
**ATTACHMENT 3 – MONASH URBAN LANDSCAPE AND CANOPY VEGETATION
STRATEGY 2018**



Monash Urban Landscape and Canopy Vegetation Strategy



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Prepared for the City of Monash by



in association with:



Environment & Land Management Pty Ltd



Arboriculture Pty Ltd

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Table of contents

	Page #
Strategy Vision	1
1. Introduction	6
1.1 Project purpose	6
1.2 Project scope	7
1.3 Strategic context	8
2. Importance of the <i>Garden City Character</i>	9
2.1 <i>Garden City Character</i> in the Municipal Strategic Statement	9
2.2 Contribution of canopy vegetation to <i>Garden City Character</i>	11
3. Existing landscape character	15
3.1 Attributes of the landscape character	15
3.2 Overall landscape character	33
3.3 Landscape character precincts	43
4. Existing canopy vegetation cover	45
4.1 Overview	45
4.2 Tree canopy cover in the City of Monash	46
4.3 Measuring 'greenness'	49
4.4 Benchmarking	55
5. Issues and strategy response	59
5.1 Canopy vegetation cover on private land and its influence on landscape character	59
5.2 Canopy vegetation cover on public land	65
5.3 Redevelopment sites and areas	68
5.4 Resilience to climate change	71
5.5 Biodiversity values	73
5.6 Cultural landscape heritage values	74
6. Guidelines	76
6.1 Overview	76
6.2 Guideline 1 Achieve an appropriate balance between built form and planted areas	77
6.3 Guideline 2 Urban greening in activity centres, commercial/industrial precincts and the Monash National Employment and Innovation Cluster	81
6.4 Guideline 3 Preferred landscape character types	84
6.5 Guideline 4 Maximise the retention of existing canopy trees	92
6.6 Guideline 5 Plant new canopy trees	93
6.7 Guideline 6 Requirements for landscape plans	97

6.8	Guideline 7 Permit conditions	98
7.	Implementation recommendations	99
7.1	Implement the Strategy in the Monash Planning Scheme	99
7.2	Planning for the Monash National Employment and Innovation Cluster, commercial/industrial precincts, activity centres and strategic sites	101
7.3	New local law to protect significant trees and canopy trees	102
7.4	Recommendations to support planning permit assessments and the local law	103
7.5	Community education and engagement	107
8.	Monitoring and review	108
	Glossary	109
	References	111
A	Appendix A	A-1
	Introduction to the Monash existing and preferred landscape character types (Refer to separate volume for Appendix A due to large file size)	
A1	Ashwood Burwood	
A2	Chadstone 1	
A3	Chadstone 2	
A4	Clayton 1 (Notting Hill residential)	
A5	Clayton 2	
A6	Glen Waverley 1	
A7	Glen Waverley 2	
A8	Glen Waverley 3	
A9	Glen Waverley 4	
A10	Glen Waverley 5	
A11	Hughesdale	
A12	Mount Waverley 1	
A13	Mount Waverley 2	
A14	Mount Waverley 3	
A15	Mount Waverley 4	
A16	Mount Waverley 5	
A17	Mulgrave 1	
A18	Mulgrave 2	
A19	Mulgrave 3	
A20	Mulgrave 4	
A21	Notting Hill (non-residential use)	
A22	Oakleigh	
A23	Oakleigh East	

A24	Oakleigh South 1
A25	Oakleigh South 2
A26	Wheelers Hill 1
A27	Wheelers Hill 2
A28	Wheelers Hill 3

B **Appendix B** **Case studies**

B-1

Attachments

Drawings

MLAVS-01	Topography
MLAVS-02	Topography & Vegetation Protection Overlay
MLAVS-03	Waterways & Open Space
MLAVS-04	Relevant Overlays
MLAVS-05	Urban Character Precincts
MLAVS 06A	Existing Landscape Character Types – Vegetation
MLAVS 06B	Existing Landscape Character Types – Topography
MLAVS 07	Preferred landscape character types

Strategy Vision

Monash 2021

The *Monash 2021 Strategy – a thriving community* was developed by the City of Monash in 2010 in consultation with the community. The purpose was to set out a long term vision and priorities of the City of Monash over the coming 10 years.

Monash 2021 Vision is:

A thriving community now and in the future

The following diagram is taken from the Monash 2021 and illustrates the four areas of the primary focus being:

- *A fair and healthy community*
- *A planned and connected city*
- *An inclusive and safe community*
- *A green and naturally rich city*

Monash Vision 2017

The Monash website accessed in February 2017 includes an updated Vision for Monash and Key Directions as follows:

Vision on the Monash City Council Website 2017:

An inviting city, diverse and alive with activity, designed for a bright future

Key directions

- *Ensuring our city has inviting places and spaces*
- *Achieving a healthy and active Monash*
- *Fostering confident connected communities*
- *Taking action for our future*

Strategy Vision

The vision has been developed from reviewing the Monash 2021 document, particularly the sections titled 'What the community says it values', combined with the preferred landscape character types in this Draft Strategy.

Creek corridors, that are teeming with **birdlife** and native fauna amongst the **bushland** and **wetlands**, flow through the **leafy** treed suburbs. The **tree lined** streets and the **parks** are **vibrant** and alive with people walking, cycling, socialising and enjoying the ambience of the **green Garden City Character** with **fresh air** and plenty of **shade**. In the Monash National Employment and Innovation Cluster, the landscaped setbacks with **tall trees** are bustling with **people** walking and cycling to and from their **workplace** or **relaxing** and socialising during lunch in the **dappled shade** and after work in one of the adjoining cafes that spill out onto the green **landscaped** setbacks.



Strategy Objectives/Aims

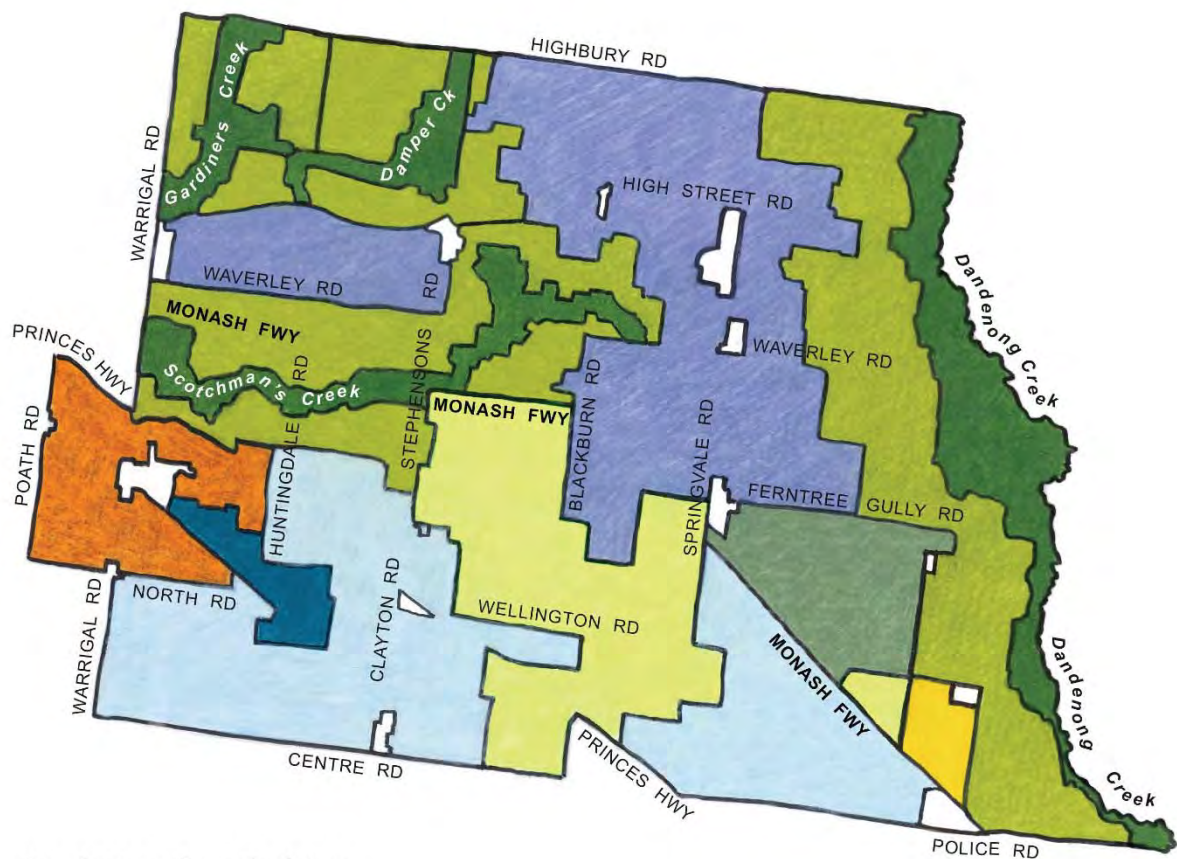


- Protect and enhance the green *Garden City Character* within the contemporary context of climate change and forecast urban growth and change.
- Increase urban greening to create a more resilient landscape that contributes to community health and wellbeing now and in the future.
- Increase canopy tree cover across public and private land from 22% to 30% by 2040 to create a more liveable, sustainable and resilient city.
- Strengthen the biodiversity values along the waterway corridors by increasing the presence of indigenous vegetation on both public and private land.
- Maximise the retention of existing healthy mature large canopy trees on public and private land to support liveability and cultural heritage values.
- Increase the presence of large canopy trees and greening in high density precincts including activity centres and the Monash National Employment and Innovation Cluster.
- Council to provide a leadership role with best practice tree planting and management on public land.
- Promote the health and wellbeing and environmental benefits of trees in the community particularly in the context of creating a more resilient and sustainable urban environment for future generations.
- Develop a cohesive vision for the landscape character across the public and private land and update the relevant regulatory controls and planning scheme to give effect to the vision.

Preferred landscape character types

The overall design intent with the preferred character types is to:

- Strengthen the habitat corridors and indigenous landscape character along the waterways.
- Strengthen both the indigenous and native landscape character and values in the creek environs adjoining the waterway corridors.
- Strengthen and expand the leafy, green and treed character of the hilly and gently undulating established suburban areas away from the waterway corridors.
- Protect the early 1900s exotic garden style associated with the older established areas of Hughesdale and Oakleigh.
- Protect and expand the native garden commercial and industrial precincts and business parks to create a point of difference in the future Monash Employment and Innovation Cluster.
- Enhance urban greening in the older style urban industrial precincts in Oakleigh South.



Landscape character types


 Creek habitat corridor	 Hilly native garden suburban	 Native garden commercial/industrial	 Urban greening commercial/industrial
 Creek valley environs	 Gently undulating leafy garden suburban	 Early 1900s exotic garden style	 Waverley Park exotic urban
 Undulating leafy garden suburban			

Figure 1A Preferred landscape character types for the City of Monash

As shown in Figure 1A there are nine different preferred landscape character types following across the municipality that are summarised below.

Residential land use:

- **Creek habitat corridor**
Strengthen the biodiversity values and indigenous landscape character in both the private and public land along the waterway corridors.
- **Creek valley environs**
Strengthen the presence of emergent canopy trees with a preference for tall native trees in the creek valleys that overlook the creek corridors.
- **Undulating leafy garden suburban**
Strengthen the liveability and protect the suburban character of our interwar residential areas with an emphasis on increasing the exotic canopy vegetation and greening to continue the suburban garden context as intensification of built form increases.
- **Gently undulating leafy garden suburban**
Strengthen the liveability and protect the suburban character of the interwar and 1960s onward residential areas with an emphasis on increasing exotic canopy vegetation and greening to continue the suburban garden context as intensification of built form increases.
- **Hilly native garden suburban**
Strengthen the liveability and protect the suburban native landscape character of the post 1965 curvilinear suburban areas with an emphasis on increasing presence of emergent native canopy trees as intensification of built form increases in the longer term.
- **Early 1900s exotic garden style**
Strengthen the heritage exotic garden style by strengthening the presence of alternating evergreen and deciduous street tree avenues and increasing the presence of large exotic canopy trees and vegetation on private land.
- **Waverley Park exotic urban**
Continue to maintain the exotic streetscape canopy vegetation and planting character and strengthen the presence of exotic canopy vegetation on private land.

Commercial/industrial land use:

- **Native garden commercial/industrial**
Create a distinctive native garden commercial/industrial landscape character in the Monash National Employment and Innovation Cluster by activating the landscape setbacks and strengthening the tall native tree cover and urban greening.
- **Urban greening commercial/industrial**
Increase greening and evergreen canopy vegetation in the urban industrial precincts in the Oakleigh area to improve resilience and create a more comfortable and sustainable employment area.

1. Introduction

1.1 Project purpose

The main purpose of the Monash Urban Landscape Character and Canopy Vegetation Strategy (MULCVS) is to provide a clear direction to achieve the preferred future landscape character and tree canopy cover as the municipality develops to accommodate the forecast population growth and development. The Strategy covers both public and private land.

The key aim of the Strategy is to protect the *Garden City Character* of the City of Monash as described in the Municipal Strategic Statement, an extract of which is below:

'..... a general feeling of "greenness" created by significant tree canopy cover contained within large, vegetated set backs and areas of open space.'

The *Garden City Character* changes across the municipality from an exotic landscape character with a dominance of deciduous trees and lush green mown grass to the native bushland associated with the waterway corridors. The greenness is created by a combination of emergent tree canopy that breaks up the visual dominance of roof lines and built form on the skyline to medium and smaller trees, shrubs, garden beds and grass.

Interruptions to the *Garden City Character* occur when built form and paved surfaces are visually dominant and the greening forms an insignificant component of the setting. The overall aim of the Strategy as described in the project brief is:

To establish clear and achievable understanding and expectations for canopy tree and landscape quality into the future for development across the City of Monash. This landscape will contribute to the maintenance and enhancement of the garden character of Monash.



Example of native landscape character with tall Eucalypt style emergent tree canopy



Example of an exotic landscape character with large canopy deciduous street trees

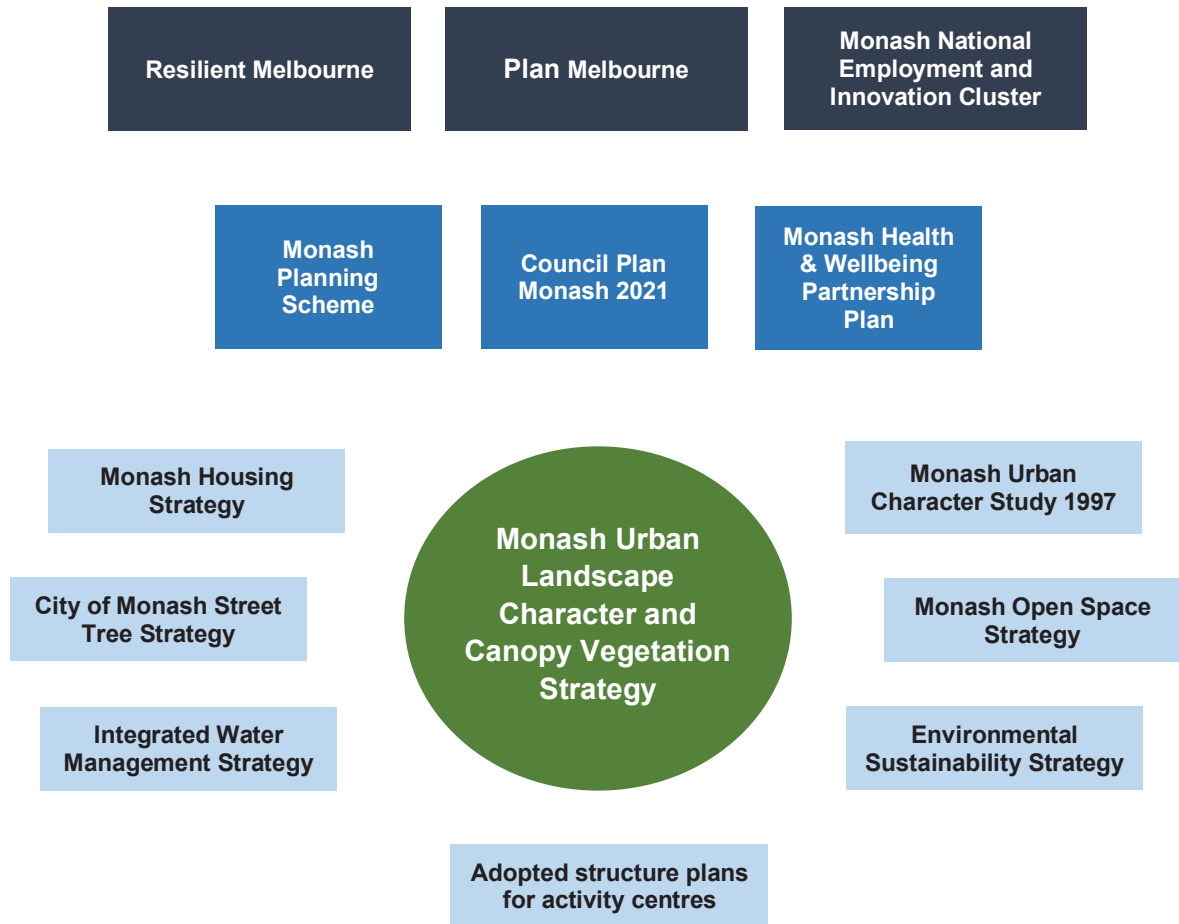
1.2 Project scope

Key outcomes of the Strategy are to:

- *Establish and articulate a clear understanding of the current landscape character of the City of Monash,*
- *Determine those elements of the landscape character that are valued by the community,*
- *In consultation with the community, develop and articulate a preferred landscape character for each of the different landscape character areas across the City of Monash, and*
- *Identify and describe a range of mechanisms to maintain and enhance the valued and/or preferred landscape character of Monash into the future.*

1.3 Strategic context

A range of state and local government policies and strategies inform and are relevant to this Strategy.



2. Importance of the *Garden City Character*

2.1 *Garden City Character* in the Municipal Strategic Statement

2.1.1 Summary of existing description

The *Garden City Character* is defined in the Municipal Strategic Statement (MSS) as:

It is characterised by a general feeling of 'greenness' created by significant tree canopy cover contained within large, vegetated set backs and areas of open space.

The MSS notes the *Garden City Character* is a legacy of earlier planners in Monash and is a defining feature in the municipality. The policy of large front setbacks is noted to contribute to the retention of canopy tree cover which softens built form and provides shade. It goes on to describe that the presence of the trees and 'greenery' is visually appealing and benefits the environment in terms of air quality and water balance. The MSS acknowledges that the erosion to the *Garden City Character* has occurred through vegetation and tree canopy loss because of inappropriate residential and industrial development. While the MSS goes on to describe that retention of the *Garden City Character* is a key influence on planning decision making in Monash, there is a key issue that the canopy vegetation loss has continued to occur within the context of the existing planning controls in place including the Vegetation Protection Overlay.

2.1.2 Contemporary context for *Garden City Character*

The importance of natural features and greenness to community health and wellbeing has been the subject of research over the past decade, since the original definition of *Garden City Character* was included in the MSS. Research identifies a quantifiable and tangible link between peoples physical and mental health and wellbeing and greenness. The Final Report on the *Inquiry into Environmental Design and Public Health in Victoria (May 2012)* notes that there is compelling evidence linking public health challenges to the

planning and design of our urban environments. Deakin University in their comprehensive study *Beyond Blue to Green: The Health Benefits of Contact with Nature in the Park Context - Literature Review, 2010* describes the growing evidence that access to the natural environment improves health and wellbeing, prevents disease and helps people recover from illness. People who visit green open space experience a range of psychological benefits including improved mood, lower levels of anxiety, lower stress levels, lower levels of depression and increased physical activity. There is also evidence in the study *Healthy parks, healthy people (Deakin University, 2008)* that people recover more quickly from surgery and illness if they are looking out on a natural scene in contrast to an urban scene, suggesting '*...that natural settings elicit a response that includes a component of the parasympathetic nervous system associated with the restoration of physical energy*'.

Additional to the health and wellbeing benefits above, the unsealed surfaces such as grass, garden beds and wetlands absorb moisture in our urban environments. This assists to mitigate urban heat island effect (the build up of heat during the day which does not fully dissipate overnight) through evapotranspiration when the right balance is achieved between built form and natural features and surfaces. With forecast growth and change, urban densities and built form is anticipated to increase, resulting in more people living in medium and high density housing and activity centres. The future planning for these high density precincts will need to prioritise canopy cover and moisture absorbing surfaces as an inherent part of their design.

In this time of climate change, severe weather events including extended droughts are forecast to increase which makes our urban landscapes more vulnerable to damage. This is exacerbated by the recent trend that has been measured as part of the research undertaken for this Strategy which concludes that over the past 23 years an approximate 10 per cent increase in sealed surfaces has occurred and a corresponding 10 per cent decrease in permeable, moisture absorbing surfaces in both the private and public realm.

Private and public open space that is designed with appropriate green infrastructure to encourage permeable surfaces that hold moisture allows effective evapotranspiration in the evening. This cools the local microclimate, and this will assist to mitigate the effects of urban heat and contribute to a more liveable city. This is particularly important during extended periods of heat such as experienced in Melbourne in early 2009 and in early 2014. Designing cooler public and private open spaces, particularly in urban centres, with increased shade from canopy trees, has the added benefit of providing the public places for the community to use during hot weather, particularly the vulnerable, the frail and the elderly in our community who do not have access to cooling in their homes.

Other benefits of a green *Garden City Character* is increased biodiversity values by expanding opportunities for habitat with increased permeable surfaces and tree canopy cover. The benefits of improved visual appearance and desirability of leafy green neighbourhoods with an established character in the context of the focus on new and establishing suburbs in the expanding growth corridors should also be acknowledged.

2.1.3 Changes to the *Garden City Character*

The *Garden City Character* is in the process of change, mainly due to a combination of increased site coverage with built form and increasing urban densities. The recent growth and development has resulted in an increase in built form and loss of greenness on private land to accommodate the additional population. This includes schools, higher education land and some public open space with sports facilities. The Victorian Government supports the direction for the middle ring suburbs to accommodate population growth, particularly around activity centres and transport hubs. The City of Monash is in the process of determining how best to accommodate the increase, which is articulated in the Monash Housing Strategy (2014) and by rezoning land for residential use.

This Strategy is a key tool for Council to reduce further vegetation loss during the forecast growth and urban development. This is to be achieved by documenting the existing landscape character types, the preferred character types and recommended actions to achieve preferred character types in the future within the context of forecast growth and change.

2.2 Contribution of canopy vegetation to *Garden City Character*

2.2.1 Benefits of canopy trees

Canopy trees in the public and private open space contribute to the liveability and inherent qualities, identity and character of a place. Research identifies that trees are valued at many different levels for:

- Shade and cooling reducing energy use and improving thermal comfort, mitigating the effects of climate change.
- Improved air quality.
- Contribution to biodiversity with habitat for native flora and fauna.
- The aesthetic values of the canopy trees in the urban environment including their contribution to a sense of place and the landscape character.
- Improving the mental health and wellbeing of the community through the benefit that trees have on the naturalness and leafy green



character that can reduce stress levels, improve air quality and the create a more comfortable and liveable urban landscape.

- Economic improvement to property values located in leafy streets, particularly boulevards.
- The contrast canopy trees provide to built form in the urban environment.
- Cultural heritage values associated with remnant indigenous trees and vegetation.
- Historical values associated with mature exotic trees.
- Increasing the appeal and comfort of public spaces, which encourages people into the public realm thereby improving the social connectedness and the physical health and wellbeing of the community.
- Carbon sequestration.

2.2.2 Supporting research on benefits of canopy trees

Research in Toronto, Canada indicates that mature trees with a 75cm trunk diameter intercepts ten times more air pollution, can store up to 90 times more carbon and contributes up to 100 times more leaf area to the city's tree canopy than a tree with a 15cm trunk diameter.

As noted previously large, long-lived healthy trees provide the greatest contribution to the structural and functional values provided by trees in the urban environment. This includes their biodiversity role as habitats for native birds and other fauna. Retention of the large, long-lived healthy trees in our urban environments is a priority, particularly during this time of climate change.

Much of the research into managing trees in the urban environment comes from the United States and Canada. Recent research (Kardan, 2015)

indicates that people who live in neighbourhoods with a higher density of trees (defined as 10 or more trees in a city block) on their streets report improved health compared to people living in streets with fewer than 10 street trees per city block. Translated to Australian conditions, this effectively means that street trees planted on both sides of the street at approximately 20 metre spacings have measurable benefits to community health and wellbeing over streets with one tree every 40 metres.

This research was undertaken specifically to identify how much a tree in a street or a nearby neighbourhood park could improve our health. Results from the study undertaken in Toronto Canada, suggest that people who live in areas with higher street tree density report better health perception and fewer cardio-metabolic conditions compared with their peers living in areas with lower street tree density. This study focussed on the street trees as they are more visually and physically accessible to people compared with trees in parks and on private land.



2.2.3 Benefits of other canopy vegetation

The presence of shrubs contributes to the green *Garden City Character* through the increased presence of naturalness, selective screening and softening of built form, increased biodiversity and habitat value. Shrubs are bird attracting as they provide dense foliage and flowers which are popular for avifauna nesting and foraging. Shrubs are often preferred forms of greening directly adjacent to buildings and in tight spaces due to their less vigorous root systems and reduced height.



Example of the contribution of shrubs in the urban landscape



Example of the impact of lack of any planting including shrubs in the urban landscape

2.2.4 Issues with canopy trees in urban landscapes

While the values of canopy trees are many, it is recognised that there can be issues associated with managing trees in urban settings. Trees are living and dynamic that grow and change and can impact on the built infrastructure. Common issues occur when:

- Trees are planted in inappropriate locations for their anticipated growth habit and size. This can potentially result in trees roots damaging built infrastructure including footpaths and road pavements which can impact on public access and safety.
- The flowers, seeds and leaves from a limited range of trees can cause allergies to people living nearby.
- Inappropriate management and maintenance of trees which can lead to issues such as poor form and structural integrity and unsafe branching structure causing a risk to public safety

- Lack of regular maintenance can result in low branching which impedes clear sight lines or branching that obscures public lighting.

While it is recognised there can be issues associated with canopy trees in urban settings, their benefits certainly outweigh the issues as they are mainly associated with inappropriate street tree selection and/or ongoing management/maintenance. Therefore, this Strategy is focussed on providing clear direction for maximising the retention of appropriately planted and healthy mature canopy trees and providing a clear set of criteria to guide future tree planting to achieve a sustainable canopy vegetation framework in the city in the future.



2.2.5 Size of trees

This Strategy refers to three sizes of trees (including palms), and the mature sizes for large, medium and small trees in Table 2-1.

Table 2-1 Definitions of tree size and age

Size	Height	Trunk cal. dia.	Age
Large	Minimum of 12 metres	>60 cm	>80 years
Medium	6.1 to 11.9 metres	>35 cm	>50 years
Small	Up to 6 metres	>20 cm*	>30 years

* This may include multiple stemmed species such as *Lagerstroemia sp.* and *Callistemon sp.*

Large mature canopy trees are referred to specifically in the Strategy, and there are different recommendations for the protection of these, as distinct from protection of medium and small canopy trees. The reason for making the distinction in the controls is that the research reviewed for this Strategy highlights that mature large trees make a significantly greater contribution to the urban landscape than new or recently planted trees, or the medium and small trees. The medium and small trees are valued including for their contribution to the landscape character, however the large trees, where feasible, will be preferred due to their greater range of benefits they can make in the long term.

3. Existing landscape character

3.1 Attributes of the landscape character

3.1.1 Overview

The landscape character of Monash is the interplay of the inherent natural physical characteristics and human influences.

The inherent natural physical characteristics include:

- Topography
- Geology and soils
- Vegetation
- Biodiversity
- Waterway corridors

The human influences include:

- Land use
- The era of urban development including built form and settlement pattern
- Cultural heritage
- Land ownership and management (public and private land)

The following features influence the sense of greenness and character including:

- Street layout including the nature strip width and street tree planting.
- Front setbacks and the proportion of the setback which is planted with grass or garden bed and trees.
- Side and rear setbacks.
- Front fences including their height, material and style.
- Garden design trends.
- The distribution, design and quality of reserves and parklands (public open space).

- The presence of distinctive natural features within the urban setting including waterways, remnant bushland areas, historical features such as large exotic trees and garden areas.
- Open space associated with other private and public land uses including:
 - golf courses
 - school grounds
 - university and TAFE college grounds
 - large front setbacks for industrial and business uses
 - the land associated with major roads and freeways.

3.1.2 Natural physical characteristics

3.1.2a Topography



Figure 3A Topography – Extract from Drawing MLAVS-01

The topographic map in Figure 3A shows the distinctly undulating topography in the north changes to the gently undulating topography in the south through Hughesdale, Oakleigh, Huntingdale, Clayton and Mulgrave. In the gently undulating topography, the landscape character is focussed on the built form, planted and streetscape character nearby, in contrast to the longer vistas and views in the north and east in the undulating and steeply undulating topography. There are a variety of views from the steeply undulating topography including towards the CBD to the east, the Great Dividing Range to the north, the Dandenong Ranges to the east and towards the Police Academy to the south.

The waterway catchments are defined on the topographic map with the distinct ridgeline running north--south in the eastern part of the municipality offering extensive views over the Dandenong Creek valley and floodplain and further east to the Dandenong Ranges.

3.1.2b



On the northern and eastern slopes of the City of Monash the surface geology is Silurian Derived Sedimentary Hills (shown in grey in Figure 3B), while the majority of the municipality is Tertiary Sands (shown in yellow in Figure 3B). Over the Silurian Derived Sedimentary Hills the soils are described as Light grey loams over clay, while the remainder of the city has predominantly Dark grey sand over clay. Along the waterway corridors, Alluvial soils are present, while in the south west, Old dune soils are present, as shown in the darker green on Figure 3B.

The changes in geology is linked to the topography and the soils. This informs the inherent vegetation characteristics of the municipality, which influences land use and the landscape character. For example, the old dune sands and sand soils in the south west parts of the municipality have influenced the establishment and Huntingdale and Metropolitan Golf Courses. The changes in geology and soils also influences the growth characteristics and type of trees and vegetation across the municipality.

Combined with the changes in soil type, the more undulating parts of the municipality in the north have remnant indigenous vegetation including Grassy Woodland and Valley

Heathy Forest. The sandy soils to the south supported the Grassy Woodland and Heathy Woodland forests, and change the range of tree species and characteristics.

3.1.2c Biodiversity values

The City of Monash Environmental Sustainability Strategy 2016–2026 identifies the following as Monash's most significant natural environmental areas:

- Valley Reserve
- Dandenong Creek Riparian Corridor
- Gardiners Creek
- Scotchmans Creek
- Damper Creek.

Additional to those identified above, there are a number of reserves with remnant or mature planted indigenous vegetation that provides a framework to strengthen the biodiversity values. These include:

- Bogong Reserve
- Brickmakers Park
- Electra Reserve
- Essex Heights Reserve
- Hinkler Reserve
- Federal Reserve
- Reg Harris Reserve
- Whalley Drive Reserve

151 species of flora and fauna of national, state and regional significance have been recorded in the Municipality including Dwarf Galaxias, Australasian Bittern, Southern Bell Frog, Grey-headed Flying-fox, Powerful Owl, Peregrine Falcon, Pointed Flat-sedge, Yarra Gum, Muttonwood and Manna Gum. The Monash ESS is proactively working with other land and waterway management authorities and community groups to improve environmental outcomes.

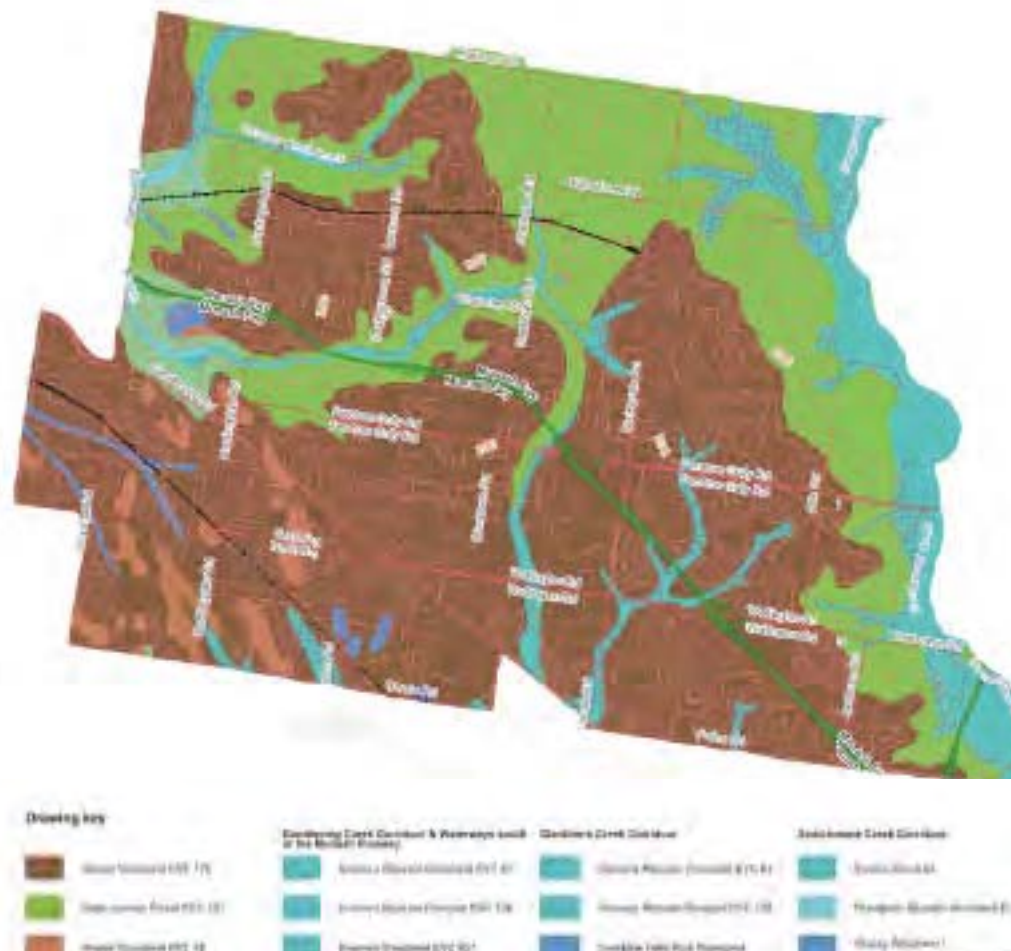
The strengthening of canopy vegetation in the City of Monash has the potential to improve the habitat and biodiversity values, particularly along the waterway corridors. This includes consideration of tree species on both private and public land along with shrubs and ground layer species. This has been reinforced in the *Urban Biodiversity Strategy 2018*, which was prepared after the main body of research was undertaken for this Strategy. In addition to the biodiversity values along the waterways and the bushland reserves, the *Urban Biodiversity Strategy 2018* notes the importance of the cultivated gardens and street trees in providing supporting foraging resources for indigenous fauna, particularly where they adjoin Council managed reserves.

3.1.2d Pre 1750 Vegetation types

The soils and topography inform the original (Pre 1750) vegetation types in the City of Monash. To the north and east Grassy Woodland (shown as brown colour on Figure 3C) was present on the higher areas with Valley Heathy Forest (shown as bright green on Figure 3C). The Floodplain Riparian Woodland the Swampy Riparian complex occupied the lower elevations towards and along the waterways.

In the central and southern areas of the municipality (shown as brown colour on Figure 3C), the vegetation was predominantly Grassy Woodland. On the old dune soils in the south western areas of the municipality (shown as light brown on Figure 3C) Heathy

Woodland is noted as being the original Ecological Vegetation Class (EVC) with a



Overall, the dominant canopy trees in the original vegetation types include:

- **Grassy Woodland EVC 175** – Narrow-leaf Peppermint *Eucalyptus radiata* and Drooping Sheoak *Allocasuarina verticillata*. Smaller trees include Black Wattle *Acacia mearnsii*, Black Sheoak *Allocasuarina littoralis* and Cherry Ballart *Exocarpus cupressiformis*.
- **Valley Heathy Forest EVC 127** – Yellow Box *E. melliodora*, Bundy *E. goniocalyx*, Silverleaf Stringybark *E. cephalocarpa* and Messmate Stringybark *E. obliqua*. Smaller trees include Cherry Ballart *Exocarpus cupressiformis*.
- **Swampy Riparian Woodland EVC 83** – Swamp Gum *E. ovata* and Narrow-leaf Peppermint *E. radiata*. Smaller trees include Blackwood *Acacia melanoxylon* and Swamp Paperbark *Melaleuca ericifolia*.
- **Heathy Woodland EVC 48** – Jimmy's Shining Peppermint *E. willsii*, Messmate Stringybark *E. obliqua*, Narrow-leaf Peppermint *E. radiata*, Rough-barked Messmate *E. viminalis* ssp. *pyroriana* and Saw Banksia *Banksia serrata*.

Remnant vegetation in the City of Monash is primarily located along the waterway corridors with some individual remnant trees on other areas of public land away from the waterway corridors. Today, the original vegetation communities form a component of the landscape character mainly in precincts adjacent to the waterways. Away from these

precincts, the vegetation has been substantially removed with exotic gardens and a mix of native and exotic street trees. The planted vegetation is described below.

The remnant indigenous vegetation, particularly the dominant tree species informs the existing and preferred landscape character types. Some of the international research, into determining target percentage canopy tree cover for areas links this to the original vegetation types. For example, naturally forested areas are typically able to support a higher percentage of tree canopy cover than an area that was formerly an open grassland. A range of different woodland and forest types were present across the whole municipality, all of which would have originally supported varying types of tree canopy cover prior to European settlement, and this influences the percentage canopy cover target in this Strategy of 30 per cent.

3.1.2e Planted canopy vegetation (outside of bushland areas)

Due to urban development, outside of the waterway corridors and remnant bushland, the majority of canopy vegetation is planted. The planted character is largely influenced by changing trends in urban development. During the interwar period the planted canopy vegetation is a mixture of exotic and native species, but with a dominance of exotic, particularly in relation to residential gardens including the ornamental shrubs and small trees.

From the 1960s through to 2000 there is a combination of the tall Eucalypt style character along with the manicured exotic evergreen gardens with conifers, cypress and fruit trees. Post 2000 there is a noticeable decrease in canopy vegetation cover on private land and an increase in focus on the canopy vegetation on public land.

There are some very large signature stands of canopy trees in the city in addition to the bushland. This includes rows of Cypress trees and other trees that formed windrows to rural properties, along with large scattered trees including Oak Trees contained in open space reserves and on private land. Many of the large canopy trees are from earlier times prior to urban development, when agriculture was the dominant land use. The large canopy trees are located on a combination of public and private land, some of which are protected via Heritage Overlays.

Significant trees

Monash City Council does not have a Significant Tree Study, however a number of trees or groups of trees are listed in Schedule 1 to the Heritage Overlay in the Monash Planning Scheme.

The criteria for determining significant trees is more extensive than just size or maturity, and can include more recently planted trees where they have an association with an important event or are of scientific interest. The criteria for significant trees includes:

- Aesthetic, being notable for the visual quality and contribution to the landscape setting. This may include a tree that is outstanding for its size and canopy spread.
- Historic, including a tree that is particularly old, and associated with a memorial or historical event.
- Scientific, of horticultural or genetic value, including being rare, outstanding features, unusual features, of limited distribution, exotic, indigenous or being important for propagation purposes.
- Social/spiritual, including being associated with a notable historical figure or cultural group or identity.

A search of the Victorian Heritage Register and the National Trust Significant Tree Register has found only two individual trees and one other group of trees listed as being of State significance, including:

- Flowering Gum *Corymbia ficifolia* in the Metropolitan Golf Course, approximately 150 years old, 12m tall.
- Bats Wing Coral Tree *Erythrina vespertilio* located at Monash University listed as the best specimen of its kind in Melbourne.
- VHR H1667 Clayton Station, the Statement of Significance notes there are some mature plantings of Oak and Peppercorn trees on the site.

The canopy vegetation including the large mature trees and bushland areas are an important influence on the landscape character of Monash.

3.1.2f Waterways and wetlands

Damper Creek forms the strongest influence in terms of natural bushland character due to the close proximity of the properties and intimacy and steepness of the creek valley relative to surrounding streets and properties. Similarly, the upper reaches of Scotchmans Creek also have this intimacy, which informs the landscape character of the adjoining areas.

Gardiners Creek corridor has a strong influence on the landscape character, however the more gently undulating topography and established exotic gardens in the valley means that its influence is not as pronounced Damper Creek.

By comparison, the Dandenong Creek corridor has a wide expansive floodplain with the streets and urban development set back from the waterway corridor. In some reaches there are large mown fire breaks and grassed ovals and open space between the urban area and Dandenong Creek. Other reaches around Jells Park includes large areas of extensive remnant woodland that influences the adjoining urban character. The creek valley rises steeply to the west of the creek meaning there are expansive views over the creek valley and beyond to the Dandenong Ranges.

The Dandenong Ranges are a key natural feature that influences the landscape character of the municipality. Many streets and neighbourhoods directly overlook the Dandenong Creek valley with the Dandenong Ranges in the background. This generally means there are small and trimmed canopy trees and shrubs on private land so that people can retain their expansive views without tree canopies interrupting them.

A key influence on the changes in landscape character through the municipality is the presence of waterways. This includes the presence of biodiversity values associated with the waterway corridors along with the potential to strengthen these values in the future. One of the key challenges will be planting new large canopy trees in streetscapes and encouraging this on private land in the context of people retaining views of the Dandenong Ranges.



3.1.2g Public open space



Existing areas of open space also contribute to the landscape character at both the neighbourhood and local level. This is typically where the urban layout of streets and properties are oriented to overlook an open space and includes Bogong Reserve in Glen Waverley, Glen Waverley North Reserve and Sherwood Road Reserve in Mount Waverley. A large number of open space reserves in the municipality are not highly visible from the streets as they are enclosed by residential properties or other land use with small frontages directly adjoining the street. While the open space may not be visible, the canopy trees in the public open space provide a framework of canopy trees that contributes the landscape character of the adjoining urban areas. The presence of public open space influences the landscape character and presence of canopy trees.

3.1.3 Human influences

3.1.3a Land use

Residential

This is the dominant land use in Monash with detached single and double storey dwellings in residential lots of varying sizes. In more recent times, the urban character of residential land use is changing and built form has a greater influence on the character. This includes the trend towards larger dwellings on single lots that replace the modest detached dwellings, combined with increased intensity of use on existing properties with 2 lot and greater subdivisions of the residential use.

There is an increasing presence of two storey dwellings in what were standard single storey dwelling areas, which increases the visual prominence of built form and roofs. This is often coupled with increased built form footprint with no or minimal side boundary setbacks. Front setbacks have been retained in the majority of areas, however there is an increased paved surface to these front setbacks due mainly to changes in space allocated for car access and parking. Older style dwellings typically had 3 metre wide driveways for a single vehicle to a car park or garage. Increasingly new dwellings have 6 metre wide driveways, with larger garages for two or more vehicles, and vehicle drop off at the front of the dwelling. This increased hard surfaces to the front of the dwellings reduces the overall sense of green and garden character in the streetscape. The visual impact of the increased hard surfaces impacts on the landscape character where they occur more than occasionally in the streetscape (i.e., several rather than one or two).



Typical residential land use in the City of Monash



Medium density residential

This land use type includes townhouses and other developments including semi-detached and attached dwellings. It is still a small component of the overall residential character and make-up of the City of Monash. It primarily occurs in discrete areas that are either located near activity centres or strategic sites converting former land use such as industrial and mixed use to residential use. In many of these sites, underground power means that large canopy street trees have been planted in consistent avenue style plantings that will ensure in the longer term there is a reasonable canopy cover, despite reduced building setbacks and the lack of canopy trees on private land. Examples include the Sienna development in Mount Waverley, and the Scenic Drive Development in Ashwood.



High density precincts

This land use type includes apartment buildings and mixed use developments. There are some areas of this land use type in the municipality, including adjacent to Monash University and in Burwood. As with medium density residential, the underground power has enabled large canopy street trees to be planted in consistent avenue style plantings

and close to buildings to achieve a reasonable canopy cover, despite reduced building



Example of high density residential, Notting Hill

Retirement living

As with the medium density land use, retirement villages are discrete land uses located throughout the residential neighbourhoods. The older style villages contain single storey semi-detached dwellings set within landscaped surrounds, some with reasonable canopy tree cover, as per the photograph below. More recent examples include medium to high density living without established tree canopy cover. There are implications for community health and wellbeing, particularly through lack of shade in these areas, given there are higher concentrations of the frail and elderly who are more vulnerable to urban heat island effect.



The landscape character associated with this land use type varies from a highly urban landscape without trees or any green space to the streets with large 20 metre plus landscape setbacks with large well established Eucalypts providing a native landscape character. Compared with the residential land use, the commercial/industrial areas contain large roof and hard stand areas meaning they have less green space and trees,

however where the large landscaped setbacks exist the overall effect from the public



Typical garden commercial/industrial precinct, Mulgrave

Public open space

Sporting fields and large native overstorey trees characterise many of the large open space reserves in Monash. Additionally, there are some key reserves with remnant indigenous vegetation including Valley Reserve, Larpent Reserve and the open spaces along Damper Creek, Scotchmans Creek, Gardiners Creek and Dandong Creek. From the site assessment work it appears there are opportunities to increase the presence of canopy trees in public open space, particularly to the perimeter of sports fields and through unstructured recreational facilities, for example around picnic areas and playgrounds.

The character of the public open spaces influences the overall landscape character of the precincts particularly where the urban layout faces the open space. The presence of canopy trees in the public open space provides a framework and setting for the built form in many neighbourhoods. Refer to Figure 4D.



Education

This includes public primary and secondary schools, Holmesglen Institute of TAFE and Monash University. Generally, the school grounds contribute to the canopy tree cover and the overall landscape character of the neighbourhood. Particularly notable are the large Eucalypt species providing an overstorey canopy framework and context to residential dwellings. Combined with public open space some school grounds have remnant indigenous overstorey trees. The Victorian Department of Education and Early Childhood Development (DEECD) is responsible for all Victorian public schools and while the trees on this public land contribute to the landscape character and canopy cover, Council is not directly responsible for their ongoing protection in the future.

Monash University campus in Clayton is recognised for the Australian landscape character and has ten gardens within the grounds. The campus was established in the 1960s on predominantly open grazed paddocks and now has well established gardens with mainly planted Eucalypts, and also one significant remnant Red Gum.

Other educational institutions include private schools including Wesley College Waverley Campus, Caulfield Grammar Wheelers Hill Campus, adjoining the Dandenong Creek corridor and Salesian College, Chadstone. These sites have open sports fields (both natural and synthetic) and canopy trees mainly to the perimeter of the sites.

Local retail centres

The small local retail centres located throughout the residential neighbourhoods in the commonly have a consistent style street tree plantings that signify these retail precincts in the residential streets. The topiary style of street tree is commonly referred to as 'Mop Top' which is a grafted variety of tree with dense branching and foliage on a vigorous main stem which have a topiary appearance without a normal vase shaped branching habit. Increasing shade in these local retail centres, many of which have small local open spaces will be a priority into the future.



Activity centres

The large commercial centres that form part of the activity centres have not been individually assessed as part of this work as these typically have Structure Plans to guide their future change. Given the activity centres will increasingly include high density housing, the provision of adequate urban greening will be a key outcome from this Strategy to inform the urban design and structure planning for these centres in the future.

Golf courses

The four privately owned golf courses in Monash contain mature overstorey trees that define the greens and fairways, with an unbuilt and manicured landscape character. Fencing to the perimeter of the golf courses does impact on their contribution to the landscape character as the fence forms a visual barrier to the green and open space character and partially obscures the canopy trees.

Major roads and freeways

With VicRoads as the responsible agency for the major arterial roads, Council has limited influence over the selection and canopy trees along the major arterials including Princes Highway, the South East Arterial and Springvale Road. The large Eucalypt style plantings through Clayton contribute to the landscape character and setback for the large scale commercial/industrial, education and business land uses. Canopy vegetation along the South East Arterial easement partially screens the freeway sound walls and softens the adjoining residential use in some locations.

Railway land

The railway easements vary in width, and in some precincts there is a significant presence of canopy vegetation that contributes to the landscape character. As with roads, education land and service easements, the canopy trees can be removed to provide space for transport or service provision and risk, and therefore there is no certainty of their retention.

Service easements

Easements for the transmission lines and water supply traverse through the municipality, however due to their service provision they do not have any substantial canopy vegetation present in them.

Victorian Government owned land

The Police Academy site and the Melbourne Water Reservoirs are located on high points in the Glen Waverly area they contain mature canopy trees which are highly visible and



3.1.3b Built form and settlement pattern

The extent of built form and development relative to the landscape, or unbuilt areas has a key influence on the urban landscape character of precincts. This includes the building height, density, form, setback from front and side boundaries, fence styles and materials. The settlement pattern includes: the overall subdivision pattern and its responsiveness to the underlying topography;; road pavement widths relative to the overall street width;; nature strip widths that influence the type and size of street trees;; the presence and location of overhead powerlines;; and the location and accessibility of public open space.

The MULCVS relies on the built form character described in the Monash Neighbourhood Character Study 1997 along with the updates in the Draft Neighbourhood Character Review in 2014. The MULCVS refers to the built form and settlement pattern where it forms a key component of or has a major influence over the landscape character.

3.1.3c Cultural landscape heritage

The following description has been taken from the Council's website:

Pre-European settlement

Prior to the arrival of Europeans, the **Woi wurrung** occupied an area which extended from inland of the Werribee River in the south west, Mount Macedon in the north west, Mount William in the Great Divide to the north and across to Mount Baw Baw in the east (Clark 1990). Their southern boundary was the watershed of the Great Divide and Bunurong clans. This group of people had common language and social practices, and at the time of contact, was thought to have comprised seven clans, each with their own clan estate. At the time of European settlement, Dandenong Creek north of Dandenong appears to have been the approximate boundary between **Woi wurrung** and **Boon wurrung**.

The specific clans likely to have traditional rights and obligations in the City of Monash area are the Ngaruk willam of the **Boon wurrung** and the **Bulug willam** patriline of the **Wurundjeri-Balluk** clan (**Woi wurrung**).

The **Bulug willam** clan belonged to the Waa (or crow) moiety and the moiety of the **Ngaruk willam** was **Bunjil** (or eaglehawk). The meaning of **Bulug willam** is given as "Swamp dwellers" and **Ngaruk** meant stones or rocky. The **Bulug willam** clan head at the time of European contact was Mooney Mooney/Old Murray who is claimed to have guided Batman's June 1835 party to a winter camp where the "Treaty" was negotiated. Mooney's son, Bolete who was a member of the Native Police Corps. Tukulneen or Old George the King, was retired due to old age as head of the **Ngaruk willam** when Europeans arrived in this area, but was recognised as second in command to Billibellary (Jika Jika).

De Villiers identified the Native Police Reserve at Narre Narre Warren as being within the territory of the Bulug willam clan. Members of **Woi wurrung** who first chose the site for the Aboriginal Protectorate Station, described the area as 'Nerre Nerre Warren where all black fellows sit down'. Thomas stated that 'the Western Port tribe's (Boon wurrung) visits to Narre Narre Warren are but transient ... they feel no way satisfied with the location' which was within **Woi wurrungland**.

One of the first Europeans to investigate Dandenong Creek and the Dandenong Ranges during the initial period of contact was Botanist Daniel Bunce (1859). In approximately 1840 when the first squatting runs such as James Clows' were already established, Bunce made a journey to Mount Dandenong. Accompanying Bunce on this short journey was Derrimut (from Werribee District), Yammabook and Benbow. These Aboriginals were from different clans than those who traditionally occupied the Dandenongs, however they still had strong cultural links to the area. During this journey, [the principal aim of which was to collect botanical specimens], a number of local Aboriginals were encountered. In a detailed account of the journey Bunce described the construction of camps, hunting and gathering methods, game preparation and consumption, social practices, including the differing roles of men and women and various types of bark removal. Bunce's short journey serves to highlight the wealth of resources available to Aboriginal people in the Dandenong Ranges, and the exceptional knowledge they had of the landform and its resources.

European Settlement

The Contact period in the Melbourne region was one of upheaval. The Kulin tribes, particularly the Woi wurrung and the Boon wurrung that occupied the Melbourne area, and the European squatters and settlers had relationships that were filled with violent conflict, cross cultural misunderstanding and on occasion a mutual respect. The implementation of Aboriginal missions, the Native Police Corps, the Aboriginal Protectorate and the later Aboriginal Reserves, all shaped the fate of the Woi wurrung and Boon wurrung during the contact period.

The landscape was extensively modified since the early 1800s, firstly being largely cleared for grazing, market gardens and in some locations for quarrying activities including for brick making and sand. The area around Hughesdale and Oakleigh was settled first with dairy farms, orchards and market gardens being the dominant land use in around the turn of the century. Market gardens were particularly important around Clayton. The electrification of the Oakleigh line in 1922 and the opening of the Darling to Glen Waverley line in 1930 further opened up housing developments and caused the gradual retreat of the market gardens. Residential and commercial/industrial development boomed after WWII in Clayton, Mulgrave and Mount Waverley. In 1949, the Housing Commission became a major contributor to housing construction in the Jordanville area. Monash University was established in Clayton in 1961 and Waverley Park premier football ground was established in 1968.

3.1.3d Cultural landscape character

Today, the original natural landscape character of the city is evident along the key waterway corridors. Evidence of the agricultural is present in the municipality, mainly through surviving large exotic trees that remain in open space reserves and on private land. The landscape character is influenced by a combination of the street trees, open space character, subdivision layout, built form and private gardens. Across the different precincts, original private gardens that represent the late 1940s and 1950s subdivision are notable, however many of these are changing as the buildings are replaced or renovated to contemporary dwellings.



Established remnant Oak Tree from the former rural land use in the area

3.1.3e Street trees

The dominant street tree planting style in the City of Monash is scattered mixed species evergreen trees with a combination of large and small trees. In many streetscapes, the scattered planting arrangement and small size of street trees means that the residential gardens are more prominent and visible in the streetscape than the street trees. Where consistent avenue style street tree plantings exist, these significantly contribute to the overall landscape character of the precincts. Without a strong framework of street trees, changes to the private landscapes and built form, particularly the visual prominence of 2+ storey dwellings have a greater impact on the precinct landscape character.

In Hughesdale and the Oakleigh area the older avenue style street tree plantings make a significant contribution to the landscape character including the distinctive alternating evergreen and deciduous avenues.

The *Monash Street Tree Strategy* identifies opportunities to increase the canopy tree cover in the streetscapes, and the MULCVS can strengthen the need for this to occur, particularly given the loss of canopy trees on private land. The MULCVS also provides an opportunity to consider updating the criteria used to determine priorities for street tree removals and street tree planting, particularly in the context of mitigating urban heat island effect.

3.2 Overall landscape character

The *Garden City Character* varies across the City of Monash and is influenced by the factors listed in 3.2.1. In summary, the greatest influences on the existing landscape character in Monash include the presence of canopy vegetation, particularly large canopy trees; the waterway corridors; the era of development; land use; and changes in the topography.

Hughesdale and Oakleigh contain the earliest subdivisions, generally with wider naturestrips and a greater number of large mature avenues of deciduous and evergreen trees, complemented by exotic gardens and early 1900s architecture. The topography is relatively flat and gently undulating.

Ashwood, Burwood, Chadstone and Mount Waverley are characterised by steeply undulating topography with the presence of the waterway corridors including Gardiners and Scotchmans Creek, contrasting with well-established suburban gardens that are predominantly pre-1965.

Glen Waverley and Wheelers Hill are elevated and steeply undulating topography that affords views over the Dandenong Creek valley to the east, and to the Dandenong Ranges beyond. The long vistas and views contribute to the sense of scale and context of the urban settlement in a natural treed and bushland setting. These precincts also have the upper catchments of Scotchmans and Damper Creeks with these waterway corridors influencing the natural and native character of the areas adjoining them. The eastern extents of Glen Waverley and Wheelers Hill are characterised by post 1965 development patterns with curvilinear streets, detached one and two storey dwellings on quarter acre lots and underground power. This includes a dominance of manicured garden style with trimmed conifers and occasional emergent tall canopy trees.

Oakleigh South is characterised by the presence of the large private golf courses with the established native tall Eucalypt style canopy framework influencing the residential precincts. Clayton, Mulgrave and Notting Hill are characterised by the relatively flat topography and established exotic suburban neighbourhoods. These contrast with the predominantly native landscape character and style associated with Monash University campus and the large scale commercial, business and industrial land use types in this precinct. Cultural influences are evident in the garden styles and character of these precincts with compact productive gardens distributed through Oakleigh, Oakleigh South, Oakleigh East and Clayton.

The following two tables describe the existing landscape character types, with Table 3-1 describing the residential landscape character types and Table 3-2 describing the commercial/industrial landscape character types. Opportunities to change these character types are included in the right hand column, and this has informed the preferred landscape character types which are included in Section 5.5.

