

# Street Tree Strategy 2016



# Acknowledgement of Country

Monash City Council acknowledges local Aboriginal Indigenous Australians, recognising the Wurundjeri people and Boon Wurrong clans of the Kulin Nations as the original custodians of the land now known as Monash.

# Victorian Charter of Human Rights and Responsibilities

Council has a role to play in the development of a socially just, healthy, inclusive and sustainable community where all members irrespective of their ability, gender, social, ethnic or economic background can fully and fairly participate in community life.

The development of the Street Tree Strategy has been guided by the broad principles of International Human Rights and Social Justice Charter. Monash Council observes the rights incorporated in the Victorian Charter of Human Rights and Responsibilities Act 2006 when making decisions, developing policies and strategies and providing services.

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# **Executive Summary**

While the existing street tree canopy is of reasonable health, there are several issues to be addressed:

- » significant gaps in the existing tree canopy (10%)
- » many of our trees are in decline and will require replacement within the next 30 years
- » increasing densification and the associated loss of trees within private properties means that the role of street trees is becoming increasingly important
- » Monash has inherited several delisted tree species which represent opportunities for staged replacement.

#### Opportunities for avenue planting and street tree canopy renewal include:

#### **Arterial Roads**

» Subject to VicRoads approval, conserve and renew memorable and distinctive boulevard plantations which are an asset to the city.

#### **Collector Roads**

» Establish attractive and inviting avenue plantations which encourage walking and cycling within and between local neighbourhoods.

#### **Local Roads**

» Establish consistent and thematic street tree planting patterns which support and enhance the character of local neighbourhoods and streetscapes.

#### **Activity centres**

- » Ensure that redevelopment plans provide an appropriate level of emphasis upon streetscape quality and amenity
- » Where space does not allow for provision of street trees, explore opportunities for provision of alternative green infrastructure: green facades, walls and roofs.

#### **Heritage Areas**

» Consider the introduction of new street tree varieties, developed for urban growing conditions which are also compatible with the character of heritage streetscapes.

#### **Business Parks & Industrial Areas**

- » Establish green wedges within industrial neighbourhoods by maximizing opportunities for widening nature-strips and for provision of passive irrigation from adjacent streets, car parks and roofs
- » Leverage the development of Monash Technology Precinct to establish an integrated series of streetscapes, characterised by an attention to streetscape quality and amenity.

#### **Habitat Corridors**

» Support the creation of a 400m wide habitat corridor associated with the city's creek-line, linear parks to increase connectivity between the core habitat areas, street tree canopy and reserves.

Implementation of the Strategy vision is linked to the adoption of key Principles and Service Standards in relation to:

- » conservation & renewal
- » species selection
- » preparation of planting plans
- » protection & valuation

- » removal & replacement
- » planting, management & reporting
- » partnership & consultation with residents.

The scope of annual Planting Plans will be influenced by the number and location of resident requests.

The delivery of annual Planting Plans will be subject to Council approval as part of the Annual Budget process.

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# **Our Strategy**

### 1. Vision

The Monash street tree canopy will be a source of neighbourhood and city pride. It will create a network of engaging and inviting green corridors, encouraging walking, cycling and street activity and delivering tangible benefits to local communities. Refer The Benefits of Street Trees **Appendix A.** 

### 2. Introduction

Monash is located 20 kilometres south east from the central business district of Melbourne and is a diverse community that enjoys beautiful open spaces, natural resources, community facilities and a strong business community.

The street trees within Monash are a valuable community asset, contributing to the city's 'garden city' character and liveability.

One of the most effective ways of adding value to the image and landscape character of a city is to provide and maintain high quality street tree and parkland plantings<sup>1</sup>.

The Street Tree Strategy has been developed by assessing the quality of the existing street tree population, considering the opportunities and constraints presented by Monash streets and streetscapes and by establishing a set of principles and service standards for on-going tree planting and canopy renewal.

# 3. Background and Purpose

In 2012 Council engaged arboricultural consultants to collect data on the city's street tree canopy.

The data collection for all Monash street trees was completed in February 2014. The database comprises species, location and useful life expectancy (for all trees) as well as additional data for trees growing beneath power lines.

This Street Tree Database was used to develop the Street Tree Strategy.

An internal Council working group was established to guide the development of the Street Tree Strategy. This was made up of staff from all relevant departments including Asset Management, Horticultural Services, Risk Management, Information Technology, Communications, Engineering and Urban Design & Sustainability.

The purpose of the Street Tree Strategy is to deliver:

- » A GIS-linked, Street Tree Database which provides a map-based tool for planning and progress reporting
- » Principles and service standards to guide the street tree planting and canopy renewal
- » A draft Five Year Planting Plan which provides a template for a 30 year process of strategic planting and canopy renewal
- » A Final report which provides a strategic framework (Service Plan) for the development of Council's Asset Management Plan Street Trees.

In March 2015 Council engaged consultants to assist the Project Working Group in the delivery of these objectives.

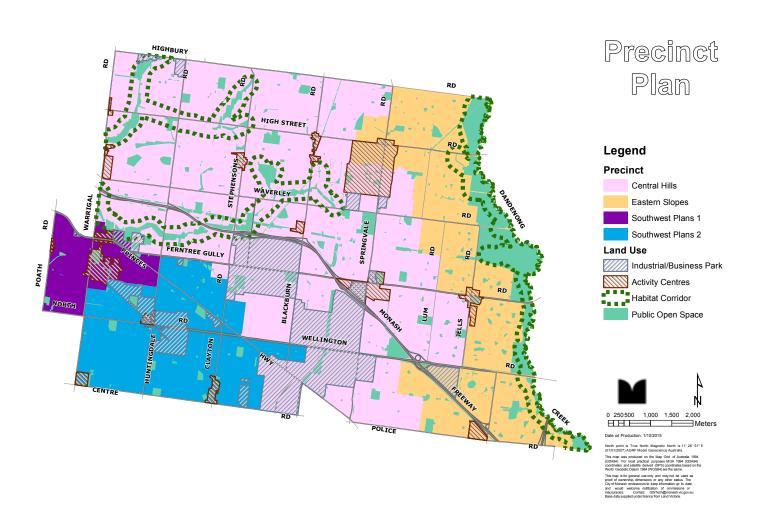
The development of the Street Tree Strategy has also involved community consultation with over 200 submissions received to date via an on-line consultation process and community forum.

# 4. Precincts & Neighbourhoods

To understand the different characteristics of Monash streetscapes, the city was divided into four precincts defined by the relationship between urban development (streetscape character, development period) and underlying growing conditions (aspect, soil type and ecological considerations).

These precincts are: South West Plains 1, South West Plains 2, Central Hills and Eastern Slopes.

Early development within Monash (pre WW1 & Interwar, 1945 – 1965 and post 1965) has closely followed these precinct boundaries.



### 4.1 Precinct Characteristics

#### **Southwest Plains 1 Streets Streetscapes Planting Reference** Trees Many of the city's Flat, grid street Pre WWI & Interwar Planting List oldest street trees pattern development period Southwest Plains 1 (Refer **Appendix E**) Native and exotic Variable nature-strip Oakleigh, Hughesdale width **Activity Centres** Neighbourhood Plan: species Oakleigh, Ashwood Registered Significant Overhead power lines Oakleigh heritage Trees (Refer **Appendix** streetscapes Soils suit range of species, benefit from Scotchmans Creek addition of organic habitat corridor matter, lime may be required (Refer Appendix J)

Atkinson Street, Oakleigh

Southwest Plains 2				
MAN TO THE REAL PROPERTY.	Trees	Streets	Streetscapes	Planting Reference
AL TO	Mature street tree canopy	Flat, grid street pattern	Post WWII development period	Planting List Southwest Plains 2 (Refer <b>Appendix F</b> )
	Native and exotic species	Variable nature-strip width	Huntingdale, Clayton Activity Centres	Neighbourhood Plan: Huntingdale, Clayton
	Registered Significant Trees (Refer <b>Appendix</b>	Overhead power lines	Clayton Medical Centre	
	<b>B</b> )	Soils suit range of species, benefit from addition of organic matter, lime may be required (Refer <b>Appendix J</b> )	Huntingdale industrial zone	

North Road, Huntingdale

#### **Central Hills Planting Reference** Trees Streets Streetscapes Mature street tree Undulating, grid street Post WWII – 1965 Planting List Central pattern development period. Hills canopy (Refer **Appendix G**) Native and exotic Variable nature-strip Holmesglen, Mount species Waverley, Syndal, Neighbourhood Plan: Glen Waverley, Registered Significant Overhead power lines Pinewood, Brandon Trees (Refer **Appendix** Park Activity Centres Soils suit range of species, benefit from Mount Waverley addition of organic heritage streetscapes matter, lime may be required (Refer Monash Technology Appendix J) & Industrial/Business Park zone Scotchmans & Gardiners creeks habitat corridors

Myrtle Street, Glen Waverley

<b>Eastern Slopes</b>				
	Trees	Streets	Streetscapes	Planting Reference
	Predominantly native species	Curvilinear street pattern, sloping to Dandenong Creek	Post-1965 development period	Planting List Eastern Slopes (Refer <b>Appendix H</b> )
T	Registered Significant Trees (Refer <b>Appendix</b> <b>B</b> )	Variable nature-strip width	Wheelers Hill, Waverley Gardens Activity Centres	Neighbourhood Plan: Glen Waverley North, Glen Waverley
		Predominantly underground power lines	Monash Gallery of Art (MGA)	Central, Wheelers Hill, Mulgrave
		Soils suit range of species, benefit from addition of organic matter, lime may be required (Refer	Dandenong Creek habitat corridor	
		Appendix J)		

Albany Drive, Mulgrave

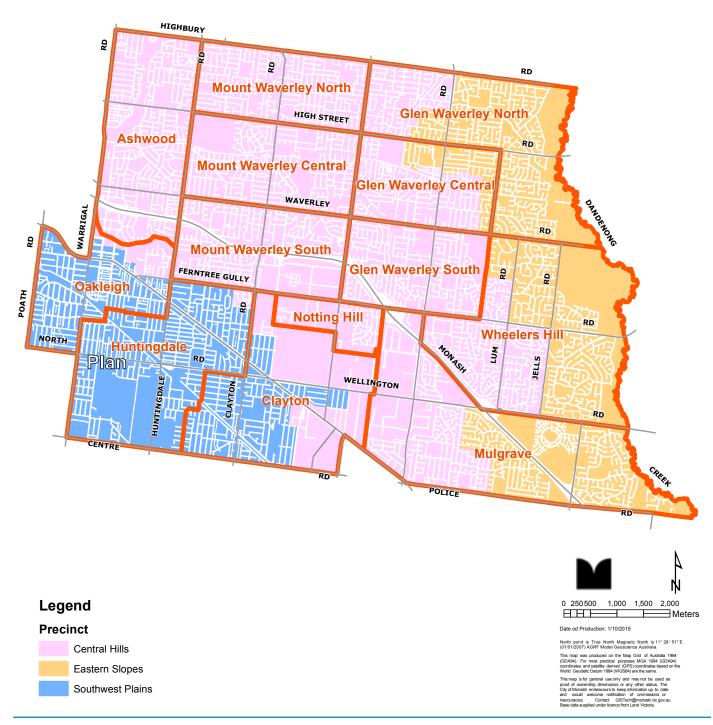
### 4.2 Monash Neighbourhoods

To help with the planning and delivery of annual planting plans, these precincts have been overlaid with neighbourhood boundaries.

Neighbourhood boundaries reflect the extent of community neighbourhoods identified in Council's Local Area Community Engagement (LACE) program.

Refer Section 7.2: Street Tree Planting & Canopy Renewal in Partnership with Local Communities.

# Monash Street Tree Strategy Neighbourhood Plan



### 5. Street Tree Avenues

### 5.1 Tree Planting & Canopy Renewal

The strategy is focused upon establishing high quality, consistently-planted and attractive avenues to enhance the city's arterial, collector and local road network. There are currently 87,600 street trees in Monash with provision to accommodate a further 12,500.

