another concern raised by the Tribunal with the previous application was the "size of the bathrooms and powder rooms to each dwelling, which are very tight and provide a minimal amount of circulation space" (paragraph 45(f)). Further, the Tribunal noted that "none of the proposed bathrooms or powder rooms are provided with any source of daylight" (paragraph 45(f)).
- 10.18 Again, as a result of the reduction in the number of dwelling from eight (8) in the previous application to six (6) in the current application, the size of bathrooms and powder rooms has generally improved as a result.
- 10.19The first floor bathrooms of Dwelling 1 and 6 and the toilet of Dwelling 2 are now provided with a widow and a source of daylight. However, all of the other bathrooms and toilets on the first floor have not been provided with a source of daylight. As such, a condition contained with the recommendation section of this report requires skylights or similar to be provided to the first floor bathrooms and toilets with no window (condition 1(d)).

Lack of Suitable Externally Accessible Storage

10.20 As discussed later in this assessment, secure externally accessible storage has been provided for each dwelling within the basement, with a volume of between 3.4 cubic metres and 3.8 cubic metres each. In addition, each dwelling is provided with a bicycle parking space within the basement. Combined with the internal storage provided to each dwelling that improves significantly on the internal storage afforded in the previous application, adequate storage has now been provided within the proposed development.

Clause 55 – Two or More Dwellings on a Lot

- 10.21 The proposal has been assessed against the objectives and standards of Clause 55 (ResCode) of the Kingston Planning Scheme. Clause 55 requires that a development must meet all of the objectives and should meet all of the standards of this clause. Variations to the standards are able to be considered where it is determined that the overall objective is met.
- 10.22The table below provides a detailed discussion, where relevant, for any standards where concessions are sought. Overall, it is noted that the application achieves a high level of compliance with the ResCode provisions.

MUST meet the objective, SHOULD meet the standard

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
Clause 55.02-1 Neighbourhood Character objectives To ensure that the design respects the existing neighbourhood character or contributes to a preferred neighbourhood character. To ensure that development responds to the features of the site and the surrounding area.	 Standard B1 The design response must be appropriate to the neighbourhood and site. The proposed design must respect the existing or preferred neighbourhood character and respond to site features. 	Complies with the standard and meets the objective.

Assessment: The proposed development should meet the design guidelines in neighbourhood character profile area 27, as referenced in Clause 22.06 of the Kingston Planning Scheme. According to the Kingston Neighbourhood Character Guidelines 2007, the neighbourhood is typically characterised by detached dwellings with tiled, complex roof forms of various colours and either white weatherboard or light brown and red brick walls.

However, as noted by the Tribunal in *ResP103 Pty Ltd v Kingston CC* [2020] VCAT 425 (2 April 2020), "the character guidelines are now 13 years old, which makes them quite dated". Moreover, the subject site is identified in an area for increased housing diversity and is a suitable candidate for an innovative residential development.

In P55 Pty Ltd v Kingston CC [2020] VCAT 1040 that considered the previous application for this site, the Tribunal noted that there "are numerous examples of two storey attached forms that display more scale and bulk, and thus a different built form character, than the traditional housing stock" (paragraph 12). Moreover, the Tribunal noted that there "are also examples of more intense housing forms than that proposed for the review site, including the recent construction of a three storey apartment building nearby at 55 and 57 Barkly Street" (paragraph 12). Ultimately, the Tribunal stated that it "is likely that the policy framework referred to above will continue to bring about considerable change in this neighbourhood" (paragraph 12).

Nevertheless, the proposal responds to the design guidelines of profile area 25 with a hipped roof form, horizontal white weatherboard cladding and a porch element facing Powlett Street. The architectural language proposed reinforces the pattern of the streetscape by using building elements that appropriately reference the existing character in a contemporary style.

In relation to the double storey built form across the site, the previous application had a similar built form and the Tribunal commented that it "is appropriate that the proposed development on the review site, being a corner site, adopts a similar built form as has occurred on other corner sites in this neighbourhood, where the two storey scale is held through to the rear of sites" (paragraph 18).

Within the site, the side and rear setbacks are generally well thought out and compliant with Standard B17. The eastern boundary setback, a minimum of 2.2 metres, coupled with the large setback of 5.45 metres to the rear (northern) boundary, results in a bulk and scale that should not unreasonably impact through visual bulk.

Overall and subject to the conditions outlined in the recommendation section of this report, the proposed development provides a modest response to an increased housing diversity area and respects the mixed neighbourhood character of the locale.

3		
Clause 55.02-2 Residential	Standard B2	
policy objectives	An application must be accompanied by a written	Complies with
	statement that describes how the development is	the standard
	consistent with relevant housing policy in the PPF	and meets the
	& MPS	objective.

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
 To ensure that residential development is provided in accordance with any policy for housing in the MPS and the PPF. To support medium densities in areas where development can take advantage of public transport and community infrastructure and services. 		COMPLIANCE
	is appropriately located with regard to services and fa	cilities to support
housing diversity, as shown in t discussed earlier in this report,	 Standard B3 Developments of ten or more dwellings should provide a range of dwelling sizes and types, including: Dwellings with a different number of bedrooms. At least one dwelling that contains a kitchen, bath or shower, and a toilet and wash basin at 	1.07. As ally complies with
	ground floor level.	
Assessment: The proposal and respective floor plans accommodate varied floor layouts, with two-bedrooms dwellings and two (2) three-bedroom dwellings. As the development consists of dwellings, the standard is technically not applicable. However, the proposed development is considered to meet the objective by providing a range of dwelling sizes and types.		onsists of six (6)
Clause 55.02-4	Standard B4	
To ensure development is provided with appropriate utility services and infrastructure. To ensure development does not unreasonably overload the capacity of utility services and infrastructure. Assessment: The site is in an	 Connection to reticulated services/sewerage, electricity, gas and drainage services Capacity of infrastructure and utility services should not be exceeded unreasonably Provision should be made for upgrading and mitigation of the impact of services or infrastructure where little or no spare capacity exists 	Complies with the standard and meets the objective.
Additionally, it is recommended address infrastructure consider		permit issued to
 Clause 55.02-5 Integration with the street objective To integrate the layout of development with the 	Provides adequate vehicle and pedestrian links that maintain or enhance local accessibility.	Complies with the standard and meets the objective.
street.	Development oriented to front existing/proposed streets	Complies with the standard and meets the objective.
	High fencing in front of dwellings should be avoided if practicable.	Complies with the standard and meets the objective.

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
	Development next to existing public open space should be laid out to complement the open space.	Complies with the standard and meets the objective.

Assessment: The proposed development will largely integrate appropriately with the street, with dwellings addressing both Powlett Street and Eurythmic Street. The front setbacks allow for the planting of trees and shrubs within the front setback areas, which provide a suitable transition between the building lines of adjoining properties.

Habitable room windows are provided at each level overlooking both streets and the common driveway providing passive surveillance, while the front entry of the development on Powlett Street faces the street. The use of various colours, materials and the fenestration ensures an articulated design element.

Car parking is located within the proposed basement and access is appropriately limited to a single driveway with a width of 3 metres, ensuring that the car parking elements do not dominate the view of the development from the street.

A maximum 1.8 metre high picket front fence is proposed to parts of the Eurythmic Street frontage and enclosing part of the secluded private open space of Dwellings 1 and 2 within the Powlett Street front setback area. In order to ensure an appropriate integration with the street, the fencing should have a minimum 25 per cent transparency. A condition contained within the recommendation section of this report ensure this is achieved (**condition 1(c)**).

Overall and subject to conditions, the proposed development will largely integrate appropriately with the two street frontages, with dwellings and habitable room windows addressing both streets.

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Clause 55.03-1 Street	Standard B6	
setback objective	Walls of buildings should be set back from streets:	Variation sought
To ensure that the	If no distance is specified in a schedule to the	to the standard,
setbacks of buildings from	zone, the distance specified in Table B1	but meets the
a street respect the	Required: 9 metres (Powlett Street) and 2 or 3	objective.
existing or preferred	metres to Eurythmic Street.	
neighbourhood character		
and make efficient use of		
the site.		

Assessment: The objective of Clause 55.03-1 is to ensure the setbacks of buildings from a street respect the existing or preferred neighbourhood character and make efficient use of a site. To Powlett Street, the only adjoining building to the site, 13 Powlett Street, is setback approximately 9.68 metres from Powlett Street, resulting in the front setback, at 7.2 metres, failing the standard.

As the standard is not met, the assessment turns to the objective and decision guidelines set out in Clause 55.03-2 of the Kingston Planning Scheme. The objective is set out above, while the decision guidelines include:

- Any relevant neighbourhood character objective, policy or statement set out in this scheme.
- The design response.
- Whether a different setback would be more appropriate taking into account the prevailing setbacks of existing buildings on nearby lots.
- The visual impact of the building when viewed from the street and from adjoining properties.
- The value of retaining vegetation within the front setback.

The Tribunal considered the same street setbacks in the previous application and found "that the proposed front setback of between 7.2 and 7.7 metres is appropriate for the following reasons, with reference to the matters raised in the objective and the decision guidelines:

- a. The proposed front setbacks will allow the efficient use of the land, in a neighbourhood where additional housing receives strong policy support.
- b. The proposed front setbacks are an appropriate response to the existing neighbourhood character, noting that the dwelling on the opposite corner of Powlett and Eurythmic Streets has a front setback of 5.9 metres, and a number of other nearby dwellings have similar front setbacks. These include

OBJECTIVE STANDARD LEVEL OF **COMPLIANCE**

the dwelling at 15 Powlett Street with a front setback of 6.9 metres, and dwellings at 10, 12 and 14 Powlett Street which have setbacks of 6.1, 7.6 and 4.8 metres respectively. The proposed front setbacks on the review site are therefore consistent with the prevailing setback for this part of Powlett Street. In response to the submissions of the respondents, under the decision guidelines these prevailing setbacks are relevant to my consideration, even where they are to dwellings constructed prior to the introduction of the ResCode standards into the Kingston Planning Scheme.

- c. The visual impact of the building when viewed from the adjoining streets is mitigated by the highly articulated first floor, which includes balconies at each corner of the building, and a very narrow first floor element presenting to Powlett Street at the setbacks of 7.2 and 7.7 metres respectively.
- d. The use of a number of gable end roof forms to the first floor front elevation also further assists to break up the proposed mass of the building" (paragraph 24).

While balconies are no longer proposed, the use of various materials and fenestration adequately mitigates any visual impact from the proposed building. The proposed setback to Powlett Street is therefore supported.

To Eurythmic Street, a street setback standard of 2 metres applies to the Eurythmic Street frontage, which this proposal complies with. However, as the Tribunal noted in the previous application, even if the "3.0 metre setback applies under the standard, I find that the proposed range of setbacks to Eurythmic Street are consistent with the prevailing setbacks to side streets on corner allotments in this neighbourhood. They will also provide, in an appropriate manner, for the efficient use of this site within an increased housing diversity area" (paragraph 29).

Overall, the proposed street setbacks result in an efficient use of the site and a development that will sit comfortably within both streets given the surrounding physical and policy context.

	Clause 55.03-2 Building	Standard B7	
	height objective	Maximum: 11 metres and three (3) storeys	Complies with
	 To ensure that the height 		the standard
	of buildings respects the		and meets the
	existing or preferred		objective.
l	neighbourhood character.		

Assessment: The maximum building height proposed is 8.6 metres. As such, the proposal meets the height parameters specified in the General Residential Zone (Schedule 2).

Clause 55.03-3 Site Coverage objective	Standard B8	Complies with
To ensure that the site coverage respects the existing or preferred neighbourhood character and responds to the	Maximum: 60 per cent	the standard and meets the objective.
features of the site.		
Accesements The proposal of	phiotographic action of the part and which mosts the	ic atandard

Assessment: The proposal achieves a site coverage of 45 per cent, which meets this standard.		
Clause 55.03-4 Permeability	Standard B9	
and stormwater		Complies with
management objectives	At least: 20%	the standard
 To reduce the impact of 		and meets the
increased stormwater run-		objective.
off on the drainage		
system.		
To facilitate on-site		
stormwater infiltration.		
To encourage stormwater		
management that		
maximises the retention		
and reuse of stormwater.		

Assessment: The permeability figure proposed (i.e. 39.6 per cent) exceeds that specified in the standard and clearly indicates the proposal is not an overdevelopment of the site. A rainwater tank is provided in the basement and will be used for flushing of toilets.

Ref: IC22/161 34

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
Clause 55.03-5 Energy Efficiency objectives To achieve and protect energy efficient dwellings and residential buildings. To ensure the orientation and layout of development reduce fossil fuel energy use and make appropriate use of daylight and solar energy.	Standard B10 Orientation, siting & design of buildings should make appropriate use of solar energy. Further, siting & design should ensure that the energy efficiency of existing dwellings on adjoining lots is not unreasonably reduced. Living areas & private open space should be located on the north side of the development, if practicable. Solar access to north-facing windows is maximised.	Complies with the standard and meets the objective.
efficiency principles, where pra energy efficiency without relying	out of the dwellings has been designed to maximize or cticable. The new dwellings should achieve a reasonag upon excessive fossil fuel energy use. Council's susproposal and considered Council's sustainable design	able level of stainable design
Clause 55.03-6 Open Space objective To integrate the layout of development with any public and communal open space provided in or adjacent to the development.	Standard B11 Public or communal open space should: Be substantially fronted by dwellings Provide outlook for dwellings Be designed to protect natural features. Be accessible and useable.	Complies with the standard and meets the objective.
Assessment: There is no pub Clause 55.03-7 Safety objectives To ensure the layout of development provides for the safety and security of residents and property.	Standard B12 Entrances to dwellings and residential buildings should not be obscured or isolated from the street and internal accessways. Planting should not create unsafe spaces along streets and accessways Good lighting, visibility and surveillance of car parks and internal accessways should be achieved. Private spaces should be protected from inappropriate use as public thoroughfares.	Complies with the standard and meets the objective.
element incorporated into the dipassive surveillance of the fron However, to further improve sa	strian entry point on Powlett Street is clearly recognisal lesign. Ground and first floor habitable room windows to yards, the common driveway and both streets. If the development, a condition contained with the report requires lighting at the main entry and dwelling the dwellings (condition 1(a)). Standard B13 In summary, landscape layout & design should:	allow for the

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
 To encourage development that respects the landscape character of the neighbourhood. To encourage development that maintains and enhances habitat for plants and animals in locations of habitat importance. To provide appropriate landscaping. To encourage the retention of mature vegetation on the site. 	 Protect predominant landscape features of the neighbourhood. Take into account the soil type and drainage patterns of the site. Allow for intended vegetation growth and structural protection of buildings. Provide a safe, attractive and functional environment for residents. In summary, development should: Provide for the retention or planting of trees, where these are part of the character of the neighbourhood. Provide for the replacement of any significant trees that have been removed in the 12 months prior to the application being made. Specify landscape themes, vegetation (location and species), paving and lighting. 	

Assessment: The application provides adequate space for the planting of various species, including canopy trees. As a condition of any permit issued, a detailed landscape plan will be required (condition 1(g)), as well as a tree management plan to ensure all trees on adjoining properties proximate to the site are not unreasonably impacted during and post construction (condition 5). Conditions contained within the recommendation section of this report will also ensure the street trees are protected during construction (condition 4).

are protected during construction (condition 4).		
Clause 55.03-9 Access objective	Standard B14 The width of accessways or car spaces should not	Complies with the standard
To ensure the number and design of vehicle crossovers respects the neighbourhood character.	 exceed: 33 per cent of the street frontage, or if the width of the street frontage is less than 20 	and meets the objective.
neighbourhood character.	metres, 40 per cent of the street frontage. No more than one single-width crossover should be provided for each dwelling fronting a street.	Complies with the standard and meets the objective.
	The location of crossovers should maximise the retention of on-street car parking spaces.	Complies with the standard and meets the objective.
	The number of access points to a road in a Road Zone should be minimised.	Complies with the standard and meets the objective.
	Access for service, emergency and delivery vehicles must be provided.	Complies with the standard and meets the objective.

Assessment: The application proposes a new crossover to Eurythmic Street, while the two existing crossovers are to be reinstated.

The common driveway width ensures appropriate vehicle access to the car parking spaces within the basement. Swept path diagrams have been submitted demonstrating vehicles can enter and exit the site from the proposed car parking spaces in a forward direction.

	0 1	
Clause 55.03-10 Parking	Standard B15	
location objectives	Car parking facilities should:	Complies with
		the standard
		and meets the
		objective.

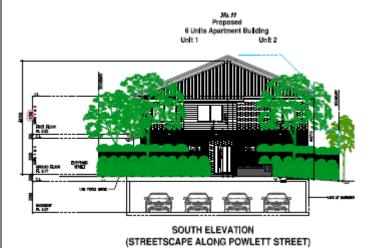
OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
 To provide convenient parking for resident and visitor vehicles. To protect residents from vehicular noise within developments 	 Be reasonably close and convenient to dwellings and residential buildings. Be secure. Be well ventilated if enclosed. Shared accessways or car parks of other dwellings and residential buildings should be located at least 1.5 metres from the windows of habitable rooms. This setback may be reduced to 1 metre where there is a fence at least 1.5 metres high or where window sills are at least 1.4 metres above the accessway. 	
Assessment: The proposal raises no concern with respect to the layout and design of the on-sit parking. The car parking spaces are designed in accordance with the design standards at Clause 52.06-9, ensuring their efficient and safe usage.		
Clause 55.04-1 Side and rear setbacks objective To ensure that the height and setback of a building from a boundary respects	Standard B17 A new building not on or within 200mm of a boundary should be set back from side or rear boundaries:	Complies with the standard and meets the objective.

Assessment: The proposal satisfies and, in some cases, exceeds the formula to Standard B17, as demonstrated in the below images.

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.



South elevation.

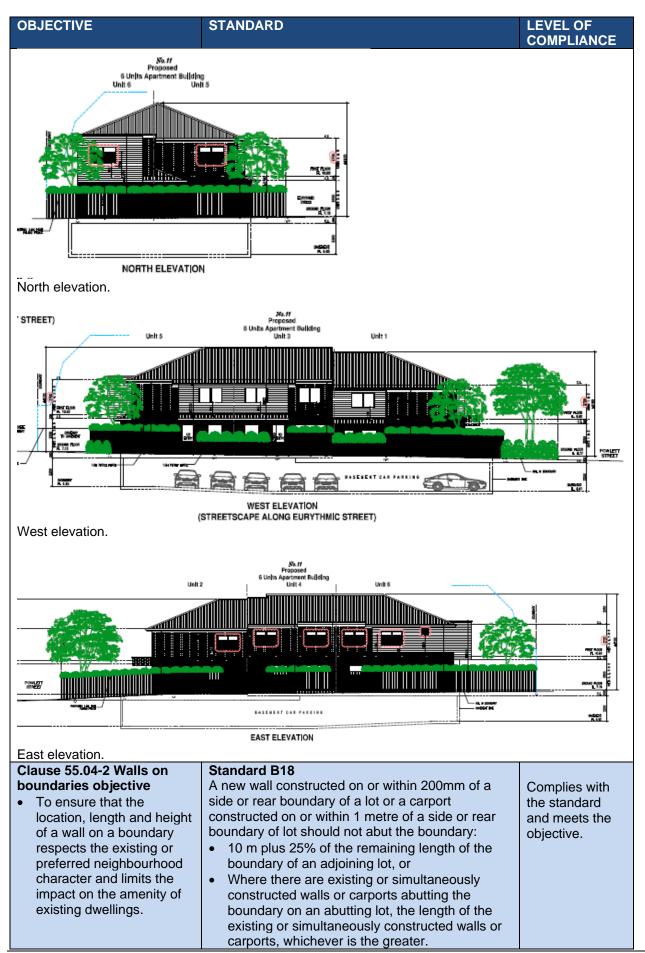
the existing or preferred

and limits the impact on

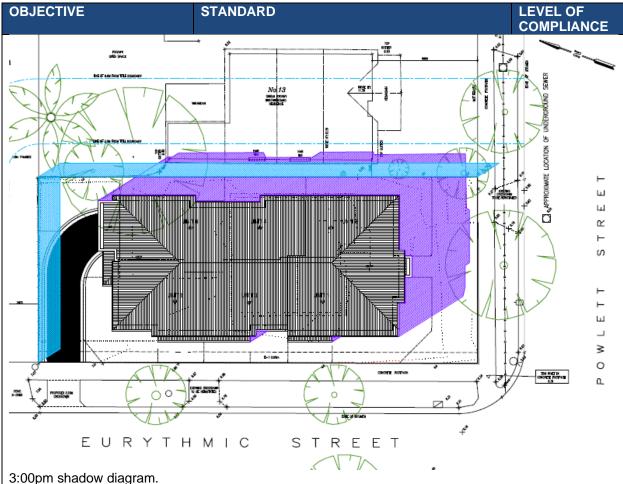
the amenity of existing

dwellings.

neighbourhood character



OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE			
Assessment: There are no wa	Assessment: There are no walls on boundary proposed as part of this development.				
 Clause 55.04-3 Daylight to existing windows objective To allow adequate daylight into existing habitable room windows. 	Standard B19 Buildings opposite an existing habitable room window should provide for a light court to the existing window that has a minimum area of 3m ² and minimum dimension of 1m clear to the sky.	Complies with the standard and meets the objective.			
	Walls or carports more than 3m in height opposite an existing habitable room window should be set back from the window at least 50% 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.	Complies with the standard and meets the objective.			
Assessment: The proposed development has been sufficiently setback from all habi windows on the abutting properties to the east and north to allow adequate daylight in the standard.					
 Clause 55.04-4 North facing windows objective To allow adequate solar access to existing north-facing habitable room windows. 	Standard B20 Buildings should be setback 1m if an existing HRW is within 3m of the abutting lot boundary (add 0.6m to this setback for every metre of height over 3.6m & add 1m for every metre of height over 6.9m)	Complies with the standard and meets the objective.			
Assessment: There are no north-facing habitable room windows within 3 metres of the site's boundaries.		he site's			
Clause 55.04-5 Overshadowing open space objective To ensure buildings do not significantly overshadow existing secluded private open space	Standard B21 Where sunlight to the SPOS of an existing dwelling is reduced, at least 75%, or 40m² with min. 3m, whichever is the lesser area, of the SPOS should receive a min of 5hrs of sunlight btw 9am & 3pm on 22 September. If existing sunlight to the SPOS of an existing dwelling is less than the requirements of this standard, the amount of sunlight should not be further reduced.	Complies with the standard and meets the objective.			
Assessment: While additional overshadowing does occur on the secluded private open space of the dwelling at 13 Powlett Street, sufficient secluded private open space remains in sunlight throughout th day to maintain compliance with the standard. This additional overshadowing occurs only at 3:00pm on the Equinox and is limited to a small area next to the north-west corner of the dwelling, as demonstrated in the below image.					



Clause 55.04-6 Overlooking objective

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

Standard B22

A HRW, balcony, terrace, deck or patio should be located & designed to avoid direct views into the SPOS of an existing dwelling within 9m (refer to clause for exact specifications). Where within it should be either:

- Offset a minimum of 1.5m from the edge of one window to the edge of the other.
- Have sill heights of at least 1.7m above floor level.
- Have fixed, obscure glazing in any part of the window below 1.7m above floor level.
- · Have permanently fixed external screens to at least 1.7m above floor level & be no more than 25% transparent.

Obscure glazing in any part of the window below 1.7 metres above floor level may be openable provided that there are no direct views as specified in this standard.

Screens used to obscure a view should be:

- · Perforated panels or trellis with a maximum of 25% openings or solid translucent panels.
- Permanent, fixed and durable.
- Designed and coloured to blend in with the development.

Complies with the standard and meets the objective.

Assessment: All first floor east and north facing habitable room windows are appropriately screened in accordance with this standard to limit views into existing secluded private open space and habitable room windows, complying with the standard.

Ref: IC22/161 40

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
Clause 55.04-7 Internal views objective To limit views into the secluded private open space and habitable room windows of dwellings and residential buildings within a development.	Standard B23 Windows and balconies should be designed to prevent overlooking of more than 50% of the SPOS of a lower-level dwelling or residential building directly below and within the same development.	Complies with the standard and meets the objective.
	e internal overlooking will occur. Internal boundary fer	nce heights are
Clause 55.04-8 Noise impacts objectives To contain noise sources in developments that may affect existing dwellings. To protect residents from external noise.	Standard B24 Noise sources should not be located near bedrooms of immediately adjacent existing dwellings. Noise sensitive rooms and SPOS of new dwellings and residential buildings should take account of noise sources on immediately adjacent properties. Dwellings and residential buildings close to busy roads, railway lines or industry should be designed to limit noise levels in habitable rooms.	Complies with the standard and meets the objective.
proposed within the developme	is taken into account any relevant surrounding noise s int. It is anticipated that the level of noise which will be otherwise expected from residential uses.	
Clause 55.05-1 Accessibility objective To encourage the consideration of the needs of people with limited mobility in the design of developments.	Standard B25 The dwelling entries of the ground floor of dwellings and residential buildings should be accessible or able to be easily made accessible to people with limited mobility.	Complies with the standard and meets the objective.
Assessment: It is considered that the proposed layout and design of dwelling entries can accommodate for people of limited mobility. The development could be further retrofitted to accommodate people with limited mobility in the future if required.		
Clause 55.05-2 Dwelling entry objective To provide each dwelling or residential building with its own sense of identity.	Standard B26 Entries to dwellings and residential buildings should: • Be visible and easily identifiable from streets and other public areas. • Provide shelter, a sense of personal address and a transitional space around the entry.	Complies with the standard and meets the objective.
Assessment: The proposed main pedestrian entry to the building is clearly visible from the public realm. The development includes dwellings fronting both Powlett Street and Eurythmic Street and includes entries for each of these dwellings. A covered entry porch is provided to the main pedestrian entry, providing shelter, a sense of personal address and a transitional space around the entry, consistent with standard.		
Clause 55.05-3 Daylight to new windows objective To allow adequate daylight into new habitable room windows.	 Standard B27 HRW should be located to face: Outdoor space clear to the sky or a light court with a minimum area of 3m² and min. dimension of 1m clear to the sky or Verandah provided it is open for at least 1/3 of its perimeter, or A carport provided it has 2 or more open sides and is open for at least 1/3 of its perimeter. 	Complies with the standard and meets the objective.

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
Clause 55.05-4 Private open space objective • To provide adequate private open space for the reasonable recreation and service needs of residents.	 Standard B28 A dwelling or residential building should have private open space of an area and dimensions specified in a schedule to the zone. If no area or dimensions are specified in a schedule to the zone, a dwelling or residential building should have private open space consisting of: An area of 40 square metres, with one part of the private open space at the side or rear of the dwelling or residential building with a minimum area of 25 square metres, a minimum dimension of 3 metres and convenient access from a living room, or A balcony of 8 square metres with a minimum width of 1.6 metres and convenient access from a living room, or A roof-top area of 10 square metres with a minimum width of 2 metres and convenient access from a living room. 	Variation sought to the standard, but meets the objective.

Assessment: Dwellings 1 and 2 are both provided with more than 40 square metres of private open space, with a minimum area of 25 square metres, a minimum dimension of 3 metres and convenient access from a living room, complying with the standard.

While Dwellings 5 and 6 are both provided with more than 40 square metres of private open space with convenient access from a living room, neither dwelling is provided a minimum area of 25 square metres, a minimum dimension of 3 metres, failing the standard.

Additionally, Dwellings 3 and 4 are provided with a total of 22.5 square metres and 18.6 square metres respectively, failing the standard.

The Tribunal commented on the private open space afforded to the dwellings in the previous application and noted "that there are significant failings in the internal sizes of almost all rooms within these dwellings, and the areas of secluded private open space do not provide a sufficiently high level of amenity to justify or 'make up for' the shortcomings identified as a whole" (paragraph 46).

However, as all rooms are now of appropriate dimensions, as evidenced by the reduction from eight (8) dwellings in the previous application to six (6) dwellings in the current proposal, the secluded private open space areas proposed are considered adequate for the recreation and service needs of future residents.

Clause 55.05-5 Solar Access to Open Space To allow solar access into the secluded private open space of new dwellings	Standard B29 The private open space should be located on the north side of the dwelling or residential building, if appropriate.	Complies with the standard and meets the objective.
and residential buildings.	The southern boundary of secluded private open space should be set back from any wall on the north of the space at least (2 + 0.9h) metres, where 'h' is the height of the wall.	Variation to the standard, but meets the objective.

Assessment: The secluded private open space of Dwellings 1, 3, 4, 5 and 6 are either located to the east or west side of the building, allowing adequate solar access into the secluded private open space areas of these dwellings, compliant with the standard.

The secluded private open space of Dwelling 2 is located to the south of the dwelling, with the proposed built form to the north double storey. With a maximum wall height of 5.71 metres, the southern boundary of the secluded private open space should be setback 7.14 metres. The proposed setback of approximately 3.5 metres therefore fails the standard.

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
		COMPLIANCE
some westerly orientation to rec imperative that encourages incre solar access into the secluded p	ude private open space of Dwelling 2 has good easterled to sunlight in both the morning and afternoon. Give eased housing diversity in this area, the proposal allowerivate open space of each dwelling.	n the policy
Clause 55.05-6 Storage objective To provide adequate storage facilities for each dwelling.	Standard B30 Each dwelling should have convenient access to at least 6 cubic metres of externally accessible, secure storage space.	Variation sought to the standard, but meets the objective.
Assessment: Secure externally accessible storage has been provided for each dwelling within the basement, with a volume of between 3.4 cubic metres and 3.8 cubic metres each. In addition, each dwelling is provided with a bicycle parking space within the basement. Combined with the internal storage provided to each dwelling that improves significantly on the internal storage afforded in the previous application, the objective is considered to be met.		
Clause 55.06-1 Design Detail objective To encourage design detail that respects the existing or preferred neighbourhood character	Standard B31 The design of buildings, including: Facade articulation and detailing Window and door proportions, Roof form, and Verandahs, eaves and parapets, should respect the existing or preferred neighbourhood character. Garages and carports should be visually compatible with the development and the existing or preferred neighbourhood character.	Complies with the standard and meets the objective.
roof tiles, black aluminium windo cladding, timber entry doors, pic respects the preferred character	considered satisfactory and includes light grey rendered ow and door frames, dark grey rendered finish, white we ket front fence and black Colorbond gutters. The des or which generally seeks developments of high archited the common building materials found within the surrour	weatherboard ign therefore tural merit, while
Clause 55.06-2 Front fences objective To encourage front fence design that respects the existing or preferred neighbourhood character.	Standard B32 The design of front fences should complement the design of the dwelling or residential building and any front fences on adjoining properties.	Variation to the standard, but meets the objective, subject to conditions.
Assessment: As discussed earlier in this assessment, a maximum 1.8 metre high picket front fence is proposed to parts of the Eurythmic Street frontage and enclosing part of the secluded private open space of Dwellings 1 and 2 within the Powlett Street front setback. In order to ensure an appropriate integration with the street, the fencing should have a minimum 25 per cent transparency. A condition contained within the recommendation section of this report ensure this is achieved (condition 1(c)).		
Clause 55.06-3 Common property objectives To ensure that communal open space, car parking, access areas and site facilities are practical, attractive and easily maintained. To avoid future management difficulties in	Standard B33 Developments should clearly delineate public, communal and private areas. Common property, where provided, should be functional and capable of efficient management.	Complies with the standard and meets the objective.
areas of common ownership.		

OBJECTIVE	STANDARD	LEVEL OF COMPLIANCE
 Clause 55.06-4 Site services objectives To ensure that site services can be installed and easily maintained. To ensure that site facilities are accessible, adequate and attractive. 	Standard B34 Dwelling layout and design should provide sufficient space and facilities for services to be installed and maintained efficiently and economically. Bin and recycling enclosures, mailboxes and other site facilities should be adequate in size, durable, waterproof and blend in with the development.	Complies with the standard and meets the objective.

Assessment: All the facilities required for the proposed development can be accommodated within the development. Site services such as mailboxes, clotheslines and a rainwater tank have been nominated on the respective plans and located appropriately. A communal bin storage area has been provided within the basement.

Car Parking and Traffic

Car Parking

- 10.23 Pursuant to the car parking requirements of **Clause 52.06** of the Kingston Planning Scheme, a one or two-bedroom dwelling requires one (1) car parking space, while a three or more-bedroom dwelling requires two (2) car parking spaces. One (1) residential visitor car parking space is required to every five (5) dwellings.
- 10.24The proposed development includes a total of six (6) dwellings, consisting of four (4) two-bedroom dwellings and two (2) three-bedroom dwellings. The two-bedroom dwellings require a total of four (4) car parking spaces, while the three-bedroom dwellings require four (4) car parking spaces, for a total of eight (8) car parking spaces for the dwellings. As six (6) dwelling in total are proposed, one (1) residential visitor car parking space is required.
- 10.25As eight (8) car parking spaces are allocated to the dwellings, the proposed development meets the car parking requirement for the dwelling component of the proposed development. All of the car parking for the dwellings would be in the form of a secure car parking area on the basement level.
- 10.26The proposal also incorporates one (1) residential visitor car parking space in the basement, meeting the requirement for visitors to the residential development. As noted by the Tribunal on the previous application "nine car parking spaces are required to be provided on site, which matches that which is proposed to be provided". As such, the Tribunal member commented that "I cannot turn my mind as to whether additional car parking should be provided on site, or the potential for vehicles from the review site to park in the surrounding streets" (paragraph 48).
- 10.27 Overall, the provision of car parking within the proposed development is considered appropriate for the combination of dwelling types proposed.

Access and Layout

- 10.28The proposed development incorporates a total of nine (9) car parking spaces on-site, with vehicle access provided via a common driveway off Eurythmic Street.
- 10.29 All vehicles will be able to enter and exit the basement car parking spaces in a forward direction in accordance with Clause 52.06-9 (Design Standard 1). Pedestrian sight line triangles at least 50 per cent clear of visual obstructions are also provided for vehicles exiting the site.
- 10.30All car parking spaces are provided in accordance with the minimum requirements of Clause 52.06-9. Specifically, the car parking spaces have a minimum width of 2.6 metres and a

minimum length of 4.92 metres. Car parking spaces located adjacent to walls or storage areas are generally provided with 300mm clearance in accordance with Diagram 1 of Clause 52.06-9 (Design Standard 2). A minimum headroom clearance of 2.1 metres is provided throughout the basement.

10.31 Overall, the car parking layout and vehicle access arrangements are considered acceptable and accord with requirements of Clause 52.06 and AS2890.1-2004, where relevant.

Traffic

- 10.32Based on similar residential developments, it is conservatively estimated that each dwelling will generate in the order of eight (8) vehicle trip ends per dwelling per day, which is consistent with other developments within similar areas. This equates to a daily traffic generation of forty-eight (48) vehicle trip ends per day for the six (6) dwellings.
- 10.33Typically, ten per cent of this traffic can be expected in the morning and afternoon commuter peak hours, which equates to five (5) vehicle trip ends in each peak hour.
- 10.34Based on the above, a total of five (5) vehicle movements are expected in each of the morning and afternoon peak hours. The level of traffic generated as a result of this proposed development is therefore considered low and is spread throughout the day. The level of traffic generated will therefore not have a detrimental impact on the operation of the surrounding road network, including either Eurythmic Street or Powlett Street
- 10.35 Additionally, the Tribunal provided the following comments in relation to traffic related matters:
 - a. "The width of Eurythmic Street, and the parking of vehicles along this street associated with a number of different properties, will have the effect of slowing down local traffic movements. The slowing down of traffic along this residential street is considered to be a positive outcome, as slower speeds are most commonly linked to safer traffic conditions.
 - b. The size of the turning area at the dead end of Eurythmic Street is largely not relevant, as the traffic accessing the proposed development on the review site will have no need to utilise this turning area.
 - c. The proposed development of the review site will not rely on the Council waste collection service, nor will the positioning of the proposed crossover affect the reversing movements of the Council's rubbish truck" (paragraph 50).

Bicycle Parking

- 10.36 Clause 52.34 sets out the requirements for the provision of bicycle parking. Pursuant to Table 1 at Clause 52.34-5, bicycle parking is required at the following rates:
 - In developments of four or more storeys, one bicycle parking space to each five dwellings for residents and one bicycle parking space to each ten dwellings for visitors.
- 10.37 Given the proposal development does not exceed two (2) storeys, no bicycle parking is required by the Kingston Planning Scheme. However, the sustainable design assessment indicates that one bicycle parking space will be provided to each dwelling and these are appropriately shown on the plans within the basement.
- 10.38Through the provision of these bicycle parking spaces, the proposal responds to the importance that State and local policies place on encouraging low energy forms of transport, such as Clauses 15.02-1S, 18.02-2S, 18.02-2R and 21.09-2. This is a development where the use of bicycles can take precedence over the use of private motor vehicles for short trips due to the proximity of services, employment opportunities and residential development. The provision of bicycle parking spaces within the proposal will encourage the use of bicycles to and from this development.

Sustainable Design

- 10.39 Clause 22.13 (Environmentally Sustainable Development) applies to residential and non-residential development that requires a planning permit. The overarching objective is that development should achieve best practice in environmentally sustainable development from the design stage through to construction and operation.
- 10.40The permit applicant submitted a sustainable design assessment as part of this planning permit application. Council's sustainable design advisor reviewed the application and confirmed the proposed development almost meets Council's sustainability expectations in relation to a development of this size.
- 10.41 Alterations to the sustainable management plan and development plans need to be undertaken before the application can be deemed to meet Council's environmentally sustainable design standards. Items to be addressed include building user guide, water efficient fixtures, heating and cooling systems, vegetation, external taps and light coloured materials for urban cooling.
- 10.42 Conditions contained within the recommendation section of this report ensure the alterations recommended by Council's sustainable design advisor are made (**conditions 1(b) and (e)**, **15 and 16**). The proposed development is therefore able to meet Council's sustainability expectations.

11. RESPONSE TO GROUNDS OF OBJECTION

11.1 The majority of concerns raised by objector(s) have been considered within the assessment above. Any remaining concerns are addressed as follows:

Ground of Objection	Response
Overdevelopment of the site.	Overdevelopment is a commonly used expression to dismiss development proposals which seek to remove existing buildings and introduce new built form into neighbourhoods. An assessment against the Planning Policy Framework, the Kingston Planning Scheme and, in this case, the objectives and standards of Clause 55 can often demonstrate a proposal is not an overdevelopment despite being more intensive than what existed before. An assessment against these relevant matters is detailed throughout this report.
Noise.	The proposed residential use will have noise impacts consistent with those normal to a residential zone. Speech, laughter, music, etc. are noises associated with people living their lives and are all part of life in an urban area. In relation to noise, the Tribunal noted "that the proposed development will generate residential noise, which is not unexpected in a residential area". Further, the Tribunal commented that the "extent to which noise will emanate from the review site will not be unlike that expected from any development" (paragraph 42).
Impacts on infrastructure/open space.	The proposal will make use of existing infrastructure servicing the site. The developer will be responsible for upgrading this infrastructure if necessary, to accommodate the development. The developer will also be required to pay a public open space contribution in accordance with the requirements of Clause 53.01 of the Kingston Planning Scheme at the time of subdivision.

Impacts during construction.

Impacts during the construction phase of a development are a temporary and unavoidable consequence of development and not justification to withhold development of the site. The developer will be required to meet relevant Local Laws and EPA regulations regarding construction practices to ensure these impacts are mitigated. Condition 20 contained within the recommendation section of this report also requires the submission of a construction management plan to address these issues.

Building work can sometimes affect adjoining properties. An owner who is proposing building work has obligations under the *Building Act 1993* to protect adjoining property from potential damage from their work. If building work is close to or adjacent to adjoining property boundaries, then the relevant building surveyor may require the owner to carry out protection work in respect of that adjoining property. This is to ensure that the adjoining property is not affected or damaged by the proposed building work.

Protection work provides protection to adjoining property from damage due to building work. It includes, but is not limited to, underpinning of adjoining property footings, including vertical support, lateral support, protection against variation in earth pressures, ground anchors, and other means of support for the adjoining property. This process is not controlled or overseen via the planning permit process and regulations. It is a matter addressed at the building permit stage.

Will set a precedent.