Table 3-1 Residential landscape character types

Distinctive features	Opportunities for future change
Native tall Eucalypt landscape character type	
<ul style="list-style-type: none"> • Strong presence of native tall Eucalypt style trees that influence the overall character. • Are generally a combination of scattered emergent trees through residential gardens, reinforced by more substantial stands of tall Eucalypts in the public open space and in many locations as street trees as well. • Street trees can vary with both tall Eucalypt style and others. • Typically the tall Eucalypts are planted in public open space, on school grounds and in private land. • Diversity of architectural styles. • Variety of fencing styles. • Diversity of topography, with a higher proportion in the creek valley and creek corridor types. 	<ul style="list-style-type: none"> • Retain and encourage additional planting of tall Eucalypt style trees on private land when sites redevelop. • Encourage adequate space and footing designs in proposed built form to maximise the use of new tall Eucalypt style trees in development sites. • Improve tree canopy cover through careful review and establishing additional avenues of Eucalypt style species in streets that are in proximity to remnant bushland and waterway corridors. This may include options to review the planting location outside the overhead powerlines in order to achieve good form and structural integrity to the street trees. • Promote planting of additional tall Eucalypts on public land including streetscapes, public open space, educational facilities and other land including service easements where adequate space is available to minimise long term impacts on footpath and road pavements surfaces. • Promote planting of additional tall Eucalypts on existing private land through community education and initiatives. • Encourage low or no front fencing to minimise built elements and maximise integration between the private and public realm.



Table 3-1 Residential landscape character types *continued...*

Distinctive features	Opportunities for future change
Exotic suburban landscape character	
<ul style="list-style-type: none"> • Predominantly non-native canopy trees and vegetation, with a combination of deciduous and non-native evergreen trees. • Predominantly detached single and double storey dwellings with a diversity of architectural styles. • Exotic street tree species, typically mixed evergreen and deciduous exotic species. • Variety of fencing styles. • Diversity of topography including steeply and gently undulating. • Mainly located in the central and southern parts of the Municipality. 	<ul style="list-style-type: none"> • Retain exotic canopy trees on private land when sites redevelop. • Prioritise retention of long-lived large canopy trees in future redevelopment sites where a requirement to retain all existing trees would potentially prevent the reasonable development and use of the site. • Promote the use of large canopy deciduous and non-native evergreen trees on both the public and private land where adequate space is available. • Exotic street tree species to be selected for future replacement and infill street tree planting. • Encourage low or no front fencing to minimise built elements and maximise integration between the private and public realm
	
Exotic suburban 'garden' landscape character type	
<ul style="list-style-type: none"> • Strong presence of exotic canopy trees and vegetation in residential gardens. • Street trees are scattered and have a minimal contribution to the character. • Gardens are the dominant feature. • Mainly detached dwellings with varied front and side setbacks. • Diversity of architectural styles. • Predominantly low or no front fencing making front gardens visible in the streetscape. 	<ul style="list-style-type: none"> • Retain exotic canopy trees on private land when sites redevelop. • Strengthen the street tree planting to complement the exotic garden character, particularly with large deciduous trees where appropriate and adequate space is available. • Retain the predominance of low or no fencing. • Allow space for new large canopy trees in development sites. • Fencing as per previous.
	

Table 3-1 Residential landscape character types *continued...*

Distinctive features	Opportunities for future change
Evergreen landscape character type	
<ul style="list-style-type: none"> • Dominance of evergreen canopy trees and vegetation. This includes native and exotic evergreen species, without a dominance of tall Eucalypt style trees. • Variety of architectural styles. • Varied urban densities and building setbacks. • Variety of fencing styles and heights. • Varied topography • Streetscapes typically include a mix of evergreen species in each street, rather than single species avenue style planting. 	<ul style="list-style-type: none"> • Continue to strengthen this character type, particularly where there is no conflict with overshadowing and sunlight access. • Retain and plant new large canopy trees on both the public and private land where adequate space is available. • Prioritise to retain large canopy trees on private land when sites redevelop. • Allow space for new large canopy trees in future redevelopment sites. • Strengthen avenue style street tree planting through progressive infill with evergreen trees. • Encourage low or no front fencing.
	
Evergreen suburban garden landscape character type	
<ul style="list-style-type: none"> • Predominantly residential land use. • Varied urban densities and building setbacks. • Variety of fencing styles, predominantly low height or no fencing. • The landscape character is mainly influenced by the dominance of evergreen native trees and vegetation on private land. • The street trees are either absent, scattered or recently planted and make a minimal contribution. 	<ul style="list-style-type: none"> • Retain large canopy trees on private land when sites redevelop. • Prioritise street tree planting so that it complements the evergreen garden character and canopy vegetation on public land. • Retain the predominance of low or no fencing. • Consider addition of deciduous trees where sunlight access is required.
	

Table 3-1 Residential landscape character types *continued...*


Distinctive features	Opportunities for future change
Deciduous and evergreen suburban landscape character type	
<ul style="list-style-type: none"> • Where the landscape character is influenced by the combination of both deciduous and evergreen trees in private and public land, and can include both native and exotic species. • Variety of architectural styles. • Varied urban densities and building setbacks. • Variety of fencing styles and heights. • Varied topography. • Streetscapes typically include a mix of evergreen and deciduous species in each street, rather than single species avenue style planting. 	<ul style="list-style-type: none"> • Retain large canopy trees on private land when sites redevelop. • Strengthen the mix of deciduous and evergreen vegetation, particularly with consideration of sunlight access. • Increase the presence of alternating avenues of street trees to achieve sunlight access and shading, particularly in east--west oriented streets. • Encourage low or no front fencing.
	

Table 3-2 Variable elements to add to the existing residential landscape character types


Variable element	Distinctive features	Opportunities for future change
Compact	<p>Canopy trees are predominantly less than 6 metres high, providing a sense of greening for single storey built form, however too low to effectively provide greening to 2-storey and higher built form.</p> 	<ul style="list-style-type: none"> • Plant taller canopy trees to provide more effective greening and shading to precincts in which 2-storey and higher dwellings are likely to increase in the future • This character type will not be included in the preferred future Landscape Character types to support the overall objectives of planting canopy trees that emerge above the roofline.

Table 3-2 Variable elements to add to the existing residential landscape character types *continued*.....



Variable element	Distinctive features	Opportunities for future change
<p>Creek valley</p>	<p>Elevated areas that overlook waterway corridors</p> 	<ul style="list-style-type: none"> Strengthen the biodiversity values of waterway corridors by increasing the presence of large canopy trees, including native and indigenous species on both private and public land. Investigate suitable guidelines to introduce canopy trees into these areas, while retaining some selected views. Emphasise the importance of side setbacks to retain views between buildings, along with planting of shrubs in the side setbacks to promote greenness, without impacting on views.
<p>Creek corridor</p>	<p>Areas directly adjoining the waterway within the creek valley form</p> 	<ul style="list-style-type: none"> Strengthen the biodiversity values of waterway corridors by increasing the presence of large canopy trees, particularly native and indigenous species on private land through appropriate planning control. Strengthen biodiversity values by increasing the presence of native and indigenous large canopy trees in public open space and streetscapes. Determine suitable planning controls to protect existing canopy trees on private and public land during redevelopment along the waterways. Promote the use of native and indigenous plants in private landscaping where properties directly adjoin the waterway.
<p>Early 1900s</p>	<ul style="list-style-type: none"> Where the period heritage style architecture, gardens, street trees and open space styles influence the landscape character. Building setbacks vary. Residential garden styles typically match the building form and character. Mainly low fencing styles complement the architectural character. 	<ul style="list-style-type: none"> Review the controls in the Heritage overlay areas to confirm whether any additional controls are required for fencing styles or garden character and street trees. Protect and enhance the alternating street tree planting style as the species senesce and require replacement. Reinstate the alternating planting style where it has been modified. Protect the exotic garden character that is consistent with period architectural style.

Table 3-2 Variable elements to add to the existing residential landscape character types *continued*.....



Variable element	Distinctive features	Opportunities for future change
<p>Suburban</p>	<ul style="list-style-type: none"> • Typically detached single and 2 storey dwellings with space around the building to establish a garden setting that clearly separates it from the next building. • Space between built form allows room for canopy trees, shrubs, climbers and garden beds. In the undulating and valley precincts, this allows for vistas between the buildings. • Typically canopy trees are visible in the rear gardens. • Typically built form is viewed through vegetation. 	<ul style="list-style-type: none"> • Identify best examples of the suburban detached dwelling style landscape character as part of this Strategy to protect them with appropriate planning controls to prevent them from being changed by incremental redevelopment of single lots. For example, recognise and define new heritage precincts to protect this style. • Emphasise the importance of greenness surrounding the building so it is within a landscaped setting.
<p>Modified suburban</p>	<ul style="list-style-type: none"> • A combination of the post WWII suburban character noted above with contemporary dwellings interspersed through precinct. • Typically, the contemporary dwellings have a larger built form footprint than the traditional suburban house, and occupy a larger proportion of the block. This means there is less garden area around the built form. 	<ul style="list-style-type: none"> • Prepare and introduce soft landscape guidelines into the development process where increased site coverage with built form is proposed. • Improve the guidelines for retention of existing canopy trees on site as part of the development process. • Improve guidelines for the protection of existing trees on adjoining properties and in the streetscape during the construction process. This would be applied to all preferred character types.

Table 3-2 Variable elements to add to the existing residential landscape character types *continued*.....



Variable element	Distinctive features	Opportunities for future change
<p>Post 2000 Redevelopment area</p>	<ul style="list-style-type: none"> • Refers to infill development, generally post 2000. • Underground power. • Footpaths to one side only, or no footpaths. • Road pavement widths and kerb treatments vary. • Avenue style planting generally with single species. • Reduced building setbacks and many without any canopy trees in the front gardens. 	<ul style="list-style-type: none"> • Develop clear guidelines for footpath/pedestrian access to both sides of the street for future infill development sites. • Review the minimum building set back in relation to provision of large canopy trees across the sites to achieve adequate shade and greening in the longer term. • Review the presence of canopy trees in the back gardens of this style of development to achieve improved canopy cover across the precinct.
<p>Urban</p>	<p>Medium to high-density urban development that is located primarily in activity and neighbourhood centres and in other location such as the Monash Employment Precinct</p> 	<ul style="list-style-type: none"> • Ensure that future design applications for these areas provide space to plant large canopy trees. • Include consideration of both tall Eucalypt style and broad spreading deciduous and evergreen trees, subject to aspect and adequate space. • Review minimum building set backs in order to provide adequate space to accommodate large canopy trees.

Table 3-3 Commercial/industrial landscape character types



Distinctive features	Opportunities for future change
Urban industrial landscape character	
<ul style="list-style-type: none"> • Small scale industrial use, predominantly single storey. • No building setback. • Minimal or no nature strip present. • Minimal or no street trees. 	<ul style="list-style-type: none"> • Potential to greatly improve the landscape character and environmental sustainability through planting street trees in the road pavement cut-outs with WSUD.
	
Suburban commercial/industrial landscape character	
<ul style="list-style-type: none"> • Medium scale industrial use, predominantly single and 2--storey. • Varied building setbacks between 0 and 20m. • Hardscape treatments to the property frontage including car parking and driveways. • Some fenced interface treatments. • Nature strip present with street trees. 	<ul style="list-style-type: none"> • Potential to improve the landscape character and environmental sustainability through increased density of street tree planting, either in existing nature strips or in the road pavement cut-outs with WSUD. Road pavement cut-outs will allow for tree canopies to form where they are not directly under the powerlines. • Encouraged increased building setbacks when the sites redevelop. • Additional trees for shade to be planted in the landscape setback and through the car parking areas. This includes car parking to the rear of the building to provide better distribution of shade across the site and provide a tree canopy framework/setting for the built form. This will achieve improved health and wellbeing outcomes as well as aesthetic improvements.
	

Table 3-3 Commercial/industrial landscape character types *continued...*

Distinctive features	Opportunities for future change
Garden commercial/industrial landscape character	
<ul style="list-style-type: none"> • Large scale commercial/industrial use, predominantly 2 to 3 storey buildings. • Up to 20 metre building setback. • Landscaped settings with established overstorey trees, well maintained garden beds and grassed areas. • Some scattered mixed species and some avenue plantings. • Predominantly native landscape character with large Eucalypts. 	<ul style="list-style-type: none"> • Potential to improve the landscape character and environmental sustainability through planting additional large canopy trees in the streets and private land. • Potential to introduce additional canopy shade trees to shade internal and external car parks to assist mitigate urban heat build up and improve the amenity values for workers and people living nearby. • Consider inclusion of deciduous trees where they will provide winter sunlight access and summer shade to outdoor spaces that are used by workers.



3.3 Landscape character precincts

A detailed site assessment has been undertaken to document the existing landscape character in the City of Monash. The assessment has been undertaken consistent with the urban character sub-precincts from the Monash Urban Character Study 1997. The precincts in the urban character study varied in size and were not related to the suburb/place names. For ease of reference, this Strategy describes the landscape character types by aggregated precincts that are defined either by major roads or major changes in landscape and urban character. The precincts adopt the dominant suburb name for individual precinct names as shown in Figure 3E.

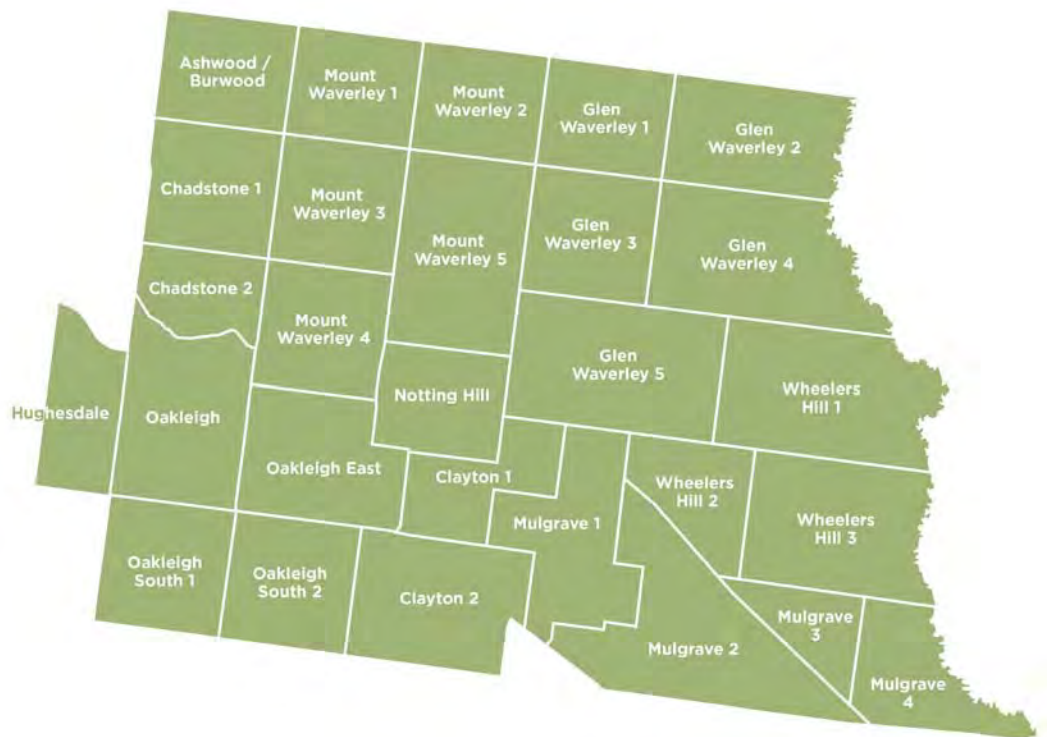
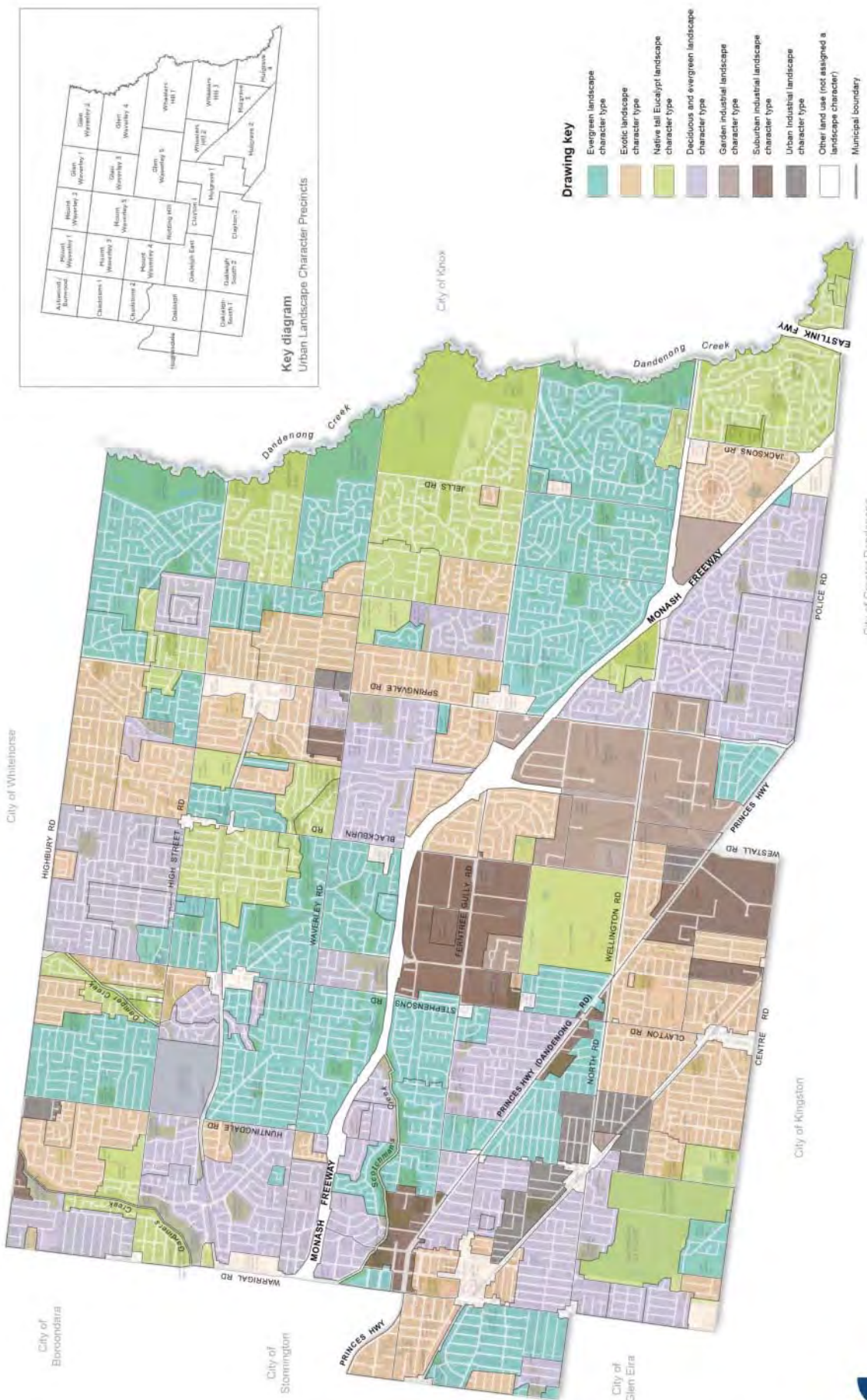


Figure 3E Landscape Character Precincts

The site assessment work has considered all the elements of the landscape character as described in Tables 3-1, 3-2 and 3-3, and applied these to develop landscape character types across the municipality. They are divided into two main land use types, being residential and the commercial/industrial land use.

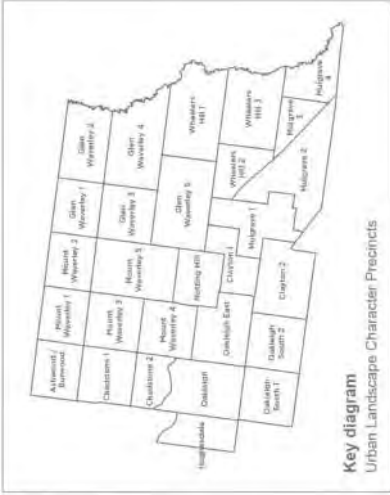
The landscape character type descriptions draw first from the topography, followed by the natural features, built character and vegetation.

The spatial distribution of the existing landscape character areas are shown on Figure 3F on the following page, and the detailed character descriptions which are on A3 sheets from Appendix A to this Strategy.



Drawing key

	Evergreen landscape character type
	Exotic landscape character type
	Native tall Eucalypt landscape character type
	Deciduous and evergreen landscape character type
	Garden industrial landscape character type
	Suburban industrial landscape character type
	Urban industrial landscape character type
	Other land use (not assigned a landscape character)
	Municipal boundary



Existing Landscape Character Types – Vegetation
MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY

28 FEB 2017
DWG: M.A.VS.006
SCALE: 1:40,000 @ A3
0 200 400 600 1km

4. Existing canopy vegetation cover

4.1 Overview

There has been a loss in tree canopy cover between 1992 and 2015, declining from 26 to 22 per cent cover.

This project has measured the canopy vegetation cover for the City of Monash in 2015 and in 1992 (which represents the approximate time the Vegetation Protection Overlay was introduced into the Monash Planning Scheme). The canopy vegetation is made up of trees and then smaller shrubs and ground layer vegetation. The tree canopy cover has been measured in two ways:

- The percentage of tree canopy cover.
- Spatial mapping of the tree canopy cover.

Percentage tree canopy cover

The project has used the industry recognised i-Tree Canopy free-use software. This was selected so that the results can be benchmarked against adjoining municipalities and the international examples. Refer to Appendix A for further information about this method. The i-Tree Canopy software also measures other types of surfaces and features that make up the city. This project measured the 'greenness' of the city along with the tree canopy cover.

Spatial mapping of tree canopy cover

The spatial mapping is based on the 2015 and 1992 aerial photographs. By mapping the tree canopy cover only over the two time periods, it allows a visual comparison of where changes to the canopy cover have occurred.

4.2 Tree canopy cover in the City of Monash

The 2015 tree canopy cover in the City of Monash has been measured at 22 per cent. This is 4 per cent lower than the tree canopy cover in 1992, which is measured at 26 per cent.

In order to identify where the changes have occurred in tree canopy cover between 1992 and 2015, this project spatially mapped the tree canopy cover on a municipal wide basis. The results of this mapping are shown in Figures 4a and 4b.

As a result of the canopy vegetation cover mapping for this project the following key changes have occurred over the past approximately 23 years in the City of Monash:

- There has been an increase in tree canopy cover on public land along the waterway corridors and in public open space. For example, Figure 4B shows a clear increase in tree canopy cover along the Gardiners Creek open space corridor, Dampier Creek open space corridor, Scotchmans Creek open space corridor, Valley Reserve and the Dandenong Creek floodplain when compared to the same areas in Figure 4A.
- A loss of tree canopy cover on private land and in the streetscapes particularly west of Blackburn and Clayton Roads. This includes through the suburbs of Oakleigh, Oakleigh East, Chadstone and Mount Waverley.
- An increase in tree canopy cover in the south eastern areas of the municipality including in parts of Wheelers Hill (south of Wellington Road and east of Monash Freeway) and Mulgrave. This is mainly due to the completion of urban development during this period on former agricultural land and the subsequent planting of trees on private land, in public open space and in the streetscapes.
- In relation to the loss of tree canopy cover within and outside the Vegetation Protection Overlay (VPO) Figures 4A and 4B illustrates:
 - Tree canopy cover loss has occurred inside the VPO in the western and northern parts of the municipality at a similar rate to the areas without the VPO.
 - There has been an increase in tree canopy cover in the south eastern area of the municipality within the VPO at a similar rate to similar areas outside the VPO.



City of Monash Tree Canopy Cover 1992 – Extent of existing VPO
MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY

Figure 4B City of Monash Tree Canopy Cover 2015 – Extent of existing VPO

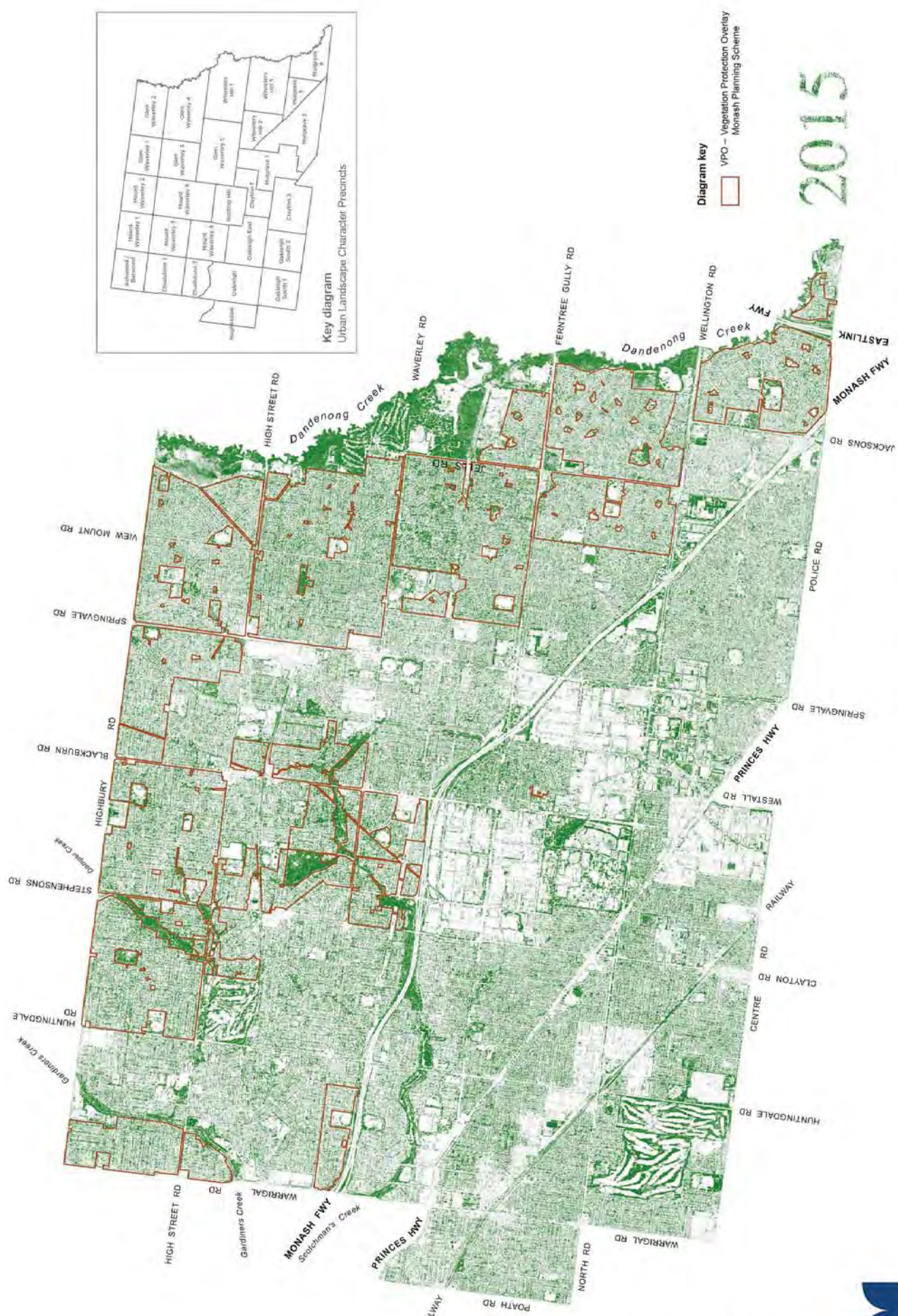
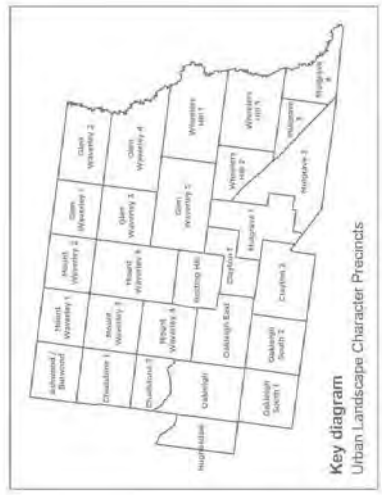


Diagram key
 VPO – Vegetation Protection Overlay
 Monash Planning Scheme



City of Monash Tree Canopy Cover 2015 – Extent of existing VPO
MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY

July 2018
 SCALE 1:40,000 @ A3
 0 200 400 600 800 1000 m

4.3 Measuring 'greenness'

The i-Tree software measures the percentage coverage of other types of surfaces including differentiating between green areas and built or paved surfaces.

For this project the greenness has been measured on a municipal wide basis, with a comparison between 1992 and 2015. Six of the landscape precincts have also been measured to identify the changes to greenness across different land use types in the city.

4.3.1 Municipal wide greenness

Built form including hard paved surfaces comprise 52% of the total municipal area, while unsealed surfaces (including grass, gravel, garden beds and water) comprise 48% of the remaining area. There has been an increase of 10% of built form including hard paved surfaces coverage when compared with the 1992 aerial as shown in Table 4-1.

Table 4-1 Comparison of tree canopy cover between 1992 and 2015

Features	Monash 1992	Monash 2015	Difference 1992/2015
Trees	26%	22%	-4%
Grass, garden bed & unsealed	33%	25%	-8%
Water	1%	1%	Same
Roofs	20%	25%	+5%
Concrete	9%	15%	+6%
Asphalt	11%	12%	+1%

Please note, that using the 1,000 point accuracy that is available in i-Tree, there is a statistical error in the results in the order of 2.0 per cent.

Table 4-1 confirms that the overall the City of Monash has lost tree canopy cover and has also experienced a reduction in the grass, garden bed and unsealed surfaces. During the same period, the City of has experienced an increase in hard surfaces mainly associated with an increase in roof and concrete surfaces.

Based on the preliminary assessment of the dwelling and population forecasts current planning indicates that by 2036 there will be more people living and working in Monash. The additional population is forecast to create a demand for 14% more dwellings over and above the current levels. This is slightly smaller than the 22% proportional increase in dwellings experienced over the past 20 years in Monash. Based on this forecast, if there is no proactive strategy to protect green space and canopy trees, both will continue to decline, affecting a range of issues including:

- Community health and wellbeing in relation to human comfort and aesthetic values.
- Biodiversity values through the loss of canopy trees and natural features and areas.
- Increase in urban heat island effect through a reduction in canopy trees and reduction in moisture absorbing surfaces.
- Environmental implications of greater reliance on heating and cooling.

Therefore, in order for the City of Monash to retain its Garden City identity and liveability, the Strategy focuses the recommendations on protecting the existing trees, encouraging planting of additional canopy trees and increasing the presence of permeable natural grass and garden bed surfaces.

4.3.2 Changes in canopy cover in representative individual precincts

Chadstone 1

Chadstone 1 precinct is representative of similar characteristics in two other precincts being Ashwood/Burwood and Chadstone 2. This precinct type currently contains more greenness than the municipal wide average. The key distinguishing characteristics include:

- Predominantly residential land use combined with a waterway corridor.
- Post WWII development (1945 to 1965)
- Public open space along the waterway along with other distributed open space.
- Compared with the 2015 Municipal wide results, this precinct has **3% more** tree canopy cover and **4% less** built form/paved surfaces.

Table 4-2

Comparison of tree canopy cover between 1992 and 2016 in Chadstone 1

Features	Chadstone 1 1992	Chadstone 1 2016	Difference 1992/2016
Trees	22%	25%	+ 3%
Grass & garden bed	36%	25%	- 11%
Unsealed	3%	2%	- 1%
Water	0%	0%	Same
Roofs	18%	24%	+ 6%
Concrete	10%	14%	+ 4%
Asphalt	11%	10%	- 1%

Compared to the 1992 data, there is a 3% increase in tree canopy cover, an 11% decrease in grass/garden bed cover, a 4% increase in concrete surfaces and 6% increase in the roof surface cover. The reason for an increase in canopy cover in this precinct is due to the increase in trees along Gardiners Creek open space corridor and in Electra Reserve and Jordan Reserve. The tree canopy mapping identifies there has been a loss of tree canopy across the urban areas outside of open space during this period.

While the tree canopy cover has increased, the overall decline in garden bed and grass and increase in roof and concrete surfaces areas has changed the landscape character. This correlates with the site assessment work in this precinct where there has been an increase in unit developments and larger single dwellings with a higher proportion of paved surfaces within the front set back, particularly larger driveways and correspondingly a decline in the green and natural character.

Glen Waverley 3

Glen Waverley 3 precinct is representative of similar characteristics in six other precincts being Clayton 1, Mulgrave 2 and Glen Waverley 1 to 4 (excluding the Dandenong Creek open space corridor). This precinct type currently contains less greenness than the municipal wide average. The key distinguishing characteristics include:

- Diversity of land use types including residential, small scale industrial, retail, mixed use, education and open space.
- Post WWII development (1945 to 1965)
- Compared with the 2015 Municipal wide results, this precinct has **3% less** tree canopy cover and **5% more** built form/paved surfaces.

Table 4-3

Comparison of tree canopy cover between 1992 and 2016 in Glen Waverley 3

Features	Glen Waverley 3 1992	Glen Waverley 3 2016	Difference 1992/2016
Trees	22%	19%	- 3%
Grass & garden bed	23%	18%	- 5%
Unsealed	4%	5%	+ 1%
Water	1%	1%	Same
Roofs	26%	31%	+ 5%
Concrete	10%	12%	+ 2%
Asphalt	14%	14%	Same

Compared to the 1992 data, there is a 3% decrease in tree cover, a 5% decrease in grass/garden bed cover, a 2% increase in concrete surfaces and 5% increase in the roof surface cover. This indicates there has been an increase in built form along with some increase in paved surfaces, and a corresponding decrease in grass and garden beds. The tree canopy mapping comparison reveals that there has been some increase in tree canopy cover along Scotchmans Creek and in Bogong Reserve and reduced canopy cover in the urban areas.

This precinct includes the Glen Waverley Activity Centre, and these comparative results indicate that without proactive change, there will continue to be a decline in tree canopy and grass/garden bed areas. This Strategy recommends including planting new canopy trees and also grass and garden bed areas as a priority in future design guidelines for the activity centres and precincts where increased residential densities are encouraged.

Hughesdale

Hughesdale precinct is representative of similar characteristics in five other precincts being Glen Waverley 5, Oakleigh, Oakleigh East, Oakleigh South 1 and 2 (excluding the Golf Courses). This precinct type currently contains less greenness than the municipal wide average. The key distinguishing characteristics include:

- Predominantly residential land use with a minor component of education and open space.
- Pre WWI and interwar grid subdivision development pattern.
- Compared with the 2015 Municipal wide results, this precinct has **3% less** tree canopy cover and **7% more** built form/paved surfaces.

Table 4-4
Comparison of Tree Canopy Cover between 1992 and 2016 in Hughesdale

Features	Hughesdale 1992	Hughesdale 2016	Difference 1992/2016
Trees	22%	19%	- 3%
Grass & garden bed	21%	18%	- 3%
Unsealed	3%	3%	Same
Water	0%	0%	Same
Roofs	33%	34%	+ 1%
Concrete	12%	15%	+ 3%
Asphalt	9%	10%	+ 1%

Compared to the 1992 data, there is a 3% decrease in tree cover, a 3% decrease in grass/garden bed cover, a 3% increase in concrete surfaces, a 1% increase in asphalt and 1% increase in the roof surface cover. The results indicate that the key change has been the increase in paved surfaces in place of grass, garden beds and trees over the 23 year period. The comparison between the canopy tree mapping reveals an overall loss of canopy tree cover from the urban residential areas and an increase in canopy tree cover in Galbally Reserve.

The results correlate with the site assessment work in this precinct where there has been an increase in unit developments and larger single dwellings with a higher proportion of paved surfaces within the front set back, particularly the larger driveways. Introducing effective landscape guidelines that support the retention of and increase in canopy trees within the established urban areas will be addressed by the Strategy.

Mount Waverley 1

Mount Waverley 1 precinct is representative of similar characteristics for the remainder of Mount Waverley precincts 2 to 5. This precinct type currently contains slightly more greenness than the municipal wide average. The key distinguishing characteristics include:

- Predominantly residential land use located within the Vegetation Protection Overlay.
- Post WWII development (1945 to 1965).
- Includes waterway corridors.
- Compared with the 2015 Municipal wide results, this precinct has **2% more** tree canopy cover and **2% less** built form/paved surfaces.

Table 4-5
Comparison of tree canopy cover between 1992 and 2016 in Mount Waverley 1

Features	Mount Waverley 1 1992	Mount Waverley 1 2016	Difference 1992/2016
Trees	34%	24%	- 10%
Grass & garden bed	20%	24%	+ 4%
Unsealed	1%	2%	+ 1%
Water	0%	0%	Same
Roofs	28%	31%	+ 3%
Concrete	8%	9%	+ 1%
Asphalt	9%	10%	+ 1%

Compared to the 1992 data, there is a 10% decrease in tree cover, a 4% increase in grass/garden bed cover, a 1% increase in both asphalt and concrete, and a 3% increase in the roof surface cover. The significant change in this precinct is the 10% decrease in tree canopy cover, which is the largest of all the precincts. This is of particular concern given that this precinct is entirely located within a VPO. The canopy tree mapping reveals that there is a substantial increase in canopy tree cover along the Gardiners Creek Corridor along with other open space reserves in the precinct. Correspondingly there has been in a decrease in canopy cover across the established urban areas.

The results for this precinct correlate with the site assessment work in this precinct where there has been an increase in unit developments and larger single dwellings with a higher proportion of paved surfaces within the front set back, particularly the larger driveways. Introducing effective landscape guidelines that support the retention of and increase in canopy trees within the established urban areas will be addressed by the Strategy.

Notting Hill

Notting Hill precinct is representative of similar characteristics of Clayton 2 and Mulgrave 1. This precinct type currently contains significantly less greenness than the municipal wide average. The key distinguishing characteristics include:

- Predominantly contemporary commercial/industrial land use with small pockets of Post WWII residential use.
- Compared with the 2015 Municipal wide results, this precinct has **11% less** tree canopy cover and **19% more** built form/paved surfaces.

Table 4-6

Comparison of tree canopy cover between 1992 and 2016 in Notting Hill

Features	Notting Hill 1992	Notting Hill 2016	Difference 1992/2016
Trees	10%	11%	+1
Grass & garden bed	18%	12%	-6
Unsealed	8%	8%	Same
Water	0%	0%	Same
Roofs	30%	31%	+1
Concrete	14%	15%	+1
Asphalt	19%	26%	+ 7%

There has been a 6% decrease in garden bed and grassed areas and a 7% increase in asphalt between 1992 and 2016 in this precinct. Other minor changes is a slight increase in roofs and concrete surfaces and also a minor increase in tree canopy cover. The overall increase asphalt and decrease in grass is largely due to redevelopment of commercial/industrial sites within this precinct, including the expansion of sealed car parks and hardstand areas.

While the results indicate there was no decline in the tree canopy cover, there is potential to increase the tree canopy cover and green areas in these precincts to improve community health and wellbeing objectives. Opportunities to achieve this will be identified in both the public and private realm. This may include education programs and raising the awareness of improved liveability outcomes through incentives and partnerships with the larger commercial/industrial estates, in addition to improvements to the landscape guidelines in the planning controls.

Wheelers Hill 3

Wheelers Hill 3 precinct is representative of similar characteristics for Mulgrave 4 and Wheelers Hill 1 (excluding the Dandenong Creek Corridor). This precinct type currently contains slightly more greenness than the municipal wide average. The key distinguishing characteristics include:

- Predominantly residential land use located within the Vegetation Protection Overlay.
- Post WWII development (1945 to 1965).
- Includes waterway corridors.
- Compared with the 2015 Municipal wide results, this precinct **has the same** tree canopy cover and **2% less** built form/paved surfaces.

Table 4-7

Comparison of tree canopy cover between 1992 and 2016 in Wheelers Hill 3

Features	Wheelers Hill 3 1992	Wheelers Hill 3 2016	Difference 1992/2016
Trees	19%	22%	+ 3%
Grass & garden bed	38%	27%	- 11%
Unsealed	1%	2%	+ 1%
Water	0%	1%	+ 1%
Roofs	22%	26%	+ 4%
Concrete	12%	14%	+ 2%
Asphalt	8%	10%	+ 2%

Compared to the 1992 data, there is a 3% increase in tree cover, an 11% decrease in grass/garden bed cover, a 2% increase in both asphalt and concrete, and a 4% increase in the roof surface cover. This is the only precinct where this is a change of the percentage of water and there is a substantial decrease in the grass and garden bed area. In 1992 this precinct was still being developed so there were a number of lots that had not been built on in 1992. This accounts for the substantial decrease in the grass and garden bed area. The increase in tree cover has come from both tree canopy growth and additional tree planting as can be seen on the tree canopy mapping.

This precinct is entirely within a VPO, however the comparative tree canopy cover indicates that there has been tree canopy loss in this precinct as part of both unit development and single dwelling redevelopments. The overall increase in canopy cover is mainly due to a combination of tree growth and some additional tree planting in open space.

4.4 Benchmarking

4.4.1 Comparison of the City of Monash to adjoining LGAs

The following results are extracted from the *Benchmarking Australia's Urban Tree Canopy Report* (May 2014). This report used the i-Tree Canopy free-use software tool, using the 1000-point random sample method used to classify the landscape features within 139 Local Government Areas (LGA) throughout Australia based on 2013 aerial photographs. This study was prepared as part of the 2020 Vision project funded by Horticulture Australia Limited.

Below is an extract from that report of the LGAs that directly adjoin Monash for benchmarking purposes and these are listed in the table below in alphabetical order below Monash.

Please note that the i-Tree Canopy tree cover results in the 2014 report differ from the i-Tree Canopy tree cover results undertaken as part of the MULCVS project. The 2014 report separated shrubs from trees, whereas the i-Tree analysis undertaken for the MULCVS quantified garden beds and grass as these are more easily distinguished than shrubs and small trees which likely accounts for the difference. If we add 50% of the shrubs to trees, the results are similar. Given the discrepancy, we have used the 2014 results below for Monash so that it compares like with like.

Table 4-8 *Benchmarking of tree canopy cover in Monash with adjoining LGAs*

Local Government Area	Tree %	Shrub %	Grass* %	Hard%
Monash	19.4	6.3	25.0	49.3
Boroondara	28.1	8.0	15.5	48.4
Stonnington	25.0	6.8	11.0	57.2
Knox	24.2	6.2	33.1	36.5
Whitehorse	22.9	7.5	21.9	47.8
Glen Eira	20.0	6.5	15.0	58.5
Kingston	14.2	4.6	35.6	45.6
Greater Dandenong	8.2	2.6	49.8	39.4

Tree canopy cover

Of all the adjoining LGAs, the City of Boroondara has the highest percentage of canopy tree cover, followed by the City of Stonnington and City of Knox. City of Greater Dandenong has the lowest, which may in part be due to presence of agricultural land and large commercial/industrial precincts. The other factors measured in the i-Tree Canopy analysis are indicators of different land use types and relative urban densities present within each of the LGA's. It is therefore more useful to benchmark the City of Monash with. Refer to Figure 4C, which graphically illustrates the proportion of hard surfaces compared with permeable surfaces.

Greenness

In considering the proportion of hard and permeable surfaces, the City of Monash is most similar to the Cities of Boroondara and Whitehorse. Both the Cities of Stonnington and Glen Eira have a higher proportion of hard surfaces when compared with the City of Monash, while the Cities of Kingston, Greater Dandenong and Knox have higher proportions of permeable surfaces.

The major land use types across the Cities of Monash, Boroondara and Whitehorse are similar. They are predominantly residential with a range of activity centres, commercial/industrial precincts, education precincts and public open space. Detached dwellings make up the dominant dwelling type with smaller precincts of medium to high density urban development.

At 19 per cent, the City of Monash has the lowest proportion of tree canopy cover compared with 28 per cent for the City of Boroondara and 23 per cent of tree canopy cover in the City of Whitehorse. Overall these three municipalities have similar topography, rainfall, geology and original vegetation types. In viewing the aerial photos of all three municipalities, the key difference is more extensive commercial/industrial and non-residential land use areas in both Monash and Whitehorse which lack canopy cover.

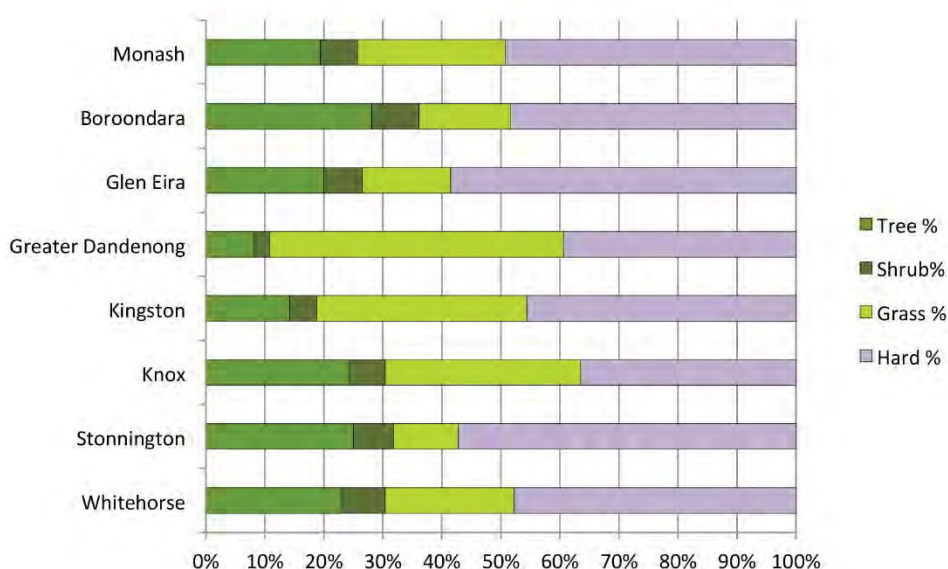


Figure 4C Benchmarking of greenness in Monash with adjoining LGAs

Implications for this Strategy

- There is an opportunity for Monash to increase tree canopy cover given that more than 30 per cent of the total municipal area currently comprises grass/bare ground or garden beds.
- There are similarities between overall land use types, topography, rainfall, geology and original vegetation types between Boroondara, Whitehorse and Monash and these two municipalities provide a useful comparison for tree canopy cover.
- Planting additional trees on the non-residential land will be an important factor in the future redevelopment of the Monash National Employment and Innovation Cluster. Increasing tree canopy cover in this cluster will have many benefits in relation to liveability and environmental values.

4.4.2 National Benchmarking

City of Melbourne

The City of Melbourne Urban Forest Strategy (2012), sets a target of 40% canopy cover by 2040, increasing from 22% at present. The Strategy notes that a recent study on urban heat island effect in Melbourne recommends that one of the most cost efficient and effective mitigation strategies is to ensure a minimum canopy cover of 30% with a leaf area index (a measure of shade density) of 5.3 within the municipality.

City of Sydney

The City of Sydney Urban Forest Strategy (2013) has differentiated the percentage canopy cover goals across three different land use types including:

- Central Business District and Industrial Areas – 15%
- Urban Residential and Light Commercial Areas – 25%
- Suburban Residential – 50%

Combined, the target canopy cover for the City of Sydney is 22.3%, raising it from the existing average 15.5% cover by 2030.

Implications for this Strategy

The Cities of Sydney and Melbourne aim to increase tree canopy cover within the context of forecast future population growth and development and increasing urban densities. The historical pattern of mature canopy trees being removed in the City of Monash as site coverage and urban densities needs to be reversed so that tree canopy cover increases as urban development continues.

4.4.3 International Benchmarking

Based on the research undertaken for this Strategy there is currently no international standard for setting benchmarks for tree canopy cover. The United States Department of Forestry is well respected in the industry regarding this subject matter. This Department sets target canopy cover by a combination of assessing the existing tree canopy cover, the potential tree canopy cover and then making an assessment of how much of the Potential Tree Canopy Cover area is feasible to plant. Some of the target tree canopy cover provided for cities in the United States is:

Los Angeles

- Existing average Tree Canopy Cover of 25%
- Target Canopy Cover for suburban areas is 35%
- Target Canopy Cover for urban residential is 18%
- Target Canopy Cover for commercial land use is 9%

New York City

- Existing Tree Canopy Cover of 23%
- Target Canopy Cover of 30%

Baltimore

- Existing Tree Canopy Cover of 20%
- Target Canopy Cover of 46%

Implications for this Strategy

The United States and Canada have been managing trees in urban environments for hundreds of years. They have undertaken extensive studies and research into the benefits of canopy trees to community health and wellbeing, and have a range of urban forest strategies that support increasing tree canopy cover in their cities. While the make up of each of these cities will be different from Monash, the key message to take from this is that they are all aiming for target increases in tree canopy cover within an urban environment.

5. Issues and strategy response

5.1 Canopy vegetation cover on private land and its influence on landscape character

5.1.1 Overview

The research undertaken for this Strategy to date has identified there has been a 4 per cent loss of canopy trees cover since 1992 and an incremental loss of overall canopy vegetation and greenness in the city. The loss has primarily occurred on private land, while in many cases there has been an increase in canopy tree cover on public land, particularly in public open space. Tree canopy cover loss is also occurring on land reserved for education purposes including public and private schools. This is due to a combination of the expansion of school buildings and facilities, and the sale of former school sites in response to increased urban densities and changing demographics.

The loss of all types of vegetation on private land impacts on the landscape character of the precincts. The loss of the vegetation, including small and large canopy trees, shrubs and green grass has in some precincts changed the greenness and *Garden City Character* referred to in the Municipal Strategic Statement to a more built and urban character. This is most evident where there is a lack of avenue style street tree planting or where the street trees are too small for the scale of the street. In these locations there is a greater reliance on private landscaping and gardens to generate the precinct landscape character. A key issue is the decrease in green and natural surfaces and an increase in urban built form which reduces the opportunities for achieving greening particularly for additional large canopy trees.

5.1.2 Issues and strategy response

Residential land

Incremental loss of canopy vegetation, permeable surfaces and the green and leafy garden character on private land. Detached dwellings are being replaced with unit developments and single dwellings that have a larger building footprint. The original suburban character, where the dwellings are clearly separated from each other by vegetation including trees, significantly contributes to the *Garden City Character*. The increasing coverage of lots with built form and paved surfaces erodes the *Garden City Character*. This is demonstrated in the following figures.

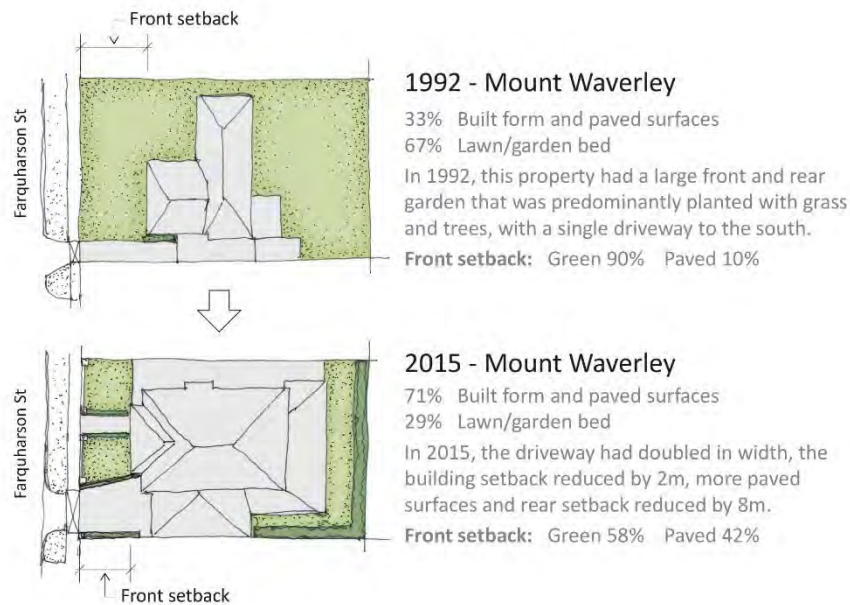


Figure 5A Example of the change to single dwelling site coverage from 1992 to 2015

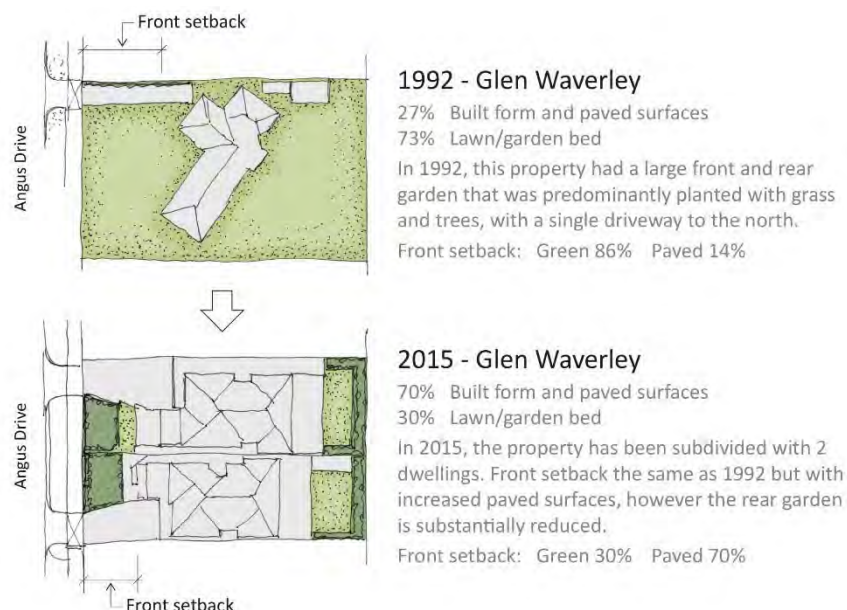
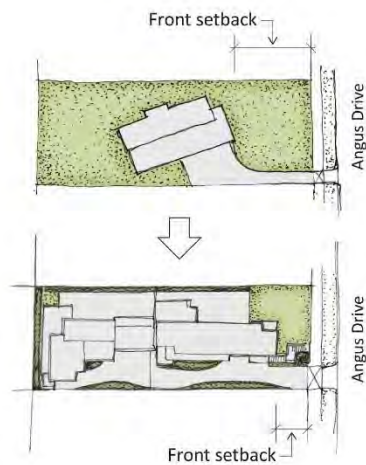


Figure 5B Example of the change to 2 lot subdivision site coverage from 1992 to 2015



1992 - Glen Waverley

27% Built form and paved surfaces
73% Lawn/garden bed

In 1992, this property had a large front and rear garden that was predominantly planted with grass and trees, with a single driveway to the south.

Front setback: Green 80% Paved 20%

2015 - Glen Waverley

70% Built form and paved surfaces
30% Lawn/garden bed

In 2015, the property has been subdivided with 2 dwellings. Front setback contains garden and grass with mature tree which provides some urban greenness.