While the existing tree canopy is of reasonable health, there are several issues including:

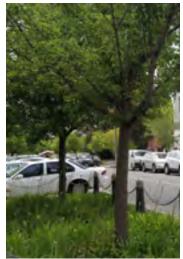
- » significant gaps in the existing tree canopy (10%)
- » many of our trees are in decline and will require replacement within the next 30 years
- » increasing densification and the associated loss of trees within private properties means that the role of street trees is becoming increasingly important
- » Monash has inherited several delisted tree species which represent opportunities for staged replacement

5.2 Challenges & Opportunities			
Streets & Streetscapes	Challenges	Opportunities	Planting Approach /Key Species
Arterial Roads	Poor performance of trees beneath power lines VicRoads approval process for replacement planting	Conserve and renew memorable and distinctive boulevard plantations which are an asset to Monash	Staged replacement of identified trees with appropriately scaled, shadecanopy species
		VicRoads (2015) review of tree planting policies on arterial roads identifies fewer barriers to tree planting where traffic speeds are 60km/hr or less	
Collector Roads	High levels of vehicle, cycle and pedestrian traffic along the city's collector roads not only reflect their role as 'through routes' but also as the address for many community destinations (schools, pre-schools, neighbourhood houses and others service facilities)	Establish attractive and inviting avenue plantations which encourage walking and cycling within and between local neighbourhoods	Staged replacement of identified trees with appropriately scaled, shadecanopy species
Local Roads	Many of the city's streets lack a consistent pattern of street tree planting	Establish consistent and thematic street tree planting patterns which support and enhance the character of local neighbourhoods and streetscapes	Staged replacement of identified trees with appropriately scaled, shadecanopy species

#### **Activity Centres**

Many of the city's activity centres are the subject of increasing development pressure Ensure that redevelopment plans provide an appropriate level of emphasis upon streetscape quality and amenity

Where space does not allow for provision of street trees, explore opportunities for provision of alternative green infrastructure: green facades, walls and roofs



*Pyrus 'Chanticleer'* Photo courtesy: City of Monash

#### **Heritage Areas**

Many of the street trees avenues within the heritage areas of Oakleigh, Hughesdale & Mount Waverley are now mature and require planning for renewal Consider the introduction of new street tree varieties, developed for urban growing conditions which are also compatible with the character of heritage streetscapes



Pyrus calleryana x P. betulaefolia 'Edgewood' (Edgewood Upright Callery Pear) Photo courtesy: Fleming's Nurseries

# Business Parks & Industrial Areas

While Monash is known for the quality of its Business Parks, many of the city's industrial areas are characterised by poor levels of street tree density and canopy cover Nature-strip width constraints Establish green wedges within industrial neighbourhoods by maximizing opportunities for widening nature-strips and for provision of passive irrigation from adjacent streets, car parks and roofs Leverage the development of Monash Technology Precinct to establish an integrated series of streetscapes, characterised by an attention to streetscape quality and amenity



Allocasuarina littoralis (Black She-Oak)
Photo courtesy: Fleming's Nurseries

#### **Habitat Corridors**

Development pressure upon remnant indigenous and exotic tree canopy which provides habitat for local flora and fauna Support the creation of a 400m wide habitat corridor associated with the city's creek-line, linear parks to increase connectivity between the core habitat areas, street tree canopy and reserves



Hymenosporum flavum (Native Frangipani) Photo courtesy: Fleming's Nurseries

### **5.3** Street Tree Planting List

Planting plans will be prepared using the Street Tree Planting List. The list includes species known to have performed well in Monash as well as new species and varieties that have been purposely developed for urban growing conditions.

The Street Tree Planting List will be reviewed on a five-yearly cycle.

Refer:

**Appendix B:** Significant Tree Register (Heritage Victoria)

**Appendix C:** Street Tree planting List **Appendix D:** Street Tree Images

**Appendix I:** Delisted Species and Priorities for Replacement

### 5.4 Street Tree Planting Plans

The Street Tree Database indicates that 22% of Monash's street trees are now in decline and will require replacement within the next 30 years.

This process will involve the preparation and implementation of Five Year Planting Plans in accordance with Strategy Principles and Service Standards. Refer Implementing the Vision **Section 6**.

# 6. Implementing the Vision

6.1	Precinct Characteristics		
Item		Principles & Service Standards	
6.1.1	Garden City Character	Council acknowledges the contribution of street trees to the character of Monash and is committed to the conservation and regeneration of the city's street tree canopy.	
6.1.2 A Stra	Street Tree Avenues: tegic Approach	The strategy is focused upon the establishment of high quality, consistently-planted avenue plantations to enhance the city's arterial, collector and local road network.	
AJua	tegic Approach	While there are many high quality avenues of street trees within Monash, there are also many streets where the original planting pattern has been obscured or lost over time.	
		The strategy will focus upon maximising street tree conservation by protecting and conserving high quality street tree avenues and 'anchor trees' while undertaking staged transitions to new planting treatments where appropriate.	
		Develop (Five-Year) Planting Plans, based upon a strategic process of priority-setting for street tree replanting and canopy renewal.	
6.1.3	Canopy Cover	Street tree avenues will be planted to maximize shade to footpaths and road space, having regard to the scale of the street and the available growing space.	
6.1.4	Street Tree Database	The Street Tree Database will provide the primary reference point for planning, implementation and reporting.	
6.1.5	Community Partnership	The successful implementation of the Strategy requires partnership with our community. The strategy will be implemented in partnership with Monash residents to maximise environmental, economic and community benefits to local neighbourhoods.	

6.2	Street Tree Planting List		
Item		Principles & Service Standards	
6.2.1	Street Tree Planting List	The Planting List will be framed with regard to the city's street types, growing conditions and urban character. The Planting List will be reviewed on a five-yearly cycle.	
6.2.2	Species Selection	Matching species to streets will be subject to a consideration of several factors, including the character of the existing (and proposed) tree canopy, neighbourhood character, available growing space as well as residents' expectations and input.	
6.2.3	Diversity	Progressively reduce the number of different street species and varieties currently planted within the city while maintaining a relatively high level of diversity where no one species represents greater than 10% of the overall tree population.	
6.2.4	Resilience	Select species and varieties which are tolerant of drought and extreme weather conditions.	
6.2.5	<b>Habitat Corridors</b>	Annual street tree replanting plans will be framed with regard to the support and enhancement of identified habitat corridors associated with creek lines and waterways.	
6.2.6	Planting Density	Typically, street trees will be planted at 7-10m spacing which equates to approximately one tree per property. Where available growing space permits, the typical planting density may be increased.	

6.3	Street Tree Planting F	Plans
Item		Principles & Service Standards
6.3.1	Five Year Planting Plans	The development of Five-Year Planting Plans will require both a desk-top and on-site assessment process.  When reviewing streets for replanting, priorities will be determined with regard to an assessment of the existing tree canopy and in relation to the identified planting
6.3.2	Street Tree Database	priority criteria.  The Street Tree Database will provide the primary reference point for planning, implementation and reporting.
6.3.3	Planting Priority Criteria	Priority-setting criteria for street tree replanting and canopy renewal include:  Tree/canopy character & health  number of healthy 'anchor' trees  number of trees with poor structure  number of trees with a life expectancy less than 10 years  number of delisted tree species  Compatibility with available growing space and conditions  impact upon adjacent infrastructure  tolerance of aspect, soil type, drought & pollution  Contribution to streetscape quality  provision of summer shade  provision of habitat  presence of identified Significant Trees  Resident feedback  number of requests for replanting works
6.3.4 Appro	Determining the Planting each	The planting will be determined by an assessment of the existing street tree pattern.  SCENARIO 1: A STRONG PLANTING PATTERN IS IN PLACE  Replanting options:  » Retain and enhance an existing, successful planting pattern  » Implement a staged transition to a new, consistent planting pattern incorporating retention of identified anchor trees  SCENARIO 2: PLANTING PATTERN HAS BEEN PARTIALLY LOST OR OBSCURED  Replanting options:  » Restore the original planting pattern, having regard to the performance of these species  » Implement a staged transition to a new, consistent planting pattern incorporating retention of identified anchor trees  SCENARIO 3: THERE IS NO CLEAR CONSISTENT PLANTING PATTERN  Replanting options:  » Implement a staged transition to a new, consistent planting pattern incorporating retention of identified anchor trees

#### **6.3.5** Matching Trees to Streets

Successful street tree selection is about matching the characteristics of the selected species to the contextual characteristics of the street. The Street Tree Selection Template facilitates the matching of trees to streets by providing a range of filters which identify species which address selected tree, street and streetscape considerations.

#### TREE CHARACTERISTICS

What species options will provide a healthy street tree canopy having regard to all available evidence?

#### **Consider:**

- » growth rate & life span
- » origin (natural habitat)
- » susceptibility to pests and disease
- » cultivation history (potential for trial)

#### **STREET CHARACTERISTICS**

What species options will provide maximum canopy cover to the street having regard to available growing space and conditions?

#### **Consider:**

- » street type (arterial, collector, local)
- » nature-strip width
- » adjacent services & infrastructure
- » soil type, drainage, pollution exposure

#### STREETSCAPE CHARACTERISTICS

What species options will deliver the best contribution to streetscape quality having regard to land use, urban character and resident expectations?

#### **Consider:**

- » mature size (height & spread)
- » growth habit (tree shape, form, seasonal & aesthetic factors)
- » land use (activity centre, residential, industrial, habitat corridor)
- » urban character (development period, heritage)



6.4	Street Tree Protection & Valuation		
Item		Principles & Service Standards	
6.4.1	Tree Protection	Street tree protection adjacent to development sites will be in keeping with current Australian Standards.	
6.4.2	Tree Valuation	The strategy recommends the adoption of the Amenity Value, street tree valuation method.	
6.4.3	Significant Trees	A Register of Significant Trees will be developed, to identify street trees of particular value to Monash communities. Refer <b>Appendix B</b> .	

6.5	Street Tree Removal & Replacement		
Item		Principles & Service Standards	
6.5.1	Tree Removal	Council adopts a holistic approach when assessing trees for removal or retention. Factors considered include tree health, structure, life expectancy, impact upon adjacent infrastructure, compatibility with available growing space and conditions, contribution to streetscape, maintenance-related issues and resident opinion.	
6.5.2	Tree Replacement	Where removal is justified or a new street tree street is required, the replacement will be framed with regard to the Five-Year Planting Plan and Neighbourhood Priority Plans.	
6.5.3 Tree Re	Managing Requests for emoval and Replacement	Request for street tree removal and planting will managed in order of priority and assessed in accordance with identified criteria for priority-setting. Refer Planting priority criteria <b>Section 6.3.3</b> .	

6.6	Street Tree Planting, Management & Reporting		
Item		Principles & Service Standards	
6.6.1	Street Tree Database	The Street Tree Database will provide the primary reference point for planning, implementation and reporting.	
6.6.2	Tree Stock	High quality tree stock will be provided - 300mm container size for evergreen species and 300-400mm container size for deciduous species – sourced and grown in keeping with current Australian Standards.	
6.6.3	Establishment & Irrigation	Council will adopt a two year establishment program for new street trees, providing mulch and irrigation for two successive growing seasons after planting. In the event that water restrictions are imposed (and exemptions are not applicable), Council will negotiate with the water authorities to use recycled water and/or bore water for irrigation purposes.	
	Tree Inspections, Pruning & enance	Council will continue to undertake street tree inspection and annual pruning requirements in accordance with statutory responsibilities and current risk management procedures.	
6.6.5 Infrast	Managing Impacts upon tructure	Refer: Species Selection <b>Section 6.3.3</b> , Matching trees to Streets <b>Section 6.3.5</b> , Tree Removal <b>Section 6.5.1</b> , Managing Requests for Tree Removal & Replacement <b>Section 6.5.3</b> .	