Future planning permit applications on this site or neighbouring and nearby land will be assessed against relevant planning policy and site conditions, based on their own merits at the time of assessment. The possibility of setting an undesirable precedent cannot be substantiated. As noted by the Tribunal in Eryurek v Moreland CC [2016] VCAT 419, "if further applications are made, they must be determined on their merits by the responsible authority or, if necessary, by this Tribunal" (paragraph 100).

12. CONCLUSION

- 12.1 On balance, the proposal is considered to substantially comply with the relevant planning policy and therefore should be supported, subject to the conditions contained within the recommendation section of this report.
- 12.2 As outlined above, it has been determined that prior to deciding on this application, all factors pursuant to Section 60(1) of the *Planning and Environment Act 1987* have been considered. Further to this, the proposal does not give rise to any significant social or economic effects.
- 12.3 The proposed development is considered appropriate for the site, subject to conditions, as evidenced by:
 - The compatibility of the design and siting with the surrounding area.
 - The mitigation of off-site amenity impacts.
 - A suitable level of compliance with all relevant policies, including Clause 55 of the Kingston Planning Scheme.

 Adequate car parking proposed on-site, meeting the requirement of Clause 52.06 and minimal traffic impacts from the proposed development.

13. RECOMMENDATION

13.1 That the Planning Committee determine to support the proposal and issue a **notice of** decision to grant a planning permit for the construction of a double storey building containing six (6) dwellings plus basement car parking at 11 Powlett Street, Mordialloc, subject to the following conditions:

Amended Plans

- 1. Before the development starts, amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. The plans must be substantially in accordance with the advertised plans prepared by ABP Arc Pty Ltd, sheets 1 to 11 of 13, revision B and dated 25 May 2021, but modified to show:
 - a. External motion sensor lighting to the main pedestrian entry and the external entries of dwellings.
 - b. An external tap in the secluded private open space of each dwelling.
 - c. The fencing along the Eurythmic Street frontage and within the Powlett Street front setback area with a minimum 25 per cent transparency.
 - d. A skylight or similar to the first floor bathrooms and toilets currently with no window.
 - e. Light-coloured or reflective finishes specified for the non-visible flat roofs and concrete driveway.
 - f. The provision of a full colour palette, finishes and building materials schedule for all external elevations, front fencing and driveways of the development.
 - g. The provision of a landscape plan in accordance with the submitted concept landscape plan prepared by APB Arc Pty Ltd dated 25 May 2021 and the City of Kingston Landscape Plan Checklist, with such plans to be prepared by a suitably qualified landscape professional and incorporating:
 - A planting schedule of all proposed trees and shrubs, including botanical names, common names, pot sizes, sizes at maturity, and quantities of each plant.
 - A survey, including, botanical names of all existing trees to be retained or removed on the site including Tree Protection Zones for trees to be retained calculated in accordance with AS4970-2009.
 - iii) A survey including botanical names, of all existing trees on neighbouring properties where the Tree Protection Zones of such trees calculated in accordance with AS4970-2009 fall partially within the subject site.
 - iv) The delineation of all garden beds, paving, grassed area, retaining walls, fences and other landscape works.
 - v) A range of plant types from ground covers to large shrubs and trees, provided at adequate planting densities (e.g. plants 1 metre in width at maturity planted 1 metre apart); with the species chosen to comprise of a minimum 50% coastal indigenous species by plant type and total quantities.
 - vi) Two (2) native canopy trees capable of growing to minimum mature height of 10 metres to be planted in the front setback of the property along Powlett Street.

- vii) One (1) canopy tree capable of growing to minimum mature height of 6 metres in to be planted in the secluded private open space of each dwelling.
- viii) All trees provided at a minimum of 2 metres in height at time of planting, medium to large shrubs to be provided at a minimum pot size of 200mm.
- ix) Notes regarding site preparation, including the removal of all weeds, proposed mulch, soil types and thickness, subsoil preparation and any specific maintenance requirements.
- x) Tree protection measures including for street trees accurately drawn to scale and labelled.
- h. Any changes recommended in the tree management plan required by condition 5 of this planning permit.
- i. The location of tree protection measures illustrated to scale and labeled on the Ground Floor Plan as per the endorsed Tree Management Plan.
- Consistency with the waste management plan required by condition 13 of this planning permit.
- k. Consistency with the amended sustainable design assessment required by condition 15 of this planning permit.

Endorsed Plans

- 2. The development as shown on the endorsed plans must not be altered without the prior written consent of the Responsible Authority.
- 3. The landscaping shown on the endorsed plans must be maintained to the satisfaction of the Responsible Authority, including that any dead, diseased or damaged plants are to be replaced.

Street Trees

- 4. Tree protection fencing is to be established around the street trees adjacent to the subject site prior to demolition, maintained until all works on site are complete and:
 - a. The fencing is to be a 1.8 metre high temporary fence constructed using steel or timber posts fixed in the ground or to a concrete pad, with the fence's side panels to be constructed of cyclone mesh wire or similar strong metal mesh or netting.
 - b. The fencing is to encompass the entire nature strip with each end 2 metres from the base of the tree.

Tree Management Plan

- 5. Concurrent with the endorsement of plans required under condition 1 of this planning permit, a tree management plan prepared by a suitably qualified arborist in accordance with AS4970-2009, must be submitted to and be endorsed by the Responsible Authority and incorporating:
 - a. A tree management plan (written report) must provide details of:
 - i. Tree protection measures that will be utilized to ensure all trees to be retained (including neighbouring trees) remain viable post-construction.
 - ii. Stages of development at which inspections are required to ensure tree protection measures are adhered to must be specified.
 - b. A tree protection plan (scale drawing) must provide details of:

- i. The tree protection zone and structural root zone for all trees to be retained on the site and for all trees on neighboring properties where any part of the tree protection zone falls within the subject site.
- ii. The location of tree protection measures to be utilized.
- iii. A notation to refer to the tree management plan.
- 6. All protection measures identified in the tree management plan must be implemented, and development works undertaken on the land must be undertaken in accordance with the tree management plan, to the satisfaction of the Responsible Authority.
- 7. Prior to the commencement of works, the name and contact details of the project arborist responsible for implementing the tree management plan must be submitted to the Responsible Authority.

Drainage and Water Sensitive Urban Design

- 8. Unless with the prior written consent of the Responsible Authority, before the development commences, the following integrated stormwater management documents must be prepared, by a suitably qualified person, to the satisfaction of the Responsible Authority.
 - a. Stormwater management/drainage (drainage) plan(s) must be prepared, with supporting computations, showing the stormwater (drainage) works to the nominated point of discharge. The plan(s) must show all details of the proposed stormwater (drainage) works including all existing and proposed features that may have impact on the stormwater (drainage) works, including landscaping details.
 - b. The stormwater management (drainage) plan must address the requirements specified within Council's "Civil Design requirements for Developers Part A: Integrated Stormwater Management".
 - c. A STORM modelling report with results demonstrating water sensitive urban design treatments that achieve Victorian best practice objectives with a minimum 100% rating must be provided as part of the stormwater management (drainage) plan to the satisfaction of the Responsible Authority. These may include the use of an infiltration or bio-retention system, rainwater tanks connected for reuse, or other treatments to the satisfaction of the Responsible Authority.
 - d. The water sensitive urban design treatments as per conditions 8(a), (b) and (c) above must be implemented on-site, unless an alternative agreement for stormwater quality inlieu contribution is reached with the Responsible Authority.
- 9. Stormwater/drainage works must be implemented in accordance with the approved stormwater management/drainage plan(s) and to the satisfaction of the Responsible Authority including the following:
 - a. All stormwater/drainage works must be provided on the site so as to prevent overflows onto adjacent properties.
 - b. The implementation of stormwater/drainage detention system(s) which restricts stormwater discharge to the maximum allowable flowrate of 6.3L/s.
 - c. All stormwater/drainage works must be maintained to the satisfaction of the Responsible Authority.
- 10. A groundwater assessment report (GAR) must be prepared by a qualified hydro-geologist to assess any possible impacts the proposed development has on the ground water table, surrounding land and buildings to the satisfaction of Responsible Authority. Should the findings of the submitted groundwater assessment report demonstrate that the site is likely to

- experience issues associated with ground water management, a ground water management plan (GMP) must be submitted to and approved by the responsible authority.
- 11. The basement structure must be designed to respond to the findings of the groundwater assessment report and groundwater management plan required under condition 10 and constructed to the satisfaction of the responsible authority in accordance with the following:
 - a. The basement must be a fully-tanked dry basement with no ground water including agricultural (AG) drain collection or disposal into stormwater system and with an allowance made for any hydrostatic pressures in accordance with Council's "Basements and Deep Building Construction Policy 2014" and "Basements and Deep Building Construction Guidelines 2014", or
 - in the event it is demonstrated that a fully tanked dry basement cannot be achieved or if a wet basement system is proposed, no groundwater including agricultural drain from the site shall be discharged into the stormwater system. Council does not accept any groundwater (including AG drain) into the stormwater system. Sub-surface water (groundwater) is the responsibility of the property owner.
- 12. In any case where the basement design and construction, as required by conditions 10 and 11 of this permit, does not accord with the plan(s) approved under this permit, the endorsed plan(s) must be amended to the satisfaction and with the written consent of the Responsible Authority.

Waste Management Plan

- 13. Concurrent with the endorsement of plans required by condition 1 of this planning permit, a waste management plan (WMP) to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the waste management plan will be endorsed and will then form part of the permit. The plan must include, but is not limited to, the following:
 - a. The manner in which waste will be stored and collected including: type, size and number of containers.
 - b. Spatial provision for on-site storage.
 - c. Waste collection is to be performed by privately contracted waste collectors.
 - d. The size of the collection vehicle and the frequency, time and point of collection.
- 14. The waste management plan must be implemented to the satisfaction of the Responsible Authority. The waste management plan must not be modified unless with the written consent of the Responsible Authority.

Sustainable Design Assessment

- 15. Prior to the endorsement of the plans required pursuant to condition 1 of this planning permit, the provision of an amended sustainable design assessment (SDA) to be prepared by a suitably qualified professional must be submitted to and approved by the Responsible Authority. When approved, the plan will be endorsed and will then form part of the permit. The plan must be generally in accordance with the sustainable management plan prepared by APB Arc Pty Ltd and dated May 2021, but amended to:
 - a. Meet the minimum 50% overall score and minimums in Energy (50%), Water (50%), IEQ (50%) and Stormwater (100%) categories in BESS to demonstrate best practice in sustainable design.
 - b. Commitment to producing a building user's guide or amend the BESS assessment.

- c. Confirm with a statement in the report that reflects the commitment to providing dishwashers and washing machines as part of the building fit-out or amend the BESS assessment.
- d. Indicate all the minimum efficiency commitments for all heating, colling and hot water systems or amend the BESS assessment.
- e. Update the BESS assessment to reflect floor to ceiling heights of 2.55 metres, which is under the minimum 2.7 metres for the deemed to satisfy method.
- f. Accurately reflect the percentage of the site that is proposed to be covered in vegetation, excluding all decking and paved areas.
- 16. Prior to the occupation of any building approved under this permit, written confirmation from the author of the endorsed sustainable design assessment is to be submitted to and approved by the Responsible Authority detailing that all of the required measures specified in the sustainable design assessment have been implemented, to the satisfaction of the Responsible Authority.

Car parking and Access

- 17. Before occupation of the development hereby permitted, areas set aside for parking vehicles, access lanes and paths as shown on the endorsed plans must be:
 - i) Constructed to the satisfaction of the Responsible Authority.
 - ii) Properly formed to such levels that they can be used in accordance with the plans.
 - iii) Surfaced with an all-weather sealcoat to the satisfaction of the Responsible Authority.
 - iv) Drained to the satisfaction of the Responsible Authority.
 - v) Line-marked to indicate each car space and the nominated warehouse unit, all access lanes and, if necessary, the direction in which vehicles are to travel to the satisfaction of the Responsible Authority.
 - vi) In accordance with any Council adopted guidelines for the construction of car parks.
 - Car parking areas and access lanes must be kept available for these purposes at all times and maintained to the satisfaction of the Responsible Authority.
- 18. In areas set aside for car parking and vehicle access, measures must be taken to the satisfaction of the Responsible Authority, to prevent damage to fences or landscaped areas.
- 19. Concrete kerbs or other barriers must be provided to the satisfaction of the Responsible Authority to prevent direct vehicle access to an adjoining road other than by a vehicle crossover.

Construction Management

- 20. Prior to the commencement of any buildings and works on the land, a construction management plan (CMP), to the satisfaction of the Responsible Authority, must be submitted to and approved by the Responsible Authority. The construction management plan must be prepared in accordance with the City of Kingston Construction Management Policy and Construction Management Guidelines. The construction management plan must specify and deal with, but is not limited to, the following elements:
 - a. Public safety, amenity and site security.
 - b. Traffic management.
 - c. Stakeholder management.

- d. Operating hours, noise and vibration controls.
- e. Air quality and dust management.
- f. Stormwater and sediment control.
- g. Waste and materials re-use.

When approved, the plan will be endorsed and will then form part of the permit and shall thereafter be complied with during the undertaking of all works.

Infrastructure and Road Works

- 21. Any relocation of pits/power poles or other services affected by this development must be relocated to the satisfaction of the relevant servicing authority and the Responsible Authority, at the cost of the owner/developer.
- 22. Property boundary and footpath levels must not be altered without the prior written consent form the Responsible Authority.
- 23. Any reinstatements and new/modified vehicle crossovers must be constructed to the satisfaction of the Responsible Authority.
- 24. The replacement of all footpaths, including offsets, must be constructed to the satisfaction of the Responsible Authority.
- 25. Any redundant vehicle crossings must be removed (including redundant portions of vehicle crossings) to the satisfaction of the Responsible Authority.

General Amenity

- 26. All works on or facing the boundaries of adjoining properties must be finished and surface cleaned to a standard that is well presented to neighbouring properties in a manner to the satisfaction of the Responsible Authority.
- 27. All externally-located heating and cooling units, exhaust fans and the like must not be located adjacent to bedroom windows on adjoining properties and must not be located where they will be highly visible from any public area to the satisfaction of the Responsible Authority.
- 28. All piping, ducting above the ground floor storey of the development (other than rainwater, guttering and downpipes) must be concealed to the satisfaction of the Responsible Authority.

Completion of Works

- 29. Prior to the occupation of development hereby permitted, all buildings and works and the conditions of this permit must be complied with to the satisfaction of the Responsible Authority, unless with the further prior written consent of the Responsible Authority.
- 30. Prior to the occupation of development hereby permitted, the landscaping works as shown on the endorsed plans must be completed to the satisfaction of the Responsible Authority. Thereafter, the landscaping shall be maintained (except where that landscaping is on public land) to the satisfaction of the Responsible Authority.

Permit Expiry

- 31. This permit as it relates to development (buildings and works) will expire if one of the following circumstances applies:
 - a. The development is not started within two (2) years of the issue date of this permit.

- b. The development is not completed within four (4) years of the issue date of this permit. In accordance with Section 69 of the *Planning and Environment Act 1987*, an application may be submitted to the responsible authority for an extension of the periods referred to in this condition.
- **Note:** Environment Protection Authority (EPA) Victoria set out the requirements pertaining to site construction hours and permissible noise levels.
- **Note:** Prior to the commencement of the development, you are required to obtain the necessary building permit.
- **Note:** The applicant/owner must provide a copy of this planning permit to any appointed building surveyor. It is the responsibility of the applicant/owner and building surveyor to ensure that all building development works approved by any building permit is consistent with the planning permit.
- **Note:** Any buildings and works (including eaves) to be located within an easement requires separate consent from Council and/or the relevant service authority. This will need to be obtained prior to the issue of a building permit.
- **Note:** The applicant/owner must provide a copy of this planning permit and any endorsed plans to any external contractor to ensure that all trees to be retained on site are protected during any works.
- **Note:** Before removing / pruning any vegetation from the site, the applicant or any contractor engaged to remove any vegetation, should consult Council's vegetation management officer to verify if a Local Laws permit is required for the removal of such vegetation.
- **Note:** Any landscape plan prepared in accordance with conditions must comply with Council's Landscape Checklist.
- **Note:** Vehicle crossovers should be constructed at a 90 degree alignment with the kerb on Eurythmic Street and all internal driveways must align with the proposed vehicle crossovers.
- **Note:** Vehicle crossovers serving more than three (3) dwellings must be constructed to Council's industrial strength specifications.
- **Note:** Prior to the commencement of development, property boundary, footpath and vehicle crossover levels must be obtained from Council's roads and drains department with all levels raised or lowered to the satisfaction of the Responsible Authority.
- **Note:** The vehicle crossovers are to be in accordance with Council's standard drawing S201.
- **Note:** The footpath must be constructed to Council's standards in Eurythmic Street and maintained on the Powlett Street frontage to the satisfaction of the Responsible Authority.
- **Note:** All street assets including power poles, footpaths, trees and other assets are to be shown on the plans.
- **Note:** Prior to the endorsement of the of the construction management plan, an approved road occupation and works permit which covers occupation of Council land of construction activities, arranging a works zone and assessment of traffic management plans (if applicable). The developer will be responsible for any costs related to this permit, to the satisfaction of the Responsible Authority.
- **Note:** Prior to endorsement of the construction management plan, an asset protection permit must be approved by the Responsible Authority (if applicable).
- **Note:** The allocation of street numbering and addressing of properties is vested in Council. Any reference to addressing or dwelling/unit/apartment and street numbers or street names on any endorsed plan is indicative only. The onus is on the permit applicant/land owner to

contact Council's property data department to determine the official dwelling/unit/apartment street numbers, street name details and the like for the approved development.

If the permit applicant/land owner adopts the street numbering or addressing from the endorsed plans, or where advertising and/or sales transact (off the plan) prior to Council's official allocation of the street numbering and addressing, it will be viewed to be non-compliant with the guideline and standard applied (Australian/New Zealand Standard for Rural & Urban Addressing / AS/NZS 4819:2011).

Note: The owner(s), occupiers and visitors of the development allowed by this permit may not be eligible for Council resident or visitor parking permits.

Appendices

Appendix 1 - KP-2021/55 - 11 Powlett Street Mordialloc - Considered plans (Ref 22/2758)

Author/s: Nikolas Muhllechner, Team Leader Statutory Planning

Reviewed and Approved By: Amy Lin, Team Leader Statutory Planning

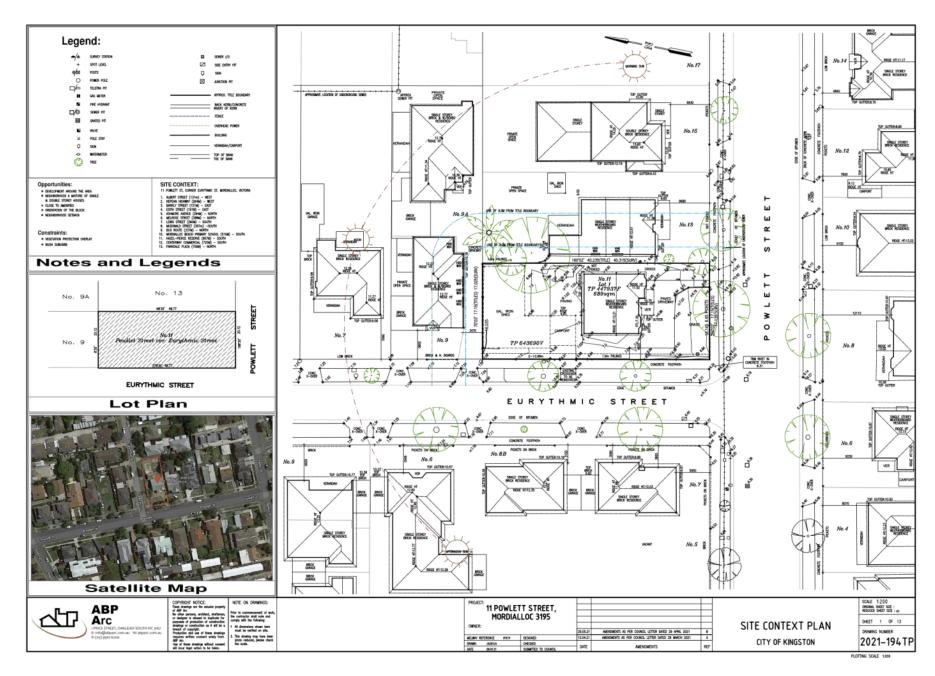
Alfred Carnovale, Manager City Development

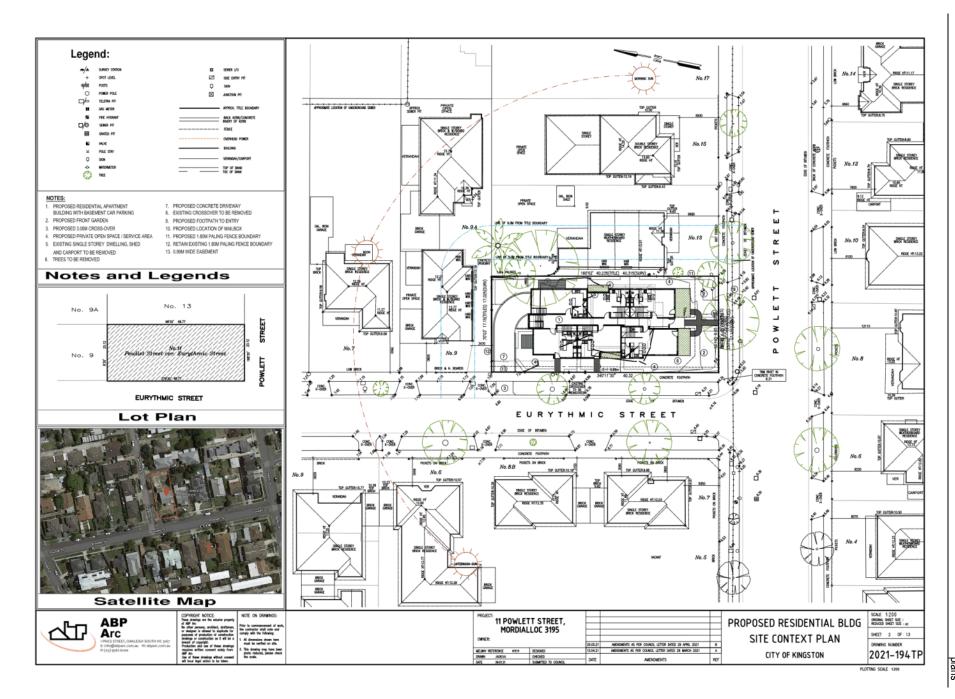
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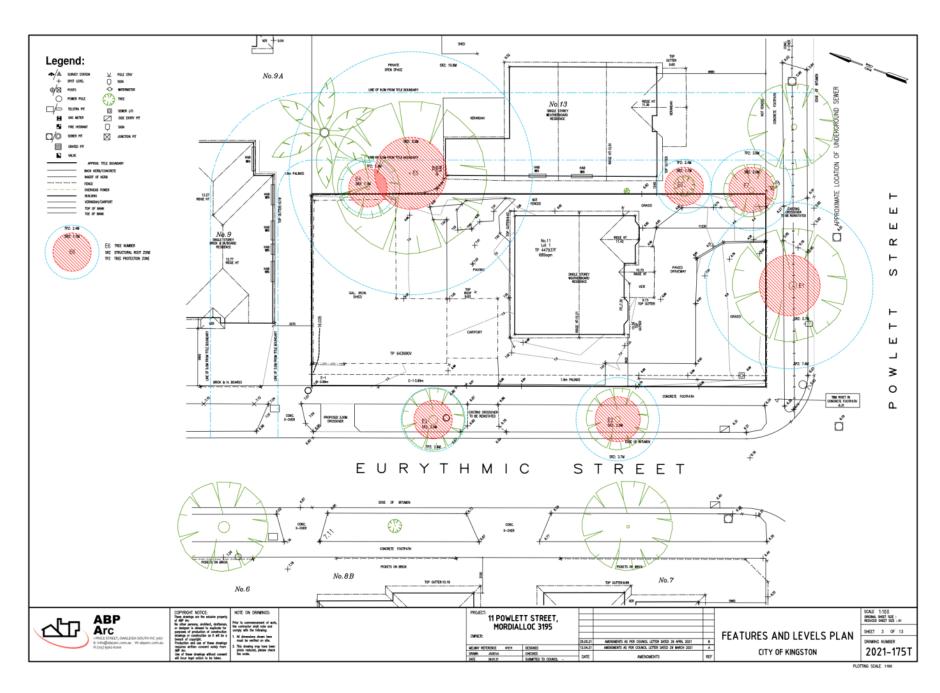
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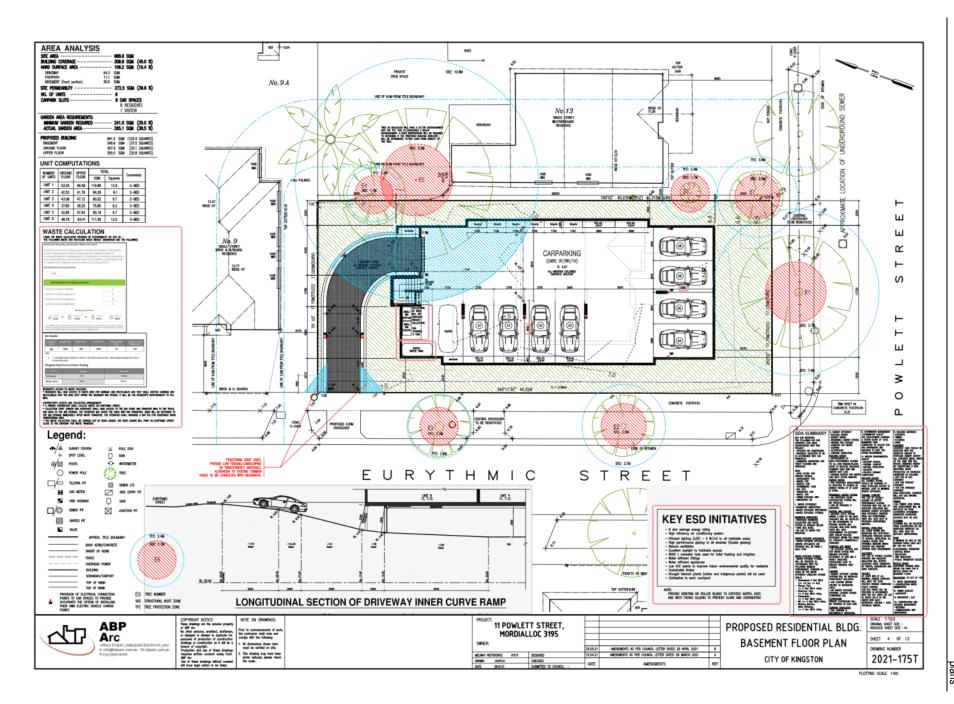
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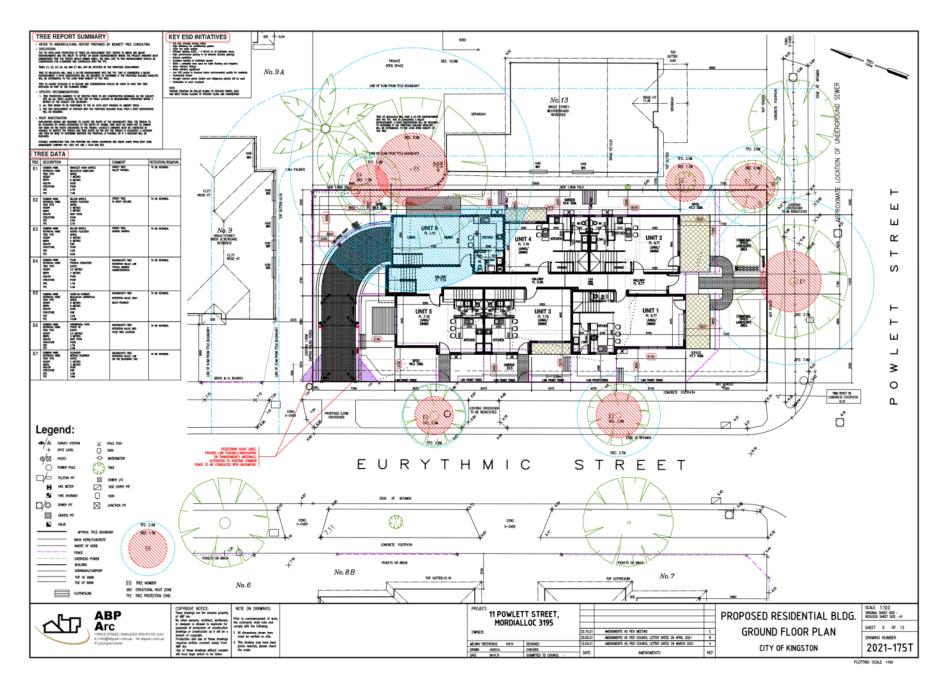


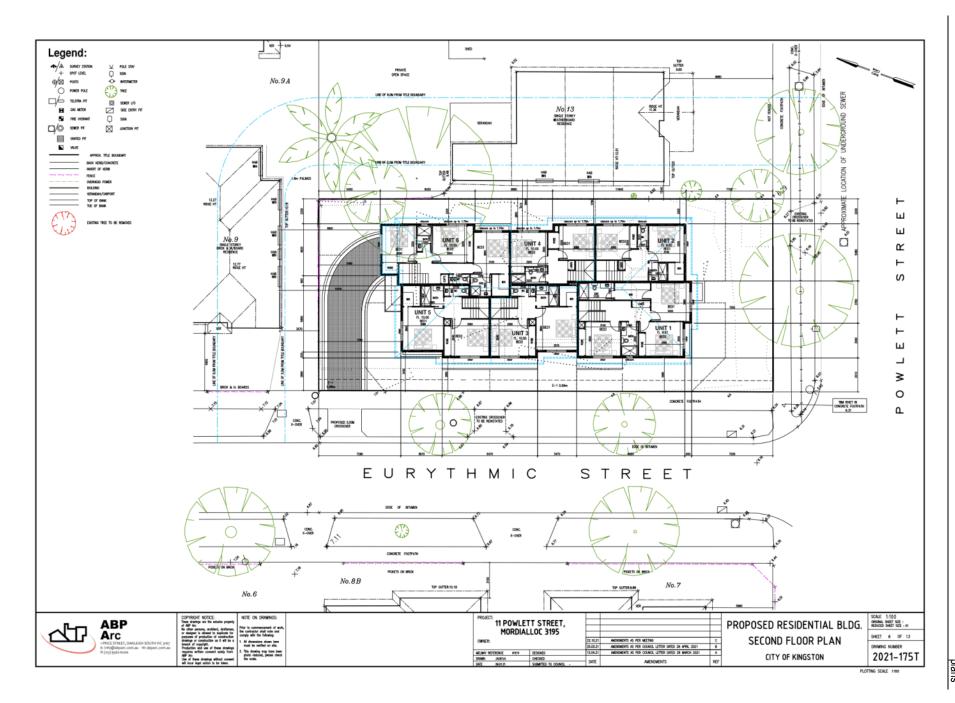


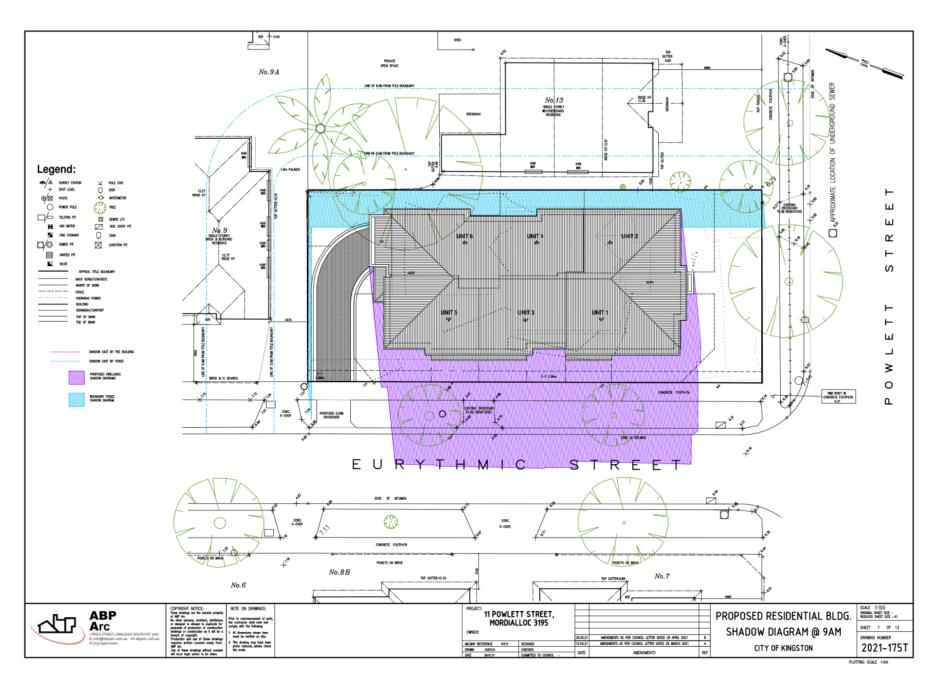


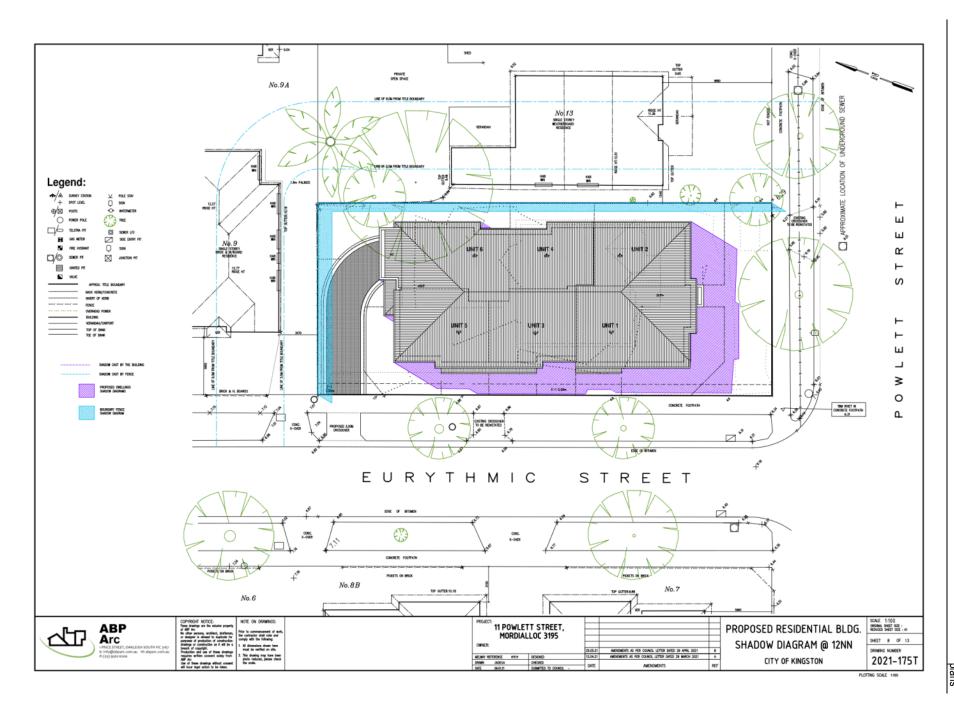


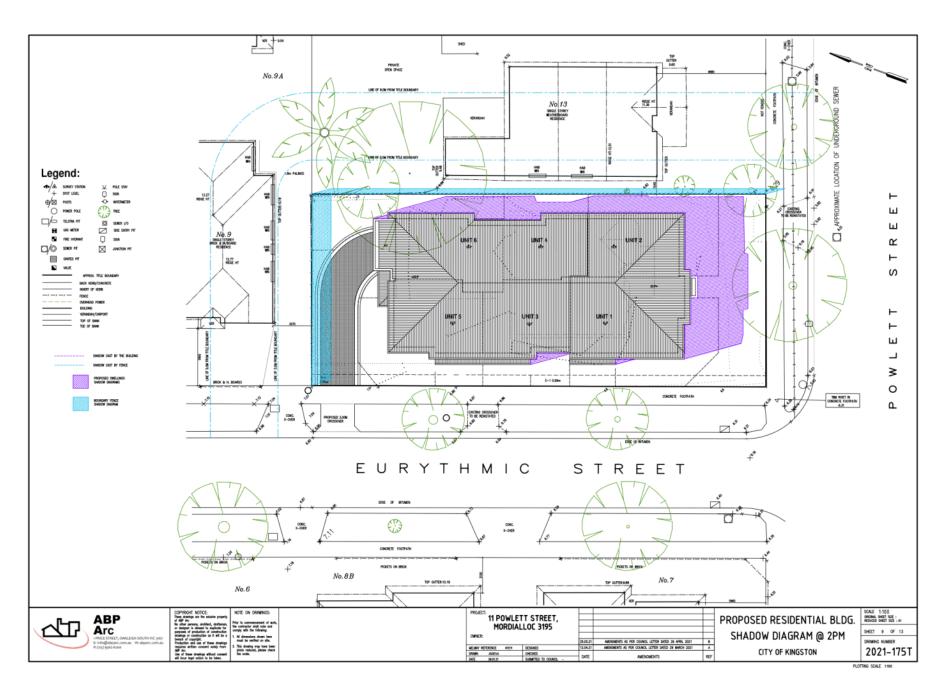


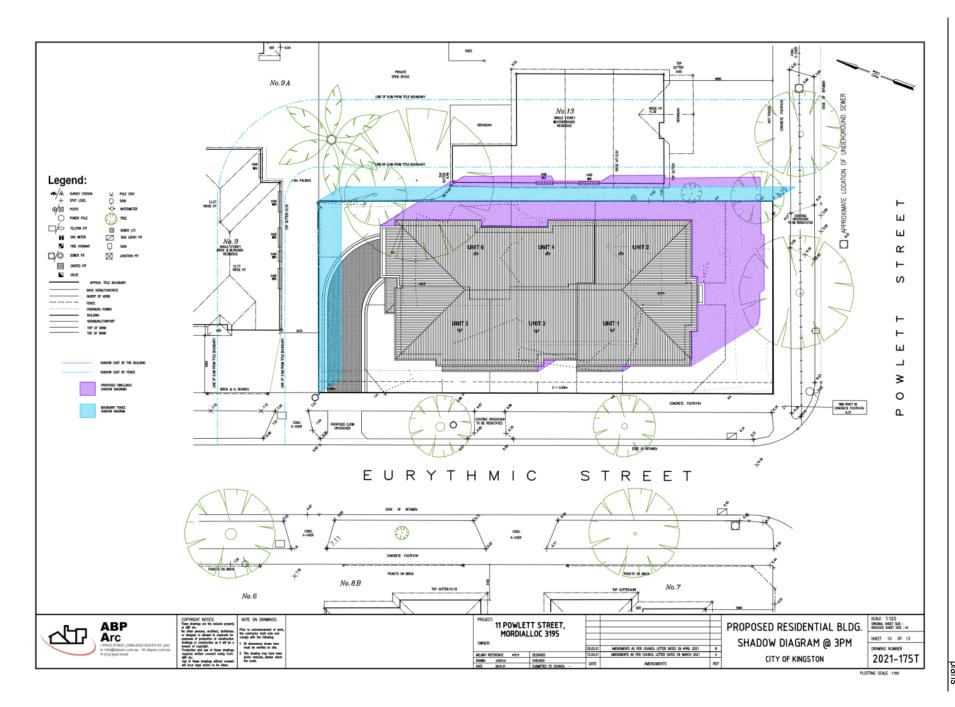


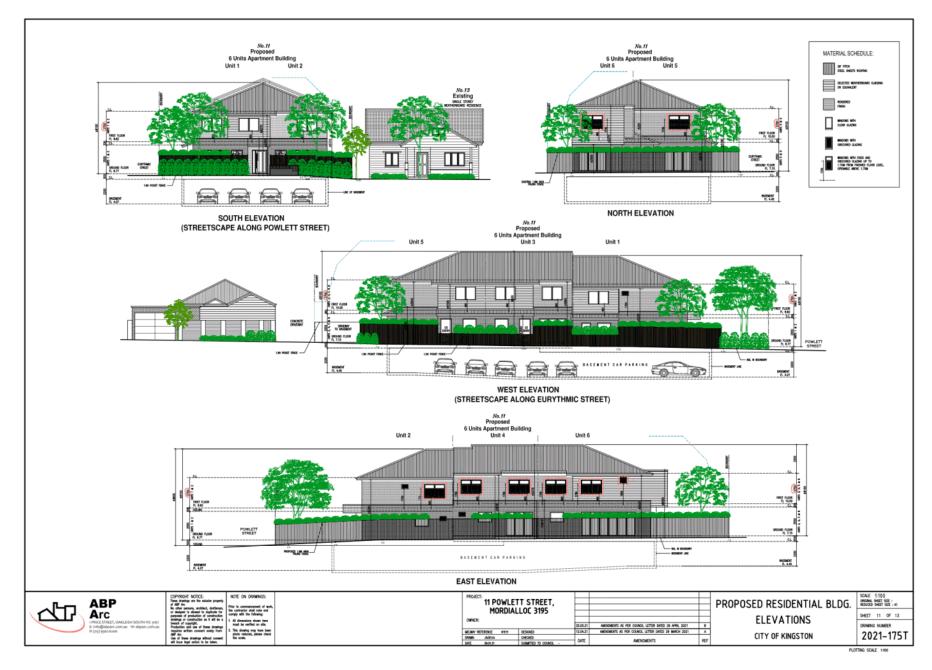


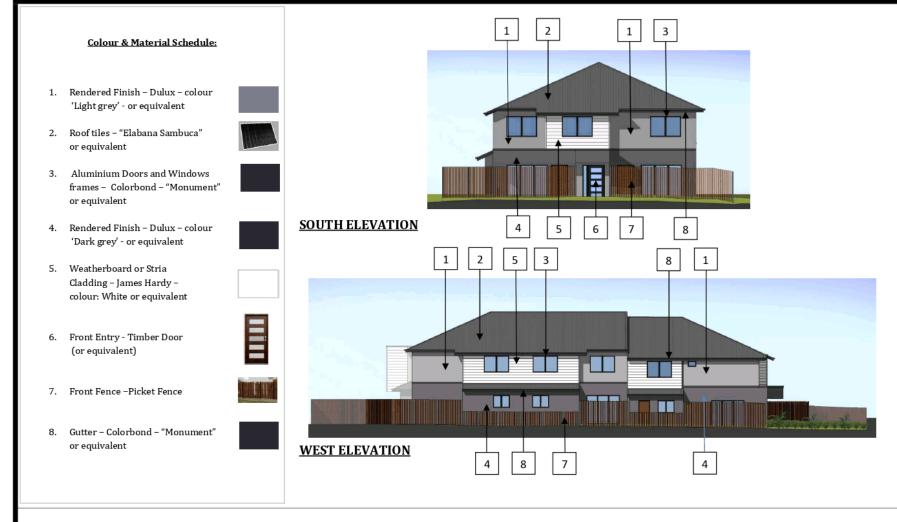












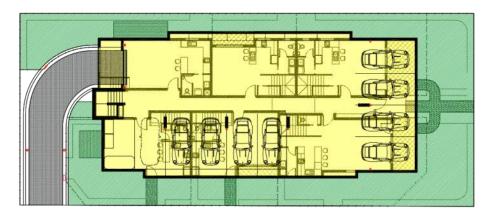
11 POWLETT STREET, MORDIALLOC 3195

COLOUR & MATERIALS SCHEDULE



GARDEN AREA COMPUTATION

STIE AREA — 688.6 SQM GARDEN AREA REQUIREMENTS: MINIMUM GARDEN AREA — 241.0 SQM (35.0 S ACTUAL GARDEN AREA — 285.1 SQM (38.5 S