Front setback: Green 66% Paved 34%

Figure 5C Example of the change to 2 lot subdivision site coverage from 1992 to 2015

Table 5-1 Issues and strategy response for residential land

Issue	Strategy response
<p>a) The loss of large canopy trees from private land as part of the redevelopment process for units and larger houses. This has decreased the overall tree canopy cover and distributed shading through the suburbs, which is an important factor in mitigating urban heat island effect. Research reviewed as part of this study indicates that large canopy trees are more effective at improving air quality, shade, evapotranspiration, carbon sequestration and habitat provision than smaller trees. Based on the substantial benefits there is a need to promote the retention of large canopy trees particularly as part of creating a more resilient environment in the context of climate change</p>	<ul style="list-style-type: none"> • Develop suitable guidelines that prioritise retention of existing mature canopy trees on private land over removal. Where some removal is required, prioritise the retention of large, long-lived canopy trees. Refer to Guideline 4, in Section 6.5. • Investigate the potential to prepare a Significant Tree Study for the City of Monash. Refer to Recommendation 7.4.8. • Increase the presence of large canopy trees on private land by developing design guidelines and planning controls that differentiate and emphasise the need to retain large canopy trees and also plant new large canopy trees where feasible. Within the MULCVS, this would include the key performance criteria and suggested potential species palette's suitable in each of the preferred landscape character types. Refer to Guidelines in Section 6. • Protect and retain mature medium and small canopy trees on private land. Refer to Guideline 4 in Section 6.5. • Proposed new canopy vegetation in medium and high density areas is to include large canopy trees to soften and address the scale of the built form, recognising that any building over 16 metres in height is unlikely to have emergent canopy trees above the roofline. Refer to Guidelines in Section 6.3.2.
<p>b) Reduction in permeable surfaces including grassed areas and garden beds. This corresponds in many precincts with an increase in built and paved surfaces. The presence of permeable surfaces that retain</p>	<ul style="list-style-type: none"> • Develop and update guidelines that maximise the establishment of natural permeable surfaces on private land. This includes promoting the inclusion of garden bed and lawn areas in preference to large undifferentiated paved surfaces. Where natural permeable surfaces are not feasible, encourage canopy shade trees of proposed hard paved

Issue	Strategy response
<p>moisture improves evapotranspiration, which is essential for localised cooling of our neighbourhoods during summer. Reducing the permeable surfaces impacts on the microclimate and liveability of our neighbourhoods.</p>	<p>surfaces to promote the <i>Garden City Character</i>. Maximising these will improve the liveability, community health and wellbeing and resilience to climate change. Refer to Guidelines in Section 6.2.</p>
<p>c) The comparative loss of canopy vegetation and greenness within and outside the existing VPO areas between 1992 and 2016, demonstrates that the VPO has not been effective at minimising canopy vegetation loss.</p>	<ul style="list-style-type: none"> Review the set of planning controls and consider the introduction of a Local Law to protect canopy trees across the municipality, rather than only within selected overlay areas. Refer to Recommendation 7.3. Consider removal of the VPO and replacement with an overlay control that promotes planting of appropriate trees and vegetation. Refer to Recommendation 7.1.
<p>d) The limited space in side set backs between the new buildings and side boundary fence and the increased proportion of the side boundary occupied by built form, reduces the opportunity to establish canopy vegetation around and between dwellings. In the original established suburban landscapes side setbacks varied with a smaller proportion of the side boundary occupied by built form. The result of the increased presence of built form along the side boundaries reduces the shading and amount of greenery between and around each dwelling, thereby impacting on this key attribute, i.e. that each dwelling is set in its own garden or landscape setting.</p>	<ul style="list-style-type: none"> Develop suitable guidelines that maximise the establishment of green infrastructure and features between dwellings. Preferably this would include space for trees with emergent canopies. As a minimum, design guidelines would require vertical green climbers and shading to boundary fencings and walls. Refer to Guidelines in Section 6.2. Proposed new canopy vegetation is to be of a suitable size and height which emerges above the roofline of existing and proposed built form of up to 3 storey dwellings. Refer to Guidelines in Section 6.2.
<p>e) While front garden setbacks are retained in many of the single dwelling redevelopments, the front gardens are changing to provide larger hardstand areas for vehicle access and turn around, and in some instances replacement with paved low maintenance courtyards.</p>	<ul style="list-style-type: none"> Develop suitable guidelines that maximise the establishment of green surfaces within the front setbacks. This includes promoting the inclusion of garden bed and lawn areas in preference to large paved surfaces. Where natural permeable surfaces are not feasible, encourage use of permeable pavements and canopy trees that shade paved surfaces to promote the <i>Garden City Character</i>. Refer to Guidelines in Section 6.2.
<p>f) A key influence on the landscape character is the presence and type of fencing.</p>	<ul style="list-style-type: none"> The preferred landscape character types include a planted or low fence treatment so there is excellent integration and visual access between the public and private realm. Refer to Guidelines 1.6 in Section 6.2.
<p>g) Another key influence is the position of the built form on the site.</p>	<ul style="list-style-type: none"> The design guidelines in this Strategy will aim to achieve a minimum of 60 per cent planting/greening to the front setback, and some greening at least to

Issue	Strategy response
	the boundary fences to the side setbacks in order to maintain the garden setting as a core feature of all landscape character types. Refer to Guideline 1.5 in Section 6.2.
h) Incremental change over time has led to only small areas remaining of the original post WWII detached suburban garden style dwellings with the traditional gardens.	<ul style="list-style-type: none"> Identify the best remaining examples of the garden suburban detached dwelling style and protect these with appropriate heritage controls to ensure that some examples of this style remain in the longer term. Refer to Recommendation 7.4.9.

Non-residential

Commercial/industrial

There are essentially three types of commercial/industrial land use on private land including:

- Urban commercial/industrial, characterised by the presence of none or very little vegetation on private land or in the streetscapes.
- Suburban commercial/industrial, characterised by narrow landscaped setbacks generally consistent with the required 7.6 metres.
- Garden commercial/industrial, characterised by large landscaped setbacks greater than 7.6 metres and up to 20 metres in width.

Table 5-2 Issues and strategy response for commercial/industrial land use

Issue	Strategy response
a) Urban commercial/industrial precincts have none or very few street trees on public land and no trees on private land. This does not support the health and wellbeing of the worker community, as it creates an uninviting outdoor environment for people to walk and exercise during breaks from work. For the City of Monash to continue to attract industry and business to the municipality, improvements to strengthen and reinforce the greenness and treed character will create a point of difference from the inner urban areas of Melbourne.	<ul style="list-style-type: none"> Increase the presence of large canopy street trees and other greening where feasible in the existing urban commercial/industrial precincts. There is an opportunity to incorporate water sensitive urban design into the future street tree planting. Develop preferred setback landscape guidelines, including promoting greening and moisture absorbing surfaces in these areas for amenity and human comfort, including mitigating urban heat. Refer to Guidelines in Section 6.3.3.
b) Suburban commercial/industrial precincts have a prevalence of sealed car parking and vehicle turning space within the narrow front setbacks between built form and streetscape.	<ul style="list-style-type: none"> Develop landscape guidelines for the minimum 7.6 metre setbacks, including promoting greening and moisture absorbing surfaces in these areas for amenity and human comfort, including mitigating urban heat. Reduce visible and exposed hardstand areas on private land and increase greening, particularly to the perimeter of the sites adjoining the streetscapes

Issue	Strategy response
	to promote and support the <i>Garden City Character</i> . This includes planting canopy trees to shade exposed hardstand areas where feasible. Refer to Guidelines in Section 6.3.2.
c) In the Garden commercial/ industrial precincts the large landscaped setbacks have a focus on visual amenity and are uninviting for the employment community to use them during breaks from work. Forecast growth and change in the Garden commercial/industrial precincts will require proactive guidelines to protect and encourage large canopy trees and associated landscaping on private land to provide suitable shading and canopy vegetation	<ul style="list-style-type: none"> Develop guidelines that promote the activation and use of these large landscaped setbacks as the Garden commercial/industrial precincts redevelop in the future. This includes protecting and planting large canopy trees for shade and encouraging an activated frontage with commercial use on the ground floor adjoining the landscape setbacks. Refer to Guidelines in Section 6.3.1

Retail

Retail land use is distributed through the activity centres and local shopping centres throughout the neighbourhoods. The landscape character of the activity centres are typically assessed as part of individual structure plans for the centres, and have therefore not been assessed as part of this Strategy. This Strategy includes guidelines and recommendations that apply across the activity centres to achieve the objectives of promoting a green, resilient and liveable city. The majority of the local shopping centres distributed through the neighbourhoods have a similar landscape character with either none or small standard street trees. As with the activity centres, the Strategy has not assessed these centres individually and includes overall guidelines that apply to all the centres.

Table 5-3 Issues and strategy response for retail land use

Issue	Strategy response
a) Forecast growth and increased urban densities in activity centres and will require proactive guidelines to protect and encourage large canopy trees and associated landscaping on private land to provide suitable shading and canopy vegetation.	<ul style="list-style-type: none"> Develop guidelines that set aside adequate road widths and front setbacks where feasible to allow space to plant large canopy trees to promote increased shade and cooling in the high density precincts. Refer to Guidelines in Section 6.3.4.
b) The majority of smaller retail centres throughout the municipality have been planted with small 'mop top' style trees, which provide limited shade and greening of these retail centres	<ul style="list-style-type: none"> Increase the opportunity to improve the shade, character and greening in the small retail strips and centres through the neighbourhoods, in keeping with the preferred landscape character type in the precinct. This includes encouraging greening on private land, whether these are front setbacks, or courtyards etc. Refer to Guidelines in Section 6.3.5.

5.2 Canopy vegetation cover on public land

5.2.1 Street trees

Table 5-4 Issues and strategy response for street trees

Issue	Strategy response
a) Inconsistent street tree planting styles, with a predominance of scattered mixed species do not contribute to the landscape character types or shading and urban greening.	<ul style="list-style-type: none"> • Opportunity to strengthen the landscape character of precincts by aligning the street tree infill planting species selection with the preferred landscape character precincts in this Strategy. Refer to Guidelines in Section 6.6.3.
b) Small sized street trees planted in wide streets where there is space for larger trees. The small street trees do not provide good shade and canopy cover to the road pavement	<ul style="list-style-type: none"> • Potential to plant additional medium and large canopy street trees in streets with 2m or greater nature strips to improve canopy cover and reduce the ongoing loss of canopy trees consistent with the <i>Monash Street Tree Strategy</i>. Refer to Guidelines in Section 6.6.3.
c) Small sized trees are planted in streets with underground power and at least 2.5m wide nature strips, which could easily support larger trees.	<ul style="list-style-type: none"> • Opportunity for the street tree infill planting program to promote the use of larger street trees where feasible and space permits. This is a priority where opportunities to plant trees on private land are limited. Refer to Recommendations in Section 7.4.5.
d) Tall Eucalypt style trees are planted directly under overhead powerlines, causing ongoing maintenance costs, along with poor visual and shade outcomes	<ul style="list-style-type: none"> • Identify opportunities to retain mature trees prior to removal through the implementation of an assessment program that prioritises remedial action over tree removal. Refer to Recommendations in Section 7.4.5.
e) Streets with small or scattered street tree plantings are ineffective at contributing to a leafy, green <i>Garden City Character</i>	<ul style="list-style-type: none"> • Promote planting of new medium and large street trees where appropriate to provide a leadership role in increasing canopy vegetation cover in the city. Refer to Recommendations in Section 7.4.5. • Encourage selection of species that are consistent with the landscape character precincts as described in Section 6.4 of this Strategy.
f) Damage to or removal of street trees tree loss adjacent to sites with major building activity	<ul style="list-style-type: none"> • Guidelines for appropriate controls to protect street trees during development to prevent incremental loss and damage to trees. Refer to Recommendations in Section 7.4.1.
g) The <i>Monash Street Tree Strategy</i> (2016) identifies a long term staged tree renewal program of more than 13,500 trees.	<ul style="list-style-type: none"> • Consider adding the criteria of the presence of canopy tree cover on adjoining private land to the criteria for prioritising street tree renewals. Refer to Recommendations in Section 7.4.5.
h) The <i>Monash Street Tree Strategy</i> refers to the potential for alternative infrastructure such as green walls, facades and roofs where space does not allow for street trees in activity centres. This contradicts need to increase distributed canopy tree cover in higher density precincts	<ul style="list-style-type: none"> • Identify the importance of retaining existing and planting new large canopy shade trees in medium to high density precincts including activity centres and the Monash National Employment and Innovation Cluster. Refer to Guidelines in Sections 6.5 and 6.6.

Issue	Strategy response
<p>i) The current approach in the implementation of the Street Tree Strategy to promote asymmetrical street tree in Council will limit opportunities for large canopy trees in the streetscapes. This combined with the reduction in large canopy trees across the private land will potentially impact on the <i>Garden City Character</i> and liveability in Monash.</p>	<ul style="list-style-type: none"> • This Strategy identifies the opportunity to promote planting of medium and large street trees where feasible to improve shading and strengthen the green leafy garden character. Refer to Guidelines in Sections 6.5 and 6.6
<p>j) Alternating deciduous and evergreen street trees are part of the distinctive landscape character of the early 1900s and some of the gently undulating precincts around Hughesdale and Oakleigh.</p>	<ul style="list-style-type: none"> • Strengthen the older style alternating deciduous and evergreen street tree avenues in the Hughesdale and Oakleigh areas. The benefit of this planting style is to retain sunlight access during winter to properties on the south side of east west streets, while maximising the presence of large canopy trees in the streetscapes. Additionally, identify opportunities to introduce this alternating avenue style planting into other precincts where there is a predominance of east west streets. Refer to Guidelines in Section 6.4.4.
<p>k) There are a mix of street tree species present in the streetscapes adjoining waterway corridors.</p>	<ul style="list-style-type: none"> • Strengthen the preferred indigenous landscape character and biodiversity values adjacent to waterway corridors and bushland reserves by planting large canopy native and indigenous trees, consistent with the objectives of the <i>Monash Street Tree Strategy</i>. Refer to Guidelines in Section 6.4.1.
<p>l) A predominance of streetscapes are made up of mixed species which do not positively contribute to the landscape character of some precincts, as identified and described in the Existing and Preferred landscape character types in Appendix A of this Strategy.</p>	<ul style="list-style-type: none"> • In future street tree species selection for the infill and renewal program, refer to the Preferred landscape character precinct descriptions in Appendix A of this Strategy.

5.2.2 Public open space

Table 5-5 Issues and strategy response for public open space

Issue	Strategy response
<p>a) Lack of large canopy trees in areas of open space where additional trees could benefit the recreational use and strengthening the preferred landscape character of the area. For example, trees to the perimeter of a sports field can provide welcome shade for spectators and players during summer</p>	<ul style="list-style-type: none"> • Continue to maintain existing mature canopy trees in public open space and maximise their retention as part of any future upgrades to the open space. Refer to Guidelines in Section 6.2.2. • Potential to increase canopy vegetation cover in selected areas of open space, ensuring that the existing and future recreational use of open space is retained and improved with the additional trees. Refer to Guidelines in Section 6.2.2. • To reinforce and strengthen the preferred landscape character type through appropriate species selection for new canopy vegetation, shrub and ground layer planting. Refer to Guidelines in Section 6.4. • Potential to maintain and increase bushland areas where appropriate. Refer to Guidelines in Section 6.2.2. • Encourage other public land management agencies including Melbourne Water and Parks Victoria to increase canopy vegetation where appropriate on their land. Refer to Recommendation 7.4.6.

5.2.3 Other public land

Table 5-6 Issues and strategy response for other public land

Issue	Strategy response
<p>a) Potential loss of canopy trees on other public land, for example Monash University, the DEECD may remove canopy trees for the purposes of expanding the built infrastructure and hard stand areas for education purposes on school land.</p>	<ul style="list-style-type: none"> • Encourage other public land management agencies to increase canopy vegetation where appropriate on their land. This includes Melbourne Water, DEECD, DHS, Monash University, VicRoads and Public Transport Victoria. Refer to Recommendation 7.4.6.

5.3 Redevelopment sites and areas

5.3.1 Residential use

The City of Monash id Forecasts estimate an additional 22,727 will be living in the City by 2036, meaning that the population is forecast to increase by approximately 12 per cent. Over the corresponding period the change in dwelling numbers is forecast to increase by 14 per cent, or an additional 10,024 dwellings. As a comparison, over the past 20 years there has been a 22 per cent increase in dwelling numbers.

The locations for forecast change have been set out in the *Monash Housing Strategy* (2014) and shown on the Proposed New Zones included in Figure 5D below that form part of the Amendment C125 process. The extent of the proposed new zones in Figure 5D is awaiting approval by the Minister for Planning.

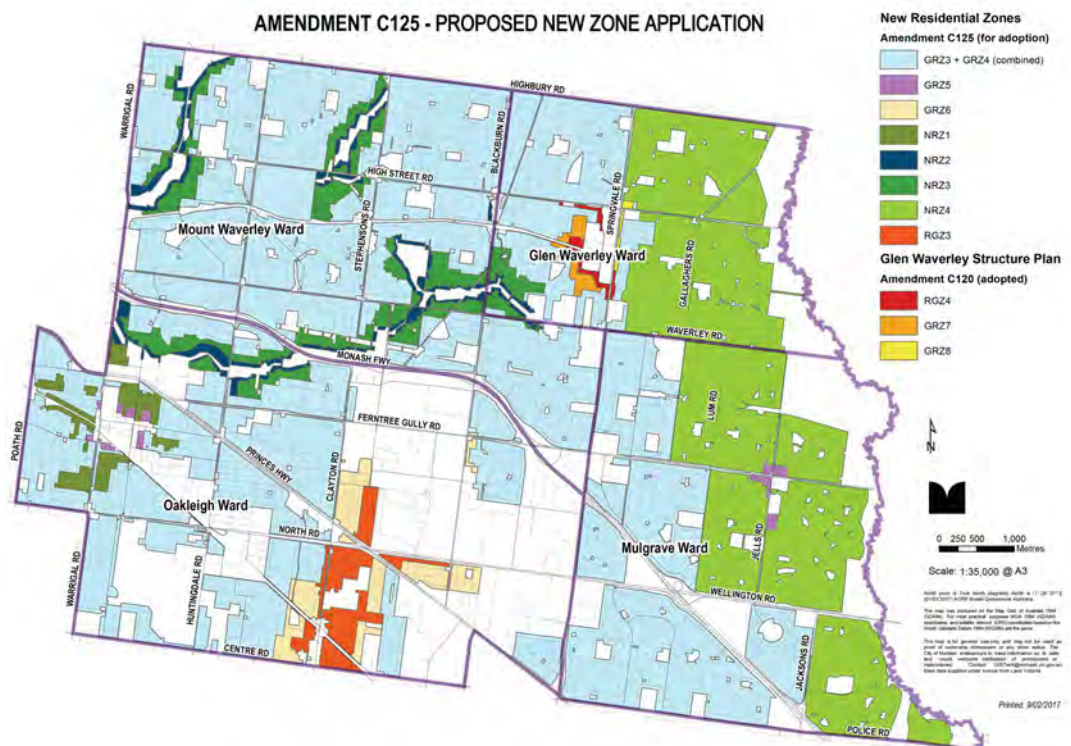


Figure 5D Proposed Zones, Amendment C125, Awaiting Ministerial Approval dated 28/2/17

Table 5-7 Issues and strategy response for residential redevelopment sites and areas

Issue	Strategy response
a) The forecast growth and increased urban density will likely impact on the landscape character of precincts that receive the greatest proportion of change. The .id Forecast site illustrates this change to be greatest in Oakleigh, Notting Hill, Clayton, Oakleigh South and	<ul style="list-style-type: none"> The Appendix to the Strategy contains descriptions of the preferred character at a sub-precinct level in all precincts across the City. These will provide direction to achieve the preferred future character outcomes in areas where increased urban density is forecast to occur.

Issue	Strategy response
Chadstone. Figure 5d is generally consistent with this.	
b) Substantial redevelopment and change to urban density is likely within the Clayton Activity Centre which forms part of the Monash National Employment and Innovation Cluster.	<ul style="list-style-type: none"> The Strategy highlights the importance of tree canopy cover and greening in future high density mixed use and residential precincts. Guidelines will highlight that retention of large canopy trees on public and private land will be a priority in the early stages of future infrastructure and precinct design. Refer to Guidelines in Sections 6.5 and 6.6. The Guidelines address the importance of urban greening including the inclusion garden beds and grassing along with canopy trees as an essential component of site design.
c) With future incremental change and redevelopment through the residential neighbourhoods there is potential to strengthen the preferred landscape character types through the implementation of the guidelines included in the Strategy.	<ul style="list-style-type: none"> The Guidelines include recommended criteria for vegetation types for each of the preferred landscape character types. Adherence to these for future landscape works

5.3.2 Monash National Employment and Innovation Cluster

This is a strategic redevelopment area in the southern part of the municipality that takes in the business and industrial areas around Huntingdale, Clayton, Clayton South, Monash University, Mulgrave, Notting Hill and Springvale (which is located outside the City of Monash). The intent is to build on many innovative world-class institutions which are already located in the Cluster including Monash University, Monash Medical Centre, the CSIRO and the Australian Synchrotron. The Victorian Planning Authority is working with Monash City Council on developing a vision and framework for this area and ultimately planning zones and other controls. The main intent of the precinct is to increase opportunities for jobs growth in the health, education, professional services, retail trade, advanced manufacturing and culture and entertainment. The level crossing removal project and resultant increase in rail capacity to this precinct is identified as a key facilitator of growth by the Victorian Planning Authority.

Table 5-8 Issues and strategy response for the Monash National Employment and Innovation Cluster

Issue	Strategy response
a) The Monash National Employment and Innovation Cluster is forecast to substantially redevelop and accommodate an increased employment and resident population. Council will advocate to promote a garden city setting for the future Monash National Employment and Innovation Cluster.	<ul style="list-style-type: none"> This Strategy supports the activation of the landscape setback areas in the commercial/industrial precincts where appropriate, particularly where they are 10.6 metres or more. Activation means to include recreation facilities that can be used by workers during their breaks. This may include a network of paths that are set within the landscape setback (rather than adjacent to the road) to encourage people to use them during breaks. Other facilities that could encourage greater levels of activity include fitness stations, seats, picnic areas, multipurpose courts designed for a range of uses including tennis, basketball, netball

Issue	Strategy response
	<p>and futsal. Additionally, activation encourages the provision of a diverse range of uses in the buildings that directly adjoin the landscape setbacks, such as cafes, restaurants, retail use and cultural event spaces. The landscape setback is to be designed as part of the setting for these uses. Refer to Guidelines in Section 6.3.1 and Recommendation 7.2.1.</p> <ul style="list-style-type: none"> Proactively develop or update guidelines and preferred outcomes for landscape character and tree canopy cover in this precinct and present these to the Victorian Planning Authority. Refer to Recommendation 7.2.2.
<p>b) The importance of the native garden commercial/industrial landscape character type to the creating a point of difference between large business and industrial parks in the City of Monash and other adjoining municipalities. The ability for workers to exercise during breaks in a green landscaped setting contributes to a range of improved health and wellbeing outcomes</p>	<ul style="list-style-type: none"> The aim is to recognise and make better use of the public realm in the large commercial/industrial precincts, particularly in the context of encouraging sense of place, walkability and personal safety within these areas. Allowing and proactively encouraging diversity of uses so that people who work there do not need to drive during their lunch time, but are encouraged to exercise or relax and unwind during their lunchtime near their workplace. There are examples of this activation already occurring within the commercial/industrial precincts and these recommendations are to promote and encourage this diversification. Refer to Guidelines in Section 6.3.1 and Recommendations in 7.2.1. Continue to strengthen the preferred native landscape character through appropriate species selection in accordance with the Guidelines in Section 6.4 of this Strategy.

5.4 Resilience to climate change

5.4.1 Severe weather events

Resilient Melbourne (2016) and the *Spatial Vulnerability Analysis (2013)* forecast an increased frequency and more severe weather events. These events will impact on the canopy vegetation and the natural character through issues such as tree health during extended periods of drought, tolerance of trees to withstand storm events including increased wind speeds and changes in rainfall events. These changes have potential to negatively impact on key natural areas that make up the landscape character of the city including public open space, waterways, street trees and private gardens. This can be through physical damage as a result of storm damage or changes made in anticipation of perceived and actual risk.

Table 5-9 Issues and strategy response for resilience to climate change

Issue	Strategy response
a) Landscapes that are made more drought tolerant may not contribute as well to mitigating urban heat island effect and overall liveability outcomes given that evapotranspiration is an important element of effective cooling.	<ul style="list-style-type: none"> The Strategy to include a diversity of tree species and vegetation types, including those that require some summer watering to promote passive cooling and evapotranspiration. Refer to Guidelines in Section 6.4.
b) Measures to increase resilience without reverting to the use of drought tolerant species may require higher capital installation costs. For example, redirecting stormwater runoff to passively irrigate street trees is an excellent example of improving resilience and addressing urban heat mitigation, however the costs to install this are a limitation.	<ul style="list-style-type: none"> The Strategy to include a diversity of tree species and vegetation types, including those that require some summer watering to promote passive cooling and evapotranspiration. Refer to Guidelines in Section 6.4.
c) Impact of bushfires has resulted in greater controls on the proximity of buildings to natural areas including the waterway corridors (refer to Biodiversity issues in Section 5.5).	<ul style="list-style-type: none"> Refer to response in Table 5-11, item (c).
d) Extreme weather events including increased wind, rainfall and dry conditions puts greater stress on the health and structural integrity of existing mature trees, potentially leading to increased loss of canopy cover	<ul style="list-style-type: none"> Potential for this Strategy to support measures to develop performance criteria for future canopy trees that have an increased resilience to extreme weather events. Refer to Guidelines in Section 6.6.

5.4.2 Mitigating impacts of urban heat island effect

Monash is vulnerable to urban heat island effect due to a range of factors including ageing population, population growth, increased urban densities and a decline in tree canopy cover. Vegetation cover and presence of moisture absorbing grass and garden bed areas can assist to build resilience to climate change and mitigate urban heat along with other beneficial effects including:

- Reduce urban stormwater runoff with moisture absorbing surfaces.
- Community health and wellbeing benefits.
- Liveability.

The measurements of tree canopy cover undertaken as part of this Strategy not only identified canopy tree loss but also a decline in vegetation cover. On a municipal wide level there has been an 8 per cent decline in grass, garden bed and unsealed surfaces, with a 12 per cent increase in hard surfaces (roofs, concrete and roads).

Table 5-10 Issues and strategy response for mitigating impacts of urban heat island effect

Issue	Strategy response
a) Activity centres and higher density precincts will experience the effects of urban heat build up more strongly than residential areas. Adequate space for canopy trees and evapotranspiration to assist mitigate urban heat island effect will be required	<ul style="list-style-type: none"> • The Strategy includes guidelines that recommend setting aside adequate space for large canopy trees in higher density precincts on both public and private land. Refer to Guidelines in Section 6.3.
b) Historical loss of canopy vegetation cover in the municipality with a corresponding increase in built form and sealed surfaces.	<ul style="list-style-type: none"> • Develop guidelines to protect existing mature canopy trees on private and public land and require planting of new canopy trees and canopy vegetation. Refer to Guidelines in Sections 6.2, 6.4 and 6.5.
c) Increased site coverage in residential areas means there are fewer areas in which to plant new large canopy trees, and also to sustainably retain the existing large canopy trees.	<ul style="list-style-type: none"> • Develop preferred landscape character outcomes and promote urban greening in this Strategy. Refer to Guidelines in Section 6.2.
d) Scattered and poor quality street trees do not support Council initiatives to require additional canopy trees on private land.	<ul style="list-style-type: none"> • Include a recommendation that highlights the opportunity for Council to take a leadership role regarding best practice tree selection, planting and maintenance of street trees to demonstrate improvement to tree canopy cover in the public realm. Refer to Guidelines in Section 6.6.3.
e) Increased urban densities in activity centres will result in greater concentrations of people living and working in these centres. This will increase the vulnerability of the population to urban heat island effect and means that it is very important that the future activity centres are designed with adequate space and road reserve widths to	<ul style="list-style-type: none"> • Develop specific guidelines in the Strategy to promote greening including garden bed areas, grassed areas and canopy trees in future higher density precincts including retirement living and activity centres to create more liveable and resilient landscapes in the future. Refer to Guidelines in Section 6.3.4.

Issue	Strategy response
accommodate large canopy trees now and in the future.	
f) Selected recently constructed and older style retirement living facilities have limited canopy trees and green open space.	<ul style="list-style-type: none"> Develop specific guidelines in the Strategy to promote greening including garden bed areas, grassed areas and canopy trees in future higher density precincts including retirement living and activity centres to create more liveable and resilient landscapes in the future. Refer to Guidelines in Section 6.3.4.

5.5 Biodiversity values

5.5.1 Overview

The *Environmental Sustainability Strategy* identifies the waterway corridors as the most significant natural environmental areas including the Dandenong Creek Riparian Corridor, Damper Creek, Gardiners Creek, Scotchmans Creek and Valley Reserve. The canopy tree mapping undertaken for this project identifies there has been significant areas of revegetation established along the waterway corridors between 1992 and 2015. The waterway corridors are a key influence on the existing and preferred landscape character types.

A number of open space reserves outside of the waterway corridors have remnant or mature planted indigenous vegetation that strengthens the biodiversity values of the City of Monash including:

- Bogong Reserve, Glen Waverley
- Brickmakers Park, Oakleigh
- Essex Heights Reserve, Mount Waverley
- Hinkler Reserve, Glen Waverley
- Federal Reserve, Mount Waverley
- Reg Harris Reserve, Oakleigh East
- Whalley Drive Reserve, Wheelers Hill

Table 5-11 Issues and strategy response for biodiversity values

Issue	Strategy response
a) Development on adjoining properties potentially impacts on the biodiversity values of the corridor through increased presence of built form and impacts of noise, light spill and vegetation removal.	<ul style="list-style-type: none"> This Strategy defines the preferred character areas inclusive of the properties directly adjoining the waterways to support and improve the biodiversity values of the corridor. This includes encouraging the use of indigenous vegetation and retaining and planting new canopy trees to expand the habitat corridor beyond the public open space, and building setbacks that allow adequate space between built form and the adjoining open space to minimise impacts on the habitat value. Refer to Guidelines in Section 6.4.1.

Issue	Strategy response
b) The waterway corridors significantly influence the landscape character of Monash.	<ul style="list-style-type: none"> The preferred landscape character types will protect and improve the function of these including the biodiversity corridor values. Refer to Guidelines in Section 6.4.
c) Bushfire regulations have the potential to impact on landscape character with the requirements for cleared zones between conservation reserves and urban development.	<ul style="list-style-type: none"> Consider the need for adequate building setbacks from conservation reserves and waterway corridors to avoid the need to further clear bushland vegetation in the conservation reserves where feasible. Refer to Guidelines in Section 6.4.
d) Minimise the impact of invasive exotic species from adjoining gardens on the conservation reserves and waterway corridors.	<ul style="list-style-type: none"> Preferred landscape character design guidelines for urban development directly adjoining waterway corridors and bushland reserves encourages the use of indigenous and native plants. Refer to Guidelines in Section 6.4.1.

5.6 Cultural landscape heritage values

5.6.1 Overview

Prior to the arrival of Europeans, the *Woi wurrung* occupied an area which extended from inland of the Werribee River in the south west, Mount Macedon in the north west, Mount William in the Great Divide to the north and across to Mount Baw Baw in the east (Clark 1990). Their southern boundary was the watershed of the Great Divide and Bunurong clans. This group of people had common language and social practices, and at the time of contact, was thought to have comprised seven clans, each with their own clan estate. At the time of European settlement, Dandenong Creek north of Dandenong appears to have been the approximate boundary between *Woi wurrung* and *Boon wurrung*

Today, the original natural landscape character of the city is evident along the main waterway corridors, the largest of which is the Dandenong Creek, and the other waterways including Gardiners Creek, Scotchmans Creek and Damper Creek. Evidence of the agricultural history is present in the municipality, mainly through surviving large exotic trees that remain in open space reserves and on private land.

The landscape character is influenced by a combination of the subdivision layout, built form, private gardens, street trees and open space character. Across the different precincts, private gardens vary with the different eras of urban development. The restoration of the natural bushland character of the open space and waterways has a significant influence on the landscape character in the north of the municipality combined with the different eras of exotic and native planting styles in private gardens, street trees and the open space reserves.

There are still many examples of private gardens that represent the late 1940s and 1950s subdivision, however these are progressively changing as the buildings are replaced or renovated to contemporary dwellings. There are some other unique garden styles within the city including the compact manicured style, with neatly trimmed and shaped Conifers, along with productive gardens with fruit trees including citrus.

Table 5-12 Issues and strategy response for cultural landscape heritage values

Issue	Strategy response
<p>a) Incremental change across the garden suburban precincts will potentially lead to the loss of the traditional suburban garden character.</p>	<ul style="list-style-type: none"> • Protect and promote examples of the different garden styles to represent the different eras of settlement in Monash, within the context of increased urban densities, changing lifestyles and trends towards low maintenance gardens and climate change. Refer to Appendix A and Guidelines in Section 6.4. • Implement the preferred landscape character precincts included in this Strategy, which has considered the cultural landscape heritage values.
<p>b) The lack of a significant tree register leading to the loss of mature canopy trees as a result of incremental development and change.</p>	<ul style="list-style-type: none"> • The Strategy includes guidelines to place a higher level of importance regarding the protection of mature canopy trees where feasible. Refer to Guidelines in Section 6.5. • In the longer term support the preparation of a Significant Tree Study or similar for the City of Monash, to assist to protect the cultural heritage values associated with significant trees including as examples of historical land use. Refer to Recommendation 7.4.8.

6. Guidelines

6.1 Overview

The purpose of these guidelines is to promote the Garden City concept in the City of Monash, to retain and enhance the landscape qualities of the municipality, to provide for an appropriate balance between built form and planted areas, and to support a substantive canopy vegetation cover.

The *Garden City Character* is referred to in a contemporary context of achieving future liveability, community health and wellbeing, and resilience by providing for:

- Increasing the presence of trees and overall greenness to improve the liveability of the city. This includes increasing summer shade and improving the microclimate relief from urban heat, which will increase with climate change.
- Maintain and strengthen sustainable greenness in the context of forecast growth and increased urban densities.
- Strengthen the sense of identity and point of difference compared to other parts of Melbourne, particularly in the Monash National Employment and Innovation Cluster.
- Visual relief from built form by ensuring there continues to be a presence of natural features and greenness in the city. This includes canopy trees, garden beds, shrubs, climbers and grassed surfaces, which becomes especially important as urban redevelopment occurs at a more intense scale.
- Biodiversity and habitat for local flora and fauna.
- Protection of the historical and contemporary cultural landscape heritage values of the city including promoting inclusive sustainable access and greening to the streetscapes and open space.

These Guidelines are to be read as a whole. They include the Existing and Preferred landscape character types for each Landscape Character Precinct in Appendix A. The guidelines are applicable to public and private land and will be used by public and private land owners.

6.1.1 Strategy objectives

- a) Protect and enhance the green *Garden City Character* within the contemporary context of climate change and forecast urban growth and change.
- b) Increase urban greening to create a more resilient landscape that contributes to community health and wellbeing now and in the future.
- c) Increase canopy tree cover across public and private land from 22% to 30% by 2040 to create a more liveable, sustainable and resilient city.
- d) Strengthen the biodiversity values along the waterway corridors by increasing the presence of indigenous vegetation on both public and private land.
- e) Maximise the retention of existing healthy mature large canopy trees on public and private land to support liveability and cultural heritage values.
- f) Increase the presence of large canopy trees and greening in high density precincts including activity centres and the Monash National Employment and Innovation Cluster.
- g) Council to provide a leadership role with best practice tree planting and management on public land to promote sustainable inclusive access for all to open space and the streetscapes.
- h) Develop a cohesive vision for the landscape character across the public and private land and update the relevant regulatory controls and planning scheme to give effect to the vision.

6.2 Guideline 1 Achieve an appropriate balance between built form and planted areas

6.2.1 Private land

Guideline 1.1

Maximise planted surfaces to improve liveability, community health and wellbeing, and resilience to climate change. Use planted and grassed areas for open space areas in setbacks and between buildings where space permits.

Guideline 1.2

Where paved surfaces are required position trees and built form to ensure these are at least partially shaded during Summer. Encourage the use of permeable paving surfaces where feasible to assist with overall soil moisture content.

Guideline 1.3

Canopy vegetation is to be of a suitable size and height which emerges above the roofline of existing and proposed built form in the residential areas. This will provide shading and greening to the built form including the roof form, which achieves an urban heat mitigation and visual improvement. Refer to the guidelines in Table 6-6 and Figure 6A.

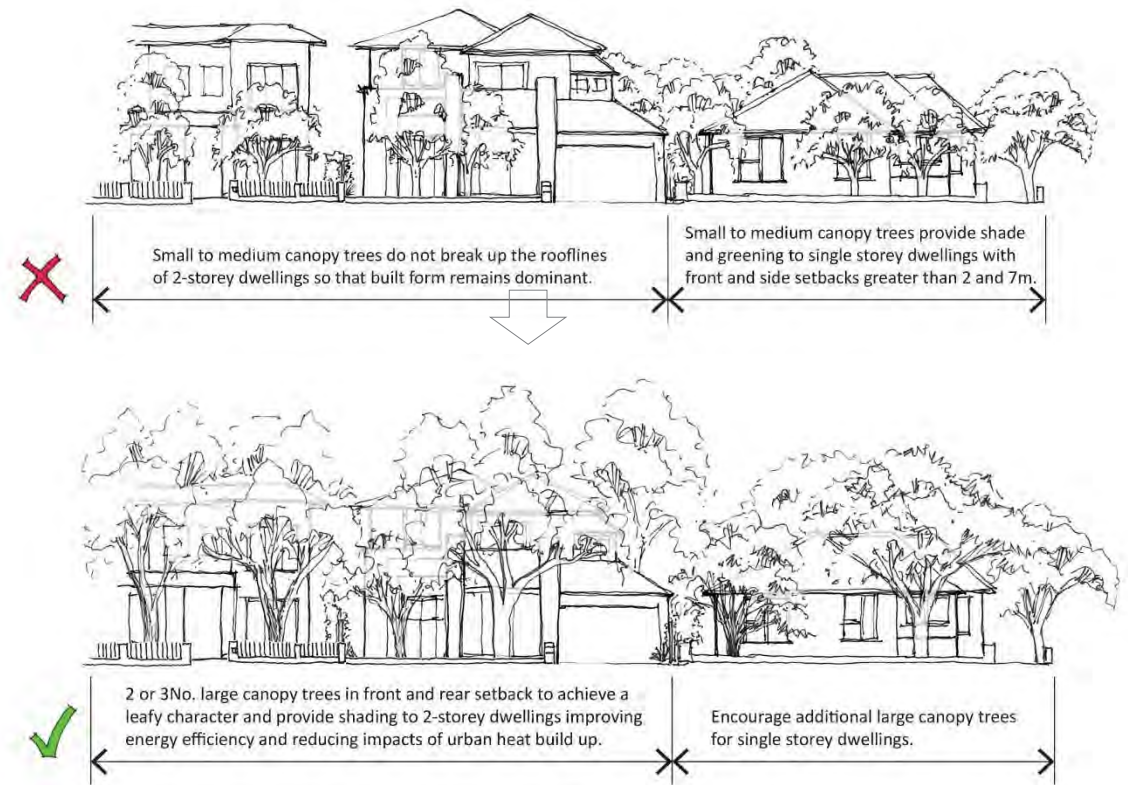


Figure 6A Preferred front setback with minimum 60 per cent grassed and planted surfaces

Guideline 1.4

Encourage passive irrigation to assist tree health and growth and also with overall cooling via evapotranspiration.

Guideline 1.5

For residential use, the front setback is to have grassed and planted areas comprising a minimum of 60 per cent of the total area, with a preference for 70 per cent where feasible. This can include a combination of garden beds, grassing and/or native revegetation and excludes any porous or permeable paving and synthetic grass/painted paved surfaces as part of the minimum 60 per cent.

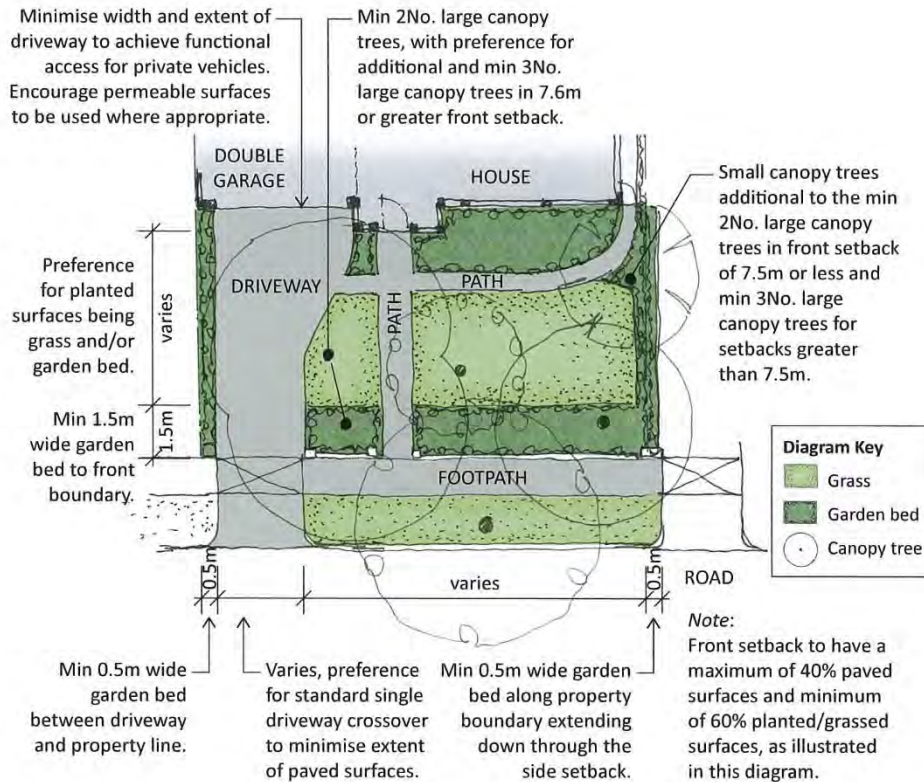


Figure 6B Preferred front setback with minimum 60 per cent grassed and planted surfaces

Guideline 1.6

For residential use, low or no front fencing is preferred to maximise the contribution of private gardens to the urban greening and *Garden City Character*. As shown in Figure 6B, a garden bed with a minimum of 1.5 metre width to the front boundary of properties is preferred. The garden beds are to include a range of canopy vegetation including ground covers, shrubs and trees.

Guideline 1.7

For residential sites, the side setback is to have some vertical greening to create the effect of the buildings sitting in a landscaped setting. This will preferably include trees, however where trees are not feasible, as a minimum shrubs or climbers on fences/walls are to reach a minimum of 1.8 metres high. Refer to Figures 6C for side setbacks.

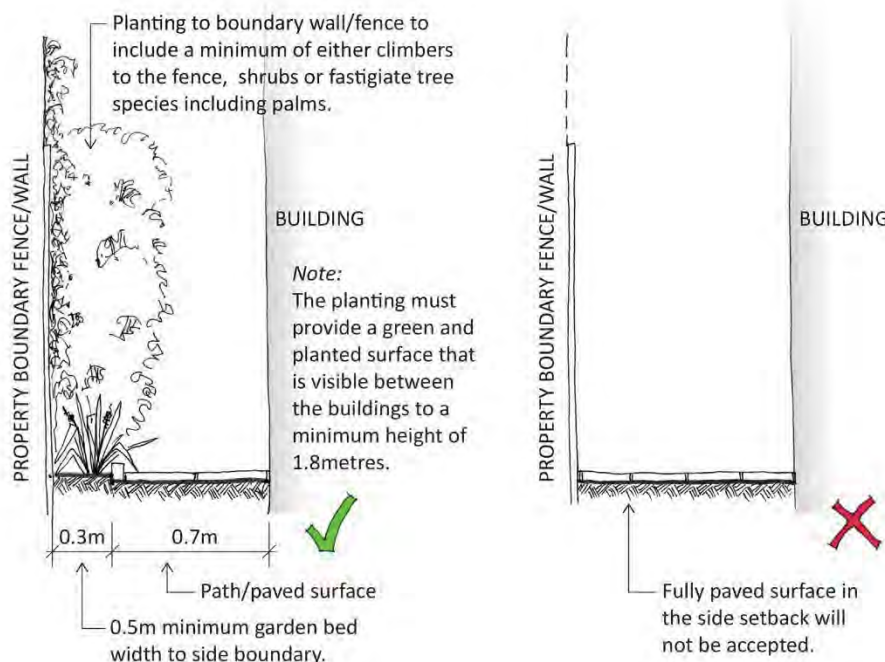


Figure 6C Side setback guidelines

6.2.2 Public open space

Guideline 1.7

When designing public open space:

- Retain existing and plant new long-lived large canopy trees. New tree species selection is to meet the criteria and guidelines listed in Table 6-6.
- Tree selection, placement and management to promote accessibility for all and meet the CPTED principles.
- Maximise natural green surfaces – being grass, garden beds and revegetation areas in addition to canopy trees.
- Select garden bed plant species that tolerate urban and drought conditions, without the need for excessive water use and complement the Preferred landscape character type precinct description.
- Propose indigenous species to improve biodiversity values where the open space is located in an Indigenous Tall Eucalypt Landscape Character Type precinct.
- Maximise the use of permeable paving treatments where these are required in the open space. This is to increase the overall moisture content of the soil that is available for the healthy establishment of trees and for effective evapotranspiration.

- Incorporate sustainable water use principles into open space design, with a focus on passive irrigation for trees and garden beds.
- Where new built features and car parking is proposed, demonstrate that Environmentally Sustainable Design principals have been applied and minimise the built and paved footprint within the green open space.
- Where synthetic sports surfaces are proposed, off set the decrease in natural planted surfaces by maximising opportunities for canopy tree planting to achieve some shading of these surfaces.

6.3 Guideline 2 Urban greening in activity centres, commercial/industrial precincts and the Monash National Employment and Innovation Cluster

6.3.1 Monash National Employment and Innovation Cluster and Garden commercial/industrial landscape character precincts

Guideline 2.1

Maximise the retention of existing large canopy trees on public and private land and promote urban greening to assist with resilience to climate change and impacts of urban heat island effect.

Guideline 2.2

As redevelopment occurs, the front landscape setbacks are to be designed as follows:

- Spaces that encourage people outdoors to socialise and exercise before, during and/or after work. This includes provision of facilities that will be publicly accessible such as seating, fitness equipment, paths and play equipment, sculptural features/elements.
- Where a café/kiosk is provided, this use is to directly adjoin the landscape setback with an outdoor seating area extending to be partially located inside the landscape setback.
- Planted with long-lived large canopy trees that meet the criteria in Table 6-6.
- Proposed new canopy vegetation in medium and high density areas is to include long-lived large canopy trees to soften and address the scale of the built form, recognising that any building over 18 metres in height is unlikely to have emergent canopy trees above the roofline.
- Integrate the design with the adjoining streetscape taking into consideration the established street trees.
- Incorporate environmentally sustainable design principles, particularly in relation to sustainable water use and creating landscapes that are effective at mitigating urban heat build up.

- On-site parking is to be limited and to comprise a maximum of 15 per cent of the landscape setback only. A green landscaped area between the car park and property boundary is to be a minimum width of 3 metres to allow planting of large canopy trees between the car park and the footpath. Preferably all parking is to be provided outside the landscape setback.

Guideline 2.3

Side and rear landscape setbacks to be designed to:

- Include large canopy trees for shade and character to parking and vehicle loading and unloading areas, and the perimeter of the site.
- Incorporate WSUD principles into the design of the whole site including use of permeable surfaces where feasible to increase moisture content available for trees and planting areas in the site.

6.3.2 Suburban commercial/industrial precincts

Guideline 2.4

Front landscape setbacks to be designed to:

- Include large canopy trees for shade to parking and vehicle loading and unloading areas.
- Minimum of 2.5 metre wide green frontage between the footpath and built form within the minimum 7.6 metre front setback. The green frontage of minimum 2.5 metre wide is to include at least one row of large canopy trees with a maximum spacing between the trees of 5 metres and meet the criteria in Table 6-6.
- Perimeter fencing is strongly discouraged with the built form to adequately incorporate necessary security features as part of the building fabric. Where fencing is proposed, preference will be for it to be low and transparent.
- Incorporate WSUD principles into the design of the whole site including use of permeable surfaces where feasible to increase moisture content available for trees and planting areas in the site.

6.3.3 Urban commercial/industrial precincts

Guideline 2.5

Promote urban greening in the existing commercial/industrial precincts including:

- Large canopy trees to be incorporated into local access streets where feasible, including consideration of planting them into roadside tree wells/cut outs to maximise opportunities to include footpaths in the road reserve.
- Where sites are redeveloped, encourage activated, landscaped setbacks that promote liveability principles and improve the shading and greening of the outdoor environment to encourage workers to take a break outdoors. These setbacks are to exclude car parking, with parking to be retained as on-street, or provision of off-street parking to the rear of the site.

6.3.4 All activity centres, high density precincts and strategic sites

Guideline 2.6

Retain and protect large mature trees on private and public land consistent with the guidelines in Section 6.4.

Guideline 2.7

When planting new trees on private land, recognise that in some cases, large canopy trees in front setbacks of sites greater than 4-stories in height may include some species that are more conical and columnar in shape, however broad-spreading canopy trees are preferred.

Guideline 2.8

In the public realm including road reserves:

- Road Reserves to be designed with adequate width to incorporate a boulevard treatment with broad spreading large canopy trees on major roads and commercial precincts within the activity centres. Council to review the minimum design requirements for Civil works, and then allow for adequate space to plant large canopy trees in the road reserve without compromising the civil clearances for underground and above ground services.
- Large canopy trees to be incorporated into local access streets where feasible, including consideration of planting them into roadside tree wells/cut outs to maximise opportunities to include footpaths in the road reserve.
- Urban plazas and public meeting spaces are to maximise opportunities to integrate urban greening including canopy trees, garden beds and grassing, well integrated with paved surfaces in high use environments. Urban greening to integrate sustainable water use principles to contribute to sustainability and urban cooling.

Guideline 2.9

Within the private landscape setbacks in the retail/commercial precincts:

- Maximise greening with a preference for canopy trees and garden beds so they contribute to urban greening, and retain suitable sightlines for safety. Trees and garden beds along with grassing where appropriate are to integrate sustainable water use principles to contribute to sustainability and urban cooling.
- In addition to trees and garden bed planting, other features such as green walls will be considered, however they will need to demonstrate they meet best practice sustainability principles.

6.3.5 Local strip shopping centres

Guideline 2.10

Within smaller commercial precincts - i.e. the small strip shopping precincts, identify opportunities to plant additional large canopy trees in these centres to improve the urban greening and *Garden City Character*. Tree species selection is to respond to the landscape character type where possible.

6.4 Guideline 3 Preferred landscape character types

Guideline 3.1

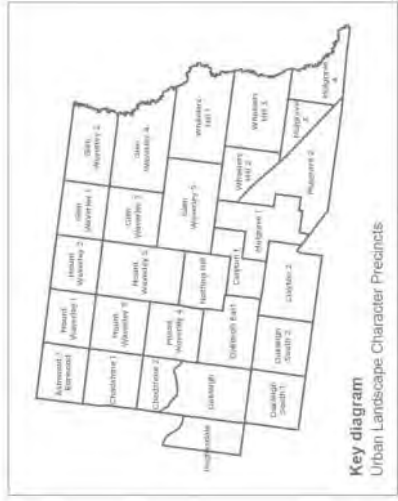
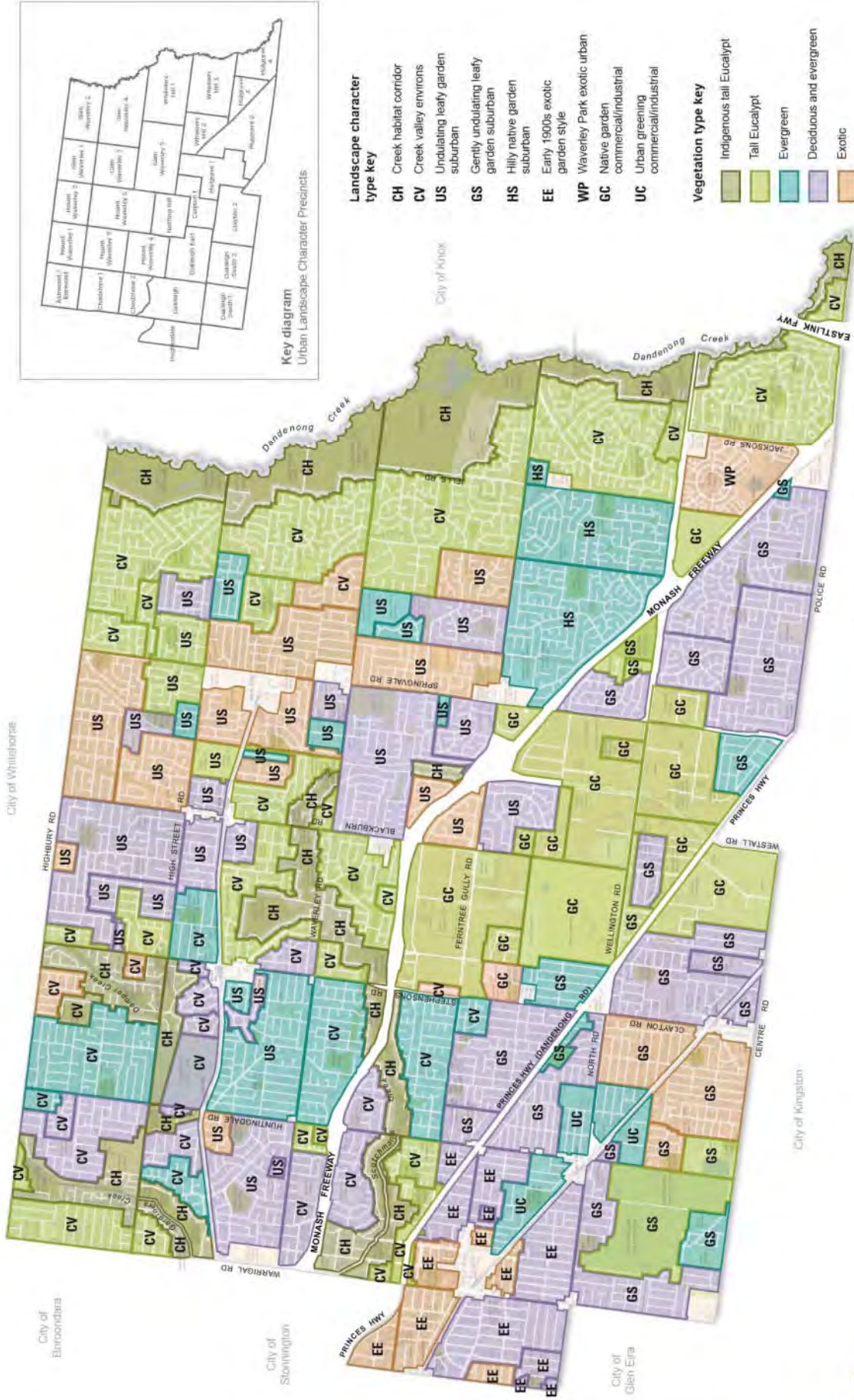
Use the Preferred landscape character type to guide proposed site development. The Preferred landscape character type sheets for each precinct are located in Appendix A. A diagram of the Preferred landscape character types is shown in Figure 6D and summarised in Figure 1A of this Strategy. The development application is to demonstrate how it meets Preferred landscape character type.

Guideline 3.2

In preparation of future design plans, refer to the Guideline 1 which identifies criteria for improved greening on private land.

For each preferred landscape character type precinct, the new planting is to demonstrate how it responds to the Preferred landscape character type. In all the character areas, there is a focus on increasing canopy vegetation in order to meet the target of 30% tree canopy cover by 2030 and to increase the overall urban greening to protect and improve the *Garden City Character*. This includes retention and planting to:

- Strengthen the biodiversity values along the waterway corridors through the use of indigenous species.
- Review the adequacy of building setback and design in sites directly adjoining waterway corridors or bushland reserves, to minimise the requirement for trimming and removal of trees in the adjoining bushland.
- Support a stronger framework of large canopy trees in both the streetscapes and on private land that reinforces the native tall Eucalypt style landscape character which is mainly present in the north and eastern parts of the municipality.
- Strengthen a framework of large non-native deciduous and evergreen trees and garden styles mainly in the south and western parts of the municipality.
- Improve tree canopy cover and introduce substantial greening in the non-residential and mixed use areas of the municipality.



Landscape character type key

- CH** Creek habitat corridor
- CV** Creek valley environs
- US** Undulating leafy garden suburban
- GS** Gently undulating leafy garden suburban
- HS** Hilly native garden suburban
- EE** Early 1900s exotic garden style
- WP** Waverley Park exotic urban
- GC** Native garden commercial/industrial
- UC** Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic

Preferred Landscape Character Types
MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY

28 FEB 2017
 DWG: MAAV-07
 SCALE: 1:40,000 @ A3
 0 200 400 800 1600

6.4.1 Indigenous tall Eucalypt vegetation type

For the extent of this vegetation type, refer to Figure 6D. It extends over the waterway corridors and the major bushland reserves in the municipality, and includes private land that directly adjoins or is opposite the waterway or bushland reserves.

- a) Encourage the use of local provenance indigenous species including large canopy trees in the public open space, the streetscapes and on private land to improve the biodiversity values of the City of Monash.
- b) Encourage the use of local provenance indigenous and native shrub and ground layer planting in private landscaping (non-residential) and gardens (residential). As a minimum, the use of non-invasive exotic species is required.
- c) Where indigenous species do not meet the specific requirements of the site, then native species are to be selected to demonstrate they will not detrimentally impact on the indigenous vegetation values.
- d) Street tree planting in close proximity to the waterways will complement the biodiversity values in the adjoining open space. This may include planting indigenous species, large canopy trees, or landscape treatment that assists the role of the streetscape as an effective bushfire buffer zone where this is required.
- e) Indigenous species are to be of local provenance to the local area.

Table 6-1 List of typical trees for use in the Indigenous tall Eucalypt vegetation type

Botanical name	Common Name	Approx size (H x W)
<i>Acacia melanoxylon</i>	Blackwood	8 x 6 m
<i>Allocasuarina littoralis</i>	Black Sheoak	5-8 x 4-5 m
<i>Allocasuarina verticillata</i>	Drooping Sheoak	9 x 5 m
<i>Banksia serrata</i> *	Saw Banksia*	10 x 5 m
<i>Eucalyptus cephalocarpa</i>	Sliverleaf Stringybark	8-20 x 10-15 m
<i>Eucalyptus goniocalyx</i>	Bundy	8-12 x 4-6 m
<i>Eucalyptus melliodora</i>	Yellow Box	10-15 x 8-10 m
<i>Eucalyptus radiata</i>	Narrow-leaf Peppermint	15-20 x 8-12 m
<i>Eucalyptus yarrarensis</i> **	Yarra Gum	12 x 8 m

* Indigenous to Hughesdale, Oakleigh, Oakleigh East and Oakleigh South only.

** Indigenous only to the Dandenong Creek environs.

Note – preference will be given to the use of indigenous species, however where a suitable indigenous species cannot meet the design criteria, then species from the following table can be used.