6.7	Partnership & Consultation with Residents		
Item		Principles & Service Standards	
6.7.1	Street Tree Database	The Street Tree Database will provide the primary reference point for planning, implementation and reporting.	
6.7.2 Replace	Single Tree Removal & cement Program	Residents will be notified in relation to proposed tree removals and the associated time frame for replanting.	
6.7.3	Five Year Planting Plans	Where a staged replanting of the street is proposed, residents will be notified and will be invited to provide feedback and comment upon the proposed planting options.	
6.7.4	Tree Establishment	While it is Council's responsibility to provide irrigation to newly planted street trees for the first two summers following planting, residents are encouraged to provide additional water to newly planted trees during periods of high temperatures and low rainfall.	

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# 7. Five Year Planting Plans

### 7.1 Neighbourhood Planting Plans

Neighbourhood Planting Plans are prepared with reference to the following principles and service standards:

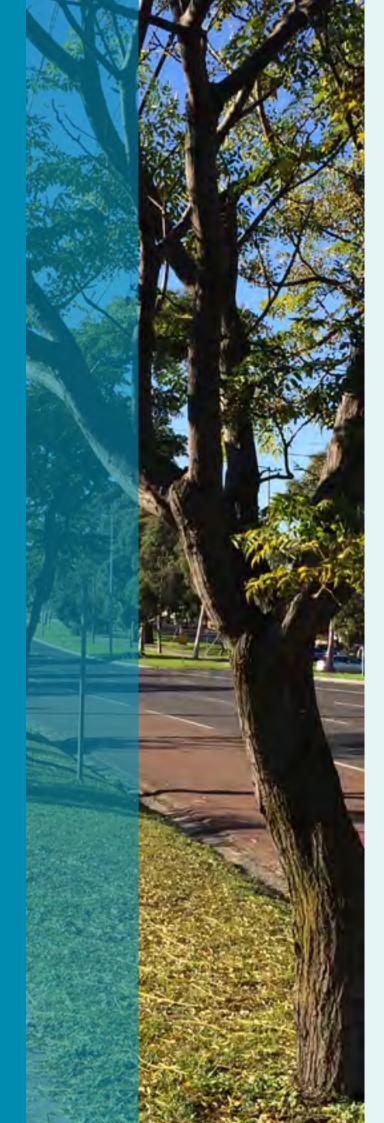
Planting Plan Development Process	Reference Service Standards, Data & Plans
Principles & Service Standards	<ul> <li>» Refer Street Tree Canopy Conservation &amp; Renewal Section 6.1         above</li> <li>» Refer Street Tree Planting List Section 6.2 above</li> <li>» Refer Street Tree Planting Plans Section 6.3 above</li> </ul>
Assessment of Existing Street Tree Canopy	<ul> <li>» Refer Planting Priority Criteria Section 6.3.3 above</li> <li>» Refer GIS-linked Street Tree Database</li> <li>» Refer Neighbourhood Priority Plans (5/10/15) Appendix L.</li> </ul>
Assessment of Planting Approach	<ul> <li>» Refer Determining the Planting Approach Section 6.3.4 above</li> <li>» Refer Street Tree Protection &amp; Valuation Section 6.4 above</li> <li>» Refer Street Tree Removal &amp; Replacement Section 6.5 above</li> </ul>
Matching Trees to Streets	» Refer Matching Trees to Streets <b>Section 6.3.5</b> above
Five-Year Planting Plan	<ul> <li>Refer Street Tree Planting, Management &amp; Reporting Section 6.6 above</li> <li>Refer Partnership &amp; Consultation with Residents Section 6.7 above</li> <li>Refer Preliminary Planting Plan 2015/16 – 2020/21, Appendix M.</li> </ul>

### 7.2 Street Tree Planting & Canopy Renewal in Partnership with Local Communities

Neighbourhood boundaries reflect the extent of community neighbourhoods identified in Council's Local Area Community Engagement (LACE) program.

The objectives of the Local Area Community Engagement (LACE) are to:

- » Obtain and distribute information relevant to that local area;
- » Encourage a close link between Council and the community by establishing and maintaining a two way flow of communication and information;
- » Encourage residents to actively participate in Council's planning and decision making relevant to their area by making recommendations to Council:
- » Assist Council to canvas residents' and other local views on issues and to maintain open and accountable government in the Monash Local Government Area;
- » Improve each local area by providing a representative forum to discuss local issues;
- » Promote good working relationships with Council through its Councillors, staff and other members of the community;
- » Encourage positive and respectful interaction between community members.



## 8. References

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#### City of Monash (2014a)

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**NOTE:** Website retrieval dates are current at May 2016 unless otherwise noted.

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# 9. Definition of Terms

Term	Definition
<b>Activity Centres</b>	Retail and commercial centres
Anchor trees	Healthy, semi-mature or mature trees which contribute to the quality of the street tree canopy and streetscape
Arterial roads	Freeways and main road grid
Avenues	A continuous street tree canopy associated with local and collector roads
Boulevards	A continuous street tree canopy associated with arterial roads
Collector roads	Secondary roads which provide through routes between arterial roads and which are often the address for community facilities and neighbourhood destinations
Decline	A generally slow but progressive deterioration in health and vigour, typically leading to the death of the tree
Delisted species	Trees identified as having limited preferred characteristics based upon an assessment of growth characteristics, contribution to streetscape quality and risk
Garden City character	Monash has a 'Garden City' Character characterised by leafy, low-rise suburbs with well vegetated private gardens and wide streets with street trees. The garden city character is characterised by significant plantings of trees with spreading crowns which provide a soft, green, leafy atmosphere that is visually appealing. This characteristic is highly valued by the community and visitors to the municipality
GIS	Geographic Information System. A mapping system which supports the Street Tree Database
Habitat corridors	Habitat corridors connect isolated areas of habitat within a landscape. A common example is continuous habitat found along waterways
Heritage Areas	Neighbourhoods identified within the Planning Scheme as being of heritage value to the City
Neighbourhoods	The Strategy identifies 13 neighbourhoods which are based upon neighbourhood boundaries identified in Council's Local Area Community Engagement (LACE) program
Precincts	The Strategy identifies four city precincts which reflect the close alignment between urban development (streetscape character, development period) and underlying growing conditions (aspect, soil type and ecological considerations)
Service standards	Adopted levels of service delivery guided by identified principles, systems and procedures
Streetscape	The whole street environment, including the roadway, buildings, nature-strips and street trees
Street Tree Database	A collection of data which provides details in relation to street tree species, location, useful life expectancy and other information in accordance with the survey requirements
Useful life expectancy	An estimate of tree longevity, based upon an assessment of health, amenity and risk

# 10. Appendicies

### 10.A The benefits of street trees

Trees provide a range of important benefits to the community at the city, neighbourhood and street level. These benefits include:

#### **Benefits to the City**

# Contribute to urban liveability

Street trees modify the visual scale of a place, reducing the impact of large-scale urban development and linking it to the human scale. This contributes to a sense of well being and comfort in an environment that might otherwise be viewed as overwhelming and intimidating. The effective placement of street tree plantings can create a sense of a comfortably scaled pedestrian corridor as a contrast to the broad scale of major arterial and feeder roads.

Trees can reinforce particular messages, providing city gateways, residential street character that helps slow traffic movement and signalling commercial zones where shopping and gathering can be important activities. Trees should be seen as integral components of the urban fabric, fulfilling both aesthetic and functional roles.

# Contribution to habitat and biodiversity

Street trees, especially indigenous species, provide food shelter and protection for many birds, animals and insects. Trees provide habitat. This is particularly relevant where there are wildlife corridors and remnant vegetation zones that can be connected and extended across residential areas. The provision of habitat for wildlife in the urban environment brings colour, interest and life.

#### **Benefits to the Neighbourhood**

#### Contribution to neighbourhood air quality, temperature and energy savings

Trees convert carbon gas into oxygen by the process of photosynthesis.

Street trees improve air quality by intercepting and filtering airborne dust and particle pollution.

Trees modify the neighbourhood microclimate to the benefit of residents and neighbouring properties, providing summer shade and associated reductions in energy use for cooling.

Evidence is emerging that street tree canopy provides an important buffer to the urban heat island effect which is becoming more evident as a result of climate change<sup>2</sup>.

# Create a sense of place

Trees provide a sense of place, offering drivers, pedestrians and residents an orientation that assists movement.

Street trees' shape, size and colour help visually distinguish one area from another, and in special cases, make it a memorable or defining characteristic.

Cultural landscapes can be enhanced by appropriate tree selections, supplementing the architectural fabric and helping to interpret the history of the City.

Positive contribution to neighbourhood character and liveability Trees add beauty to a streetscape in diverse ways. They possess intrinsic beauty in their foliage, flower, bark and fruit as well as providing subtle delights in such features as their shadow pattern and their response to wind movement. Most importantly trees offer a consistency that is frequently absent from the urban environment with its diverse architectural forms and materials

#### **Benefits to the Street**

Lower air
temperatures in
summer

Street trees, through shade provision, can create cooler microclimates by between 3º-5ºC, and offer relief from expanses of asphalt and other hard surfaces. These streets are more enjoyable to walk along during hot days.

# Improve health and wellbeing

Being outdoors and where trees are visible has been shown to reduce stress and improve recovery from illness.

# Improve property values

Street trees increase street appeal and complementing architecture. Also, by screening vertical features such as utility poles, light poles they make streets more visually pleasing.

# Mitigate extreme rainfall events

Trees absorb the first 30% of most rainfall through their leaves and more is absorbed by the root system.



# 10.B Significant Tree Register (Heritage Victoria)

Significant/Notable trees within the City of Monash are to be identified and appropriately managed. A process for nomination, assessment and registration is proposed for adoption. The following categories of Significance (Heritage Victoria) are adapted from National Trust Australia (Victoria) (www.trusttrees.org.au/nominate). In accordance with the assessment process, trees are to registered when they fulfil at least one criterion for significance.

Criteria	Description
Horticultural Value	Any tree that is of outstanding horticultural or genetic value and could be an important source of propagating stock, including specimens that are particularly resistant to disease or exposure. Examples: Tolerance selection (Pest & disease); Propagating potential; Scientific value.
Location or Context	Any tree that occurs in a unique location or context and so provides a major contribution to the landscape, including remnant native vegetation, important landmarks and trees that form part of a historic garden, park or precinct.
	Examples: historic garden or park; historic cemetery; important landmark; remnant native vegetation; end of natural range; contribution to landscape; historic planting style.
Rare or Localised	Any tree of a species or variety that is rare or of very localised distribution.
	Examples: only known species; rare species (2 to 50 known specimens); end of natural range; disjunct community;
Particularly Old	Any tree that is particularly old or venerable
	Example: old specimen
<b>Outstanding Size</b>	Any tree outstanding for its large height, trunk circumference or canopy.
	Examples: height; circumference; canopy spread; combinations of above.
Aesthetic Value	Any tree of outstanding aesthetic significance.
Historical Value	Any tree commemorating a particular occasion, including plantings by notable people, or having associations with an important event in local history.
	Examples: cultural group; public welfare; WWI; WWII; British Royalty; other Royalty; visiting dignitary; Australian public figure; Victorian public figure; local public figure.
<b>Aboriginal Content</b>	Any tree that has a recognised association with historic aboriginal activities.
	Examples: scar tree; corroboree tree
Outstanding Example of Species	Any tree that is an outstanding example of its species.
Outstanding Habitat Value	Any tree that has outstanding value as habitat for indigenous wildlife, including providing breeding, foraging or roosting habitat, or forming a key part of a wildlife corridor.
	Examples: breeding habitat; foraging habitat; wildlife corridor.
Potential significant vegetation to the City of Monash	Tree species performing well in site conditions that contributes substantially to the general landscape and the community would feel their loss.
	Example: remnant <i>Eucalyptus camaldulensis</i> (River Red Gums) or other indigenous vegetation community.