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NOTE ON DRAWINGS:
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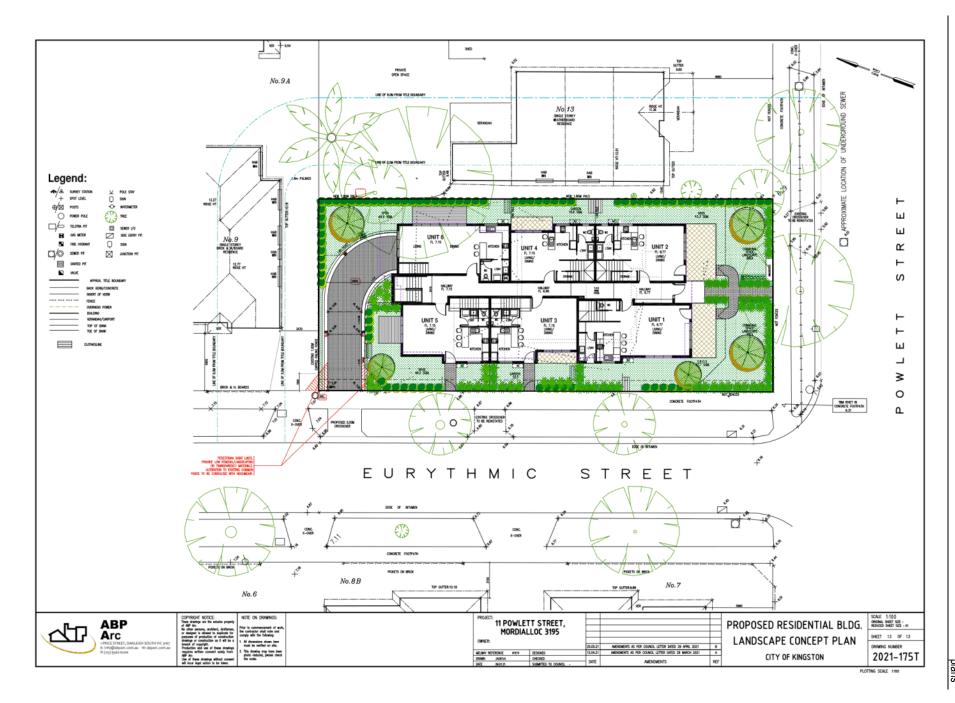
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PROPOSED RESIDENTIAL BLDG.
GARDEN AREA COMPUTATION
CITY OF KINGSTON

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PLOTTING SCALE 1100



Planning Committee Meeting

23 February 2022

Agenda Item No: 4.3

KP-2021/621 - 40-46 PIETRO ROAD, HEATHERTON

Contact Officer: Matthew Yeung, Statutory Planner

Purpose of Report

This report is for the Planning Committee to consider Planning Permit Application No. KP-2021/621 - 40-46 Pietro Road, Heatherton.

Disclosure of Officer / Contractor Direct or Indirect Interest

No Council officer/s and/or Contractor/s who have provided advice in relation to this report have declared a Conflict of Interest regarding the matter under consideration.

RECOMMENDATION

That the Planning Committee determine to support the proposal and issue a Notice of Decision to Grant a Planning Permit to develop and use the land for the construction of one (1) dwelling on the lot at 40-46 Pietro Road, Heatherton, subject to the conditions contained within this report.

This application requires a decision by the Planning Committee as the subject site is located in the Green Wedge Zone and the cost of the development exceeds \$20,000.

EXECUTIVE SUMMARY

Address 40-46 Pietro Road, Heatherton

Legal Description Lot 8 on PS 08092

Applicant Christopher Jonathan Voulgaris

Planning Officer Matthew Yeung

PLANNING REQUIREMENTS

Planning Scheme Kingston

Zoning Clause 35.04 – Green Wedge Zone (Schedule 2) **Overlays** Clause 43.02 – Design and Development Overlay 5

Particular Clause 51.02 – Metropolitan Green Wedge Land: Core Planning

Provisions Provisions

Clause 52.06 – Car Parking Clause 52.17 – Native Vegetation Clause 52.21 – Private Tennis Court

Permit Trigger/s Clause 35.04 – Construct a building or construct or carry out works

associated with a use in Section 2

APPLICATION / PROCESS

Proposal The use and development of the land for the construction of a single

dwelling, associated outbuildings, tennis court and removal of native

vegetation from the land.

Reference No. KP-2021/621 **RFI Received** 28/10/2021

App. Received 14/09/2021 App. Amended N/A

Site inspection No

S.52 Advertising Commenced: 18/11/2021 Advertising Yes

Completed 6/12/2021

S.55 Referrals None Internal referrals Yes

Objection(s) One (1) (TRIM checked on 11/02/2022)

Mandatory N/A Mandatory N/A

Garden area Building requirement Height requirement

LEGISLATIVE

Covenant/other Yes Complies: YES

Restriction

CHMP EXEMPT

Considered Plans Melbourne House & Land Constructions Pty Ltd, sheets 1 to 5 inclusive,

submitted to Council on 14/09/2021.

1.0 RELEVANT LAND HISTORY

- 1.1 Planning Permit KP-2015/610 was issued by Kingston City Council on 29 April 2016 and the permit allowed for the 'use and develop the land for the construction of one (1) dwelling, associated outbuildings and tennis court and remove native vegetation from the land'.
- 1.2 It must be noted that the original permit lapsed due to the development not commencing works on site. Therefore, the original plans have been re-lodged to Council under this application for a new permit to be considered.

2.0 SITE PARTICULARS

Built form	One (1) outbuilding located towards the northeast corner of the lot.
Size (m²)	8129m ²
Topography	The land has a 2.5m fall from the west to the east side of the site.
Fencing	Existing 1 metre high star picket and electrified wire fencing located along the front boundary (Pietro Road Frontage), rear boundary and southern boundary (side). A corrugated iron fence with a height of 2m is located along the northern boundary (side).
Vegetation	Significant vegetation scattered throughout the site. Five (5) trees that are greater than 8m in height. There are three (3) large native trees located towards the front of the site along the Pietro Road frontage. These trees include Wallangarra White Gum, Silvertop Ash and Southern Mahogany. The remaining trees on the subject site are exotic.
Easement(s)	A 6.04 metre wide drainage and sewerage easement is located along the northern boundary (side) and a 2.01 metre wide easement drainage and sewerage easement located along eastern boundary (rear).
Footpath assets / access	Two (2) existing redundant crossovers and one (1) informal gravel crossover scattered along the Pietro Road frontage of the site. The informal gravel crossover is currently the only vehicle access being used. One (1) existing stormwater drainage pit located adjacent the gravel crossover.
Covenant(s) / Restrictions	There is a restriction listed on the Certificate of Title (Covenant B745819). The covenant prohibits any works or use that will cause or lead to inundation of the land. "will not permit nor suffer to be done any act matter or thing which shall cause inundation of the land hereby transferred or any part or parts thereof and that we the said Francesco Catanese and Anna Catanese our heirs executors administrators and transferees will not at any time fail to keep and maintain that drain running through over or along the land hereby transferred in such good order and condition as to prevent any such inundation"

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It is considered that the proposed development does not contravene the restrictive covenant.

3.0 SURROUNDING ENVIRONS

3.1 The following map illustrates the subject site in its surrounding context.



Figure 1. Aerial image showing the whole subject site and surrounding allotments.



Figure 2. Aerial image showing a close up of the subject site (image taken 22/11/2021).



Figure 3. View of the subject site when viewed from Pietro Road (northwest corner).



Figure 4. View of the subject site when viewed from the Pietro Road (southwest corner).

3.2 Land directly abutting the subject site and opposite is described as follows:

North	No. 32-38 Pietro Road – The land is currently used for residential purposes with an existing dwelling located on the land. The land is also used for vehicle storage which has been investigated by Council's Planning Compliance team on 18 September 2017 with confirmation that this use benefits from "existing use rights". The use of the land to store vehicles has been used continuously on the land for approximately 40 years.
East	No. 47 Pine Lane – The land is currently occupied by a single dwelling with an associated outbuilding located towards the front of the subject lot. No. 33-37 Pine Lane – The land is currently used for storage purposes. Reviewing the site via aerial imagery, there are a number of large skips located towards the front of the lot with two (2) smaller outbuildings.
South	No. 48-54 Pietro Road – The land is currently occupied by a single dwelling with associated outbuildings, swimming pool and tennis court. The lot is used for residential purposes.
West	No. 43-51 Pietro Road – The land is currently occupied by a single dwelling with significant vegetation scattered throughout the site. No. 33-41 Pietro Road – The land is currently used for residential purposes with a single dwelling and associated outbuildings occupying the site.

3.3 The surrounding area generally comprises of large allotments, which are predominately used for rural residential living with large dwellings including tennis courts and swimming pools. Northeast of the site is also zoned as Green Wedge with a variety of different land uses being conducted other than residential, these uses include landfill, plant nursery and farming.

4.0 PROPOSAL

4.1 A summary of the proposal is provided in the table below.

Description	Demolish existing outbuilding, remove native vegetation, develop and use the land for the construction of one (1) dwelling.	
	Proposal includes the following:	
	Removal of native vegetation (tree at the front of the site);	
	 Construct a new dwelling including swimming pool, hobby shed and gym (floor area of 1765.41m²); 	
	Seven (7) bedrooms;	
	Tennis court (591.44m²);	
	Two (2) garages (three (3) car spaces each;	
	New vehicle crossover.	
	Hobby shed (280m²)	
Storeys	Double storey	
Maximum building height	6.79 metres	
Bedrooms (including study)	Seven (7) bedrooms including one (1) study	
Car parking	Six (6) parking spaces are provided within two (2) attached garages.	
Front setback	11 metres	
Private Open Space	5,375.2 metres (66.41%)	
Site Coverage /	SC = 1,477.88 metres (18.26%)	
Permeability	P = 6,616.12 metres (81.74%)	
Access	Existing gravel vehicle crossover and one (1) redundant crossover to be removed. Existing crossover located on the southeast corner of the	

	allotment to be upgraded and reinstated to be used as the only vehicle access to the site. The driveway will extend to each garage on the north and south side of the proposed dwelling.	
Vegetation removal/retention	One (1) native tree to be removed as part of this proposal. The tree is a Southern Mahogany and is located at the front of the site.	
Building materials	FINISHES SCHEDULE FACE BRICKWORK BORAL ASPEN STONE B1 RENDER DULUX LIME WHITE QUARTER B2 RENDER DULUX TAPESTRY BEIGE MATRIX (or cement) CLADDING DULUX TAPESTRY BEIGE GARAGE DOOR KWILA/TEAK WINDOW FRAMES MATT BLACK EAVES FSCIAS & FLASHINGS GULLY ROOFING NATURAL GALVANISED	

5.0 PLANNING PERMIT PROVISIONS

Zone

Clause 35.04-5 Green Wedge Zone, Schedule 2 (GWZ2)

- 5.1 Pursuant to the GWZ2, a planning permit is required to construct a building or construct or carry out works associated with a use in Section 2 (dwelling).
- 5.2 Furthermore, pursuant to the GWZ2, a planning permit is also required to construct a building which falls within the following setbacks:
 - 20 metres from any other road (dwelling and garage);
 - 5 metres from any other boundary (rainwater tank); and
 - 100 metres from a dwelling not in the same ownership (dwelling and garage).

Overlay

Clause 43.02 - Design and Development Overlay, Schedule 5 (DDO5)

- 5.3 Pursuant to Clause 2.0 of DDO5 a planning permit is required to construct a building or construct or carry out works, which exceeds 25 metres in height.
 - Furthermore, Clause 2.0 also states 'an application for buildings and works must be referred in accordance with Section 55 of the Act to the referral authority specified in Clause 66.04 or a schedule to that clause unless in the opinion of the Responsible Authority the proposal satisfies requirements or conditions previously agreed in writing between the responsible authority and the Federal Department of Transport and Regional Services.'
- 5.4 Pursuant to the schedule 5 of the overlay, it is considered that a referral to Moorabbin Airport is not required in this instance as prior advice has been received for the same development under the lapsed permit KP15/610. As there are no proposed changes to the building footprint and height it is determined that the original referral response from Moorabbin Airport remains applicable. Furthermore, Council does not see any instance where Moorabbin

Airport would alter their response given this area has been and remains a rural/residential since the previous referral.

Particular Provisions

- 5.5 Clause 51.02 Metropolitan Green Wedge Land: Core Planning Provisions allows for the use of land for a dwelling, provided it is the only dwelling on the land. Therefore, the application complies with this provision.
- 5.6 Clause 52.06 Car Parking contains the following residential car parking rates:

1 space to each 1 or 2 bedroom dwelling
2 spaces to each 3 or more bedroom
dwelling
1 visitor space for every 5 dwellings

This equates to a parking requirement of **two (2)** spaces for the proposed development.

As the required number of car parking spaces is provided on the site, a planning permit is not required for a reduced car parking rate pursuant to Clause 52.06-3.

Clause 52.06 – 8 Design standards, includes vehicle movements, access, splays, garaging dimensions, tandem space dimensions, and have been reviewed and are considered compliant.

- 5.7 Clause 52.17 Native Vegetation: Planning permit is required to remove, destroy or lop any native vegetation, including dead native vegetation. Due to this trigger, the application was outsourced for review to an external expert ecologist. Based on the appraisal and comments received, the removal of vegetation is considered supportable as both Council's Vegetation Officer and external ecologist have both advised that they do not object to the removal of the Southern Mahogany tree.
- 5.8 Further advice received from Council's Vegetation Officer note that the current proposal will have a Tree Protection Zone encroachment of approximately 8% by the new dwelling and associated driveway. Based on this calculation, there can be no further encroachment to this zone. Furthermore, the landscape plan will need to be amended, via a conditional requirement of any permit issued, to be more site specific in regards to the proposed planting. Below is details of EVC's mapping for the site which has been identified as Damp Sands Herb Rich mosaic over two/thirds of the site closest to Pietro Road and Plains Grassy Wetlands mosaic over the remainder.

Department of Sustainability and Environment, EVC/Bioregion Benchmark for Vegetation Quality Assessment, Gippsland Plain bioregion'

40-46 Pietro Road, Heatherton

EVC 3: Damp Sands Herb-rich Woodland

LF Code	Species typical of at least part of EVC rail Common Name	nge
Т	Acacia mearnsii	Black Wattle
Т	Acacia melanoxylon	Blackwood
MS	Epacris impressa	Common Heath
MS	Leptospermum continentale	Prickly Tea-tree
MS	Banksia marginata	Silver Banksia
MS	Leptospermum myrsinoides	Heath Tea-tree
SS	Leucopogon virgatus	Common Beard-heath
SS	Dillwynia glaberrima	Smooth Parrot-pea
SS	Amperea xiphoclada var. xiphoclada	Broom Spurge

PS	Astroloma humifusum	Cranberry Heath
MH	Gonocarpus tetragynus	Common Raspwort
MH	Drosera peltata ssp. auriculata	Tall Sundew
MH	Viola hederacea sensu Willis (1972)	Ivy-leaf Violet
MH	Geranium solanderi s.l.	Austral Cranesbill
SH	Hydrocotyle laxiflora	Stinking Pennywort
SH	Opercularia varia	Variable Stinkweed
SH	Dichondra repens	Kidney-weed
SH	Poranthera microphylla	Small Poranthera
LTG	Lomandra longifolia	Spiny-headed Mat-rush
LTG	Austrostipa mollis	Supple Spear-grass
LNG	Tetrarrhena juncea	Forest Wire-grass
MTG	Lepidosperma concavum	Sandhill Sword-sedge
MTG	Dianella revoluta s.l.	Black-anther Flax-lily
MTG	Lomandra filiformis	Wattle-headed Mat-rush
MTG	Poa sieberiana	Grey Tussock-grass
MNG	Microlaena stipoides var. stipoides	Weeping Grass
GF	Pteridium esculentum	Austral Bracken
I		

EVC 125: Plains Grassy Wetland

LF Code	Species typical of at least part of EVC range v Craspedia paludicola	Common Name Swamp Billy-buttons
LH	Villarsia reniformis	Running Marsh-flower
MH	Myriophyllum crispatum	Upright Water-milfoil
MH	Lythrumhyssopifolia	Small Loosestrife
MH	Centella cordifolia	Centella
SH	Neopaxiaaustralasica	White Purslane
SH	Myriophyllum integrifolium	Tiny Water-milfoil
LTG	Amphibromus nervosus	Common Swamp Wallaby-grass
LNG	Baumeaarthrophylla	Fine Twig-sedge
MTG	Schoenustesquorum	Soft Bog-sedge
MTG	Triglochin alcockiae	Southern Water-ribbons
MTG	Notodanthonia semiannularis	Wetland Wallaby-grass
MTG	Austrodanthonia duttoniana	Brown-back Wallaby-grass
MNG	Eleocharis acuta	Common Spike-sedge
MNG	Hemarthria uncinata var. uncinata	Mat Grass
MNG	k Eleocharismacbarronii	Grey Spike-sedge
MNG	Triglochin striatum	Streaked Arrowgrass

General Provisions

5.9 The Decision Guidelines of **Clause 65.01** of the Kingston Planning Scheme are relevant to this application and require consideration to be given to a variety of matters including planning scheme policies, the purpose of the zone, orderly planning and the impact on amenity.

6.0 RELEVANT POLICIES

6.1 Planning Policy Framework (PPF)

Clause 11 Settlement

Clause 12 Environmental and Landscape Values

Clause 15 Built Environment and Heritage

6.2 Local Planning Policy Framework (LPP)

Clause 21.02 Settlement

Clause 22.02 South East Non Urban Area Policy

Clause 22.03 Moorabbin Airports Environs Policy

Other

6.3 Kingston Green Wedge Plan (April 2012 – reference document within Clause 21.02 – Settlement). The document outlines the current use, conditions and issues effecting the green wedge land. The plan also outlines the future use of the green wedge land.

7.0 ADVERTISING

- 7.1 The proposal was advertised by sending notices to adjoining and opposite property owners and occupiers and by maintaining a notice on site for fourteen (14) days. One (1) objection has been received.
- 7.2 The objection is summarised as follows:
 - Bulk and scale
 - Reduced setbacks
 - Designed as a dual occupancy
 - Traffic
 - Sewerage systems
 - Conflicts with the Green Wedge Management Plan

8.0 PLANNING CONSULTATION MEETING

8.1 As only one (1) objection was received, no planning consultation meeting was required.

9.0 SECTION 50 / 50A / 57A - AMENDMENT TO PLANS

9.1 There were no formal amendments made by the permit applicant post the advertising period.

10.0 REFERRALS

10.1 The application was referred as set out in the tables below.

External Referrals

- 10.2 The proposed development (KP-2015/610) was previously referred to the external determining referral authority as required under Schedule 5 of the Design and Development Overlay and pursuant to Clause 66.04 of the Planning Scheme:
 - Moorabbin Airport Corporation (now re-named Moorabbin Airport)
- 10.3 The authority responded to the referral with no objection to the issue of a planning permit and did not recommend any conditions.
- 10.4 As the proposal is for the exact same development (no changes proposed) this new application was not referred.

Internal Referrals

Department / Area Comments

Council's Vegetation Management Officer	No objection raised, subject to conditions included on any permit issued relating to a revised landscape plan, tree management plan, tree protection plan and native vegetation removal report. There is to be no further encroachment on retained Tree 1 without an amendment to the application to include the loss and offsets for this tree. The landscape plan will need to be updated to be more site specific in terms of proposed planting.
Council's Development Engineer	No objection raised, subject to conditions included on any permit issued relating to stormwater drainage for the site. 'Stormwater drainage of the site must be provided so as to prevent any overflows onto adjacent properties and be directed to the nominated point of discharge'.
	nominated point of discharge.
Roads and Drains	No objection raised, subject to conditions included on any permit issued relating to the construction of the vehicle crossing.
Ecology Consultant	No objection raised and no permit conditions applied. The consultant highlighted that many of the trees on site are not native to Victoria and three (3) large trees at the front of the site are assumed to be planted. The non-planted native vegetation on site is not patches or scattered trees as defined by the <i>Guidelines for the removal, destruction or lopping of native vegetation in</i> c12.01-1S and is not assessable and therefore no offset requirement.
Strategic Planning	No objection raised and no conditions were requested to be placed on any issued permit.

- 10.5 It must be noted that the previous permit application (KP15/610) was referred to Council's Health Department and Council's Building Surveyor for comments. In this instance, this new application has not been re-referred but rather the original comments remain applicable, and the comments will be included in the assessment of KP-2021/621.
- 10.6 Council's Health Department Referral

Council's Health Department provided comments in relation to the wastewater treatment requirements as there is no reticulated sewerage on the subject site. The department responded advising that the applicant is required to lodge a septic tank application in accordance with the Code of Practice Onsite Waste Water Management Guidelines. It is recommended that any permit issued include a notation requiring the applicant to lodge an application for a septic tank in accordance with the above guidelines. Further to this, it is recommended that a condition on any permit issued must require the applicant to show the location of the wastewater system on amended plans (pursuant to the requirements of Clause 35.04-2).

In addition, the department provided information on construction noise and unreasonable domestic noise for the proposed dwelling. It is not anticipated that there will be a level of unreasonable noise emitting from the proposed dwelling. Any noise will be consistent with noise emitting from existing dwellings in the area along Pietro Road. It is noted that if there was to be unreasonable noise from the proposed use, this would be regulated and enforced by the Police and state environment protection policies (EPA).

10.7 Council's Building Surveyor Referral

Previous advice was sought from Council's Building Surveyor in relation to concerns regarding the potential for the proposed dwelling to be retrofitted in the future into two (2) dwellings. It must be noted that under the regulations of the Green Wedge Zone, two (2) or more dwellings on a lot are a prohibited use.

The surveyor advised that despite the dwelling be large and somewhat mirrored in its floor plan; there are no apparent features (i.e. additional stairwells, internal fire-rated walls) that would make the potential for a dual occupation in the future. Further to this, the surveyor noted that a building permit would be required for any construction of an internal fire rated wall.

The surveyor recommended that a condition on any permit issued or the requirement of a section 173 agreement on the land be imposed to ensure that the dwelling is not retrofitted into a dual occupancy. However, it is considered that a condition or agreement would not be necessary as the Green Wedge Zone already ensures that two (2) dwellings is prohibited on the subject land and cannot be used for this purpose. Should it become apparent to Council that the dwelling is being used contrary to the planning permit (if granted) or the Kingston Planning Scheme, enforcement action may be taken.

11.0 PLANNING CONSIDERATIONS:

Planning Policy Framework

- 11.1 The State Planning Policy Framework sets out the relevant state-wide policies for residential development at Clause 11 (Settlement), Clause 12 (Environmental and Landscape Values) Clause 13 (Environmental Risks and Amenity) and Clause 15 (Built Environment and Heritage). Essentially, the provisions within these clauses seek to achieve the fundamental objectives and policy outcomes sought by 'Plan Melbourne 2017-2050: Metropolitan Planning Strategy' (Department of Environment, Land, Water and Planning, 2017.
- 11.2 The settlement policies at Clause 11 (Settlement) seek to promote sustainable growth and development and deliver choice and opportunity through a network of settlements. Clause 11.01-1R (Green wedges Metropolitan Melbourne) places emphasis on the protection of green wedges from inappropriate development and provides strategies to support this objective.
- 11.3 Clause 12 (Environmental and Landscape Values) directs planning to have consideration of environmental values of natural landscapes as well as the aesthetic qualities of landscape area to ensure their ongoing protection.
- 11.4 Clause 15 (Built Environment and Heritage) aims to ensure all new land use and development appropriately responds to its landscape, valued built form and cultural context, and protect places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.
- 11.5 Policies pertaining to urban design, built form and heritage outcomes are found at Clause 15 of the Planning Policy Framework. Of particular significance, Clause 15.01-1S (Urban design) and Clause 15.01-1R (Urban Design Metropolitan Melbourne) encourages development to achieve high quality architectural and urban design outcomes that contribute positively to neighbourhood character, minimises detrimental amenity impacts and achieves safety for future residents, and the community, through good design. The provisions of Clause 15.02 (Sustainable Development) promotes energy and resource efficiency through improved building design, urban consolidation and promotion of sustainable transport.

- 11.6 Clause 15.03-2S (Aboriginal Cultural Heritage) seeks to ensure the protection and conservation of places of Aboriginal cultural heritage significance.
- 11.7 The Subject Land **is** identified in an area of Aboriginal Cultural Heritage Sensitivity, however the Planning Officer has completed the Aboriginal Heritage Planning Tool on the Department of Planning and Community Development (DPCD) website and established that the proposed activity is **exempt** from requiring a Cultural Heritage Management Plan. A copy of the planning questionnaire tool is attached for reference purposes.
- 11.8 It is submitted that the proposed development satisfies the aforementioned State strategies and policy direction. Specifically, the subject site is located on land earmarked for residential purposes, whereby residential development is an 'as of right' use under the zoning provisions. Subject to appropriate conditions on any permit issued, the development itself achieves an acceptable design outcome for the site and its immediate abuttals, whilst enjoying convenient and direct access to community facilities and the like, including public transport nodes.

Local Planning Policy Framework

- 11.9 The City of Kingston's MSS at Clause 21.02 Settlement highlights the significant challenges faced in protecting the Green Wedge within the municipality and the important role Council plays in preserving these areas for current and future generations. The overview under Clause 21.02-2 identifies that Kingston's Green Wedges not only accommodate traditional land uses (agriculture, extraction and open space), but are also spaces that protect the flight paths of Moorabbin Airport and provide a location for a range of urban related uses.
- 11.10 Relevant objectives and strategies in **Clause 21.02-2**: Settlement (Green Wedge Management). The policy includes objectives which, on balance, are in favour of the protection of the Green Wedge land. Strategies for implementation to uphold these objectives are incorporated after each objective. The following objectives are relevant to this application:
 - To ensure activities in the green wedge are consistent with, and contribute to, optimal long-term planning solutions for the whole of the south eastern regional green wedge.
 - To protect and enhance the scenic and landscape values of the green wedge area.
 - To create a predominantly non-urban, major regional north-south open space spine.
- 11.11 The extent of the south-east non-urban area is identified at Clause 22.02 (South East Non-Urban Area Policy) and included land within Casey, Frankston, Kingston and Greater Dandenong. These areas are recognised for the pressure placed on them by urban development and acknowledges that a regional approach is required to achieve sustainable land outcomes. Like the abovementioned Green Wedge policy, Clause 22.04 seeks to promote a strategic approach to non-urban land use, with the protection of agricultural land and environmental values sought broadly across the municipalities.
- 11.12 Key objectives relating to the proposed development of the site included in **Clause 22.02-2** are as follows:
 - To promote a strategic and structured planning approach.
 - To encourage sustainable land use practices and provide optimal long term planning solutions for the use and development of land.

Ref: IC22/191

- To protect quality agricultural land, and encourage sustainable farm management practices.
- To protect the economic and operational viability of key industries and infrastructure in the area including Moorabbin Airport, the Dandenong Offensive Industry Zone (DOIZ) and the Eastern Treatment Plant (ETP).
- To protect and enhance environmental values including wetlands, flora and fauna habitats and hydraulic functions.
- To ensure that use and development does not compromise metropolitan urban growth strategies.
- To manage the edge of urban areas in a manner which ensures that the non-urban area is both stable and enduring.
- To protect the Port Phillip and Western Port catchments.
- To protect and further develop the scenic and landscape values of the non-urban area.
- To provide for open space links and opportunities for recreation.
- 11.13 Furthermore, pursuant to Clause 22.02-3, it is policy that:
 - All proposals and planning outcomes:
 - o Protect and create a high quality rural landscape.
 - Protect and create flora and fauna habitats and networks.
 - Create public open spaces and open space linkages.
 - Result in clear and sustainable urban boundaries.
 - Result in an urban form which is of a high design standard and low visual impact.
- 11.14 The policy directs the development of a structure plan and, whilst primarily seeks to encourage non-urban / agricultural uses, entertains a range of planning opportunities with the policy area, however only where it can be demonstrated that such activities are complementary and subservient to the achievement of the framework plan policies. The future strategic direction for the subject site and the appropriateness of what is proposed is discussed in detail in section 13 of this report.
- 11.15 The application has been assessed against the abovementioned Local Planning Policy Framework and it is considered that the proposed development is consistent with relevant policies contained within this section of the Kingston Planning Scheme. The proposed replacement single storey dwelling would largely occupy the same dwelling footprint as the previous dwelling, thereby avoiding any negative impacts on the existing landscape qualities or agricultural land.
- 11.16 The Moorabbin Airport Environs Policy under **Clause 22.03** recognises the significance of the role played by Moorabbin Airport in the local and regional economy and seeks to ensure that the development of the surrounding land is sensitive to the long term operation of the airport.

11.17 The policy seeks to:

Ref: IC22/191

- To identify areas which are or will be subject to high levels of aircraft noise, including areas where the use of land for uses sensitive to aircraft noise will need to be restricted.
- To ensure that the use and development of land within the policy area is compatible
 with the operation of airports in respect to the impact of aircraft noise on sensitive
 uses, and is consistent with any approved Australian Noise Exposure Forecast
 (ANEF) as contained in the appropriate airport strategy or master plan for the airport.
- To assist in shielding people from the impact of aircraft noise by requiring appropriate noise attenuation measures in new dwellings and other noise sensitive buildings.
- To limit the number of people residing in the area or likely to be subject to significant levels of aircraft noise.
- 11.18 It is recommended that the following condition relating to noise attenuation be included in any permit issued to ensure the future residents of the proposed dwelling are not impacted by high levels of aircraft noise:

New buildings must be constructed so as to comply with any noise attenuation measures required by Section 3 of Australian Standard AS 2021 – 1994, Acoustics – Aircraft Noise Intrusion – Building Siting and Construction, issued by the Standards Association of Australia, to the satisfaction of the Responsible Authority.

Zoning Provisions

- 11.19 The primary purposes of the Green Wedge Zone (GWZ) relate to directing the uses which occur on the land to ensure the non-urban landscape character and biodiversity is protected.
- 11.20 The site is vacant and therefore no existing land use currently applies to the land. Under GWZ, a planning permit is required for to use the land for a dwelling (Section 2 Use) along with the buildings and works.
- 11.21 The following requirements under Clause 35.04-2 must be met for the proposed use of land for a dwelling:
 - Access to the dwelling must be provided via an all-weather road with dimensions adequate to accommodate emergency vehicles.
 - The dwelling must be connected to reticulated sewerage, if available. If reticulated sewerage is not available, all wastewater from the dwelling must be treated and retained within the lot in accordance with the requirements of the Environment Protection Regulations under the Environment Protection Act 2017 for an on-site wastewater management system.
 - The dwelling must be connected to a reticulated potable water supply or have an alternative potable watersupply with adequate storage for domestic use as well asfor fire fighting purposes.
 - The dwelling must be connected to a reticulated electricity supply or have an alternative energy source.
- 11.22 Overall, the proposed dwelling is considered appropriate as it would not adversely affect the environmental values of the green wedge, with the strategic directions of the Green Wedge Plan acknowledging that dwellings exist in the area. The concentration of residential land uses within a small area of the green wedge should ensure that the remaining green wedge land is not affected by residential intrusions. The proposed front setback for the new dwelling is consistent with surrounding residential buildings on adjoining lots. The applicant has advised that the dwelling can be connected to the existing reticulated electricity and water supply, the supplied proposal plans have a notation specifying this requirement.

- 11.23 The siting of the proposed dwelling and associated buildings, three (3) variations are sought to the setback triggers under 35.04-5 GWZ. These include 20 metres from any other road, 5 metres from any other boundary and 100 metres from a dwelling not in the same ownership. The proposed setbacks of the dwelling and associated structures are considered to appropriate for the following reasons:
 - The front setback of 11m matches the existing setbacks of adjoining dwellings. Notably, at No. 48-54 Pietro Road where the front setback for the existing residential building is 8.38m and No.53-59 Pietro Road has an existing setback of 7.5m to the front boundary.
 - The setback of the proposed dwelling will be in accordance with the Green Wedge Management Plan (2012) design guidelines, which recommends a minimum of 10 metres from the front boundary.
 - The dwelling has been designed with a variety of materials and finishes in muted tones to minimise bulk of the double storey built form.
 - Natural screening through vegetation planting will be incorporated within the front and side setbacks to allow buffer to the road and adjoining dwellings.
 - The siting of the proposed hobby shed within 5 metre of the east (rear) boundary will not cause any adverse impact to the adjoining property. The land directly adjacent to the proposed shed on the adjoining allotment is vacant with the adjoining lot's dwelling located towards the front of the site (Pine Lane). The proposed shed will be located approximately 250m from the adjoining dwelling and therefore will have minimal impact.
- 11.24 Pietro Road has been traditionally used for rural low density residential due to the subdivision pattern of smaller allotments in comparison to larger allotments that are generally found in Green Wedge areas. This is evident with the majority of the land along Pietro Road having been established with residential buildings. Additionally, the Green Wedge Management Plan (2012) has acknowledged Pietro Road as an existing low density residential area with no mention of any potential intensive or traditional green wedge land uses. Therefore, the proposed use of the land for a dwelling is considered to be suitable and compatible to the adjoining land uses in the area. It is not anticipated that there will be unreasonable noise impacts from the proposed dwelling with any noise emissions to be comparable with emissions from other dwellings along Pietro Road.
- 11.25 The relevant decision guidelines under Clause 35.04-6 have been considered for the application. The relevant guidelines include the following:

General Issues

- The Municipal Planning Strategy and the Planning Policy Framework.
- Any Regional Catchment Strategy and associated plan applying to the land. The capability of the land to accommodate the proposed use or development.
- How the use or development relates to rural land use, rural diversification, natural resource management, natural or cultural heritage management, recreation or tourism.
- Whether the site is suitable for the use or development and the compatibility of the proposal with adjoining land uses.

- Whether the use or development is essential to the health, safety or well-being of the State or area but is not appropriate to locate in an urban area because of the effect it may have on existing or proposed urban areas or the effect that existing or proposed urban areas may have on the proposed use or development.
- The need to minimise adverse impacts on the character and appearance of the area or features of architectural, scientific or cultural heritage significance, or of natural scenic beauty.

Rural Issues

- The maintenance of agricultural production and the impact on the rural economy.
- The environmental capacity of the site to sustain the rural enterprise.
- The need to prepare an integrated land management plan.
- The impact on the existing and proposed rural infrastructure.
- The potential for the future expansion of the use or development and the impact of this on adjoining and nearby agriculture and other land uses.
- The protection and retention of land for future sustainable agricultural activities.

Environmental Issues

- The impact of the use or development on the flora and fauna on the site and its surrounds.
- The need to protect and enhance the biodiversity of the area, including the retention
 of vegetation and faunal habitat and the need to revegetate land including riparian
 buffers along waterways, gullies, ridgelines, property boundaries and saline
 discharge and recharge area.
- How the use or development relates to sustainable land management and the need to prepare an integrated land management plan.
- The location of on site effluent disposal areas to minimise impact of nutrient loads on waterways and native vegetation.

Design and Siting Issues

- The need to minimise any adverse impacts of siting, design, height, bulk, and colours and materials to be used, on landscape features, major roads and vistas.
- The location and design of existing and proposed infrastructure services which minimises the visual impact on the landscape.
- The need to minimise adverse impacts on the character and appearance of the area or features of archaeological, historic or scientific significance or of natural scenic beauty or importance.
- 11.26 The proposal will be generally in accordance with the above guidelines. As discussed above, the proposed dwelling and outbuildings have been designed to minimise their impact to the road and adjoining properties using varied materials, finishes and natural screening.

Furthermore, the proposed use of land for a dwelling is considered to be in accordance with the existing preferred characteristics of Pietro Road, which has been established as a semi-rural residential pocket within the broader Green Wedge area.

Appropriate conditions will be included on any permit issued to ensure the proposed dwelling will be connected to services and accessed by an all-weather road.

11.27 The application has been assessed against the relevant zoning (Green Wedge Zone) and it is considered that the proposed use and development is consistent with the purpose of the zoning controls contained within the Kingston Planning Scheme.

Overlay Provisions

- 11.28 The subject site is located within the Design and Development Overlay (Schedule 5) which refers to the height obstacle control of the Moorabbin Airport environs.
- 11.29 With the natural ground level being in excess of 25m AHD for the subject land, the proposed buildings and works trigger a planning permit as per Schedule 5 of the overlay. The views of Moorabbin Airport have been considered as part of the proposal and no objection was made during the first planning permit being issued for the same proposal. The buildings and works will not be constructed at a height so to cause any impact to aircraft and their flightpaths in the Moorabbin Airport vicinity. The proposal will therefore meet the objectives of Schedule 5 of the overlay.
- 11.30 The application has been assessed against the relevant overlay (Design and Development Overlay) and it is considered that the proposed use and development is consistent with the purpose of the overlay controls contained within the Kingston Planning Scheme.