Botanical name	Common Name	Approx size (H x W)
<i>Angophora costata</i>	Smooth-barked Apple Myrtle	12 x 8 m
<i>Corymbia citriodora</i>	Lemon-scented Gum	15-20 x 15 m
<i>Corymbia citriodora</i> 'Scentuous'	Dwarf Lemon Scented Gum	7 x 5 m
<i>Corymbia eximia</i>	Yellow Bloodwood	12 x 10 m

Botanical name	Common Name	Approx size (H x W)
<i>Corymbia eximia</i> 'Nana'	Dwarf Yellow Bloodwood	8 x 6 m
<i>Corymbia maculata</i>	Spotted Gum	20 x 18 m
<i>Eucalyptus melliodora</i>	Yellow Box	10-15 x 8-10 m
<i>Eucalyptus radiata</i>	Narrow-leaf Peppermint	15-20 x 8-12 m
<i>Eucalyptus sideroxylon</i>	Ironbark	15-20 x 15 m
<i>Eucalyptus sideroxylon</i> 'Rosea'	Red Ironbark	15 x 6-10 m

Criteria for suitable canopy vegetation types for use in Indigenous tall Eucalypt vegetation type:

- Preferably indigenous, and of local provenance.
- Where indigenous species do not meet the specific requirements of the site, then native species are to be selected to demonstrate they will not detrimentally impact on the indigenous vegetation values.
- Native species are to complement the bushland character of Landscape Character Type - for example, if the site adjoins a waterway corridor, then the native species are to complement the riparian corridor values.

6.4.2 Tall Eucalypt vegetation type

For the extent of this vegetation type, refer to Figure 6D. This vegetation type mainly corresponds with the Creek valley landscape character type and the Garden commercial/industrial landscape character type. They are generally overlooking the waterway corridors, but does not directly adjoin it, or is within the future Monash National Employment and Innovation Cluster or nearby in Mulgrave and Notting Hill.

This vegetation type is also applied to areas that have a significant presence of tall Eucalypt style emergent species that frame the overall character on the precinct.

- Where space permits, strengthen existing street tree plantings to utilise tall Eucalypt style species in public open space, the streetscapes and on private land.
- Strengthen existing shrub and ground layer planting, which is a combination of exotic and native species.

Table 6-2 List of typical character species suitable for the tall Eucalypt landscape character type

Botanical name	Common Name	Approx size (H x W)
<i>Angophora costata</i>	Smooth-barked Apple Myrtle	12 x 8 m
<i>Corymbia citriodora</i>	Lemon-scented Gum	15-20 x 15 m
<i>Corymbia citriodora</i> 'Scentuous'	Dwarf Lemon Scented Gum	7 x 5 m
<i>Corymbia eximia</i>	Yellow Bloodwood	12 x 10 m
<i>Corymbia eximia</i> 'Nana'	Dwarf Yellow Bloodwood	8 x 6 m
<i>Corymbia maculata</i>	Spotted Gum	20 x 18 m

Botanical name	Common Name	Approx size (H x W)
<i>Eucalyptus melliodora</i>	Yellow Box	10-15 x 8-10 m
<i>Eucalyptus radiata</i>	Narrow-leaf Peppermint	15-20 x 8-12 m
<i>Eucalyptus sideroxylon</i>	Ironbark	15-20 x 15 m
<i>Eucalyptus sideroxylon</i> 'Rosea'	Red Ironbark	15 x 6-10 m

Criteria for suitable canopy vegetation types for use in tall Eucalypt vegetation type:

- Trees to be predominantly evergreen and have a similar tall branching habit with a foliage density similar to the character of the Eucalypts - i.e. allows some filtered sunlight to penetrate during winter.
- Where deciduous trees are proposed due to sunlight access and overshadowing issues, these are to be used as feature trees and where possible complement the native landscape character. For example, the *Lagerstroemia* 'Natchez' has a smooth bark and small foliage which can complement many of the Australian native trees.
- Shrubs and ground covers are to be native to Australia, with contrasting texture and foliage. Where non-native species are used, they are to be used as a feature rather than dominate the planting palette.

6.4.3 Evergreen vegetation type

For the extent of this vegetation type, refer to Figure 6D. The precincts respond to the established evergreen landscape character, which is predominantly a combination of native and non-native evergreen species. While this includes tall Eucalypt style species, the dominance is achieved with the medium and smaller sized trees.

- a) The preferred character will strengthen this by increasing the presence of medium to large canopy evergreen trees along with some deciduous trees in the mix. This includes in public open space, streetscapes and on private land.
- b) In this landscape character type areas include residential gardens with a dominance of shaped cypress and conifers. This is particularly evident in parts of Wheelers Hill and Mulgrave.

Table 6-3 List of typical character species suitable for the Evergreen vegetation type

Botanical name	Common Name	Approx size (H x W)
<i>Angophora hispida</i>	Dwarf Apple Myrtle	8 x 7 m
<i>Banksia integrifolia</i>	Coast Banksia	8 x 4 m
<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	12 x 6 m
<i>Callistemon salignus</i>	Willow Bottlebrush	6 x 4 m
<i>Cupaniopsis anacardioides</i>	Tuckeroo	8 x 7 m
<i>Ficus rubiginosa</i>	Port Jackson Fig	10 x 15 m
<i>Hymenosporum flavum</i>	Native Frangipani	8 x 4 m

Botanical name	Common Name	Approx size (H x W)
<i>Lophostemon confertus</i>	Brush Box	12-15 x 10 m
<i>Magnolia grandiflora</i>	Bullbay Magnolia	10 x 8 m
<i>Phoenix canariensis</i>	Canary Island Date Palm	12 x 6-8 m
<i>Trachycarpus fortunei</i>	Windmill Palm	8 x 3 m
<i>Tristaniopsis laurina</i>	Kanooka	8 x 6 m
<i>Waterhousia floribunda</i>	Weeping Lily Pily	12 x 12 m

Criteria for suitable canopy vegetation types for use in Evergreen vegetation type:

- Trees to be predominantly evergreen with a variety of textures and characteristics and can be both exotic evergreen and native evergreen species.
- Where deciduous trees are proposed due to sunlight access and overshadowing issues, these are to be used as feature trees, with more than 50% of proposed trees to comprise evergreen species.
- Shrubs and ground covers can be a combination of exotic and or native species.

6.4.4 Deciduous and evergreen vegetation type

For the extent of this vegetation type, refer to Figure 6D. This vegetation type includes the combination of deciduous and Eucalypt style and other evergreen trees. Much of this style is consistent with pre-1965 urban development. In the Oakleigh area, the style is characterised with alternating evergreen and deciduous avenue style street tree plantings. In the Chadstone and Mount Waverley areas, the character is influenced by the garden styles, along with mixed street tree planting styles.

- The future preferred vegetation type will strengthen this style, including with consideration of extending the alternating evergreen and deciduous avenue style street tree plantings given the excellent balance they achieve between winter sun and summer shade in east-west oriented streets.
- Other features of this landscape character type will be to strengthen the presence of the large broad spreading deciduous canopy trees on private land.

Table 6-4 List of typical character species suitable for the deciduous and evergreen landscape character type

Botanical name	Common Name	Approx size (H x W)
Evergreen		
<i>Angophora costata</i>	Smooth-barked Apple Myrtle	12 x 8 m
<i>Angophora hispida</i>	Dwarf Apple Myrtle	8 x 7 m
<i>Banksia integrifolia</i>	Coast Banksia	8 x 4 m
<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	12 x 6 m
<i>Callistemon salignus</i>	Willow Bottlebrush	6 x 4 m
<i>Cupaniopsis anacardioides</i>	Tuckeroo	8 x 7 m

Botanical name	Common Name	Approx size (H x W)
<i>Ficus rubiginosa</i>	Port Jackson Fig	10 x 15 m
<i>Lophostemon confertus</i>	Brush Box	12-15 x 10 m
<i>Tristaniopsis laurina</i>	Kanooka	8 x 6 m
<i>Waterhousia floribunda</i>	Weeping Lily Pily	12 x 12 m
Deciduous		
<i>Acer palmatum</i>	Japanese Maple	7 x 6 m
<i>Acer x freemanii</i> 'Jeffersred'	Autumn Blaze Maple	15 x 10 m
<i>Ginkgo biloba</i>	Ginkgo	12 x 8 m
<i>Lagerstroemia indica</i> x 'Natchez'	Crepe Myrtle (White flowering)	6 x 4 m
<i>Lagerstroemia indica</i> x 'Tuscarora'	Crepe Myrtle (Pink flowering)	8 x 4 m
<i>Malus species and cultivars</i>	Crabapples	6 x 6 m
<i>Melia azedarach</i> 'Elite'	White Cedar	12 x 10 m
<i>Pistacia chinensis</i>	Chinese Pistachio	8 x 8 m
<i>Platanus orientalis</i>	Oriental Plane	15 x 10 m
<i>Platanus x acerifolius</i>	London Plane	20-25 x 15-20 m
<i>Quercus canariensis</i>	Algerian Oak	15 x 10 m
<i>Quercus cerris</i>	Turkey Oak	15 x 10 m
<i>Quercus robur</i>	English Oak	10 x 8 m
<i>Ulmus parvifolia</i>	Chinese Elm	10 x 10 m
<i>Zelkova serrata</i> 'Green Vase'	Japanese Zelkova	15 x 10 m

Criteria for suitable canopy vegetation types for use in deciduous and evergreen vegetation type:

- Minimise the use of Eucalyptus species in these areas, however *Corymbia sp.* and *Angophora sp.* are suitable. Evergreen trees are preferably to have large textural or glossy green leaves and with characteristics that complement the deciduous trees.
- Deciduous trees are to be proven to be relatively hardy in more extreme weather events including strong winds and extended heat.
- Shrubs and ground covers to preferably have a greener and more exotic character, however they can include native and indigenous species.

6.4.5 Exotic vegetation type

For the extent of this vegetation type, refer to Figure 6D. This vegetation type is where the dominant planting character is both evergreen and deciduous species that does not have a strong presence of identifiable 'native' character that is typically generated by the Eucalyptus style and 'drier' bushland species.

- a) Encourage additional large canopy non-Eucalypt style evergreen and deciduous trees on private land.

Table 6-5 List of typical character species suitable for the exotic landscape character type

Botanical name	Common Name	Approx size (H x W)
Evergreen		
<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	12 x 6 m
<i>Cupaniopsis anacardioides</i>	Tuckeroo	8 x 7 m
<i>Ficus rubiginosa</i>	Port Jackson Fig	10 x 15 m
<i>Hymenosporum flavum</i>	Native Frangipani	8 x 4 m
<i>Magnolia grandiflora</i>	Bullbay Magnolia	10 x 8 m
<i>Olea europaea</i> 'Swan Hill'	Swan Hill Olive	7 x 7 m
<i>Phoenix canariensis</i>	Canary Island Date Palm	12 x 6-8 m
<i>Trachycarpus fortunei</i>	Windmill Palm	8 x 3 m
Deciduous		
<i>Acer palmatum</i>	Japanese Maple	7 x 6 m
<i>Acer x freemanii</i> 'Jeffersred'	Autumn Blaze Maple	15 x 10 m
<i>Ginkgo biloba</i>	Ginkgo	12 x 8 m
<i>Lagerstroemia indica</i> x 'Natchez'	Crepe Myrtle (White flowering)	6 x 4 m
<i>Lagerstroemia indica</i> x 'Tuscarora'	Crepe Myrtle (Pink flowering)	8 x 4 m
<i>Malus species and cultivars</i>	Crabapples	6 x 6 m
<i>Melia azedarach</i> 'Elite'	White Cedar	12 x 10 m
<i>Pistacia chinensis</i>	Chinese Pistachio	8 x 8 m
<i>Platanus orientalis</i>	Oriental Plane	15 x 10 m
<i>Platanus x acerifolius</i>	London Plane	20-25 x 15-20 m
<i>Quercus canariensis</i>	Algerian Oak	15 x 10 m
<i>Quercus cerris</i>	Turkey Oak	15 x 10 m
<i>Quercus robur</i>	English Oak	10 x 8 m
<i>Ulmus parvifolia</i>	Chinese Elm	10 x 10 m
<i>Zelkova serrata</i> 'Green Vase'	Japanese Zelkova	15 x 10 m

Criteria for suitable canopy vegetation types for use in exotic vegetation type:

- Minimise the use of Eucalypt style species in these precincts. Evergreen trees are preferably to have large textural or glossy green leaves and with characteristics that complement the deciduous trees and are not identifiably 'Native Australian'.
- Deciduous trees are proven to be relatively hardy in more extreme weather events including strong winds and extended heat.
- Shrubs and ground covers to preferably have a greener and more exotic character, however they can include native and indigenous species.

6.5 Guideline 4 Maximise the retention of existing canopy trees

Guideline 4.1

Prioritise the retention of significant and large canopy trees on private land. Where there are a number of trees on the site, the retention of large canopy trees is to be prioritised over the medium and small canopy trees. This is irrespective of whether there is a proposal to develop the site or not.

Guideline 4.2

Require assessments lodged with tree removal applications to demonstrate how the application has minimised the loss of trees on the basis that Council is seeking to maximise the retention of existing mature canopy trees. This is to include a site context report with reference to the existing and preferred landscape character of the site and location and it may include remedial arboricultural works to be carried out to prolong the health of the tree, as described in Recommendation 7.4.1.

Guideline 4.3

Developments are to incorporate the requirements of Australian Standards *AS 4970-2009 Protection of trees* (or its equivalent current Australian Standard) and *AS 4373-2007 Pruning of amenity trees* for remedial works to the tree canopy.

Decision guidelines for retaining large canopy trees:

- a) Avoid removal of existing long-lived large canopy trees.
- b) Prioritise remedial action in preference to removal in accordance with the new guidelines recommended to be prepared by Council as described in Recommendation 7.4.1 in the Strategy. For example undertake remedial arboricultural works or modify the built form/structural foundations/footings/road/footpath construction technique to allow retention of the tree where possible.
- c) If removal is the only option, then planting and maintenance of at least 3 trees of the same species, or a species specified by Council will be required on the site as compensation for the loss.

6.6 Guideline 5 Plant new canopy trees

6.6.1 Private land

Guideline 5.1

Plant a minimum number of large canopy trees in the front setback in accordance with the performance criteria in Table 6-6.

Guideline 5.2

Provide an adequate side boundary setback to retain and plant medium to large canopy trees between properties and achieve emergent canopy to break up the roofline of built form.

Guideline 5.3

Use the Australian Standards *AS2870-2011 for Residential slabs and footings* to determine the minimum area required for the tree to establish in terms of minimum off-set from adjoining built form.

Guideline 5.4

Refer to the key performance criteria and typical species palettes suitable for each of the Preferred vegetation types. Refer to the performance criteria for the selection of appropriately sized trees in Table 6-6 in this Strategy.

Table 6-6 Performance criteria for new trees in Monash (excluding street trees)

Setback and tree size	Criteria
Standard residential	
<p>1. Front setback 7.6 metres or greater</p> <p>Minimum of 3No. large canopy trees in the front setback and a minimum of 2 No. small canopy trees. Where only 2No. large canopy trees are feasible, then a minimum of 3No. additional medium sized trees are required.</p> <p>Minimum of an additional 2No. large canopy tree or 4No. medium canopy trees elsewhere on the lot (i.e. in the side and rear setback)</p>	<ul style="list-style-type: none"> a) Large canopy tree (as defined in this Strategy) b) Long-lived tree (80 years plus) c) Structurally sound, good quality planting stock free of structural defects to maximise public safety. d) Provide summer shade and winter sunlight access to paved surfaces and north and west facing windows of the main areas of the dwelling/workplace. This may include sparse shade that is typically provided by Eucalypt species e) Demonstrate they are suitable for the existing soil profile. This includes demonstrating that the building and footing design takes into account the proposed tree location and demonstrates it meets the relevant Australian Standards including <i>AS2870-2011 for Residential slabs and footings</i>, in relation to the proposed footing and building design. f) Demonstrate they are suitable for the proposed planting location, available space and method in the streetscapes

Setback and tree size	Criteria
	<p>to minimise impacts on footpath and road pavement surfaces.</p> <p>g) Provide a natural soil/garden bed/grassed area around the tree of at least 15 square metres. Where this is not feasible, demonstrate that the planting conditions will be conducive to the growth and ultimate size of the tree</p> <p>h) Are suitably hardy enough to grow without irrigation in non-drought conditions (other than during the first two years of establishment)</p> <p>i) Mature tree canopy will emerge above the roofline of the proposed built form to provide adequate shade and break up the built form (with the exception of 4-storeys plus)</p> <p>j) The conditions will allow for the proposed tree to assume its natural form within reason and not require hedging or pollarding</p> <p>k) Selected tree species is consistent with the Preferred landscape character type described in Section 5.5.</p>
<p>2. Front setback of between 7.5 and 4.0 metres</p> <p>Minimum of 2No. large canopy trees in the front setback and 2 No. medium and small sized trees elsewhere on the lot.</p> <p>Minimum of 1No. large canopy tree or 2No. medium canopy trees elsewhere on the lot (i.e. in the side and rear setback)</p>	<p>a) Medium canopy tree (as defined in this Strategy)</p> <p>b) Long-lived tree (50 years plus)</p> <p>c) Refer to all criteria listed in above from 1(c) to 1(k)</p>
<p>3. Front setback of less than 3.9 metres</p> <p>Minimum of either 1No. large canopy trees, or 2No. medium canopy trees.</p> <p>Minimum of an additional 1No. medium canopy tree or 2No. small canopy trees elsewhere on the lot (i.e. in the side and rear setback)</p>	<p>a) Small canopy tree (as defined in this Strategy)</p> <p>b) Long-lived tree (30 years plus)</p> <p>c) Refer to all criteria listed in above from 1(c) to 1(k)</p>
Medium to high density residential	
<p>4. All front setbacks</p> <p>Minimum of 2No. large canopy trees.</p> <p>Minimum of some planting, either fastigiate trees/hedges to side and rear setbacks, or as a minimum a combination of shrubs/ground layer planting and climbers in the side and rear setbacks to provide greening.</p>	<p>a) Large canopy tree (as defined in this Strategy).</p> <p>b) Long-lived tree (80 years plus)</p> <p>c) Refer to all criteria listed in above from 1(c) to 1(k)</p>

Table 6-6 Performance criteria for new trees in Monash (excluding street trees) *continued...*

Setback and tree size	Criteria
All residential types	
<p>5. Canopy trees located in the 35 square metres of private open space</p> <p>Minimum of 1No. large canopy tree or 2No. small canopy trees.</p>	<ul style="list-style-type: none"> a) Provides summer shade and winter sunlight access to all living areas of the dwelling. b) Emergent above the roofline of the proposed dwelling. This is likely to result in the use of a tall columnar species rather than a broad spreading canopy tree. c) Long-lived tree species (50 years plus). d) Adjacent slab and footings are designed to meet the requirements of the tree. The plans are to demonstrate the building is designed to allow for the mature size of the proposed tree in accordance with the relevant Australian Standards including <i>AS2870-2011 for residential slabs and footings</i>.

6.6.2 Public open space

Guideline 5.5

Plant new long-lived large canopy trees in the parks and reserves, guided by design plans for the open space. Plant trees in appropriate locations that will maximise their health and longevity, while retaining areas for recreational use. For example, open grassed areas in open space are important for informal recreational activities. Rather than plant trees through the open grassed areas which would interrupt their use, planting them to the perimeter to frame these areas will improve their character, provide shade and make them more attractive to use. Additionally, demonstrate the trees have been appropriately selected and located to retain clear sight lines at key entry points into open space and along key pedestrian routes.

Guideline 5.6

New tree species selection to be guided by the Preferred landscape character type and vegetation type in which the open space is located. For overall guidelines on selection of appropriate large canopy trees, refer to Table 6-6, Item 1.

Guideline 5.7

Where appropriate, increase the diversity of tree species planted in the open spaces, particularly given that conditions in the parks are usually more favourable for tree growth where there is more space.

6.6.3 Streetscapes

Guideline 5.8

Increase the presence of large canopy trees in streetscapes where there is suitable space for them to establish. This will include a greater emphasis on site preparation for planting including the use of passive irrigation (WSUD) and other measures if required including structural soils and root barriers where space is limited in high density precincts. Refer to Table 6-7 for performance criteria for street trees.

Table 6-7 Performance criteria for street trees

Naturestrip width	Criteria
2.5 metres wide or greater	<ul style="list-style-type: none"> i) Large canopy tree (as defined in this Strategy) ii) Long-lived tree (80 years plus) iii) Structurally sound, good quality planting stock free of structural defects. iv) Tolerant of urban and dry conditions. v) Selected tree species is consistent with the Preferred landscape character type described in this Strategy and the tree lists included in the Monash Street Tree Strategy. vi) Consider alternating deciduous and evergreen planting styles in east-west streets for summer shade and winter sunlight to the streetscapes.
From 2.4 to 2.0 metres wide	<ul style="list-style-type: none"> i) Medium canopy tree (as defined in this Strategy) ii) Long-lived tree (50 years plus) iii) Structurally sound, good quality planting stock free of structural defects. iv) Tolerant of urban and dry conditions. v) Selected tree species is consistent with the Preferred landscape character type described in this Strategy and the tree lists included in the Monash Street Tree Strategy. vi) Consider alternating deciduous and evergreen planting styles in east-west streets for summer shade and winter sunlight to the streetscapes.
From 1.9 to 1.5 metres wide	<ul style="list-style-type: none"> i) Small canopy tree (as defined in this Strategy) ii) Long-lived tree (30 years plus) iii) Structurally sound, good quality planting stock free of structural defects. iv) Tolerant of urban and dry conditions. v) Selected tree species is consistent with the Preferred landscape character type described in this Strategy and the tree lists included in the Monash Street Tree Strategy vi) Consider alternating deciduous and evergreen planting styles in east-west streets for summer shade and winter sunlight to the streetscapes.
Less than 1.4 metres wide	<ul style="list-style-type: none"> i) Consider the option of planting trees into roadside cut-outs where the road pavement width is a minimum of 6 metres wide. The road pavement cut-outs will be able to accommodate Medium to Large street trees.

Naturestrip width	Criteria
<p>No naturestrips</p> <p>Trees planted into road pavement cut-outs/tree wells</p>	<ul style="list-style-type: none"> i) Large and Medium canopy trees (as defined in this Strategy) relative to the road pavement width. Road pavements greater than 7 metres width to have Large canopy trees, and less than 7 metres may have Large or Medium sized canopy trees. ii) Long-lived trees (Large 80 years plus, Medium 50 years plus) iii) Structurally sound, good quality planting stock free of structural defects. iv) Tolerant of urban and dry conditions. v) Selected tree species is consistent with the Preferred landscape character type described in Section 6.4 and Appendix A of this Strategy and the tree lists included in the Monash Street Tree Strategy vi) Consider alternating deciduous and evergreen planting styles in east-west streets for summer shade and winter sunlight to the streetscapes.

6.7 Guideline 6 Requirements for landscape plans

Guideline 6.1

Landscape plans are required to be submitted to Council as part of the planning permit process and will need to be consistent with current Monash Landscape Plan Guidelines and will include a minimum of:

- Scaled, accurate Existing Conditions Plan preferably based on a feature and level survey. The Plan will clearly show and label all existing trees and vegetation areas to be retained and removed.
- Where the site has existing trees, a report prepared by a qualified Arborist.
- Landscape Plan/s showing the proposed works, including clearly showing all proposed surface treatments, existing vegetation, vegetation to be removed and proposed new vegetation. The Landscape Plan is to include at least a brief design statement that explains how the plan is consistent with the Preferred landscape character type, as described in Appendix A of this Strategy.

6.8 Guideline 7 Permit conditions

Guideline 7.1

Permit conditions will be included for approved applications to ensure nominated trees are retained and that landscape plans are endorsed and implemented. Appropriate conditions include, but are not limited to:

- Preparation and endorsement of a landscape master plan/detailed landscape plan. Normally a detailed landscape plan will be the requirement but both types of plans will be required for larger sites with masterplans/multiple lots.
- Landscape works are to be completed.
- Establishment and maintenance of landscaping, with minimum of 2 years maintenance prior to hand over to Council, where the works are undertaken on public land.
- Tree retention including minimum of 12 months maintenance of the retained tree following completion of works to confirm it has not been damaged as part of the works. Where the retained tree is to be handed over to Council, a minimum of 2 years maintenance will be required prior to hand over.
- Tree protection during construction in accordance with Australian Standard *AS 4970-2009 Protection of trees on development sites* (or successor).
- Prohibited works within the tree protection zone.
- Pruning of trees by a qualified arborist in accordance with Australian Standard *AS4373-2007 – Pruning of Amenity Trees* (or successor).
- Storage and disposal of landscaping materials.
- Removal, replacement and planting of street trees.

7. Implementation recommendations

7.1 Implement the Strategy in the Monash Planning Scheme

Council to prepare a planning scheme amendment to include the following:

Municipal Strategic Statement

In the MSS, update and expand the definition and purpose of Garden City character, particularly with respect to the contemporary understanding of the importance of green spaces. Reference benefits such as community health and wellbeing, sense of place, climate change response, habitat protection and enhancement, and providing a point of difference for investors and employers of commercial and industrial land.

Include a new section in the MSS or Local Planning Policies to introduce the Existing and Preferred landscape character types prepared as part of this Strategy. These are to be used in the future assessment of all planning applications irrespective of whether the land is included in an overlay.

Local Planning Policies

Use a local planning policy to call up the Section 6 guidelines and to guide the exercise of discretion with respect to tree removal and landscape plans. For example, how Council will use the Strategy and the new guidelines (as set out in this Section 6) in decision making for any planning application or emergency application involving tree removal, the assessment of building setbacks as they affect landscape plans for new development, the amount and location of green space in the landscape plan and the species selection.

Guidelines as an incorporated document

Prepare an incorporated document to include the definitions and guidelines contained in this Strategy and introduce the document into the planning scheme as part of the amendment.

Use of Overlays

Extend the current planning protections to strengthen the role of the vegetation as an essential element of the Garden City. This direction is consistent with and supported by international best practice, Plan Melbourne (2016) and contemporary changes to the Victorian planning provisions requiring minimum garden areas in residential developments and tree planting for apartment projects. The following directions should inform the use of an overlay:

- Trigger the need for a planning permit to remove significant trees identified by Council and canopy trees as defined by this Strategy to support the retention and expansion of canopy tree cover. Permit triggers will need to be assessed but can be expected to be more expansive than the current permit trigger in the Vegetation Protection Overlay.
- Emphasise the habitat significance of waterway corridors and adjoining private land and the landscape requirements for these areas (This action refers to the Indigenous Tall Eucalypt Landscape Character Type.)
- Protect the ridgelines where built form can become dominant if designed without regard for the height of the tree canopy.
- Protect special landscape character precincts that represent the different periods of development in the municipality.
- Require use of the Existing and Preferred landscape character types for permits triggered by an overlay.

7.2 Planning for the Monash National Employment and Innovation Cluster, commercial/industrial precincts, activity centres and strategic sites

7.2.1 Update the urban design guidelines

Update the Landscaping component of the Urban Design Guidelines – Monash Technology Precinct to design future wide landscape front setbacks to incorporate urban greening and contribute to the health and wellbeing of the employment community. This is to be achieved by designing the front setbacks to be dynamic, social, activated green and inviting spaces that contribute to the *Garden City Character*, and the unique point of difference for the Monash National Employment and Innovation Cluster. Refer to the Guideline 2 in Section 6.3 for the design outcomes to be achieved in these setbacks.

7.2.2 Future structure plans for the Monash National Employment and Innovation Cluster

Council to work with the Victorian Planning Authority to ensure that structure plans for the Monash National Employment and Innovation Cluster align with the preferred outcomes and guidelines of this Strategy, both for the public realm and private land development.

Council's structure plans and other plans and policies for activity centres, commercial/industrial areas and strategic redevelopment sites should align with the preferred outcomes and guidelines of this Strategy, both for the public realm and private land development.

7.3 New local law to protect significant trees and canopy trees

Introduce a local law to provide protection for significant trees and canopy trees. A local law can be used to protect individual trees in areas of the municipality where the canopy trees are more scattered and a planning scheme overlay is not strategically supported.

There is ample precedent for this approach as demonstrated by several Victorian councils that have introduced a local law for tree protection. In Melbourne the councils using this type of local law include (amongst others) Bayside, Boroondara and Port Phillip. This approach is recognised as a legitimate alternative to a planning scheme overlay. It appears to be especially useful where there is limited or scattered tree cover, which reduces the justification for a specific planning scheme provision, and where a planning permit is not otherwise needed, e.g. for site redevelopment. A local law may offer a more straight forward method of regulating trees in the municipality and its adoption would also provide the opportunity to introduce a community education program around trees

When drafting the local law, draw on the information and guidance contained in this Strategy. Key elements will include:

- Purpose, application, powers of the local law.
- Definitions for canopy trees and significant trees to be protected.
- The permit application process, forms, fees and requirements for applicants seeking removal or lopping (etc.) of a tree covered by the local law.
- Tree protection requirements and bonds for site and infrastructure works.
- Guidance on assessments for tree protection and tree removal.
- Guidance on assessments for emergency tree removal.
- Reference to remedial arboricultural works.
- Permit conditions and permit cancellation.
- Enforcement notices and fines

7.4 Recommendations to support planning permit assessments and the local law

7.4.1 Prepare new guidelines for tree protection and pruning on development sites

Prepare a comprehensive set of tree protection guidelines that are based on *AS 4970-2009 Protection of trees on development sites* (or its equivalent current Australian Standard) and *AS 4373-2007 Pruning of amenity trees* for the remedial works to the tree canopy. The guidelines will assist the developers in relation to designing the development to meet the Australian Standards and Council requirements regarding tree protection. This will also provide clarity and transparency for both the developer and the Council in relation to assessing the planning application for the development. The tree protection guidelines are to include:

- The space and offsets required from the tree to buildings and other built infrastructure to ensure the trees can be effectively managed and retained in the long term.
- Specify appropriate tree protection bonds that are payable to Council prior to commencement of works on the development site. This is to increase the chances of tree protection on the site and also on adjoining sites, including the street tree/s.
- Development applications are recommended to include the following information about existing tree as a minimum to provide suitable material to Council for assessment of the planning application including the protection of existing trees including:
 - An assessment and description of existing trees including the botanical and common name.
 - The landscape life expectancy (which is the estimated life expectancy range being the minimum number of years a tree could be expected to live in a reasonably healthy and safe condition given moderate weather conditions and if the reasonable maintenance works are carried out in a timely manner).
 - Priority given to long-lived species (80 years, with estimated life expectancy remaining of 10+ years).
 - An assessment of each individual existing tree by a suitably qualified Arborist that describes or categorises the health and structure of each tree. Where the tree is in good to fair health then this is described, or alternatively where there is poor structure, the report is to include recommendations as to how poor health or structure can be remediated or managed using arboricultural techniques.
 - Adequate space and conditions to be conducive to the growth and ultimate size of the tree on private land and the adjoining streetscapes.
 - Demonstrate that the existing tree has been taken into account as retained in the building plans, and that the slab and footing design meets relevant Australian Standards including *AS2870-2011 for Residential slabs and footings*.
 - Demonstrate that the conditions will allow for the existing tree to retain its natural form within reason and not require hedging or pollarding.
 - Demonstrate that the potential risk from shedding branches etc has been allowed for in the development layout and landscape design beneath the tree's canopy.

7.4.2 Best practice method for assessing tree removal applications

This Strategy recommends prioritising remedial arboricultural work to trees in preference to removals. This requires a change from the existing process where trees are removed in preference to remedial work. This change in approach will need to be communicated to the arborists that undertake assessment work in the municipality.

Update the process for assessing tree removal applications to minimise the loss of trees on the basis that Council is seeking to maximise the retention of existing mature canopy trees. This is recommended to be updated to:

- Include an assessment of the tree in its site context. This will include the Existing and Preferred landscape character type as described in Appendix A and the presence, location and types of trees on the sites that directly adjoin the property (including in the streetscape).
- Prioritise remedial arboricultural works in preference to removal, to minimise tree canopy loss. For example, where the Council prepared arborist assessment report recommends that remedial works can be undertaken instead of removal, then this informs the Council decision to retain the tree, rather than agree to removal. Arboricultural works should aim to preserve the health of the tree for a minimum of 10 years.

7.4.3 Guidelines for retention of large canopy trees

Council to prepare specific guidelines to support retention of large mature trees on public and private land when redevelopment occurs. This includes in structure plan areas, activity centres and on strategic redevelopment sites.

This advice could also be used to supplement the local law (where a planning permit is not required), and is to be developed to provide clear guidance on determining the priorities of which tree/s are retained, particularly in sites with a number of existing trees.

7.4.4 Management of canopy vegetation in public open space

Council to prepare Canopy Vegetation Management Plan for public open space. This will focus on:

- Management guidelines for existing long-lived large canopy trees in public open space in accordance with relevant Australian Standards (e.g. *AS 4373-2007 Pruning of amenity trees*). This will include consideration of appropriate levels of irrigation during extended dry periods, higher level of monitoring of the health and proactively managing them to avoid catastrophic damage or loss, particularly within the context of forecast climate change and increased severe weather events. The focus of the management guidelines will be on maximising the sustainable retention of mature trees.
- Guidelines for appropriate species selection and planting consistent with the Existing and Preferred landscape character types along with other includes including the need for species diversity, cultural landscape values, response to open space character and use, sustainable water use and resilience to climate change.

7.4.5 Review the approach to management of street trees

Council to review the assessment criteria for prioritisation of the street tree planting program in the context of this Strategy and documented decline in tree canopy cover between 1992 and 2015. Specifically this includes:

- Aim to protect where feasible the mature canopy street trees in recognition of their important role in mitigating the impacts of climate change. Street tree removals to be a low priority (unless specific safety concerns are specified by an arborist) in precincts where there has been recent canopy tree loss on private land in order to retain some mature canopy tree cover until canopy trees on private land have become established.
- Aim to plant large canopy street trees where feasible so that Council provides a leadership role in increasing canopy tree cover in the City of Monash in the future.
- Maximise the potential shading that the street tree provides to the road pavement area and footpath in preference to planting small trees under powerlines. It is noted that the objective is to achieve excellent shading and canopy cover to the street therefore managing the larger canopy trees around the powerlines will achieve more canopy cover and shade than small trees that do not reach the height of powerlines.
- Review tree pruning techniques under power lines to meet best practice, which is currently Australian Standard *AS4373-2007 Pruning of amenity trees*.
- Afford a higher level of management and maintenance to the existing large canopy street trees to maximise their health, structural integrity and resilience. This may include civil design works to For example:
 - Aerial bundle cable wires to minimise required clearance pruning that can be damaging to mature large canopy trees.
 - All pruning of trees to be undertaken by qualified personnel and as a minimum in accordance with *AS 4373-2007 Pruning of amenity trees*, and other relevant standards and requirements from power authorities.
 - Consider options to modify the road layout to retain and improve the health and longevity of large canopy trees. For example, modify the kerb and channel profile, modify the permeability of the road pavement surface etc.
 - During periods of extended drought, develop management protocols to ensure that appropriate levels of irrigation are in place to protect the large canopy trees and minimise loss or long-term damage to the canopy trees.

7.4.6 Prepare landscape guidelines

Council to prepare landscape guidelines to supplement the Residential Checklist that is available on the Council's website. The landscape guidelines will assist land owners, developers, designers and consultants, providing them with a clear direction of Council's preferred outcome for private and public landscaping based on the aims in this Strategy. This will include good site planning to maximise tree retention and green open spaces and the appropriate selection and establishment of new trees including matters relating to the appropriate extracts to provide direction for developers to meet *AS2870-2011 for Residential slabs and footings* regarding distance from footings and design of building foundations.

7.4.7 Trees on other public land

Council to investigate options to advocate for and facilitate retention of existing long-lived large canopy trees. Some of the schools, university and TAFE sites have large remnant indigenous trees and they may be subject to loss through building programs and/or risk issues.

7.4.8 Significant tree study

In the longer term, Council to prepare a Significant Tree Study to:

- Document the existing large canopy trees in the municipality.
- Broaden the appreciation of the cultural landscape heritage value of these trees.
- Broaden the appreciation of the contribution these trees make towards the sense of place, the *Garden City Character* and community health and wellbeing.

7.4.9 Protect examples of the Post WWII garden suburban style

Council to identify the best remaining examples of the Post WWII garden suburban style detached dwellings. These will be representative of the era in which they were established from 1945 to 1965. The key features include:

- Original detached dwellings with the original setbacks between the dwellings retained.
- Low or no front fence.
- Dominance of the canopy trees from the era in which the dwelling was constructed.
- Modest vehicle driveways and car ports/garage.

Council to undertake a heritage assessment with a focus on the cultural heritage landscape values along with the architectural character, and expand the Heritage Overlays and controls to protect the best examples where required.

7.5 Community education and engagement

7.5.1 Information packs for new residents, land owners and developers

Prepare and distribute 'Information Packs' within the Monash context inclusive of:

- The beneficial effects of canopy vegetation, particularly large mature trees, on community health and wellbeing, biodiversity values, the landscape character and how they mitigate the effects of climate change. This Strategy contains useful research and information to be used in preparing the education materials.
- The relevant summary sheet of Existing and Preferred landscape character type.
- The relevant suggested tree species planting list from the Guidelines in Section 6.
- Encouragement to retain trees on site when considering renovations and new builds.
- Inclusion of other relevant material already produced by Council including the Gardens for Wildlife Booklet for residents, land owners and developers in the *Creek habitat corridor*, *Creek valley environs* and the *Hilly native garden suburban* preferred landscape character types.

7.5.2 Tree retention

In combination with the above action, encourage land owners and developers to retain and plant new trees on their properties where feasible so that it is possible to maintain their natural form without hedging and shaping the trees. This is to maximise the benefits of shading and overall structural health and longevity of the tree, and the tree's contribution to the site and to the tree canopy cover of the municipality. An education program will be assisted through the preparation of the materials described in this Strategy.

7.5.3 Community groups

Work with established community groups and organisations to communicate and promote the beneficial effects of canopy trees. Draw on the experience and passion of community champions in implementing community education and planning initiatives.

7.5.4 Garden tours

Introduce garden tours, awards and other incentives to showcase good examples of tree retention and planting and the use of plants that provide multiple benefits of greening as described in this Strategy.

7.5.5 Assistance with private landscaping

Give residents access to an experienced landscape designer or horticulturalist (with a proven track record) to provide advice to residents on plant selection for their Preferred landscape character type and the availability of local plant sources, say at a subsidised rate.

8. Monitoring and review

Implementation and monitoring of the Strategy will aim to:

- Establish a committee with representatives from strategic and statutory planning, environment, communications, urban design and open space to oversee the implementation of this Strategy to ensure ongoing commitment and awareness of it within the organisation.
- Determine and establish an appropriate method of measuring and recording the effectiveness of the planning and regulatory controls on tree canopy loss. This may include undertaking canopy mapping for the municipality periodically (for example at 5 year intervals) on a precinct basis using i-Tree Canopy software.
- Regularly monitor the implementation of the Strategy to assess the progress and success of the recommendations.
- Review the Strategy at the 5-year point to monitor its implementation.
- Integrate the implementation of the Strategy with other existing and future Council plans, local laws and practices.

Glossary

Abbreviation/Term	Definition for this Strategy
Activity centre	Suburban centres that provide a focus for services, employment, housing, transport and social interaction. <i>Source: Plan Melbourne</i>
Biodiversity	Biodiversity (biological diversity) is the variability among living organisms from all sources, including terrestrial, aquatic, marine and other ecosystems and the ecological complexes of which they are part, at all levels of organisation, including genetic diversity, species diversity and ecosystem diversity. <i>Source: Australia's Biodiversity Conservation Strategy 2010-2030.</i>
Canopy	An almost continuous stratum of foliage formed by the crowns of trees. <i>Source: A Dictionary of the Natural Environment, 1978</i>
Canopy tree	A perennial plant having a permanent, woody, self-supporting main stem or trunk, usually growing to a considerable height and usually developing branches at some distance from the ground. There is no minimum or maximum height, however for the purposes of this the Strategy the canopy trees are generally greater than 3 metres in height. Canopy refers to the upper stratum of foliage.
Canopy vegetation	Canopy refers to the upper layer formed by shrub and tree crowns including the extent of the outer layer of leaves of an individual tree and shrub or group of trees and shrubs.
CPTED	Crime Prevention Through Environmental Design
Cultural significance	Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups. The term cultural significance is synonymous with cultural heritage significance and cultural heritage value. <i>Source: The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013 edition</i>
Eucalypt style	Refers to three genus of the <i>Myrtaceae</i> family that are commonly referred to as 'Eucalypts' or 'Gum trees', and include <i>Eucalyptus</i> , <i>Corymbia</i> and <i>Angophora</i> .
EVC	Ecological Vegetation Class, which are the standard unit for classifying vegetation types in Victoria. (<i>Source: Department of Environment, Land, Water and Planning Website, June 2017</i>).
Groundcover	A low spreading plant which covers the earth and retards the growth of weeds. <i>Source: Macquarie Dictionary, 5th Edition.</i>
High density	Housing types are typically apartments and shop top housing that is 4 storeys or more and can form part of mixed-use developments.
Landscape	Landscape refers to the inherent natural physical features of the land combined with the human influences including land use and cultural heritage.
Landscape character	Landscape character is the interplay of the geology, topography, vegetation, water bodies and other natural features, combined with the effects of land use, the built development and local statutory requirements.
Medium density residential	Housing types are typically diverse and may include attached and semi-detached houses and 2 to 3 storey townhouses and multi-unit developments.
MSS	The Municipal Strategic Statement is part of the Planning Scheme's Local Planning Policy Framework containing strategic planning, land-use and development objectives for the relevant planning authority.

Abbreviation/Term	Definition for this Strategy
Public realm	All the publicly owned land including streetscapes, public open space, urban plazas, railway reserves, road reserves and the other government owned land such as schools, public hospitals, universities etc.
Shrub	A woody perennial plant smaller than a tree, usually having permanent stems branching from or near the ground. <i>Source: Macquarie Dictionary, 5th Edition.</i>
Tree	Perennial plant having a permanent, woody, self-supporting main stem or trunk, usually growing to a considerable height and usually developing branches at some distance from the ground. There is no minimum or maximum height. <i>Source: Macquarie Dictionary, 5th Edition.</i>
Urban character	Urban or neighbourhood character is essentially the combination of the public and private realms. Every property, public place or piece of infrastructure makes a contribution, whether great or small. It is the cumulative impact of all these contributions that establishes neighbourhood character. <i>Source: Planning Practice Note 43, Understanding Neighbourhood Character, June 2015.</i>
Urban heat island effect (UHI)	UHI is the cumulative effect of modifying the natural environment through urbanisation including the covering of the soil surface, causing a rise in temperature of any urban area. This results in a defined, distinct "warm island" among the "cool sea" of lower temperatures of the surrounding nearby natural landscape. The urban surfaces are prone to store and release large quantities of heat.
VPA	Victorian Planning Authority
WSUD	Water Sensitive Urban Design (WSUD) is a philosophical approach to urban planning and design that aims to minimise the hydrological effect of urban development on the surrounding environment <i>Source: WSUD Engineering Procedures, CSIRO.</i>

References

- 2020 Vision (undated) **Where Are All The Trees? An analysis of tree cover in urban Australia** A summary of findings in the 2014 study *Benchmarking Australia's Urban Tree Canopy*
-
- City of Monash (2004) **Monash Development Guide - Part 3 Neighbourhood Character Study**
-
- City of Monash (2013) **VPO Advice - Tree Removal or Tree Works Within the VPO Area**, Monash Development Guide 24 September 2013
-
- City of Monash (2014) **Monash 2021 - A Thriving Community - Council's Snapshot Report on progress towards achieving our long term strategy**
-
- City of Monash (2015) **Amendment C125: Proposed zones**, Map
-
- City of Monash (2015) **City of Monash Environmental Sustainability Strategy 2016-2026**, Draft 29 September 2015
-
- City of Monash (2015) **Council Plan 2013 - 2017 - Major initiatives and services for 2015/16**
-
- City of Monash (2015) **Draft Monash Street Tree Strategy**, from City of Monash website
-
- City of Monash (2015) **Feedback on Draft Street Tree Strategy**, Online submission from City of Monash website
-
- City of Monash (2015) **Motion carried at 27 October 2015 Council meeting**, from City of Monash website, 2015
-
- City of Monash (2015) **Proposed residential zone changes to undergo further review**, from City of Monash website, 1 December 2015
-
- City of Monash (2015) **Vegetation Protection Overlay**, from City of Monash website, 20 February 2016
-
- City of Monash (2015) **Amendment C125 & C120 New Residential Zones - Schedule changes summary table**, Report from Council meeting 24 November 2015
-
- City of Monash (Undated) **Annual Report 2014/15**
-
- City of Monash (undated) **Assessment Form for Trees Affected by the Vegetation Protection Overlay (VPO) TP391**
-
- City of Monash (undated) **Monash Housing Strategy, Residential Development Framework Map**, Report from Council meeting 24 November 2015
-
- Deakin University (2010) **Beyond Blue to Green : The Health Benefits of Contact with Nature in a Park Context** Prepared by Professor Mardie Townsend and Ms Rony Weerasuriya.
-
- Deakin University and Parks Victoria(March 2008) **Health Parks, healthy people – The health benefits of contact with nature in a park context A review of relevant literature** Prepared by the School of Health and Social Development.
-
- Institute for Sustainable Futures, University of Technology, Sydney (2014) **Benchmarking Australia's Urban Tree Canopy: An i-Tree Assessment**, Final report May 2014
-
- Kardan, O et al (2015) **Neighbourhood greenspace and health in a large urban center** Sci. Rep 5, 11610; doi: 10.1038/srep11610 www.nature.com/scientificreports
-
- Loughnan, ME, Tapper, NJ, Phan, T, Lynch, K, McInnes, JA (2013) **A Spatial Vulnerability Analysis of Urban Populations During Extreme Heat Events in Australian Capital Cities**, Final report, National Climate Change Adaptation Research Facility, Monash University, Gold Coast, 128pp March 2013
-

Nowak, DJ et al (2014) **Tree and forest effects on air quality and human health in the United States, Environmental Pollution** 193 (2014), 119-129, published by Elsevier
www.elsevier.com/locate/envpol

Parliament of Victoria (2012) **Inquiry into Environmental Design and Public Health in Victoria**, Final Report May 2012, prepared by the *Legislative Council Environment and Planning References Committee*

Planisphere (2014) **Monash Housing Strategy 2014**, Final Report prepared for Monash City Council 28 October 2014

Planisphere (2015) **Neighbourhood Character Review**, Consultation Draft Report prepared for the City of Monash February 2015

Planning Panels Victoria (2013) **Monash Planning Scheme Amendment C115 - Vegetation Protection Overlay Schedule 1 - Tree Protection Area**, Panel Report 13 August 2013

Urban Initiatives, GW Arboriculture, May Horticulture Services and City of Monash (2015) **City of Monash Street Tree Strategy**, Draft Street Tree Strategy, November 2015

Victorian Government (2014) **Plan Melbourne - Metropolitan Planning Strategy Map 13 - Monash Employment Cluster**

Victorian Government (2014) **Plan Melbourne Metropolitan Planning Strategy**, prepared by the Department of Transport, Planning and Local Infrastructure

Victorian Government (2014) **Reformed Residential Zones for Victoria**, Fact Sheet July 2014

Victorian Government (accessed 2016) **Monash Planning Scheme - 42.02 Vegetation Protection Overlay**

Victorian Government (accessed 2016) **Monash Planning Scheme - Schedule 1 to the Vegetation Protection Overlay**

Victorian Government (accessed 2016) **Monash Planning Scheme, Land Subject to Inundation Overlay - Clause 44.04**

Victorian Government (accessed 2016) **Monash Planning Scheme, Municipal Strategic Statement - Clause 21.02**

Victorian Government (August 1999) **VPP Practice Note – Vegetation Protection in Urban Areas**

Appendix A

Existing and Preferred Landscape Character Precincts

A1	Ashwood Burwood
A2	Chadstone 1
A3	Chadstone 2
A4	Clayton 1 (Notting Hill residential)
A5	Clayton 2
A6	Glen Waverley 1
A7	Glen Waverley 2
A8	Glen Waverley 3
A9	Glen Waverley 4
A10	Glen Waverley 5
A11	Hughesdale
A12	Mount Waverley 1
A13	Mount Waverley 2
A14	Mount Waverley 3
A15	Mount Waverley 4
A16	Mount Waverley 5
A17	Mulgrave 1
A18	Mulgrave 2
A19	Mulgrave 3
A20	Mulgrave 4
A21	Notting Hill (non-residential use)
A22	Oakleigh
A23	Oakleigh East
A24	Oakleigh South 1
A25	Oakleigh South 2
A26	Wheelers Hill 1
A27	Wheelers Hill 2
A28	Wheelers Hill 3

Monash existing and preferred landscape character types

Introduction

These character sheets document the site assessment and analysis process to determine the existing and preferred landscape character across the City of Monash. The sheets are intended to be read in conjunction with the Strategy Report and form an Appendix to it.

The main purpose of the Monash Urban Landscape Character and Canopy Vegetation Strategy is to provide a clear direction to achieve the preferred landscape character

and tree canopy cover as Monash develops to accommodate the forecast population growth and development. The Strategy covers both public and private land.

A key aim of the Strategy is to protect the *Garden City Character* as described in the *Municipal Strategic Statement*, which is essentially a sense of greenness created by significant tree canopy cover with large vegetated setbacks and areas of open space.

Site assessment and existing landscape character type

Detailed site assessment work has been undertaken to document the existing landscape character. The landscape character is defined as the interplay of natural physical elements including the topography, geology, vegetation and natural features along with the effects of human influences including land use and built character. The dominant characteristic from each element has been selected to form the existing landscape character type descriptions - for

example 'Elevated suburban tall Eucalypt landscape character'.

For the site assessment work, the strategy used the precinct boundaries from the *Monash Urban Character Study 1997*. The preferred landscape character precinct boundaries vary from these as they respond to the both the natural and urban character.

Natural physical elements and characteristics

Characteristics	Description
Topography	
Elevated	Significant views to surrounding features.
Undulating	Steeply and gently undulating landform.
Established	Relatively flat.
Vegetation	
Tall Eucalypt	Vegetation with the appearance of <i>Eucalyptus</i> species and taller than 10m.
Evergreen	Retains leaves all year and includes native and exotic vegetation.
Deciduous	Loses leaves seasonally during autumn and winter
Exotic	Non-native deciduous and evergreen vegetation.
Decid & E green	Combination of deciduous and native evergreen vegetation.
Natural Features	
Compact	Vegetation generally at or below the roofline of single storey buildings.
Garden	Residential gardens or commercial landscaping around buildings.
Landscape	Refers to the entire area including the streetscapes, open space and private gardens/landscaping.
Creek valley	Lower elevations adjacent to the waterways.
Creek ridgeline	Higher elevation overlooking the waterways.
Open space	Public open space including parks and reserves.

Land use and built character elements

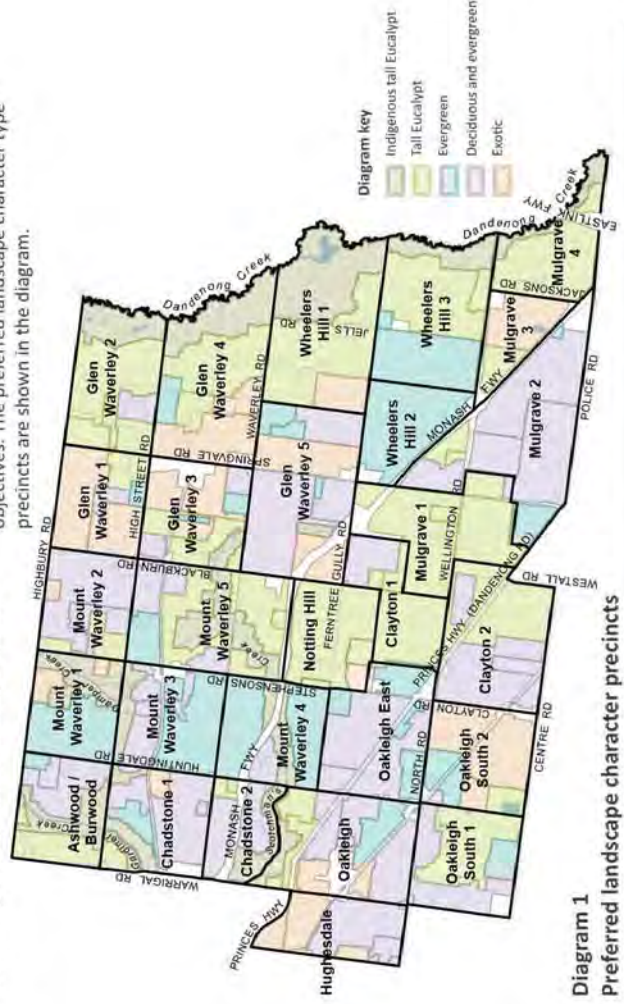
Element	Description
Early 1900s	Period architecture from the late 1800s to the late 1930s.
Suburban	Post WWII mainly single storey detached dwellings with more than 2m side and 7m front setbacks, rear gardens and a dominance of vegetation.
Modified suburban	Post WWII detached dwellings interspersed with contemporary dwellings with a larger built form footprint and typical 1m side setbacks along with 2 Lot subdivisions and unit developments.
Post 2000 redevelopment	Mainly 2-storey detached or semi-detached dwellings, typically no front fences and underground power.
Urban	Medium to high-density greater than 2 storeys in height
Commercial/Industrial	This includes a range of commercial/industrial precincts and business parks.
Aged care	Retirement villages and aged care facilities.
Golf course	Private and public golf courses

Preferred landscape character types

In response to the research undertaken for this Strategy including the review of existing relevant Council policies and strategies, mapping canopy tree cover across the municipality and the extent of forecast change that is proposed, the project team has developed the preferred landscape character

types to strengthen and protect the *Garden City Character* in the future.

Some preferred landscape character types retain or strengthen the existing character while others proactively change it to meet the Strategy objectives. The preferred landscape character type precincts are shown in the diagram.



Ashwood | Burwood - Existing landscape character

Tree canopy cover



Distinguishing features

- Gardiners Creek.
- Steeply to gently undulating topography with views over the creek valley and to the east.
- Indigenous trees on the Ashwood Secondary College site.
- Indigenous landscape character of the open space along Gardiners Creek.
- Predominantly residential land use, with pockets of higher density residential use associated with the contemporary infill sites.
- Minor small scale industrial use.

Existing landscape character

Summary of architectural character

The dominant architectural character varies between the predominantly single storey double and triple fronted pressed cream brick veneer interspersed with some weatherboard veneer dwellings. Amongst these are some 2-storey dwellings, which are increasing in prominence as the area redevelops.

C2z Undulating suburban exotic garden character

Characterised by exotic gardens that are visible due to low fencing styles with scattered significant exotic trees in private gardens, contrasting with the predominantly small to medium scattered evergreen street trees.

C3c Undulating evergreen and deciduous landscape character Characterised by garden setting with some scattered emergent evergreen and deciduous canopy trees above the single and double storey dwellings. The character is strengthened with views over the Gardiners Creek corridor.

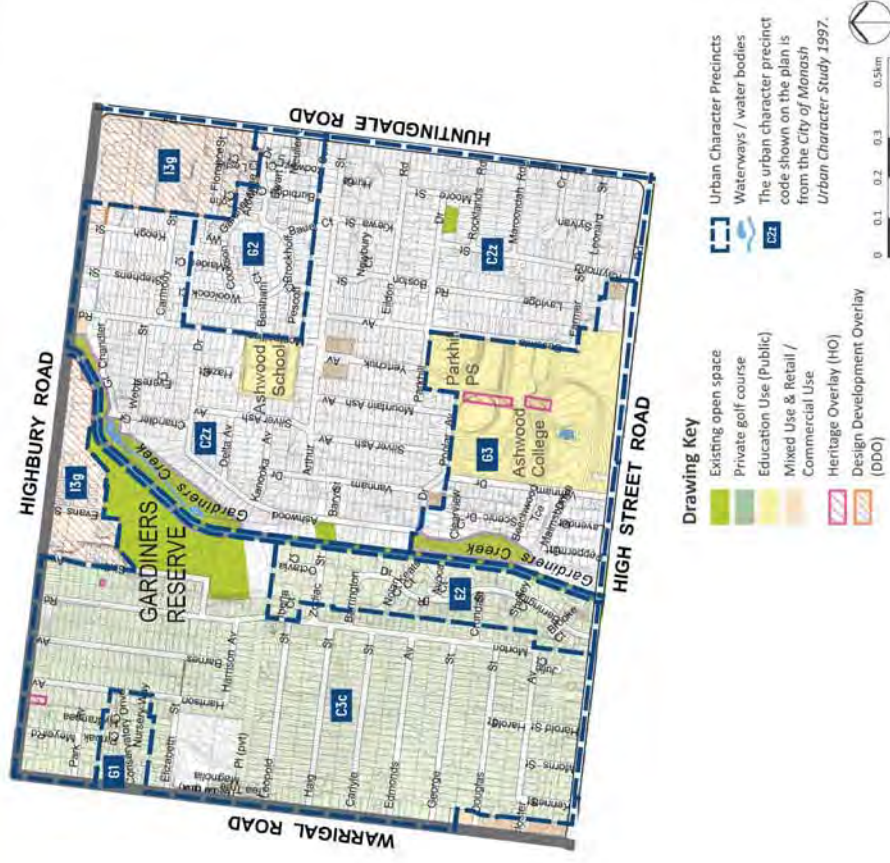
E2 Creek valley suburban tall Eucalypt landscape character Characterised by the presence of tall emergent Eucalypt species along Gardiners Creek with predominantly single storey brick dwellings. Small to medium sized native street trees and evergreen gardens complement the character.