# 10.C Street Tree Planting List

Criteria	Description
Acacia implexa	Lightwood
Acacia pendula	Weeping Myall
Acer campestre 'Elsrijk	Elsrijk Maple
Acer campestre 'Evelyn'	Queen Elizabeth Maple
Acer platanoides 'Columnara'	Upright Norway Maple
Acer platanoides 'Crimson Sentry'	Crimson Sentry Norway Maple
Acer platanoides 'Deborah'	Deborah Norway Maple
Acer platanoides 'Globosum'	Globosum Norway Maple
Acer rubrum 'October Glory'	Red Maple
Acer saccharum 'Goldspire'	Goldspire Sugar Maple
Acer truncatum x plantanoides 'Taggert Sunset'	Truncatum Hybrid Maple
Acer x freemanil 'Autumn Blaze'	Freeman Maple
Allocasuarina littoralis	Black She-oak
Allocasuarina verticillata	Drooping She-oak
Angophora costata	Sydney Red Gum
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton
Buckinghamia celcissima	Ivory Curl Tree
Callistemon 'Harkness'	Harkness Bottlebrush
Callistemon viminalis	Weeping Bottlebrush
Cercis canadensis 'Forest Pansy'	Forest Pansy Redbud
Corymbia citriodora	Lemon-scented Gum
Corymbia citriodora 'Scentuous'	Dwarf Lemon Scented Gum
Corymbia maculata 'Little Mac'	Dwarf Spotted Gum
Cupaniopsis anacardioides	Tuckeroo
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum
Eucalyptus mannifera 'Little Spotty'	Dwarf Red Spotted Gum
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum
Eucalyptus sideroxylon	Ironbark
Fraxinus excelsior 'Aurea'	Golden Ash
Fraxinus pennsylvanica 'Aerial'	Aerial Green Ash
Fraxinus pennsylvanica 'Urbanite'	Urbanite Green Ash
Hymenosporum flavum	Native Frangipani
Koelreuteria paniculata	Gold Rain Tree
Lagerstroemia indica x L. fauriei 'Kiowa'	Kiowa Japanese Crepe Myrtle
Lagerstroemia indica x L. fauriei 'Natchez'	Natchez Crepe Myrtle (white)
Lagerstroemia indica x L. fauriei 'Sioux'	Sioux Upright Crepe Myrtle
Lagerstroemia indica x L. fauriei 'Tuscarora'	Tuscarora Crepe Myrtle (coral pink)
Lophostemon confertus	Queensland Brush Box
Malus tschonoskii	Pillar Crabapple
Melaleuca linariifolia	Flax-leaf Paperbark
Melia azedarach 'Elite'	White Cedar
Morus alba	White Mulberry

Criteria	Description
Myrsine howittiana	Muttonwood
Nyssa sylvatica	Black Tupelo
Olea europaea 'Swan Hill'	Swan Hill Olive
Phoenix canariensis	Date Palm
Platanus orientalis	Oriental Plane
Platanus orientalis 'Digitata'	Cyprian Plane
Platanus orientalis var. insularis 'Autumn Glory'	Autumn Glory Plane
Platanus x acerifolia	London Plane
Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear
Pyrus calleryana x P. betulaefolia 'Edgewood'	Upright Callery Pear
Pyrus fauriei 'Westwood' Korean Sun	Korean Sun Pear
Quercus coccinea	Scarlet Oak
Quercus palustris 'Green Pillar'	Upright Pin Oak
Robinia pseudoacacia 'Frisia'	Golden Robinia
Robinia pseudoacacia 'Umbraculifera'	Mop Head Robinia
Sophora japonica 'Princeton Upright'	Upright Pagoda Tree
Tristaniopsis laurina	Water Gum
Tristaniopsis laurina 'Luscious'	Luscious Kanooka
Ulmus parvifolia 'Todd'	Todd Chinese Elm
Zelkova serrata 'Green Vase'	Japanese Zelkova

#### **Street Tree Images** 10.D

### **Evergreen**



Acacia implexa Lightwood



Angorphora costata Sydney Red Gum



Corymbia citriodora 'Scentuous' Dwarf Lemon Scented Gum



Cupaniopsis anacardioides Tuckeroo



Lophostemon confertus Queensland Brush Box



Olea europaea 'Swan Hill' Swan Hill Olive



Luscious Kanooka



*Ulmus parvifolia 'Todd'* Todd Chinese Elm

### **Deciduous**



Acer 'October Glory'
October Glory Maple



Brachychiton populneus x acerifolius 'Jerilderie Red' Jerilderie Red Hybrid Brachychiton



Lagerstroemia 'Sioux' Sioux Crepe Myrtle



*Malus tschonoskii* Pillar Crabapple



*Melia azedarach 'Elite'* Elite White Cedar



*Nyssa sylvatica* Black Tupelo



Quercus palustris 'Green Pillar' Green Pillar Upright Pin Oak



Zelkova serrata 'Green Vase' Zelkova 'Green Vase'

# 10.E Planting List - South West Plains 1

Sorting – All species AND exclude species that are not drought tolerant due to sandy soils (49 species). Compaction is not a limiting factor.

Filter applied: Land Use & Urban Character = HZ

Species Name	Common Name	Under Power lines	Drought
Acacia implexa	Lightwood	N	3
Acacia pendula	Weeping Myall	Y	3
Acer campestre 'Elsrijk'	Elsrijk Maple	Υ	3
Acer campestre 'Evelyn'	Queen Elizabeth Maple	Y	3
Acer platanoides 'Columnara'	Upright Norway Maple	Υ	2
Acer platanoides 'Crimson Sentry'	Crimson Sentry Norway Maple	Υ	2
Acer platanoides 'Deborah'	Deborah Norway Maple	N	2
Acer platanoides 'Globosum'	Globosum Norway Maple	Υ	2
Acer rubrum 'October Glory'	Red Maple	N	2
Acer truncatum x platanoides 'Taggert Sunset'	Truncatum Hybrid Maple	N	2
Acer X freemanii 'Autumn Blaze'	Freeman Maple	N	2
Allocasuarina littoralis	Black She-oak	N	3
Allocasuarina verticillata	Drooping She-oak	Y	3
Angophora costata	Sydney red Gum	N	3
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton	Υ	3
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton	Υ	3
Cupaniopsis anacardioides	Tuckeroo	N	3
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum	Υ	3
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum	Υ	2
Fraxinus excelsior 'Aurea'	Golden Ash	N	2
Fraxinus pennsylvanica 'Aerial'	Aerial Green Ash	N	3
Fraxinus pennsylvanica 'Urbanite'	Urbanite Green Ash	Y	3
Hymenosporum flavum	Native Frangipani	N	3
Koelreuteria paniculata	Golden Rain Tree	Υ	3
Lagerstroemia indica x L. fauriei 'Kiowa'	Kiowa Japanese Crepe Myrtle	Υ	3
Lagerstroemia indica x L. fauriei 'Natchez'	Natchez Crepe Myrtle (white)	Y	3
Lagerstroemia indica x L. fauriei 'Sioux'	Sioux Upright Crepe Myrtle	Υ	3

		Under	
Species Name	Common Name	Power lines	Drought
Lagerstroemia indica x L. fauriei 'Tuscarora'	Tuscarora Crepe Myrtle (coral pink)	Y	3
Lophostemon confertus	Queensland Brush Box	N	3
Malus tschonoskii	Pillar Crabapple	Y	3
Melaleuca linariifolia	Flax-leaf Paperbark	Υ	3
Melia azedarach 'Elite'	White Cedar N 3	N	3
Morus alba	White Mulberry	Y	2
Olea europaea 'Swan Hill'	Swan Hill Olive	Υ	3
Phoenix canariensis	Date Palm	N	3
Platanus x acerifolia	London Plane	N	2
Platanus orientalis	Oriental Plane	N	3
Platanus orientalis 'Digitata'	Cyprian Plane	N	3
Platanus orientalis var. insularis 'Autumn Glory'	Autumn Glory Plane	N	3
Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear	N	3
Pyrus calleryana x P. betulaefolia 'Edgewood'	Upright Callery Pear	Υ	3
Pyrus fauriei 'Westwood'	Korean Sun Korean Sun Pear	Y	2
Quercus coccinea	Scarlet Oak	N	2
Quercus palustris 'Green Pillar'	Upright Pin Oak	N	3
Sophora japonica 'Princeton Upright'	Upright Pagoda Tree	N	3
Tristaniopsis laurina	Water Gum	Υ	3
Tristaniopsis laurina 'Luscious'	Luscious Kanooka	Υ	2
Ulmus parvifolia 'Todd'	Todd Chinese Elm	N	3
Zelkova serrata 'Green Vase'	Japanese Zelkova	N	3

# **10.F** Planting List - South West Plains 2

Sorting – All species AND exclude species that are not drought tolerant due to sandy soils (60 species).

Compaction is not a limiting factor. Filter applied: Drought = 2 & 3

		Under	
Species Name	Common Name	Power lines	Drought
Acacia implexa	Lightwood	N	3
Acacia pendula	Weeping Myall	Y	3
Acer campestre 'Elsrijk'	Elsrijk Maple	Υ	3
Acer campestre 'Evelyn'	Queen Elizabeth Maple	Υ	3
Acer platanoides 'Columnara'	Upright Norway Maple	Υ	2
Acer platanoides 'Crimson Sentry'	Crimson Sentry Norway Maple	Υ	2
Acer platanoides 'Deborah'	Deborah Norway Maple	N	2
Acer platanoides 'Globosum'	Globosum Norway Maple	Y	2
Acer rubrum 'October Glory'	Red Maple	N	2
Acer truncatum x platanoides 'Taggert Sunset'	Truncatum Hybrid Maple	N	2
Acer X freemanii 'Autumn Blaze'	Freeman Maple	N	2
Allocasuarina littoralis	Black She-oak	N	3
Allocasuarina verticillata	Drooping She-oak	Y	3
Angophora costata	Sydney red Gum	N	3
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton	Y	3
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton	Y	3
Buckinghamia celcissima	Ivory Curl Tree	Y	2
Callistemon Harkness	Harkness Bottlebrush	Y	3
Callistemon viminalis	Weeping Bottlebrush	Y	3
Corymbia citriodora	Lemon-scented Gum	N	3
Corymbia citriodora 'Scentuous'	Dwarf Lemon Scented Gum	Y	3
Corymbia maculata 'Little Mac'	Dwarf Spotted Gum	Υ	3
Cupaniopsis anacardioides	Tuckeroo	N	3
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum	Υ	3
Eucalyptus mannifera 'Little Spotty'	Dwarf Red Spotted Gum	Υ	3
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum	Y	2

Species Name	Common Name	Under Power lines	Drought
Eucalyptus sideroxylon	Ironbark	N	3
Fraxinus excelsior 'Aurea'	Golden Ash	N	2
Fraxinus pennsylvanica 'Aerieal'	Aerial Green Ash	N	3
Fraxinus pennsylvanica 'Urbanite'	Urbanite Green Ash	Υ	3
Hymenosporum flavum	Native Frangipani	N	3
Koelreuteria paniculata	Golden Rain Tree	Υ	3
Lagerstroemia indica x L. fauriei 'Kiowa'	Kiowa Japanese Crepe Myrtle	Υ	3
Lagerstroemia indica x L. fauriei 'Natchez'	Natchez Crepe Myrtle (white)	Υ	3
Lagerstroemia indica x L. fauriei 'Sioux'	Sioux Upright Crepe Myrtle	Υ	3
Lagerstroemia indica x L. fauriei 'Tuscarora'	Tuscarora Crepe Myrtle (coral pink)	Υ	3
Lophostemon confertus	Queensland Brush Box	N	3
Malus tschonoskii	Pillar Crabapple	Υ	3
Melaleuca linariifolia	Flax-leaf Paperbark	Υ	3
Melia azedarach 'Elite'	White Cedar	N	3
Morus alba	White Mulberry Y	Υ	2
Olea europaea 'Swan Hill'	Swan Hill Olive	Υ	3
Phoenix canariensis	Date Palm	N	3
Platanus x acerifolia	London Plane	N	2
Platanus orientalis	Oriental Plane	N	3
Platanus orientalis 'Digitata'	Cyprian Plane	N	3
Platanus orientalis var. insularis 'Autumn Glory'	Autumn Glory Plane	N	3
Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear	N	3
Pyrus calleryana x P. betulaefolia 'Edgewood'	Upright Callery Pear	Υ	3
Pyrus fauriei 'Westwood'	Korean Sun Korean Sun Pear	Υ	2
Quercus coccinea	Scarlet Oak	N	2
Quercus palustris 'Green Pillar'	Upright Pin Oak	N	3
Robinia pseudoacacia	Black Locust	N	3
Robinia pseudoacacia 'Frisia'	Golden Robinia	N	3
Sophora japonica 'Princeton Upright'	Upright Pagoda Tree	N	3
Tristaniopsis laurina	Water Gum	Υ	3
Tristaniopsis laurina 'Luscious'	Luscious Kanooka	Υ	2
Ulmus parvifolia 'Todd'	Todd Chinese Elm	N	3
Zelkova serrata 'Green Vase'	Japanese Zelkova	N	3

# **10.G** Planting List - Central Hills

Sorting – All species (64 species). Compaction is not typically a limiting factor (see exceptions below). Drought limitations vary.