Particular Provisions

- 11.31 The application has been assessed against the relevant particular provisions and it is considered that the use and development meet the requirements contained within this section of the Kingston Planning Scheme.
- 11.32 Clause 51.02 Metropolitan Green Wedge Land: Core Planning Provisions: As discussed within Section 5 of this report, the proposed use and development of a dwelling within the green wedge is not a prohibited use provided it is the only dwelling on the lot. This development proposes only one (1) dwelling and therefore complies with this provision.

Kingston Green Wedge Management Plan (April 2012)

- 11.33 The Kingston Green Wedge Management Plan was adopted by Council on 27 August 2014 and identifies the values and features of the Green Wedge, the preferred land uses, environmental and natural resources that should be protected, and the needs of the local community.
- 11.34 At 4.1 of the Plan, it is identified that residential land uses are scattered throughout the green wedge including the cluster along Pietro Road. The plan considers the wider benefit of formalising the conditions under which residential development may be appropriate to ensure that the semi-rural spaciousness of larger allotments is achieved.
- 11.35 The future land use plan at map 5 of the Plan identifies Pietro Road as a low-density residential area, noting the importance of an interface buffer, with intensive green wedge uses to the east and existing active recreation to the west. Further residential opportunities may be supported within the street, connecting existing and future residents by way of a proposed shared pathway to the Kingston Health reserve to the south.

- 11.36 The building design guidelines at 7.5 of the Plan seek to achieve the following within green wedge low density residential:
 - Maintain the semi-rural and spacious character of the low density residential area along Pietro Road, afforded by low-scale dwellings, large informal gardens, hobby farms and an absence of footpaths.
 - Avoid urban style residential development (e.g. large scale buildings with large areas of hard surfaces, and formal garden design and fencing).
 - Ensure new dwellings are sited at a distance from boundaries to minimise potential interface issues with adjoining golf course or agricultural uses.
 - Require predominately single storey height for buildings and structures.
 - Minimise building footprints and the presence of outbuildings/storage areas and ensure total building site coverage does not exceed 20%.
 - Set buildings back from front and side boundaries a minimum of 10 metres to allow sufficient space for landscaping and vegetation and to retain a spacious setting.
 - Encourage the removal of environmental weeds and planting of appropriate native / indigenous vegetation where possible.
 - Encourage the use of vegetation, rather than fencing, to create privacy wherever possible.
 - Ensure front boundary fencing and entry gateways are kept to a low height and encourage the use of traditional materials (e.g. timber, post and wire) or transparent materials that allow a view to the property frontage.
 - Require that crossovers, garages and driveways are kept to a minimum width and do not dominate the street frontage.
 - Minimise areas of non-permeable surfacing.
 - Ensure all buildings and structures are designed and oriented to utilise natural light and ensure optimal thermal performance.
 - Utilise materials, colours and finishes that best immerse built form within the semirural landscape (e.g. timber, render, glazing, stone brick and iron roofing).
 - Encourage the use of indigenous vegetation.
- 11.37 From the policy to the land and proposal, it is clear that the primary intention for this land is to create and sustain open space for habitat, recreation and improved linkages. In saying this, both policy and the Green Wedge Management Plan acknowledge the existence of residential; land uses within the green wedge and the importance of their management to ensure that they do not erode the values of functions of the non-urban areas.
- 11.38 In relation to the operations of the airport, the height and use of the proposal should not affect flight paths of aircraft using Moorabbin Airport. No objection was made during the initial referral of the first permit issued. In relation to the noise impacts upon the property from aircraft flying over the non-urban area, noise attenuation measures must be incorporated for new buildings and in accordance with section 3 of the Australian Standard As2021-2000

(Acoustics – Aircraft Noise Intrusion – Building Siting and Construction). It is recommended that a condition on any issued permit be included to ensure the proposal complies with the noise attenuation measures.

- 11.39 Pietro Road has traditionally been used for rural low density residential due to the smaller allotments in comparison to the larger lots found in the Green Wedge areas. This is evidenced by the majority of the land along Pietro Road having been established with dwellings with the subject site being one of the last lots to be developed. As the proposed dwelling will be within an area earmarked for low density residential, the use of the land is considered appropriate.
- 11.40 With relation to the built form outcomes of the proposal, it is considered that the proposed dwelling and associated outbuildings, whilst extensive, are appropriate as evidenced by:
 - It is noted that the proposed development will be double storey which is discouraged under the Green Wedge Plan, however it is considered that the second storey component is appropriate for the site and surrounds for the following reasons:
 - The first floor of the dwelling will be provided with generous setbacks from the front, side and rear boundaries.
 - The first floor component will be well articulated and provided with a reasonable amount of recession from the ground floor envelop.
 - A variety of materials and finishes will be incorporated to the dwelling, particularly at the first floor level. These materials include, face brick, render with varying colours and matrix cladding to break up the bulk and scale of the proposed dwelling.
 - The proposed development will be screened from the street and adjoining properties with vegetation proposed at the front and side. Two (2) of the existing large canopy trees will be retained and a number of small to medium trees will be provided to the front.
 - The proposed height of the dwelling is relatively low with respect to a traditional double storey built form. The proposed roof form will be flat and therefore the maximum building height will be at 6.79m which is considered comparable to single storey dwellings.
 - There are several double storey dwellings located along Pietro Road.
 - The proposed dwelling will provide generous side and rear setbacks of 10m to the southern boundary, approximately 35m from the northern boundary and 25 m from the eastern boundary. Front setback of 11m will be proposed with complies with the 10m minimum requirement. The substantial setbacks will maintain the spacious setting of the site and surrounds and will deliver sufficient space for landscaping opportunities.
 - Site coverage will not exceed 20%, including both the dwelling and associated structures.
 - The proposed triple garage will not have unreasonable dominance to the street as it will have a timber finish to be incorporated to the garage doors and appropriate natural screening from the vegetation.

- The development proposes a substantial coverage of non-permeable surfaces on the site, with a total of 81.75%.
- The proposal will incorporate a new front fence with a height of 1.5m and made of timber paling. The height and materials are consistent with the neighbourhood character.
- The proposed building footprint of the dwelling will achieve good solar access with living meals, games and family rooms orientated to the north and east.
- The development will adopt materials of face brickwork in boral aspen stone, garage
 doors will be of kwila/teak and cladding will be dulux tapestry beige. The hobby shed
 will have a finish of natural galvanised roofing. These colours/finishes are considered
 to be neutral and complementary to the semi-rural landscape.
- 11.41 On this basis, it is considered that the proposed use and development achieves a reasonable outcome in terms of delivering a semi-rural residential landscape.
- 11.42 Clause 52.06 Car Parking: Pursuant to this clause, a dwelling with three (3) or more bedrooms is required to provide at least two (2) car parking spaces. The proposed dwelling will provide two (2) triple spaced garages with the internal dimensions required under Design Standard 2, achieved.
- 11.43 **Clause 52.17 Native Vegetation:** Pursuant to this clause, a planning permit is required for the removal of native vegetation.
- 11.44 The proposed removal of vegetation on site has been reviewed by Council's external consultant who have declared no conflict of interest in regards to this application. They have outlined within their referral response that only a permit is required under this clause with no offset requirement to be paid. The native vegetation on site is not patches or scattered trees as defined by the *guidelines for the removal, destruction or lopping of native vegetation in c12.01-1S* and therefore not assessable under the guidelines. If an application is deemed not assessable under the guidelines, the offset requirement cannot be applied.
- 11.45 Clause 52.21 Private Tennis Court: Pursuant to Clause 52.21-2, a planning permit is not required for the development of a tennis court, provided all performance requirements specified in the Code of Practice Private Tennis Court Development Revision 1 March 1999, are met.

An assessment of the proposed tennis court against each performance requirement has been conducted in the table below:

Element	Performance requirement	Complies?
Court location	3 metres from a street frontage	Yes – in excess of 70 m
	3 metres from an adjoining dwelling if the court is to be illuminated	N/A – court will not be illuminated
	20 metres from a	N/A – no Melbourne Water
	Melbourne Water declared drain	drain in proximity to court

	N1/A	L 81/8
Fencing and enclosures	N/A	N/A – court to be a minimum
(applicable if court is to be		of 2 m from a property boundary
less than 1 metre from a		boaridary
property boundary)		
p. sp s. sy s. s. s. s. sy,		
Site works	The site on which the court	Yes – the overall fall of
	is to be construct must not	proposed court site is 450
	have a slope of more than	mm, having a slope of less
	20 per cent overall	than 20%
	Excavation or filling must	Yes – based on the above,
	not exceed 1 metre in	any excavation or filling will
	depth within 1 metre of a	not exceed 1 m in depth and
	property boundary	the court will be located more than 1 m from the
		property boundary (2 m)
	Filling must not exceed 2.5	Yes – there will be no filling
	metres in depth at any	at any part of the court which
	point on the court site	will exceed 2.5 m in depth
	Drainage resulting from the	Yes – the applicant has
	court must be intercepted	stated that storm water
	to avoid any overflow and	drainage and pits will be
	must be connected to an	located at the perimeter of
	approved point of	the court to intercept any
	discharge	overflows resulting from the
		court and connected to an
Landaganing	No vegetation may be	approved point of discharge
Landscaping	No vegetation may be removed in a non-urban	No vegetation is to be removed in the proposed
	zone, if the site is less than	location of the court and the
	4,000 square metres	land is more than 4,000
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	square metres
	If a permit is required,	N/A – see above
	replanting must occur in	
	excess of the number of	
	trees removed and should	
	comprise indigenous or	
	species similar to those	
	removed Temporary barriers must	N/A – no vegetation in
	be provided to protect	proximity to proposed court
	areas of vegetation which	proximity to proposed court
	are outside the works site	
	Landscaping must be	N/A – no fill proposed and
	maintained over fill batters	therefore no landscaping
		required to be maintained
		along a fill batter
Illumination	N/A	N/A – no illumination
(O-1)		proposed
(Only applies to any		
proposed illumination of		
court)		

Drivoov	The court must not be	Voc. the applicant has
Privacy	The court must not be	Yes – the applicant has
	used for commercial	advised that the court will be
	purposes such as	used in association with the
	professional tennis	existing dwelling only
	coaching or court hire	
	The court must not be	Yes – the applicant has
	used between 10:30 pm	advised that the court will
	and 7:30 am	not be used between these
		hours
	No mechanical equipment	Yes – the applicant has
	such as ball-throwing	advised that no mechanical
	machines may be operated	equipment is proposed to be
	between 7:00 pm and 8:00	used
	am	
Construction methods	Adjoining residential	N/A – the proposed court will
	properties shall be notified	not be located within 2 m
	before any works are	from any property
	undertaken within 2 metres	boundaries
	of the boundary	30333
	Temporary barriers must	N/A – no vegetation in
	be provided to protect	proximity to proposed court
	areas of vegetation which	proximity to proposed count
	are outside the works site	
	The method of construction	Yes – the applicant has
		advised that the construction
	must comply with the	
	'Guide Specifications for	of the proposed court will
	Tennis Court Construction'	comply with this guide
	produced by the Tennis	
	Court Builders Association	
	of Australia	

In light of the assessment above, it is therefore determined that a planning permit is not required for the proposed tennis court as all performance requirements have been met. A condition is recommended to be included on any permit issued to ensure tennis court lighting is appropriate.

12.0 RESPONSE TO OBJECTION:

- 12.1 The objector concerns have largely been addressed in the body of this report.
- 12.2 The following table is a summary of objectors concerns and responses are provided.

Ground(s)	Response
Bulk, scale and setbacks to boundaries	The objector has raised concerns regarding the overall building footprint and scale of the proposed development. This concern has been addressed within Section 11.22, 11.23 and 11.24 of this report. The proposed dwelling is of a size and scale that is considered to be consistent with other dwellings along Pietro Road.

Potential for a Dual Occupancy	The objector has raised concerns regarding the potential for this new development to be created for the intention of providing a dual occupancy. The internal floor layout and particularly, the inclusion of only one (1) kitchen provides reassurance that this property cannot act as a dual occupancy as there is no opportunity for self-containment. The dwelling is of substantial size and should it later be converted and utilised as more than one (1) dwelling on the site, this will result in non-compliance issues with any permit issued and become a planning compliance matter.
Traffic	The objector has raised concerns regarding potential traffic intensification from the proposed development. The proposal is for a single dwelling with the intent for a single household to reside within. Therefore, it is considered that traffic intensification due to this new development would not be increased beyond a single dwelling residency's normal output.
Sewerage Systems	The objector has raised concerns regarding the sewerage and wastewater systems. The application was referred to Council's Health team and comments provided at Section 10.6 of this report. Notes have been placed on the permit to ensure the applicant contacts the Health Department prior to commencement of building works to obtain approval for the wastewater systems on the land. It is noted on the proposed plans that land has been designed for a wastewater system.
Conflicts with the Green Wedge Management Plan	The objector has raised concerns regarding the development's compliance with the Green Wedge Management Plan. Detailed assessment of the development against the Green Wedge Management Plan can be found in Section 11.33.

13.0 CONCLUSION:

- 13.1 On balance, the proposal is considered to substantially comply with the relevant planning policy and therefore should be supported.
- 13.2 As outlined above, it has been determined that prior to deciding on this application all factors pursuant to section 60(1) of the Act have been considered. Further to this, the proposal does not give rise to any significant social and economic effects.
- 13.3 The proposed development is considered appropriate for the Site, subject to conditions, as evidenced by:
 - The compatibility of the design and siting with the surrounding area
 - The mitigation of off-site amenity impacts
 - A suitable level of compliance with all relevant policies of the Kingston Planning Scheme

15.0 RECOMMENDATION

- 15.1 That the Planning Committee determine to support the proposal and issue a Notice of Decision to Grant a Planning Permit to use and develop the land for the construction of one (1) dwelling, associated outbuildings and removal of native vegetation in accordance with the endorsed plans at 40-46 Pietro Road, Heatherton, subject to the following conditions:
 - 1. Before the development starts amended plans to the satisfaction of the Responsible Authority must be submitted to and approved by the Responsible Authority. When approved, the plans will be endorsed and will then form part of the permit. The plans must be drawn to scale with dimensions and three copies must be provided. The plans must be substantially in accordance with the advertised plans prepared by Melbourne House & Land Constructions Pty Ltd, sheets 1 to 5 inclusive, submitted to Council on 14/09/2021, but modified to show:
 - a. the provision of an amended landscape plan in accordance with the submitted landscape plan incorporating:
 - i) An updated planting schedule of all proposed trees and shrubs, including botanical names, common names, pot sizes, sizes at maturity, and quantities of each plant;
 - The substitution of all non-Kingston indigenous vegetation for plants from EVC's 125 Plains Grassy Wetland and EVC 3 Damp Sands Herb-rich Woodland as per the note at the end of this permit;
 - iii) The substitution of the *Eucalyptus radiata* (Narrow-leaved Peppermints) for *Eucalyptus viminalis* subsp. *pryoriana* (Coast Manna Gum) and substitution of the *Corymbia maculata* (Spotted Gum) for *Eucalyptus camaldulensis* (River Red Gum).
 - iv) All trees provided at a minimum of 2 metres in height at time of planting, medium to large shrubs to be provided at a minimum pot size of 200mm;
 - v) Notes regarding site preparation, including the removal of all weeds, proposed mulch, soil types and thickness, subsoil preparation and any specific maintenance requirements;
 - vi) Tree protection measures including for street trees accurately drawn to scale and labelled as per the endorsed Tree Management Plan;
 - b. Encroachment from all sources to be less than 10% of the tree protection zone (TPZ) of trees numbered 1 and 2 as per the advertised arborist report.
 - c. Any changes as required by Condition 5.
- 2. The development and use as shown on the endorsed plans must not be altered without the prior written consent of the Responsible Authority.
- 3. The landscaping shown on the endorsed plans must be maintained to the satisfaction of the Responsible Authority, including that any dead, diseased or damaged plants are to be replaced.
- 4. Concurrent with the endorsement of plans, an amended native vegetation removal report in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* 2017.
- 5. The retention of trees numbered 1, 2, 4 and 5 as per the advertised arborist report.
- 6. Concurrent with the endorsement of plans, a Tree Management Plan prepared by a suitably qualified arborist in accordance with AS4970-2009, must be submitted to and be endorsed by the Responsible Authority and incorporating:

Ref: IC22/191

- a) A Tree Management Plan (written report) must provide details of:
 - i) Any non-destructive root investigation undertaken to determine the location and distribution of roots of trees nominated on the Tree Protection Plan.
 - ii) Proposed footings and construction methods for any buildings or structures within the Tree Protection Zone nominated on the Tree Protection Plan.
 - iii) How excavation impacts, including soil level changes, on trees to be retained will be managed.
 - iv) How the canopy of trees nominated on the Tree Protection Plan will be protected.
 - Any other measures required to demonstrate the successful ongoing retention and viability post-construction of any trees nominated on the Tree Protection Plan.
- b) A Tree Protection Plan (scale drawing) must provide details of:
 - i) The Tree Protection Zone and Structural Root Zone, calculated in accordance with AS4970-2009, for all trees to be retained on the site and for all trees on neighbouring properties where the Tree Protection Zone falls partially within the subject site.
 - ii) Tree protection fencing, or ground protection where required, provided in accordance with AS4970-2009.
 - iii) Stages of development at which inspections are required to ensure tree protection measures are adhered to must be specified.
 - iv) Appropriate signage on any tree protection fencing prohibiting access, excavation, changes in soil levels, or any storage within the Tree Protection Zone in accordance with AS4970-2009 unless with the prior written consent and under the direct supervision of the consulting arborist.
 - v) Maintenance of the area(s) within the Tree Protection Zone in accordance with AS4970-2009.
 - vi) Any pruning to be undertaken being in accordance with AS4373-2007.
 - vii) A notation to refer to the Tree Management Plan.
- 7. All protection measures identified in the Tree Management Plan must be implemented, and development works undertaken on the land must be undertaken in accordance with the Tree Management Plan, to the satisfaction of the Responsible Authority.
- 8. Prior to the commencement of works, the name and contact details of the project arborist responsible for implementing the Tree Management Plan must be submitted to the Responsible Authority.

Drainage

9. Stormwater drainage of the site must be provided so as to prevent any overflows onto adjacent properties and be directed to the nominated point of discharge.

Roads and Drains

- 10. Property boundary and footpath levels must not be altered without the prior written consent form the Responsible Authority.
- 11. The replacement of all footpaths, including offsets, must be constructed the satisfaction of the Responsible Authority.
- 12. All reinstatements and vehicle crossings must be constructed to the satisfaction of the Responsible Authority. Please contact Council's Asset Engineer, to discuss possible alterations to the width of the existing vehicle crossing and/or an extra vehicle crossing.

- 13. All redundant vehicle crossings must be removed (including redundant portions of vehicle crossings) to the satisfaction of the Responsible Authority.
- 14. All front and side fences must be contained wholly within the title property boundaries of the subject land.

Infrastructure and Road Works

- 15. Any relocation of pits/power poles or other services affected by this development must be relocated to the satisfaction of the relevant servicing authority and the Responsible Authority, at the cost of the owner/developer.
- 16. Property boundary and footpath levels must not be altered without the prior written consent form the Responsible Authority.
- 17. Any reinstatements and vehicle crossings are to be constructed to the satisfaction of the Responsible Authority.
- 18. The replacement of all footpaths, including offsets, must be constructed to the satisfaction of the Responsible Authority.
- 19. Any redundant vehicle crossings must be removed (including redundant portions of vehicle crossings) to the satisfaction of the Responsible Authority.

General amenity conditions

- 20. All works on or facing the boundaries of adjoining properties must be finished and surface cleaned to a standard that is well presented to neighbouring properties in a manner to the satisfaction of the Responsible Authority.
- 21. All externally-located heating and cooling units, exhaust fans and the like must not be located adjacent to bedroom windows on adjoining properties and must not be located where they will be highly visible from any public area to the satisfaction of the Responsible Authority.
- 22. All piping, ducting above the ground floor storey of the development (other than rainwater, guttering and downpipes) must be concealed to the satisfaction of the Responsible Authority.
- 23. The tennis court must not be externally illuminated without prior written consent from the Responsible Authority.

Noise Attenuation

24. New buildings must be constructed so as to comply with any noise attenuation measures required by Section 3 of Australian Standard AS 2021 – 1994, Acoustics – Aircraft Noise Intrusion – Building Siting and Construction, issued by the Standards Association of Australia, to the satisfaction of the Responsible Authority.

Completion of Works

- 25. Prior to the occupation of the dwelling hereby permitted, all buildings and works and the conditions of this permit must be complied with to the satisfaction of the Responsible Authority, unless with the further prior written consent of the Responsible Authority.
- 26. Prior to the occupation of the dwelling hereby permitted, the landscaping works as shown on the endorsed plans must be completed to the satisfaction of the Responsible Authority. Thereafter, the landscaping shall be maintained (except where that landscaping is on public land) to the satisfaction of the Responsible Authority.

Time Limits

- 27. In accordance with section 68 of the *Planning and Environment Act* 1987 (the Act), this permit will expire if one of the following circumstances applies:
 - The use and development is not started within two (2) years from the date of permit issue.

- The development is not completed within four (4) years from the date of permit issue.
- The use is discontinued for a period of two (2) years.

In accordance with Section 69 of the Planning and Environment Act 1987, an application may be submitted to the responsible authority for an extension of the periods referred to in this condition.

Note: Prior to the commencement of the development or use you are required to obtain the necessary Building Permit.

Note: Prior to the commencement of the development, you are required to obtain the necessary Health Department approval for a wastewater treatment system on the land.

Note: The applicant/owner must provide a copy of this planning permit to any appointed Building Surveyor. It is the responsibility of the applicant/owner and Building Surveyor to ensure that all building development works approved by any building permit is consistent with the planning permit.

Note: The tennis court must be constructed in accordance with Clause 52.21 – Private Tennis Court unless prior permit approval is granted.

Note: Condition 1 a.ii) – Department of Sustainability and Environment, EVC/Bioregion Benchmark for Vegetation Quality Assessment, Gippsland Plain bioregion

Note: Before removing / pruning any vegetation from the site, the applicant or any contractor engaged to remove any vegetation, should consult Council's Vegetation Management Officer to verify if a Local Laws Permits is required for the removal of such vegetation.

Note: Environment Protection Authority (EPA) Victoria set out the requirements pertaining to site construction hours and permissible noise levels.

Appendices

Appendix 1 - KP-2021/621 - 40-46 Pietro Road, HEATHERTON VIC 3202 - Considered Plans for Council Meeting (Ref 22/6329)

Author/s: Matthew Yeung, Statutory Planner

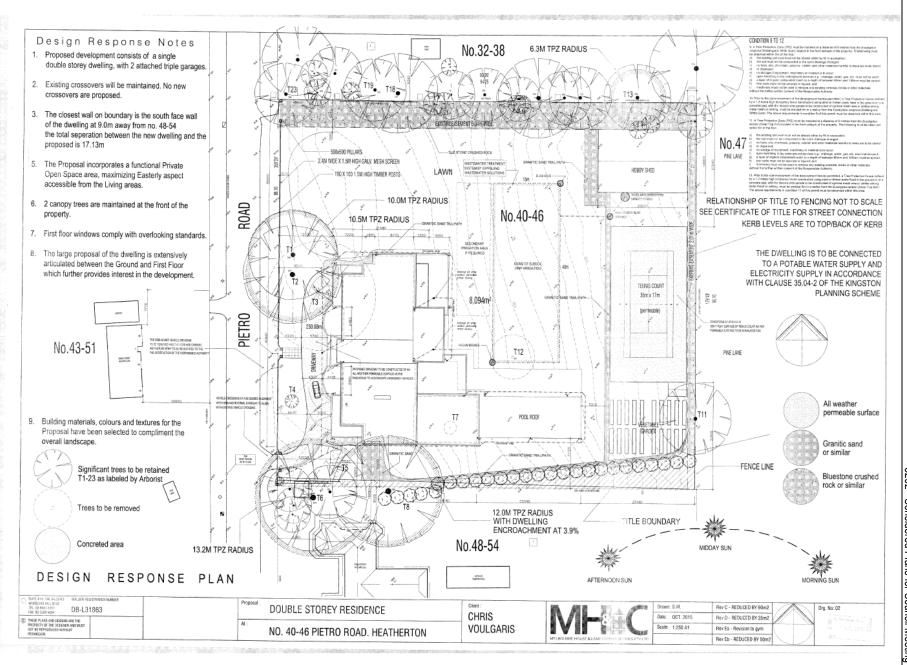
Reviewed and Approved By: Jennifer Pippo, Team Leader Statutory Planning

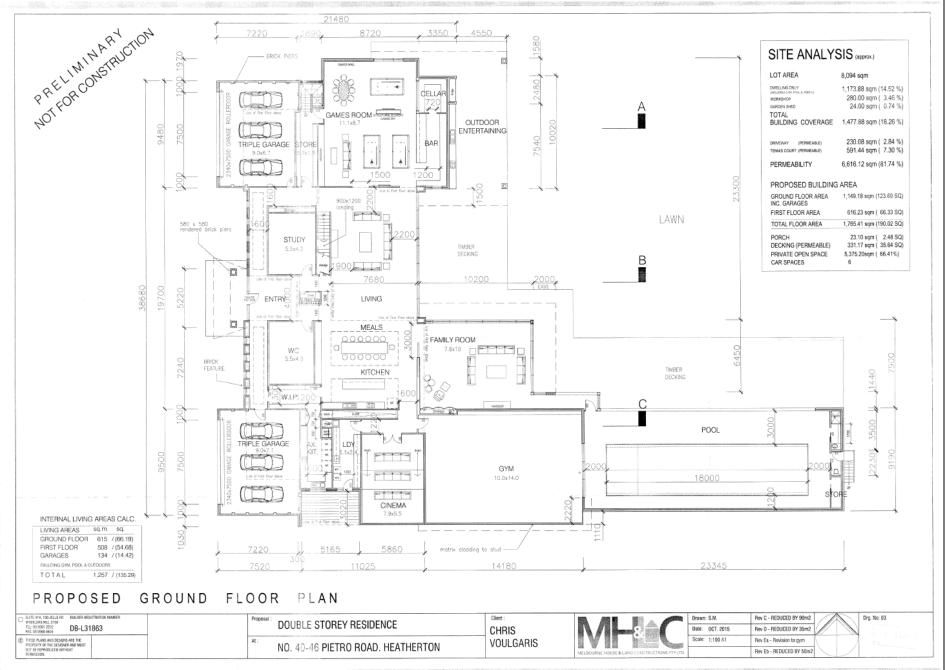
Alfred Carnovale, Manager City Development

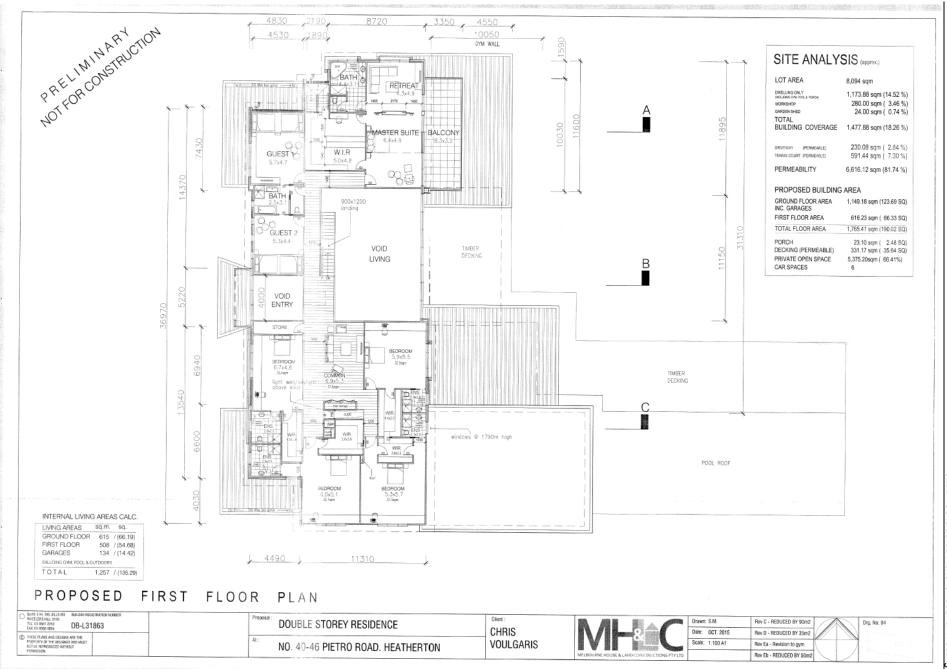
4.3

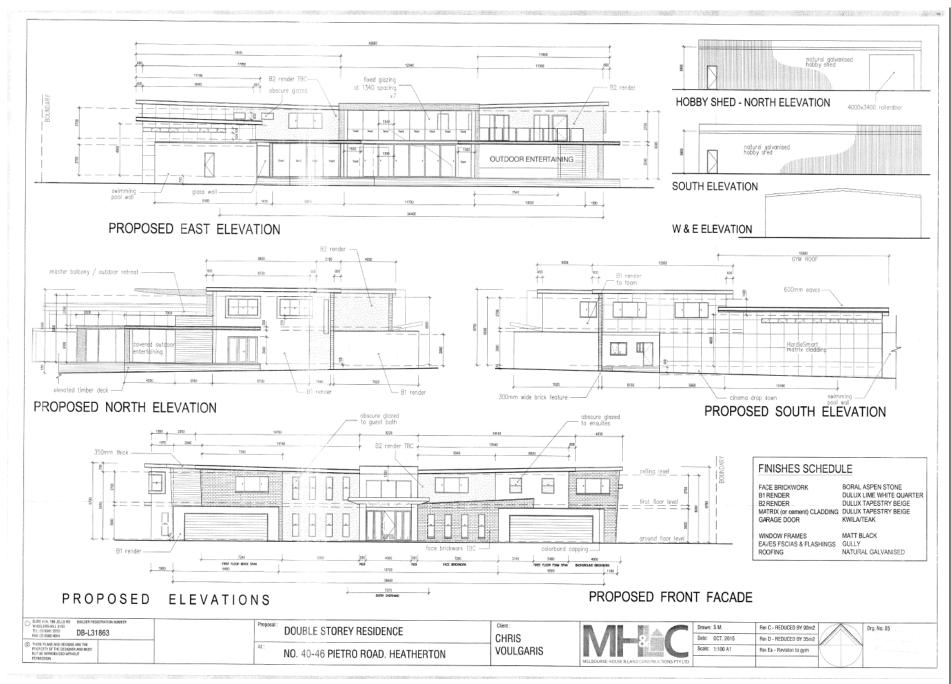
KP-2021/621 - 40-46 PIETRO ROAD, HEATHERTON

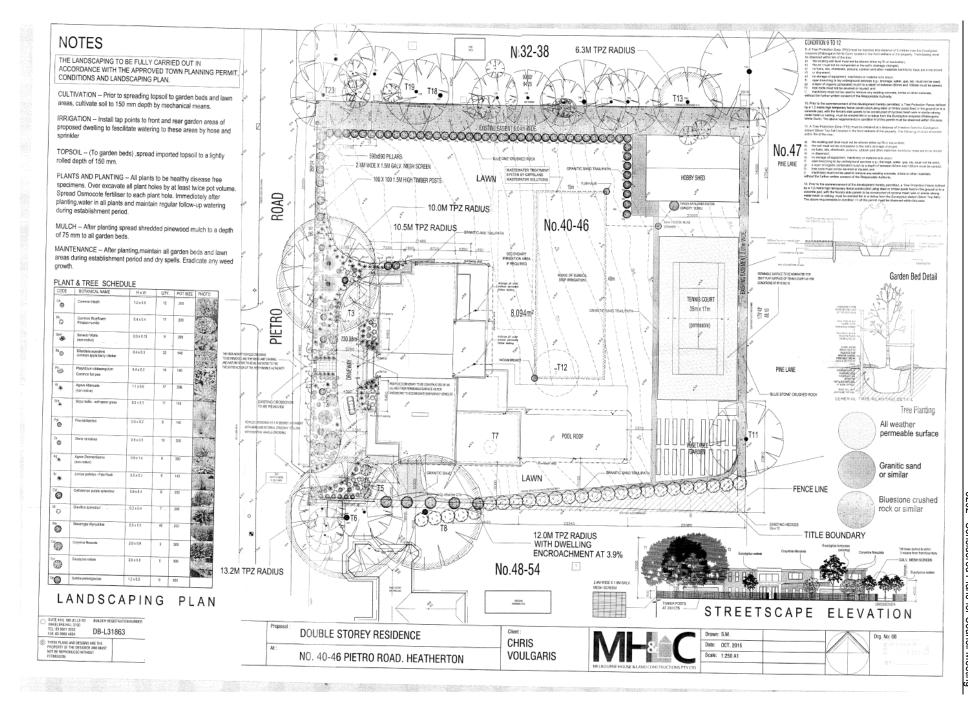
1	KP-2021/621 - 40-46 Pietro Road, HEATHERTON VIC 3202 -	
	Considered Plans for Council Meeting 1	107











Planning Committee Meeting

23 February 2022

Agenda Item No: 4.4

TREE REMOVAL APPLICATIONS UNDER THE COMMUNITY LOCAL LAW AT NO.179-217 CENTRE DANDENONG ROAD DINGLEY VILLAGE

Contact Officer: Corey Smith, Senior Vegetation Management Officer

Guillermo Henning, Team Leader Planning Appeals and

Compliance

Purpose of Report

The purpose of this report is to brief Council on sixteen (16) applications which, in total, seek approval for the removal of 25 trees under the Community Local Law. Application numbers are as follows: PT-2021/660; PT-2021/579; PT-2021/578; PT-2021/577; PT-2021/499; PT-2021/500; PT-2021/495; PT-2021/496; PT-2021/442; PT-2021/441; PT-2021/329; PT-2021/328; PT-2021/330; PT-2021/331; PT-2021/298; PT-2021/297

Disclosure of Officer / Contractor Direct or Indirect Interest

No Council officer/s and/or Contractor/s who have provided advice in relation to this report have declared a Conflict of Interest regarding the matter under consideration.

RECOMMENDATION

That the Planning Committee:

- Support the grant of a Local Law Permit for the removal of the following trees and provide for replacement planting at a ratio of up to 3:1 for each tree proposed to be removed. These applications are: PT-2021/297; PT-2021/298; PT-2021/328; PT-2021/329; PT-2021/331; PT-2021/441; PT-2021/495; PT-2021/496; PT-2021/577; PT-2021/578 and PT-2021/660.
- 2. Request the owner of the subject land inform adjacent residents prior to undertaking the approved tree pruning or removal works.
- 3. Refuse the grant of a Local Law Permit for the following applications: PT-2021/330; PT-2021/442; PT-2021/499; PT-2021/500 and PT-2021/579.

1. Executive Summary

At Council's Special Meeting on 14 October 2019 Council resolved, among other things, the following:

11. The instrument of delegation be amended to escalate any planning or local laws application for 10 or more tree removals for Council decision.

In following the abovementioned Council resolution, Officers are bringing this report to Council for a decision.

Ref: IC22/203

This report provides an assessment of sixteen (16) applications under Clause 42 of the Community Local Law at 179-217 Centre Dandenong Road, Dingley Village. The applications seek to remove the trees located within the property.

The trees are proposed to be removed due to health-related issues, safety and risk of property damage associated with adjoining properties.

Officers have undertaken an assessment of the trees proposed to be removed and are supportive of the proposal subject to conditions requiring replacement planting of up to a ratio of 3:1 for each tree proposed to be removed.

2. Public Notice

At Council's Meeting on 24 August 2020 Council resolved, among other things, the following:

3. Defer the consideration of the remaining tree removal applications 1-13, 22 and 24-30 and request Officers to undertake public notice of the proposed tree removal prior to bringing back a report to the next available Council meeting for a decision

Officers have taken a similar approach with the current applications and therefore notice to adjoining properties was undertaken from the period commencing on the 18 November 2021 and ending on 6 December 2021. The consultation included five (5) notice boards, two (2) located along the site's frontage to McClure Road, two (2) along the site's frontage to Centre Dandenong Road and one (1) along Spring Road. The information provided to the residents in the notice included:

- A map with locations of trees within each application (see Appendix 1)
- Combined arboricultural reports for prepared by the permit applicant for each application (see Appendix 2)

In addition, letters were sent to 1042 properties within the surrounding area. Feedback from the community was sought via online submissions at 'YourKingstonYourSay' website. In total 116 responses were recorded with the following feedback:

- 88 respondents indicating opposition to the removal of all trees
- 23 respondents indicating support to some of the trees but not all of them
- 7 respondents indicating support for all trees

Tree 965 - Black Wattle is the tree that has received the most support for removal with 11 responses.

A more detail presentation of the responses is provided in the attached project report (Appendix 3).

3. Discussion

Council's Senior Vegetation Management Officer undertook a detailed assessment of the vegetation proposed to be removed including multiple site inspections. Whilst there are 16 applications, a total of 25 trees have been assessed. This is due the co-dependency of some of the trees they have grown together and should be managed as one tree.

Ref: IC22/203

The officer's individual tree assessment is provided on the table attached (Appendix 4), however a summary of the recommendations for each application is provided below.

Row Labels	Count of Application Number
Approve	11
Refuse	5
Total	16

In their assessment, Council officers have provided an assessment of risk which quantifies the risk of significant harm from tree failure in a way that enables the balance between safety, tree values and likely target and operate to predetermined limits of tolerable or acceptable risk as per the table below:

Threshold	Description
1/1 to 1/000	Unacceptable
	Risk is not ordinarily tolerated
1/1000 to 1/100,000	Unacceptable when imposed to others
	Risk is not ordinarily tolerated
1/100,000 to 1/1,000,000	Tolerable when imposed to others
	Risk are tolerable if as low as reasonably practical
Greater than 1/1,000,000	Broadly acceptable
	Risk is as low as reasonably practical

As noted, the Officer's assessment provided in Appendix 4 includes a summary of the Risk Assessment. Images of the assessed trees have also been included under Appendix 5 to demonstrate existing conditions and support the assessment.

Some of the trees proposed to be removed are native to Victoria; however, both Council officers and external ecologist consultants agree that the vegetation is exempt from the planning permit requirements of Clause 52.17 (Native Vegetation) of the Kingston Planning Scheme.

In determining whether to grant a *permit* under clause 42 of the Community Local Law, *Council* must take the following into consideration:

- 42B.1 the effect of the removal of the protected tree on the aesthetics of the neighbouring area; and
- 42B.2 whether the protected tree is dead or there are health and safety reasons justifying removal of the protected tree; and
- 42B.3 whether it is likely that the protected tree gives rise to a risk of damage to property or to the safety of the public; and
- 42B.4 whether the protected tree is causing a public nuisance or creating an undue nuisance to adjoining landowners; and
- 42B.5 any other matter which Council considers relevant to the circumstances associated with the application.

Ref: IC22/203 115

4. Conclusion

Officers consider that pursuant to Clause 42.B2 and 42B.3 of the Community Local Law a permit should be granted for 11 of the 16 applications given the following:

- There are health and safety reasons justifying the removal of the protected trees.
- The protected trees give rise to risk of damage to property within the vicinity of the golf club

It is recommended that the approval of these applications should be subject to conditions requiring replacement planting. The support of the 11 applications results in the removal of 19 trees.

The remaining 5 applications (6 trees) have been assessed and are recommended for refusal as these trees have a low risk and it is considered that they can be suitably managed without the need for their removal.