G1 Elevated post 2000 redevelopment exotic landscape character Characterised by contemporary medium density dwellings with views to the east and shared road/footways with avenues of deciduous and evergreen trees.

G2 Undulating post 2000 redevelopment exotic landscape character Characterised by 2-storey attached dwellings with grassed front gardens that extend to the street with footpaths to one side only and consistent avenues of street trees.

G3 Creek valley post 2000 redevelopment tall Eucalypt landscape character Characterised by 2-storey dwellings with no footpaths and consistent street tree avenues in wide grassed verges that extend to the building line, nestled into the emergent indigenous tree canopy of Gardiners Creek.

I3g Suburban commercial/industrial landscape character Characterised by built form or hard paved surfaces to the building frontages with scattered evergreen street trees.



Drawing Key

- Existing open space
- Private golf course
- Education Use (Public)
- Mixed Use & Retail / Commercial Use
- Heritage Overlay (H0)
- Design Development Overlay (DDO)
- Urban Character Precincts
- Waterways / water bodies
- The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Ashwood | Burwood - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen biodiversity values along Gardiners Creek through additional indigenous vegetation in the adjoining open space, streetscapes and in the private land adjoining the creek corridor.
- Protect and improve the predominantly exotic suburban garden settings and change to tall Eucalypt style and native evergreen street trees to promote the native landscape character in the creek valley environs.

Preferred landscape character for each sub-precinct

- CHS** Creek valley environs suburban indigenous tall Eucalypt landscape character
- Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
 - Encourage the use of local provenance indigenous species including tall Eucalypt style species in private gardens where they directly adjoin the creek corridor to strengthen the biodiversity values of Gardiners Creek.
 - Encourage the use of native and where appropriate, indigenous species in private gardens that are further away from Gardiners Creek (i.e. not directly adjoining) including tall Eucalypt style species.

CVC1 Creek valley environs commercial/industrial tall Eucalypt landscape character

- Encourage planting of tall Eucalypt style species into private properties to complement the Gardiners Creek character and improve urban greening.
- Progressively plant tall Eucalypt style street trees where space permits, and native evergreen species where space is limited.

CVC2 Creek valley environs commercial/industrial evergreen landscape character

- Retain the existing large evergreen trees on both public and private land.
- Improve the tree canopy cover by planting additional large evergreen trees.

CVP Creek valley environs post 2000 development deciduous and evergreen landscape character

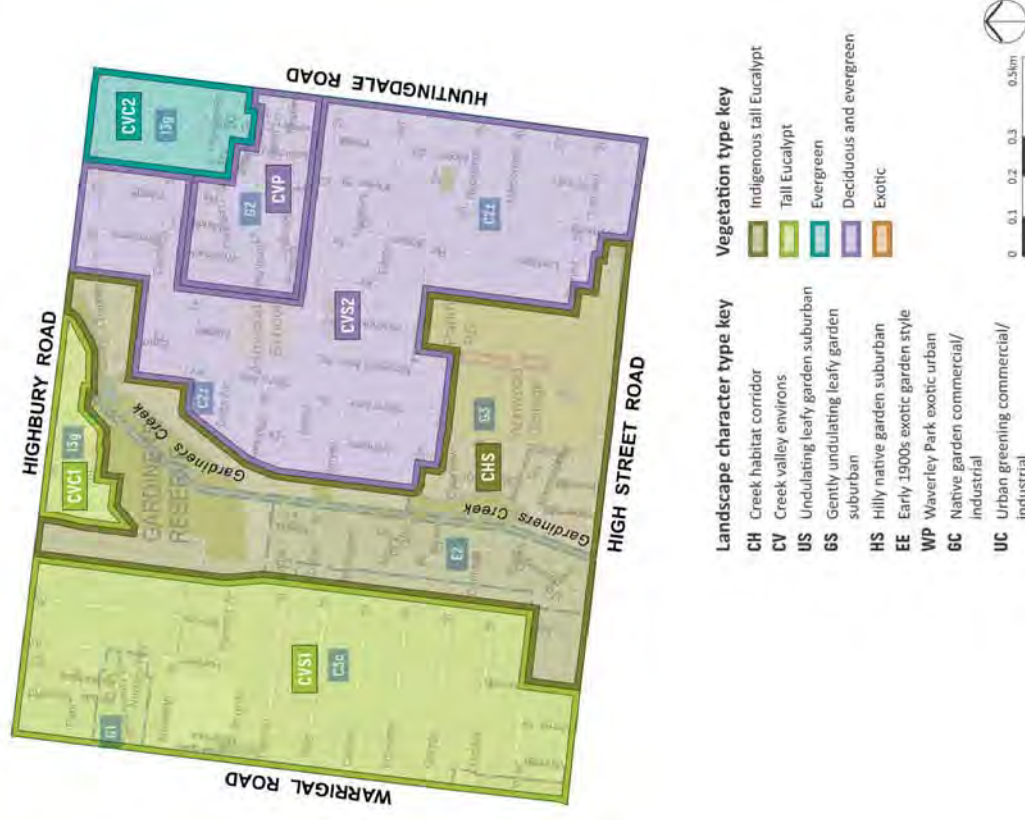
- Encourage planting of deciduous and evergreen large canopy trees in private gardens to improve urban greening amongst the 2-storey attached dwellings.
- Progressively include native evergreen trees in the streetscapes to better respond to the Gardiners Creek valley environs.

CVS1 Creek valley environs suburban tall Eucalypt landscape character

- Retain and strengthen the established suburban evergreen and native garden style, while protecting the established exotic character where it exists.
- Encourage planting emergent tall Eucalypt style trees in private gardens where space permits, particularly in the eastern part of the precinct towards Gardiners Creek.
- Proactively change the streetscape planting to tall Eucalypt style canopy trees in the streetscapes, and space is limited, use native evergreen species.

CVS2 Creek valley environs suburban deciduous and evergreen landscape character

- Retain and strengthen the predominantly established suburban exotic garden style.
- Encourage planting new tall evergreen and deciduous canopy trees in private gardens. In the western area of the precinct towards Gardiners Creek, encourage additional tall Eucalypt style species.
- Plant new large native evergreen, including tall Eucalypt style canopy trees in the streetscapes where space permits.



Chadstone 1 - Existing landscape character

Tree canopy cover



Distinguishing features

- Gardiners Creek.
- Steeply to gently undulating topography.
- Jordanville Housing Commission period housing, including the Holmesglen Migrant Hostel located in Holmesglen Reserve.
- Native and indigenous landscape character of the open space reserves.
- Predominantly residential land use, with pockets of higher density residential use associated with Chadstone Gardens Retirement Centre and Brindalee Mews.

Existing landscape character

Summary of architectural character

The dominant architectural character of single storey Ministry of Housing cement sheet dwellings painted green and white has changed since the Urban Character Study was written to a variety of building styles, particularly with more recent double storey dwellings.

C3a Elevated suburban exotic landscape character

Characterised by Grandview Road with large mature canopy trees in both the streetscape and on larger private lots, with excellent views to the CBD skyline to the west and to the north.



Sub-precinct C3a

C3b Creek ridgeline tall Eucalypt landscape character
Characterised by views over Gardiners Creek with single storey dwellings set in the framework of large canopy trees on private land. The street trees are scattered mixed species and private gardens contribute to the landscape character with predominantly low or no fences.

D1a Undulating suburban evergreen landscape character

North of the railway the tree canopy is primarily on public land with medium to large evergreen trees in the streetscapes and indigenous trees along Gardiners Creek. Gardens to the predominantly period single storey cement sheet dwellings from the housing commission period are visible with low or no fencing.

D1a Undulating suburban evergreen and exotic landscape character

South of the railway the predominantly single storey dwellings including the cement sheet style housing sit within the treed landscape setting with large deciduous and evergreen canopy trees on private land, in the street tree avenues and the native character of Batesford Reserve.

D1b Elevated modified suburban exotic and evergreen landscape character

Characterised by views to the CBD, north and east redevelopment within this former housing commission estate has created a diversity of housing and garden styles combined with the native character of Electra Reserve.

G1 Undulating post 2000 redevelopment evergreen landscape character

Characterised by native avenue style street trees set in a wide grassed verges that combine the front gardens with the nature strip without footpaths or front fences.

G2 Creek valley urban tall Eucalypt landscape character

Characterised by high density housing overlooking Gardiners Creek Reserve where the native and indigenous landscape character is dominant.



Sub-precinct D1a (North)



Sub-precinct D1a (South)



Sub-precinct D1b



Chadstone 1 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen biodiversity values along Gardiners Creek through additional indigenous vegetation in the adjoining open space, streetscapes and in the private land adjoining the creek corridor.
- Strengthen the suburban garden settings with adequate front and side setbacks to allow space for canopy vegetation around the built form.

Preferred landscape character for each sub-precinct

- CHS1** Creek habitat corridor suburban indigenous tall Eucalypt landscape character
- Encourage use of local provenance indigenous plants in private gardens where they directly adjoin the Gardiners Creek corridor to strengthen biodiversity values, while retaining existing established exotic and native canopy trees.
 - Encourage use of native and, where appropriate, indigenous species in private gardens further away from Gardiners Creek corridor (i.e. not directly adjoining).
 - Progressively change to indigenous canopy trees in the streetscapes.
- CHS2** Creek habitat corridor suburban indigenous tall Eucalypt landscape character
- Encourage use of local provenance indigenous plants in private gardens where they directly adjoin the Electra Reserve and the Dampier Creek corridor to strengthen biodiversity values. Recognise and retain the mature exotic trees in Electra Reserve visible from High Street Road.
 - Encourage use of native and where appropriate indigenous species in private gardens further away from the Dampier Creek corridor (i.e. not directly adjoining).
 - Progressively change to avenue style indigenous tall Eucalypt style canopy trees in the streetscapes to frame and retain elevated views.
- CVM** Creek valley environs modified suburban deciduous and evergreen landscape character
- Plant new large canopy deciduous and evergreen street trees to increase canopy cover given the dominance of 2-storey dwellings.

- Encourage removal of high side fences and replace with low or no fence with a predominance of planting rather than built form.
- Encourage planting of new large deciduous and evergreen trees in private gardens to achieve suburban garden character with the increasing dominance of 2-storey dwellings.

CVS1 Creek valley environs suburban tall Eucalypt landscape character

- Increase the presence of tall Eucalypt style trees in the streetscapes to complement the existing framework of scattered large deciduous and evergreen canopy trees on private land. This planting style will frame key views over Gardiners Creek.
- Protect the framework of existing established trees and increase the presence of tall Eucalypt style trees on private land to strengthen the native landscape character.

CVS2 Creek valley environs suburban evergreen landscape character

- Strengthen the suburban character by encouraging planting of new large deciduous and evergreen canopy trees in the private gardens.
- Plant large native evergreen canopy trees in the streetscapes to strengthen the existing predominance of evergreen trees in the creek valley environs.

US1 Undulating leafy garden suburban exotic landscape character

- Protect and strengthen the exotic large suburban garden style with additional large exotic style including deciduous and exotic evergreen species.
- Future streetscapes to change to establish avenue style using large exotic evergreen and deciduous species to complement the private gardens.
- Future front and side setbacks in this precinct aim to protect the characteristic large suburban style gardens.

US2 Undulating leafy garden suburban deciduous and evergreen landscape character

- Encourage removal of high side fences and replace with low or no fence with a predominance of planting rather than built form.
- Retain and strengthen the suburban leafy garden style character with a predominance of planting and additional deciduous and evergreen canopy trees.
- Plant additional large evergreen trees in Batesford and Jordan Reserves.



Chadstone 2 - Existing landscape character

Tree canopy cover



Distinguishing features

- Scotchmans Creek riparian vegetation and open space corridor.
- Creek valley form to the north where the Monash Freeway is now located provides spectacular views to the north.
- Undulating topography with views to the north, south and west.
- Varied street layout and some streets with wider naturestrips and others with underground power.
- Remnant large cypress and evergreen trees on the Salesian College land.
- Many sub-precincts are located along a ridgeline between the two creek valleys.
- Monash Freeway, with sound walls and screen planting.

Existing landscape character

Summary of architectural character

The dominant architectural style varies between weatherboard and pressed cream brick veneer. Amongst these is a range of larger two storey houses, including some contemporary 2-storey dwellings.

- **C2a Creek valley modified suburban deciduous and evergreen landscape character** Characterised by gently undulating land with views towards Scotchmans Creek

in the south, with a variety of street tree planting and building styles set within the framework of large canopy trees along Scotchmans Creek.

- **C2b Creek ridgeline modified suburban deciduous and evergreen landscape character** Characterised by steeply undulating land with views both north and south over Scotchmans Creek. Recently established 2-storey dwellings have retained mature exotic Cypress trees combined with large street trees and low exotic gardens in the established parts of this sub-precinct. Mature Cypress and Eucalypts in the Salesian College also contribute.

- **C2c Creek ridgeline modified suburban deciduous and evergreen landscape character** Characterised by steeply undulating land with views both north to the former creek valley where the Monash Freeway is now located and south over Scotchmans Creek. Large 2-storey dwellings enjoy the views combined with large canopy street trees and underground power.

- **C2d Creek ridgeline modified suburban deciduous and evergreen landscape character** Characterised by views north and south over the Monash Freeway and Scotchmans Creek with views between buildings towards the creek valley and scattered emergent canopy trees mainly on private land.

- **C2aa Creek valley suburban evergreen landscape character** Characterised by the predominantly evergreen gardens with large canopy trees, single storey dwellings and low fences combined with the medium to large street trees.

- **C2d Undulating suburban deciduous and evergreen landscape character** Characterised by the presence of scattered large canopy trees on private and public land including in the streetscapes, with views to the south over the creek valley that now has the Monash Freeway running through it.



- **G1 Creek valley post 2000 redevelopment evergreen landscape character** Characterised by consistent evergreen street tree plantings, lack of front fences, consistent 2-storey contemporary dwellings with predominantly evergreen gardens.



Chadstone 2 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen biodiversity values along Scotchman Creek through additional indigenous vegetation in the adjoining open space, streetscapes and in the private land adjoining the creek corridor.
- Encourage planting of larger street trees in the area between Scotchman Creek and the Monash Freeway to increase the emergent tree canopy cover in a precinct with an increasing presence of 2-storey dwellings.

Preferred landscape character for each sub-precinct

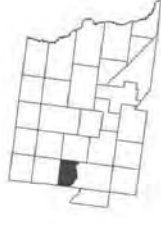
- CHM** Creek habitat corridor modified suburban indigenous tall Eucalypt landscape character
 - Encourage use of local provenance indigenous plants in private gardens where they directly adjoin Scotchmans Creek corridor to strengthen biodiversity values.
 - Encourage use of native and where appropriate indigenous species in private gardens further away from the Scotchmans Creek corridor (i.e. not directly adjoining).
 - Progressively change to tall Eucalypt style indigenous canopy trees in the streetscapes to address the scale and predominance of 2-storey dwellings in the modified suburban urban context.
- CVP** Creek valley environs post 2000 redevelopment tall Eucalypt landscape character
 - Protect the existing tall Eucalypt style planting on public and private land.
 - Plant additional tall Eucalypt style species on public and private land to strengthen the existing character and increase canopy tree cover.

CVS1 Creek valley environs suburban deciduous and evergreen landscape character

- Protect and strengthen the suburban landscape character by planting a combination of deciduous and evergreen trees on private land and protect the mature trees on the Salesian College site.
- Plant additional large deciduous canopy trees in the streetscapes where appropriate. Note, some streets already have large trees while others have gaps and smaller street trees.

CVS2 Creek valley environs suburban tall Eucalypt landscape character

- Retain and protect the suburban landscape setting.
- Plant more tall Eucalypt style species in the streetscapes and on private land to change from an evergreen character to the tall Eucalypt character.



Clayton 1 (Notting Hill residential) - Existing landscape character

Tree canopy cover



Distinguishing features

- Forms part of the Monash National Employment and Innovation Cluster.
- Monash University campus has an established native character including with tall Eucalypt style plantings.
- CSIRO Clayton includes well-established native and exotic trees.
- Gently to steeply undulating topography with views to the east.
- Variety of land uses including education, residential, high density residential, business and industrial use.
- High-density residential use with a tall Eucalypt landscape setting, complementing Monash University landscape character.
- Contemporary business and industrial use in tall Eucalypt landscape setting.

Existing landscape character

Summary of architectural character

In the C areas of the precinct the dominant architectural character is 1960s style double fronted brick veneer dwellings of varying brick colours, along with newer 2-storey brick dwellings.

C7c Undulating suburban deciduous and evergreen landscape character Characterised by undulating topography with views to the east and presence of emergent large deciduous and evergreen trees on private and public land. Street trees are predominantly evergreen and vary from avenue style plantings through to scattered exotic species. Residential gardens are predominantly mixed with low or no front fences, but with high side fences.

G1 Undulating urban tall Eucalypt landscape character Characterised by scattered Eucalypts with medium to high density housing and planting to the interface between the street and buildings.

G2 Undulating garden commercial/industrial landscape character Characterised by contemporary built form with 20 metre landscaped frontages up to 4 storey height with tall Eucalypts, grassed areas and car parking.

L1 Undulating education tall Eucalypt landscape character Characterised by the tall Eucalypt style planting character of Monash University, established in the late 1960s early 1970s.



Drawing Key

- Existing open space
- Education Use (Public)
- Mixed Use & Retail / Commercial Use
- Heritage Overlay (HO)
- Design Development Overlay (DDO)

- Urban Character Precincts
- Waterways / water bodies
- The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Sub-precinct C7c

Sub-precinct G1

Sub-precinct G2

Clayton 1 (Notting Hill residential) - Preferred landscape character

Overall summary of preferred landscape character

- The tall Eucalypt character of Monash University grounds combined with the tall Eucalypt style planting in adjoining major roads contributes to the preferred quintessentially Australian native landscape character in the non-residential areas of this precinct.
- To the north-west, the standard residential areas will be strengthened to achieve predominantly evergreen street trees that complement the predominantly exotic garden styles.

US1 Undulating leafy garden suburban deciduous and evergreen landscape character

- Strengthen the streetscape character with additional large canopy deciduous and evergreen trees to achieve a more consistent avenue style planting.
- Strengthen garden character with additional large canopy deciduous and evergreen trees to increase urban greening and improve the existing character.
- Retain and require low or no front and side fencing, with a preference for planting/garden beds to be used to define the property boundaries.

Preferred landscape character for each sub-precinct

6C1 Native garden education tall Eucalypt landscape character

- Monash University campus is well recognised for its distinctive native Australian landscape character that was popular when the university was established in the late 1960s and is a key influence on the preferred landscape character.
- Council to advocate for Monash University to retain this distinctive style with a preference for continued dominance of tall Eucalypt style species and to maximise opportunities for greening as the University develops.

6C2 Native garden urban tall Eucalypt landscape character

- Retain dominance of tall Eucalypts in the streetscapes and on private land to provide urban greening to high density apartments and buildings as part of the Monash University Business Park.

6C3 Native garden commercial/industrial tall Eucalypt landscape character

- Future landscape setbacks of 10 metres or greater in width to include informal recreational facilities that contribute to the health and wellbeing benefit of future workers, along with a native tall Eucalypt style planting and character.
- Retain and promote planting of additional tall Eucalypt style species in the streetscapes and on private land.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- 6S Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Clayton 2 - Existing landscape character

Tree canopy cover (Industrial precinct only)



Distinguishing features

- Forms part of the Monash Employment and Innovation Cluster.
- Medium to large-scale manufacturing, business and industrial land use.
- Standard and medium density residential use.
- Fregon Reserve has a predominantly native landscape character.
- Railway reserve and some established native trees.
- Monash University directly adjoins this precinct.
- Monash Medical Centre is a key employment focus in this precinct.

style street tree plantings of mainly small deciduous and evergreen trees. The compact character complements the predominantly single storey dwellings with 2-storey dwellings being more visible in the precinct.

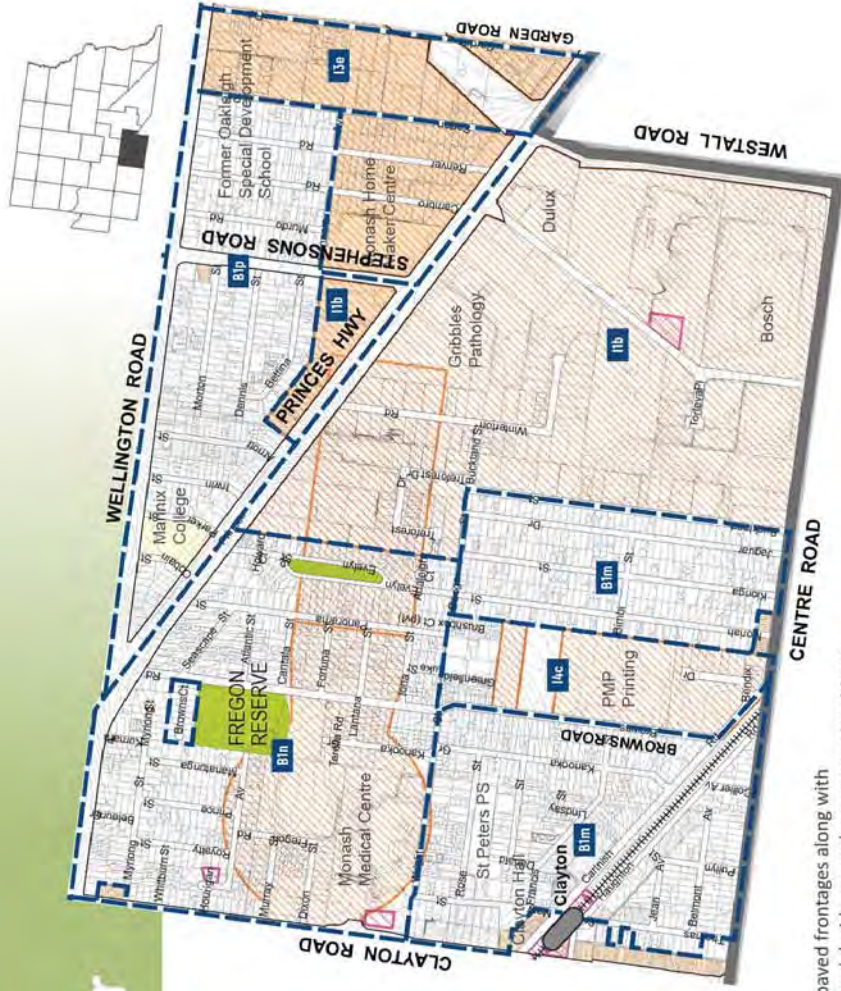
B1h Established suburban exotic landscape character
Characterised by predominantly low exotic gardens along with some larger emergent trees including some characteristic Oak trees on private and public land. Mixed deciduous and evergreen avenues of street trees are planted into wider naturestrips, which complement the increasing presence of medium density housing near to the Monash Medical Centre.

B1b Established suburban exotic landscape character
Characterised by a combination of avenues and scattered plantings of evergreen and deciduous street trees with open gardens, many with open lawn and trees with no or low front fences. Scattered large deciduous and evergreen trees are present in the private gardens however the majority of trees are small to medium size in scale with predominantly single storey dwellings. While it is predominantly detached dwellings there is some medium density housing associated with Monash University and contemporary 2-storey dwellings.

B1b Suburban commercial/industrial landscape character
Characterised by 1 to 2-storey large simple built form with a combination of landscaped frontages and hardscape frontages with small to medium evergreen native trees in the streets and in some landscaped frontages.

I2c Urban commercial/industrial landscape character
Characterised by single storey predominantly brick factories with no or minimal setbacks creating a functional and urban landscape character with no street trees, maximising opportunities for parking and vehicle movement.

I4c Suburban commercial/industrial landscape character
Characterised by both small and medium scale industrial built form and a combination of landscaped and



hard paved frontages along with scattered deciduous and evergreen street trees.

I3e Garden industrial landscape character Characterised by landscaped frontages with Eucalypt style planting with predominantly 2-storey buildings, selected frontages with car parking and limited lengths of fencing. The interface along Garden Road is an overhead transmission easement, and has a harsher industrial character as a result.

Drawing Key

- Existing open space
- Education Use (Private)
- Mixed Use & Retail / Commercial Use
- Heritage Overlay (HO)
- Design Development Overlay (DDO)
- Urban Character Precincts
- Waterways / water bodies
- The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Clayton 2 - Preferred landscape character

Overall summary of preferred landscape character

- Expand the tall Eucalypt landscape character style within the Monash National Employment and Innovation Cluster to complement the established Australian native landscape associated with the Monash University campus and business park precinct.
- Strengthen the exotic landscape character in the residential precincts as a contrast to the employment areas as urban densities increase.

Preferred landscape character for each sub-precinct

6C1 Native garden commercial/industrial tall Eucalypt landscape character

- Encourage a predominance of tall Eucalypt style planting in the landscaped front setbacks combined with activation of these spaces with recreational facilities and outdoor seating for the employment community to utilise during breaks from work.
- Plant additional tall Eucalypt style canopy trees in the streetscapes to increase shading and strengthen the preferred character.

6C2 Native garden commercial/industrial tall Eucalypt landscape character

- Encourage a predominance of tall Eucalypt style planting in the landscaped front setbacks combined with activation of these spaces with recreational facilities and outdoor seating for the employment community to utilise during breaks from work.
- Plant additional tall Eucalypt style canopy trees in the streetscapes to increase shading and strengthen the preferred character.

6S1 Gently undulating leafy employment/residential deciduous and evergreen landscape character

- Within the context of future change and intensification of use as part of the Monash National Employment and Innovation Cluster, protect and retain the existing established large canopy trees into future site layout and designs.
- Plant large canopy deciduous and evergreen trees on private land as the site redevelops to improve urban greening and shade in the context of higher density employment and residential development.

6S1 Gently undulating leafy garden urban tall Eucalypt landscape character

- Plant new predominantly tall Eucalypt style planting on private land as the area redevelops to higher densities to increase urban greening.
- Plant predominantly tall Eucalypt style street trees in the streetscapes to increase shade and urban greening in the context of higher density living as part of the Monash National Employment and Innovation Cluster.

6S2 Gently undulating leafy urban deciduous and evergreen landscape character

- Retain and protect existing deciduous and evergreen trees where feasible and plant additional large deciduous and evergreen trees to maximise urban greening as urban densities increase in this sub-precinct.
- Plant additional large deciduous and evergreen canopy trees in the streetscapes as a priority to strengthen the Garden City character in the context of forecast increased urban densities.

6S3 Gently undulating leafy urban deciduous and evergreen landscape character

- In anticipation of forecast growth and increased development as part of the Monash National Employment and Innovation Cluster, ensure protection of all large canopy trees, including the large oak trees scattered through this sub-precinct.
- Plant additional large canopy deciduous and evergreen trees on private land as sites redevelops to improve urban greening and shade in the context of higher density living associated with the Monash Medical Centre.
- Plant additional large canopy deciduous and evergreen street trees to improve urban greening and strengthen the Garden City character as urban density increases.
- Retain and protect existing deciduous and evergreen trees where feasible and plant additional large deciduous and evergreen trees to maximise urban greening as urban densities increase in this sub-precinct as part of the Clayton Activity Centre.
- Plant additional large deciduous and evergreen canopy trees in the streetscapes as a priority to strengthen the Garden City character in the context of forecast increased urban densities.

6S5 Gently undulating leafy urban deciduous and evergreen landscape character

- Retain and protect existing deciduous and evergreen trees where feasible and plant additional large deciduous and evergreen trees to maximise urban greening as urban densities increase in this sub-precinct.
- Plant additional large deciduous and evergreen canopy trees in the streetscapes as a priority to strengthen the Garden City character in the context of forecast increased urban densities.



Landscape character type key

CH	Creek habitat corridor
CV	Creek valley environs
US	Undulating leafy garden suburban
GS	Gently undulating leafy garden suburban
HS	Hilly native garden suburban
EE	Early 1900s exotic garden style
WP	Waverley Park exotic urban
6C	Native garden commercial/industrial
UC	Urban greening commercial/industrial

Vegetation type key

[Green box]	Indigenous tall Eucalypt
[Light green box]	Tall Eucalypt
[Teal box]	Evergreen
[Purple box]	Deciduous and evergreen
[Orange box]	Exotic

0 0.1 0.2 0.3 0.5km

Glen Waverley 1 - Existing landscape character

Tree canopy cover



Distinguishing features

- Elevated with extensive views to the east and the Dandenongs.
- Steeply undulating topography with views to over the Dandenong Creek tributary in the south east area of the precinct.
- Presence of large canopy trees in open space and also through private land.
- Native and indigenous landscape character of open space contributes to the overall character.
- Predominantly residential use.
- Public school has predominantly native landscape character.

deciduous and native emergent trees in both the private gardens and the streetscapes.

C2b Undulating modified suburban compact exotic landscape character Characterised by gently undulating topography, with a combination of single storey and new 2-storey dwellings with exotic compact gardens often with shrubs only. This is combined with scattered large deciduous and evergreen trees in private and public land, along with predominantly small exotic and native street trees.

C2p Creek ridgeline modified suburban evergreen landscape character Characterised by views over the waterway with the presence of tall Eucalypts in the public reserve and on adjoining private land, changing to scattered large evergreen trees away from the creek valley. Expansive views north and east has seen significant redevelopment with 2-storey dwellings and limited tall canopy trees to retain views.

C4e Creek ridgeline tall Eucalypt landscape character Characterised by the remnant Eucalypt overstorey including views over the valley form. Away from the creek corridor the exotic gardens include large deciduous canopy trees, with predominantly small and medium evergreen street trees.

G1 Established post 2000 redevelopment deciduous and evergreen landscape character. Characterised by consistent avenue style street tree planting with large deciduous and evergreen trees, low or no front fences and the native character of Glen Waverley North Reserve.



Sub-precinct C4e



Sub-precinct C2b



Sub-precinct C2p



Sub-precinct C4e



Drawing Key

- Existing open space
 - Private golf course
 - Education Use (Public)
 - Mixed Use & Retail / Commercial Use
 - Heritage Overlay (HO)
 - Design Development Overlay (DDO)
- Urban Character Precincts
 - Waterways / water bodies
 - The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Sub-precinct C1d

Glen Waverley 1 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the biodiversity values of the upper reaches of the tributaries to Dandenong Creek.
- Reinforce and strengthen the exotic landscape character away from the waterway areas. This includes the protection of the suburban character where it already exists and increasing canopy vegetation cover for areas where modified suburban predominates.

Preferred landscape character for each sub-precinct

US1 Undulating leafy garden suburban exotic landscape character

- Encourage planting of medium to large exotic evergreen and deciduous canopy trees on private land given the lack of existing emergent canopy trees.
- Maximise retention of existing canopy trees as sites redevelop, including small canopy trees, to retain the suburban garden character given the increase in the presence of 2-storey dwellings and lack of tall trees.
- Retain and strengthen the predominantly native street trees as a contrast to the exotic garden character.

USM1 Undulating leafy garden modified suburban exotic landscape character

- Increase presence of large canopy deciduous and exotic evergreen trees in streetscape and private land to break up the form and scale of increasing predominance of 2-storey dwellings and retain the garden character.
- Change from the compact character to an exotic with greater distribution of medium to large canopy trees in the streetscapes and on private land.

USM2 Undulating leafy garden modified suburban tall

Eucalypt landscape character

- Protect established canopy vegetation on private and public land.
- Encourage the use of native and where appropriate indigenous species in private gardens where they directly adjoin the waterway corridor.
- Away from the waterway corridor, encourage the use of tall Eucalypt style canopy trees and other medium sized native trees and vegetation to break up the form and scale of increasing predominance of 2-storey dwellings and retain the garden character.
- Plant additional tall Eucalypt style street trees and combine with large deciduous trees in the east west streets to increase winter sunlight and summer shade.

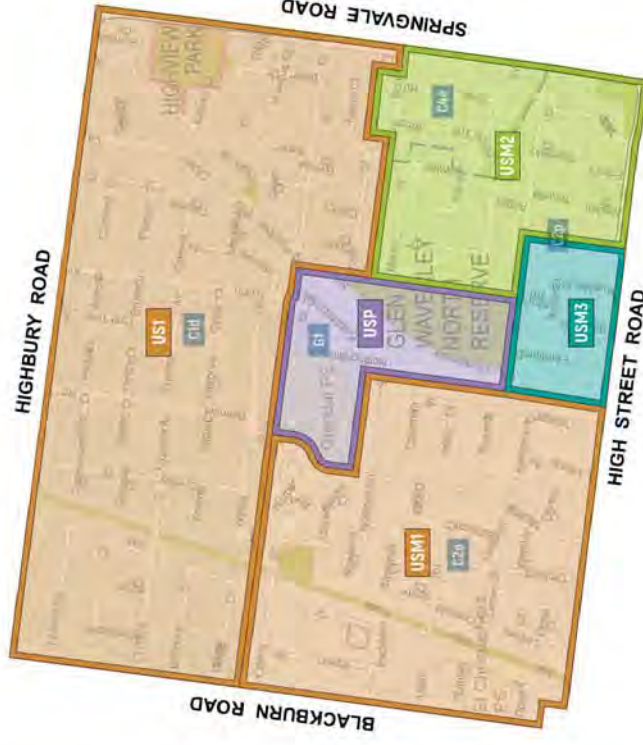
USM3 Undulating leafy garden modified suburban

evergreen landscape character

- Increase the presence of medium to large canopy trees on private land to complement the predominantly evergreen streetscape character, and change from the existing compact character.

USP Undulating leafy garden suburban post 2000 redevelopment deciduous and evergreen landscape character

- Protect and continue to maintain the large canopy street trees given the lack of overhead powerlines.
- Promote planting additional large deciduous and evergreen trees on private land.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Glen Waverley 2 - Existing landscape character

Tree canopy cover



Distinguishing features

- Elevated and steeply undulating topography with expansive views to the east and the Dandenong Ranges.
- Dandenong Creek corridor with an indigenous landscape character.
- The public open space has a predominantly native landscape character including some remnant indigenous trees and bushland.
- Presence of scattered large Eucalypts on both public and private land.
- Predominantly residential land use.
- Suburban character with landscaped gardens around dwellings.

E2w **E2** **Undulating suburban deciduous and evergreen landscape character** Characterised by the predominantly single storey dwellings set in established exotic gardens with emergent large deciduous and evergreen trees. Street trees are a combination of medium to small evergreen trees.

E3k **Elevated modified suburban tall Eucalypt landscape character** Characterised by both the presence of tall Eucalypts on public and private land along with expansive views to the east and the south. Substantial redevelopment is occurring with a range of architectural and garden styles.

E1b **Established modified suburban tall Eucalypt landscape character** Characterised by larger lots with single and 2-storey dwellings set in a significant framework of planted and remnant Eucalypts on private land.

E2d **Elevated suburban evergreen landscape character** Views to the Dandenong Ranges, the higher areas have terraced front gardens with low planting to retain the views while gardens in the lower areas contain occasional large canopy trees. The predominantly evergreen street trees reinforces the native landscape character of the creek environs.

E3a **Creek ridgeline suburban evergreen landscape character** Characterised by a combination of the natural values of the Dandenong Creek corridor, occasional tall Eucalypts in streets and private land, large and small evergreen street trees and an evergreen planting character to the private gardens, with pruned conifers. Expansive views to the Dandenong Ranges influence the garden planting styles.



- Drawing Key**
- Existing open space
 - Education Use (Public)
 - Mixed Use & Retail / Commercial Use
 - Vegetation Protection Overlay (VPO)
 - Urban Character Precincts
 - Waterways / water bodies
- The urban character precinct code shown on the plan is from the *City of Monash Urban Character Study 1997*.



Sub-precinct E3a



Sub-precinct E1b



Sub-precinct E3k



Sub-precinct E2w and E2



Sub-precinct E2d



Sub-precinct E2d

Glen Waverley 2 - Preferred landscape character

Overall summary of preferred landscape character

- This precinct extends from the elevated ridge line across to the Dandenong Creek corridor and the preferred character types strengthen the native character though an increased presence of tall Eucalypt style planting to complement the biodiversity character of the Dandenong Creek Corridor.
- Strengthen the biodiversity values along Dandenong Creek through the additional indigenous vegetation in the adjoining open space, streetscapes and in the private land adjoining the creek corridor.

Preferred landscape character for each sub-precinct

- CH** Creek habitat corridor Eucalypt landscape character
 - Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
 - Encourage use of local provenance indigenous plants in private gardens where they directly adjoin the Dandenong Creek corridor to strengthen the biodiversity values, while retaining existing established native trees.
 - Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Dandenong Creek (i.e. not directly adjoining) including tall Eucalypt style species.

Creek valley environs suburban tall Eucalypt landscape character

- Protect existing and plant additional large trees, particularly tall Eucalypt style species on private land to complement the existing native street tree planting styles and views of the Dandenong Creek corridor.
- Encourage removal of high front fences and replace with low or no front fences with a predominance of planting rather than built form to complement the contribution front gardens make to the landscape character of the precinct.
- Increase the presence of tall Eucalypt style street trees in consistent avenue style plantings.

CVS2 Creek valley environs suburban tall Eucalypt landscape character

- This precinct is an excellent example of emergent tall Eucalypt landscape character, with the character extending between the streetscape and adjoining private gardens.
- Single dwellings on larger lot sizes has created the extra space for emergent canopy trees. More recently, subdivision has occurred in York Street which interrupts the landscape quality and character. To protect this character, the York Street precinct, introduce appropriate planning controls to retain the integrated tall Eucalypt style character between the streetscape and private land as a notable landscape.

CVS3 Creek valley environs suburban tall Eucalypt landscape character

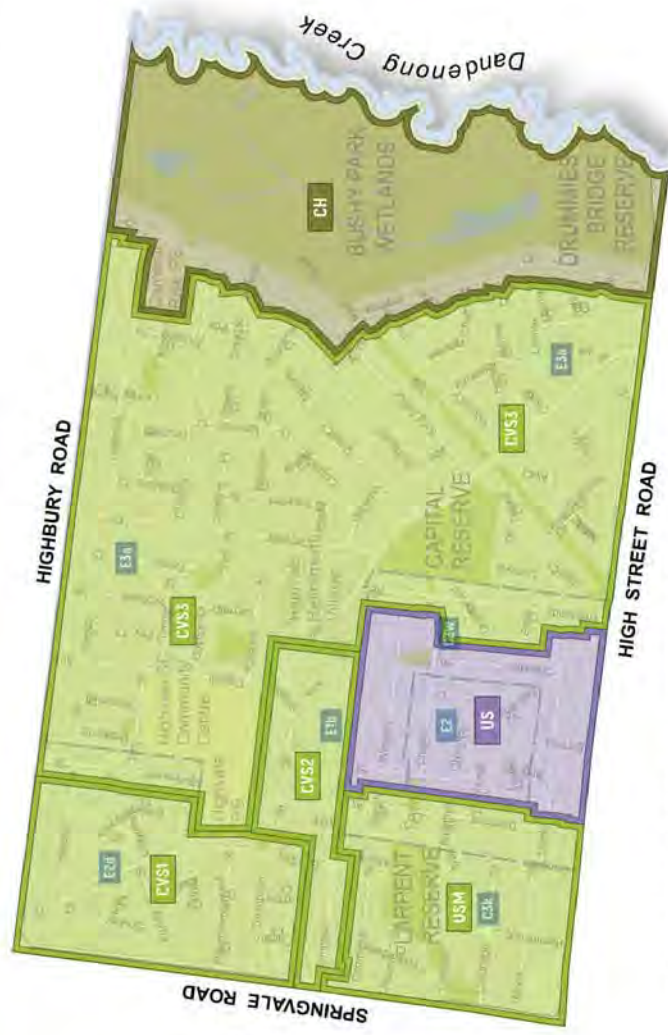
- Plant additional large trees, particularly tall Eucalypt style species on private land to complement proximity to the Dandenong Creek corridor and increase tree canopy cover across the precinct.
- Encourage removal of high front fences and replace with low or no front fences with a predominance of planting rather than built form to complement the contribution front gardens make to the landscape character of the precinct.
- Increase the presence of tall Eucalypt style street trees in consistent avenue style plantings.
- Protect the remnant indigenous vegetation in Capital Reserve.

US Undulating leafy suburban deciduous and evergreen landscape character

- Plant new large deciduous and evergreen canopy trees on private land, particularly where new 2-storey dwellings are proposed.
- Strengthen the street tree planting by planting new deciduous and evergreen trees to achieve consistent avenue style plantings.
- Retain the predominance of low or no front fencing and encourage additional garden bed planting on private land to improve the landscape character.

USM Undulating leafy modified suburban tall Eucalypt landscape character

- Protect the existing scattered remnant indigenous and large overstorey trees on private land, and plant additional tall Eucalypt style species as redevelopment



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- 6S Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic

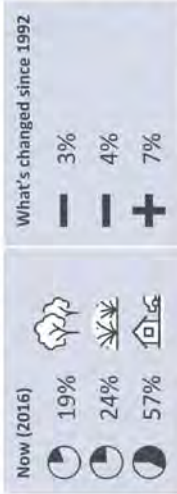


- occurs. Recent substantial redevelopment in this precinct has resulted in an increasing number of 2-storey dwellings and new large trees are required to break up the roofline and scale and retain the garden city character.
- Plant new tall Eucalypt style trees in the streetscapes to strengthen the character and increase shade and the garden city character with the increased number of 2-storey dwellings.

- Protect the remnant indigenous vegetation in Larpent Reserve and strengthen the tall Eucalypt style planting character where appropriate using local provenance indigenous species.

Glen Waverley 3 - Existing landscape character

Tree canopy cover



Distinguishing features

- Gently undulating topography
- Vegetation Protection Overlay
- Upper reaches of Scotchmans Creek creates a unique native landscape character.
- Bogong Reserve, remnant indigenous and biodiversity values.
- Heritage Overlay protecting the Cypress windrows from the former Avendon Estate.
- Large canopy trees in the railway reserve.
- Glen Waverley Activity Centre, including the forecast change proposed that presents opportunities for integration of canopy trees.
- Diversity of land use including private and public schools and colleges.

Existing landscape character

C1e Creek valley suburban tall Eucalypt landscape character The large remnant Eucalypts in Scotchmans Creek corridor combined with planted and remnant trees in private gardens characterise this precinct. Other contributory elements include the predominance of no front fencing, views overlooking Scotchmans Creek corridor and the framework of large canopy trees.

C2 Undulating modified suburban exotic landscape character Characterised by large deciduous avenue style street trees, wide nature strips, low front fences and a predominance of 2-storey contemporary dwellings. The remnant indigenous vegetation and bushland character of Bogong Reserve contrasts with the exotic streets and gardens.

C2d Undulating suburban compact exotic landscape character The traditional manicured exotic residential gardens including a dominance of camellias, azaleas and pruned conifers, combined with a predominance of small street trees and low or no fencing characterise this sub-precinct.

C3j Undulating modified suburban compact evergreen landscape character While the exotic 1950's style gardens and low brick walls and are a key element of the character, there is an increasing number of new 2-storey dwellings that are dominant due to the predominance of small street trees. Occasional large trees in private gardens including the Cypress hedgerows are contributory elements.

C3m Established modified suburban deciduous and evergreen landscape character Characterised by the relatively flat topography with views to the adjoining industrial areas and a scattered mix of mature deciduous and evergreen trees on private and public land.

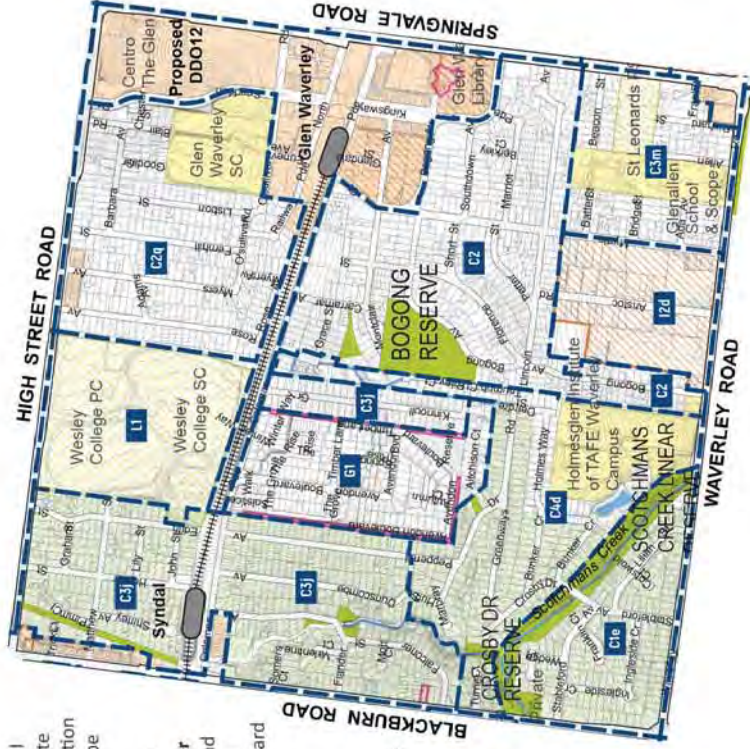
C4d Creek valley modified suburban tall Eucalypt landscape character The large remnant indigenous Eucalyptus overstorey trees on private and public land, with underground power and low or no front fencing creates a well integrated character between public and private land, softening the visual dominance of 2-storey dwellings and the TAFE college buildings.

G1 Established post 2000 redevelopment exotic landscape character Recent subdivision characterised by a dominance of exotic avenue street trees and Cypress hedgerows. The predominantly 2-storey dwellings with

reduced setbacks and minimal fencing creates a more intimate character and no clear separation between the public streetscape and private gardens.

I2d Suburban commercial/ industrial landscape character Characterised by the single and double storey built form with varied setbacks that include hard paved treatments combined with planted/evergreen landscape character.

U1 Undulating tall Eucalypt landscape character Characterised by the perimeter predominantly Eucalypt trees to the school grounds, combined with the sports fields that are visible from High Street Road.



Mount Waverley 2 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen biodiversity values in the upstream reaches of Damper Creek valley by encouraging the use large canopy indigenous and native trees and vegetation on public and private land.
- Retain and strengthen the exotic and evergreen suburban character of the other areas of this precinct.

US2 Undulating leafy green suburban deciduous and evergreen landscape character

- Protect the existing large deciduous and evergreen street trees and plant additional deciduous trees to establish consistent avenues.
- Protect existing and plant additional large deciduous and evergreen trees on private land where feasible to increase shade and greening.

USP Undulating leafy green suburban post 2000 development exotic landscape character

- Retain existing consistent exotic avenues of street trees.
- Encourage planting of additional large exotic canopy trees on private land where feasible.

Preferred landscape character for each sub-precinct

CVS1 Creek valley environs suburban tall Eucalypt landscape character

- Protect existing and encourage additional planting of indigenous and native vegetation including emergent tall Eucalypts on private land in the upper reaches of Damper Creek valley.
- Plant additional emergent indigenous and native tall Eucalypts in the streetscapes.

CVS2 Creek valley environs suburban tall Eucalypt landscape character

- Protect existing and encourage additional planting of indigenous and native vegetation including emergent tall Eucalypts on private land in the upper reaches of Damper Creek valley.
- Protect existing and additional emergent indigenous and native tall Eucalypts in the streetscapes and on other public land including Mt Waverley Secondary College.

US1 Undulating leafy green suburban deciduous and evergreen landscape character

- Plant consistent avenue style planting using large evergreen and deciduous trees in the streetscapes where feasible to increase shade and provide some visual screening to the more recent 2-storey dwellings.
- Protect existing and plant additional large deciduous and evergreen trees on private land where feasible to increase shade and greening.



Landscape character type key

CH Creek habitat corridor	HS Hilly native garden suburban
CV Creek valley environs	EE Early 1900s exotic garden style
US Undulating leafy garden suburban	WP Waverley Park exotic urban
GS Gently undulating leafy garden suburban	GC Native garden commercial/industrial
US1 Undulating leafy green suburban deciduous and evergreen	UC Urban greening commercial/industrial
US2 Undulating leafy green suburban post 2000 development exotic	

Vegetation type key

Indigenous tall Eucalypt
Tall Eucalypt
Evergreen
Deciduous and evergreen
Exotic



Glen Waverley 3 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the biodiversity values and character in the upper reaches of Scotchmans Creek with additional indigenous vegetation in the public open space, streetscapes and private land adjoining the creek corridor. This will be complemented by predominantly tall Eucalypt landscape character in the adjoining creek valley environs.
- Strengthen the deciduous and evergreen character in the undulating precincts away from the waterway corridor.

Preferred landscape character for each sub-precinct

- CHM** Creek habitat corridor modified suburban indigenous tall Eucalypt landscape character
 - Continue to strengthen the indigenous vegetation values in the public open space along Scotchmans Creek corridor.
 - Encourage use of local provenance indigenous species including tall Eucalypt style species in private gardens and the streetscapes where they directly adjoin the creek corridor to strengthen the biodiversity values of Scotchmans Creek.
 - Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Scotchmans Creek (i.e. not directly adjoining) including tall Eucalypt style species.

CVH Creek valley environs modified suburban tall Eucalypt landscape character

- Protect existing and plant additional tall Eucalypt style trees on private land to provide scale to the predominance of 2-storey dwellings and increase the presence of tall Eucalypts to change to this preferred character.
- Protect and plant additional tall Eucalypt style street trees in consistent avenue style plantings to increase canopy cover.

CVS Creek valley environs suburban tall Eucalypt landscape character

- Protect existing and plant additional tall Eucalypt style trees on private land to complement Scotchmans Creek character and biodiversity values.

- Protect and plant additional tall Eucalypt style street trees to strengthen the existing tall Eucalypt and native style character and frame views over Scotchmans Creek.

USE Undulating leafy garden suburban tall Eucalypt landscape character

- Protect existing tall Eucalypt style planting on the school land and encourage additional complementary planting.
- If redevelopment of this site occurs in the future, retain the existing established tall Eucalypt style trees and strengthen the landscape character with additional complementary planting.

USM1 Undulating leafy garden modified suburban deciduous and evergreen landscape character

- Protect existing and plant additional large deciduous and evergreen trees on private land to establish an emergent canopy for shade and visually break up the predominance of two-storey dwellings.
- Plant additional large and medium deciduous and evergreen street trees, with predominantly evergreen in the commercial/industrial land.
- Encourage no or low front and side fencing with increased presence of planting to complement the established exotic garden character.

USM2 Undulating leafy garden modified suburban evergreen landscape character

- Protect existing and plant additional medium to large deciduous and evergreen trees on private land where feasible for greening and visually break up the predominance of 2-storey dwellings.
- Strengthen the streetscape character with additional medium evergreen street trees.

USM3 Undulating leafy garden modified suburban exotic landscape character

- Protect the predominance of traditional exotic garden character where feasible, inclusive of established pruned ornamental shrubs and conifers.
- Protect and plant additional large deciduous and exotic evergreen canopy trees on private land for greening and visually break up the predominance of 2-storey dwellings.
- Plant additional large deciduous and evergreen street trees to increase canopy cover and establish avenue style plantings.

USM4 Undulating leafy garden modified suburban exotic landscape character

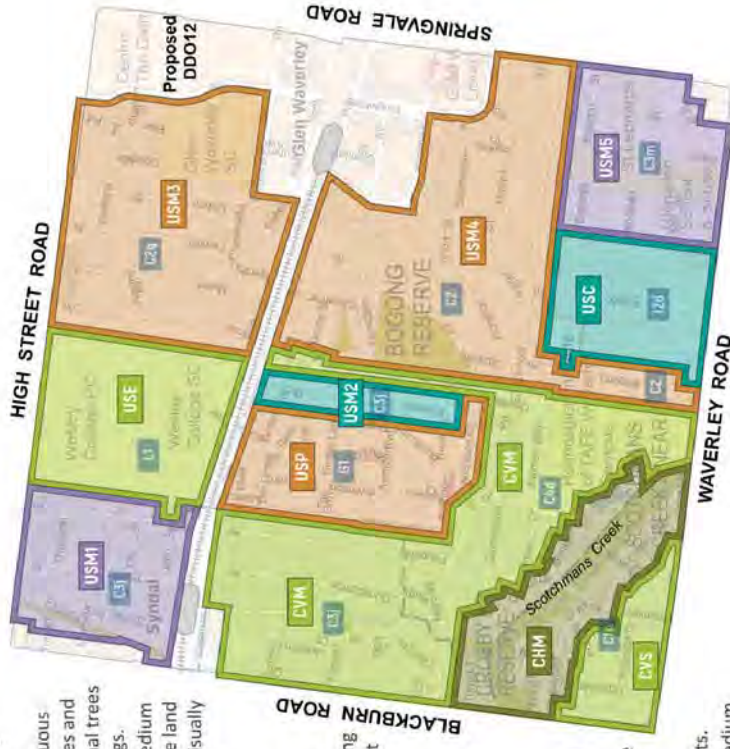
- Protect the existing large deciduous and exotic evergreen street trees and strengthen by planting additional trees to achieve avenue style plantings.
- Protect and plant additional medium and large exotic trees on private land to increase canopy cover and visually break up the predominance of 2-storey dwellings.
- Encourage planting of native including tall Eucalypt style planting on private land and in the street trees directly adjoining Bogong Reserve to complement the bushland character of this public open space.

USM5 Undulating leafy garden modified suburban deciduous and evergreen landscape character

- Plant additional deciduous and evergreen street trees and achieve consistent avenue style plantings to strengthen the residential character, located between two industrial precincts.
- Protect and plant additional medium and large deciduous and evergreen trees on private land to increase canopy cover and visually break up the predominance of 2-storey dwellings.

USP Undulating leafy garden suburban post 2000 redevelopment exotic landscape character

- Retain the existing exotic trees including the perimeter Cypress hedgerow to this sub-precinct.
- Improve the landscape character planting additional large exotic canopy trees in private gardens to provide an emergent tree canopy for shade and to visually break up the rooflines of 2-storey dwellings.
- Protect and maintain the deciduous avenue planting style in the streetscapes.



Landscape character type key

- CH Creek habitat corridor
- CVH Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Glen Waverley 4 - Existing landscape character

Tree canopy cover (excl. Dandenong Creek)



Distinguishing features

- Elevated and steeply undulating topography with expansive views to the Dandenong Ranges.
- Dandenong Creek corridor including the native and indigenous landscape character and the golf course.
- The public open space and schools through the precinct has a predominantly native landscape character including remnant indigenous vegetation.
- Steeply undulating with terraced, well maintained low exotic terraced front gardens.
- Presence of scattered large Eucalypts on both public and private land.
- Predominantly residential land use.

Existing landscape character

Summary of architectural character

In the western areas of the precinct the dominant architectural character is 1950s and 1960s cream brick veneer houses and to the east, the dominant architectural character is the 1970s brown and red single and 2-storey dwellings. Some sub-precincts have reasonable levels of redevelopment introducing contemporary 2-storey dwellings into the precincts. Views to the east influence the orientation and height of built form.

C2v Undulating suburban exotic landscape character

Characterised by gently undulating topography with a presence of large deciduous and evergreen trees in the



streetscapes and gardens. The original 1950s and 1960s dwellings and established exotic gardens with low or no fencing still dominate, however these are changing as area redevelops.

C3L Undulating modified suburban exotic landscape character

Characterised by occasional medium to large deciduous and evergreen trees in gardens and streetscapes. The original 1950s dwellings and exotic gardens, with low or no fencing are being replaced with 2-storey dwellings and new contemporary gardens.

C3m Undulating modified suburban evergreen landscape character

Characterised by a change from the 1950s brick veneer dwellings and exotic gardens to contemporary dwellings and gardens with occasional medium to large evergreen trees in rear gardens and a combination of deciduous and evergreen streetscapes.

E2b Elevated suburban compact exotic garden character

Characterised by expansive views to the east, the landscape character is formed with well-manicured exotic gardens with terraced shrub plantings and small deciduous and evergreen street trees.

E2c Elevated suburban evergreen landscape character

Characterised by expansive views to the east, a combination of exotic gardens, some with terraced shrub plantings, and scattered emergent deciduous and evergreen trees in the streetscapes and private land with a backdrop of large remnant indigenous bushland in Hinkler Reserve.

E2g Elevated suburban exotic garden character

Characterised by curvilinear streets on the contours with larger lots and a combination of single and 2-storey dwellings facing east with terraced well-manicured exotic gardens and occasional deciduous and evergreen overstorey trees.

E3c Creek ridgeline suburban tall Eucalypt landscape character

Characterised by the combination of emergent Eucalypts on public and private land along with manicured residential front gardens with shaped conifers to retain views to the east. This predominantly low compact garden style means built form is visually dominant in the precinct.

E4a Creek ridgeline suburban tall Eucalypt landscape character

Characterised by the presence of occasional emergent Eucalypts on private and public land combined with well maintained exotic gardens with low vegetation to retain views to the east and the Dandenong Ranges.



Glen Waverley 4 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the biodiversity values along Dandenong Creek through the additional indigenous vegetation in the adjoining open space, streetscapes and in the private land adjoining the creek corridor.
- Increase the emergent canopy tree cover in the precinct.
- Strengthen biodiversity values and character of Hinkler Reserve by increasing the presence of indigenous vegetation in the streetscapes and on private land the reserve.