Compaction is only a limiting factor in areas of light grey loams over clay (LC/grey on soils map). In these areas use the Compaction = 2 subset.

Drought may be a limiting factor in areas of dark grey sand over clay (DSC/yellow on soils map). In these areas use the Drought = 2 or 3 subset.

By contrast, alluvial soils (AS, light green on soils map) may offer scope to use water loving species and you could consider Drought = 1 subset. Species known to be sensitive to waterlogging should be avoided.

Species Name	Common Name	Under Power lines	Compaction	Drought
Acacia implexa	Lightwood	N	2	3
Acacia pendula	Weeping Myall	Y	2	3
Acer campestre 'Elsrijk'	Elsrijk Maple	Υ	3	3
Acer campestre 'Evelyn'	Queen Elizabeth Maple	Υ	3	3
Acer platanoides 'Columnara'	Upright Norway Maple	Υ	2	2
Acer platanoides 'Crimson Sentry'	Crimson Sentry Norway Maple	Υ	2	2
Acer platanoides 'Deborah'	Deborah Norway Maple	N	2	2
Acer platanoides 'Globosum'	Globosum Norway Maple	Υ	2	2
Acer rubrum 'October Glory'	Red Maple	N	3	2
Acer saccharum 'Goldspire'	Goldspire Sugar Maple	N	1	1
Acer truncatum x platanoides 'Taggert Sunset'	Truncatum Hybrid Maple	N	1	2
Acer X freemanii 'Autumn Blaze'	Freeman Maple	N	3	2
Allocasuarina littoralis	Black She-oak	N	1	3
Allocasuarina verticillata	Drooping She-oak	Υ	3	3
Angophora costata	Sydney Red Gum	N	2	3
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton	Υ	1	3
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton	Υ	1	3
Buckinghamia celcissima	Ivory Curl Tree	Υ	1	2
Callistemon Harkness	Harkness Bottlebrush	Υ	3	3
Callistemon viminalis	Weeping Bottlebrush	Υ	3	3
Cercis canadensis 'Forest Pansy'	Forest Pansy Redbud	Υ	1	1
Corymbia citriodora	Lemon-scented Gum	N	2	3

Species Name	Common Name	Under Power lines	Compaction	Drought
Corymbia citriodora 'Scentuous'	Dwarf Lemon Scented Gum	Υ	2	3
Corymbia maculata 'Little Mac'	Dwarf Spotted Gum	Υ	3	3
Cupaniopsis anacardioides	Tuckeroo	N	2	3
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum	Y	3	3
Eucalyptus mannifera 'Little Spotty'	Dwarf Red Spotted Gum	Y	2	3
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum	Y	1	2
<b>Eucalyptus sideroxylon</b>	Ironbark	N	2	3
Fraxinus excelsior 'Aurea'	Golden Ash	N	2	2
Fraxinus pennsylvanica 'Aerial'	Aerial Green Ash	N	3	3
Fraxinus pennsylvanica 'Urbanite'	Urbanite Green Ash	Υ	3	3
Hymenosporum flavum	Native Frangipani	N	3	3
Koelreuteria paniculata	Golden Rain Tree	Υ	2	3
Lagerstroemia indica x L. fauriei 'Kiowa'	Kiowa Japanese Crepe Myrtle	Υ	2	3
Lagerstroemia indica x L. fauriei 'Natchez'	Natchez Crepe Myrtle (white)	Y	2	3
Lagerstroemia indica x L. fauriei 'Sioux'	Sioux Upright Crepe Myrtle	Y	2	3
Lagerstroemia indica x L. fauriei 'Tuscarora'	Tuscarora Crepe Myrtle (coral pink)	Y	2	3
Lophostemon confertus	Queensland Brush Box	N	3	3
Malus tschonoskii	Pillar Crabapple	Υ	2	3
Melaleuca linariifolia	Flax-leaf Paperbark	Υ	3	3
Melia azedarach 'Elite'	White Cedar	N	2	3
Morus alba	White Mulberry	Υ	2	1
Myrsine howittiana	Muttonwood	Υ	2	2
Nyssa sylvatica	Black Tupelo	N	1	1
Olea europaea 'Swan Hill'	Swan Hill Olive	Υ	2	3
Phoenix canariensis	Date Palm	N	2	3
Platanus x acerifolia	London Plane	N	3	2
Platanus orientalis	Oriental Plane	N	3	3
Platanus orientalis 'Digitata'	Cyprian Plane	N	3	3
Platanus orientalis var. insularis 'Autumn Glory'	Autumn Glory Plane	N	3	3
Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear	N	3	3
Pyrus calleryana x P. betulaefolia 'Edgewood'	Upright Callery Pear	Y	3	3

Species Name	Common Name	Under Power lines	Compaction	Drought
Pyrus fauriei 'Westwood' Korean Sun	Korean Sun Pear	Y	3	2
Quercus coccinea	Scarlet Oak	N	2	2
Quercus palustris 'Green Pillar'	Upright Pin Oak	N	3	3
Robinia pseudoacacia	Black Locust	N	3	3
Robinia pseudoacacia 'Frisia'	Golden Robinia	N	3	3
Robinia pseudoacacia 'Umbraculifera'	Mop Head Robinia	Υ	3	3
Sophora japonica 'Princeton Upright'	Upright Pagoda Tree	N	3	3
Tristaniopsis laurina	Water Gum	Υ	2	3
Tristaniopsis laurina 'Luscious'	Luscious Kanooka	Υ	1	2
Ulmus parvifolia 'Todd'	Todd Chinese Elm	N	3	3
Zelkova serrata 'Green Vase'	Japanese Zelkova	N	2	3

# **10.H** Planting List - Eastern Slopes

Sorting – Species that are native (24 species)

Filter applied: Type = VN and Type = AN

Compaction is only a limiting factor in areas of light grey loams over clay (LC/grey on soils map). In these areas use the Compaction = 2 subset.

Drought may be a limiting factor in areas of dark grey sand over clay (DSC/yellow on soils map). In these areas use the Drought = 2 or 3 subset (this means all of the list is suitable).

By contrast, alluvial soils (AS, light green on soils map) may offer scope to use water loving species. Species known to be sensitive to waterlogging should be avoided.

		Under		5 4.
Species Name	Common Name	Power lines	Compaction	Drought
Acacia implexa	Lightwood	N	3	3
Acacia pendula	Weeping Myall	N	2	2
Allocasuarina littoralis	Black She-oak	Υ	2	2
Allocasuarina verticillata	Drooping She-oak	Υ	2	2
Angophora costata	Sydney red Gum	Υ	3	2
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton	Y	1	2
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton	Y	3	2
Buckinghamia celcissima	Ivory Curl Tree	Υ	3	3
Callistemon Harkness	Harkness Bottlebrush	Υ	3	3
Callistemon viminalis	Weeping Bottlebrush	N	2	3
Corymbia citriodora	Lemon-scented Gum	Υ	2	3
Corymbia citriodora 'Scentuous'	Dwarf Lemon Scented Gum	Υ	2	3
Corymbia maculata 'Little Mac'	Dwarf Spotted Gum	N	2	3
Cupaniopsis anacardioides	Tuckeroo	Υ	2	3
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum	Υ	2	3
Eucalyptus mannifera 'Little Spotty'	Dwarf Red Spotted Gum	Y	2	3
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum	N	2	3
<b>Eucalyptus sideroxylon</b>	Ironbark	N	3	3
Hymenosporum flavum	Native Frangipani	N	3	3
Lophostemon confertus	Queensland Brush Box	Υ	3	3
Melaleuca linariifolia	Flax-leaf Paperbark	Υ	3	3

Species Name	Common Name	Under Power lines	Compaction	Drought
Tristaniopsis laurina 'Luscious'	Luscious Kanooka N	N	3	3
Tristaniopsis laurina	Water Gum	Υ	2	3
Myrsine howittiana	Muttonwood	Υ	2	1
Tristaniopsis laurina	Water Gum	Υ	2	3
Tristaniopsis laurina 'Luscious'	Luscious Kanooka	Υ	1	2

## 10.I Delisted Species & Priorities for Replacement

Top 6 Delisted Species	Reason for de-listing	Example of species
Prunus cerasifera Nigra (Purple- leaved Plum)	Maturity, relatively short life span, poor shade tree, susceptible to borer attack	
Eucalyptus scoparia (Wallangara White Gum)	Too large for available growing space (beneath power lines)	
Melaleuca styphelioides (Prickly- leaved Paperbark)	Invasive root system can cause damage to adjacent infrastructure	
Liquidamber styraciflua (Sweetgum)	Too large for available growing space (beneath power lines)	
Syzygium smithii (Common Lilly Pilly)	Unacceptable level of fruit drop	
Lagunaria patersonia, (Norfolk Island Hibiscus)	Potential allergic reactions to sawdust	

## **Priorities for Replacement**

#### Replacement Priority 1 = High priority

These trees will be removed as soon as practical based on the priorities and programs identified in this Strategy.

### Replacement Priority 2 = Medium priority

These trees will be kept in the landscape for between 10-20 years depending on the priorities and programs identified in this Strategy.

#### **Replacement Priority 3 = Low priority**

These trees will be kept in the landscape as long as practical depending on the priorities and programs identified in this Strategy. Eventually they will be replaced by trees with improved characteristics but the relatively low priority acknowledges that, generally, these species are performing well and make valuable contributions to the landscape.