Appendices

Appendix 1 - Kingswood Advertising Map - Applications 2021 (Ref 22/7831)

Appendix 2 - Combined Arboricultural Reports - Kingswood 2021 by Permit Applicant (Ref 22/7834)

Appendix 3 - 179 - 217 Centre Dandenong Road Dingley Village (Kingswood) Tree Removal Application- Community Responses - November_2021 (Ref 22/7828)

Appendix 4 - Council Officer Assessment Local Law Applications Kingswood 2021 (Ref 22/7838)

Appendix 5 - Officer's Risk Assessments- Kingswood - Local Law tree removal applications- 2021 (Ref 22/7859)

Author/s: Corey Smith, Senior Vegetation Management Officer

Guillermo Henning, Team Leader Planning Appeals and

Compliance

Reviewed and Approved By: Alfred Carnovale, Manager City Development

Jonathan Guttmann, General Manager Planning and

Development

Ref: IC22/203 116

4.4

TREE REMOVAL APPLICATIONS UNDER THE COMMUNITY LOCAL LAW AT NO.179-217 CENTRE DANDENONG ROAD DINGLEY VILLAGE

1	Kingswood Advertising Map - Applications 2021	119
2	Combined Arboricultural Reports - Kingswood 2021 by Permit Applicant	121
3	179 - 217 Centre Dandenong Road Dingley Village (Kingswood) Tree Removal Application- Community Responses - November_2021	349
4	Council Officer Assessment Local Law Applications Kingswood 2021	355
5	Officer's Risk Assessments- Kingswood - Local Law tree removal applications- 2021	359

Map	Map Application location Number	Tree	Botanical Name	Botanical Name Common Name	Origin
-	1PT-2021/579	909	Angophora 600 cosata	Smooth barked Apple Myrtle	Native (planted)
2	2PT-2021/578	356	Melaleuca 356 armillaris	Giant Honey Myrtle	Native (planted)
e	3PT-2021/577	309	Hesperocyparis 309 macrocarpa	Monterey Cypress Exotic	Exotic
4	4PT-2021/499	879	Eucalyptus 879 mannifera	Brittle Gum	Native (planted)
L)	SPT-2021/500	1456	Melaleuca 1456 armillaris	Giant Honey Myrtle	Native (planted)
9	6PT-2021/495	287	287 Cupressus sp	Cypress	Exotic
	7PT-2021/496	203	Melaleuca 503 armillaris	Giant Honey Myrtle	Native (planted)
80	8PT-2021/660	965	Accacia 965 mearnsii	Black Wattle	Native (deceased)
5	9PT-2021/442	744	744 Pinus radiata	Monterey Pine	Exotic
10	10PT-2021/441	1311	Melaleuca 1311 armillaris	Giant Honey Myrtle	Native (planted)
11	11PT-2021/329	134	Hesperocyparis 134 macrocarpa	Monterey Cypress Exotic	Exotic
12	12 pT-2021/328	1275	Hesperocyparis 1275 macrocarpa	Monterey Cypress Exotic	Exotic
13	13PT-2021/330	420	Eucalyptus 420 dadocalyx	Sugar gum	Native (planted)
14	14PT-2021/331	1006	Melaleuca 1006 armillaris	Giant Honey Myrtle	Native (planted)
15	15 pt-2021/298	969	Hesperocyparis 695 macrocarpa	Monterey Cypress Exotic	Exotic
16	16PT-2021/297	6	Hesperocyparis 9 macrocarpa	Monterey Cypress Exotic	Exotic





Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Hesperocyparis macrocarpa* (Monterey Cypress) at 179-217 Centre Dandenong Road, Dingley Village





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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Hesperocyparis macrocarpa* (Monterey Cypress), Tree ID 1275, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Wednesday, 7 April 2021, conducted a site inspection.

A walkover assessment was undertaken inspecting each tree within the subject property using the Level 1 'Limited Visual Inspection' method (ISA 2017). The trees were visually inspected from ground level in order to identify certain obvious defects or specified conditions (Smiley, Matheny and Lilly 2011).

From these, trees considered likely to have substantial failures or faults and/or a high probability to cause damage to persons or property, as well as specific trees nominated by the client, were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

- Photograph of tree
- Botanical Name
- Canopy Dimensions
- Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- · Recommended Works

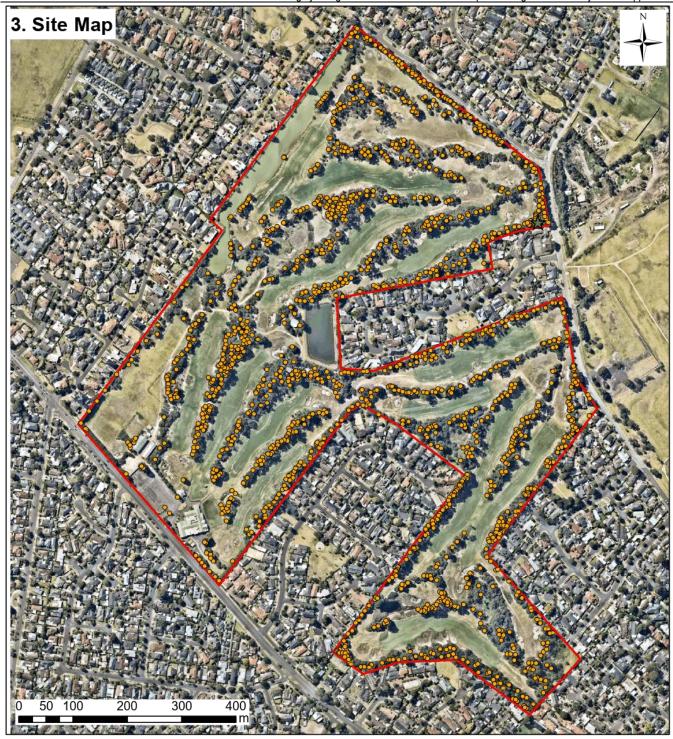
A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.

Reference: 4246



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 13/04/2021 Plotted: MNB





4. Tree Details

The tree is a mature *Hesperocyparis macrocarpa* (Monterey Cypress), an exotic species. It has Fair health and Very Poor structure and has a Useful Life Expectancy of 0 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. The tree is within 10m of a boundary with a private property.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Property (repair or replacement cost)	Probability Ratio
3	>\$2,400 - \$24,000	1/100 - > 1/1,000

Reference: 4246



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score	
Very High	<1/4,000	
High	1/5,000	
Moderate	1/10,000 to 1/1,000,000	
Low	1/3,00 0,000 to 1/5,000,000	
Very Low	>1/10,000,000	

5. Conclusion and Recommendation

The tree presents a Moderate Risk of Harm. It is recommended for removal with a High priority – i.e., within the next 3-6 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.

Reference: 4246



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Reference: 4246 7 of 16

Risk Assessment Report

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 1275

Botanical Name: Hesperocyparis macrocarpa

Common Name: Monterey Cypress

Origin: Exotic

Age: Mature

Height & Width (m): 14 x 9

DBH (cm): 81

Health: Fair

Structure: Very Poor

ULE: 0 years

Works: Removal

Comments: Poor structure and condition, on lean over

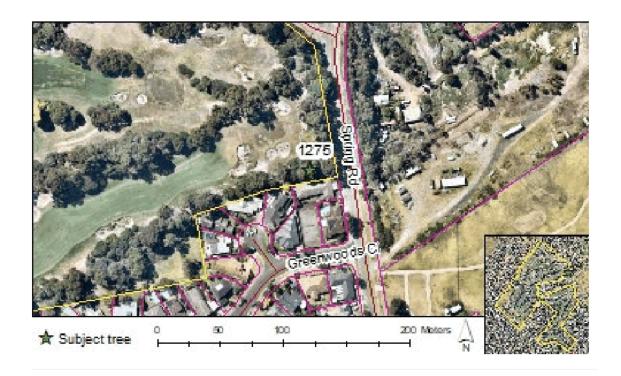
dwelling

Failure Potential: 3. Moderate

Failure Size: 1. Greater than 450mm
Target Rating: 3. Property, \$2400 to \$24K

Risk of Harm: 1 in 30000
Risk Category: Moderate







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair The tree is in reasonable condition and growing well. The tree exhibits adequate canopy of foliage. There may be some deadwood present in Some grazing by insects or possums may be evident.	
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead The tree is dead.	

Reference: 4246



2.7 Structure

Category	Description	
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.	
Fair	The tree has some minor problems in the structure of the crown. The crown model be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.	
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.	
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.	
Has Failed A section of the tree has failed or is in imminent danger of failure and the tree no longer a viable specimen.		

2.8 Age Class

Category	Description
Mature Tree has reached the expected size for the species at the site.	
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description		
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.		
The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-4 years.			
The tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair condition and under normal conditions and with appropriate and the tree is in fair conditions and under normal conditions and under normal conditions and under normal conditions and under normal conditions are conditionally appropriate and the tree is in fair conditions and under normal conditions and under normal conditions are conditionally appropriate and the tree is in fair conditions			
5 - 10 years The tree is in fair to poor condition or it is not a long lived species. Rereplacement may be required within the next 10 years.			
1 - 5 years The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.			
0 years The tree is dead, or is considered hazardous in the location. Removal m required.			

Reference: 4246 10 of 16



2.10 Tree Origin

Category	Description	
Exotic The species originates in a country other than Australia.		
Australian Native	The species originates within Australia.	
Indigenous	The species originates within the local environs.	

Reference: 4246 11 of 16



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.

Reference: 4246



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.

Reference: 4246



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is <u>most likely</u> to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

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Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

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3.4 Examples



Figure 2. Risk Assessment Example 1

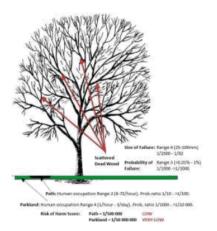


Figure 3. Risk Assessment Example 2

Reference: 4246

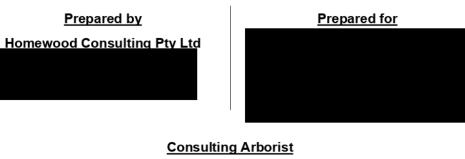


Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Melaleuca armillaris* (Giant Honey Myrtle) at 179-217 Centre Dandenong Road, Dingley Village





7 June 2021



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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Melaleuca armillaris* (Giant Honey Myrtle), Tree ID 1006, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Wednesday, 7 April 2021, conducted a site inspection.

A walkover assessment was undertaken inspecting each tree within the subject property using the Level 1 'Limited Visual Inspection' method (ISA 2017). The trees were visually inspected from ground level in order to identify certain obvious defects or specified conditions (Smiley, Matheny and Lilly 2011).

From these, trees considered likely to have substantial failures or faults and/or a high probability to cause damage to persons or property, as well as specific trees nominated by the client, were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

- Photograph of tree
- Botanical Name
- Canopy Dimensions
- Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- · Recommended Works

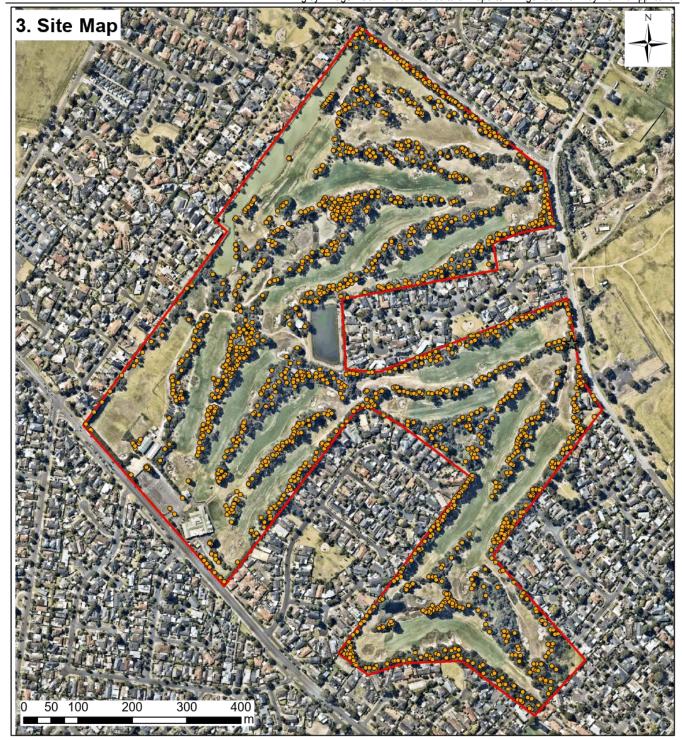
A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.

Reference: 4246



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 13/04/2021 Plotted: MNB





4. Tree Details

The tree is a mature *Melaleuca armillaris* (Giant Honey Myrtle), an Australian native species. It has Fair health and Very Poor structure and has a Useful Life Expectancy of 0 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
3. Moderate	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
2	260mm - 450mm	1/2 - >1/8.6

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. The tree is within 10m of a boundary with a road reserve.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Pedestrian frequency	Probability Ratio
2	8-72/hr	1/10 - >1/100

Reference: 4246



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a High Risk of Harm. It is recommended for removal with a Urgent priority – i.e., within the next 3 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees.

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.

Reference: 4246



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Reference: 4246 8 of 17

Risk Assessment Report

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 1006

Botanical Name: Melaleuca armillaris

Common Name: Giant Honey Myrtle

Origin: Native
Age: Mature
Height & Width (m): 6 x 9
DBH (cm): 41
Health: Fair
Structure: Very Poor
ULE: 0 years

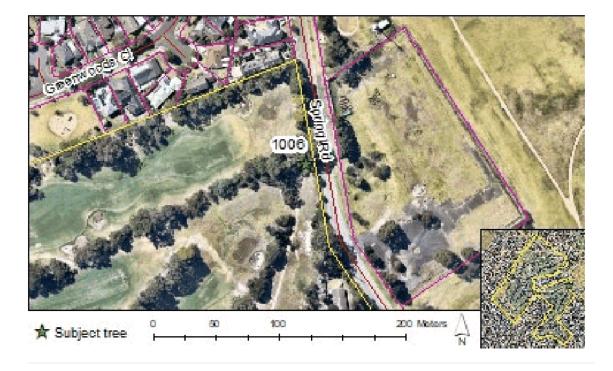
Works: Removal
Comments: Group of 4 trees

Failure Potential: 3. Moderate
Failure Size: 2. 251-450mm

Target Rating: 2. Pedestrians, 8-72/hr

Risk of Harm: 1 in 10000
Risk Category: High







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

Reference: 4246



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.

Reference: 4246 11 of 17



2.10 Tree Origin

Category	Description
Exotic	The species originates in a country other than Australia.
Australian Native	The species originates within Australia.
Indigenous	The species originates within the local environs.

Reference: 4246 12 of 17



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.

Reference: 4246



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.

Reference: 4246



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

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Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

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3.4 Examples



Figure 2. Risk Assessment Example 1

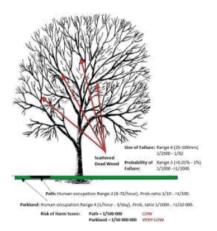


Figure 3. Risk Assessment Example 2

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Arboricultural Assessment

AS Residential Property No.1 Pty Ltd Kingswood Golf Course



Asset ID: 9

Botanical Name: Hesperocyparis macrocarpa

Common Name: Monterey Cypress

 Origin:
 Exotic

 Age:
 Mature

 Height & Width (m):
 15 x 9

 DBH (cm):
 95

 Health:
 Fair

 Structure:
 Very Poor

Works: Removal

ULE:

Comments: Recent stem failure

Failure Potential: 3. Moderate
Failure Size: 2. 251-450mm

Target Rating: 4. Pedestrians, 3/day to 1/hr

0 years

Risk of Harm: 1 in 1000000 Risk Category: Moderate





Arboricultural Assessment

AS Residential Property No.1 Pty Ltd Kingswood Golf Course



Asset ID: 695

Botanical Name: Hesperocyparis macrocarpa

Common Name: Monterey Cypress

Origin: Exotic

Age: Mature

Height & Width (m): 13 x 16

DBH (cm): 200

Health: Fair

Structure: Has Failed

ULE: 0 years

Works: Removal

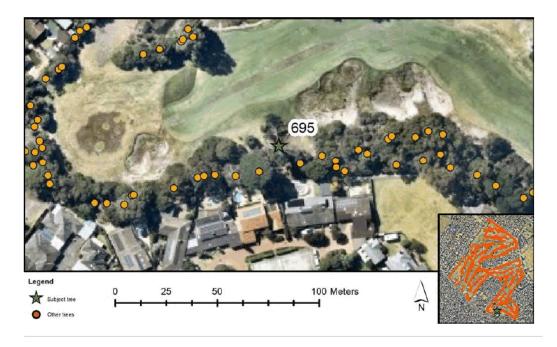
Comments: Recent failure of large stem

Failure Potential: 2. High

Failure Size: 1. Greater than 450mm
Target Rating: 4. Pedestrians, 3/day to 1/hr

Risk of Harm: 1 in 40000
Risk Category: Moderate







Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Eucalyptus cladocalyx* (Sugar Gum) at 179-217 Centre Dandenong Road, Dingley Village







Contents

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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a Eucalyptus cladocalyx (Sugar Gum), Tree ID 420, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Thursday, 8 April 2021, conducted a site inspection.

A walkover assessment was undertaken inspecting each tree within the subject property using the Level 1 'Limited Visual Inspection' method (ISA 2017). The trees were visually inspected from ground level in order to identify certain obvious defects or specified conditions (Smiley, Matheny and Lilly 2011).

From these, trees considered likely to have substantial failures or faults and/or a high probability to cause damage to persons or property, as well as specific trees nominated by the client, were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

- Photograph of tree
- Botanical Name
- Canopy Dimensions
- Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- · Recommended Works

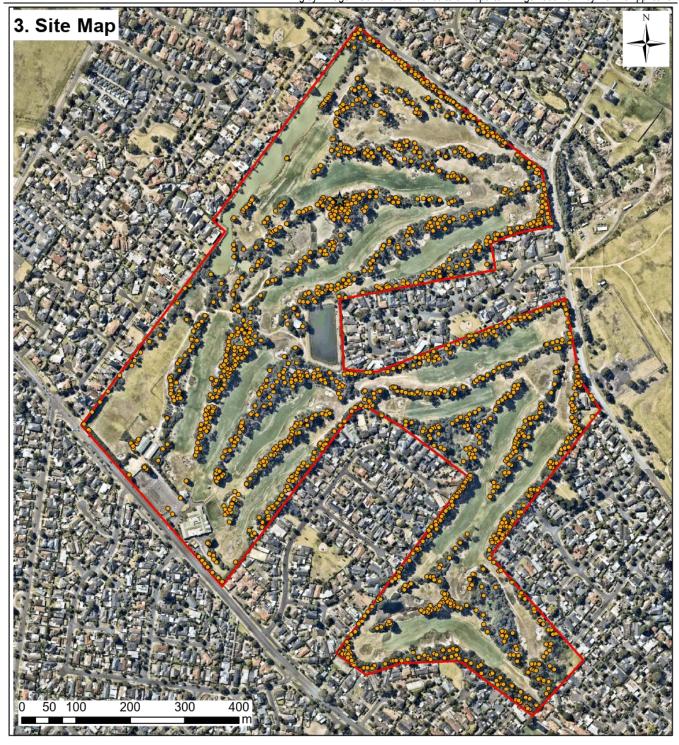
A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.

Reference: 4246



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 13/04/2021 Plotted: MNB





4. Tree Details

The tree is a mature *Eucalyptus cladocalyx* (Sugar Gum), an Australian native species. It has Fair health and Very Poor structure and has a Useful Life Expectancy of 0 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
3. Moderate	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. The tree is not near a boundary.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Pedestrian frequency	Probability Ratio
4	Pedestrians, 1/hour - 3/day	1/1,000 - >1/10,000

Reference: 4246



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score	
Very High	<1/4,000	
High	1/5,000	
Moderate	1/10,000 to 1/1,000,000	
Low	1/3,00 0,000 to 1/5,000,000	
Very Low	>1/10,000,000	

5. Conclusion and Recommendation

The tree presents a Moderate Risk of Harm. It is recommended for removal with a High priority – i.e., within the next 3-6 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.

Reference: 4246



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Reference: 4246

Risk Assessment Report

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 420

Botanical Name: Eucalyptus cladocalyx

Common Name:Sugar GumOrigin:NativeAge:MatureHeight & Width (m):25 x 8DBH (cm):70Health:FairStructure:Very Poor

Works: Removal

ULE:

Comments: Cocky damage throughout canopy. Establish

exclusion zone if retained

0 years

Failure Potential: 3. Moderate

Failure Size: 1. Greater than 450mm

Target Rating: 4. Pedestrians, 3/day to 1/hr

Risk of Harm: 1 in 400000
Risk Category: Moderate







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description	
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.	
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.	
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.	
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.	
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.	
Dead	The tree is dead.	

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2.7 Structure

Category	Description	
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.	
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.	
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.	
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.	
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.	

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description	
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.	
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.	
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.	
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.	
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.	
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.	

Reference: 4246 10 of 16



2.10 Tree Origin

Category	Description	
Exotic	The species originates in a country other than Australia.	
Australian Native	The species originates within Australia.	
Indigenous	The species originates within the local environs.	

Reference: 4246 11 of 16



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score	
Very High	<1/4,000	
High	1/5,000	
Moderate	1/10,000 to 1/1,000,000	
Low	1/3,00 0,000 to 1/5,000,000	
Very Low	>1/10,000,000	

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.

Reference: 4246



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.

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If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

Reference: 4246 14 of 16



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

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3.4 Examples



Figure 2. Risk Assessment Example 1

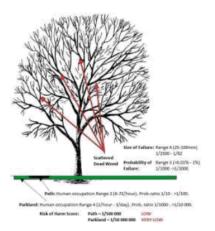


Figure 3. Risk Assessment Example 2

Reference: 4246 16 of 16

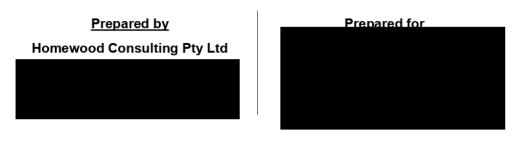


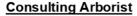
Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Hesperocyparis macrocarpa* (Monterey Cypress) at 179-217 Centre Dandenong Road, Dingley Village







7 June 2021



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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a row of 7 *Hesperocyparis macrocarpa* (Monterey Cypress), Tree ID 134, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the trees has been requested to assess the health, structure and risk that they currently presents in the landscape and to provide recommendations on their management.

2. Method

On Wednesday, 7 April 2021 conducted a site inspection.

A walkover assessment was undertaken inspecting each tree within the subject property using the Level 1 'Limited Visual Inspection' method (ISA 2017). The trees were visually inspected from ground level in order to identify certain obvious defects or specified conditions (Smiley, Matheny and Lilly 2011).

From these, trees considered likely to have substantial failures or faults and/or a high probability to cause damage to persons or property, as well as specific trees nominated by the client, were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

- Photograph of tree
- Botanical Name
- Canopy Dimensions
- Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- · Recommended Works

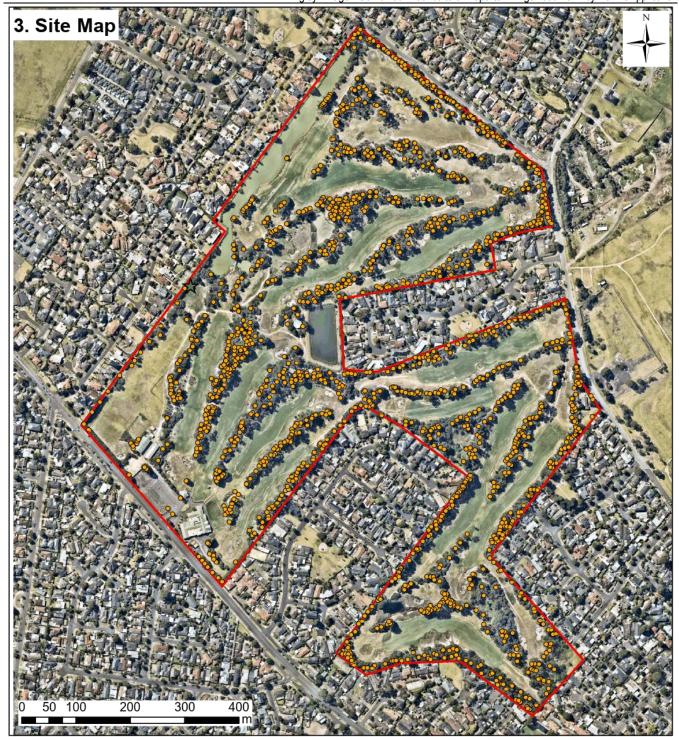
A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject trees.

For definitions and descriptors of the data collected on site see Appendix 2.

Reference: 4246



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 13/04/2021 Plotted: MNB





4. Tree Details

The trees are mature *Hesperocyparis macrocarpa* (Monterey Cypress), an exotic species. There are 7 trees in a row, all have Poor health and Very Poor structure and a Useful Life Expectancy of 0 years.

All have significant trunk and/or canopy failures.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the trees. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
3	110mm - 250mm	1/8.6 - >1/82

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. The trees are within 10m of a boundary with a private property.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Reference: 4246



Target Range	Property (repair or replacement cost)	Probability Ratio
4	Property, \$240 to \$2400	1/1,000 ->1/10,000

4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The trees present a Moderate Risk of Harm. They are recommended for removal with a High priority – i.e., within the next 3-6 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees.

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.

Reference: 4246



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Reference: 4246 7 of 16

Risk Assessment Report

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 134

Botanical Name: Hesperocyparis macrocarpa

Common Name: Monterey Cypress

Origin: Exotic

Age: Mature

Height & Width (m): 9 x 4

DBH (cm): 71

Health: Poor

Structure: Very Poor

ULE: 0 years

Works: Removal

Comments: Row of 7 trees, all with significant trunk

and/or canopy failures

Failure Potential: 2. High

Failure Size: 3. 101-250mm

Target Rating: 4. Property, \$240 to \$2400

Risk of Harm: 1 in 30000
Risk Category: Moderate







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

Reference: 4246 9 of 16



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.

Reference: 4246 10 of 16



2.10 Tree Origin

Category	Description
Exotic	The species originates in a country other than Australia.
Australian Native	The species originates within Australia.
Indigenous	The species originates within the local environs.

Reference: 4246 11 of 16



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
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The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.

Reference: 4246



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
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4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.

Reference: 4246



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

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The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

Reference: 4246 14 of 16



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

Reference: 4246 15 of 16



3.4 Examples

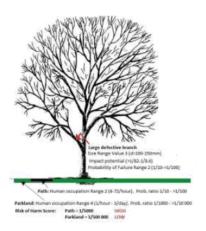


Figure 2. Risk Assessment Example 1

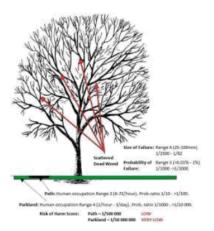


Figure 3. Risk Assessment Example 2

Reference: 4246

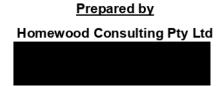


Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Pinus radiata* (Monterey Pine) at 179-217 Centre Dandenong Road, Dingley Village





Consulting Arborist

John Brennan

Diploma of Arboriculture Email: johnb@homewood.com.au

30 July 2021

Tel: 1300 404 558 ABN: 39 531 880 706



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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Pinus radiata* (Monterey Pine), Tree ID 744, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Tuesday, 15 June 2022, John Brennan conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

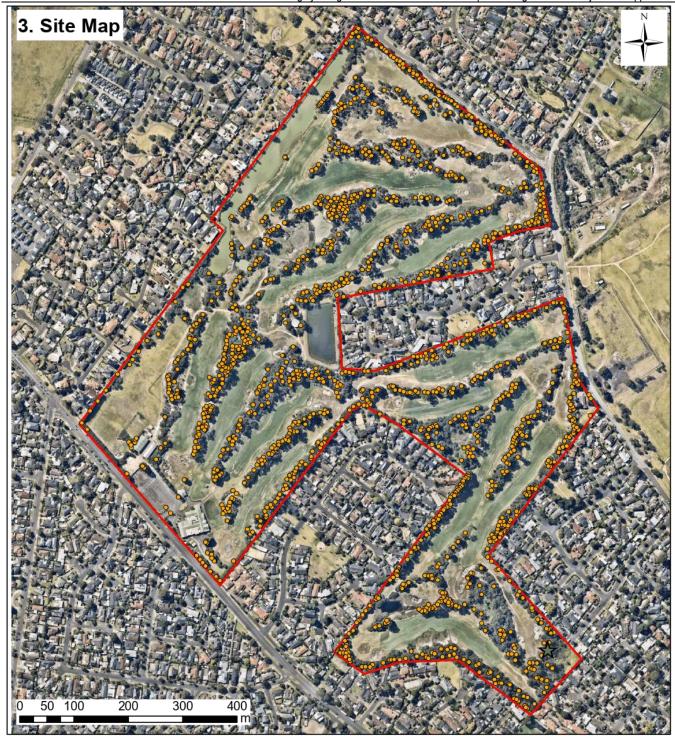
- Photograph of tree
- Botanical Name
- Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 30/07/2021 Plotted: JMB





4. Tree Details

The tree is an Over mature *Pinus radiata* (Monterey Pine), an exotic species. It is Dead, has Poor structure and has a Useful Life Expectancy of 0 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
2. High	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
3	110mm - 250mm	1/8.6 - >1/82

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is not near a boundary.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio
5	1 min/week - 1 min/month	1/10,000 - >1/100,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score	
Very High	<1/4,000	
High	1/5,000	
Moderate	1/10,000 to 1/1,000,000	
Low	1/3,00 0,000 to 1/5,000,000	
Very Low	>1/10,000,000	

5. Conclusion and Recommendation

The tree presents a Low Risk of Harm. It is recommended for removal with a Moderate priority – i.e., within the next 6-12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, *Best Management Practices: Tree Risk Assessment*, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Tree Risk Assessment

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 744

Botanical Name: Pinus radiata

Common Name: Monterey Pine

Origin: Exotic

Age:Over matureHeight & Width (m):15 x 12DBH (cm):89Health:DeadStructure:Poor

Works: Removal

Comments

ULE:

Failure Potential: 2. High
Failure Size: 3. 101-250mm

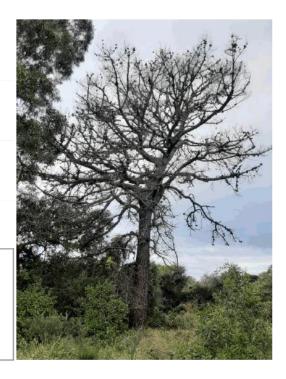
Target Rating: 5. Human Occupancy, 2min/week to

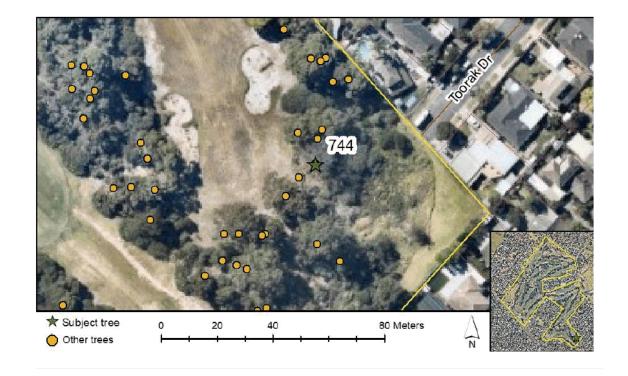
1min/month

0 years

Risk of Harm: 1 in 5000000

Risk Category Low







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description	
Mature	ee has reached the expected size for the species at the site.	
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.	
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).	

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.



2.10 Tree Origin

Category	Description	
Exotic	The species originates in a country other than Australia.	
Australian Native	The species originates within Australia.	
Indigenous	The species originates within the local environs.	



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500



3.4 Examples

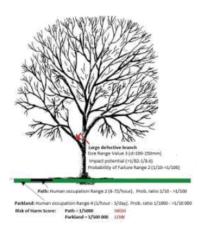


Figure 2. Risk Assessment Example 1

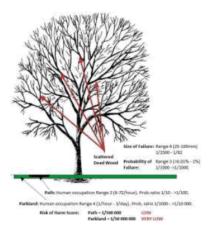


Figure 3. Risk Assessment Example 2



Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Melaleuca armillaris* (Giant Honey Myrtle) at 179-217 Centre Dandenong Road, Dingley Village





Contents

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6. Planning	Requirements	6
7. Referenc	es	7
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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Melaleuca armillaris* (Giant Honey Myrtle), Tree ID 1311, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Tuesday, 15 June 2023, and a conducted a site inspection to assess specific trees nominated by the client mass areas were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

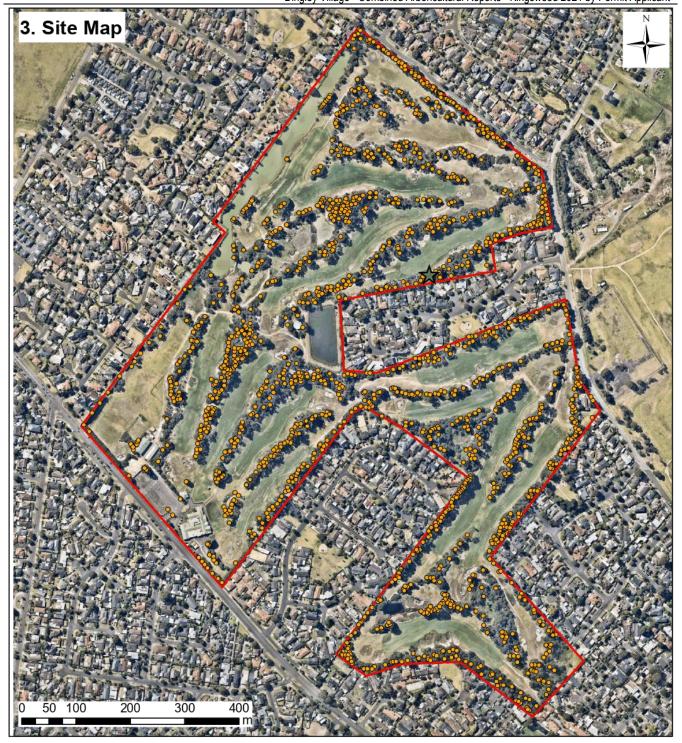
- Photograph of tree
- Botanical Name
- · Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

★ Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 30/07/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Melaleuca armillaris* (Giant Honey Myrtle), an Australian native species. It has Fair health and its structure Has Failed. It has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
4. Low	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
2	260mm - 450mm	1/2 - >1/8.6

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 15m of a boundary to private property.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio	
5	1 min/week - 1 min/month	1/10,000 - >1/100,000	



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score	
Very High	<1/4,000	
High	1/5,000	
Moderate	1/10,000 to 1/1,000,000	
Low	1/3,00 0,000 to 1/5,000,000	
Very Low	>1/10,000,000	

5. Conclusion and Recommendation

The tree presents a Very low Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, *Best Management Practices: Tree Risk Assessment*, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Tree Risk Assessment

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 1311

Botanical Name: Melaleuca armillaris

Common Name: Giant Honey Myrtle

Origin: Native

Age: Mature
Height & Width (m): 6 x 8
DBH (cm): 53.76
Health: Fair

Structure: Has Failed
ULE: Less than 5 years

Works: Removal
Comments x 2 trees

Failure Potential: 4. Low

Failure Size: 2. 251-450mm

Target Rating: 5. Human Occupancy, 1min/week to

1min/month

Risk of Harm: 1 in 100000000 Risk Category Very low







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description	
Mature	Tree has reached the expected size for the species at the site.	
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.	
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).	

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.



2.10 Tree Origin

Category	Description	
Exotic	The species originates in a country other than Australia.	
Australian Native	The species originates within Australia.	
Indigenous	The species originates within the local environs.	



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500



3.4 Examples



Figure 2. Risk Assessment Example 1

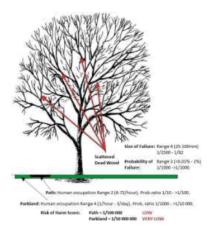


Figure 3. Risk Assessment Example 2

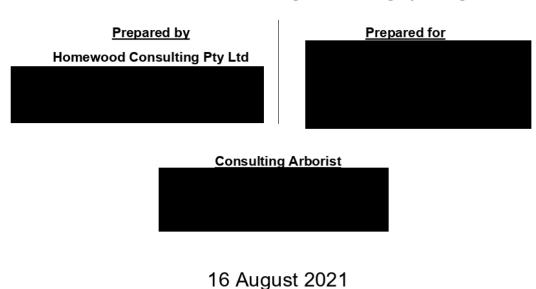


Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Melaleuca armillaris* (Giant Honey Myrtle) at 179-217 Centre Dandenong Road, Dingley Village





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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Melaleuca armillaris* (Giant Honey Myrtle), Tree ID 503, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Tuesday, 15 June 202 conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

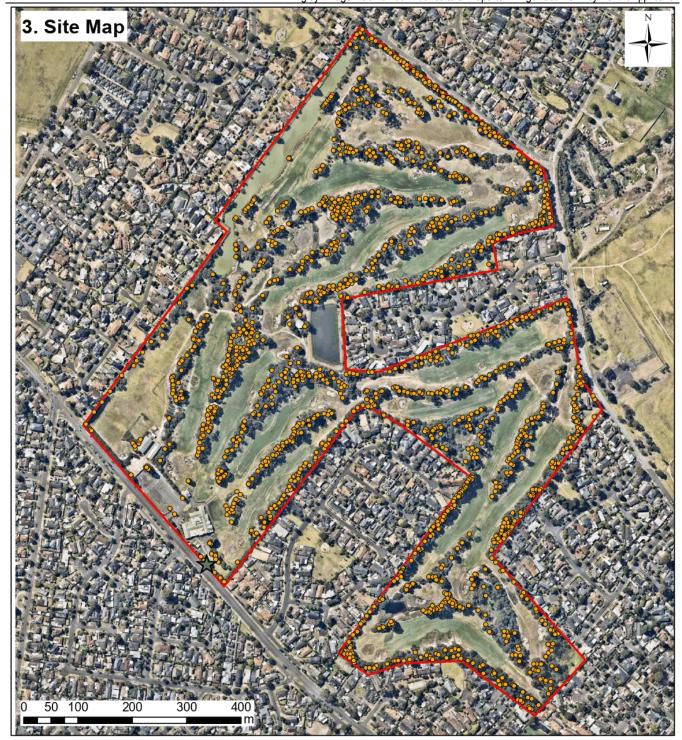
- Photograph of tree
- Botanical Name
- · Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 16/08/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Melaleuca armillaris* (Giant Honey Myrtle), an Native species. It has Fair health and Poor structure and has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
3. Moderate	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
2	260-450mm	1/2 - >1/8.6

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 3m of a boundary to a road reserve.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio
3	3. Occupancy, 14 to 2min/day	1/100 -> 1/1,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a Moderate Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

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Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Reference: 4246 Page 7 of 16



Asset ID: 503

Botanical Name: Melaleuca armillaris

Common Name: Giant Honey Myrtle

Origin: Native

 Age:
 Mature

 Height & Width (m):
 8 x 11

 DBH (cm):
 74.56

 Health:
 Fair

Structure: Poor

ULE: Less than 5 years

Works: Removal

Comments Row of 2 trees- only north-western tree requires

works

Failure Potential: 3. Moderate
Failure Size: 2. 251-450mm

Target Rating: 3. Occupancy, 14 to 2min/day

Risk of Harm: 1 in 100000
Risk Category Moderate





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Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

Reference: 4246

Page 9 of 16



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
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Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

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Category	Description
Mature	Tree has reached the expected size for the species at the site.
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Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
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10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
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Reference: 4246 Page 10 of 16



2.10 Tree Origin

Category	Description
Exotic	The species originates in a country other than Australia.
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Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.