Preferred landscape character for each sub-precinct

- CHS** Creek habitat corridor suburban indigenous tall Eucalypt landscape character
- Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
 - Encourage use of local provenance indigenous plants in private gardens where they directly adjoin the Dandenong Creek corridor to strengthen the biodiversity values, while retaining existing established native trees.
 - Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Dandenong Creek (i.e. not directly adjoining) including tall Eucalypt style species.

- CVS1** Creek valley environs suburban tall Eucalypt landscape character
- Encourage planting of local provenance indigenous species on private land directly adjoining the indigenous bushland in Hinkler Reserve, including tall Eucalypt style species.
 - Plant additional tall Eucalypt canopy trees in streetscapes, using indigenous species in streets that directly adjoin Hinkler Reserve.
 - Protect and strengthen the character with a combination of deciduous and evergreen vegetation and increasing the presence of tall Eucalypt trees.
 - Retain and strengthen the low or no front and side fencing with an increased presence of planting in keeping with the existing character.

CVS2 Creek valley environs suburban exotic landscape character

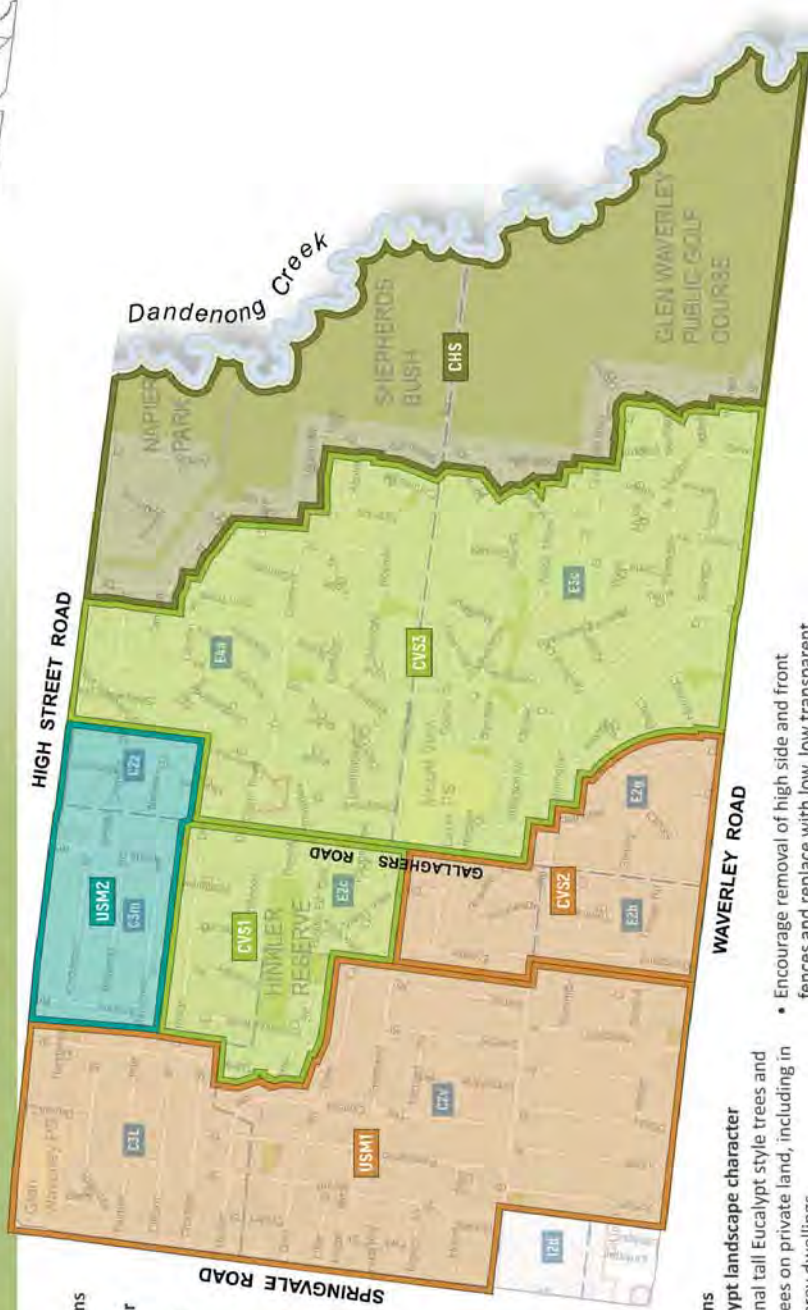
- Retain and encourage the manicured, terraced garden character that is characteristic of this precinct.
- Increase planting of large deciduous and exotic evergreen canopy trees on private land to provide improved canopy cover.
- Plant additional medium to large deciduous and exotic evergreen street trees to achieve a consistent avenue style of planting.

CVS3 Creek valley environs suburban tall Eucalypt landscape character

- Protect and plant additional tall Eucalypt style trees and other medium to large trees on private land, including in the front gardens of 2-storey dwellings.
- Retain and strengthen the low or no front and side fencing with an increased presence of planting in keeping with the existing character.
- Plant additional tall Eucalypt canopy trees and other medium to large evergreen trees in streetscapes particularly in streets without overhead power.

USM1 Undulating leafy garden modified suburban exotic landscape character

- Plant additional medium and large deciduous and exotic evergreen street trees to achieve a consistent avenue style planting.
- Protect and plant new large deciduous and exotic evergreen trees, particularly in the locations with existing and proposed 2-storey dwellings to break up the dominance of built form and retain the garden city character.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban industrial
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



- Encourage removal of high side and front fences and replace with low, low transparent or no front fencing and increased presence of planting to complement the original suburban garden style in this precinct.

USM2 Undulating leafy garden modified suburban evergreen landscape character

- Plant additional medium and large deciduous and native evergreen street trees to achieve a consistent avenue style planting.
- Protect existing large evergreen and plant additional large trees on private land, particularly in the front gardens of existing and proposed 2-storey dwellings to break up the dominance of built form and retain the garden city character.
- Strengthen the presence of medium and small evergreen trees on private land.

Glen Waverley 5 - Existing landscape character

Tree canopy cover

Now (2016)	What's changed since 1992
19%	- 3%
21%	- 3%
59%	+ 5%

Distinguishing features

- Elevated and steeply undulating topography with expansive views to the Dandenong Ranges.
- The public open space has a predominantly native landscape character.
- Presence of large deciduous and evergreen trees on private land.
- Predominantly residential land use.
- Victoria Police Academy and Melbourne Water Reservoir are landmarks in the precinct.

Existing landscape character

Summary of architectural character

In the western areas of the precinct the dominant architectural character is 1950s and 1960s cream brick veneer dwellings with some later 1970s style brick dwellings towards the east. Some sub-precincts have reasonable levels of redevelopment introducing contemporary 2-storey dwellings into the precincts. Views to the east influence the orientation and height of built form.

C2s Undulating suburban deciduous and evergreen landscape character Characterised by undulating topography and scattered large deciduous and evergreen trees in the streetscapes and gardens. The original 1950s and 1960s dwellings and established exotic gardens

with low or no fencing still contribute, however these are less prominent as area redevelops.

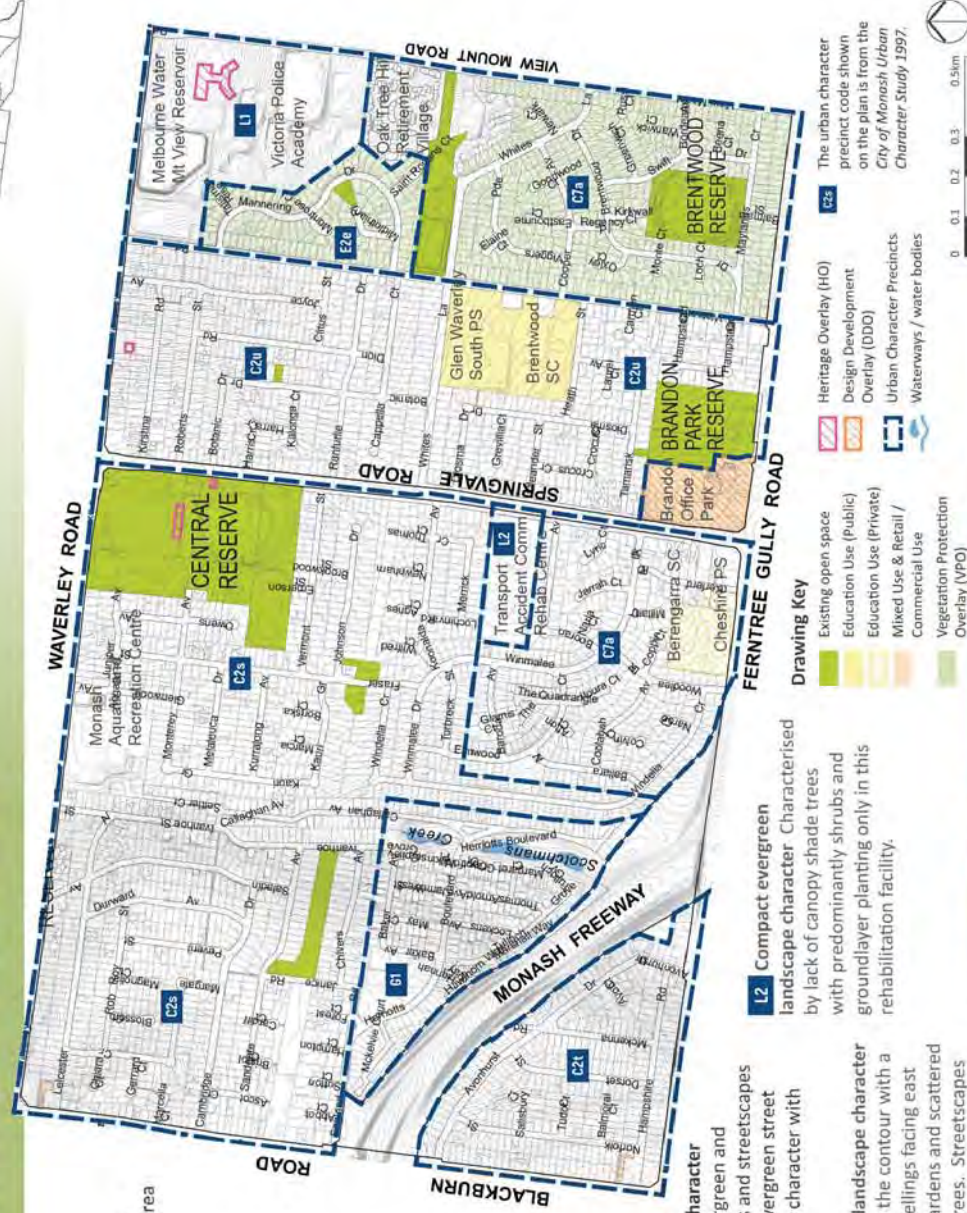
C2t Undulating suburban exotic landscape character Characterised by views to the east and north with established exotic gardens to original dwellings including the presence of large evergreen and deciduous trees in the streetscapes and gardens.

C2u Elevated suburban exotic landscape character Characterised by views to the CBD with established exotic gardens to original dwellings with occasional large overstorey deciduous and evergreen trees. This area is changing to contemporary 2-storey dwellings and reduced garden area around dwellings.

C7a Gently undulating suburban deciduous and evergreen landscape character Characterised by a scattered large evergreen and deciduous trees in established gardens and streetscapes combined with small deciduous and evergreen street trees. Brentwood Reserve has a native character with large Eucalypts.

E2b Undulating suburban evergreen landscape character Characterised by curvilinear streets on the contour with a combination of single and 2-storey dwellings facing east with terraced well-manicured exotic gardens and scattered predominantly evergreen overstorey trees. Streetscapes include scattered large and small evergreen trees.

G1 Undulating post 2000 redevelopment exotic landscape character Characterised by contemporary standard and medium density 2-storey dwellings with low or no front fences and predominantly small to medium deciduous avenue street tree planting.



L2 Compact evergreen landscape character Characterised by lack of canopy shade trees with predominantly shrubs and groundlayer planting only in this rehabilitation facility.



Glen Waverley 5 - Preferred landscape character

Overall summary of preferred landscape character

- Protect and improve the 1950s and 1960s leafy suburban garden style landscape character.
- Increase the presence of large overstorey canopy trees on private land to improve the leafy green character, particularly in the context of existing and new 2-storey dwellings.

Preferred landscape character for each sub-precinct

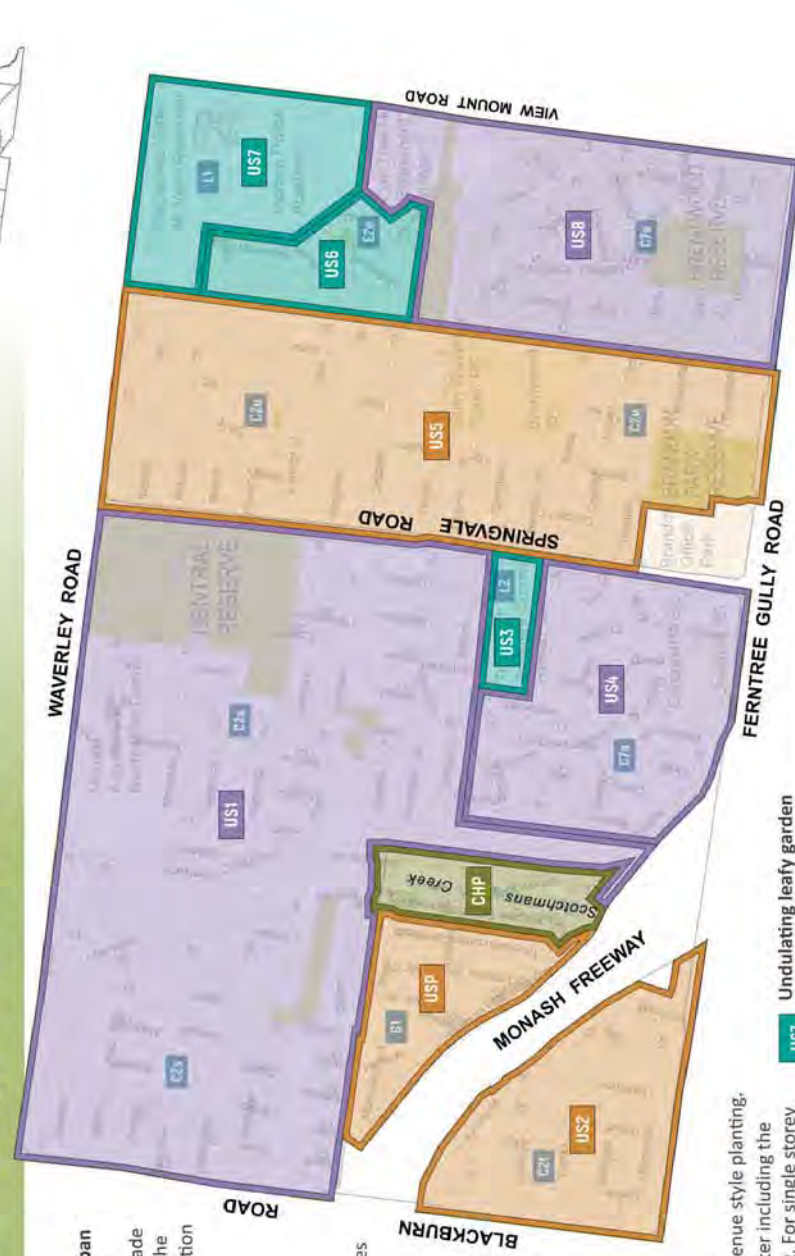
- CHP** Creek habitat corridor post 2000 redevelopment indigenous tall Eucalypt landscape character
 - Maintain and strengthen the indigenous tall Eucalypt style street tree planting in the streetscapes directly adjoining Scotchmans Creek tributary.
 - Encourage indigenous vegetation including tall Eucalypt species on private land directly adjoining the waterway to improve biodiversity values.
- US1** Undulating leafy garden suburban deciduous and evergreen landscape character
 - Plant additional deciduous and evergreen canopy trees in the streetscapes to achieve avenue style plantings, including large trees where appropriate.
 - Retain existing canopy trees and strengthen by planting new large canopy deciduous and evergreen trees on private land.
 - Protect existing remnant indigenous trees in Central Reserve and improve by encouraging some regeneration of these species where feasible, recognising this is primarily a sporting reserve.
- US2** Undulating leafy suburban exotic landscape character
 - Protect the existing avenues of *Photinia sp.*, replacing with same species where requested.
 - Infill street tree planting to strengthen avenue style planting.
 - Plant additional large and medium deciduous and exotic evergreen trees on private land, to increase shade and canopy cover.
 - Protect the suburban garden style character of this relatively intact 1950s style suburban area.

- US3** Undulating leafy garden suburban evergreen landscape character
 - Plant new large evergreen canopy shade trees to provide shade and improve the landscape character of this rehabilitation facility.

- US4** Undulating leafy garden suburban deciduous and evergreen landscape character
 - Protect existing and plant new large deciduous and evergreen canopy trees on private land, particularly as sites redevelop to strengthen the 1940s style garden character.
 - Plant additional large deciduous and evergreen canopy trees in the streetscapes as infill to existing framework of street trees to achieve consistent avenue style plantings.

- US5** Undulating leafy garden suburban exotic landscape character
 - Plant additional large deciduous and evergreen canopy trees into the streetscapes to achieve consistent avenue style planting.
 - Protect existing exotic garden character including the dominance of low or no front fencing. For single storey dwellings retain and strengthen the small and medium sized exotic trees consistent with the original planting style.
 - For existing and new 2-storey dwellings require new large exotic canopy trees on private land to provide greening and strengthen the leafy garden suburban character.

- US6** Undulating leafy garden suburban evergreen landscape character
 - Plant additional large evergreen canopy street trees, particularly given there is underground power in this sub-precinct.
 - Encourage planting of additional large canopy evergreen and deciduous trees into private gardens to improve shading and greening to predominantly two-storey dwellings.
 - Retain the well manicured predominantly evergreen garden style in this sub-precinct.



- US7** Undulating leafy garden public use evergreen landscape character
 - Given the elevated, highly visible location of this sub-precinct, continue to advocate for retaining a predominantly evergreen and tall Eucalypt landscape character and style to these two public land uses, includes the Victoria Police Academy and Melbourne Water Reservoir.

- US8** Undulating leafy garden suburban deciduous and evergreen landscape character
 - Protect existing and plant new large deciduous and evergreen canopy trees on private land, particularly as sites redevelop to strengthen the 1940s style garden character.
 - Plant additional large deciduous and evergreen canopy trees in the streetscapes as infill to existing framework of street trees to achieve consistent avenue style plantings.
 - Encourage use of tall Eucalypt style species in the properties adjoining Bentwood Reserve to complement the native character of the reserve.

- CH** Creek habitat corridor
- CV** Creek valley environs
- US** Undulating leafy garden suburban
- GS** Gently undulating leafy garden suburban
- HS** Hilly native garden suburban
- EE** Early 1900s exotic garden style
- WP** Waverley Park exotic urban
- 6C** Native garden commercial/Industrial
- UC** Urban greening commercial/Industrial

- Vegetation type key**
- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



- USP** Undulating leafy garden suburban post 2000 redevelopment exotic landscape character
 - Maintain the predominantly deciduous avenue style streetscapes.
 - Encourage planting of additional large exotic evergreen and deciduous canopy trees on private land to increase shading and greenery in this area with predominantly 2-storey dwellings.

Hughesdale - Existing landscape character

Tree canopy cover



Distinguishing features

- Wide nature strips and mature avenue street tree plantings.
- Presence of early 1900's architectural styles.
- Heritage overlays protect the period architectural character.
- Railway line.

Existing landscape character

Summary of architectural character
A variety of architectural styles demonstrate settlement from the 1880s and the inter-war period, including Post Federation Period, Californian bungalows, brick and rendered masonry villas and a minority of Victorian period dwellings.

A1a Undulating early 1900s exotic landscape character
Characterised by avenues of alternating deciduous and evergreen street trees and single species avenues in others with wide nature strips. These complement the exotic gardens that are highly visible due to low fencing styles, including some with large trees in front gardens.

A1b Established early 1900s exotic landscape character
Characterised by wide nature strips and avenues of mature large deciduous and evergreen trees in larger streets and scattered mixed trees in smaller ones. Predominantly exotic residential gardens are mainly

hidden from view with high front fencing with occasional large deciduous and evergreen trees.

A1c Established early 1900s evergreen landscape character
Characterised by wide nature strips, both large and small street trees with a predominance of large evergreen trees complementing the predominantly compact exotic gardens with occasional large trees.

A1d Established early 1900s exotic landscape character
Characterised by the presence of predominantly large avenue style deciduous and evergreen street trees, with only occasional large trees on private land. Some 2-storey redevelopment is occurring throughout the precinct.

A2 Established modified suburban compact deciduous and evergreen landscape character
Characterised by transition from public housing to semi-detached and detached contemporary single and 2-storey dwellings with exotic gardens and low fencing. There is still a presence of the modest simple garden style of trees and open lawns to the streetscape, along with a mix of recent evergreen and mature deciduous street trees.

G1 Established post 2000 redevelopment evergreen landscape character
Characterised by contemporary 2-storey dwellings with native evergreen street trees planted into grassed nature strips with footpaths to one side only and underground power.

G2 Established post 2000 redevelopment evergreen landscape character
Characterised by native shrubs and trees in the shared pedestrian and vehicle streetscapes in Heritage Park retirement village.



Sub-precinct A2



Sub-precinct A1b



Sub-precinct A1c



Sub-precinct A1a



- Drawing Key**
- Existing open space
 - Education Use (Public)
 - Education Use (Private)
 - Mixed Use & Retail / Commercial Use
 - Heritage Overlay (HO)
 - Design Development Overlay (DDO)
 - Urban Character Precincts
 - Waterways / water bodies
 - The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Hughesdale - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the predominantly exotic landscape character of Hughesdale including the appropriate protection and management of large broad spreading canopy trees.
- Strengthen the characteristic avenues of alternating deciduous and evergreen trees.

Preferred landscape character for each sub-precinct

- EEM1** Early 1900s exotic garden style landscape character
 - Protect and encourage additional planting of large deciduous and evergreen broad spreading canopy trees where feasible on private land.
 - Protect and retain the exotic garden and heritage fencing styles and heights through appropriate planning controls.
 - Protect and strengthen the existing alternating deciduous and evergreen avenues of street trees.
- EE2** Early 1900s exotic garden style deciduous and evergreen landscape character
 - Increase the presence of large deciduous and evergreen canopy trees where feasible on private land.
 - Protect and retain the exotic garden and heritage fencing styles and heights through appropriate planning controls.
 - Strengthen the alternating deciduous and evergreen street trees with additional large canopy deciduous trees. This will build on the existing evergreen (predominantly native) landscape character and introduce a framework of larger deciduous canopy trees to improve summer shade while maintaining winter sun access.
- EEM1** Early 1900s exotic garden modified landscape character
 - Protect and encourage additional planting of large deciduous and evergreen canopy trees on private land, particularly land associated with 2-storey dwellings and higher density development.

- Strengthen the exotic garden style character with additional deciduous and evergreen canopy vegetation and exotic garden beds in private gardens, for both new dwellings and where early 1900s style dwellings are retained.
- Protect and strengthen the existing alternating deciduous and evergreen avenues of street trees.

EEM2 Early 1900s exotic garden style modified landscape character

- Protect and encourage additional planting of large deciduous and evergreen broad spreading canopy trees on private land, particularly land associated with 2-storey dwellings.
- Protect and maintain the established avenues of alternating deciduous and evergreen street trees.

EEM3 Early 1900s exotic garden style modified deciduous and evergreen landscape character

- Protect and encourage additional planting of large deciduous and evergreen broad spreading canopy trees on private land, particularly land associated with 2-storey dwellings.
- Protect and maintain the established avenues of alternating deciduous and evergreen street trees and undertake additional street tree planting to increase the presence of this original street planting character of this precinct.

EEM4 Early 1900s exotic garden style modified deciduous and evergreen landscape character

- Encourage planting of additional large deciduous canopy trees on private land to increase shade and strengthen exotic character and greening.
- Plant additional large canopy street trees in streetscape to improve summer shade given the provision of underground power.

EEM5 Early 1900s exotic garden style modified deciduous and evergreen landscape character

- Increase the presence of medium and large deciduous canopy trees and improve summer shade in this retirement village, to improve health and wellbeing outcomes.



Landscape character type key

CH	Creek habitat corridor
CY	Creek valley environs
US	Undulating leafy garden suburban
GS	Gently undulating leafy garden suburban
HS	Hilly native garden suburban
EE	Early 1900s exotic garden style
WP	Waverley Park exotic urban
GC	Native garden commercial/industrial
UC	Urban greening commercial/industrial

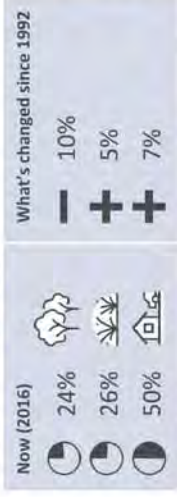
Vegetation type key

	Indigenous tall Eucalypt
	Tall Eucalypt
	Evergreen
	Deciduous and evergreen
	Exotic



Mount Waverley 1 - Existing landscape character

Tree canopy cover



Distinguishing features

- Dampier Creek.
- Federal Reserve with remnant indigenous canopy trees in an elevated position offering excellent views to the north.
- Steeply to gently undulating topography offering views to the west, north, south and east.
- Presence of large canopy trees, particularly remnant indigenous trees in public open space.
- Predominantly residential land use.
- Public schools have predominantly native and indigenous canopy trees.

Existing landscape character

Summary of architectural character

The dominant architectural character is pressed cream brick veneer houses with occasional weatherboards, built during the 1950s and 1960s. In the C4 precincts there is a dominance of 2-storey red brick dwellings and some of this style is also interspersed through the C3 precincts.

C1a Undulating suburban compact evergreen landscape character With views the north and south the predominantly exotic gardens are combined with small evergreen street trees, particularly mixed evergreen avenue style street tree planting. The architectural character is mainly single and 2-storey original dwellings



Sub-precinct C1a



Sub-precinct C1b



Sub-precinct C1c



Sub-precinct C1d



Sub-precinct C1e



Sub-precinct C1f



Sub-precinct C3f

and Federal Reserve contributes to the native evergreen character.

C1b Creek ridgeline suburban tall Eucalypt landscape character Characterised by steeply undulating topography and large evergreen and native trees associated with Dampier Creek, with a predominance of the original built form of mainly single storey dwellings in a garden setting.

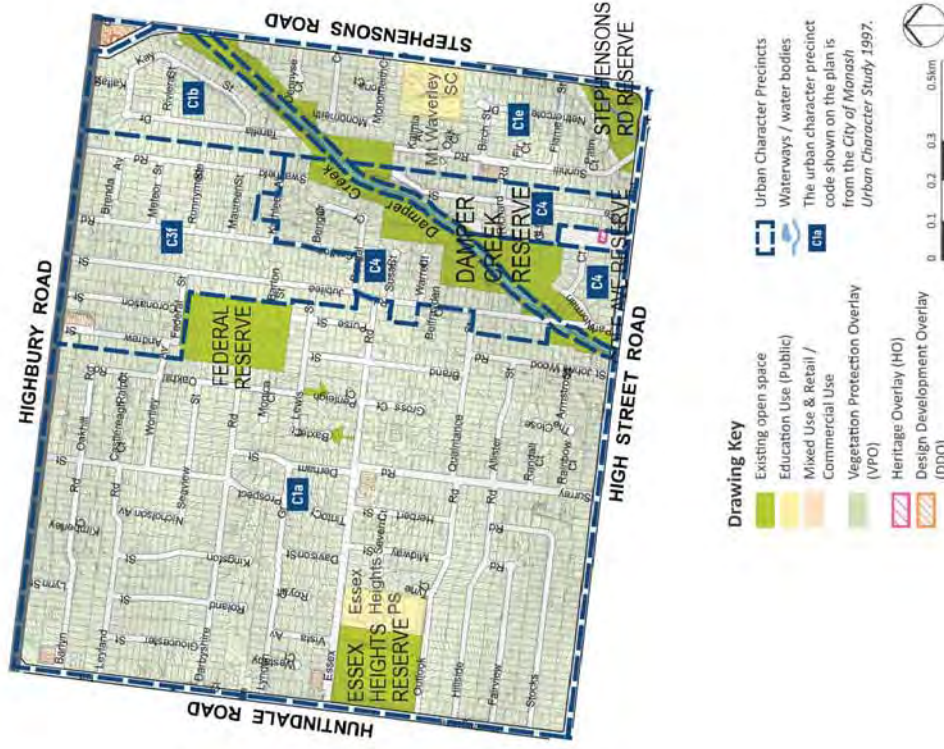
C1c Undulating suburban exotic landscape character Characterised by steeply undulating landform and views in all directions, with a combination of large deciduous and evergreen trees on both public and private land. There is a predominance of low or no walls and original predominantly single storey dwellings means the gardens contribute to the character.

C3f Elevated suburban exotic landscape character Characterised by occasional large evergreen and deciduous trees in the private gardens and streetscapes, this sub-precinct retains a predominance of the original single and 2-storey dwellings.

C4 Creek ridgeline modified suburban tall Eucalypt landscape character Characterised by steeply undulating topography and large evergreen and native trees associated with Dampier Creek, with a diversity of architectural characters and styles.



Sub-precinct C4



Drawing Key

- Existing open space
- Education Use (Public)
- Mixed Use & Retail / Commercial Use
- Vegetation Protection Overlay (VPO)
- Heritage Overlay (HO)
- Design Development Overlay (DDO)
- Urban Character Precincts
- Waterways / water bodies
- The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.

Mount Waverley 1 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the Damper Creek corridor biodiversity values with increased presence of indigenous and native overstorey in open space, streetscapes and private and land.
- Reinforce the remnant indigenous vegetation character at Federal Reserve and the established exotic character away from the waterway corridors.
- Strengthen and change the existing compact evergreen suburban character in the western part of the precinct by increasing the presence of medium and large overstorey trees on the public and private land.

- Protect existing canopy trees and plant additional large evergreen and deciduous canopy trees where sunlight access is required on private land to increase the presence of emergent canopy trees.

CVS2 Creek valley environs suburban indigenous tall Eucalypt landscape character

- Protect existing and plant additional indigenous trees to the perimeter of Federal Reserve.
- Encourage use of indigenous and native vegetation including canopy trees on private land and the streetscapes to complement and strengthen the biodiversity values associated with Federal Reserve.

CVS3 Creek valley environs suburban exotic landscape character

- Increase the presence of large exotic evergreen and deciduous street trees to increase canopy cover, shade and greening, particularly given the presence of medium to high front fencing.
- Encourage the removal of high front fences and replace with low, transparent or no front fencing and increased presence of planting rather than built form.
- Protect existing and plant additional large exotic canopy trees on private land.

CVS4 Creek valley environs suburban exotic landscape character

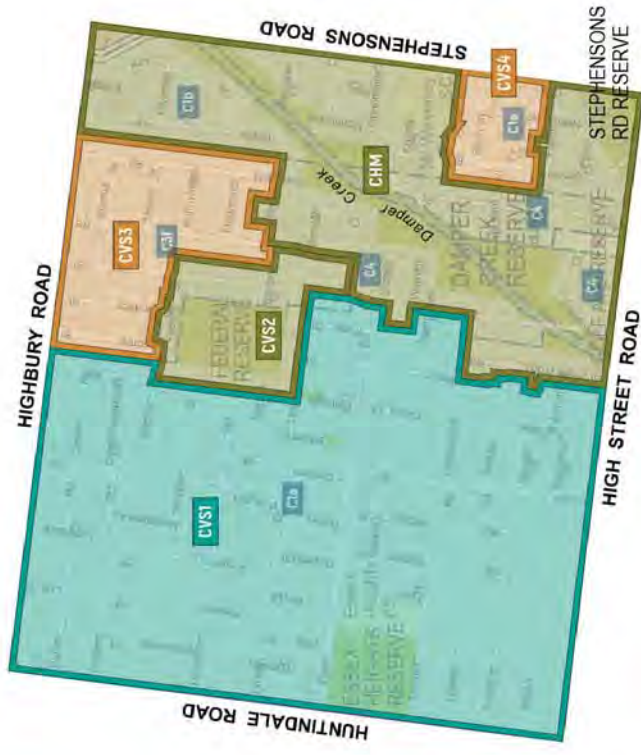
- Increase the presence of street tree avenues of large exotic canopy trees to increase canopy cover, shade and greening.
- Protect existing and plant additional large exotic evergreen and deciduous canopy trees on private land.

Preferred landscape character for each sub-precinct

- CHM Creek habitat corridor modified suburban indigenous tall Eucalypt landscape character**
 - Continue to strengthen the indigenous vegetation values in the public open space along Damper Creek corridor.
 - Encourage use of local provenance indigenous species including tall Eucalypt style species in private gardens where they directly adjoin the creek corridor to strengthen the biodiversity values of Damper Creek.
 - Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Damper Creek (i.e. not directly adjoining) including tall Eucalypt style species.

CVS1 Creek valley environs suburban evergreen landscape character

- Characterised by the compact evergreen character, the intent is to increase the presence of medium to large street trees avenues of evergreen or alternating evergreen and deciduous to increase canopy cover, shade and greening, particularly given the presence of medium to high front-fencing.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- GC Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Mount Waverley 2 - Existing landscape character

Tree canopy cover



Distinguishing features

- Steeply undulating topography with views.
- Presence of large deciduous and evergreen canopy trees in the VPO.
- Upper reaches of Dampier Creek.
- Predominately residential land use
- Schools include remnant indigenous trees and native landscape character.

Existing landscape character

Summary of architectural character

The dominant architectural character is the double fronted pressed cream brick veneer dating from the 1950s and 1960s with occasional weatherboards spread throughout and some red brick dwellings as well. The area is experiencing some change with redevelopment of 2-storey dwellings throughout.

C1a Gently undulating suburban deciduous and evergreen landscape character Characterised by the presence of well maintained gardens with a combination of evergreen and deciduous trees in both the private and the public landscape, including the street trees. The relatively flat topography focuses views to the garden setting, with small pockets of consistent avenue trees.

C3g Undulating suburban exotic and evergreen landscape character Characterised by the presence of large canopy trees on both public and private land and views over the open space. This includes the presence of the tall Eucalypts in the streets close to the waterway and large deciduous trees in both the streets and on private land away from the waterway.

C3h Gently undulating suburban exotic and evergreen landscape character Characterised by relatively flat topography with the presence of large evergreen and deciduous canopy trees on both public and private land.

G1 Undulating post 2000 redevelopment exotic landscape character With steeply undulating topography and views over the open space, this contemporary infill has predominantly 2-storey dwellings with consistent avenue style planting with predominantly deciduous trees and no defined boundary between public and private land.

G2 Elevated suburban tall Eucalypt landscape character With steeply undulating topography and views to the north and west, the indigenous trees in the Mt Waverley Secondary College inform the character, contrasting with the adjoining residential gardens with small evergreen planting style.



Drawing Key

- Existing open space
 - Education Use (Public)
 - Mixed Use & Retail / Commercial Use
 - Vegetation Protection Overlay (VPO)
 - Heritage Overlay (HO)
 - Urban Flood Zone (UFZ)
- Urban Character Precincts
- The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Mount Waverley 3 - Existing landscape character

Tree canopy cover



Distinguishing features

- Steeply undulating topography with views.
- Presence of small deciduous canopy trees in the gardens and streetscapes.
- Upper reaches of Damper Creek.
- Riversdale Golf Club provides a backdrop of canopy trees to the precinct.
- Railway easement contains canopy trees.
- Unique 1950s subdivision with concrete road and unique 'village green' character.

Existing landscape character

Summary of architectural character
The dominant architectural character is predominantly double and triple fronted pressed cream and pink brick veneer small scale single storey dwellings dating from the 1950s and 1960s with occasional weatherboards and some red brick dwellings. The area is experiencing some change with redevelopment of 2-storey dwellings throughout. In C6 there is a unique discrete subdivision that includes concrete roads and a consistent architectural style and quality.

C2k Gently undulating suburban compact evergreen landscape character Characterised by wide nature strips and large predominantly native street trees, with compact evergreen gardens. The gently undulating topography

offers some views to the north and south and the native character of Bayview Reserve contributes.

C2L Undulating compact suburban deciduous and evergreen landscape character The landscapes close to the upper reaches of Damper Creek have an indigenous overstorey framework contrasting with the predominantly compact exotic garden character away from the waterway corridor.

C4b Undulating suburban deciduous and evergreen garden character Characterised by steeply undulating topography with views to the north and presence of large evergreen and deciduous canopy trees mainly on private land.

C5 Undulating modified suburban deciduous and evergreen landscape character With gently undulating topography the presence of small and large canopy trees on public and private land, this area retains some characteristic species such as Ornamental Cherries. There is a reasonable amount of redevelopment occurring in this sub-precinct.

C6 Established suburban deciduous and evergreen landscape character Characterised by the presence of concrete roads, 2-storey dwellings overlooking a 'village green' style open space. Narrow width of roads gives more prominence to the avenue style street tree plantings that include Palms and other evergreen species.

L1 Undulating deciduous and evergreen landscape character The Riversdale Golf Club includes exotic evergreen and deciduous trees.



Drawing Key

- Existing open space
- Private golf course
- Education Use (Public)
- Mixed Use & Retail / Commercial Use
- Vegetation Protection Overlay (VPO)
- Heritage Overlay (HO)
- Design Development Overlay (DDO)

Urban Character Precincts
Waterways / water bodies
The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.

Scale: 0 0.1 0.2 0.3 0.5km
North arrow



Mount Waverley 3 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the Dampier Creek valley biodiversity values with predominantly indigenous vegetation in the public and adjoining private land where appropriate.
- Retain the excellent examples of 1950s subdivision styles within this precinct.

Preferred landscape character for each sub-precinct

CHS Creek habitat corridor suburban indigenous tall Eucalypt landscape character

- Continue to strengthen the indigenous vegetation values in the public open space along the Dampier Creek corridor.
- Encourage the use of local provenance indigenous species including tall Eucalypt species in private gardens and the Riversdale Golf Club where they directly adjoin the creek corridor to strengthen the biodiversity values of Dampier Creek.
- Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Dampier Creek (i.e. not directly adjoining) including tall Eucalypt style species.

DVG Creek valley environs golf course deciduous and evergreen landscape character

- Protect the existing established evergreen and deciduous canopy tree cover in the Riversdale Golf Club, and replace any loss of existing canopy trees.
- Promote planting additional deciduous and evergreen canopy trees where feasible in the Riversdale Golf Club, with a preference for native trees towards Dampier Creek.
- In any future change of land use, protect all the existing established deciduous and evergreen trees and ensure adequate setbacks from Dampier Creek are achieved to establish an open space reserve with space for recreational access and use outside of the riparian zone.

CVM Creek valley environs modified suburban deciduous and evergreen landscape character

- Emphasis on planting large deciduous and evergreen street trees where feasible, due to modified suburban character resulting in reduced opportunities for canopy vegetation on private land.
- Plant medium to large deciduous and evergreen trees on private land where feasible.

CVS1 Creek valley environs suburban deciduous landscape character

- Protect the suburban character including front and side setbacks as an excellent example of 1950s subdivision garden style through the introduction of future specific planning controls to protect the urban and landscape character.
- In the interim, encourage any new buildings achieve the same or increased side and front setbacks as the existing built form on the site, with no or low front fences and a preference for the landscape plans to use species and planting styles that complement the existing character.

DVS2 Creek valley environs suburban deciduous and evergreen landscape character

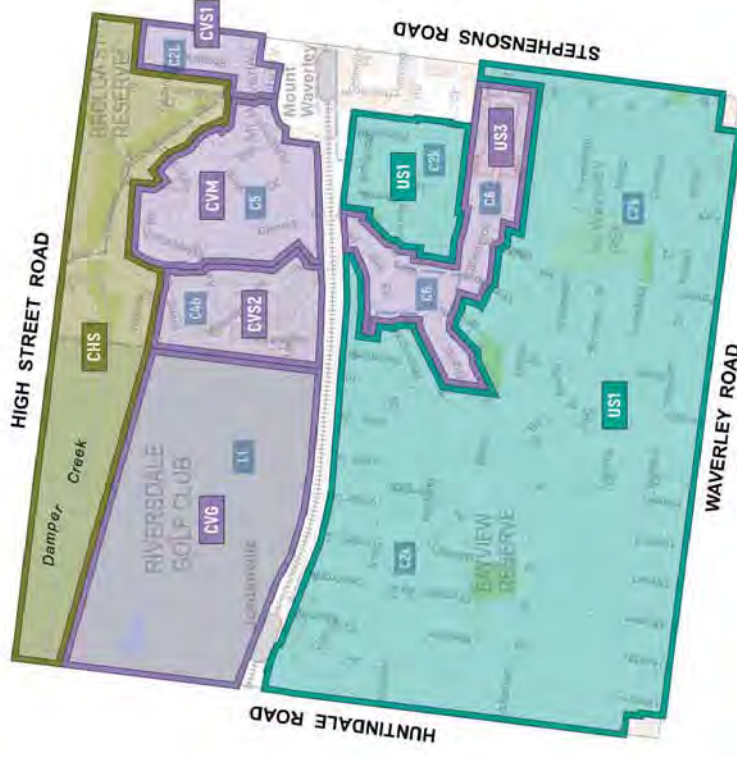
- Retain the existing large, medium and small canopy trees on public and private land.
- Strengthen existing street tree planting particularly in the courts with avenue style plantings.
- Protect and plant additional deciduous and evergreen trees in private gardens.

US1 Undulating leafy garden suburban evergreen landscape character

- Change the compact planting style of private gardens to include medium to large deciduous and evergreen canopy trees to increase shade and greening.
- Strengthen the evergreen street tree planting character by planting additional evergreen street trees to increase the presence of avenue style streetscapes.
- Encourage removal of high front fences and replacement with low, transparent or no front fences and a predominance of low planting that retains views to the front gardens.

US3 Undulating leafy garden suburban deciduous and evergreen landscape character

- Protect the heritage character and layout including the planting style of the *Phoenix canariensis* in Sherwood Road streetscape and Sherwood Park.
- Protect the heritage character and layout of the streets, including the concrete road surface, and improve street tree species that complement the heritage character and distinctiveness of the *Phoenix canariensis*.
- Introduce appropriate planning controls to retain the open garden character within the small front setbacks with no or low front fencing and an exotic garden style.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- GC Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Mount Waverley 4 - Existing landscape character

Tree canopy cover



Distinguishing features

- Scotchmans Creek and the indigenous and native landscape quality of the open space corridor.
- Undulating topography with views to the west, north, south and east, including along the transmission easements.
- Predominantly residential land use
- Varied street layout and some streets with wider naturestrips.
- Monash Freeway, the sound walls and planting influences the character of adjoining streets.

Existing landscape character

Summary of architectural character

The dominant architectural character is double and triple fronted pressed cream and pink brick veneer small scale single storey dwellings with some smaller weatherboards houses and occasional red brick dwellings and individually designed single and double storey dwellings, built primarily during the 1950s and 1960s. The area remains relatively intact with limited redevelopment occurring.

C1h Undulating suburban evergreen landscape character

Characterised by wide grassed naturestrips combined with low or no front fences creates a generous naturestrip, with only scattered street tree planting. The presence of large indigenous trees along Scotchmans

Creek contributes to the canopy cover and treed setting in the areas adjoining the waterway.

C2e C2f C2g C3e **Creek ridgeline suburban deciduous and evergreen landscape character** Characterised by steeply undulating land with views to the south over Scotchmans Creek and the north, west to the CBD and to the east within a well treed landscape. Low or no fencing means the predominantly exotic evergreen gardens contribute to the character as well.

C2j Undulating suburban evergreen garden character

The predominantly evergreen and productive gardens contribute to the landscape character including the occasional large trees on private and public land. The scattered predominantly small evergreen street trees form a secondary element to the landscape character, while the transmission easements provide long views east to the Dandenongs.

C2y Undulating suburban evergreen garden character

With elevated views to the north, west and east this area is characterised by the evergreen garden setting with occasional large Eucalypt trees provide height and scale in streetscapes with predominantly small evergreen street trees.



Drawing Key

- Existing open space
- Education Use (Public)
- Mixed Use & Retail / Commercial Use
- Heritage Overlay (HO)
- Urban Character Precincts
- Waterways / water bodies

C2e The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Mount Waverley 4 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the biodiversity values and habitat connectivity along the Scotchmans Creek through additional indigenous vegetation in the open space, streetscapes and on private land directly adjoining the waterway corridor.
- Increase the presence of large evergreen canopy trees on private and public land in the precincts adjoining the creek valley precinct, with a focus on avenues of evergreen street trees in the north south oriented streets.
- Strengthen the existing deciduous and evergreen character of the precincts between the Monash Freeway and the Scotchmans Creek valley.

CVS2 Creek valley environs suburban deciduous and evergreen landscape character

- Continue to maintain and strengthen planting character with large deciduous and evergreen trees.
- Maintain the suburban character with adequate side and front building setbacks to allow for retention and planting of new large canopy trees.

CVS3 Creek valley environs suburban evergreen landscape character

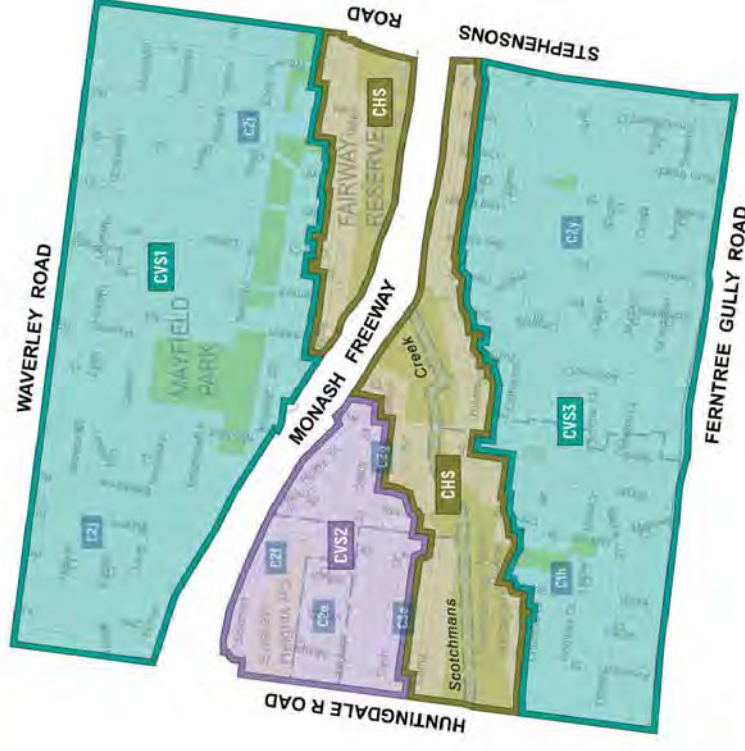
- Strengthen the existing character by planting additional trees in the wide naturestrips including the potential for double rows where the footpath is located central along the naturestrip.
- Protect the existing scattered large canopy trees on private land and increase the presence large canopy trees (deciduous and evergreen) where appropriate.

Preferred landscape character for each sub-precinct

- CHS** Creek habitat corridor
Eucalypt landscape character
 - Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
 - Encourage the use of local provenance indigenous species including tall Eucalypt style species in private gardens where they directly adjoin the creek corridor to strengthen the biodiversity values of Scotchmans Creek.
 - Encourage the use native and where appropriate indigenous species in private gardens that are further away from Scotchmans Creek (i.e. not directly adjoining) including tall Eucalypt style species.

CVS1 Creek valley environs suburban evergreen landscape character

- Change the existing evergreen garden character to an evergreen landscape character of this precinct by planting new large evergreen street trees to achieve consistent avenue style planting.
- Protect existing and plant new large deciduous and evergreen trees on private land, retaining the productive gardens where appropriate.
- Given the transmission easement through this precinct there is no opportunity to plant new large canopy trees into the open space.

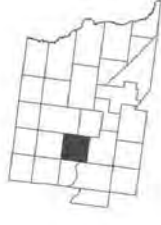


Landscape character type key

CH	Creek habitat corridor
CV	Creek valley environs
US	Undulating leafy garden suburban
GS	Gently undulating leafy garden suburban
HS	Hilly native garden suburban
EE	Early 1900s exotic garden style
WP	Waverley Park exotic urban
GC	Native garden commercial/industrial
UC	Urban greening commercial/industrial

Vegetation type key

Orange	Indigenous tall Eucalypt
Yellow	Tall Eucalypt
Teal	Evergreen
Purple	Deciduous and evergreen
Light green	Exotic



Mount Waverley 5 - Existing landscape character

Tree canopy cover

Now (2016)	What's changed since 1992
24%	- 10%
26%	+ 5%
50%	+ 7%

Distinguishing features

- Scotchmans Creek including Valley Reserve with its remnant indigenous trees and bushland character.
- Undulating topography with views to the west, north, south and east and over the Scotchmans Creek valley.
- Railway line includes canopy trees.
- Melbourne Water Reservoir with large cypress trees to the perimeter.
- Service easement running east-west through the south of the precinct contributing to open space.

Existing landscape character

Summary of architectural character
The dominant architectural character is pressed cream brick veneer houses with occasional weatherboards, built during the 1950s and 1960s. Some sub-precincts have reasonable levels of redevelopment introducing predominantly 2-storey dwellings into the precinct.

C1f Creek ridge line suburban deciduous and evergreen landscape character Characterised by the large deciduous and evergreen trees in the private gardens and streetscapes, combined with small evergreen street trees and the indigenous landscape character of Valley Reserve.

C1g Creek ridge line modified suburban evergreen landscape character Characterised by large evergreen and

native trees associated with Scotchmans Creek. Increasingly more contemporary 2-storey dwellings with smaller gardens, contrasting with the older predominantly single storey dwellings in landscape settings.

C2m Undulating modified suburban tall Eucalypt landscape character The tall Eucalypts primarily on private land significantly contribute to the landscape character, along with some large deciduous trees on both private and public land. Recent 2-storey redevelopment is occurring through the precinct, contrasting with the original single storey 1950s and 1960s style dwellings.

C2h Undulating suburban evergreen landscape character The native character of Valley Reserve and Scotchmans Creek significantly contributes to the precinct with Eucalypts on private and public land. Further away from the waterway the exotic evergreen trees and garden character dominates.

C3j Undulating suburban evergreen garden character The mixed predominantly evergreen garden character contributes due to low or no front fences and highly visible gardens. Views to the north and east influence the garden styles along with the remnant indigenous trees in Mount Waverley Reserve.

C4e Undulating suburban tall Eucalypt landscape character The remnant indigenous trees in the public and private land and views south over Scotchmans Creek characterises this small precinct.

G1 Undulating post 2000 redevelopment evergreen landscape character Characterised by consistent avenue style street tree planting with predominantly evergreen native trees. The exotic gardens are visible and open to the street given the lack of fencing between the private gardens and streetscapes. Predominantly 2-storey brick dwellings have been constructed since the 1997 Urban Character Study.



L1 Undulating evergreen landscape character Characterised by the perimeter planting of cypress windrows (H035).



Mount Waverley 5 - Preferred landscape character

Overall summary of preferred landscape character

- Improve the biodiversity values and habitat connectivity along the Scotchmans Creek with predominantly indigenous vegetation in the open space, streetscapes and private land adjoining the creek corridor.
- Increase the presence of street trees with a focus on changing the existing garden character in precinct C3i to an evergreen landscape character.
- Encourage planting of new medium and large canopy trees on private land to increase canopy cover.

Preferred landscape character for each sub-precinct

- CH** Creek habitat corridor landscape character
- Continue to strengthen the indigenous vegetation values in the public open space along Scotchmans Creek corridor.
 - Encourage the use of local provenance indigenous species including tall Eucalypt style species in private gardens where they directly adjoin the creek corridor to strengthen the biodiversity values of Scotchmans Creek.
 - Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Gardiners Creek (i.e. not directly adjoining) including tall Eucalypt style species.

CVM1 Creek valley environs modified suburban tall Eucalypt landscape character

- Protect the existing indigenous canopy trees and tall Eucalypts on private land to strengthen the existing character.
- Protect the existing remnant Red Gums on Syndal South Primary School land and complement this with tall Eucalypt style street trees in the adjoining streetscapes.
- Plant additional tall Eucalypts on both private and public land where feasible to achieve a dominance of the emergent tall Eucalypt canopy in the context of the 2-storey dwellings.

CVM2 Creek valley environs modified suburban tall Eucalypt landscape character

- Protect the existing large indigenous canopy trees and tall Eucalypts on private land and in the public open space including the Pipe Track and Pinewood Reserve.
- Ensure adequate setbacks are achieved in future developments to retain and establish additional emergent tall Eucalypt canopy trees to visually break up the built form and achieve a dominance of garden character.
- Increase the presence of tall Eucalypts in the streetscapes, combined with selected deciduous species where sunlight access is required to adjoining properties.

CVP Creek valley environs post 2000 redevelopment tall Eucalypt landscape character

- Protect the existing large evergreen trees and encourage planting of tall Eucalypts on private land to change the landscape character.
- Retain and strengthen the existing avenues of evergreen native street trees.

CVS1 Creek valley environs suburban evergreen landscape character

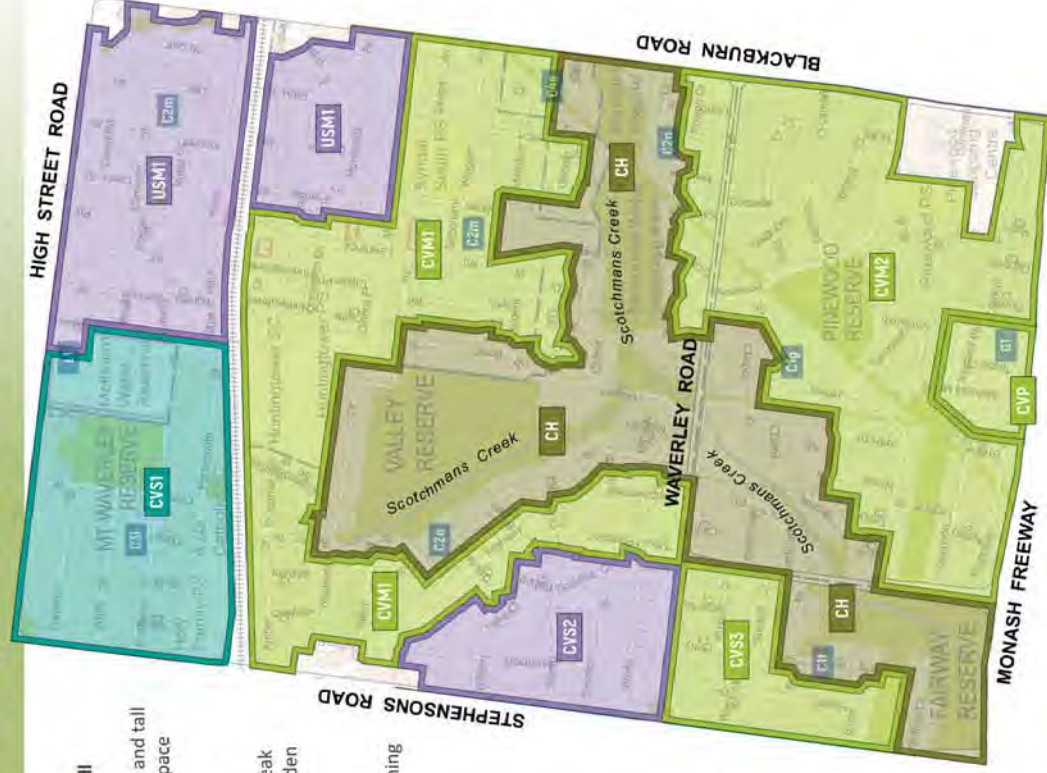
- Plant medium to large evergreen trees in the streets to achieve more consistent avenue style plantings and improve the character.
- Plant new large evergreen canopy trees on private land with selected use of deciduous trees where sunlight access is required.

CVS2 Creek valley environs suburban deciduous and evergreen landscape character

- Protect existing and plant additional large deciduous and evergreen canopy trees on private land to strengthen the existing character and improve shading in the context of additional 2-storey dwellings.
- Retain the established suburban character by maximising the front and side setbacks of proposed new dwellings.

USM1 Undulating leafy garden modified suburban deciduous and evergreen landscape character

- Protect the existing mature large deciduous and evergreen trees on private land to strengthen the existing character.



Landscape character type key

- CH** Creek habitat corridor
- CV** Creek valley environs
- US** Undulating leafy garden suburban
- GS** Gently undulating leafy garden suburban
- HS** Hilly native garden suburban
- EE** Early 1900s exotic garden style
- WP** Waverley Park exotic urban
- BC** Native garden commercial/industrial
- UC** Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



- Encourage planting of new large deciduous and evergreen trees on private land, including adequate setbacks in future developments to allow space to establish emergent canopy trees to increase presence of large canopy trees and shading.
- Increase the presence of large canopy deciduous and evergreen trees in the streetscapes.