Species Name	Common Name	Removal Priority	Quantity
Prunus cerasifera Nigra	Purple-leaved Plum	1	3874
Eucalyptus scoparia	Wallangara White Gum	1	3302
Melaleuca styphelioides	Prickly-leaved Paperbark	1	3229
Syzygium smithii	Common Lilly Pilly	1	1251
Lagunaria patersonia	Norfolk Island Hibiscus	1	1061
Liquidamber styraciflua	Sweetgum	1	1021
Prunus x blireana	Flowering Plum	1	928
Fraxinus oxycarpa	Narrow-leafed Ash	1	645
Melaleuca armillaris	Bracelet Honey Myrtle	1	628
Fraxinus angustifolia	Desert Ash	1	446
Fraxinus 'Raywood'	Claret Ash	1	387
Pittosporum undulatum	Sweet Pittosporum	1	376
Nerium oleander	Oleander	1	336
Betula pendula	Silver Birch	1	277
Grevillea robusta	Silky Oak	1	271
Acer negundo	Box Elder	1	269
Eriobotrya japonica	Loquat	1	190
Ligustrum lucidum	Broad-leaved privet	1	122
Acacia mearnsii	Black Wattle	1	111
Pinus radiata	Radiata Pine	1	101
Cupressus macrocarpa	Monterey Cypress	1	84
Ulmus procera	English Elm	1	66
Eucalyptus cladocalyx	Sugar Gum	1	61
Ulmus glabra Lutescens	Golden Wych Elm	1	61

Species Name	Common Name	Removal Priority	Quantity
Populus x canadensis	Canadian Poplar	1	52
Acacia baileyana	Cootamundra Wattle	1	52
Acacia floribunda	Gossamer Wattle	1	49
Casuarina cunninghamiana	River Sheoak	1	47
Fraxinus excelsior	European Ash	1	45
Populus nigra	Italica Lombardy Poplar	1	42
Alnus jorullensis	Evergreen Alder	1	39
Citrus limon	Lemon	1	35
Eucalyptus spathulata	Swamp Mallet	1	32
Pyrus communis	Common Pear	1	31
Eucalyptus cinerea	Mealy Stringybark	1	31
Cordyline australis	Grass Tree	1	28
Acacia longifolia	Golden Wattle	1	20
Syzygium floribundum	Weeping Lilly Pilly	1	19
Coprosma repens	Mirror bush	1	14
Syzygium australe	Brush Cherry	1	11
Ulmus x hollandica	Dutch Elm	1	11
Salix matsudana Tortuosa	Corkscrew Willow	1	9
Chamaecytisus proliferus	Tagasaste	1	7
Paraserianthes lophantha	Cape Wattle	1	5
Salix caprea	Pussy Willow	1	5
Virgilia oroboides	Virgilia	1	2
Salix x chrysocoma	Weeping Golden Willow	1	1
Corymbia ficifolia	Red-flowering Gum	2	1668
Eucalyptus camaldulensis	River Red Gum	2	477
Melaleuca quinquenervia	Broad-leaved Paperbark	2	421
Quercus robur	English oak	2	250
Ficus rubiginosa	Port Jackson Fig	2	242
<b>Eucalyptus botryoides</b>	Southern Mahogany	2	205
Gleditsia triacanthos	Honey Locust	2	155
Corymbia calophylla	Marri	2	110
Eucalyptus viminalis	Manna Gum	2	99
Laurus nobilis	Bay Laurel	2	89
Gleditsia triacanthos 'Shademaster'	Shademaster Honey Locust	2	27

Species Name	Common Name	Removal Priority	Quantity
Populus alba	White Poplar	2	21
Eucalyptus globulus	Tasmanian Blue Gum	2	20
<b>Eucalyptus obliqua</b>	Messmate	2	19
Acer negundo 'Variegatum'	Ghost Maple	2	19
Quercus canariensis	Algerian oak	2	12
Callistemon salignus	White Bottlebrush	3	4464
Agonis flexuosa	Peppermint Tree	3	2862
Melia azedarach	White Cedar	3	2296
Photinia robusta	Photinia	3	1782
Corymbia maculata	Spotted Gum	3	1651
Eucalyptus leucoxylon	Yellow Gum	3	1468
Callistemon cultivar	Bottlebrush cultivar	3	1194
<b>Cupressus sempervirens</b>	Italian Cypress	3	1019
Pyrus calleryana 'Capital'	Capital Pear	3	990
Acacia melanoxylon	Blackwood	3	817
Leptospermum petersonii	Lemon-scented Teatree	3	805
Eucalyptus nicholii	Narrow-leaved Peppermint	3	779
Hakea salicifolia	Willow-leafed Hakea	3	776
Olea europaea europea	Olive	3	566
Ulmus parvifolia	Chinese Elm	3	548
Acer rubrum	Red Maple	3	500
Pyrus calleryana	Callery Pear	3	477
Prunus serrulata	Japanese Cherry	3	360
Callistemon citrinus	Crimson Bottlebrush	3	352
Eucalyptus melliodora	Yellow Box	3	312
Acer buergerianum	Trident Maple	3	262
Quercus palustris	Pin Oak	3	244
Callistemon linearis	Narrow-leaved	3	242
Hakea laurina	Pin-cushion Hakea	3	238
Lagerstroemia indica	Crepe myrtle	3	237
Cinnamomum camphora	Camphor Laurel	3	192
Eucalyptus mannifera	Brittle Gum	3	187
Melaleuca lanceolata	Moonah	3	176
Corymbia eximia Nana	Yellow Bloodwood	3	175

Species Name	Common Name	Removal Priority	Quantity
Magnolia grandiflora Little Gem	Little Gem Magnolia	3	175
Jacaranda mimosifolia	Jacaranda	3	154
Pittosporum tenuifolium cultivar	Black Matipo	3	140
Callistemon Kings Park Special	Kings Park Bottlebrush	3	137
Ceratonia siliqua	Carob	3	134
Eucalyptus radiata	Narrow-leaved peppermint	3	125
Pittosporum eugenioides	Variegatum Variegated Lemonwood	3	113
Eucalyptus cephalocarpa	Silver Stringybark	3	112
Allocasuarina torulosa	Rose She-oak	3	110
Eucalyptus ovata	Swamp Gum	3	106
Melaleuca ericifolia	Swamp Paperbark	3	99
Quercus rubra	Red Oak	3	98
<b>Eucalyptus polyanthemos</b>	Red Box	3	91
Tilia cordata	Small-leaved Linden	3	80
Eucalyptus pauciflora	Snow Gum	3	75
Chamaecyparis lawsoniana	Lawson Cypress	3	71
Melaleuca nesophila	Showy Honey-myrtle	3	65
Acer palmatum	Japanese Maple	3	56
Liquidambar fomosana	Chinese Sweetgum	3	53
Prunus persica	Flowering Peach	3	43
Melaleuca bracteata	Black Tea Tree	3	40
Schinus molle	Peppercorn tree	3	35
Castanea sativa	Sweet Chestnut	3	29
Fraxinus americana	American Ash	3	29
Banksia integrifolia	Coast Banksia	3	27
Cupressus sempervirens glauca	Blue Italian Cypress	3	27
Brachychiton acerifolius	Illawarra Flame Tree	3	25
Eucalyptus saligna	Sydney blue gum	3	23
Malus spectabilis	Chinese Crab Apple	3	23
Stenocarpus sinuatus	Firewheel Tree	3	21
<b>Eucalyptus torquata</b>	Coral Gum	3	20
Fraxinus griffithii	Evergreen Ash	3	20
Pittosporum angustifolium	Weeping Pittosporum	3	20
Ficus carica	Common Fig	3	18

Species Name	Common Name	Removal Priority	Quantity
Pittosporum eugenioides	Lemonwood	3	18
Viburnum tinus	Laurustinus	3	18
Bursaria spinosa	Sweet Bursaria	3	18
Acacia pycnantha	Golden Wattle	3	17
Eucalyptus gomphocephala	Tuart	3	17
Cedrus deodara	Himalayan cedar	3	17
Eucalyptus caesia	Silver Princess Gum	3	17
Ficus benjamina	Benjamin's Fig	3	16
Metrosideros excelsa	New Zealand Pohutukawa	3	16
Banksia marginata	Silver Banksia	3	16
Eucalyptus conferruminata	Bushy Yate	3	15
Banksia ericifolia	Heath-leaved Banksia	3	15
Eucalyptus caesia	Gungurru	3	14
Eucalyptus leucoxylon megalocarpa	Large-fruiting Yellow Gum	3	14
Araucaria heterophylla	Dwarf Apple Gum	3	14
Arbutus unedo	Norfolk Island Pine	3	13
Eucalyptus cosmophylla	Cup Gum	3	13
Eucalyptus elata	River peppermint	3	13
Melaleuca elliptica	Granite Bottlebrush	3	13
Celtis australis	European nettle tree	3	13
<b>Eucalyptus pryoriana</b>	Gippsland manna gum	3	12
Acer platanoides	Norway Maple	3	11
Prunus domestica	Common Plum	3	11
Acacia podalyriifolia	Queensland Silver Wattle	3	11
Camellia sasanqua	Sasanqua Camellia	3	9
Cupressus arizonica	Arizona Cypress	3	9
Cupressus torulosa	Himalayan Cypress	3	9
Ficus microcarpa var. hillii	Hill's Fig	3	9
Malus domestica	Apple	3	9
Banksia serrata	Old Man Banksia	3	9
Brachychiton populneus	Kurrajong	3	8
Euonymus japonica	Japanese spindle	3	8
Morus nigra	Black Mulberry	3	8
Eucalyptus tricarpa	Ironbark	3	8

Species Name	Common Name	Removal Priority	Quantity
Ulmus glabra	Wych Elm	3	7
Erythrina crista-galli	Coral Tree	3	7
<b>Eucalyptus bicostata</b>	Southern Blue Gum	3	6
Acacia pravissima	Oven's wattle	3	6
Camellia japonica	Japanese Camellia	3	5
Cedrus atlantica	Atlas cedar	3	5
<b>Eucalyptus leucoxylon Rosea</b>	Red-flowering Yellow Gum	3	5
Eucalyptus macrandra	River Yate	3	5
<b>Eucalyptus sideroxylon Rosea</b>	Red Ironbark	3	5
Liriodendron tulipifera	Tulip Tree	3	5
Quercus cerris	Turkey Oak	3	5
Syagarus romanzoffiana	Cocos Palm	3	5
Thuja orientalis	Oriental Thuja	3	5
Acacia iteaphylla	Willow Wattle	3	5
Eucalyptus cladocalyx Nana	Dwarf Sugar Gum	3	4
Feijoa sellowiana	Pineapple Guava	3	4
Magnolia grandiflora	Southern Magnolia	3	4
Pinus halapensis	Aleppo Pine	3	4
Acacia rubida	Red-stemmed Wattle	3	4
Alnus cordata	Italian Alder	3	3
Alnus glutinosa	European Alder	3	3
Banksia spinulosa	Hairpin Banksia	3	3
<b>Eucalyptus forrestiana</b>	Fuchsia Gum	3	3
Eucalyptus polybrachtea	Blue Mallee	3	3
Fagus sylvatica	European Beech	3	3
Ginkgo biloba	Maidenhair Tree	3	3
Hakea erinacea	Hedgehog Hakea	3	3
Picea pungens	Blue Spruce	3	3
<b>Eucalyptus tereticornis</b>	Forest Red Gum	3	2
Acacia paradoxa	Prickly Wattle	3	2
Acer saccharinum	Silver Maple	3	2
Archontophoenix alexandrae	Strawberry Tree	3	2
Eucalyptus baueriana	Round Leaf box	3	2
Eucalyptus crenulata	Silver Gum	3	2
Ficus macrophylla	Moreton Bay Fig	3	2

Species Name	Common Name	Removal Priority	Quantity
Fraxinus ornus	Manna Ash	3	2
Hakea petiolaris	Sea-urchin Hakea	3	2
Lophostemon confertus Variegata	Variegated Brush Box	3	2
Pistacia chinensis	Chinese Pistachio	3	2
Prunus dulcis	Sweet Almond	3	2
Punica granatum	Pomegranate	3	2
Sophora microphylla	Kowhai	3	2
Syncarpia glomulifera	Turpentine	3	2
Viminaria juncea	Native Broom	3	2
Washingtonia filifera	Desert Fan Palm	3	2
Acacia elata	Cedar Wattle	3	1
Agonis flexuosa 'After Darl'	After Dark Peppermint	3	1
Betula pendula dactylifera	Cut leaf Birch	3	1
Brachychiton discolor	Queensland Lace-bark	3	1
Celtis occidentalis	Common hackberry	3	1
Ceratopetalum gummiferum	New South Wales Christmas Bush	3	1
Cydonia oblonga	Quince	3	1
Diospyros kaki	Persimmon	3	1
Eucalyptus platypus	Moort	3	1
Eucalyptus pseudoglobulus	Gippsland Blue Gum	3	1
Exocarpos cupressiformis	Cherry Ballart	3	1
Ficus elastica	Rubber Tree	3	1
Fraxinus pennsylvanica	Green Ash	3	1
Hakea tephrosperma	Hooked Needlewood	3	1
Magnolia x soulangeana	Saucer Magnolia	3	1
Mespilus germanica	Common Medlar	3	1
Nandina domestica	Sacred Bamboo	3	1
Parrotia persica	Persian Ironwood	3	1
Prunus Elvins	Elvins Plum	3	1
Taxodium distichum	Bald Cypress	3	1
Ulmus minor 'Variegata'	Silver Elm	3	1
Westringia fruticosa	Coastal Rosemary	3	1
X Cupressocyparis leylandii	Leyland Cypress	3	1

## **10.J** Monash Soil Types

Detailed soil maps of Greater Melbourne are not available but since the distribution of soils in Greater Melbourne is closely related to the underlying geological material on which they have formed, a detailed geological map gives a good surrogate for predicting soil distribution. In this case, the Ringwood sheet of the Victorian 1:63,360 scale geological maps has the best detail (http://earthresources.efirst.com.au/product.asp?pID=384&cID=33).