Tree Risk Assessment

AS Residential Property No. 1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

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Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

Reference: 4246 Page 15 of 16



3.4 Examples



Figure 2. Risk Assessment Example 1

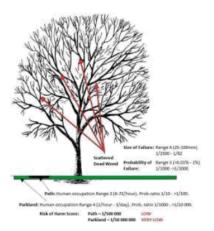


Figure 3. Risk Assessment Example 2

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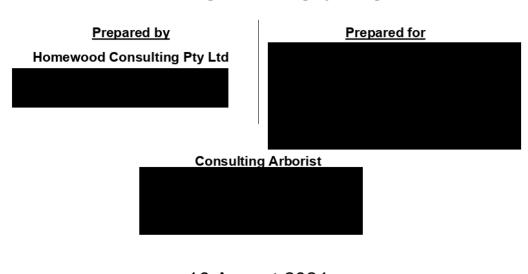


Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Cupressus sp.* (Cypress) at 179-217 Centre Dandenong Road, Dingley Village





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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Cupressus sp.* (Cypress), Tree ID 287, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Tuesday, 15 June 2021 conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

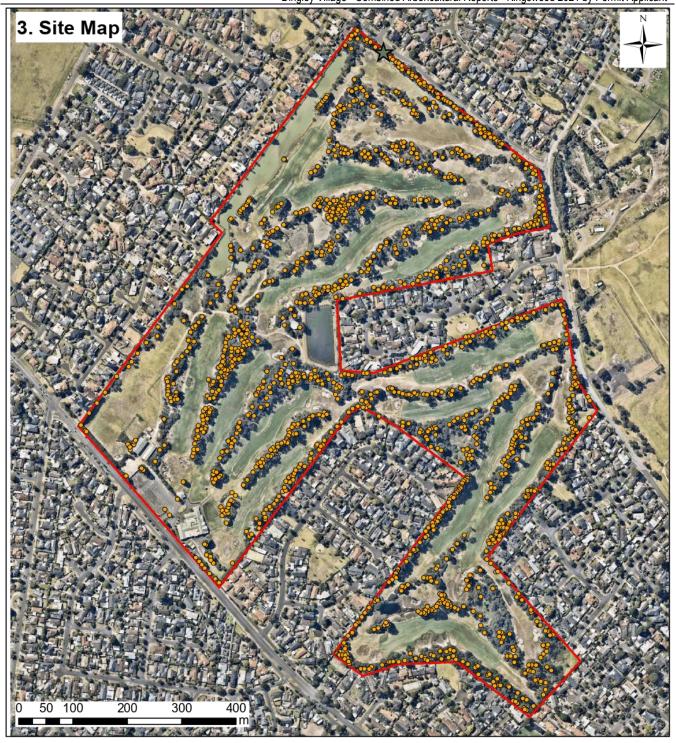
- Photograph of tree
- Botanical Name
- · Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 16/08/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Cupressus sp.* (Cypress), an Exotic species. It has Poor health and Poor structure and has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
3. Moderate	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
4	25-100mm	1/82 - >1/2,500

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 3m of a boundary to a road reserve.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio
3	3. Occupancy, 14 to 2min/day	1/100 -> 1/1,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a Low Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Reference: 4246

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

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Tree Risk Assessment

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 287

Botanical Name: Cupressus sp.

Common Name: Cypress

Origin: Exotic

Age: Mature
Height & Width (m): 10 x 6

DBH (cm): 52.5

Health: Poor Structure: Poor

ULE: Less than 5 years

Works: Removal

Comments

Failure Potential: 3. Moderate
Failure Size: 4. 26-100mm

Target Rating: 3. Occupancy, 14 to 2min/day

Risk of Harm: 1 in 5000000

Risk Category Low





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Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

Reference: 4246

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2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.

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2.10 Tree Origin

Category	Description	
Exotic	The species originates in a country other than Australia.	
Australian Native	The species originates within Australia.	
Indigenous	The species originates within the local environs.	

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Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.

Tree Risk Assessment

AS Residential Property No. 1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

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Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

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3.4 Examples



Figure 2. Risk Assessment Example 1

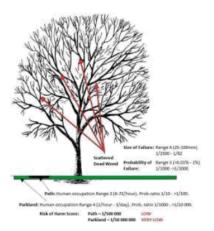


Figure 3. Risk Assessment Example 2

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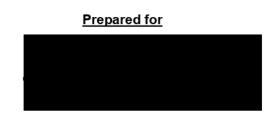
Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Melaleuca armillaris* (Giant Honey Myrtle) at 179-217 Centre Dandenong Road, Dingley Village

Prepared by
Homewood Consulting Pty Ltd



Consulting Arborist

John Brennan

Diploma of Arboriculture Email: johnb@homewood.com.au

16 August 2021



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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Melaleuca armillaris* (Giant Honey Myrtle), Tree ID 1456, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Tuesday, 15 June 2021 Conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

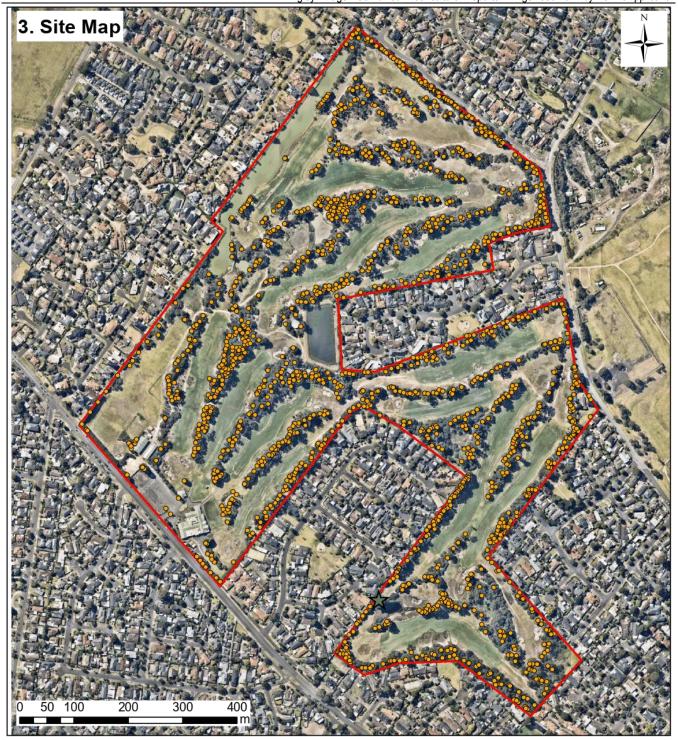
- Photograph of tree
- Botanical Name
- Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 16/08/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Melaleuca armillaris* (Giant Honey Myrtle), an Native species. It has Fair health and Has Failed structure and has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
5. Very Low	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
2	260-450mm	1/2 - >1/8.6

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 10m of a boundary to private property.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio
5	Occupancy, 1min/day to 2min/week	1/10,000 - >1/100,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a Very low Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Reference: 4246

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Page 7 of 16



Asset ID: 1456

Botanical Name: Melaleuca armillaris

Common Name: Giant Honey Myrtle

Origin: Native

Age: Mature

Height & Width (m): 3 x 8

DBH (cm): 29
Health: Fair

Structure: Has Failed
ULE: Less than 5 years

Works: Removal

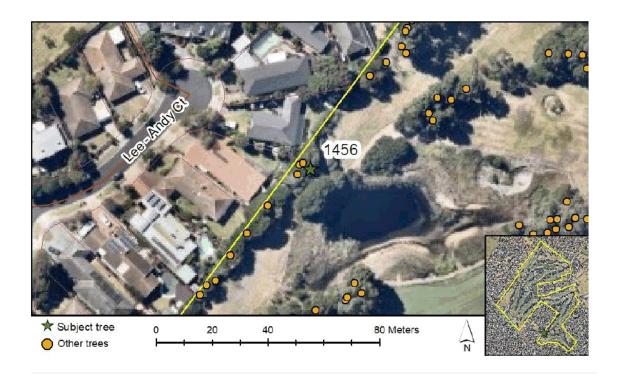
Comments Originally grouped with ID 657

Failure Potential: 5. Very Low Failure Size: 2. 251-450mm

Target Rating: 4. Occupancy, 1min/day to 2min/week

Risk of Harm: 1 in 100000000
Risk Category Very Iow





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Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

Reference: 4246 Page 9 of 16



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.

Reference: 4246 Page 10 of 16

Tree Risk Assessment

AS Residential Property No. 1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



2.10 Tree Origin

Category	Description	
Exotic	The species originates in a country other than Australia.	
Australian Native	The species originates within Australia.	
Indigenous	The species originates within the local environs.	

Reference: 4246 Page 11 of 16



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is <u>most likely</u> to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

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Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

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3.4 Examples



Figure 2. Risk Assessment Example 1

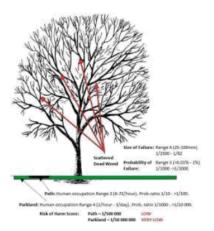


Figure 3. Risk Assessment Example 2

Reference: 4246 Page 16 of 16

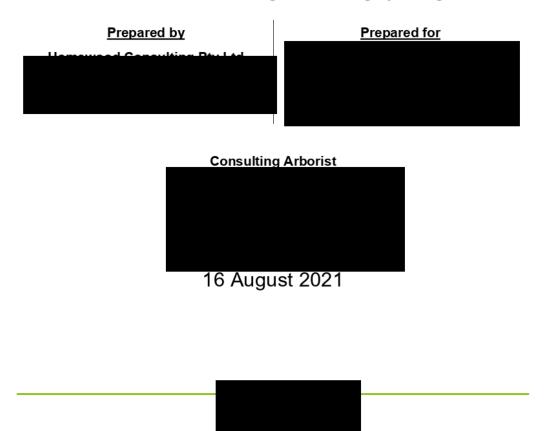


Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Eucalyptus mannifera* (Brittle Gum) at 179-217 Centre Dandenong Road, Dingley Village





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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Eucalyptus mannifera* (Brittle Gum), Tree ID 879, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Tuesday, 15 June 2021, conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

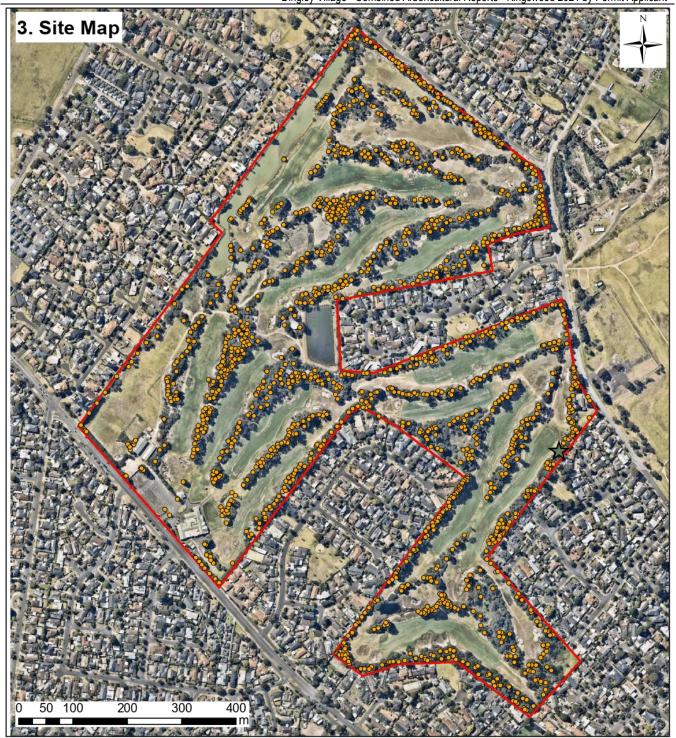
- Photograph of tree
- Botanical Name
- · Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Trees - Walkover inspection

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 16/08/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Eucalyptus mannifera* (Brittle Gum), an Native species. It has Very poor health and Fair structure and has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
3. Moderate	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
3	110-250mm	1/8.6 - >1/82

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 15m of a boundary to private property.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio
5	Occupancy, 2min/week to 1min/month	1/10,000 - >1/100,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a Very low Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Reference: 4246

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

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Asset ID: 879

Botanical Name: Eucalyptus mannifera

Common Name: Brittle Gum
Origin: Native

Age: Mature
Height & Width (m): 10 x 12
DBH (cm): 63

Health: Very poor Structure: Fair

ULE: Less than 5 years

Works: Removal

Comments

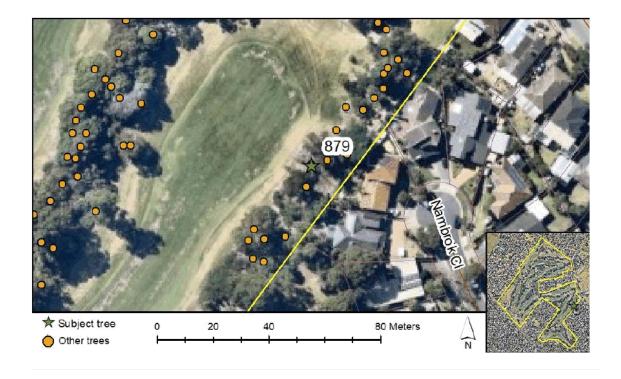
Failure Potential: 3. Moderate
Failure Size: 3. 101-250mm

Target Rating: 5. Human Occupancy, 2min/week to

1min/month

Risk of Harm: 1 in 50000000 Risk Category Very Iow





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Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

Reference: 4246 Page 9 of 16



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.

Reference: 4246 Page 10 of 16



2.10 Tree Origin

Category	Description
Exotic	The species originates in a country other than Australia.
Australian Native	The species originates within Australia.
Indigenous	The species originates within the local environs.

Reference: 4246 Page 11 of 16



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.

Tree Risk Assessment

AS Residential Property No. 1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential

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Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500

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3.4 Examples

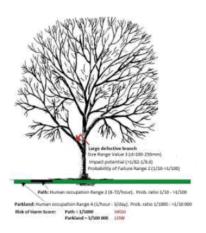


Figure 2. Risk Assessment Example 1

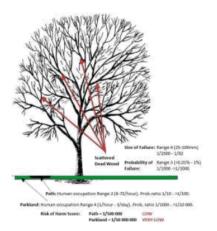


Figure 3. Risk Assessment Example 2

Reference: 4246 Page 16 of 16



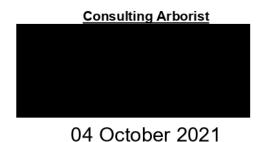
Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Hesperocyparis macrocarpa* (Monterey Cypress) at 179-217 Centre Dandenong Road, Dingley Village







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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Hesperocyparis macrocarpa* (Monterey Cypress), Tree ID 309, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Monday, 23 August 2021, John Brennan conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

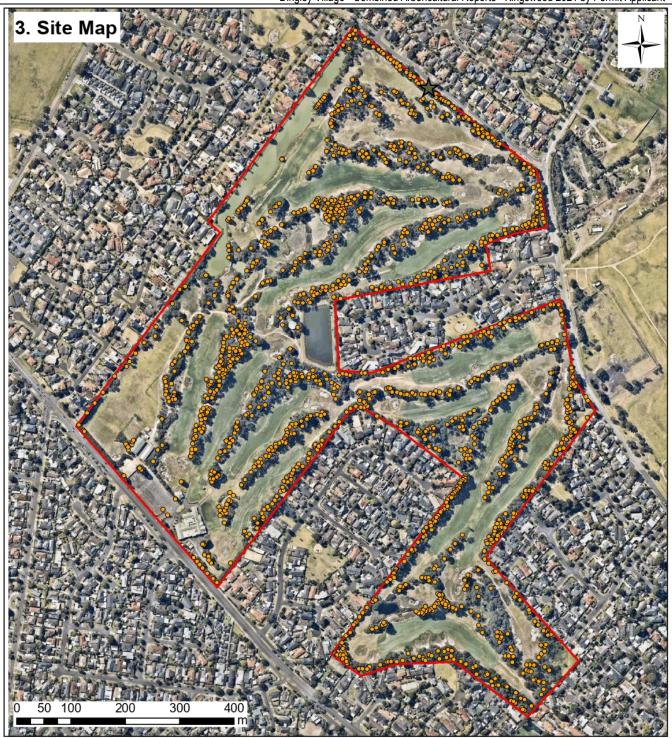
- Photograph of tree
- Botanical Name
- Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

Subject Tree

Other Trees

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 04/10/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Hesperocyparis macrocarpa* (Monterey Cypress), an Exotic species. It has Fair health and Poor structure and has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
2	260mm - 450mm	1/2 - >1/8.6

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 2m of a boundary to a road reserve.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio
3	14 min/day - 2 min/day	1/100 - >1/1,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a Very low Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, *Best Management Practices: Tree Risk Assessment*, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Tree Risk Assessment Assessment

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 309

Botanical Name: Hesperocyparis macrocarpa

Common Name: Monterey Cypress

Origin: Exotic

Age: Mature Height & Width (m): 7 x 4

DBH (cm): 45 Basal Circumference (cm) 198

Health: Fair Structure: Poor

ULE: Less than 5 years

Works: Removal

Comment Leader failure

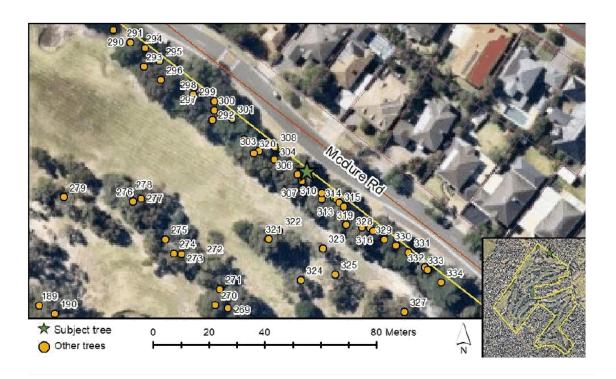
Failure Potential 5. Very Low Failure Size: 2. 251-450mm

Target Rating: 3. Human Occupancy, 14min/day to

2min/day

Risk of Harm: 1 in 10000000 Risk Category Very Iow







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
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Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
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Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
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1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
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For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

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2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500



3.4 Examples



Figure 2. Risk Assessment Example 1

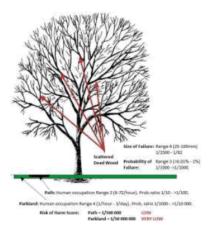


Figure 3. Risk Assessment Example 2



Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Melaleuca armillaris* (Giant Honey Myrtle) at 179-217 Centre Dandenong Road, Dingley Village

Prepared by
Homewood Consulting Pty Ltd



04 October 2021



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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a *Melaleuca armillaris* (Giant Honey Myrtle), Tree ID 356, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Monday, 23 August 2021 conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

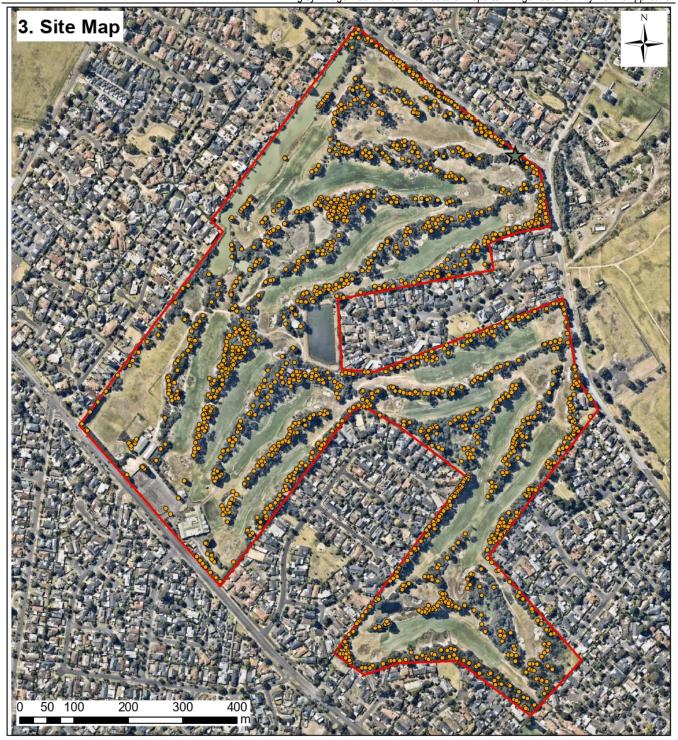
- Photograph of tree
- Botanical Name
- · Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

★ Subject Tree

Other Trees

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 04/10/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Melaleuca armillaris* (Giant Honey Myrtle), a Native species. It has Fair health and Poor structure and has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
2	260mm - 450mm	1/2 - >1/8.6

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 10m of a boundary to a road reserve.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Property (repair or replacement cost)	Probability Ratio
4	>\$240 - \$2,400	1/1,000 - >1/10,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score	
Very High	<1/4,000	
High	1/5,000	
Moderate	1/10,000 to 1/1,000,000	
Low	1/3,00 0,000 to 1/5,000,000	
Very Low	>1/10,000,000	

5. Conclusion and Recommendation

The tree presents a Moderate Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, *Best Management Practices: Tree Risk Assessment*, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Tree Risk Assessment Assessment

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 356

Botanical Name: Melaleuca armillaris

Common Name: Giant Honey Myrtle

Origin: Native

Age: Mature Height & Width (m): 8 x 8

DBH (cm): 49 Basal Circumference (cm) 251

Health: Fair Structure: Poor

ULE: Less than 5 years

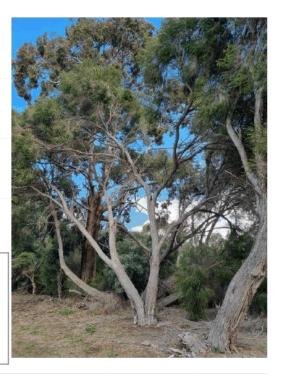
Works: Removal
Comment x 3 trees

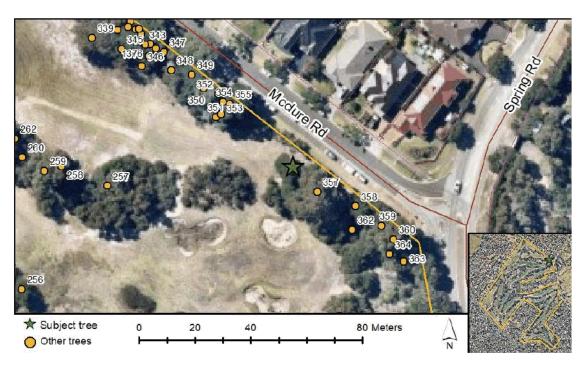
Failure Potential 2. High

Failure Size: 2. 251-450mm

Target Rating: 4. Property, \$240 to \$2400

Risk of Harm: 1 in 30000
Risk Category Moderate







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description	
Mature	Tree has reached the expected size for the species at the site.	
Semi-mature Established tree that has not yet reach the expected size for the species at the site.		
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).	

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.



2.10 Tree Origin

Category	Description	
Exotic	The species originates in a country other than Australia.	
Australian Native	The species originates within Australia.	
Indigenous	The species originates within the local environs.	



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500



3.4 Examples



Figure 2. Risk Assessment Example 1

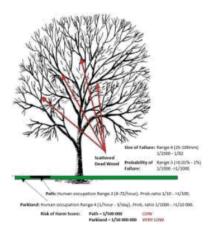


Figure 3. Risk Assessment Example 2

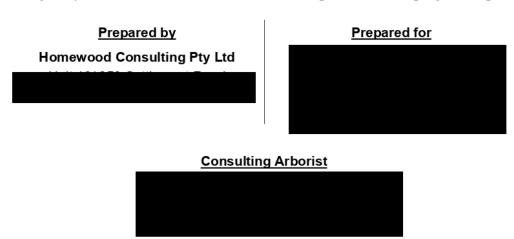


Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Angophora costata* (Smooth-barked Apple Myrtle) at 179-217 Centre Dandenong Road, Dingley Village



04 October 2021



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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a Angophora costata (Smooth-barked Apple Myrtle), Tree ID 600, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Monday, 23 August 2021, conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

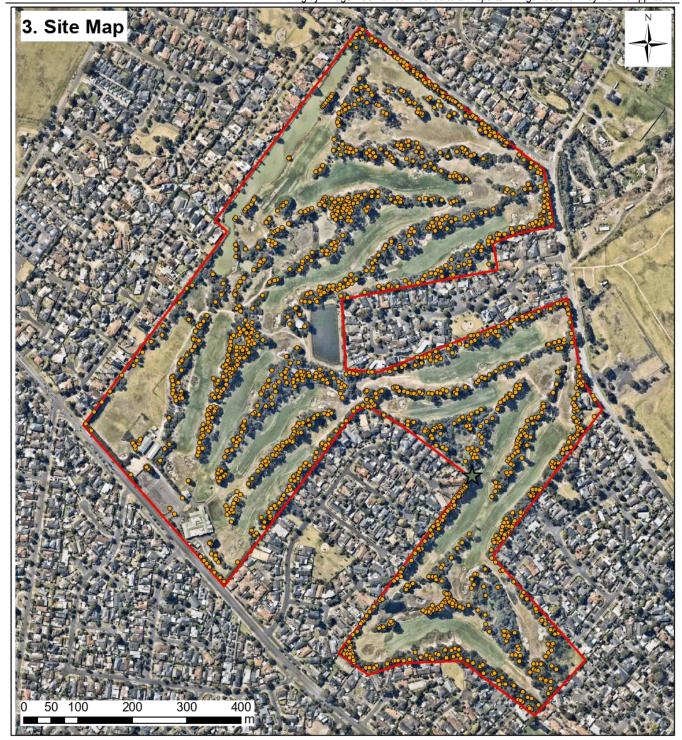
- Photograph of tree
- Botanical Name
- · Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

★ Subject Tree

Other Trees

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 04/10/2021 Plotted: JMB





4. Tree Details

The tree is a Mature *Angophora costata* (Smooth-barked Apple Myrtle), a Native species. It has Good health and Poor structure and has a Useful Life Expectancy of Less than 5 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
2	260mm - 450mm	1/2 - >1/8.6

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 5m of a boundary to private property.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Pedestrian frequency	Probability Ratio
5	5. Pedestrians, 2/week to 2/day	1/10,000 - >1/100,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a Very low Risk of Harm. It is recommended for removal with a Moderate priority – i.e., within the next 6-12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, *Best Management Practices: Tree Risk Assessment*, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Tree Risk Assessment Assessment

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 600

Botanical Name: Angophora costata

Common Name: Smooth-barked Apple Myrtle

Origin: Native

Age: Mature Height & Width (m): 12 x 10

DBH (cm): 65 Basal Circumference (cm) 261

Health: Good Structure: Poor

ULE: Less than 5 years

Works: Removal

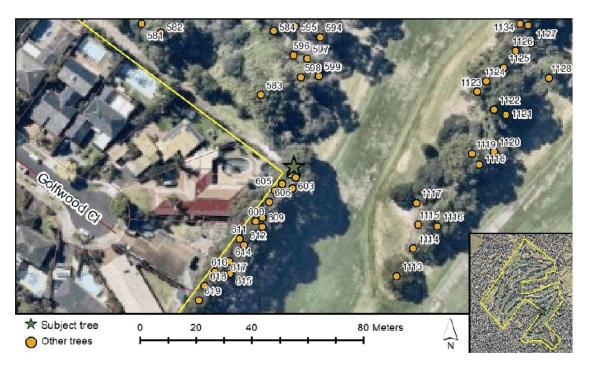
Comment Nearly an active split

Failure Potential 3. Moderate
Failure Size: 2. 251-450mm

Target Rating: 5. Pedestrians, 2/week to 2/day

Risk of Harm: 1 in 10000000 Risk Category Very low







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.



2.7 Structure

Category	Description
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.

2.8 Age Class

Category	Description
Mature	Tree has reached the expected size for the species at the site.
Semi-mature	Established tree that has not yet reach the expected size for the species at the site.
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).

2.9 Useful Life Expectancy (ULE)

Category	Description
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.



2.10 Tree Origin

Category	Description
Exotic	The species originates in a country other than Australia.
Australian Native	The species originates within Australia.
Indigenous	The species originates within the local environs.



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000	Occupation: Constant - 2.5 hours/day Pedestrians & cyclists: 720/hour - 73/hour	28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	>\$24,000 - \$240,000	Occupation: 2.4 hours/day - 15 min/day Pedestrians & cyclists: 72/hour - 8/hour	2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	>\$2,400 - \$24,000	Occupation: 14 min/day - 2 min/day Pedestrians & cyclists: 7/hour - 2/hour	280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	>\$240 - \$2,400	Occupation: 1 min/day - 2 min/week Pedestrians & cyclists: 1/hour - 3/day	28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6	≤\$24	Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.
4 (Low)	1/1,000 - >1/10,000	>0.01% - 0.1%	The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.
7 (None)	1/1,000,000 >1/10,000,000	>0.00001% - 0.0001%	The probability of failure can be considered none, less than 0.0001%.

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500



3.4 Examples



Figure 2. Risk Assessment Example 1

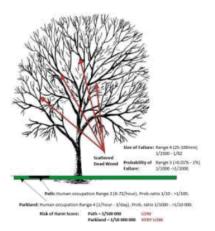


Figure 3. Risk Assessment Example 2

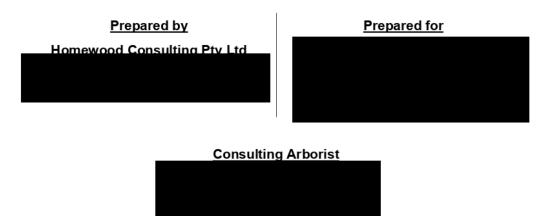


Tree Risk Assessment

for

AS Residential Property No. 1 Pty Ltd c/- Robert Luxmoore Pty Ltd

Assessment of a *Acacia mearnsii* (Black Wattle) at 179-217 Centre Dandenong Road, Dingley Village



04 October 2021

Tel: 1300 404 558 ABN: 39 531 880 706



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1. Introduction

Homewood Consulting Pty Ltd has been engaged to provide a risk assessment report for a Acacia mearnsii (Black Wattle), Tree ID 965, located at 179-217 Centre Dandenong Road, Dingley Village.

An inspection of the tree has been requested to assess the health, structure and risk that the tree currently presents in the landscape and to provide recommendations on its management.

2. Method

On Monday, 23 August 2021, conducted a site inspection to assess specific trees nominated by the client. These trees were specified for inspection as the client had concerns over the level of risk they present in the landscape.

The trees were assessed using the Level 2 'Basic Assessment' method (ISA, 2017). Tree location and individual tree assessment data was recorded for these trees and included:

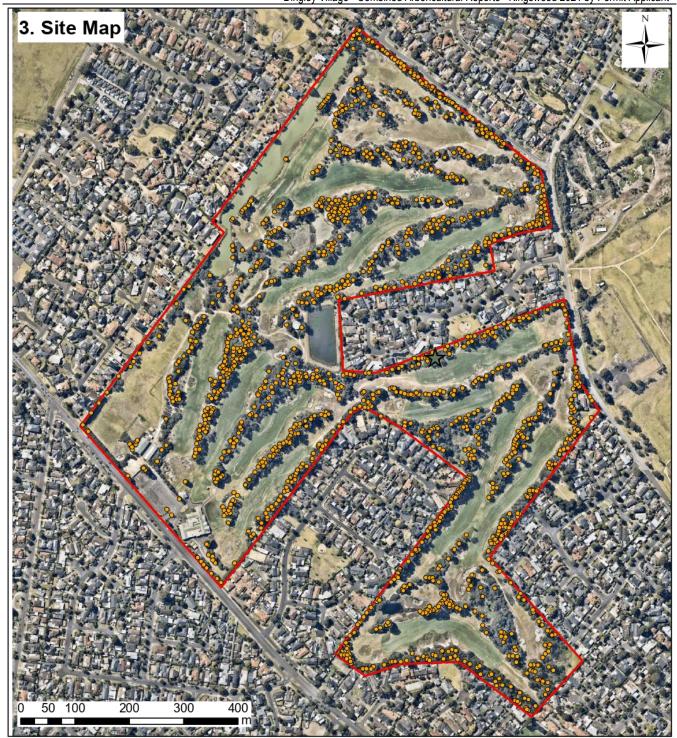
- Photograph of tree
- Botanical Name
- · Canopy Dimensions
- · Diameter at Breast Height (DBH)
- Health
- Structure
- Useful Life Expectancy (ULE)
- Risk Assessment (TRAQ)
- Recommended Works

A Level 2 'Basic Assessment' is the standard assessment performed by arborists in response to most private client requests for tree risk assessments (Smiley, Matheny and Lilly 2011). It consists of a detailed visual inspection of a tree and its surrounding site, including a complete walk around the tree, looking at the buttress roots, trunk, branches and leaves. The tree is observed from a distance and close up to consider crown shape, landscape context and surroundings.

The assessment was conducted from ground level with no instruments used. Any assessments of decay are qualitative only. Tree height and canopy width were estimated, while Diameter at Breast Height (DBH) and basal circumference were measured with a diameter tape, unless otherwise noted.

Appendix 1 shows the data collected for the subject tree.

For definitions and descriptors of the data collected on site see Appendix 2.



Assessment of trees at 179-217 Centre Dandenong Road, Dingley Village

Legend

★ Subject Tree

Other Trees

Site Boundary

Base Information Supplied By: NearMap 2020 Date: 04/10/2021 Plotted: JMB





4. Tree Details

The tree is an Over mature *Acacia mearnsii* (Black Wattle), an Indigenous species. It is Dead, has Poor structure and has a Useful Life Expectancy of 0 years.

4.1 Risk Assessment

A risk assessment using Quantified Tree Risk Assessment, Version 5 (2015) has been conducted on the tree. The risk assessment method has the following components:

- Probability of failure
- · Size of part likely to fail
- Target Occupancy

These are listed below for the subject tree, and the risk assessment methodology and assessment categories further detailed in Appendix 3.

4.1.1 Probability of failure (PF)

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.

Table 1: Probability of Failure for the Assessed Tree

Probability	Probability	Probability	Description
of Failure	of Failure	of Failure	
Range	Ratio	Percentage	
2 (High)	1/10 - >1/100	>1% - 10%	The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.

4.1.2 Size of part likely to fail (FS)

The failure size rating is attributed to the branch or trunk that is most likely to fail and cause the most damage under normal conditions over the next 12 months.

Table 2: Size of part most like to fail for the assessed tree

Size Range	Size of Part most likely to fail (diameter likely to impact target)	Impact Potential
3	110mm - 250mm	1/8.6 - >1/82

4.1.3 Target occupancy (TO)

The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure. This is within 15m of a boundary to private property.

Table 3: Target Occupancy - object most likely to be impacted in the event of failure of assessed tree

Target Range	Human Occupancy	Probability Ratio
6	Occupation: <1 min/month - 0.5 min/year	1/100,000 - 1/1,000,000



4.1.4 QTRA Risk of Harm

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g., Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

Table 4. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

5. Conclusion and Recommendation

The tree presents a Very low Risk of Harm. It is recommended for removal with a Low priority – i.e., within the next 12 months.

6. Planning Requirements

Tree controls apply to the subject property as follows:

Community Local Law: A person must not without a permit:

- remove, damage, kill or destroy, or direct, authorise or allow to be removed, damaged, killed or destroyed; or
- cut, trim, lop or prune, or allow to be cut, trimmed, lopped or pruned contrary to the guidelines recommended in the Australian Standard AS4373-1996 Pruning of Amenity Trees

Community Local Law refers to a tree with a trunk circumference greater than 110 centimetres measured at its base; or a multi-stemmed tree where the circumference of its exterior stems measured at its base equals or is greater than 110 centimetres.



VPP – Clause 52.17 Native Vegetation: 'A permit is required to remove, destroy or lop native vegetation, including dead native vegetation'.

Native vegetation is defined in planning schemes as 'plants that are indigenous to Victoria'. Relevant permit exemptions include:

- Dead native vegetation. This exemption does not apply to a standing dead tree with a trunk diameter of 40 centimeters or more at a height of 1.3 metres above ground level.
- Lopping or pruning native vegetation, for maintenance only, provided no more than 1/3 of the foliage of each individual plant is lopped or pruned. This exemption does not apply to the pruning or lopping of the trunk of a native tree.
- Native vegetation that was either planted or grown as a result of direct seeding.



7. References

Dunster, J.A., Smiley, E.T., Matheny N., Lilly S., ISA (International Society of Arboriculture), 2017, *Tree Risk Assessment*, 2nd Edition, Champaigne, Illinois, USA.

Ellison, M.J., 2015, 'Quantified tree risk assessment used in the management of amenity trees', *Cheshire*, UK.

Smiley, ET, Matheny, N & Lilly, ET 2011, Best Management Practices: Tree Risk Assessment, International Society of Arboriculture, Champaign, Illinois, USA.

Standards Australia 2007, Australian Standard 4373: Pruning of Amenity Trees

Tree Risk Assessment Assessment

AS Residential Property No.1 Pty Ltd 179-217 Centre Dandenong Road, Dingley Village



Asset ID: 965

Botanical Name: Acacia meamsii

Common Name: Black Wattle

Origin: Indigenous

Age: Over mature

Height & Width (m): 10 x 7

DBH (cm): 44 Basal Circumference (cm) 201

Health: Dead
Structure: Poor
ULE: 0 years

Works: Removal

Comment

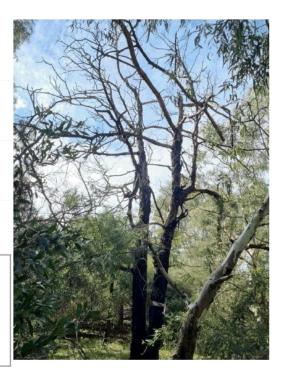
Failure Potential 2. High

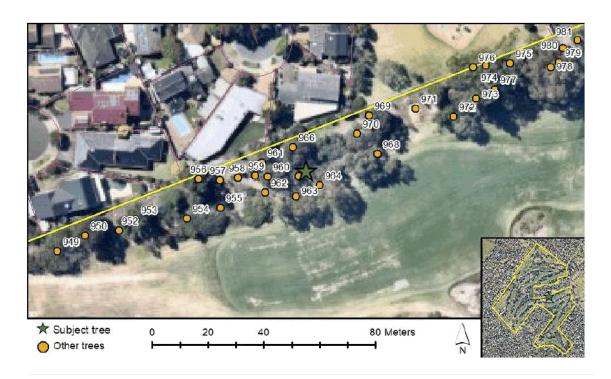
Failure Size: 3. 101-250mm

Target Rating: 6. Human Occupancy, less than

1min/month

Risk of Harm: 1 in 50000000 Risk Category Very low







Appendix 2. Data Collection Descriptors and Definitions

Tree assessments are based on the assessor's experience and opinion of the tree.

2.1 Botanical name

The scientific name identifying the genus and species of the tree. Each species has only one scientific name.

2.2 Common name

The colloquial name for a tree species, usually in plain English. Common names for a species are often local or regional and each species can have multiple common names.

2.3 Tree dimensions

Tree height and canopy width in metres (estimated unless stated otherwise).

2.4 DBH

Diameter of the trunk at breast height (1.4m above ground level) measured using a diameter tape. Used to calculate the Tree Protection Zone radius.

2.5 Basal circumference

Circumference of the trunk above the root buttress, measured using a diameter tape.

2.6 Health

Category	Description			
Very Good	The tree is demonstrating excellent or exceptional growth. The tree exhibits a full canopy of foliage and is free of pest and disease problems.			
Good	The tree is demonstrating good or exceptional growth. The tree exhibits a full canopy of foliage, and has only minor pest or diseases problems.			
Fair	The tree is in reasonable condition and growing well. The tree exhibits an adequate canopy of foliage. There may be some deadwood present in the cro Some grazing by insects or possums may be evident.			
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or there may be symptoms of stress indicating tree decline.			
Very Poor The tree appears to be in a state of decline. The tree is not growing to its capacity. The canopy may be very thin and sparse. A significant volume deadwood may be present in the canopy or pest and disease problems reasoning a severe decline in tree health.				
Dead	The tree is dead.			



2.7 Structure

Category	Description		
Good	The tree has a well-defined and balanced crown. Branch unions appear to be sound, with no significant defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.		
Fair	The tree has some minor problems in the structure of the crown. The crown moved be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.		
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.		
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.		
Has Failed	A section of the tree has failed or is in imminent danger of failure and the tree is no longer a viable specimen.		

2.8 Age Class

Category	Description			
Mature	Tree has reached the expected size for the species at the site.			
Semi-mature Established tree that has not yet reach the expected size for the species at the site.				
Young	Recently planted tree or juvenile self-sown tree (generally less than 5 years old).			

2.9 Useful Life Expectancy (ULE)

Category	Description			
40+ years	The tree is in excellent condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component in excess of 40 years.			
20 - 40 years	The tree is in good condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 20-40 years.			
10 - 20 years	The tree is in fair condition and under normal conditions and with appropriate management is expected to continue as a viable landscape component for 10-20 years.			
5 - 10 years	The tree is in fair to poor condition or it is not a long lived species. Removal and replacement may be required within the next 10 years.			
1 - 5 years	The tree is in poor condition due to advanced decline or structural defect. Removal and replacement may be required within the next 5 years.			
0 years	The tree is dead, or is considered hazardous in the location. Removal may be required.			



2.10 Tree Origin

Category	Description	
Exotic	ne species originates in a country other than Australia.	
Australian Native	ne species originates within Australia.	
Indigenous	The species originates within the local environs.	