Mulgrave 1 - Existing landscape character

Tree canopy cover



Distinguishing features

- Forms part of the Monash Employment Cluster.
- Large, Medium and Small scale manufacturing, business and industrial land use.
- Relatively flat topography which is suited to this land use type.
- Future Westall Road Reserve runs north south.
- Predominantly evergreen landscape character with Eucalypt style planting.
- 20m setbacks achieve significant landscape frontages.

scale industrial land use includes no and limited setbacks and scattered native street trees.

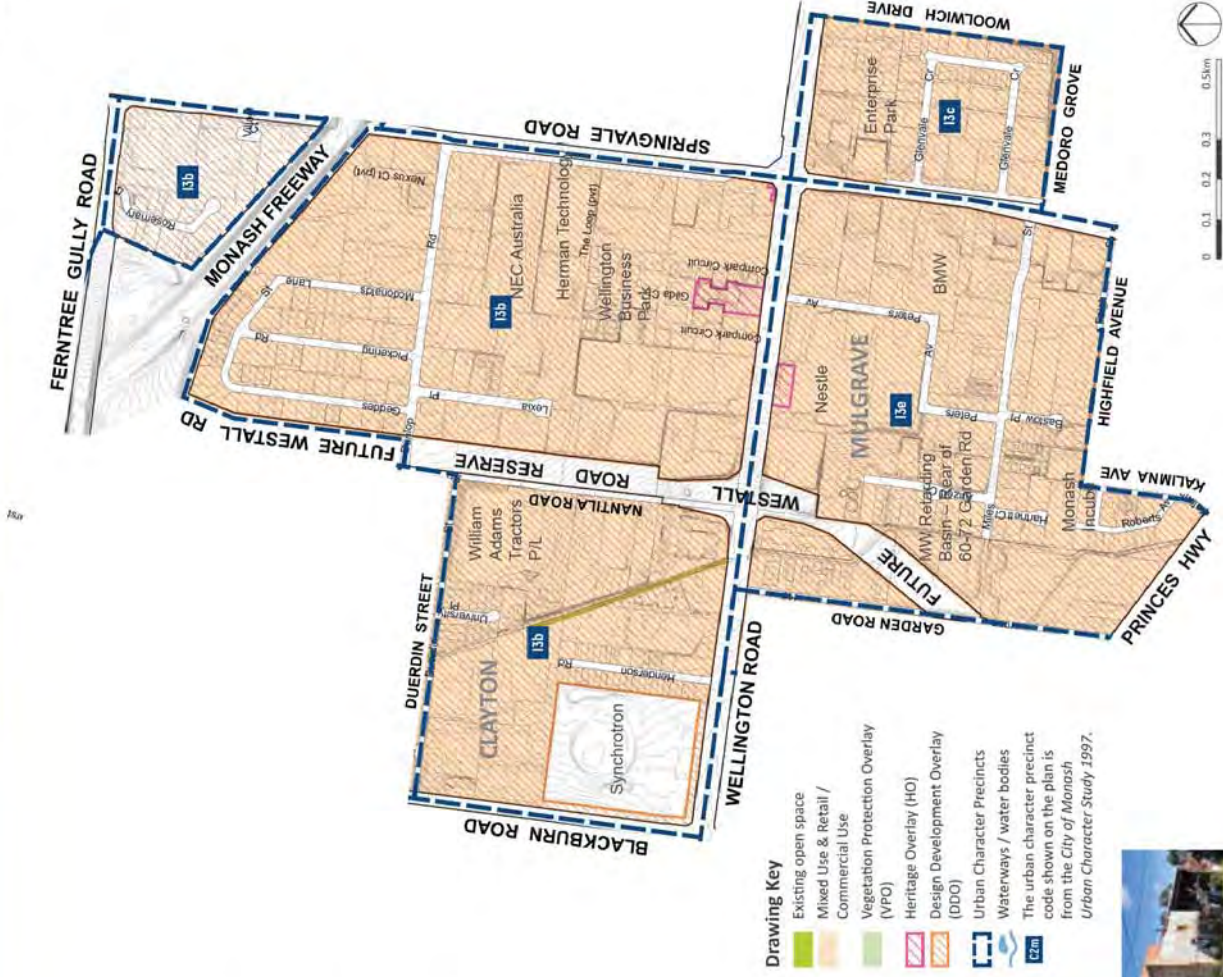
13c Garden commercial/industrial landscape character
Characterised by native street trees and well-maintained landscaped setbacks with grass and tall Eucalypt style planting. Built form is brick and consistent building heights and the nature strips and the private landscaped setbacks are accessible without fencing.

13e Garden commercial/industrial landscape character
Characterised by landscaped frontages with Eucalypt style planting with predominantly 2-storey buildings, selected frontages with car parking and limited lengths of fencing. The interface along Garden Road is an overhead transmission easement, and has a harsher industrial character as a result.

Existing landscape character

Summary of architectural character
The post WWII and contemporary, industrial and commercial development built form with large scale 2 to 4 storey simple architectural forms. The setbacks are generally between 7 and 20 metres.

13b Garden, suburban and urban commercial/industrial landscape character This large sub-precinct includes all three industrial character types. The large scale industrial land use in this sub-precinct is of the garden industrial style with large landscaped setbacks with evergreen and deciduous trees. The suburban scale industrial areas have variable setbacks, some with landscaped frontages and others with car parking and native street trees. The urban



Mulgrave 1 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the tall Eucalypt style native garden character of the public and private realm in this commercial/industrial precinct that is forecast to receive increased urban densities as part of the Monash National Employment and Innovation Cluster.
- Recognise the success of Enterprise Park as an example of preferred tall Eucalypt landscape character type including the integration of the streetscape and the adjoining private landscape setbacks, but with opportunity for these spaces to be better utilised if they are activated. This Strategy proposes the activation of the 10 metre and greater wide landscape setbacks where appropriate. Activation includes the provision of recreation facilities and seating/relaxation areas that can be used by workers during breaks from work within the landscaped setbacks. They could also include outdoor eating areas from adjoining kiosks/cafes.
- The aim is to recognise and make better use of the landscaped setbacks in the large commercial/industrial precincts as a point of difference, particularly in the context of encouraging sense of place and encouraging workers outdoors to exercise during breaks from work. There are examples of this activation already occurring within the commercial/industrial precincts and these recommendations are to promote and encourage this diversification.

Preferred landscape character for each sub-precinct

- 6C1 Native garden commercial/industrial tall Eucalypt landscape character**
- Plant additional tall Eucalypt species into the streetscapes to increase cover which may include investigating planting into roadside cutouts where overhead power restricts planting tall trees.
 - Progressively remove the small evergreen street trees are replace with large evergreen, deciduous and tall Eucalypt style canopy trees.

- Plant additional large predominantly evergreen trees in the front setbacks to provide shading and greening. Extend the predominantly evergreen tree planting to shade the extensive car parking and hard stand areas to the rear of these large commercial/industrial sites.

6C2 Native garden commercial/industrial tall Eucalypt landscape character

- Wellington Business Park is recently established.
- Review tree species and increase the presence of tall Eucalypt style species where required to strengthen the native garden character.

6C3 Native garden commercial/industrial tall Eucalypt landscape character

- Plant additional tall Eucalypt species into the streetscapes to increase cover which may include investigating planting into roadside cutouts where overhead power restricts planting tall trees.
- Progressively remove the small evergreen street trees are replace with large evergreen, deciduous and tall Eucalypt style canopy trees.
- At the interface to the adjoining residential land use the landscape buffer on the private land is to include tall Eucalypt style canopy trees to soften the built form.

6C4 Native garden commercial/industrial tall Eucalypt landscape character

- Utilise Enterprise Park as a good example of the preferred landscape character for this precinct. Investigate activation of the front setbacks to incorporate recreational facilities and outdoor seating for the employment community to utilise during breaks from work.
- Protect existing trees and plant additional large predominantly native evergreen trees and tall Eucalypt style species to increase the shading to parking areas and in the front landscape setback in any future development proposals.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic

Mulgrave 2 - Existing landscape character

Tree canopy cover



Distinguishing features

- Public open space has a predominantly native character.
- Monash Freeway adjoins the eastern boundary, with a native landscape character along this interface.
- Gently undulating to relatively flat topography.
- Predominantly residential land use.
- Predominantly single storey dwellings with compact garden styles.
- High side fences extending out to the footpath are visually prominent in some precincts.

Existing landscape character

Summary of architectural character
In the C areas of the precinct the dominant architectural character is 1960s style double fronted brick veneer dwellings of varying brick colours, along with newer 2-storey brick dwellings. In the B sub-precincts, the buildings are characterised by post war weatherboard and brick single storey houses. In the E sub-precincts the dominant architectural character is single storey 1970s style double fronted brick veneer dwellings.

B1r Undulating suburban compact evergreen landscape character
The residential gardens contribute to the character as they are visible and with a low open planting style with front lawns and shrubs mainly to the perimeter of buildings. A combination of scattered mixed deciduous and predominantly evergreen street trees provide shade and scale in some streets.

B1s Undulating suburban compact deciduous and evergreen landscape character
Characterised by a combination of small to medium deciduous and evergreen trees with well established low exotic gardens open to the

street, but with high side fences and a variety of scattered mixed deciduous and evergreen street trees.

C7c Established suburban deciduous and evergreen landscape character
Characterised by the presence of emergent deciduous and evergreen trees on private and public land combined with avenue style street tree planting with predominantly Eucalypts. Residential gardens are predominantly exotic with low or no front fences, but with high side fences.

E3d Undulating suburban deciduous and evergreen landscape character
Characterised by occasional large deciduous and evergreen trees on private land and large evergreen trees in the streetscapes. This is combined with primarily established low exotic gardens that effectively soften the single storey dwellings, however the recent developments with of 2-storey dwellings are more visually prominent given the low planting styles overall.



- L1 Established evergreen landscape character**
Characterised by predominantly mown grass and native planting style to this aged care facility and undeveloped land.
- L2 Undulating tall Eucalypt landscape character**
Characterised by perimeter planting of tall Eucalypts to sportsfields within the school and open space.
- L3 Undulating tall Eucalypt landscape character**
Characterised by a range of tall Eucalypt and other native tree and shrub planting in recently developed independent living units.

Mulgrave 2 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the tall Eucalypt native and indigenous landscape character near Mile Creek East Retarding Basin/Freeway Reserve.
- Increase deciduous and evergreen canopy tree cover to increase summer shade and strengthen the leafy green character, while retaining the diversity of the exotic and productive gardens.
- Improve the contribution of private gardens to the overall precinct character by reducing the prevalence of front and side high fencing.

Preferred landscape character for each sub-precinct

- 6S1 Gently undulating leafy garden suburban deciduous and evergreen landscape character**
 - Plant new large deciduous and evergreen trees on private land to increase urban greening particularly on sites with existing or proposed 2-storey dwellings.
 - Plant additional medium to large evergreen street trees to create avenue style plantings and increase canopy cover.
 - Encourage removal of high side and front fences and replace with low, low transparent or no fencing and increased planting to strengthen the garden character.
- 6S2 Gently undulating leafy garden urban tall Eucalypt landscape character**
 - Protect existing and plant additional tall Eucalypt style trees in this aged care facility to improve shade and urban greening and complement the adjoining interface to Mile Creek East Retarding Basin.
- 6S3 Gently undulating leafy garden suburban tall Eucalypt landscape character**
 - Retain and plant additional tall Eucalypt style planting including indigenous species to the Mile Creek East Retarding Basin in the public open space and streetscapes.
 - Council to advocate for the adjoining private school to maximise retention of tall indigenous vegetation and plant additional tall Eucalypt style planting where appropriate.

- 6S4 Gently undulating leafy garden suburban deciduous and evergreen landscape character**
 - Plant new large deciduous and evergreen trees on private land to increase urban greening particularly on sites with existing or proposed 2-storey dwellings.
 - Plant additional medium to large evergreen street trees to create avenue style plantings and increase canopy cover.
 - Encourage removal of high side and front fences and replace with low, low transparent or no fencing and increased planting to strengthen the garden character.

- 6S5 Gently undulating leafy garden suburban evergreen landscape character**
 - Plant new large deciduous and evergreen trees on private land to increase urban greening particularly on sites with existing or proposed 2-storey dwellings.

- 6S6 Gently undulating leafy garden suburban deciduous and evergreen landscape character**
 - Plant additional large canopy deciduous and evergreen trees on private land to complement the low garden style and increase shading, particularly on sites with existing or proposed 2-storey dwellings.
 - Plant medium and large canopy trees in the streetscapes to achieve a consistent avenue style planting and strengthen the leafy green character.

- 6S7 Gently undulating leafy garden suburban deciduous and evergreen character**
 - Plant additional large deciduous and evergreen canopy trees on private land to strengthen the scattered framework of existing large canopy trees, particularly on sites with existing and proposed 2-storey dwellings.
 - Plant additional deciduous and evergreen street trees to achieve consistent avenue style planting.
 - Plant additional large canopy evergreen and deciduous trees in Whitehaven Crescent Reserve and Southern Reserve to strengthen the landscape character of the open spaces and the precinct.

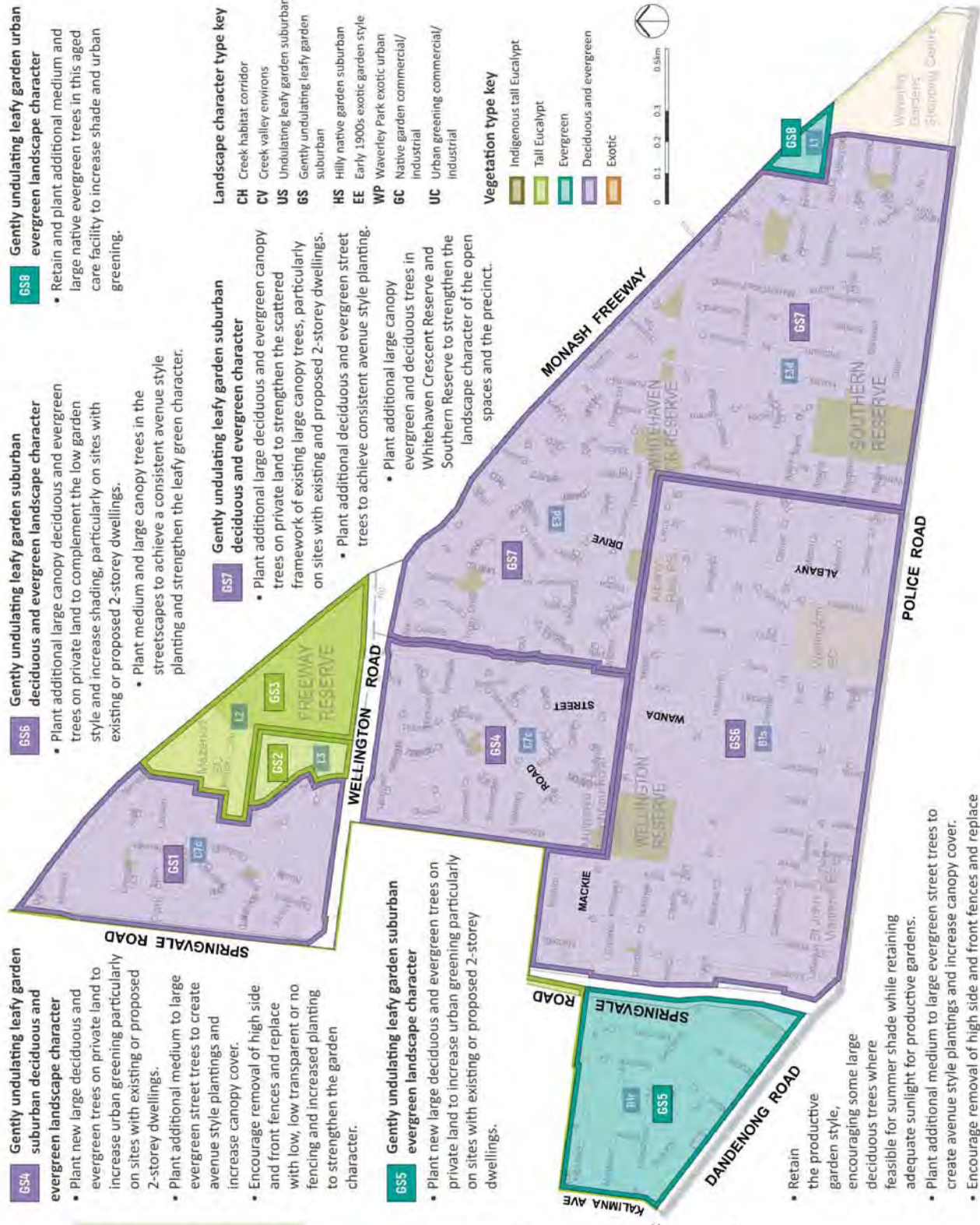
- 6S8 Gently undulating leafy garden urban evergreen landscape character**
 - Retain and plant additional medium and large native evergreen trees in this aged care facility to increase shade and urban greening.

Landscape character type key

CH Creek habitat corridor
CV Creek valley environs
US Undulating leafy garden suburban
GS Gently undulating leafy garden suburban
HS Hilly native garden suburban
EE Early 1900s exotic garden style
WP Waverley Park exotic urban
GC Native garden commercial/Industrial
UC Urban greening commercial/Industrial

Vegetation type key

Indigenous tall Eucalypt
Tall Eucalypt
Evergreen
Deciduous and evergreen
Exotic



Mulgrave 3 - Existing landscape character

Tree canopy cover

Due to this entire precinct being constructed post 1992, there are no comparable figures for tree canopy cover in this precinct.

Distinguishing features

- Waverley Park, including heritage values and interpretation of its role in Victorian sporting history.
- Medium density housing.
- Consistent avenue style street tree planting in residential land use.
- Large scale industrial land use.

Existing landscape character

Summary of architectural character
The dominant architectural character is single and 2-storey contemporary infill dwellings constructed post 2000.

61 Established post 2000 redevelopment exotic landscape character Characterised by consistent avenues of deciduous and evergreen street trees with minimal or no front fencing so there is integration between the public and private landscape. The medium density 2-storey and 3-storey dwellings provides a strong urban framework and there are limited trees on private land. The urban layout is centred around the Waverley Park open space.

14b Garden commercial/industrial landscape character
Large scale, low rise industrial land use is characterised by presence of tall Eucalypts and other native trees in the landscape setback along with vehicle hard stand and parking areas to the front. Eucalypt planting in Wellington Road contributes to the landscape character.



- Drawing Key**
- Mixed Use & Retail / Commercial Use
 - Heritage Overlay (HO)
 - Design Development Overlay (DDO)
 - Urban Character Precincts
 - Waterways / water bodies

61 The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



0 0.1 0.2 0.3 0.5km



Sub-precinct 61

Sub-precinct 14b

Mulgrave 3 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the indigenous tall Eucalypt landscape character of the commercial/industrial sub-precinct.
- Strengthen the predominantly exotic landscape character of Waverley Park residential area in the context of this being a stand-alone precinct that has been developed with a specific style.

Preferred landscape character for each sub-precinct

WP Waverley Park exotic urban landscape character

- Continue to maintain the consistent avenue style planting as the area continues to develop.
- Support the use of medium and large exotic canopy trees where space permits on private land to break up built form.

6SC Gently undulating leafy garden commercial/industrial tall Eucalypt landscape character

- Plant additional tall Eucalypt style species into the streetscapes to improve shading and greening.
- Plant additional tall Eucalypts style species on private land including in the hardstand and car parking areas and the landscape setbacks to improve shading and greening.



Landscape character type key

CH	Creek habitat corridor
CV	Creek valley environs
US	Undulating leafy garden suburban
6S	Gently undulating leafy garden suburban
HS	Hilly native garden suburban
EE	Early 1900s exotic garden style
WP	Waverley Park exotic urban
6C	Native garden commercial/industrial
UC	Urban greening commercial/industrial

Vegetation type key

	Indigenous tall Eucalypt
	Tall Eucalypt
	Evergreen
	Deciduous and evergreen
	Exotic



Mulgrave 4 - Existing landscape character

Tree canopy cover (excl Dandenong Creek)

Now (2016)	What's changed since 1992
22%	+ 3%
30%	- 9%
50%	+ 8%

Distinguishing features

- Dandenong Creek corridor including Police Road Retarding Basin.
- Elevated views to the Dandenong Ranges from parts of the precinct.
- Steeply undulating topography.
- Vegetation Protection Overlay over entire precinct.
- Predominantly residential land use.
- All public open space has a native character and Eucalypt overstorey.
- Underground power allows for larger canopy street trees.

Existing landscape character

Summary of architectural character

The dominant architectural character is single and 2-storey 1970s double fronted brick veneer dwellings with shallow pitched roofs, with a some additional contemporary 2-storey dwellings.

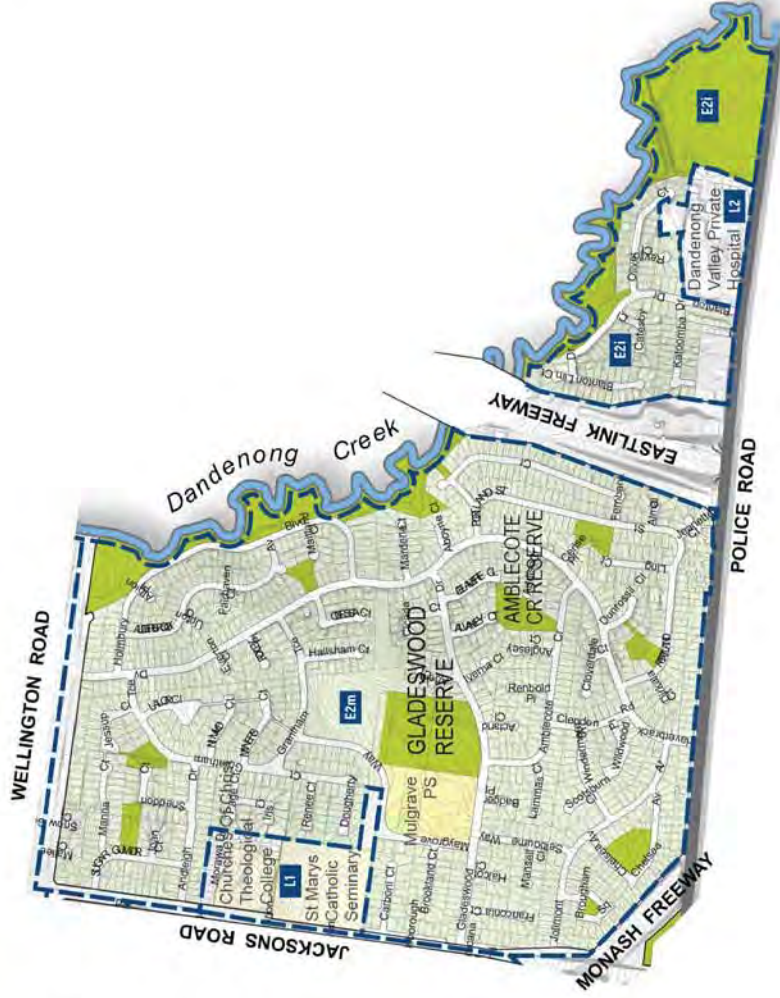
E2i Creek ridgeline suburban tall Eucalypt landscape character Characterised by steeply undulating topography and views to over Dandenong Creek with a presence of tall Eucalypt canopy cover primarily along the Dandenong Creek corridor. The manicured residential gardens with shaped conifers and terraced front gardens contrast in

scale with the tall Eucalypts on public land. Eucalypt style street trees complement the natural character of the open space.

E2m Undulating suburban tall Eucalypt landscape character Characterised by views to the east with a presence of tall Eucalypt canopy cover primarily in the public open space and along the Dandenong Creek corridor. The manicured residential gardens with shaped conifers contrasts in scale with the tall Eucalypts on public land.

L1 Undulating tall Eucalypt landscape character Characterised by tall Eucalypts to the college grounds and views to the east.

L2 Creek ridgeline tall Eucalypt landscape character Characterised by elevated views over Dandenong Creek with the presence of tall Eucalypt canopy on the site and to the perimeter of the Dandenong Valley Private Hospital.



Drawing Key

- Existing open space
 - Education Use (Public)
 - Education Use (Private)
 - Vegetation Protection Overlay (VPO)
 - Urban Character Precincts
 - Waterways / water bodies
- The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Sub-precinct E2i

Sub-precinct E2m

Mulgrave 4 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the biodiversity values along Dandenong Creek corridor with additional indigenous vegetation in the adjoining open space, streetscapes and in the private land adjoining the creek corridor.
- Increase the presence of the native tall Eucalypt style trees in the creek valley environs to complement the Dandenong Creek corridor environs.

Preferred landscape character for each sub-precinct

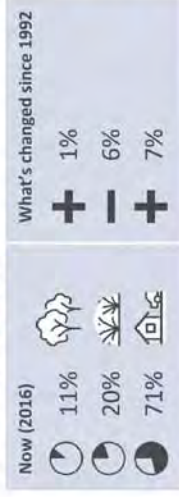
- CHS** Creek habitat corridor suburban tall indigenous Eucalypt landscape character
- Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
 - Encourage use of local provenance indigenous plants in private gardens where they directly adjoin the Dandenong Creek corridor to strengthen the biodiversity values, while retaining existing established native trees.
 - Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Dandenong Creek (i.e. not directly adjoining) including tall Eucalypt style species.

- CVS** Creek valley environs suburban tall Eucalypt landscape character
- Retain and plant large evergreen trees and tall Eucalypt style planting to increase tree canopy cover on private land and break up the built character of 2-storey dwellings.
 - Plant additional tall Eucalypt style street trees to achieve a consistent avenue style planting in the collector and wider streetscapes.
 - Plant additional medium native evergreen trees to achieve a consistent avenue style planting in the smaller local streets.



Notting Hill (non-residential use) - Existing landscape character

Tree canopy cover



Distinguishing features

- Forms part of the Monash Employment Cluster.
- Medium to large scale manufacturing, business and industrial land use.
- Sub-precincts of residential land use.
- Large built form and hardstand areas within the sites and to street frontages.
- Well-maintained landscape setbacks to some industrial properties contributing to the amenity of the area and encouraging informal recreational use by workers during lunch hour/properties.

property frontages emphasises the utilitarian landscape character and amenity.

15b Garden commercial/industrial landscape character
Characterised by well-maintained landscaped setbacks with a combination of evergreen and deciduous trees creating a more formal setting, including recreational facilities in the central road reserve. This sub-precinct has smaller properties with more uniformity of building style and street tree planting.

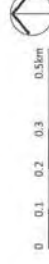
C2y Established suburban evergreen landscape character
Characterised by an evergreen garden setting with occasional large Eucalypts providing height and scale in gardens with single and 2-storey dwellings set in a background of larger windrows of evergreen trees to Stephensons Road and adjoining industrial use, with predominantly small evergreen street trees.

G1 Established post 2000 redevelopment exotic landscape character
Characterised by contemporary 2-storey brick dwellings with recently planted avenue style street trees.



- Drawing Key**
- Existing open space
 - Mixed Use & Retail / Commercial Use
 - Heritage Overlay (HO)
 - Design Development Overlay (DDO)
 - Urban Character Precincts

C2m The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



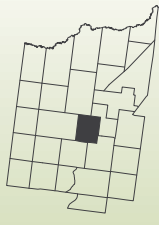
Existing landscape character

Summary of architectural character

The manufacturing, industrial and business park architectural character varies from post WWII to contemporary built form with large scale 2 to 4 storey simple architectural forms. Residential character varies from the pressed cream brick veneer houses to contemporary single and double storey brick dwellings.

13a 15a Suburban commercial/industrial landscape character
Characterised by evergreen regular street tree planting combined with landscaped frontages of varying form and character. Some have generous soft landscape interfaces while others some have a utilitarian treatment of car parking and vehicle access. High fencing to some

Notting Hill (non-residential use) - Preferred landscape character



Overall summary of preferred landscape character

- This precinct forms part of the Monash National Employment and Innovation Cluster. The landscape character types complement the predominantly native landscape character of the major arterial roads and the nearby Monash University campus.

U61 Urban greening exotic landscape character

- Protect existing exotic evergreen and deciduous trees on the diversity of land use in this sub-precinct.
- Plant additional large exotic deciduous and evergreen trees in the Clayton Aged Care facility to improve the shade and amenity in this precinct.
- Plant additional large exotic trees in the streetscapes to improve shading and strengthen urban greening.

Preferred landscape character for each sub-precinct

CV1 Creek valley environs suburban tall Eucalypt landscape character

- Protect and retain existing and plant additional tall Eucalypt style species where appropriate to strengthen urban greening, shade and the preferred landscape character.
- Strengthen the streetscape character with tall Eucalypt style street trees.

6C1 Native garden commercial/industrial tall Eucalypt landscape character

- Encourage a predominance of tall Eucalypt style planting in the landscaped front setbacks combined with activation of these spaces with recreational facilities and outdoor seating for the employment community to utilise during breaks from work.
- Plant additional tall Eucalypt style species in the streetscapes to improve shading and complement the garden style commercial/industrial character.

6C2 Native garden commercial/industrial tall Eucalypt landscape character

- Retain the established deciduous trees and formal landscape features and style on private land. Additional planting to utilise tall Eucalypt style planting that complement the existing exotic character.
- Plant additional tall Eucalypt style planting in the precinct to increase shade on both private land and in the streetscapes.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Oakleigh - Existing landscape character

Tree canopy cover

Now (2016)	What's changed since 1992
19%	- 3%
21%	- 3%
59%	+ 5%

Distinguishing features

- Dominance of period architectural styles from the early 1900s.
- Oakleigh town centre.
- DW Nicholl Reserve with its unique heritage character.
- Native landscape character of Scotchmans Creek.
- Predominantly alternating deciduous and evergreen street tree planting style.

Existing landscape character

Summary of architectural character

A variety of architectural styles demonstrate settlement from the 1880s and the inter-war period, including Post Federation, Californian bungalows, brick and rendered masonry villas and a minority of Victorian dwellings. Some precincts have occasional newer pressed cream or dark brown brick veneer houses and more recent 2-storey unit developments.

A1e Undulating early 1900s deciduous and evergreen landscape character Characterised by period gardens and architectural style combined with alternating street tree avenues.

A1f A1h Undulating modified suburban deciduous and evergreen landscape character Characterised by avenues of alternating street trees with mixed architectural styles including some recent 2-storey developments.

A1g Undulating early 1900s deciduous and evergreen landscape character Characterised by wide nature strips with avenues of large alternating street trees and a variety of architectural and exotic garden styles including recent 2-storey units.

A1i Creek ridgeline early 1900s evergreen landscape character Characterised by the central medians with established evergreen street trees, period gardens with large canopy trees along with elevated views to the north and east.

A3a Established early 1900s exotic landscape character Characterised by predominantly low exotic period Edwardian gardens and fencing styles combined with avenues of alternating street trees.

A3b Established early 1900s exotic landscape character Characterised by exotic avenue street tree planting, consistent fencing and architectural character and low exotic front garden styles creating an intimate feel.

A3c Undulating early 1900s exotic landscape character Characterised by views towards the DW Nicholl Reserve and a combination of wide streets with exotic avenue style streetscapes and smaller intimate streetscapes with consistent period fencing and low exotic front gardens.

B1f Established suburban deciduous and evergreen landscape character Characterised by wide naturestrips, large canopy trees on private and public land and alternating street tree avenues.

C2bb Creek ridgeline suburban deciduous and evergreen landscape character Characterised by the framework of the tall Eucalypt canopy trees along Scotchmans Creek providing scale to the single and 2-storey dwellings contrasting with avenues of deciduous and evergreen trees.

I2a Urban commercial/industrial landscape character Characterised by a dominance of built form, there is a combination of no and some narrow building setbacks with occasional screen planting and the native character of Jack Edwards Reserve.



Sub-precinct A1e

Sub-precinct A1f

Sub-precinct A1g

Sub-precinct A3a

Sub-precinct A3b

Sub-precinct I1a

Sub-precinct I2a

Oakleigh - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen biodiversity values and habitat connectivity along Scotchmans Creek through additional indigenous vegetation in the adjoining public open space, streetscapes and private land adjoining the creek corridor. This will be complemented by predominantly tall Eucalypt character on the adjoining creek valley environs.
- Strengthen the predominantly non-native landscape character in the established areas of Oakleigh away from the creek corridor, including the alternating deciduous and evergreen streetscapes.

Preferred landscape character for each sub-precinct

- CHC** **Creek habitat corridor commercial/industrial indigenous tall Eucalypt landscape character**
 - Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
 - Encourage the use of local provenance indigenous vegetation including tall Eucalypt style species on private land and streetscapes where they directly adjoin the creek corridor to strengthen the biodiversity values of Scotchmans Creek.
 - Encourage the use of native and where appropriate indigenous vegetation on private land and streetscapes that are further away from Scotchmans Creek (i.e. not directly adjoining), including tall Eucalypt style species.
- CVC** **Creek valley environs commercial/industrial tall Eucalypt landscape character**
 - Strengthen the native character with preference for tall Eucalypt style canopy trees and native vegetation on private land.
 - Retain and protect the existing large exotic deciduous and evergreen trees for scale, shade and habitat purposes on private and public land.
 - Preference for tall Eucalypt style species and native landscape character in streetscapes, while protecting and retaining existing deciduous trees where they are well established.
- CVE** **Creek valley environs early 1900s tall Eucalypt landscape character**
 - Retain existing large canopy trees on private land and encourage new plantings of emergent tall Eucalypts in the longer term.
 - In the longer term introduce tall Eucalypt style street trees to complement the nearby Scotchmans Creek.
- CVS** **Creek valley environs suburban tall Eucalypt landscape character**
 - Retain and protect existing mature deciduous and evergreen trees on private land and plant new large tall Eucalypt style species where feasible.
 - Change the dominant character by planting tall Eucalypt style species in the streetscapes to increase the emergent large canopy trees and complement the biodiversity values in the nearby Scotchmans Creek.

EE1 Early 1900s exotic garden style landscape character

- Protect and improve the existing streetscape avenues of exotic street trees with regular remedial work to the mature street trees and infill or replace with same or similar species.
- Protect and retain the heritage character including the mature canopy trees in DW Nicoll Reserve.
- Protect and retain the exotic garden and heritage fencing styles and heights through appropriate planning controls.
- Plant additional exotic deciduous and evergreen canopy vegetation on private land where appropriate to strengthen the existing character.

EE2 Early 1900s exotic garden style deciduous and evergreen landscape character

- Protect and manage the established avenues of alternating deciduous and evergreen street trees. This includes regular remedial work to the mature street trees and infill or replace with same or similar species.
- Plant additional canopy trees on private land where feasible and that from gardens and fencing styles are in keeping with the early 1900s landscape character.

EE3 Early 1900s exotic garden style landscape character

- Protect and improve the existing streetscape avenues of exotic street trees with regular remedial work to the mature street trees and infill or replace with same or similar species.
- Protect and retain the exotic garden and heritage fencing styles and heights through appropriate planning controls.
- Plant additional exotic deciduous and evergreen canopy vegetation on private land where appropriate to strengthen the existing character.

EE4 Early 1900s exotic garden style landscape character

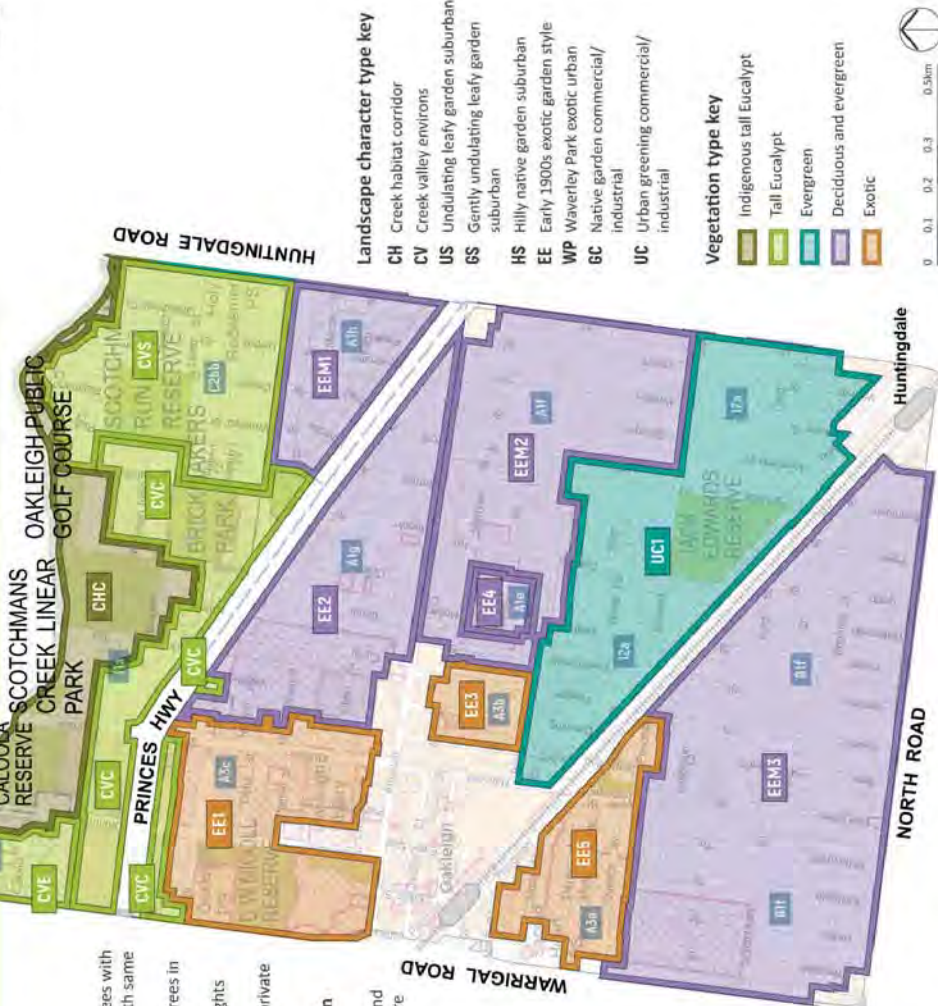
- Protect and improve the existing alternating deciduous and evergreen avenue of street trees with regular remedial work to the mature street trees and infill or replace with same or similar species.
- Protect and retain the exotic garden and heritage fencing styles and heights through appropriate planning controls.
- Plant additional exotic deciduous and evergreen canopy vegetation on private land where appropriate to strengthen the exotic garden style character.

EE5 Early 1900s exotic garden style landscape character

- Retain and protect the established Edwardian garden character through appropriate planning controls.
- Protect and strengthen the alternating evergreen and deciduous avenue street trees avenues with ongoing remedial work where required and additional planting to achieve consistent avenues with same or similar species.

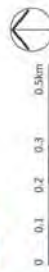
EE6 Early 1900s exotic garden style modified deciduous and evergreen landscape character

- Strengthen the exotic garden style character with additional deciduous and evergreen canopy vegetation and exotic garden beds in private gardens, for both new dwellings and where early 1900s style dwellings are retained.



- Landscape character type key**
- CH Creek habitat corridor
 - CV Creek valley environs
 - US Undulating leafy garden suburban
 - GS Gently undulating leafy garden suburban
 - HS Hilly native garden suburban
 - EE Early 1900s exotic garden style
 - WP Waverley Park exotic urban
 - BC Native garden commercial/industrial
 - UC Urban greening commercial/industrial

- Vegetation type key**
- Indigenous tall Eucalypt
 - Tall Eucalypt
 - Evergreen
 - Deciduous and evergreen
 - Exotic



- Plant additional large deciduous and evergreen street trees to achieve avenue style plantings, protecting and strengthening the existing established framework of trees.
- In all future development, protect the front setbacks including maximising planted areas within these and no or low front fencing.
- Plant new large deciduous and evergreen trees on private land associated with new 2-storey dwellings.
- Retain and strengthen the existing avenues of alternating deciduous and evergreen street trees character primarily by infill planting.
- Plant new large evergreen street trees into roadside cutouts/tree wells incorporating WSUD principles where feasible.
- Require future landscape front and side setbacks that include evergreen canopy trees and soft landscaping to increase shading and greening to the paved surfaces and built form.

EE2 EEM3 Early 1900s exotic garden style modified deciduous and evergreen landscape character

- Strengthen the exotic garden style character with additional deciduous and evergreen canopy vegetation and exotic garden beds in private gardens, for both new dwellings and where early 1900s style dwellings are retained.

- Plant new large deciduous and evergreen trees on private land associated with new 2-storey dwellings.
- Retain and strengthen the existing avenues of alternating deciduous and evergreen street trees character primarily by infill planting.

UC1 Urban greening commercial/industrial evergreen landscape character

- Change the character from urban to a more inviting and sustainable character with evergreen trees for shade and greening.
- Plant new large evergreen street trees into roadside cutouts/tree wells incorporating WSUD principles where feasible.
- Require future landscape front and side setbacks that include evergreen canopy trees and soft landscaping to increase shading and greening to the paved surfaces and built form.

Oakleigh East - Existing landscape character

Tree canopy cover



Distinguishing features

- Gently undulating and relatively flat topography
- Open space reserves have a native landscape character.
- Large Eucalypts and native landscape character of Monash University grounds which adjoin the precinct.
- Compact garden styles.
- Predominantly residential use with some pockets of industrial use.

Existing landscape character

Summary of architectural character

The area is characterised by the mix of post-war single storey weatherboard and brick houses. The brick is mainly pressed cream and pink colour. More recent 2-storey unit developments are occurring throughout the precinct.

BIh Undulating suburban compact evergreen landscape character Characterised by views to the south and east, established predominantly evergreen gardens, including productive gardens, combined with a variety of street tree styles and single storey dwellings with some 2-storey unit developments.

BII Undulating modified suburban compact evergreen landscape character Characterised by the small scale evergreen street trees combined with compact exotic

gardens and low fencing. Predominantly single storey original dwellings, there is an increasing presence of 2 storey unit developments.

BIj Undulating modified suburban deciduous and evergreen landscape character Characterised by the combination of large deciduous and evergreen street trees, low exotic garden character of the original single storey dwellings along with the native character of the two parks. The large street trees provide some scale and height to the 2-storey unit developments.

BIc Established modified suburban evergreen landscape character Characterised by predominantly small native street trees combined with low exotic gardens and scattered large evergreen trees on private land within the framework of tall Eucalypts from Monash University. Mixed fencing and housing styles with an increasing presence of 2-storey dwellings and unit developments.

CIj Undulating modified suburban compact evergreen landscape character The built form is visually prominent due to scattered and inconsistent street trees and the presence of higher fencing styles and the increase of 2-storey developments. The gardens are predominantly exotic with native street trees.

I1c Suburban commercial/industrial landscape character Characterised by narrow landscaped setbacks with a native character to one side of the street and residential use to the other.

I2b Urban commercial/industrial landscape character Characterised by the small scale industrial development with either no or limited setback that is predominantly



hard paved surfaces. Narrow naturestrips provide limited space for street trees.



Oakleigh East - Preferred landscape character

Overall summary of preferred landscape character

- Change the existing compact evergreen character precincts to a deciduous and evergreen character with large canopy trees. This is to promote increased summer shade and scale while retaining sunlight access during winter and break up the rooflines and built form of 2-storey dwellings.
- Improve the quality and character of the streetscapes with increased planting of street trees to achieve consistent avenue style planting.
- Increase the presence of large evergreen trees in the commercial/industrial precincts to improve amenity and urban greening in the context of forecast increased intensity of use and change as part of the Monash National Employment and Innovation Cluster.

- Plant additional large native and where appropriate indigenous canopy trees into Reg Harris Reserve and FE Hunt Reserve to strengthen the native character and increase the presence of large trees and shade in the precinct.

- GS2 Gently undulating leafy garden suburban deciduous and evergreen landscape character**
- Retain and plant new medium and large deciduous and evergreen canopy trees in private gardens to increase shade and provide scale for in the context of an increasing number of 2-storey dwellings.
 - Encourage retention of existing productive and exotic garden styles, with the addition of large predominantly deciduous canopy trees.
 - Retain the predominance of low and no front and side boundary fencing and support the increased presence of garden bed planting and greening.
 - Plant new medium and large deciduous street trees in the streetscapes including in an alternating deciduous and evergreen avenue style in the large number of east west streets to increase summer shade and retain adequate winter sunlight.

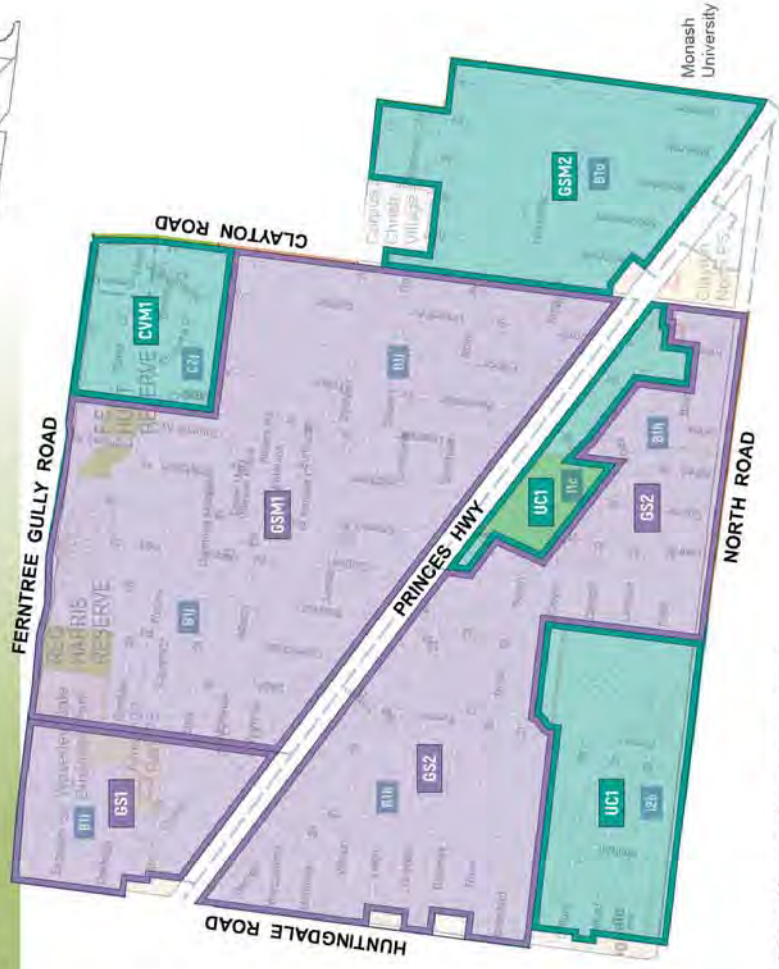
Preferred landscape character for each sub-precinct

- CVM1 Creek valley environs modified suburban evergreen landscape character**
- Retain and plant additional large evergreen, including tall Eucalypt style trees in private gardens to increase shade and urban greening and complement the native character of the nearby FE Hunt Reserve.
 - Improve the streetscape character by planting additional medium and large native evergreen street trees.
 - Being located adjacent to Monash University, it is likely this area will increase urban densities.
- BS1 Gently undulating leafy garden suburban deciduous and evergreen landscape character**
- Retain and plant new medium and large deciduous and evergreen canopy trees in private gardens to increase shade and provide scale for in the context of an increasing number of 2-storey dwellings.
 - Retain the predominance of low and no front and side boundary fencing and support the increased presence of garden bed planting and greening.
 - Plant new medium and large deciduous street trees in the streetscapes including in an alternating deciduous and evergreen avenue style increase summer shade and greening.

- GSM1 Gently undulating leafy garden modified suburban deciduous and evergreen landscape character**
- Encourage planting of predominantly deciduous canopy tree on private land to complement the mainly compact existing gardens. This will increase shade during the summer and contribute to the leafy green character, particularly as the prominence of two-storey dwellings increases.
 - Strengthen the evergreen planting character in proximity to F E Hunt Reserve and Reg Hunt Reserve in the streetscapes and where feasible on private land.
 - Retain and strengthen the framework existing large deciduous and evergreen street trees with additional planting to improve shade and scale in the streetscapes.
- GSM2 Gently undulating leafy garden modified suburban evergreen landscape character**
- Retain and plant additional large predominantly native evergreen trees and some deciduous trees in private gardens to provide adequate shade, scale and greening in the context of the forecast higher density living as part of the Monash National Employment and Innovation Cluster.
 - Retain predominantly low and no front and side boundary fencing and support the increased presence of garden bed planting and greening.

- Plant additional large native evergreen street trees to achieve consistent avenue style plantings in the streetscapes.

- UCI Urban greening commercial/industrial evergreen landscape character**
- Landscape setbacks to include planting large evergreen trees and landscaping to achieve improved urban greening particularly in the context of forecast change and increased intensity of use as part of the Monash National Employment and Innovation Cluster.
 - Plant large canopy evergreen trees in roadside cut-outs and incorporate WSUD treatment where feasible.



- Landscape character type key**
- CH Creek habitat corridor
 - CV Creek valley environs
 - US Undulating leafy garden suburban
 - GS Gently undulating leafy garden suburban
 - HS Hilly native garden suburban
 - EE Early 1900s exotic garden style
 - WP Waverley Park exotic urban
 - GC Native garden commercial/industrial
 - UC Urban greening commercial/industrial

- Vegetation type key**
- Indigenous tall Eucalypt
 - Tall Eucalypt
 - Evergreen
 - Deciduous and evergreen
 - Exotic

Oakleigh South 1 - Existing landscape character

Tree canopy cover (excluding golf course)



Distinguishing features

- Native canopy trees on Metropolitan Golf Course
- Evergreen canopy trees on Huntingdale Golf Course
- Large exotic trees in W A Scammell Reserve
- Large canopy trees on private land
- Relatively flat topography
- Native landscape character of school grounds

Existing landscape character

Summary of architectural character

The area is characterised by the mix of post-war single storey weatherboard and brick houses. The brick is mainly pressed cream and pink colour.

B1a B1b B1d Established suburban deciduous and evergreen landscape character

Characterised by predominantly low exotic gardens, set in a back drop of scattered large deciduous and evergreen trees on private land and native trees on Metropolitan Golf Course.

B1c Established suburban exotic landscape character

Characterised by large deciduous and evergreen trees on private land contrasting with the small and inconsistent street tree planting.

B1e Established suburban deciduous and evergreen landscape character Characterised by the combination of large evergreen and deciduous trees on private and public land associated with W A Scammell Reserve.

C1h Established suburban evergreen landscape character Characterised by the original dwellings set within the context of the predominantly native canopy tree framework from the Metropolitan Golf Course and the schools with no or low fencing to residential properties.

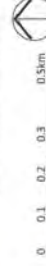
L1 Established golf course tall Eucalypt landscape character Characterised by the perimeter and fairway plantings of Eucalypts and other evergreen trees that contribute to the canopy tree framework and landscape character of the adjoining urban areas.



Drawing Key

- Existing open space
- Private golf course
- Education Use (Public)
- Mixed Use & Retail / Commercial Use
- Heritage Overlay (HO)
- Design Development Overlay (DDO)

- Urban Character Precincts
- Waterways / water bodies
- The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



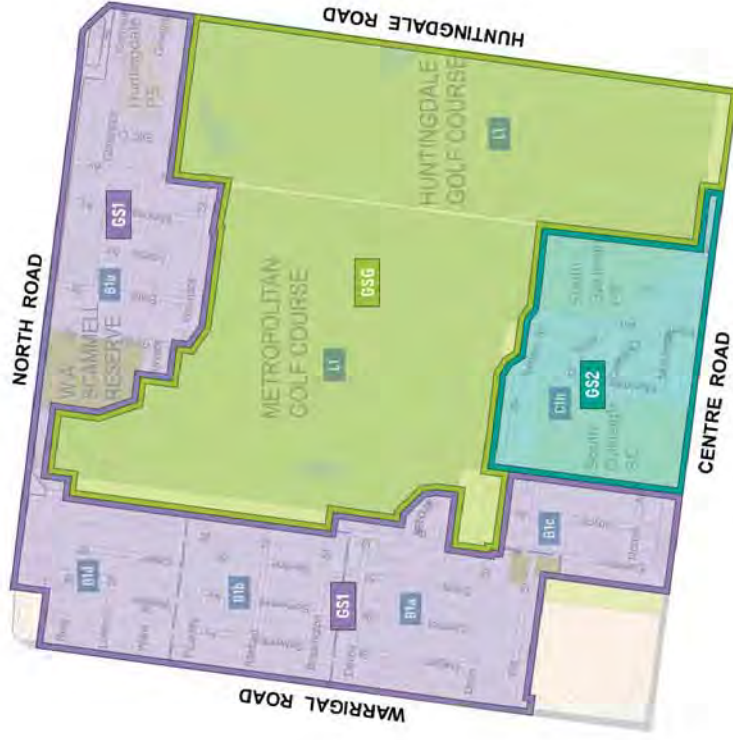
Oakleigh South 1 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the existing landscape character in the residential areas to increase the canopy vegetation cover and greening, strengthening the deciduous and evergreen character to the north and west of the golf courses and the evergreen character to the south.
- Retain and protect the established vegetation on the Huntingdale Golf Course and Metropolitan Golf Course.

Preferred landscape character for each sub-precinct

- GS1 Gently undulating leafy garden suburban deciduous and evergreen landscape character**
 - Retain existing and plant additional medium and large canopy deciduous and evergreen trees on private land to increase shade and strengthen the leafy character.
 - Plant additional large deciduous and evergreen street trees to achieve consistent avenue style planting.
- GS2 Gently undulating leafy garden suburban evergreen landscape character**
 - Retain existing and plant additional large evergreen canopy trees on private land. Currently the leafy character relies on the framework of existing trees in the adjoining Metropolitan and Huntingdale Golf Courses.
 - Plant additional large deciduous and evergreen street trees to achieve consistent avenue style planting.
- GS6 Gently undulating leafy garden suburban golf course tall Eucalypt landscape character**
 - Protect the existing established evergreen and deciduous canopy tree cover in the Metropolitan and Huntingdale Golf Courses, and replace any loss of existing canopy trees.
 - In any future change of land use, protect all existing established deciduous and evergreen trees including protecting key feature trees in public open space.





Oakleigh South 2 - Existing landscape character

Tree canopy cover



Distinguishing features

- Relatively flat topography.
- Railway line includes predominantly native trees.
- Former quarry site.
- Open space reserves have a native landscape character.

Existing landscape character

Summary of architectural character

The area is characterised by the mix of post-war single storey weatherboard and brick houses. The brick is mainly pressed cream and pink colour.

BIK Established suburban compact exotic garden character

Characterised by the presence of alternating exotic and evergreen avenues of street trees along with occasional large deciduous and evergreen trees on private and public land. The gardens are a mix of open grassed gardens with some low planting around the perimeter of the building and a more leafy planted character.

BIL Established suburban exotic landscape character

Characterised by the presence of alternating exotic and evergreen avenues of street trees along with scattered large deciduous and evergreen trees on private and public land. The gardens are contained with low front fencing and walls.

BIq Undulating suburban exotic landscape character
Characterised by a leafy garden character with built form partially screened from view with low shrubs and small trees in gardens, combined with occasional large evergreen and deciduous trees. Consistent avenue style deciduous and evergreen street tree plantings contribute to the leafy character of the precinct.

I2b Urban commercial/industrial landscape character
Characterised by the small scale industrial development with either no or limited setback that is predominantly hard paved surfaces. Narrow naturestrips provide limited space for street trees.

I2L Garden commercial/industrial landscape character
Characterised by landscape buffers with grass and occasional canopy trees to provide scale to the Army Barracks built form.

L1 Undeveloped tall Eucalypt landscape character
Characterised by the large established Eucalypts to the perimeter of the site.

BIe Established suburban deciduous and evergreen landscape character
Characterised by the combination of large evergreen and deciduous trees on private and public land associated with W A Scammell Reserve.



Drawing Key

- Existing open space
- Mixed Use & Retail / Commercial Use
- Heritage Overlay (HO)
- Design Development Overlay (DDO)
- Urban Character Precincts
- Waterways / water bodies

BIe The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.





Oakleigh South 2 - Preferred landscape character

Overall summary of preferred landscape character

- Increase the exotic canopy tree cover to increase summer shade and strengthen the leafy green exotic garden character.
- Reinstate and strengthen avenues of alternating deciduous and evergreen street trees.
- Retain and strengthen the tall Eucalypt style character in the former quarry and future redevelopment site.

Preferred landscape character for each sub-precinct

- 6S1 Gently undulating leafy garden suburban deciduous and evergreen landscape character**
 - Protect existing and plant new large deciduous and evergreen trees on private land to increase urban greening particularly to assist strengthen the residential character in contrast to the adjoining industrial precincts.
 - Plant additional large street trees to establish alternating deciduous and evergreen consistent avenue style planting.

6S2 Gently undulating leafy garden suburban exotic landscape character

- Protect existing and plant new large deciduous and evergreen trees on private land to increase urban greening, shade and scale, and in the context of potential higher density dwellings as part of the Monash National Employment and Innovation Cluster.
- Reinstate and maintain the original avenues of alternating deciduous and evergreen street trees, removing the recently planted mixed species.
- Retain a predominance of low and no front fences with increased planting to strengthen the exotic garden style.

6S3 Gently undulating leafy garden suburban exotic landscape character

- Protect existing and plant new large deciduous and evergreen trees on private land to increase urban greening, shade and scale, particularly on sites with existing or proposed 2-storey dwellings.