Using the information from Melbourne Soils (DPI, 1996), geological maps (Geological Survey of Victoria, 1981) and from field observations, the following table has been constructed to rank the City of Monash soils for a number of attributes.

Distribution of soils in Greater Melbourne is closely related to the underlying geological material on which they have formed. Most of the City of Monash has one of two surface geologies:

- » Tertiary sediments as a capping layer over much of the city (Southwest Plains precincts and most of the Central Hills precinct), and
- » Silurian marine shales and mudstones on the northern and eastern slopes where they have been exposed by erosion (Eastern Slopes precinct and the northern section of the Central Hills).

As such, the Central Hills precinct, containing both Tertiary and Silurian geology, results in more complex spatial variation of soil than most of the rest of the city. While most of Central Hills is Tertiary sediments and relatively sandy, Ashwood and Syndal lie in valleys with Silurian origin loamy soils which will be less well drained than neighbouring suburbs.

A different soil profile typically forms on each of these:

- » Dark grey sand over clay, and
- » Light grey loams over clay.

Both of these broad soil groups are duplex soils, that is, the boundary between the A horizon and the clay B horizon is quite sharp. However, the texture and depth of the A horizon varies significantly between the two groups.

Descriptions of typical examples of the soil profiles formed on these two geologies are given below but will vary somewhat across the geographic range.

Also, the boundaries between the soil types will generally not be at all distinct and complex intergrading in the vicinity of marked boundaries can be expected. Soil disturbance, export and import of material is common in urban areas resulting in unpredictable soil profiles.

Generally, many of Monash's Arterial Roads cross these geological and soil profiles numerous times, any differences in tree growth due to soil behaviour across these boundaries was very slight. However, this is possibly since many Arterial Roads are planted with relatively resilient species. In replanting Arterial Roads water logging sensitive species should be avoided so soil effects continue to be minimal.

### Dark grey sand over clay (DSC)

Tertiary sediments- Mapping unit Tpr shaded yellow (Geological Survey of Victoria, 1981)

The topsoil is a black to dark grey sand with a lot of organic matter, grading into light grey sand. It overlies a brown, red and gray mottled clay. These soils are poor in plant nutrients and require the addition of organic matter and fertilizers or manures when producing crops. Lime may be necessary to counteract acidity.

#### Other features include:

- » clay subsoil which can impede drainage;
- » suited to a large range of plants;
- » topsoil easily worked whether dry, moist or wet
- » non-sticky;
- » in winter a perched watertable may occur above the clay, affecting drainage.

#### Light grey loams over clay (LC)

Silurian marine sedimentary rocks - Mapping unit Sud and Sla, shaded light grey and mid grey respectively and Devonian marine sedimentary rocks - Mapping unit Dlh, shaded dark grey (Geological Survey of Victoria, 1981) The topsoil consists of a light grey loam with some stones or gravel. The topsoil overlies a compact yellow brown mottled clay subsoil with small and large angular stones often found at the junction. These soils are poor in plant nutrients and humus. Fertilisers or manures should be applied regularly and organic matter dug into the topsoil. Soil acidity may be corrected by the addition of lime. The addition of gypsum will usually improve soil structure.

#### Other features include:

- » moderately well drained;
- » moderate to low in water holding capacity;
- » topsoil tends to set quite hard when dry and should only be worked when moist; too soft when wet;
- » good for a wide range of plants, however summer watering is essential for introduced, or non-native plants as the root zone holds restricted quantities of water;
- » scattered rock fragments in the subsoil can cause problems for digging.

#### Alluvial soils (AS)

Cutting through the Monash are a number of creeks that have associated alluvial flats. These are marked Qra on the geological map, shaded pale green. Soils in these areas will be silty loams with clay subsoils and due to their landscape position will be poorly-drained and prone to waterlogging during wet weather. The Dandenong Creek Valley in Eastern Slopes is a major example but other occurrences are found in the Central Plains precinct.

#### Old dune soils (DS)

South of the Princes Highway, in the Southwest Plains Precinct, there are some scattered relic sand dunes marked Qpd on the geological map, shaded dark green.

These sand dunes will have formed as the coastline moved back and forwards through this area. Soil in these areas will be deep sandy profiles with excellent drainage.

#### Implications for plant selection and planting

Where significant disturbance has occurred these rules may not hold. The four soils are coded as follows: Dark grey sands over clay (DSC), Light grey loams over clay (LC), old dune soils (DS) and alluvial soils (AS).

Attribute	Ranking	Comments
Drainage	DS>DSC>LC>AS	Trees that require good drainage will be best restricted to DS, DSC and LC (LC on sloping sites).
Water holding	AS>LC>DSC>DS	The advantages of clay soils may be lost if heavily compacted or if basalt is close to the surface restricting rooting depth.
Liability to be damaged during development works	AS>LC>DSC>DS	The deep sand topsoils of DS and DSC soils will protect the soil from compaction to some extent but all the soils will be susceptible to compaction damage.

#### **Drainage**

The deeper sandy soils (DS & DSC) will provide reasonable drainage in all but the most disturbed areas. Trees that do not tolerate poor drainage will perform best if not planted in low-lying areas of alluvial soils (AS), or in heavily disturbed areas with LC soil.

### Soil compaction and disturbance

Given the highly urbanised nature of Monash, natural profiles may be scarce.

One effect of disturbance will be topsoil removal resulting in exposure of the clay subsoil which can result in severe soil compaction, which in turn can affect plant growth. The effect of disturbance of this type will be most extreme in areas with LC soils because the topsoils are shallower and their loamy texture makes them more prone to damage. However, even on the deeper sandy soils severe construction damage can occur.

Whether or not a soil is compacted or scalped can only be assessed on site at the time of planting or in planning for planting. Soil compaction can be offset by soil loosening pre-planting, by the use of wide shallow sloping side planting holes and by planting trees slightly above grade. Species selection for both drought and waterlogging tolerance is regarded as being the best plant selection approach to soil compaction.

# Monash Street Tree Strategy Geology & Soils



#### Source:

Geological Survey of Victoria, 1981. Ringwood. 1 mile to 1 inch, geological map. Department of Mines, Victoria. earthresources.efirst.com.au/product.asp?pID=384&cID=33&c=81344

## 10.K Street Tree Selection Matrix, Tree Characteristics

			Tree Characteristics	
Species Name	Common Name	GR	Origin	SP&D
Acacia implexa	Lightwood	2	QLD, NSW, ACT, VIC	2
Acacia pendula	Weeping Myall	1	VIC, QLD, NSW	3
Acer campestre 'Elsrijk'	Elsrijk Maple	2	Cultivar	3
Acer campestre 'Evelyn'	Queen Elizabeth Maple	2	Cultivar	3
Acer platanoides 'Columnara'	Upright Norway Maple	2	Cultivar	3
Acer platanoides 'Crimson Sentry'	Crimson Sentry Norway Maple	2	Cultivar	3
Acer platanoides 'Deborah'	Deborah Norway Maple	2	Cultivar	3
Acer platanoides 'Globosum'	Globosum Norway Maple	2	Cultivar	3
Acer rubrum 'October Glory'	Red Maple	2	Cultivar	3
Acer saccharum 'Goldspire'	Goldspire Sugar Maple	2	Cultivar	3
Acer truncatum x platanoides 'Taggert Sunset'	Truncatum Hybrid Maple	2	Cultivar	3
Acer X freemanii 'Autumn Blaze'	Freeman Maple	3	Cultivar	3
Allocasuarina littoralis	Black She-oak	2	QLD, NSW, VIC, TAS	3
Allocasuarina verticillata	Drooping She-oak	2	SA, VIC, TAS, NSW	2
Angophora costata	Sydney red Gum	1	NSW, SA, QLD	2
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton	2	Cultivar	2
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton	2	Cultivar	2
Buckinghamia celcissima	Ivory Curl Tree	2	QLD	3
Callistemon Harkness	Harkness Bottlebrush	2	Garden Origin	3
Callistemon viminalis	Weeping Bottlebrush	2	QLD, NSW	3
Cercis canadensis 'Forest Pansy'	Forest Pansy Redbud	1	Cultivar	3
Corymbia citriodora	Lemon-scented Gum	1	QLD	2
Corymbia citriodora 'Scentuous'	Dwarf Lemon Scented Gum	2	Cultivar	2
Corymbia maculata 'Little Mac'	Dwarf Spotted Gum	2	Cultivar	2
Cupaniopsis anacardioides	Tuckeroo	2	NSW, QLD	3
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum	2	Cultivar	2
Eucalyptus mannifera 'Little Spotty'	Dwarf Red Spotted Gum	1	Cultivar	2
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum	2	Cultivar	2
<b>Eucalyptus sideroxylon</b>	Ironbark	1	NSW, QLD	2
Fraxinus excelsior 'Aurea'	Golden Ash	2	Garden Origin	3
Fraxinus pennsylvanica 'Aerial'	Aerial Green Ash	2	Cultivar	3
Fraxinus pennsylvanica 'Urbanite'	Urbanite Green Ash	2	Cultivar	2
Hymenosporum flavum	Native Frangipani	1	New Guinea, QLD, NSW	3

			Tree Characteristics	
Species Name	Common Name	GR	Origin	SP&D
Koelreuteria paniculata	Golden Rain Tree	2	China, Korea	3
Lagerstroemia indica x L. fauriei 'Kiowa'	Kiowa Japanese Crepe Myrtle	2	Cultivar	2
Lagerstroemia indica x L. fauriei 'Natchez'	Natchez Crepe Myrtle (white)	2	Cultivar	2
Lagerstroemia indica x L. fauriei 'Sioux'	Sioux Upright Crepe Myrtle	2	Cultivar	2
Lagerstroemia indica x L. fauriei 'Tuscarora'	Tuscarora Crepe Myrtle (coral pink)	2	Cultivar	2
Lophostemon confertus	Queensland Brush Box	2	NSW, QLD	3
Malus tschonoskii	Pillar Crabapple	2	Japan	3
Melaleuca linariifolia	Flax-leaf Paperbark	2	NSW, QLD, SA	3
Melia azedarach 'Elite'	White Cedar	3	Cultivar	3
Morus alba	White Mulberry	2	Asia, China	3
Myrsine howittiana	Muttonwood	2	VIC, NSW	3
Nyssa sylvatica	Black Tupelo	2	USA, Mexico	2
Olea europaea 'Swan Hill'	Swan Hill Olive	1	Cultivar	2
Phoenix canariensis	Date Palm	1	Canary Islands	3
Platanus orientalis	Oriental Plane	2	China	2
Platanus orientalis 'Digitata'	Cyprian Plane	2	Cultivar	2
Platanus orientalis var. insularis 'Autumn Glory'	Autumn Glory Plane	2	Cultivar	2
Platanus x acerifolia	London Plane	3	Hybrid	3
Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear	2	Cultivar	3
Pyrus calleryana x P. betulaefolia 'Edgewood'	Upright Callery Pear	2	Cultivar	3
Pyrus fauriei 'Westwood' Korean Sun	Korean Sun Pear	1	Cultivar	3
Quercus coccinea	Scarlet Oak	2	USA	3
Quercus palustris 'Green Pillar'	Upright Pin Oak	2	Cultivar	3
Robinia pseudoacacia 'Frisia'	Golden Robinia	3	Garden Origin	3
Robinia pseudoacacia 'Umbraculifera'	Mop Head Robinia	2	Garden Origin	3
Sophora japonica 'Princeton Upright'	Upright Pagoda Tree	2	Cultivar	3
Tristaniopsis laurina	Water Gum	2	QLD	3
Tristaniopsis laurina 'Luscious'	Luscious Kanooka	2	Cultivar	3
Ulmus parvifolia 'Todd'	Todd Chinese Elm	2	Cultivar	3
Zelkova serrata 'Green Vase'	Japanese Zelkova	2	Cultivar	3