Appendix 3. QTRA Overview

A risk assessment using Quantified Tree Risk Assessment, Version 5 (Ellison, 2015) has been conducted on all trees identified for a Level 2 assessment. The risk assessment method has the following components:

- Probability of failure (PF) The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next 12 months.
- Size of part likely to fail (FS) The failure size rating is attributed to the branch or trunk
 that is most likely to fail and cause the most damage under normal conditions over the
 next 12 months.
- Target occupancy (TO) The target occupancy is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

The QTRA Risk Score methodology is probabilistic and the lower the value the higher the risk. The risk score is presented as a numeric value however it is properly expressed as a fraction e.g. Risk Score = 1,440 indicates that the predicted event has a 1/1,440 chance of occurrence. 1/1 indicates that an event is certain to occur and 1/10,000,000 indicates that it is extraordinarily unlikely.

QTRA Version 5 uses Monte Carlo simulations to arrive at a mean value for the risk score values. In short, Monte Carlo simulations mean QTRA calculators work out the 'most likely' Risk of Harm from 10,000 possible outcomes for each combination of PF, FS and TO Range.

QTRA Risk Harm of Score has been categorized by Homewood Consulting as ranging from 'Very High' to 'Very Low' risk of harm. The incremental rise between categories increases by orders of magnitude as the risk assessment operates on an exponential scale. QTRA has a risk threshold which has also been described for each tree.

An accepted threshold of risk is generally in the order of 1/10,000 and any tree that scores less than 10,000 would be expected to be remedied within the next twelve months.

Table 5. Summary of the Homewood Consulting risk assessment categories

Risk Category	QTRA Risk of Harm Score
Very High	<1/4,000
High	1/5,000
Moderate	1/10,000 to 1/1,000,000
Low	1/3,00 0,000 to 1/5,000,000
Very Low	>1/10,000,000

The method does not provide predictions of what will or will not happen but an estimate of the risk from any particular tree hazard. The purpose of QTRA is not necessarily to provide high degrees of accuracy, but rather to provide for the quantification of risks and to assist in the prioritisation of tree works within a group of trees. The quantification of risk is not the only consideration when managing tree safety. The financial cost of reducing the risk and the potential loss of the many benefits from trees should be accounted for when making risk management decisions. By quantifying the risks, we can more readily assess this balance.



3.1 Target Presence (Occupancy)

The target presence is attributed to the object that is most likely to be hit / injured / damaged in the event of failure.

For example: If a tree is overhanging a road it is unlikely that the road will become damaged in the event of tree failure, passing vehicles are more likely to be affected.

Therefore, the target range would be attributed according to the volume and frequency of vehicles on that road as shown in Table 6.

Table 6: QTRA Target Ranges

Target Range	Property (repair or replacement cost)	Pedestrian frequency	Vehicular frequency (number per day)	Probability Ratio
1	>\$240,000 Constant - 2.5 hours/day Pedestrians & cyclists:		28,000 – 2,900 vehicles @ 100km/h 32,000 – 3,300 vehicles @ 80km/h 42,000 – 4,300 vehicles @ 60km/h 47,000 – 4,800 vehicles @ 50km/h	1/1 - >1/10
2	Occupation: 2 >\$24,000 - 2.4 hours/day - 15 min/day 3 \$240,000 Pedestrians & cyclists: 4		2,800 - 290 vehicles @ 100km/h 3,200 - 330 vehicles @ 80km/h 4,200 - 430 vehicles @ 60km/h 4,700 - 480 vehicles @ 50km/h	1/10 - >1/100
3	Occupation: 14 min/day - 2 min/day 924,000 Pedestrians & cyclists: 7/hour - 2/hour		280 - 29 vehicles @ 100km/h 320 - 33 vehicles @ 80km/h 420 - 43 vehicles @ 60km/h 470 - 48 vehicles @ 50km/h	1/100 - >1/1,000
4	Occupation: 1 min/day - 2 min/week \$2,400 Pedestrians & cyclists: 1/hour - 3/day		28 - 4 vehicles @ 100km/h 32 - 4 vehicles @ 80km/h 42 - 5 vehicles @ 60km/h 47 - 6 vehicles @ 50km/h	1/1,000 - >1/10,000
5	>\$24 - \$240	Occupation: 1 min/week - 1 min/month Pedestrians & cyclists: 2/day - 2/week	3 - 1 vehicles @ 100km/h 3 - 1 vehicles @ 80km/h 4 - 1 vehicles @ 60km/h 5 - 1 vehicles @ 50km/h	1/10,000 - >1/100,000
6 ≤\$24 Occupation: <1 min/month - 0.5 min/year Pedestrians & cyclists: 1/week - 6/year		<1 min/month - 0.5 min/year Pedestrians & cyclists:	None	1/100,000 - 1/1,000,000

Where a tree exists over several layers of human traffic frequency it is important to consider the probable failure that is likely to occur from the tree in question in determining the appropriate occupation statistic to identify a target range.

For example, a tree may exist within an open park zone for which the human traffic may be in target range 4 (>3 pedestrians per day but <1/hour) attracting a relatively low probability ratio, however, it may also be adjacent to an arterial path with associated human traffic for categorisation in target range 2 (8-72 pedestrians/hour).

If the likely failure from the tree is away from the path then a target range of 4 would be appropriate. However, if the likely failure is toward the path then the appropriate target range would be 2.



If the likely failure is of deadwood which is evenly distributed throughout the canopy then the higher range would be used.

If there are several possible types of failure with different failure sizes over different zones of human occupation around a tree, then each should be assessed and the values that will produce the highest risk score should be used.

If there is no obvious potential for failure, then the higher human occupation range should be used.

3.2 Probability of failure

The probability of failure rating is attributed to the tree part that is most likely to fail under normal conditions within the next three – five years. Strictly speaking this methodology is only concerned with the next twelve months but a greater time frame must be considered because very few trees are actually inspected every twelve months.

Probability of failure is very closely related to the structure of the tree. If a tree has good structure it should generally not be attributed a relatively high probability of failure range value for significant tree parts. However, if the part most likely to fail is deadwood then it may be appropriate for the probability of failure range value to be relatively high.

Failure potential is attributed to the tree prior to works being completed. Following the completion of works, the probability of failure requires reassessing to ensure that the probability range is updated.



Figure 1. High failure potential



Table 7: QTRA Probability of Failure Ranges

Probability of Failure Range	Probability of Failure Ratio	Probability of Failure Percentage	Description		
1 (Severe)	1/1 - >1/10	>10% - 100%	The structure of the specimen has large and very significant faults and defects. Active failure is often present and branch or trunk failure is imminent. Failure within the next twelve months would appear certain. The probability of failure over the next twelve months is 10 - 100%.		
2 (High) 1/10 - >1% - 10%			The structure of the specimen has large and significant faults and defects. Branch or trunk failure within the next twelve months would appear likely. The probability of failure over the next twelve months is 1 - 10%.		
3 (Moderate)	1/100 - >1/1,000	>0.1% - 1%	The structure of the specimen has significant faults and defects. Branch or trunk failure within the next twelve months would appear possible. The probability of failure over the next twelve months is 0.1 - 1%.		
4 (Low) 1/1,000 - >0.01% - 0.1%			The structure of the specimen has some faults that may result in failure but failure is unlikely. The probability of failure over the next twelve months is 0.01 to 0.1%.		
5 (Very Low)	1/10,000 - >1/100,000	>0.001% - 0.01%	The structure of the specimen has some minor faults that may result in failure but failure is very unlikely. The probability of failure over the next twelve months is less than 0.01%.		
6 (Negligible)	1/100,000 - >1/1,000,000	>0.0001% - 0.001%	The probability of failure is highly unlikely, between 0.01 to 0.001%.		
7 (None) 1/1,000,000 >0.00001% - >1/10,000,000 0.0001%			The probability of failure can be considered none, less than 0.0001%.		

3.3 Failure size

The failure size rating is attributed to the part of the tree that is most likely to cause the most damage under normal conditions over the next three to five years.

Table 8: QTRA Size Ranges

Size Range	Size of part most likely to fail (diameter likely to impact target)	Impact Potential
1	>450mm	1/1 - >1/2
2	260mm - 450mm	1/2 - >1/8.6
3	110mm - 250mm	1/8.6 - >1/82
4	25mm - 100mm	1/82 - >1/2,500



3.4 Examples



Figure 2. Risk Assessment Example 1

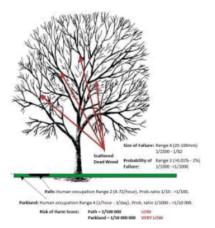


Figure 3. Risk Assessment Example 2

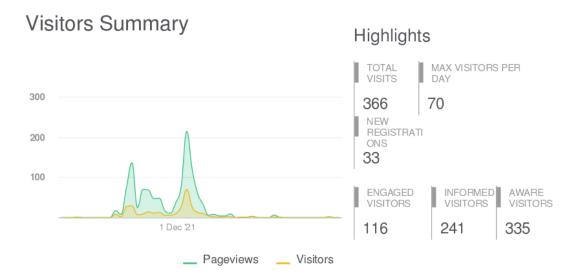
Project Report

16 January 2017 - 29 December 2021

Your Kingston Your Say

Tree removal application - former Kingswood golf course site (November 2021)





Aware Participants 335		Engaged Participants	116		
Aware Actions Performed	Participants	Engaged Actions Performed	Registered	Unverified	Anonymous
Visited a Project or Tool Page	335				
Informed Participants	241	Contributed on Forums	0	0	0
Informed Actions Performed	Participants	Participated in Surveys	116	0	0
Viewed a video	0	Contributed to Newsfeeds	0	0	0
Viewed a photo	0	Participated in Quick Polls	0	0	0
Downloaded a document	102	Posted on Guestbooks	0	0	0
Visited the Key Dates page	0	Contributed to Stories	0	0	0
Visited an FAQ list Page	0	Asked Questions	0	0	0
Visited Instagram Page	0	Placed Pins on Places	0	0	0
Visited Multiple Project Pages	123	Contributed to Ideas	0	0	0
Contributed to a tool (engaged)	116				

Your Kingston Your Say: Summary Report for 16 January 2017 to 29 December 2021

ENGAGEMENT TOOLS SUMMARY



Tool Type	Tool Type Engagement Tool Name	Tool Status	Visitors	Contributors		
				Registered	Unverified	Anonymous
Survey Tool	Tree removal application - survey (November 2021)	Archived	182	116	0	0

Your Kingston Your Say : Summary Report for 16 January 2017 to 29 December 2021

INFORMATION WIDGET SUMMARY



Widget Type	Engagement Tool Name	Visitors	Views/Downloads
Document	Kingswood Notice Map - Applications 2021.pdf	88	94
Document	Combined Arboricultural Reports - Kingwood 2021.pdf	32	32

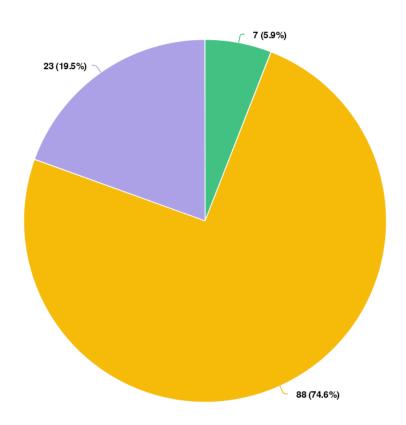
Your Kingston Your Say: Summary Report for 16 January 2017 to 29 December 2021

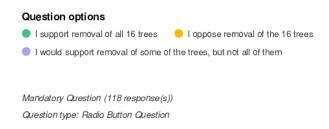
ENGAGEMENT TOOL: SURVEY TOOL

Tree removal application - survey (November 2021)



Do you support the application to remove 16 trees at the former Kingswood Golf Course site

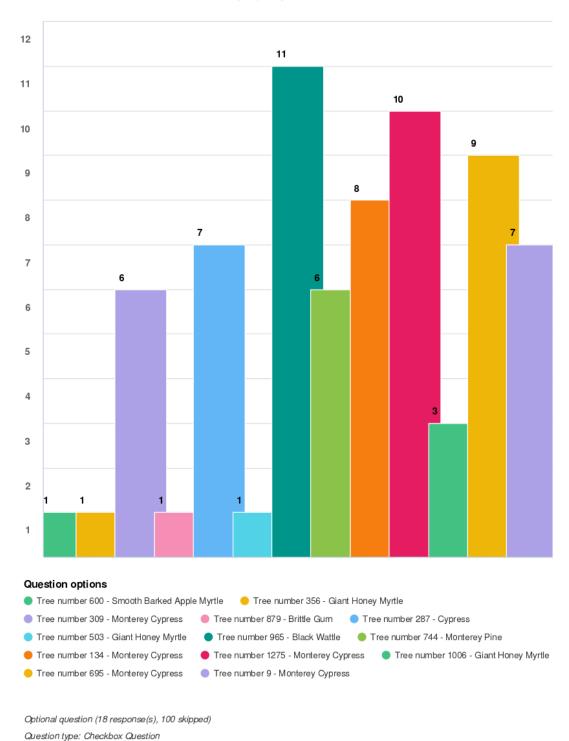




Page **4** of **5**

Your Kingston Your Say : Summary Report for 16 January 2017 to 29 December 2021

Which tree removals do you support? (as listed in the assessments document on the project page)



Page 5 of 5

Applicati on	Application Number	Tree Number	Botanical Name	Common Name	Origin	Height	Assessment	Summary of Risk	recommendation
1	PT-2021/579	600	Angophora cosata	Smooth barked Apple Myrtle	Native (planted)	10	Tree has co-dominant stems from base with decay in union and multiple fungal fruiting bodies.	Broadly acceptable 1/1 000 000	Refused - very low risk to health and safety, moderate environmental benefit
2	PT-2021/578	356	Melaleuca armillaris	Giant Honey Myrtle	Native (planted)	8	3 trees with poor structure, significant lean and a ULE of less than 5 years. Target for tree failure is nature strip used as pedestrian access. Removal supported	Broadly acceptable 1/1 000 000	Approve. Tree has a ULE of less than 5 years and provides a low level of amenity. Although the risk is broadly acceptable, tree failure will impact public realm, road and pedestrian access, meaning the cost of removing the tree or tree part of the tree due to traffic management requirements far outweigh any benefits the tree provides
3	PT-2021/577	309	Hesperocypa ris macrocarpa	Monterey Cypress	Exotic	10	Tree is in poor and declining health with poor structure. Target zone for tree failure is McLure Road and associated nature strip	Broadly acceptable 1/1 000 000	Approve. Tree has a ULE of less than 5 years and provides a low level of amenity. Although the risk is broadly acceptable, tree failure will impact public realm, road and pedestrian access, meaning the cost of removing the tree or tree part of the tree due to traffic management requirements far outweigh any benefits the tree provides
4	PT-2021/499	879	Eucalyptus mannifera	Brittle Gum	Native (planted)	10	Tree with sinificant dieback (>2/3 of canopy) and large amount of deadwood - very low risk to H&S due to position - epicormic growth from base indicates tree is likely to replace canopy and wil continue to provide to the local ecosystem	Broadly acceptable 1/1 000 000	Refused - do not support removal due to low riskto H&S and moderate env cointribution
5	PT-2021/500	1456	Melaleuca armillaris	Giant Honey Myrtle	Native (planted)		Tree has failed and is lieing on ground (canopy still full) - further failure is very unlikely (low risk to H&S), but tree is still providing low-mod env. contribution	No risk as tree has already failed	Refused - do not support removal due to very low risk of H&S, and low-moderate environmental contribution

6 PT-:	2021/495	287	Cupressus sp	Cypress	Exotic	10	Tree in poor health with thin canopy and areas of dieback observed, structure is likely to decline as the tree's health declines further		Approved - support removal due to short ULE and low env. contribution - 10m indigenous replacement
7 PT-:	2021/496		Melaleuca armillaris	Giant Honey Myrtle	Native (planted)	8	Included bark union at base of the tree is failing, multiple leaders are leaning on/over the fence and footpath	Unacceptable (where imposed upon others) 1/100 000	Approved - support removal due to declining structure and risk to H&S, 8m indigenous replacement required
8 PT-:	2021/660		Accacia mearnsii	Black Wattle	Native (deceased)		Tree is moribund and not going to recover	No target due to location	Approved - support removal indigenous replacement required
9 PT-:	2021/441	744	Pinus radiata	Monterey Pine	Exotic	14	dead pine tree, no neighbouring dwellings nearby, minimal landscape/env. contribution	Tolerable 1/500 000	Approved - low risk to H&S, but little env benefits from retention - support removal with 20m indigenous replacement
10 PT-:	2021/442			Giant Honey Myrtle	Native (planted)	6	(two trees) Inc bark unions at base are failing and the trees are spreading/lowering towards the ground - very low risk to H&S, do not support removal		Refused - very low risk to health and safety, moderate environmental benefit
11 PT-:	2021/329			Monterey Cypress	Exotic	10	Row of 7 trees that have declining structure and multiple previous failures	Broadly acceptable 1/1 000 000	Approved - tree group represent minor risk to H&S, but provide little ammenity/env benefit - support removal with 7 x 12m indigenous rpelacements

12 PT-2021/328	Hesperocypo ris 1275 macrocarpa	Monterey Cypress	Exotic	14	large cypress aproaching the end of it's ULE - multiple recent branch failures - trunk with lower trunk decay, and leaning towards the adjoining site and dwelling	Unacceptable (where imposed upon others) 1/30 000	Approved - removal supported due to H&S risk, to be replaced with a Spotted Gum (Corymbia maculata) to align with surrounding planting
13 PT-2021/330	Eucalyptus 420 cladocalyx	Sugar gum	Native (planted)	24	providing significant environemnetal benefit - significant mid trunk decay from failures on either side of trunk - while there is significnat mid- trunk decay, risk associated with this tree can likely be managed through pruning or via an exclusion zone	Broadly acceptable 1/1 000 000	Refused - risk appears managable through pruning or exclusion, moderate-high environemntal benfit
14 PT-2021/331	Melaleuca 1006 armillaris	Giant Honey Myrtle	Native (planted)	4	failed included bark union, one stem going towards footpath but has been caught by fence post - risk to public footpath if failure continues	Broadly acceptable 1/1 000 000	Approved - removal supported due to risk to H&S, 8m indigenous replacement
15 PT-2021/298	Hesperocypo ris 695 macrocarpa	Monterey Cypress	Exotic	16	Failure of one large trunk approximatly 12 months ago, another large strem with spearation at base and likely to fail, evidence of cypress canker infection throughout canopy	Unacceptable (where imposed upon others) 1/30 000	Approved - support removal due to risk to H&S, 20m indig. replacement
16 PT-2021/297	Hesperocypo ris 9 macrocarpa	Monterey	Exotic	14	Large cypress with signs of cypress canker within canopy - one leader on east side has recently failed, and there is a risk of further failure towards the adjoining property	Unacceptable (where imposed upon others) 1/30 000	Approved- support removal due to risk to H&S, 20m indigenous replacement

Former Kingswood Golf Course Local Law tree removal applications 2021. Photos of trees for January Council meeting

PT-2021/579 Tree 600



PT-2021/578 Tree 356



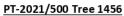
PT-2021/577 Tree 309





PT-2021/499 Tree 879







PT-2021/495 Tree 287



PT-2021/496 Tree503





PT-2021/660



PT-2021/441 Tree 744



PT-2021/442 Tree 1311 (2 trees)









PT-2021/329 Tree 134 (7 trees)





PT-2021/328 Tree 1275



PT-2021/330 Tree 420



PT-2021/331 Tree 1006



PT-2021/298 Tree 695



PT-2021/297 Tree 9





Planning Committee Meeting

23 February 2022

Agenda Item No: 4.5

PLANNING SCHEME AMENDMENT C204KING & C205KING-ENDEAVOUR COVE COMPREHENSIVE DEVELOPMENT ZONE

Contact Officer: Mathieu Maugueret, Strategic Planner

Purpose of Report

This report recommends that Council commence a Planning Scheme Amendment to introduce interim and permanent planning controls to amend Schedule 1 to the Comprehensive Development Zone (CDZ1) and replace the existing the Comprehensive Development Plan (CDP) for Endeavour Cove. The report also provides an overview of the outcomes of recently completed community consultation in relation the proposed new planning controls.

Disclosure of Officer / Contractor Conflict of Interest

No Council officer/s and/or Contractor/s who have provided advice in relation to this report have declared a Conflict of Interest regarding the matter under consideration.

RECOMMENDATION

That the Planning Committee:

- 1. Note the feedback received through the community consultation process undertaken between 17 January 2022 and 14 February 2022 (Appendix 1).
- 2. Request the Minister for Planning to use his power under Section 20(4) of the *Planning and Environment Act 1987* to prepare, adopt and approve Amendment C204king to the Kingston Planning Scheme, to apply an amended Schedule 1 to Clause 37.02 Comprehensive Development Zone (Appendix 2) and replace the existing Comprehensive Development Plan (Appendix 3).
- 3. Concurrently seek authorisation from the Minister for Planning to prepare Amendment C205king to permanently apply an amended Schedule 1 to Clause 37.02 Comprehensive Development Zone and replace the existing Comprehensive Development Plan and that once authorisation is received, prepare and exhibit the amendment.

1. Executive Summary

At its Ordinary Meeting on 13 December 2021, Council resolved to undertake community consultation on a draft Schedule to the Comprehensive Development Zone (CDZ), draft Comprehensive Development Plan (CDP) and draft Car Parking Assessment for the Endeavour Cove precinct and that a further report be brought back to Council outlining the results of community consultation and recommendations in relation to a Planning Scheme Amendment.

Community consultation was undertaken between 17 January 2022 and 14 February 2022 via Your Kingston Your Say. Letters were also sent directly to all properties and property owners affected by the Endeavour Cove Comprehensive Development Plan. Additionally, a targeted social media campaign was undertaken. Twelve written submissions (Appendix 1) were received, with four submissions in support, one in support subject to changes, six opposing and one seeking an executive summary. Concerns were raised in relation to parking and traffic, open space and built form.

Having considered all submissions received, it is recommended that Council:

- Request the Minister for Planning exercise his power to apply interim changes to Schedule 1 to Clause 37.02 Comprehensive Development Zone (CDZ1) and a new Comprehensive Development Plan (refer to Appendix 2 and 3)
- Concurrently seek authorisation from the Minister for Planning to prepare and exhibit a Planning Scheme Amendment which seeks to permanently implement the amended Schedule 1 to Clause 37.02 Comprehensive Development Zone and new Comprehensive Development Plan.

Application of interim controls will allow Council to effectively manage and assess any development proposals received during the intervening period until the permanent controls are determined. If approved, an interim CDZ1 would have a sunset clause necessitating the timely progress of a Planning Scheme Amendment for permanent controls. This approach is considered appropriate on the basis that:

- A recommendation of the Hall and Wilcox report was to commence the background work to progress the preparation of a Planning Scheme Amendment to revise and update the CDZ1 and the Comprehensive Development Plan.
- Initial community feedback has been sought and considered.
- An amendment to progress the controls on a permanent basis will be lodged concurrent to the interim request.
- Interim controls will resolve a number of deficiencies that have been identified in the current planning controls. This manages the risk of inappropriate development proposals occurring while the permanent controls are considered through an exhibited Planning Scheme Amendment process.

A Planning Scheme Amendment can take approximately 12 months, hence interim controls will provide a clearer statutory framework during this time and allow a full planning scheme amendment process to be undertaken including public exhibition and consideration of submissions through an independent Planning Panel process.

2. Background

On 23 March 2020 Council considered a report detailing the investigations of law firm Hall and Wilcox, who had been engaged by Council to review planning decisions and the planning controls relating to the Comprehensive Development Zone in Patterson Lakes. The investigation revealed a range of issues regarding the processing of applications in this precinct, driven by deficiencies identified within the existing CDZ1 and CDP. A recommendation of the report was to commence the background work to progress the preparation of a Planning Scheme Amendment to revise and update the CDZ1 and the Comprehensive Development Plan.

The Hall and Wilcox investigation specifically noted deficiencies within the current CDP. A new CDP has been prepared, informed by the work of Hansen Partnership and a detailed land survey of the precinct.

The background work for the CDP includes an analysis of existing conditions; a plan recommending updated precincts taking account of urban design considerations; and recommendations for precinct-based land uses and building scales. The CDP will assist in providing guidance for the few remaining sites that are undeveloped, as well as for sites that may be redeveloped in the medium term.

On the 13 December 2021, Council considered a report outlining the background work undertaken to inform a Planning Scheme Amendment. The Amendment would seek to address deficiencies within the current planning controls for Endeavour Cove in Patterson Lakes.

The following reports were prepared as part of the background work to inform the preparation of a Planning Scheme Amendment:

- A new draft Schedule to the CDZ was prepared by Council appointed consultants Hansen Partnership.
- A Car Parking Review completed by Stantec (formerly GTA Consultants) prepared to inform recommendations for car parking rates to be included in an updated planning control.
- A new draft Comprehensive Development Plan (CDP) prepared by Hansen Partnership to form part of the planning controls for Endeavour Cove.

Hall and Wilcox lawyers have reviewed the draft Schedule to the CDZ and advised that it addresses the primary concerns that had been identified in their report.

The Council Report also recommended that Council undertake community consultation with owners and occupiers of the area covered by the CDP for a period of four (4) weeks, prior to the finalisation of the proposed Planning Scheme Amendment material.

At its meeting on 13 December 2021 Council resolved:

That Council:

- 1. Note the attached draft Schedule to the draft Schedule to the Comprehensive Development Zone (Appendix 1), the attached draft Comprehensive Development Plan (Appendix 2) and attached draft Car Parking Assessment (Appendix 3).
- 2. Undertake community consultation as outlined in Section 3.3.3 of this report on the draft documents identified in recommendation 1. and that a further report will be brought back to Council outlining the results of community consultation providing recommendations in relation to a future Planning Scheme Amendment.

3. Discussion

3.1 Council Plan Alignment

Strategic Direction: Liveable - Our city will be a vibrant, enjoyable, and easy place to live.

Strategy: plan for changes in the population and the community's housing needs

A Planning Scheme Amendment is a necessary step in resolving a number of deficiencies that have been identified in the current planning controls. An amended CDZ schedule and CDP will assist in supporting future planning decisions that will be made in this precinct by providing clear guidance to decision makers.

3.2 Consultation/Internal Review

Internal consultation has been undertaken with those familiar with the use of the Victorian Planning Provisions and external advice has been sought to assist Council in the formulation of draft controls.

The CDZ Schedule and CDP were also informed through preliminary consultation with officers from the Department of Environment, Land, Water and Planning (DELWP) including the structure of the Schedule, and the ability to retain car parking requirements within the table of uses. Hall and Wilcox have also assisted in reviewing the draft controls.

A 4-week community consultation was undertaken between 17 January 2022 and 14 February 2022 via Your Kingston Your Say. Letters were also sent directly to all properties and property owners affected by the Endeavour Cove Comprehensive Development Plan. Additionally, a targeted social media campaign was undertaken.

Twelve written submissions (Appendix 1) were received, four in support, one in support subject to changes, six opposing and one seeking an executive summary.

Consideration of issues raised in submissions is provided below:

Parking and Traffic

A number of submissions have identified parking and/or traffic as a key issue. The submissions have suggested that the proposed changes have the potential to worsen the traffic congestion along McLeod Road and impact on the health and wellbeing on the community as a result of car parking.

It is considered that the car parking rates specified in the amended CDZ1 adequately respond to the needs of the of the area. As part of the development of the background work, Stantec undertook a car parking analysis which informed the car parking rates, specified in the CDP.

The community will have further opportunity to comment on this matter as part of the exhibition of a future Planning Scheme Amendment.

Open Space

A submission highlighted that there still needs to be more emphasis placed on parks, children play areas and walkways.

The CDP seeks to enhance the public realm as development opportunities arise, and these include the provision of landscaping or landscape buffers to the edges of redevelopment sites and improving the pedestrian environment with better connectivity and footpaths.

The community will have further opportunity to comment on this matter as part of the exhibition of a future Planning Scheme Amendment.

Built Form

A submission identified that the maximum building height should not be more than 4-storeys with a further submission identifying that a maximum height control of 2-3 storeys would be a more appropriate outcome and that a maximum of 50% site coverage would be beneficial. In addition, the submission also suggested that a 5m building separation would be a better outcome in terms of natural light and character.

The proposed precinct-based guidelines for the new developments specified in the updated CDZ1 are considered to respond to the Endeavour Cove environs. The guidelines were developed by urban design firm Hansen Partnership following a detailed investigation of the as-built conditions and the predominant existing building heights and character identified in each precinct of Endeavour Cove. Consideration has been given to matters including building heights, setbacks and site coverage to ensure that future built form does not create negative visual or amenity impacts.

The community will have further opportunity to comment on this matter as part of the exhibition of a future Planning Scheme Amendment.

3.3 Operation and Strategic Issues

3.3.1 Interim Controls

Interim planning controls are typically applied to ensure that inappropriate development does not occur whilst permanent controls are being processed through a full planning scheme amendment and exhibition process. This manages the risk of inappropriate development that does not align with the Endeavour Cove Comprehensive Development Plan (December 2021).

Council can make a request to the Minister for Planning to exercise his powers pursuant to section 20(4) of the Act to apply or extend an interim planning control via a Ministerial Amendment. Practice Note 29 'Ministerial Powers of Intervention' refer to circumstances when the Minister may undertake a section 20(4) amendment. This includes that: "The matter will be the introduction of an interim provision or requirement and substantially the same provision or requirement is also subject to a separate process of review (such as the introduction of permanent controls in a planning scheme)."

It is recommended that Council request the Minister for Planning to intervene with a Ministerial Amendment by applying interim changes to Schedule 1 to Clause 37.02 Comprehensive Development Zone (CDZ1) and CDP (refer to Appendix 2, 3 and 4). It is considered that the application of interim controls will allow Council to effectively manage and assess any development proposals received during the intervening period until the permanent controls are determined. If approved, an interim CDZ1 would have a sunset clause necessitating the timely progress of a Planning Scheme Amendment for permanent controls.

It is recommended that Council request the Minister for Planning to apply interim changes to the CDZ1 on the basis that:

- A recommendation of the Hall and Wilcox report was to commence the background work to progress the preparation of a Planning Scheme Amendment to revise and update the CDZ1 and the Comprehensive Development Plan.
- Initial community feedback has been sought and considered.
- An amendment to progress the controls on a permanent basis will be lodged concurrent to the interim request.
- Interim controls will resolve a number of deficiencies that have been identified in the current planning controls. This manages the risk of inappropriate development occurring while the permanent controls are considered through a Planning Scheme Amendment process.

3.3.2 Permanent Controls

A planning scheme amendment is required to implement the proposed changes on a permanent basis. It is recommended that Council seek authorisation from the Minister for Planning to prepare Amendment C205king to apply permanent changes to the CDZ1 and CDP, and that once authorisation is received, prepare and exhibit the amendment. This amendment would replicate the attached interim control. The Planning Scheme Amendment will take approximately 12 months and importantly, include public exhibition and potential consideration of submissions through a Planning Panel.

4. Conclusion

4.1 Resource Implications

There are financial and officer resources required to seek both interim and permanent controls. These can be accommodated within the Strategic Planning Team's existing operational budget and resourcing. Should a Planning Panel be required as part of seeking permanent planning controls the cost would likely be \$80,000 - \$120,000 for panel fees, representation, and expert witnesses.

4.2 Legal / Risk Implications

Progressing a Planning Scheme Amendment is a recommendation of the Hall and Wilcox review and will further assist decision making when applications are lodged in the future for Council consideration.

Appendices

Appendix 1 - Community Consultation - Combined Submissions (Redacted) (Ref 22/37694)

Appendix 2 - Amendment C204KING - Schedule 1 to Clause 37.02 Comprehensive Development Zone (CDZ1) (Ref 22/37637)

Appendix 3 - Endeavour Cove Comprehensive Development Plan (CDP) (Ref 22/38154)

Author/s: Mathieu Maugueret, Strategic Planner
Reviewed and Approved By: Rita Astill, Team Leader Strategic Planning

Paul Marsden, Manager City Strategy

Jonathan Guttmann, General Manager Planning and

Development

4.5

PLANNING SCHEME AMENDMENT C204KING & C205KING- ENDEAVOUR COVE COMPREHENSIVE DEVELOPMENT ZONE

1	Community Consultation - Combined Submissions							
	(Redacted)	. 377						
2	Amendment C204KING - Schedule 1 to Clause 37.02							
	Comprehensive Development Zone (CDZ1)	. 395						
3	Endeavour Cove Comprehensive Development Plan (CDP)	403						

		Respondent No: Login: Email:	1			Responded At: Last Seen: IP Address:	Jan 17, 2022 11 Jan 17, 2022 00	
Q1.	Full na	ame:						
Q2.	Addre	ss:						
Q3.	Subur	b:			WATERWAYS	, VIC		
Q4.	Email	address:						
Q5.	Conta	ct number						
Q6.	Position	on on the amendm	nent: I do/do r	ot support the	amendment b	ecause		
	I think th	nat the entire area r	needs to be cle	eaned and fixed	up so the comn	nunity can fully util	ize the waterways	at our disposal.
Q7.	You m	ay attach addition ed:	nal informatio	n if	not answered			

Respondent No: 2 Login: Email:	Responded At: Jan 18, 2022 17:44:25 pm Last Seen: Jan 18, 2022 06:19:44 am IP Address:
Q1. Full name:	
Q2. Address:	
Q3. Suburb:	PATTERSON LAKES, VIC
Q4. Email address:	
Q5. Contact number	

Q6. Position on the amendment: I do/do not support the amendment because...

Hi Tanya, Massive detailed document set so I do not expect you will get too many people who will read it all. I admit I just skimmed through it. Local Character & Building Height The biggest threat I see to the character of this area is over development and more high rises. The skyline as seen from and along the Patterson River and the river's general environs and from McLeod Road should not be changed or diminished. Pier One has already been approved, but all new developments need to keep within the 2-3 story height already common in the area. Boat stacker is an exemption as it's a specific service provision for the boating community which brings in boaters who spend money at the local boat businesses and restaurants. Traffic & Parking This is always a concern, especially when adding more homes. Lots of trailers and rubbish cars and boats are left on Inner Harbour drive so this could be cleaned up a bit too. Page 24 - Development Capacity Consideration You are proposing a 60% site coverage but I think that 50% would be more beneficial as your Table 6 shows you are not even currently over 50% Page 25 - Building Separation -- I think the wider 5m/ 5m proposal is better for natural light and a community character as it will reduce the feeling that the homes are high density Page 30 - Cove Development -- I think the redevelopment option two would give a better end result. This could look great. Page 34 -- I think this is a theoretical discussion but it would be nice to remove the servo and carwash. But I think a lot of boaters use the carwash to clean boats on the way home so they may not like that either. Will also improve the look of inner harbour drive.

Q7. You may attach additional information if required:

not answered

Respondent No: 1 Login: Email:	Responded At: Jan 21, 2022 09:41:34 am Last Seen: Jan 20, 2022 22:37:40 pm IP Address:
Q1. Full name:	
Q2. Address:	
Q3. Suburb:	PATTERSON LAKES, VIC
Q4. Email address:	
Q5. Contact number	
Q6. Position on the draft amendment: I do/do not sup This project in respect to car parking will compromise	
	•
Q7. You may attach additional information if required:	not answered

	Respondent No: 2 Login: Email:			Responded At: Last Seen: IP Address:	Jan 24, 2022 13: Jan 24, 2022 02:	·
Q1. Full n	ame:					
Q2. Addre	ess:					
Q3. Subui	rb:		PATTERSON I	LAKES, VIC		
Q4. Email	address:					
Q5. Conta	ct number					
Q6. Position on the draft amendment: I do/do not support the draft amendment because I do not support this project. Mcleod Road is already subject to heavy traffic and congestion whether it is because of boating, the cove or general river and beach visitors. The area is already congested enough. On top of that the view off local residents will be affected and also the noise and traffic levels will be immense. This will also impact on The Marina which is protected at the moment and the local wildlife. A few units one or two story may be have room for them but this is not Highett near the railway station which is becoming a monster. I am all for progress but this is over the top for this area. Perhaps further down the river or preferably develop that aged care place that was burned down. This is just greed for dollar sakes with no consideration or repect for the area, residents, or wildlife in my opinion. Please reconsider, very unhappy reading this.						
Q7. You n	nay attach additional i red:	nformation if	not answered			

Respondent No: 3 Login: Email:	Responded At: Jan 26, 2022 14:50:33 pm Last Seen: Jan 26, 2022 03:41:46 am IP Address:
Q1. Full name:	
Q2. Address:	
Q3. Suburb:	PATTERSON LAKES, VIC
Q4. Email address:	
Q5. Contact number	
Q6. Position on the draft amendment: I do/do not supp	ort the draft amendment be cause
	oses a watering down of carparking requirements from the original ssues in the area, and any reduction of these parking requirements in e catastrophic for the precinct as a whole.
Q7. You may attach additional information if required:	not answered

	Respondent No: 4 Login: Email:	L	Responded At: .ast Seen: P Address:	Jan 27, 2022 12: Jan 27, 2022 01:	
Q1. Full na	me:				
Q2. Addres	ss:				
Q3. Suburk) :	PATTERSON LA	AKES, VIC		
Q4. Email a	address:				
Q5. Contac	t number				
The draf	on on the draft amendment: I do/do not it amendment contains a lot of detail, whi executive summary is necessary highligh	ch I am sure is necessar			the detail and I
Q7. You ma	,	not answered			

required:

	Respondent No: 1 Login: Email:		Responded At: Last Seen: IP Address:	Feb 01, 2022 17:33:32 pm Feb 01, 2022 06:11:26 am	
Q1. Full n	ame:				
Q2. Addre	ss:				
Q3. Subur	b:	PATTERSON	LAKES, VIC		
Q4. Email	address:				
Q5. Conta	ct number				
Q6. Position on the draft amendment: I do/do not support the draft amendment be cause I do support the draft amendment as it appears to have well considered controls on overdevelopment. It offers generous potential development and amenity compared to what currently exists and will transform the precinct into a much more enjoyable lifestyle destination. It ensures that future development is at heights lower than the existing 6 storey Pier 1 Apartments and the big green shed - nothing in the future should be higher than this to avoid over-development. The previously proposed 10 story developments were quite frankly abhorrent - this development plan for the precinct is an exciting plan for the future. I'm currently a top floor, east facing resident of the Pier 1 Apartments. Whilst the proposed plan will eliminate my views of the Marina itself, I would maintain the more distant views of the Dandenongs and beyond. As beautiful as my Marina view is, losing it is a compromise I'll accept to gain the overall improvements to liveability, destination, amenity and the lifestyle of the precinct as detailed in the draft amendment. Well done!					
Q7. You n	nay attach additional information	n if not answered			

	Respondent No: 2 Login: Email:		Responded At: Last Seen: IP Address:	Feb 02, 2022 11: Feb 01, 2022 23:	
Q1. Full na	ame:				
Q2. Addre	ss:				
Q3. Subur	b:	FRANKSTON,	VIC		
Q4. Email	address:				
Q5. Conta	ct number				
Q6. Positi	on on the draft amendment: I do	o/do not support the draft am	endment because	e	

I do not support the draft amendment specificially around car parking because I do not believe that the amount of parking being allocated will not be enough for the area and as a result there will be spill over into neighbouring areas. As an example in Pier One where I am an owner almost everyone of almost 20 of the two bedroom unit tenants that I have spoken to over the years have two cars as each person owns their own car. With only one car park the second person either parks across the road in the hotel parking running the risk of being towed or across the other side of McLeod Road in the residential area blocking peoples access to their own driveways. With more apartments being proposed this problem will only get worse. To be very frank your ABS data and findings does not represent the real world of parking especially related to apartment dwellings. Also it should be noted that during COVID when the Cove Hotel was shut there was extra parking in the hotel so that is not a true repesentation of what the car parking will be post pandemic. In relation to the broader planning proposal it looks fine except it still needs more emphasis on green zones, parks, children play areas, walkways. The current developer has effectively just built a concrete jungle which is extremely sterile for the area. Clear obligations on the developer to improve this is needed to help with the overall Endeavor Cove area. I would strongly recommend that any future developments by the developer should come with the caveat that they provide green zones as part of the change.