- Protect and maintain alternating deciduous and evergreen street trees. Reinstate where recent planting has removed the alternating character.
- Retain a predominance of low and no front fences with increased planting to strengthen the exotic garden style.

6S4 Gently undulating leafy garden suburban exotic landscape character

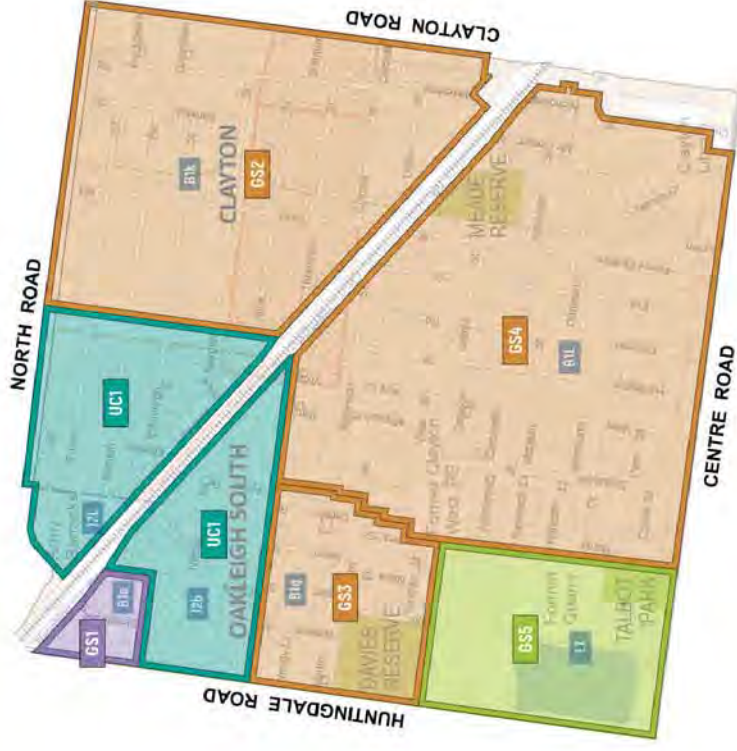
- Protect existing and plant new large exotic trees on private land to increase urban greening particularly on sites with existing or proposed 2-storey dwellings, and in the context of potential higher density dwellings as part of the Monash National Employment and Innovation Cluster.
- Encourage the removal of high front fences and replace with low or no front fencing with increased presence of planting rather than built form.
- Protect and maintain alternating deciduous and evergreen street trees. Reinstate where recent planting has removed the alternating character.
- Plant additional tall Eucalypt style trees to the perimeter of Meade Reserve to increase tree canopy cover consistent with the native character of the reserve.

6S5 Gently undulating leafy garden suburban tall Eucalypt landscape character

- Future development to maximise retention of long-lived canopy trees from the site including tall Eucalypt species.
- Future layout and road widths, front and side setbacks to allow for retention of existing and planting of new large tall Eucalypt style species to achieve urban greening and canopy cover described in the Strategy.

UC1 Urban greening commercial/industrial evergreen landscape character

- Landscape setbacks to include planting large evergreen trees and landscaping to achieve improved urban greening particularly in the context of forecast change and increased intensity of use as part of the Monash National Employment and Innovation Cluster.
- Plant large canopy evergreen trees in roadside cut-outs and incorporate WSUD treatment where feasible.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- 6S Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- 6C Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Wheeler Hill 1 - Existing landscape character

Tree canopy cover (excl. Dandenong Creek)



Distinguishing features

- Elevated views to the Dandenong Ranges.
- Jells Park bushland character, which is more visually prominent in the precinct than Dandenong Creek.
- Dandenong Creek corridor.
- Steeply undulating topography.
- Vegetation Protection Overlay over entire precinct.
- Predominantly residential land use along with education use.
- All public open space has a native character and Eucalypt overstorey.
- Underground power in some precincts allows for larger canopy street trees.

Existing landscape character

Summary of architectural character

The dominant architectural character is single and 2-storey 1970s double fronted brick veneer dwellings with shallow pitched roofs, with a some additional contemporary 2-storey dwellings.

E1a Creek ridgetopline suburban tall Eucalypt landscape character

Characterised by larger lots and substantial houses taking advantage of the views to the Dandenong Ranges with a variety of built form and planting styles. Common to the precinct is the presence of tall Eucalypts



Sub-precinct E1a



Sub-precinct E2f



Sub-precinct E2k



Sub-precinct E4b



large dwellings designed to address the views to the Dandenongs, with low exotic front gardens and minimal large overstorey trees. The background tree canopy cover is from the adjoining open space and precinct to the west.

E4b Undulating suburban tall Eucalypt landscape character

Characterised by views to the Dandenongs with scattered Eucalypt canopy cover primarily in private gardens and to a lesser extent in the streetscapes. This contrasts with compact evergreen manicured style front gardens to retain views.

through the private and public land, and generous front setbacks to buildings.

E2f Elevated suburban exotic landscape character

Characterised by a combination of scattered large deciduous and evergreen trees in the private gardens and avenues of large street trees including Eucalypts. The well-maintained gardens include predominantly evergreen shrubs and shaped conifers to retain views to the north, south and the CBD skyline.

E2k Elevated modified suburban compact exotic garden character

Characterised by contemporary 2-storey

Whealers Hill 1 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the unique combination of indigenous and native tall-Eucalypt style overstorey trees combined with manicured exotic garden styles taking advantage of commanding views east over the Dandenong Creek valley and to the Dandenong Ranges.
- Strengthen the biodiversity and values associated with the Dandenong Creek corridor and the extensive Jells Park.

Preferred landscape character for each sub-precinct

CHS Creek habitat corridor suburban tall indigenous Eucalypt landscape character

- Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
- Encourage use of local provenance indigenous plants in private gardens where they directly adjoin the Dandenong Creek corridor to strengthen the biodiversity values, while retaining existing established native trees.
- Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Dandenong Creek (i.e. not directly adjoining) including tall Eucalypt style species.

CVS Creek valley environs suburban tall Eucalypt landscape character

- Plant additional tall Eucalypt style species into streetscapes with similar style species to achieve consistent avenue style plantings.
- Protect existing canopy trees on private land and plant additional trees, including native and indigenous tall Eucalypt style species to strengthen the existing character and break up the visual dominance of built form.
- Encourage low, low transparent and no fencing with a dominance of planting instead of built form in front gardens.

USI Undulating leafy garden suburban exotic landscape character

- Retain the predominance of terraced exotic manicured front gardens that significantly contribute to the landscape character of this precinct.
- Encourage planting of additional exotic canopy trees on private land to increase canopy cover and greening.
- Plant additional street trees to establish avenue style plantings with appropriately scaled exotic trees that consider key views to the east.



Landscape character type key

- CH** Creek habitat corridor
- CV** Creek valley environs
- US** Undulating leafy garden suburban
- GS** Gently undulating leafy garden suburban
- HS** Hilly native garden suburban
- EE** Early 1900s exotic garden style
- WP** Waverley Park exotic urban
- GC** Native garden commercial/Industrial
- UC** Urban greening commercial/Industrial

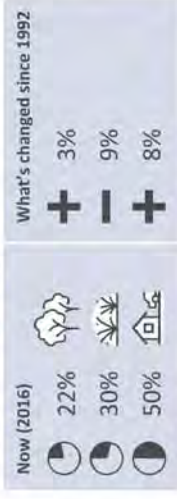
Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Wheeler's Hill 2 - Existing landscape character

Tree canopy cover



Distinguishing features

- Relatively flat topography.
- Lum Reserve includes native and indigenous canopy tree cover.
- Schools have a predominantly native landscape character.
- Predominantly residential land use.
- Brandon Park Shopping Centre adjoins the precinct.
- Monash Freeway adjoins the precinct.

Existing landscape character

Summary of architectural character

The dominant architectural character is single and 2-storey 1970s double fronted brick veneer dwellings with shallow pitched roofs, with a some additional contemporary 2-storey dwellings.

E5b Gently undulating suburban evergreen landscape character Characterised by relatively flat topography and established residential gardens with decorative flowering shrubs, small and large trees. A predominance of low and no fences to the gardens means they contribute to the streetscapes. Due to the scattered nature of the street tree planting, the private gardens strongly contribute to the character. Lum Reserve has a framework of Eucalypts contributing the canopy tree cover in this precinct.



Sub-precinct E5b

Wheelers Hill 2 - Preferred landscape character

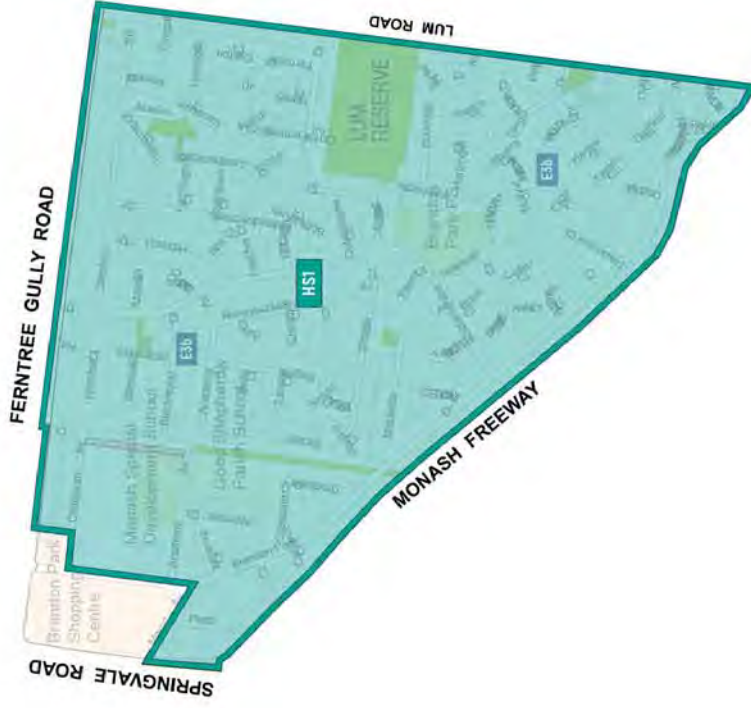
Overall summary of preferred landscape character

- Strengthen the native and evergreen landscape character of this precinct to complement Lum Reserve and the dominant garden style character.
- Increase the presence of large evergreen trees to increase canopy cover and greening to address the existing and new 2-storey dwellings.

Preferred landscape character for each sub-precinct

HS1 Hilly native garden suburban evergreen landscape character

- Retain and plant new large predominantly native evergreen trees on private land to increase the canopy cover.
- Retain and require new developments to have low or no front fencing and a predominance of planting rather than built form.
- Plant predominantly avenue style large evergreen trees in the collector roads to increase the tree canopy cover and strengthen the landscape character.
- In the smaller residential streets, plant additional street trees of the same species as infill to achieve avenue style plantings.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- GC Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic



Wheeler's Hill 3 - Existing landscape character

Tree canopy cover (excl. Dandenong Creek)



Distinguishing features

- Natural landscape values of Dandenong Creek and Corahamwarrabul Wetlands.
- Steeply undulating topography.
- Views to the Dandenong Ranges.
- Predominantly residential land use and curvilinear subdivision pattern.
- Remnant indigenous vegetation including tall Eucalypts providing overstorey canopy trees in many of the open spaces and on the school land.
- Compact evergreen private garden styles with a dominance of pruned and topiary conifers.

Existing landscape character

Summary of architectural character

The dominant architectural character is single storey 1970s double fronted brick veneer dwellings with shallow pitched roofs, with some additional contemporary 2-storey dwellings.

E2g Creek valley suburban compact evergreen landscape character Characterised by undulating, predominantly small evergreen street trees and low exotic evergreen vegetation in gardens, particularly pruned conifers and palms. Occasional large evergreen trees in the streetscapes complement the Dandenong Creek valley.

E3b Undulating modified suburban compact evergreen landscape character Characterised by small evergreen trees and shrubs on private land and small native street trees with occasional large Eucalypt overstorey trees. The compact vegetation and low profile single storey dwellings emphasises the visual prominence of more recent 2-storey dwellings.

G1 Undulating post 2000 redevelopment evergreen landscape character Characterised by an open park setting with contemporary double storey dwellings and no clear definition between private and public land. Native trees are the dominant tree planting character and the small infill development overlooks a central wetland referred to as Gallery Place.

G2 Undulating post 2000 redevelopment tall Eucalypt landscape character Characterised by the presence of native and indigenous overstorey trees contrasting with low exotic planting around the dwellings of Cumberland retirement village.



Drawing Key

- Existing open space
 - Private golf course
 - Education Use (Public)
 - Mixed Use & Retail / Commercial Use
 - Heritage Overlay (HO)
 - Design Development Overlay (DDO)
- Urban Character Precincts
 - Waterways / water bodies
 - The urban character precinct code shown on the plan is from the City of Monash Urban Character Study 1997.



Sub-precinct E3b



Sub-precinct G1



Sub-precinct G2



Sub-precinct E2g



Sub-precinct E3b



Sub-precinct E2g - Dandenong Creek & Corahamwarrabul Reserve

Wheelers Hill 3 - Preferred landscape character

Overall summary of preferred landscape character

- Strengthen the biodiversity values along Dandenong Creek corridor with additional indigenous vegetation in the adjoining open space, streetscapes and in the private land adjoining the creek corridor.
- Increase the presence of the native tall Eucalypt style trees in the creek valley environs to complement the Dandenong Creek corridor environs while maintaining and contrasting to the manicured private gardens.
- West of Jells Road, increase the leafy green character through increased canopy cover reducing the visual prominence of fencing and built form.

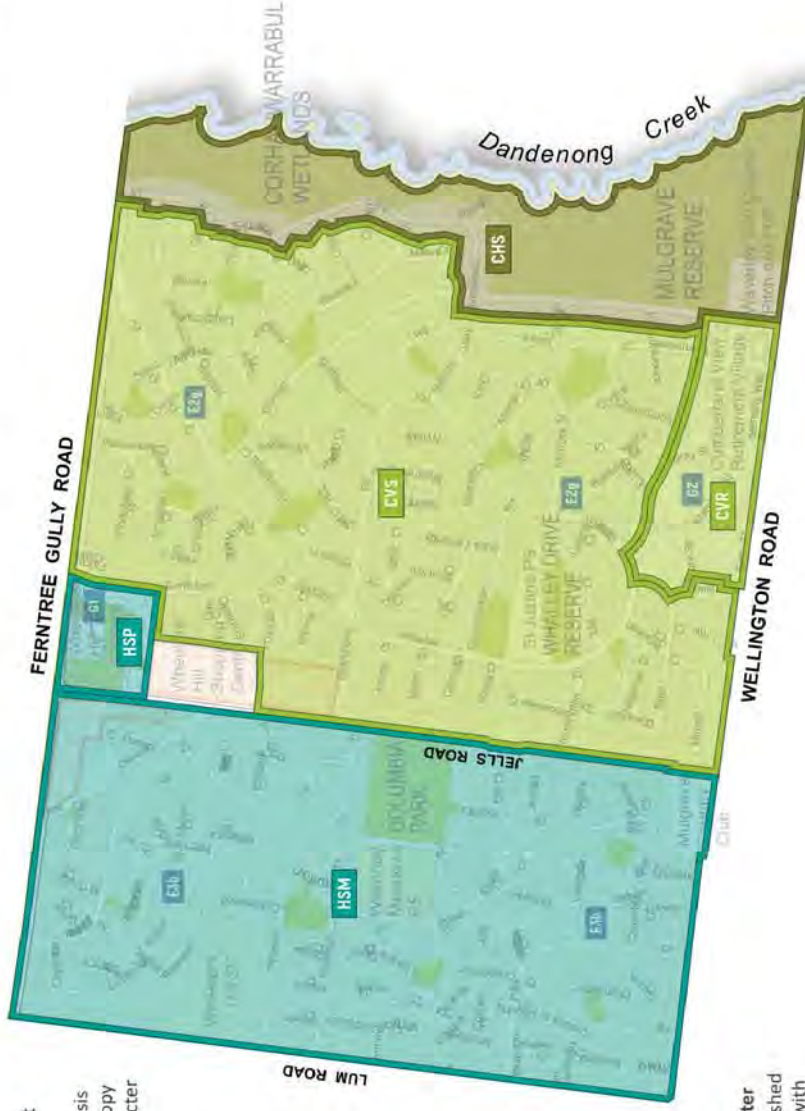
Preferred landscape character for each sub-precinct

- CHS** Creek habitat corridor Eucalypt landscape character
 - Continue to strengthen the indigenous vegetation values in the public open space along the creek corridor.
 - Encourage use of local provenance indigenous plants in private gardens where they directly adjoin the Dandenong Creek corridor to strengthen the biodiversity values, while retaining existing established native trees.
 - Encourage the use of native and where appropriate indigenous species in private gardens that are further away from Dandenong Creek (i.e. not directly adjoining) including tall Eucalypt style species.
- CVR** Creek valley environs retirement living tall Eucalypt landscape character
 - Protect the remnant indigenous canopy trees in the retirement village including regular assessment and remedial work to retain these large trees in good condition.
 - Plant additional indigenous or Eucalypt style canopy trees for shade to this retirement village.
 - Plant additional medium sized trees for shade including deciduous trees as required to provide adequate summer shade in this retirement village.

- CVS** Creek valley environs suburban tall Eucalypt landscape character
 - Retain and plant large evergreen trees and emphasis on tall Eucalypt style planting to increase tree canopy cover on private land and break up the built character of 2-storey dwellings.
 - Retain the distinctive manicured garden style prevalent in this precinct.
 - Plant additional tall Eucalypt style street trees, particularly in the collector streets to increase canopy cover and soften the predominance of 2-storey dwellings.
- HSM** Hilly native garden modified suburban evergreen landscape character
 - Retain and plant new large predominantly native evergreen trees on private land to increase the canopy cover.
 - Encourage the removal of high front and side fences and replace with low, low transparent or no front fence and increased planting.
 - Plant predominantly avenue style large evergreen trees in the collector roads and medium evergreen trees in the smaller streets to increase the tree canopy cover and strengthen the landscape character.

HSP hilly native garden suburban post 2000 redevelopment evergreen landscape character

- The Gallery Place redevelopment has been established with a predominantly native landscape character with excellent integration between the public and private realm.
- Introduce appropriate planning controls to retain open landscape integration between the private and public realm including lack of front fencing.



Landscape character type key

- CH Creek habitat corridor
- CV Creek valley environs
- US Undulating leafy garden suburban
- GS Gently undulating leafy garden suburban
- HS Hilly native garden suburban
- EE Early 1900s exotic garden style
- WP Waverley Park exotic urban
- GC Native garden commercial/industrial
- UC Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic

Appendix B

Case studies regarding canopy vegetation loss

B1 Case Study 1

B1.1 Location

Angus Drive is in Glen Waverley 1 landscape character precinct and is a residential area within a Vegetation Protection Overlay. The 1997 Urban Character Study described the character as:

'The character of this area is set mainly by the predominance of the double and triple fronted pressed cream and pink brick veneer small scale single storey residences set on the slopes of Scotchmans Creek valley.'

B1.2 Canopy vegetation cover

There has been a reduction in tree canopy cover, garden beds and grassed areas, with an increase in the hard surfaces as shown in the following diagram:



B1.3 Comparison between the 1992 and 2015 aerial photographs

The aerial photos show the change in this section of Angus Drive from the original dwellings constructed in the 1950s through to the current state of development in 2016. In this location there are elevated views to the north over the tributary to Scotchmans Creek. A series of large single detached 2 to 3 storey dwellings have been recently constructed on the south side of Angus Street and 2 storey unit developments on the north side of Angus Drive. A key change that is visible in the aerial photos is the increase in hard paved and roof area and the reduction in the green and permeable surfaces. This change directly impacts on the existing landscape character of this area. This case study illustrates the cumulative impact and effect of a number of single dwelling redevelopments over a seven year period.



*Figure B1 Case Study 1 1992 aerial photo on the left and 2015 aerial photo on the right
Note that the 2015 aerial photo is taken in September and deciduous trees are not as visible compared with 1992 aerial photo which is during summer.*

B1.4 Comparison between the landscape character in 2009 and 2016

Below are the November 2009 images from Google Street View of Case Study 1, contrasting with the 2016 photos of the same locations.

2009 Google Street View south side Angus Dr

2009 Google Street View north side



2016 Photo south side of Angus Dr

2016 Photo north side of Angus Dr

The photos shown above illustrate the substantial change to the existing landscape character through the increase in built form. This includes the increase in site coverage, height and visual prominence of built form in the street, combined with the removal of canopy trees and shrubs. The example the properties on the south side of Angus Drive have almost entirely paved front gardens with minimal permeable areas of grass or a garden bed. The minimal 1m side setbacks on the south side of the street means there is

no space to plant and establish canopy trees to create a garden setting for these dwellings. The garden setting with grass, garden beds and trees is what contributes to the *Garden City Character* of Monash. This example of recent development does not support and strengthen the *Garden City Character* of Monash.

The 2016 view shows the skyline is dominated by continuous built form rather than viewed through vegetation with emergent tree canopy to break up the rooflines. Additionally, the photos of the north side of Angus Dr illustrate the loss of the street tree from the front of the properties as well.

B2 Case Study 2

B2.1 Location

Park Road is located in the Mount Waverley 1 landscape character precinct in a residential area within a Vegetation Protection Overlay. The 1997 Urban Character Study described the character as:

'The area is characterised by a variety of architectural styles, but a general similarity in quality of design and finish. Most of the houses are constructed of red brick and a large percentage are two storey.'

B2.2 Canopy vegetation cover

There has been a reduction in tree canopy cover and an increase in garden bed and grassed areas along with hard surfaces as shown in the following diagram:



B2.3 Comparison between the 1992 and 2015 aerial photographs

The aerial photos show the change of vegetation cover in Park Road over this period. It demonstrates an increase in tree canopy cover on public land associated with Damper Creek, contrasting with the loss of canopy vegetation on private land. A series of 2 lot subdivisions have occurred in Park Road, leading to a loss of canopy vegetation on private land and also street trees in front of the properties that have redeveloped. In this location the private lots are on undulating land in the creek valley overlooking Damper Creek.



B2.4 Comparison between the landscape character in 2009 and 2016

Below are the November 2009 images from Google Street View of Case Study 2, contrasting with the 2016 photos of the same locations.

2009 Google Street View west side of the Park Road



2016 Photo of west side of the Park Road

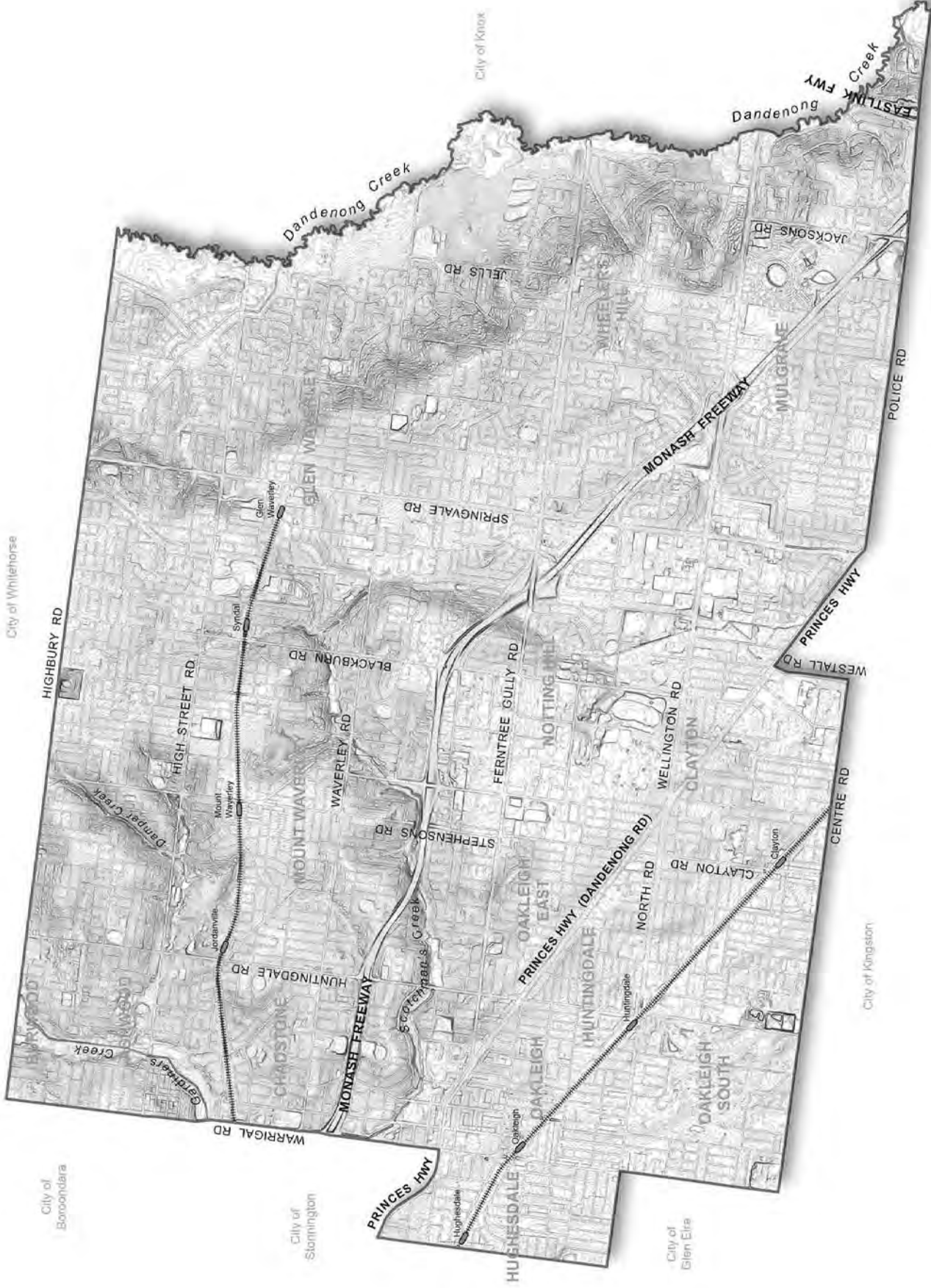
Case Study 2 illustrates the loss of canopy vegetation on private land, particularly the low canopy vegetation between the two storey dwellings and the street. In the context of the

Garden City Character, this example demonstrates a significant change in the balance of built form and greenness. It does also illustrate the value in retaining tall canopy trees, which emerge well beyond the roofline height of the built form, to break up the skyline with vegetation. This case study also illustrates the extent of smaller canopy vegetation in the front gardens that have been removed. This case study shows the contribution that grass, garden bed and small canopy trees makes to the overall greenness and *Garden City Character*.

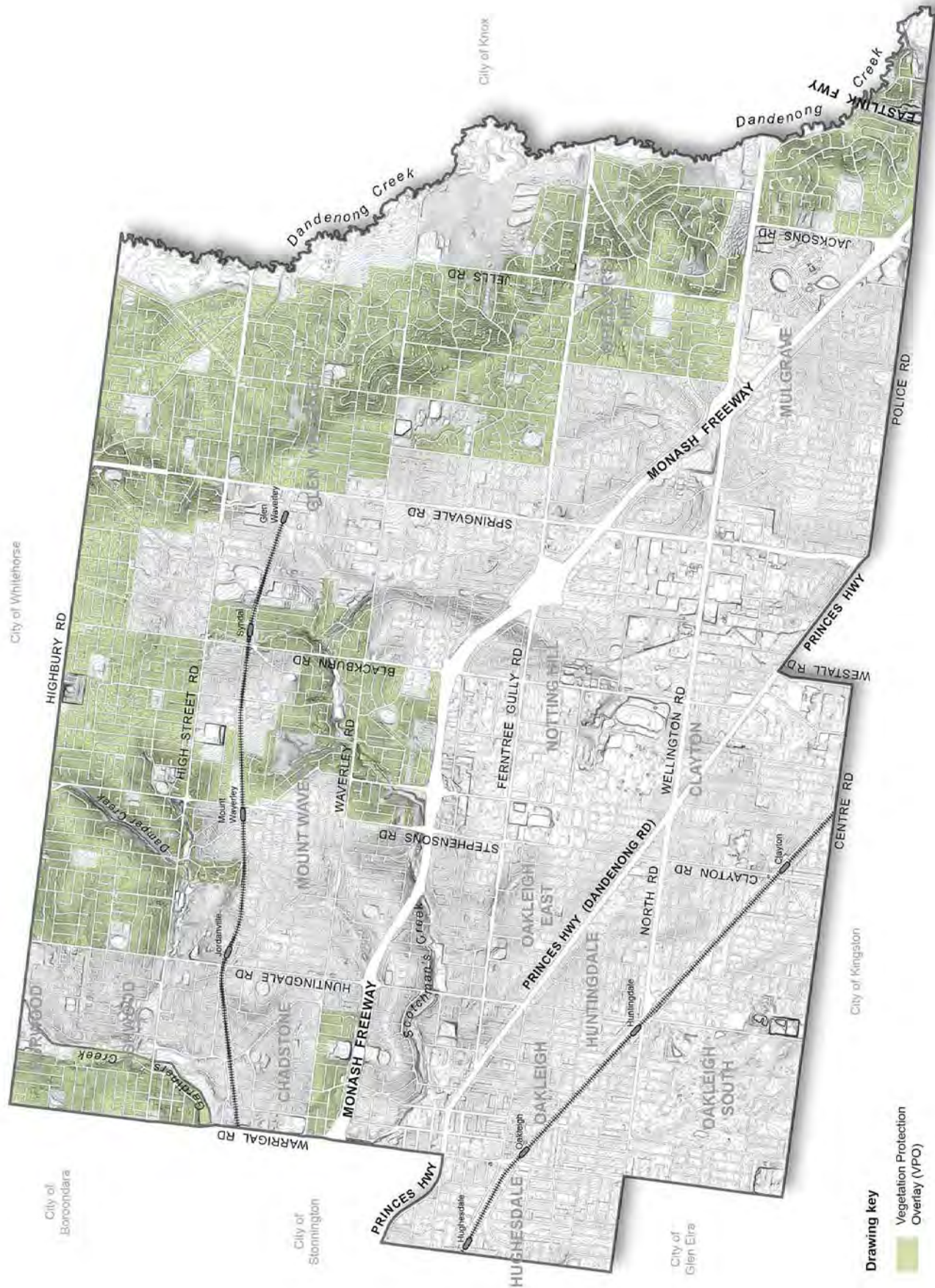
Attachment

Index of Drawings

MLAVS-01	Topography
MLAVS-02	Topography & Vegetation Protection Overlay
MLAVS-03	Waterways & Open Space
MLAVS-04	Relevant Overlays
MLAVS-05	Urban Character Precincts
MLAVS 06A	Existing Landscape Character Types – Vegetation
MLAVS 06B	Existing Landscape Character Types – Topography
MLAVS 07	Preferred landscape character types



MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY
 Topography & Vegetation Protection Overlay



Drawing key
 Vegetation Protection Overlay (VPO)

City of Whitehorse

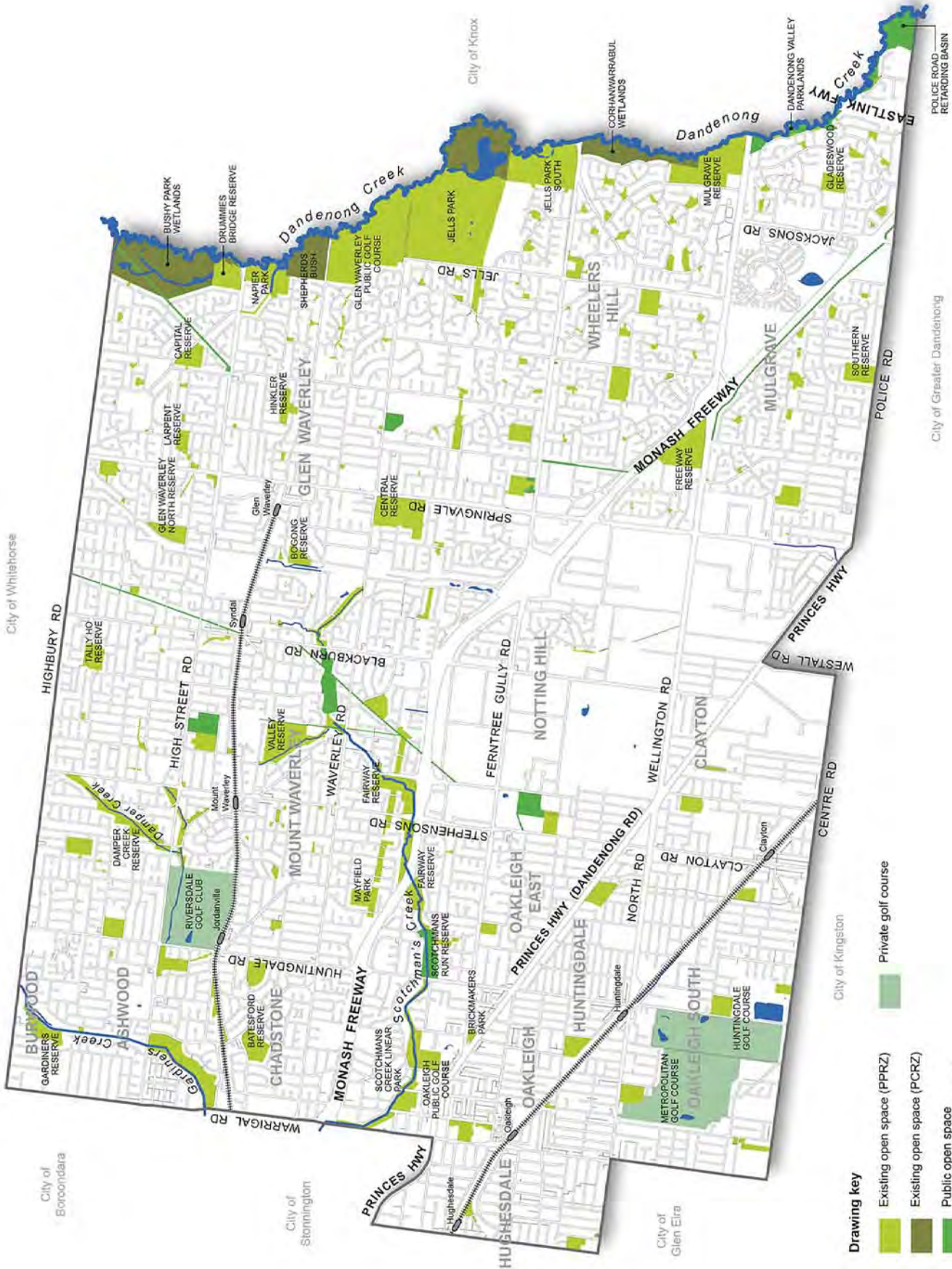
City of Boncollara

City of Stonnington

City of Knox

City of Kingston

City of Greater Dandenong

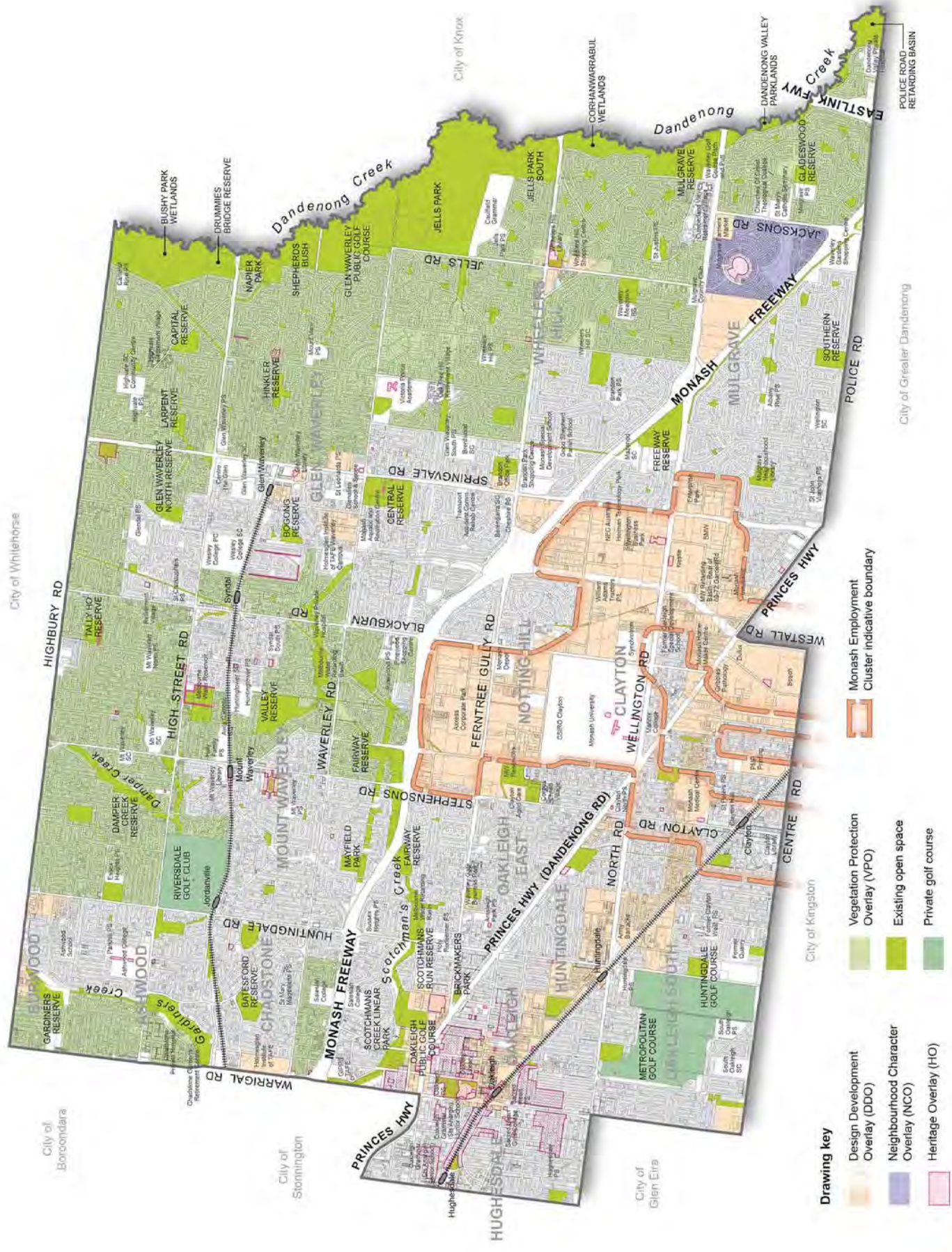


- Drawing key**
- Existing open space (PPRZ)
 - Existing open space (PCRZ)
 - Public open space (not zoned PPRZ or PCRZ)
 - Private golf course



MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY

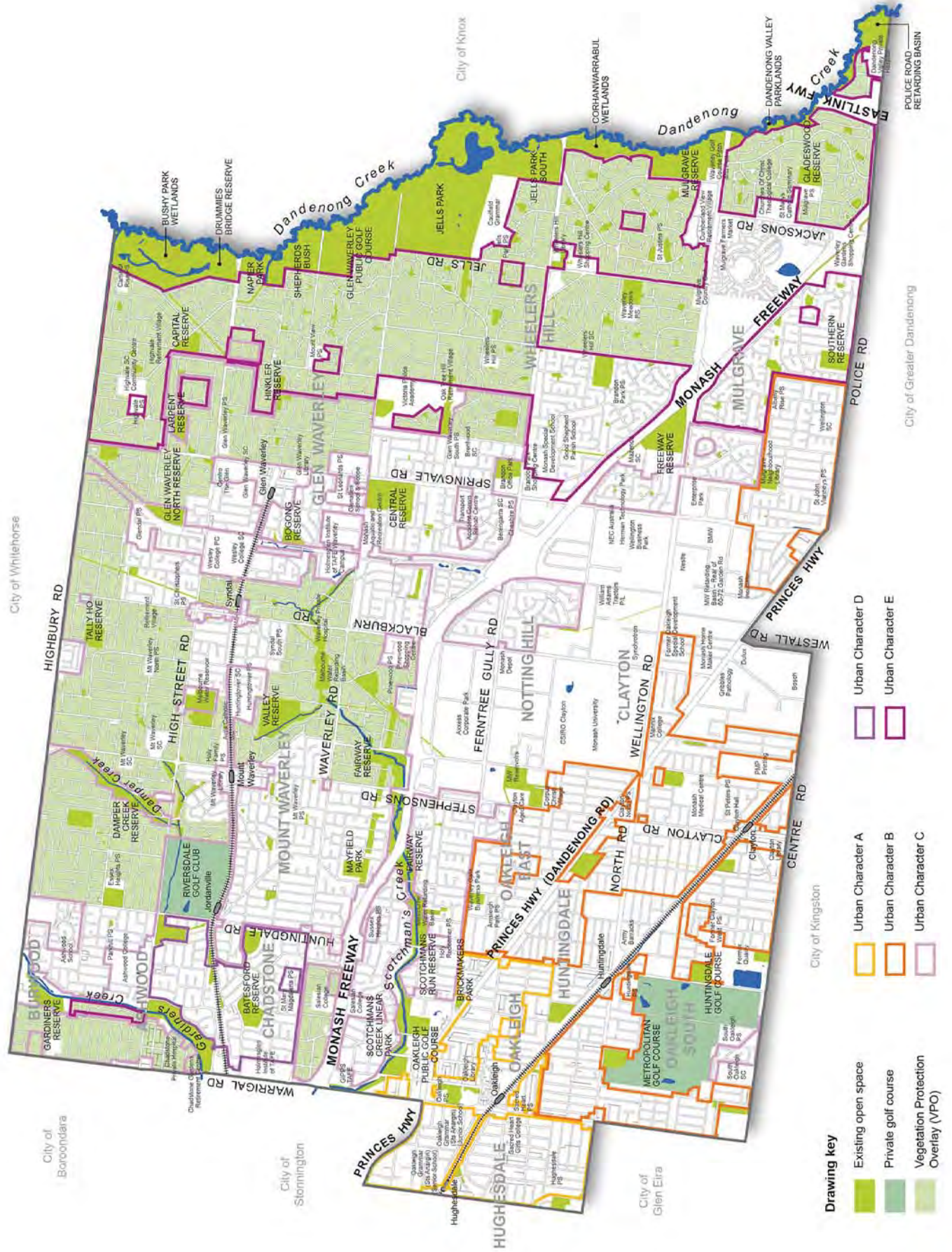
Relevant Overlays



- Drawing key**
-  Design Development Overlay (DDO)
 -  Neighbourhood Character Overlay (NCO)
 -  Heritage Overlay (HO)
 -  Vegetation Protection Overlay (VPO)
 -  Existing open space
 -  Private golf course
 -  Monash Employment Cluster indicative boundary

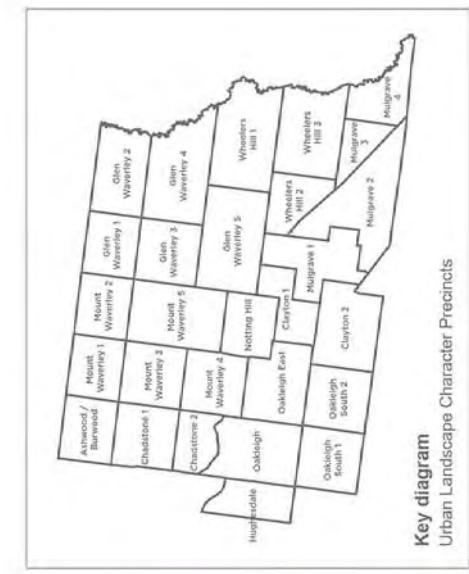
MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY

Urban Character Precincts

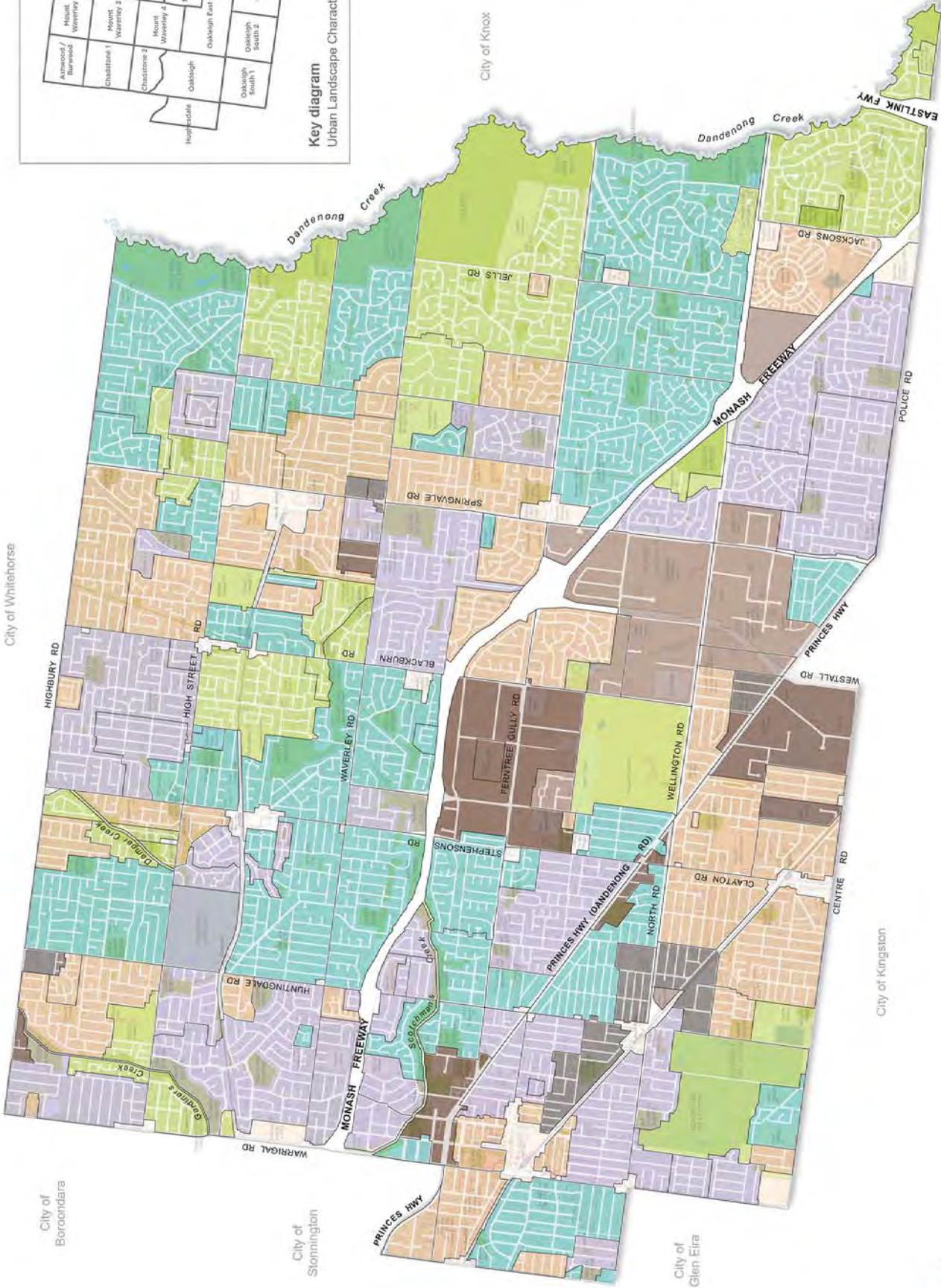


Drawing key

	Existing open space		Urban Character A
	Private golf course		Urban Character B
	Vegetation Protection Overlay (VPO)		Urban Character C
			Urban Character D
			Urban Character E

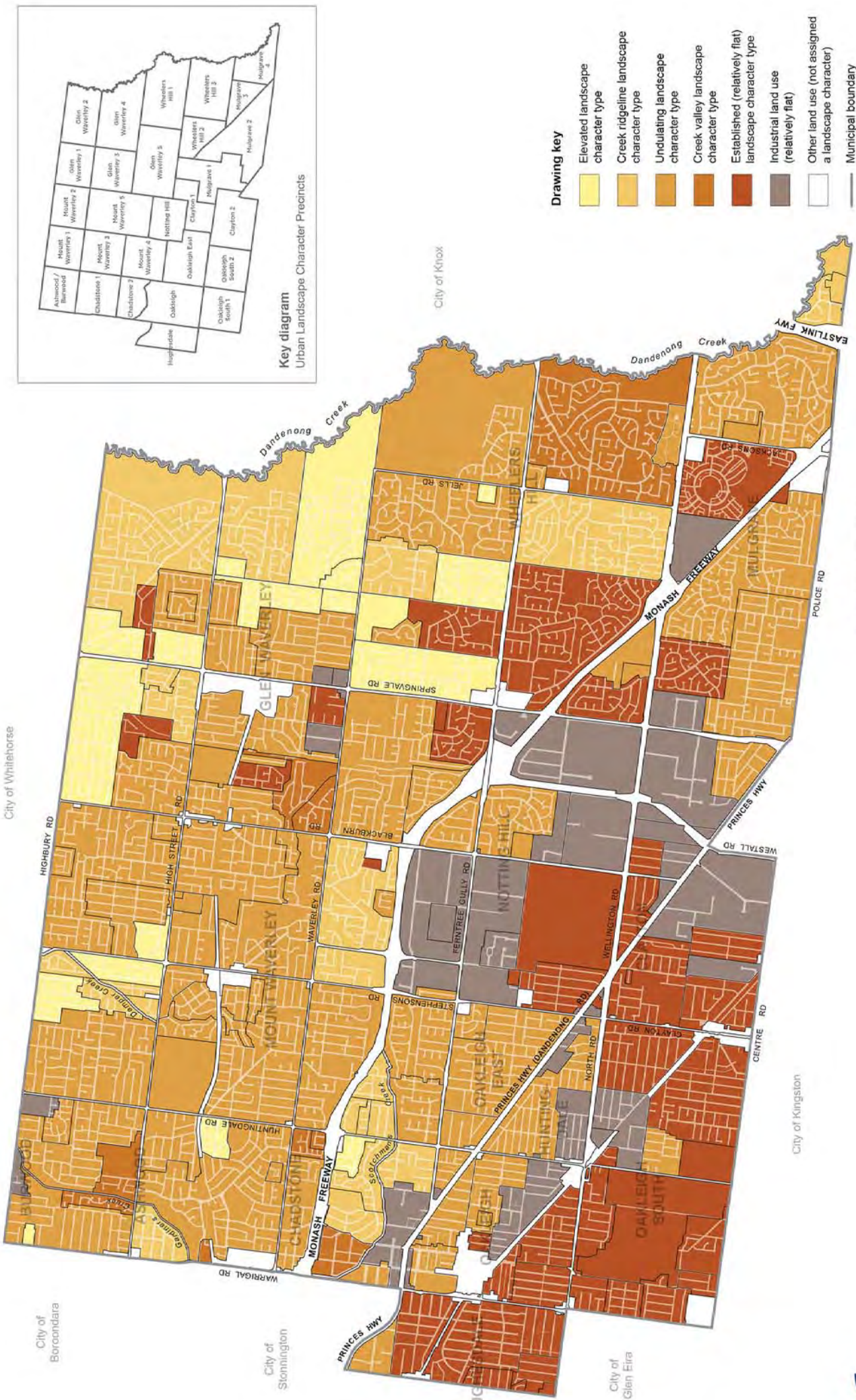


- Drawing key**
- Evergreen landscape character type
 - Exotic landscape character type
 - Native tall Eucalypt landscape character type
 - Deciduous and evergreen landscape character type
 - Garden industrial landscape character type
 - Suburban industrial landscape character type
 - Urban industrial landscape character type
 - Other land use (not assigned a landscape character)
 - Municipal boundary





Existing urban landscape character types – Topography
MONASH URBAN LANDSCAPE CHARACTER AND CANOPY VEGETATION STRATEGY



Drawing key

- Elevated landscape character type
- Creek ridge/line landscape character type
- Undulating landscape character type
- Creek valley landscape character type
- Established (relatively flat) landscape character type
- Industrial land use (relatively flat)
- Other land use (not assigned a landscape character)
- Municipal boundary

City of Whitehorse

City of Boroondara

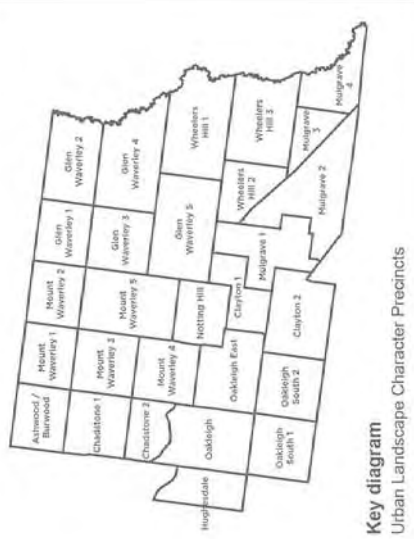
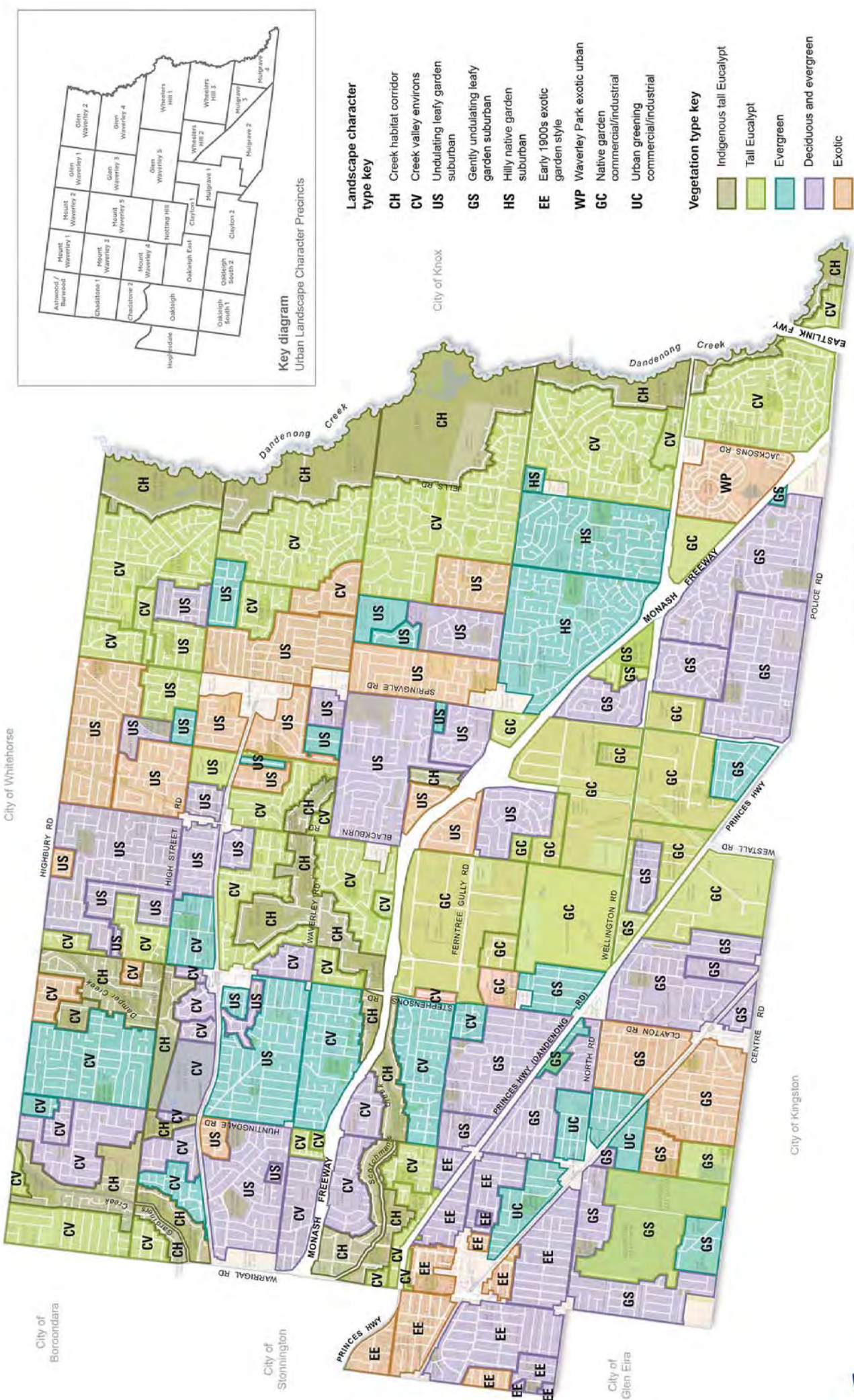
City of Stonnington

City of Glen Eira

City of Kingston

City of Greater Dandenong

City of Knox



Key diagram
Urban Landscape Character Precincts

Landscape character type key

- CH** Creek habitat corridor
- CV** Creek valley environs
- US** Undulating leafy garden suburban
- GS** Gently undulating leafy garden suburban
- HS** Hilly native garden suburban
- EE** Early 1900s exotic garden style
- WP** Waverley Park exotic urban
- GC** Native garden commercial/industrial
- UC** Urban greening commercial/industrial

Vegetation type key

- Indigenous tall Eucalypt
- Tall Eucalypt
- Evergreen
- Deciduous and evergreen
- Exotic

City of Whitehorse

City of Boronia

City of Stomington

City of Glen Eira

City of Kingston

City of Greater Dandenong

City of Knox