Q7. You may attach additional information if not answered required:

Respondent No: 3 Login: Email:	Responded At: Feb 03, 2022 14:37:10 pm Last Seen: Feb 03, 2022 03:33:48 am IP Address:
Q1. Full name:	
Q2. Address:	
Q3. Suburb:	PATTERSON LAKES, VIC
Q4. Email address:	
Q5. Contact number	
Q6. Position on the draft amendment: I do/do not support I do support the draft amendment	ort the draft amendment because
Q7. You may attach additional information if required:	not answered

	Respondent No: 1 Login: Email:		Responded At: Last Seen: IP Address:	Feb 07, 2022 2 Feb 07, 2022 1	
Q1. Full n	ame:				
Q2. Addre	ess:				
Q3. Subu	rb:	PATTERSON	LAKES, VIC		
Q4. Email	address:				
Q5. Conta	act number	not answered			
Q6. Positi	ion on the draft amendment: I do/do not su	pport the draft an	nendment becaus	е	
	t support the draft amendment as it proposes ents on the traffic report for more information.	to reduce the parki	ng requirements of	the precinct. Plea	ase see attached
Q7. You n	may attach additional information if red:				

ENDEAVOUR COVE - DRAFT PLANNING SCHEME Traffic Report comments.

To whom it may concern.

I would like to thank Council for the opportunity to provide feedback on the proposed Endeavour Cove planning amendments, as decisions made now will permanently affect the residents for a lifetime.

I have read through the provided draft traffic report and found several serious errors that need to be corrected which I have listed below. It has also made some assumptions / conclusions on little real evidence in attempt to reduce the parking requirements for the precinct. I do hope Council does a thorough fact check / critical review of this report before any decisions are made. The report is flawed and I have highlighted the errors and issues in the discussions below.

Basic Errors

Page 9 - incorrectly called Attunga (actually PIER 9) - 117 Mcleod Rd. There are actually 65 dwellings (not 32 as stated in the report). I am on the owners corporation committee and can confirm there are 65 dwellings.

Page 13 - table incorrectly again incorrectly states PIER 9 number of dwellings as 32 - should be 65 dwellings.

Page 14 - Table 4 incorrectly states average number of cars per household for Endeavour Cove as "only" 1.7. It is unknown how this figure was obtained as there is no suburb called Endeavour Cove. For Patterson Lakes it is actually 1.9 cars per household (refer screenshot below). You can easily



verify this yourself by visiting the Aus Bureau of Statistics website "quick stats" and submitting Patterson Lakes.

The following paragraph after table 4 then proceeds to argue that the provision of two car parks for each dwelling is an over provision of parking. Clearly each residence has on average two cars per dwelling, and you can't round down 1.9 cars. The schedule 1 provision to Clause 37.02 is clearly correct requiring a minimum 2 car parks per residence.

Other discrepancies / assumptions / omissions in the report.

Riverbank Car Park & boat ramp.

This carpark is nearly always closed despite signs saying its only closed 8pm to 7am. It is briefly opened for the swim school classes at various times of the day and occasional boat launches. As it is controlled by the privately run marina, it could not be considered as accessible parking for the public. Photos of it closed at various times of the day can be provided.

It should be noted that the Riverbank carpark is also used to launch trailer boats via the boat ramp. In summary you could have marina users, swim school parents/kids and boat launches with trailers all using the same public carpark simultaneously. Cars with boat trailers take up more room in the carpark.

North Shore Drive

Another bold assumption made in the report is that based on nearmap aerial photos taken, that there is excess capacity for carparking along North Shore Drive. It also notes that the nearmap photos are usually taken during the middle of the day, when everyone is away at work. This use of limited photos to justify an argument is flawed. Peak parking time is often at night when everyone is home and the most intense requirement for parking begins. Parking surveys would need to be conducted at all times of the day, not just be based on

a selection of photos.

As I write this report in the late afternoon, the Nth shore carpark is nearly full. Again photos can be provided. I can assure Council, that for every photo a traffic consultant provides showing car parks empty or with excess capacity, the residents can provide many more photos showing the carparks full.

The report also tries to raise the idea of sharing the Riverbank & North shore parking between the various stakeholder groups. It also suggests a valet parking system. This seems a rather fanciful solution. How would this be permanently monitored, administered and even enforced between the differient properties/owners corporations and public land is absent from the report. Throw in a complicated lease arrangement with the Cove hotel for additional parking spaces and the whole flimsy arrangement is surely doomed to failure.

Clearly the agenda of the report is to try & reduce the parking requirements in the precinct.

The report continuously spruiks clause 52.06 as the parking standard that should be applied to the precinct. But clause 52.06 just doesn't work in the outer suburbs of Melbourne where most households have two cars. One only has to drive down the nearby Canberra or Myola streets where multiple unit developments have been approved under this provision. At nightime when everyone is home and cars line both sides

of the street, road users have to play "chicken" with oncoming cars to see who can get through safely. These are great examples of the dysfunctional clause 52.06 at work.

I can also speak directly with experience as an owners corporation committee member that has to administer parking arrangements in Pier 9. It is a never ending battle to stop owners for the few units that only have one car space, from parking in the visitors car park. We have had to have vehicles towed. Speaking with residents from Pier one, they are also experiencing similar problems. It would be completely irresponsible for Council to support reductions in the current CD1Z planning scheme parking given the above actual evidence.

The precinct parking capacity was seriously reduced when the Pier 1 development removed approximately 70 parking spaces specified on the original development plan. This decision effectively permanently crippled the parking capacity of the precinct forever.

Clearly this traffic report cannot be used for any recommendations. It has several errors and assumptions that have been made on very little evidence. Any reports should take into account the actual issues / lived experiences of the residents, and not rely on desk top reports that bear little resemblance to reality.

It was disappointing to see numerous residents concerns and evidence of parking issues dismissed by a previous traffic report and the report supported by Council officers for a previous parking reduction proposal. However residents concerns were clearly vindicated in VCAT later where the application to reduce the CD1Z parking requirements was dismissed.

In summary, any development has to provide enough self contained parking on their site, and not push their parking requirements onto the surrounding properties and streets. The current CD1Z parking provisions negate this damaging practice.

Any reduction in parking requirements for the precinct would inflict endless parking misery on the current and future residents now and in the future.

	Respondent No: 2 Login: Email:		Responded At: Last Seen: IP Address:	Feb 10, 2022 14:50:52 pm Feb 10, 2022 03:49:40 am
Q1. Full n	ame:			
Q2. Addre	ss:			
Q3. Subui	b:	WATERWAYS,	VIC	
Q4. Email	address:			
Q5. Conta	ct number			
	on on the draft amendment: I do/do		endment because	·
Q7. You n	nay attach additional information if ed:	not answered		

errateol: Bannino Bridearour Cove Comprehensive Development Mar Sunday, 33 February 2022, 130-52 PM Image 2000, Crost

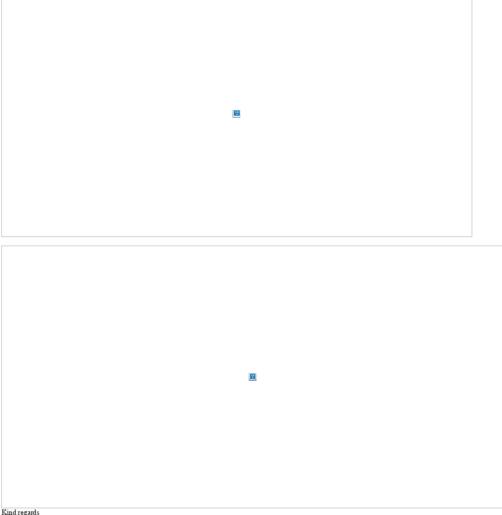
Good Afternoon.

It is clear to residents that apart from existing residential blocks amongst the townhouses, that Endeavour Cove is already "built out" - no new high rise developments would improve the area and in fact would be a blight on the area.

After perusing the Draft Comprehensive development plan I suggest the following

- A 4 story maximum height limit for any additional buildings in Endeavour Cove moving forward
 A refusal of the proposal for 2 x 10 story towers on the site of the green shed and adjacent land (where the Gym and Swimming Pool are)
- The open land in front of the the swimming pool/gym building at the rear of the Cove Hotel, be leased to the Cove Hotel for an open space Beer Garden or other open space activities (picnic tables and BBQ's or playground)
- . Any redevelopment of the Green Shed (boat storage) have a combination of residential and retail and sufficient parking for over flow from the Marina, Cove
- Any recevelopment or the Green Shed (poat storage) have a combination of residential and retail and sufficient parking for over flow from the Manna, Cove
 Hotel and other visitors it should also include public open space in the design.
 Any new development require community consultation and a full town planning approval process
 Any large development have consideration on impact on infrastructure (water and sewer especially) a Preliminary Advice from the relevant water company to be included in any large commercial/residential development moving forward
- The vacant land/car park directly to the North of the Pier 1 apartments (as noted as lot A on below photo Diagram 1) to be made into a permanent, publicly accessible overflow park facility for Marina, Cove Hotel and Pier 1 visitors

 The vacant land to the East (as noted as lot B diagram 1 on below photo) of the Cove Hotel to either be made into a permanent overflow car park for the Cove Hotel and other residents OR turned into a open space area
- Consideration to redevelop the car park to the north of the green shed (the riverside carpark) as noted on the below (diagram 2) to be a combined open space/carpark that is accessible via secure keyfob after hours to residents and Marina members and gate is not to be controlled by the Marina owner (who only opens the gate between certain hours) During daylight hours this carpark should be freely available to all.



Kind regards

--/--/ Proposed C204king

SCHEDULE 1 TO CLAUSE 37.02 COMPREHENSIVE DEVELOPMENT ZONE

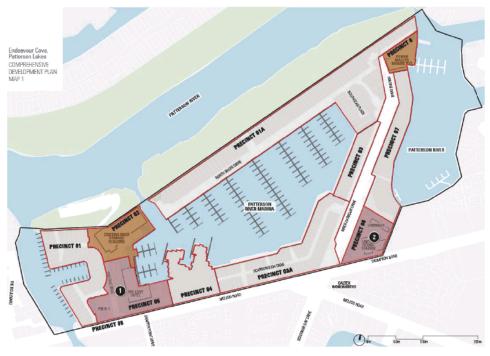
Shown on the planning scheme map as CDZ1.

ENDEAVOUR COVE COMPREHENSIVE DEVELOPMENT PLAN

Land

This schedule applies to the land defined by the "Endeavour Cove Comprehensive Development Plan (December 2021)" as incorporated into this scheme. The land is shown on the planning scheme maps as CDZ1.

Plan 1 to Schedule 1 to Clause 37.02



Note: This plan is a reproduction of the Endeavour Cove Comprehensive Development Plan, December 2021.

Purpose

- To encourage the development of land south of the Patterson River and north of McLeod Road, Patterson Lakes as a marina-based mixed use area.
- To assist the coordinated development of the land for marina facilities, boat storage, boat servicing and accommodation, tourism, office, entertainment, retailing and associated uses.
- To ensure that the combination of uses, their overall density and the scale, character and level
 of development are compatible with:
 - . The amenity of the surrounding area and the nature of the surrounding uses.
 - The skyline as seen from and along the Patterson River, the river's general environs, and McLeod Road.
 - The capacity of the existing road system and any proposed modifications to accommodate an increase in traffic.

Page 1 of 7

- . The capacity of existing essential services and any proposed modifications.
- The health and safety of nearby residential areas, contribute to a high standard of urban and landscape design and are intended to serve people who are using the marina-based or recreation-related uses or who work or live in the zone.
- To ensure retailing in the zone complements the Patterson Lakes Shopping Centre, servicing
 the existing and future residents in the surrounding area.
- To encourage a high standard of urban design and establish a distinctive identity.

1.0 Table of uses

--/---Proposed C204king

Section 1 - Permit not required

Use	Condition
Accommodation (other than Corrective Institution, Residential hotel, and Residential aged care facility)	Within Precinct 1 car parking for a Dwelling must be provided at the ratio of at least 2 covered spaces and 1 visitor space to each dwelling.
Art gallery	Must be in Precinct 5 or 8.
Boat and caravan storage	Must not be located within Precincts 1,1A,3,3A,4, or 7.
Home based business	
Informal outdoor recreation	
Motor vehicle, boat, or caravan sales (other than Car sales)	Must not be located within Precincts 1,1A,3,3A,4, or 7.
	Car parking must be provided at the ratio of at least 4 spaces to each 100 square metres of leasable floor area and 0.1 space for each boat displayed for sale in Endeavour Cove Marina or on open land.
Office (other than Medical centre)	Must not be located within Precincts 1,1A,3,3A,4, or 7.
Recreational boat facility	Must not be located within Precincts 1,1A,3,3A,4, or 7.
	Car parking must be provided at the ratio of at least 0.6 space to each wet berth, 0.2 space to each boat space in dry stack storage or on a trailer and 0.5 space to each Marina employee.
Restaurant	Must not be located within Precincts 1,1A,3,3A,4, or 7.
Shop	Must not be located within Precincts 1,1A,3,3A,4, or 7.
Any use listed in Clause 62.01	Must meet the requirements of Clause 62.01

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Section 2 - Permit required

Use	Condition		
Industry (other than Materials recycling, and Motor repairs)	Must not be located within Precincts 1,1A,3,3A,4, and 7.		
	Must not be a purpose shown with a Note 1 or Note 2 in the table to Clause 53.10. The land must be at least the following distances from land (not a road) which is in a residential zone or Business 5 Zone, land used for a hospital or school or land in a Public Acquisition Overlay to be acquired for a hospital or school:		
	The threshold distance, for a purpose listed in the table to Clause 53.10.		
	30 metres, for a purpose not listed in the table to Clause 53.10		
Motor Repairs	Must not be located within Precincts 1,1A,3,3A,4,		
	or 7.		
Residential hotel	Must not be located within Precincts 1,1A,3,3A,4, or 7.		
	Car parking for a Residential hotel must be provided at the ratio of at least 0.6 space to each accommodation unit, 0.5 space to each seat in the dining room, 0.3 space to each seat in the convention or meeting room and 0.25 space to each square of lounge.		
Retail premises (other than Motor vehicle, boat, or caravan sales, Restaurant and Shop)	Must not be located within Precincts 1,1A,3,3A,4, or 7.		
Service station	Must be located within Precinct 8.		
Warehouse (other than Boat and caravan storage, Freezing and cool storage, Fuel depot, Mail centre, and Milk depot)	Must not be located within Precincts 1,1A,3,3A,4, or 7.		
Any other use not in Section 1 or 3			

Section 3 - Prohibited

Use
Adult sex product shop
Animal husbandry (other than Apiculture)
Brothel
Car sales
Cemetery

Page 3 of 7

Use

Corrective institution

Crematorium

Extractive industry

Freezing and cool storage

Fuel depot

Materials recycling

Milk depot

Motor racing track

2.0

Use of land

--/--/ Proposed C204king

Requirements

The use of land must be generally in accordance with the *Endeavour Cove Comprehensive Development Plan (December 2021)*.

Application requirements

The following application requirements apply to an application for a permit under Clause 37.02, in addition to those specified in Clause 37.02 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- The purpose of the use and the types of activities which will be carried out.
- The likely effects, if any, on adjoining land, including noise levels, the hours of delivery
 and dispatch of goods and materials, hours of operation and light spill, solar access and glare.
- The means of maintaining land not required for immediate use.
- If an application seeks to apply lesser rates than specified in the table of uses, a Car Parking Demand Assessment in accordance with Clause 52.06-7.

Decision guidelines

The following decision guidelines apply to an application for a permit under Clause 37.02, in addition to those specified in Clause 37.02 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- The effect that existing uses may have on the proposed use.
- The impact of traffic generated by the proposal and whether it is likely to require special traffic management or control works in the neighbourhood.
- The interim use of those parts of the land not required for the proposed use.
- The appropriateness of providing required car parking spaces within the riverbank car park.

3.0 Subdivision

--/--/ Proposed C204king

Decision guidelines

The following decision guidelines apply to an application for a permit under Clause 37.02, in addition to those specified in Clause 37.02 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- The interface with adjoining zones, especially the relationship with residential areas.
- The effect the subdivision will have on the potential of the area to accommodate the uses which will maintain or enhance its competitive strengths.

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4.0 Buildings and works

Proposed C204king

Requirements

No permit is required to construct a building or construct or carry out works for the following:

- The construction or extension of one dwelling on a lot with an area of 300 square metres or more.
- The construction or carrying out works normal to a dwelling.
- Construction or extension of an out-building (other than a garage or carport) on a lot provided the
 gross floor area of the out-building does not exceed 10 square metres and the maximum building
 height is not more than 3 metres above ground level.
- · The installation of an automatic teller machine.
- An alteration to an existing building facade provided:
 - . The alteration does not include the installation of an external roller shutter.
 - At least 80 per cent of the building facade at ground floor level is maintained as an entry or window with clear glazing.
 - An awning that projects over a road if it is authorised by the relevant public land manager.

The following requirements apply to an application to construct a building or construct or carry out works:

- A permit cannot be granted to exceed the mandatory maximum height specified for a Precinct as shown on the Endeavour Cove Comprehensive Development Plan (December 2021).
- Other than jetties and moorings, a permit cannot be granted to construct buildings and works outside the precinct boundaries shown on the Endeavour Cove Comprehensive Development Plan (December 2021).
- If the land is in a Special Building Overlay, Land Subject to Inundation Overlay or is land liable
 to inundation the maximum building height specified in the zone or schedule to the zone is
 the vertical distance from the minimum floor level determined by the relevant drainage
 authority or floodplain management authority to the roof or parapet at any point.
- The development of land for the following must meet the requirements of Clause 55. This does not apply to a development of five or more storeys, excluding a basement:
 - . A dwelling if there is at least one dwelling existing on the lot
 - . Two or more dwellings on a lot
 - . A dwelling or extension of a dwelling if it is on common property
 - A residential building or extension of a residential building
- The development of one dwelling on a lot less than 300 square metres must meet the requirements of Clause 54.
- The maximum building height and maximum number of storeys requirements in this schedule apply whether or not a planning permit is required for the construction of a building.

Application requirements

The following application requirements apply to an application for a permit under Clause 37.02, in addition to those specified in Clause 37.02 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- Plans drawn to scale and dimensioned which show:
 - . The boundaries and dimensions of the site.
 - . Adjoining roads.
 - . The location, height and use of buildings and works on adjoining land.

Page 5 of 7

- . Levels of the site and the difference in levels between the site and surrounding properties to a defined point at the site boundaries or to Australian Height Datum (AHD).
- Any contaminated soils and filled areas, where known.
- . The layout of existing and proposed buildings and works.
- . The internal layout and use of the proposed development.
- All access and pedestrian areas.
- All driveway, car parking and loading areas.
- Existing vegetation and proposed landscape areas.
- . All external storage and waste treatment areas.
- . The location of easements and services
- . Elevation plans drawn to scale and dimensioned which show:
 - The building form and scale.
 - Setbacks to property boundaries.
 - Finished floor levels and building heights to a defined point at the site boundaries or to Australian Height Datum (AHD).
- A schedule of finishes for the proposed development detailing materials and colours of external surfaces including walls, roofs and fences.
- A landscape plan which includes the description of vegetation to be planted, the surfaces to
 be constructed, site works specification and method of preparing, draining, watering
 and maintaining the landscape area. Construction details of all drainage works, driveways,
 vehicle parking and loading areas.
- A Traffic Impact Assessment Report.

Decision guidelines

The following decision guidelines apply to an application for a permit under Clause 37.02, in addition to those specified in Clause 37.02 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- The Endeavour Cove Comprehensive Development Plan (December 2021) and Precinct Guidelines in Clause 5 of this Schedule.
- The effects of future sea level rises, based on a projected sea level rise of 30cm to 2040.
- Points of access to and from the land and whether they are suitably located.
- The layout of car parking areas and associated accessways.
- The impact of traffic generated by the proposal and whether it is likely to require special traffic management or control works in the neighbourhood.
- The visual impact of the proposed development when seen from and along the Patterson River and the river's general environs and from McLeod Road.
- The shadows cast by buildings in the zone exceeding two storeys between 11.00am and 2.00pm on 22 June.
- The opportunity to provide additional landscaping within the riverbank carpark, and enhancements to increase the amenity and useability of this public open space area.

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- The streetscape, including the provision of pedestrian footpaths, active frontages to
 pedestrian areas, the treatment to the fronts and backs of buildings and their appurtenances,
 illumination of buildings or their immediate spaces and the landscaping of land adjoining a
 road.
- · The wind conditions in pedestrian areas.

5.0 Precinct Guidelines

--/--/ Proposed C204king

Precincts 1, 1A,3,3A,4, and 7

A low level of change will be accommodated within these precincts, which are typified by fine grained residential allotments and strata titled apartments.

The preferred neighbourhood character for this precinct will see development maintain the existing low-rise residential character, responding to the prevailing height, setbacks, subdivision pattern and massing arrangement of existing medium density development.

Maximum building heights, and expectations in relation to setbacks, primary street address, and vehicle access are set out in the Endeavour Cove Comprehensive Development Plan, (December 2021).

Precincts 2 and 6

An incremental level of change will be accommodated within these precincts, including larger nonresidential sites which are currently occupied by boat storage facilities, and boat sales and boat repairs businesses. These facilities support the marina-based precinct function and may continue to operate in the long term.

The preferred neighbourhood character for this precinct will see development continue to support the marine-based uses, with opportunities to contribute positively to the public realm and the overall precinct image. On-going commercial operations will continue to minimise amenity impacts on residential precincts. Maximum building heights, and expectations in relation to setbacks, primary street address, and vehicle access are set out in Endeavour Cove Comprehensive Development Plan, (December 2021).

Precincts 5 and 8

Precincts 5 and 8 will accommodate a moderate level of change, evolving to support contemporary mid-rise commercial, retail and mixed use opportunities, creating a people-oriented and welcoming presentation to the Patterson Lakes precinct along its key approaches on McLeod Road/ Thompson Road, Pier One Drive and Inner Harbour Drive.

The preferred neighbourhood character for this precinct will see development contribute to defining pedestrian desire lines and minimising the dominance of car parking from the public realm with a considerable contribution to urban greening on public/private realm and common areas. Development will be carefully staged to secure long term amenity for residents, workers and visitors. Shared access to services, car parking and loading is encouraged to maximise active frontages and a general improvement to precinct vibrancy.

The Endeavour Cove Comprehensive Development Plan, (December 2021) includes Precinct Framework Plans for Precincts 5 and 8, specifying maximum building heights, and outlining key precinct objectives, and guidelines in relation to built form, envelopes, access and movement, and landscape and environment.

6.0 Signs

--/--/---Proposed C204king

None specified.

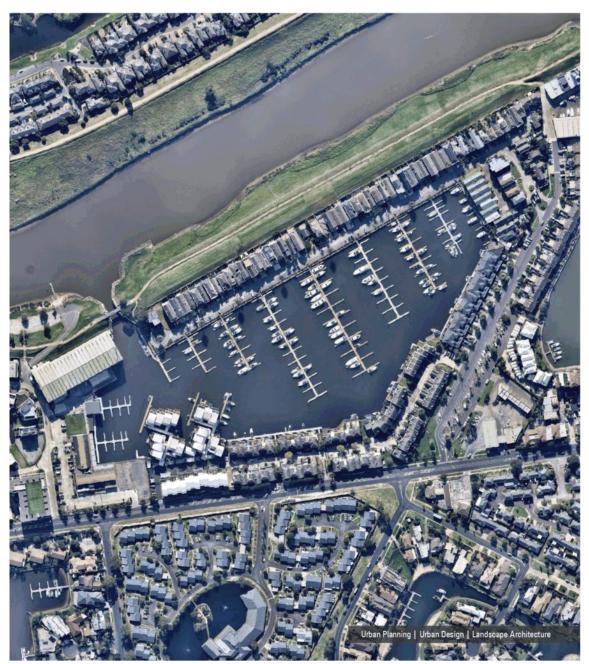


ENDEAVOUR COVE, PATTERSON LAKES

COMPREHENSIVE DEVELOPMENT PLAN

Prepared by **Hansen Partnership** for **City of Kingston**

December 2021



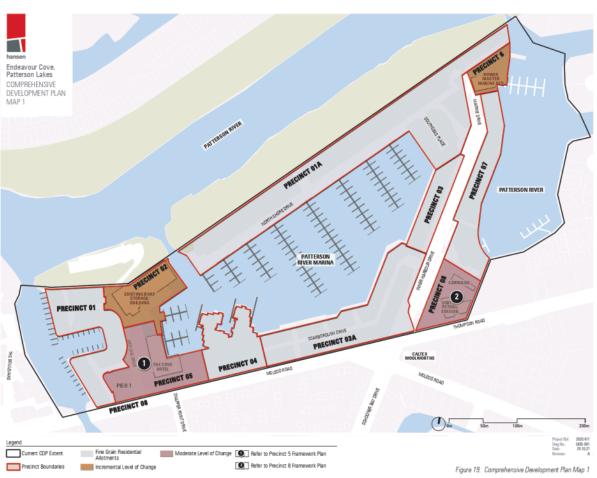


Table 13: Preferred Future Character

Precinct ID	Preferred Future Character	Development Typology/ Density
Precinct 1, Precinct 1A, Precinct 3,	These areas are typified by fine grained residential allotments, or strata titled apartment units which are not anticipated to change considerably in the long terms.	Medium Density (Townhouses/ low rise apartments).
Precinct 3A, Precinct 4, Precinct 7	Future development will continue to protect the low-rise residential character, responding to prevailing height, setback, subdivision pattern and massing arrangement.	
Precinct 2 & Precinct 6	Incremental level of change can be expected on larger non-residential sites which are currently occupied by boat storage, or car wash. These facilities support the marina-based precinct function and may continue to operate in the long term.	Commercial shed, or low rise commercial forms
	Future development will continue to support the marine- based mixed use destinations with opportunities to contribute positively to the public realm and the overall precinct image. On-going commercial operation will continue to minimise amenity impact onto existing and future residential precincts.	
Precinct 5 and Precinct 8	Moderate level of change can be expected on vacant, non-residential sites, or existing commercial sites. The precinct may evolve to support contemporary midrise commercial, retail, or mixed-use opportunities, creating a people-oriented and welcoming presentation to the Patterson Lakes precinct along its key approaches on McLeod Road/ Thompson Road, Pier One Drive and Inner Harbour Drive.	Increased density (Separated street- wall based, mid- rise forms).
	Future development will contribute to defining pedestrian desire line, minimising the dominance of car parking (whilst ensuring sufficient parking is provided) from the public realm with a considerable contribution to urban greening on public/private realm and common areas.	
	Developments will be carefully staged to secure long term amenity for residents, workers and visitors. Shared access to services, car parking and loading are encouraged to maximise active frontages and a general improvement to the precinct's vibrancy.	
	Importantly, future change in this precinct must demonstrate the appropriate level of infrastructure is provided.	

Table 14: Summary Recommendations

Precincts ID	Predominant Land Use	Level of Anticipated Change	Anticipated Development Typology	Maximum Building Heights	Street Wall	Minimum Ground Level Setback	Minimum Upper Level Setback Above Street Wall	Primary Address	Vehicle Access
Precinct 1	Residential	Low	Setback and attached forms.	11.5m (3 storeys)	not applicable	Match adjoining, or Rescode Standard B17	not applicable	Pier One Drive North Shore Drive	Pier One Drive North Shore Drive
Precinct 1a	Residential	Low	(i.e.Townhouses)	11.5m (3 storeys)	not applicable	Match adjoining, or Rescode Standard B17	not applicable	North Shore Drive	North Shore Drive
Precinct 2	Commercial	Incremental	Setback and separated form.	19m (5 storeys) (matching existing ridge line)	not applicable	Retain existing	not applicable	Pier One Drive	Pier One Drive
Precinct 3	Residential	Low	Setback and attached forms.	9m (2 storeys)	not applicable	Match adjoining, or Rescode Standard B17	not applicable	Inner Harbour Drive	Inner Harbour Drive
Precinct 3a	Residential	Low	(i.e.Townhouses)	11.5m (3 storeys)	not applicable	Match adjoining, or Rescode Standard B17	not applicable	Scarborough Drive	Scarborough Drive
Precinct 4	Residential	Low	North: Setback and attached forms. South: Street wall based.	North: 15m (4 storeys)- matching existing building South: 11.5m (3 storeys)	North: not applicable South: 9m (2 storeys)	Match adjoining, or Rescode Standard B17	not applicable	Internal access	Internal access
Precinct 5	Commercial/ Residential	Moderate	Street wall based.	Site A & Site B: 16m (4 storeys) Site C & Site D: 12m (3 storeys)	12m (3 storeys)	Pier One Drive: 3m McLeod Road: 4m Waterfront: 5m Site A Eastern Boundary: 5m	5m, or greater to maintain solar access of private open spaces (outside of precinct 5) and to avoid overshadowing of existing footpath on the west side of Pier One Drive and south side of McLeod Road between 10am to 2pm on 22 September.	Site A: McLeod Road Site B: Pier One Drive Site C: Pier One Drive Site D: Pier One Drive	Site A: Internal access (Via McLeod Road) Site B. C. D: Internal access (Via Pier One Drive)
Precinct 6	Commercial	Incremental	Setback and separated form.	11.5m (3 storeys) (matching adjoining residential)	not applicable	Retain existing	not applicable	Marine Drive	Marine Drive
Precinct 7	Residential	Low	Setback and attached forms. (i.e. Townhouses)	North: 9m (2 storeys) South: 15m (4 storeys)- matching existing building	not applicable	Match adjoining, or Rescode Standard B17	not applicable	Inner Harbour Drive	Inner Harbour Drive
Precinct 8	Commercial	Moderate	Street wall based.	Site A: 20m (5 storeys) Site B: 16m (4 storeys)	12m (3 storeys), or 8m (2 storeys) along the eastern boundary.	Thompson Road: 0m Inner Harbour Drive: 3m Eastern Boundary: 5m Site B northern boundary: 5m	5m, or greater to maintain solar access of private open spaces to the east and to avoid overshadowing of existing footpath on the south side of Thompson Road between 10am to 2pm on 22 September.	Site A: Thompson Road Site B: Inner Harbour Drive	Site A: Internal access Site B: Inner Harbour Drive

PRECINCT FRAMEWORK: PRECINCT 5

Precinct Overview

Precinct 5 is sited at an important interface along McLeod Road and Pier One Drive and the Cove Hotel continues to play an important role in the precinct. The 6-storey Pier One Apartmetns building and the existing boat shed represent the tallest elements and dominate the precinct's skyline.

Future development will benefit from the exposure along McLeod Road by continuing to support a commercial presentation along the main road frontage. Future built forms will frame Pier One Drive, contributing to its activation, surveillance and substantially enhancing its pedestrian amenity. A continuous landscape buffer and the provision of communal open space will secure long term shared amenity on and off sites.

Vacant sites around the Cove Hotel are largely needed for parking at present while it continues operating.



Figure 20. Precinct 5 Framework Plan

Predominant Land Use

- Commercial
- Retail

Secondary Land Use

Residential

Precinct Influence

- · A precinct that defines the western entry into Endeavour Cove Precinct.
- . Currently dominated by the 6-storey Pier One Apartment and the existing Boat Storage, contrasting the comprises predominantly low-rise forms.
- Existing ground level setback and existing building arrangements mean that the Pier One Drive and the existing Boat Storage are also visually dominant on the McLeod Road and Pier One Drive approaches.
- · Multiple land titles but under a common ownership.
- · Multiple shared access to at grade parking off Pier One Drive and McLeod Road.
- Absence of footpath along Pier One Drive.
- · Pier One Drive is currently a car dominated access road with limited activation, surveillance and landscaping.

Key Precinct Objectives:

- · Manage future precinct growth with the precinct's infrastructure capability.
- . Transition down from the Pier One Apartment and the existing Boat Storage to established residential stock to the south, east and west.
- Plan for the creation of a series of contemporary marine-based, mixed-use developments.
- Support street oriented mid-rise development along Pier One Drive and McLeod Road.
- Improve pedestrian connection and amenity between Pier One Drive and Patterson River.
- · Provide ground level activation and passive surveillance onto the public realm.
- . Minimise amenity impact of development on Pier One Drive and adjoining residential precinct to the east.
- · Orientate primary building addresses along Pier One Drive and McLeod Road.
- . Encourage future development to adopt an integrated lighting strategy within the common areas, public realm and building facade to improve the precinct after-dark
- . Consolidate vehicle and service access by minimising vehicle crossover on Pier One Drive and McLeod Road.
- . Ensure sufficient visitor parking is provided to support any change of use in absence of on-street parking.
- Maximise landscaping opportunities at the ground or upper levels, including canopy trees and rooftop gardens.
- · Provide communal open spaces at ground level, or roof top.

Built Form, Envelopes & Heights Guidelines

- . Ensure the consolidation and development of sites occur in a consolidated manner which do not create small, isolated holdings of land with restricted amenity and access.
- . Maximum building height, street wall heights and minimum setbacks should be in accordance with Table 6.
- . Built form will incorporate building separation and a well-articulated podium that is broken up with different design treatments to avoid the appearance of a continuous
- · Retain a strong street wall presentation.
- Ensure a high standard of amenity for future residents and neighbouring properties.
- · Align built forms perpendicular to the waterfronts and McLeod Road to maximise outlook and daylight access.
- Provide a minimum 10m building separation.
- · Promote greater activation of buildings at street level.
- · Carefully manage the interim presentation of party walling.

Access & Movement Guidelines

- · Orientate primary building entries along Pier One Drive or McLeod Road.
- · Provide consolidated vehicle access off Pier One Drive to service Sites B, C and D.
- · Facilitate relocation of existing vehicle crossover to achieve consolidated vehicle access off McLeod Road to service Sites A and B.
- . Minimise the presence of car parking and servicing along Pier One Drive and McLeod

Landscape & Environment Guidelines

- Maximum site coverage of 60% across Precinct 5.
- Provide a 3m ground level setback along Pier One Drive to implement a new footpath.
- · Provide a 5m ground level setback along the waterfront to encourage activation.
- Retain existing canopy trees to provide for day one amenity.
- Site A: Provide a 5m ground level setback along the eastern boundary to support landscape buffer and canopy trees to its sensitive residential interface.

Table 15: Maximum Building Height and Street Wall Height for Precinct 5

SITE	Maximum Building Height (2021 CDP)	Maximum Street Wall/ Podium Height	Minimum Ground Level Setback	Minimum Upper Level Setback	Guidelines
В	16m (4 storeys)	12m (3 storeys)	From the waterfront: 5m From eastern boundary: 5m From Pier One Drive: 3m From the waterfront: 5m	5m	Avoid overshadowing of existing footpath on the south side of McLeod Road on 22 September between 10am to 2pm. Avoid overshadowing of existing footpath on the west side of Pier One Drive on 22 September between 10am to 2pm. Maintain solar access to private open space and communal open space (outside of Precinct 5) on 22 September between 10am to 2pm. Daylight access to communal open space and dwellings within the lower levels within Precinct 5 should be taken into consideration.
С	12m (3 storeys)	12m (3 storeys)	n/a	n/a	
D			From Pier One Drive: 3m	n/a	

The preferred building height has acknowledged the higher floor to floor heights to allow for other design elements usual to buildings (parapets, railings, etc.) based on 4m/ level

It is noted that higher numerical floor levels for mixed use development where reduced floor height requirement exist for residential use (typically measured at 3m - 3 2m/ level). The Guidelines has not precluded the opportunity for non-residential use to be accommodated within the upper levels (above ground level). It also has not precluded elevated ground floor requirement in response to flood levels.

PRECINCT FRAMEWORK: PRECINCT 8

Precinct Overview

Precinct 8 is sited at an important interface along Thompson Road and Inner Harbour Drive. Future development in this precinct will be influenced by its open setting and proximity to the Lakeview Shopping Centre (further east). While the car wash and petrol station contribute to the function of Endeavour Cove as a marine-based precinct, there remains opportunity for urban renewal in the medium to long terms.

Future development will benefit from the exposure along Thompson Road with opportunity to continue a commercial presentation along its main road frontage and improving pedestrian experience along Thompson Road and Inner Harbour Drive. A taller built form element at the south-western corner will assist with announcing the precinct entry, with buildings transitioning down along to its northern and eastern boundaries. Continuous landscape buffers and the provision of communal open space will secure long term shared amenity on and off sites.



Figure 21. Precinct 8 Framework Plan

Predominant Land Use

Commercial

Secondary Land Use

- Residential
- Retail

Precinct Influence

- · Currently comprises car wash and petrol station surrounded by low-rise residential
- · A direct interface to Thompson Road and Inner Harbour Drive.
- · A key entry into the Endeavour Cove Precinct.
- · Vehicle access are provided via both street frontages.
- · Absence of footpath along Inner Harbour Drive.
- . A direct interface to established residential precinct to the north (2 to 4 storeys) and to the east (2 to 4 storeys).

Key Precinct Objectives:

- Manage future precinct growth with the precinct's infrastructure capability.
- . Transition down to established residential stock to the north and east.
- · Facilitate the creation of a contemporary marine-based mixed use development.
- · Support street oriented mid-rise development along Thompson Road and Inner Harbour Drive.
- · Provide ground level activation and passive surveillance onto the public realm.
- Minimise amenity impact of development on adjoining residential precincts to the north
- Orientate primary building addresses to Thompson Road and Inner Harbour Drive.
- Ground level apartments should be provided with direct access from the public realm.
- · Support a mid-block access road that is publicly accessible.
- . Consolidate vehicle and service access by minimising vehicle crossover on Thompson
- Maximise landscaping opportunity, including canopy trees.
- · Provide communal open spaces at ground level, or roof top.

Built Form, Envelopes & Heights Guidelines

- Ensure the consolidation and development of sites occur in a progressive manner and does not result in the creation of small, isolated holdings of land with restricted amenity and access.
- . Maximum building, street wall heights and minimum setbacks should be in accordance with Table 16.
- Built form will incorporate building separation and well articulated podium that is broken up with different design treatments to avoid the appearance of a continuous wall.
- Retain a visually dominant street wall presentation.
- Ensure a high standard of amenity for future residents and neighbouring properties.
- · Align built forms to maximise northern outlook and daylight access.
- Provide a minimum 10m building separation.
- · Promote greater activation of buildings at street level.
- · Carefully manage the interim presentation of party wall.

Access & Movement Guidelines

- · Orientate primary building entries along Thompson Road, Inner Harbour Drive and Future Access Road.
- . Ensure future Access Road is designed as a shared zone, framed by active frontages, or building entries and accessible to the public.
- Provide a consolidated vehicle access off Inner Harbour Drive for Site B and a consolidated vehicle access via a new shared access road for Site A.
- . Minimise the presence of car parking / boat trailer parking (where appropriate) and servicing along Inner Harbour Drive and future Access Road.

Landscape & Environment Guidelines

- Maximum site coverage of 60% across Precinct 8 (excluding Inner Harbour Drive).
- · Provide a 3m ground level setback along Inner Harbour Drive for footpath.
- · Provide a 5m ground level setback along the northern and eastern boundaries to support landscape buffer and canopy trees along sensitive residential interface.
- · Retain existing canopy trees to provide for day one amenity.
- Support the provision for iconic trees along Inner Harbour Drive.

Table 16: Maximum Building Height and Street Wall Height for Precinct 8

SITE	Maximum Building Height (2021 CDP)	Maximum Street Wall/ Podium Height	Minimum Ground Level Setback	Minimum Upper Level Setback	Guidelines
A	20m (5 storeys)	12m (3 storeys), or 8m (2 storeys) along the eastern boundary.	From northern boundary: 5m for shared street contribution. From eastern boundary: 5m for landscape buffer. From the western boundary: 3m for footpath. From Thompson Road: 0m	5m	Avoid overshadowing of the central median along Inner Harbour Drive on 22 September between 10am to 2pm. Avoid overshadowing of existing footpath on the south side of Thompson Road on 22 September between 10am to 2pm. Maintain solar access to private open space and communal open space (outside of Precinct 8) on 22 September between 10am to 2pm. Daylight access to communal open space and dwellings within the lower levels should be taken into consideration.
В	16m (4 storeys)	12m (3 storeys), or 8m (2 storeys) along the eastern boundary.	From the northern and eastern boundaries: 5m for landscape buffer. From the western boundary: 3m for footpath. From southern boundary: 5m for shared street contribution.	5m	

The preferred building height has acknowledged the higher floor to floor heights to allow for other design elements usual to buildings (parapets, railings, etc.) based on 4m/ level

It is noted that higher numerical floor levels for mixed use development where reduced floor height requirement exist for residential use (typically measured at 3m- 3.2m) level). The Guidelines has not precluded the opportunity for non-residential use to be accommodated within the upper levels (above ground level). It also has not precluded elevated ground floor requirement in response to flood levels.