		Street Characteristics		TICS
Species Name	Common Name	Min. nature strip width (m)	Under powerlines	Compaction / Soil type
Acacia implexa	Lightwood	2	N	2
Acacia pendula	Weeping Myall	1	Υ	2
Acer campestre 'Elsrijk'	Elsrijk Maple	1.5	Υ	3
Acer campestre 'Evelyn'	Queen Elizabeth Maple	1.5	Υ	3
Acer platanoides 'Columnara'	Upright Norway Maple	2	Υ	2
Acer platanoides 'Crimson Sentry'	Crimson Sentry Norway Maple	2	Υ	2
Acer platanoides 'Deborah'	Deborah Norway Maple	2	N	2
Acer platanoides 'Globosum'	Globosum Norway Maple	1.5	Υ	2
Acer rubrum 'October Glory'	Red Maple	2	N	3
Acer saccharum 'Goldspire'	Goldspire Sugar Maple	2	N	1
Acer truncatum x platanoides 'Taggert Sunset'	Truncatum Hybrid Maple	2	N	1
Acer X freemanii 'Autumn Blaze'	Freeman Maple	2	N	3
Allocasuarina littoralis	Black She-oak	2	N	1
Allocasuarina verticillata	Drooping She-oak	2	Υ	3
Angophora costata	Sydney red Gum	3	N	2
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton	1.5	Υ	1
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton	1.5	Υ	1
Buckinghamia celcissima	Ivory Curl Tree	1.5	Y	1
Callistemon Harkness	Harkness Bottlebrush	1.5	Y	3
Callistemon viminalis	Weeping Bottlebrush	1.5	Y	3
Cercis canadensis 'Forest Pansy'	Forest Pansy Redbud	2	Y	1
Corymbia citriodora	Lemon-scented Gum	3	N	2
Corymbia citriodora 'Scentuous'	Dwarf Lemon Scented Gum	1.5	Y	2
Corymbia maculata 'Little Mac'	Dwarf Spotted Gum	1.5	Υ	3
Cupaniopsis anacardioides	Tuckeroo	2	N	2
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum	2	Υ	3
Eucalyptus mannifera 'Little Spotty'	Dwarf Red Spotted Gum	2	Υ	2
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum	2	Υ	1
<b>Eucalyptus sideroxylon</b>	Ironbark	3	N	2
Fraxinus excelsior 'Aurea'	Golden Ash	2	N	2
Fraxinus pennsylvanica 'Aerial'	Aerial Green Ash	2	N	3
Fraxinus pennsylvanica 'Urbanite'	Urbanite Green Ash	2	Y	3
Hymenosporum flavum	Native Frangipani	2	N	3

		Street Characteristics		
Species Name	Common Name	Min. nature strip width (m)	Under powerlines	Compaction / Soil type
Koelreuteria paniculata	Golden Rain Tree	2	Υ	2
Lagerstroemia indica x L. fauriei 'Kiowa'	Kiowa Japanese Crepe Myrtle	1.5	Υ	2
Lagerstroemia indica x L. fauriei 'Natchez'	Natchez Crepe Myrtle (white)	1.5	Υ	2
Lagerstroemia indica x L. fauriei 'Sioux'	Sioux Upright Crepe Myrtle	1.5	Υ	2
Lagerstroemia indica x L. fauriei 'Tuscarora'	Tuscarora Crepe Myrtle (coral pink)	1.5	Υ	2
Lophostemon confertus	Queensland Brush Box	2	N	3
Malus tschonoskii	Pillar Crabapple	1.5	Υ	2
Melaleuca linariifolia	Flax-leaf Paperbark	3	Υ	3
Melia azedarach 'Elite'	White Cedar	2	N	2
Morus alba	White Mulberry	2	Υ	2
Myrsine howittiana	Muttonwood	2	Υ	2
Nyssa sylvatica	Black Tupelo	2	N	1
Olea europaea 'Swan Hill'	Swan Hill Olive	2	Υ	2
Phoenix canariensis	Date Palm	3	N	2
Platanus orientalis	Oriental Plane	3	N	3
Platanus orientalis 'Digitata'	Cyprian Plane	3	N	3
Platanus orientalis var. insularis 'Autumn Glory'	Autumn Glory Plane	3	N	3
Platanus x acerifolia	London Plane	3	N	3
Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear	2	N	3
Pyrus calleryana x P. betulaefolia 'Edgewood'	Upright Callery Pear	1.5	Υ	3
Pyrus fauriei 'Westwood' Korean Sun	Korean Sun Pear	1.5	Y	3
Quercus coccinea	Scarlet Oak	3	N	2
Quercus palustris 'Green Pillar'	Upright Pin Oak	2	N	3
Robinia pseudoacacia 'Frisia'	Golden Robinia	3	N	3
Robinia pseudoacacia 'Umbraculifera'	Mop Head Robinia	2	Υ	3
Sophora japonica 'Princeton Upright'	Upright Pagoda Tree	2	N	3
Tristaniopsis laurina	Water Gum	2	Υ	2

Luscious Kanooka

Todd Chinese Elm

Japanese Zelkova

Tristaniopsis laurina 'Luscious'

Zelkova serrata 'Green Vase'

Ulmus parvifolia 'Todd'

1

3

2

2

2

2

N

		Streetscape Characteristics		
Species Name	Common Name	H x S (m)	Foliage	Land Use & Urban Character
Acacia implexa	Lightwood	10 x 5-8	E	R HC HZ
Acacia pendula	Weeping Myall	5-8 x 3-7	E	R HC
Acer campestre 'Elsrijk'	Elsrijk Maple	8-10 x 7	D	AC
Acer campestre 'Evelyn'	Queen Elizabeth Maple	8-10 x 7	D	R HZ
Acer platanoides 'Columnara'	Upright Norway Maple	10 x 4	D	RIHZ
Acer platanoides 'Crimson Sentry'	Crimson Sentry Norway Maple	7 x 4	D	R HZ
Acer platanoides 'Deborah'	Deborah Norway Maple	10-12 x 6-8	D	R HZ
Acer platanoides 'Globosum'	Globosum Norway Maple	5 x 4	D	HZ AC
Acer rubrum 'October Glory'	Red Maple	12 x 10	D	R HZ
Acer saccharum 'Goldspire'	Goldspire Sugar Maple	10-12 x 4	D	RI
Acer truncatum x platanoides 'Taggert Sunset'	Truncatum Hybrid Maple	12-15 x 10	D	R HZ
Acer X freemanii 'Autumn Blaze'	Freeman Maple	13 x 10	D	R HZ
Allocasuarina littoralis	Black She-oak	5-12 x 5-8	E	R HZ
Allocasuarina verticillata	Drooping She-oak	5-10 x 4-8	E	R HC HZ
Angophora costata	Sydney red Gum	18-25 x 18-20	E	R HZ
Brachychiton populneus x acerifolius 'Bella Pink'	Bella Pink Hybrid Brachychiton	8 x 4	D	R HZ
Brachychiton populneus x acerifolius 'Jerilderie Red'	Jerilderie Red Hybrid Brachychiton	8 x 7	D	R HZ
Buckinghamia celcissima	Ivory Curl Tree	8-15 x 8-12	E	R
Callistemon Harkness	Harkness Bottlebrush	5 x 6	E	R
Callistemon viminalis	Weeping Bottlebrush	6-8 x 6-8	E	R
Cercis canadensis 'Forest Pansy'	Forest Pansy Redbud	5-7 x 5-7	D	R
Corymbia citriodora	Lemon-scented Gum	15-20 x 15-18	E	R
Corymbia citriodora 'Scentuous'	Dwarf Lemon Scented Gum	7 x 3	E	R
Corymbia maculata 'Little Mac'	Dwarf Spotted Gum	12-18 x 10-12	E	R
Cupaniopsis anacardioides	Tuckeroo	8-10 x 6-8	E	R HZ
Eucalyptus leucoxylon 'Eukie Dwarf'	Dwarf Yellow Gum	6-8 x 4-6	E	R HZ
Eucalyptus mannifera 'Little Spotty'	Dwarf Red Spotted Gum	5-7 x 6	E	R
Eucalyptus pauciflora 'Little Snowman'	Dwarf Snow Gum	4-7 x 3-6	E	R HZ
Eucalyptus sideroxylon	Ironbark	18-22 x 15-18	E	R
Fraxinus excelsior 'Aurea'	Golden Ash	10-15 x 10-15	D	R HZ
Fraxinus pennsylvanica 'Aerial'	Aerial Green Ash	10-12 x 4-6	D	RIHZ
Fraxinus pennsylvanica 'Urbanite'	Urbanite Green Ash	11 x 8	D	R HZ
Hymenosporum flavum	Native Frangipani	8 x 3	D	RIHZ

		Streetscape Characteristics		
Species Name	Common Name	H x S (m)	Foliage	Land Use & Urban Character
Koelreuteria paniculata	Golden Rain Tree	7-10 x 10	D	R HZ
Lagerstroemia indica x L. fauriei 'Kiowa'	Kiowa Japanese Crepe Myrtle	4 x 3	D	R HZ
Lagerstroemia indica x L. fauriei 'Natchez'	Natchez Crepe Myrtle (white)	8 x 6	D	R HZ
Lagerstroemia indica x L. fauriei 'Sioux'	Sioux Upright Crepe Myrtle	5 x 4	D	R HZ
Lagerstroemia indica x L. fauriei 'Tuscarora'	Tuscarora Crepe Myrtle (coral pink)	4 x 5	D	R HZ
Lophostemon confertus	Queensland Brush Box	10 x 15	E	R HZ
Malus tschonoskii	Pillar Crabapple	7 x 4	D	RIHZ
Melaleuca linariifolia	Flax-leaf Paperbark	6-10 x 6-10	E	R HZ
Melia azedarach 'Elite'	White Cedar	6-12 x 5-8	D	R HZ
Morus alba	White Mulberry	10-15 x 10-15	D	AC R HZ
Myrsine howittiana	Muttonwood	3-15 x 2-6	E	R HC
Nyssa sylvatica	Black Tupelo	8-12 x 6-10	D	R
Olea europaea 'Swan Hill'	Swan Hill Olive	7-10 x 7-10	E	R HZ
Phoenix canariensis	Date Palm	10-20 x 8-10	E	R HZ
Platanus orientalis	Oriental Plane	15-25 x 12-20	D	HZ
Platanus orientalis 'Digitata'	Cyprian Plane	15-20 x 10-12	D	HZ
Platanus orientalis var. insularis 'Autumn Glory'	Autumn Glory Plane	15-20 x 15-18	D	HZ
Platanus x acerifolia	London Plane	20-30 x 15-25	D	HZ
Pyrus calleryana 'Chanticleer'	Chanticleer Callery Pear	11 x 6	D	R HZ
Pyrus calleryana x P. betulaefolia 'Edgewood'	Upright Callery Pear	8-10 x 6-8	D	R HZ
Pyrus fauriei 'Westwood' Korean Sun	Korean Sun Pear	4-6 x 4-6	D	R HZ
Quercus coccinea	Scarlet Oak	18-22 x 15-18	D	R HZ
Quercus palustris 'Green Pillar'	Upright Pin Oak	12-16 x 3-5	D	RIHZ
Robinia pseudoacacia 'Frisia'	Golden Robinia	20-30 x 15-25	D	AC
Robinia pseudoacacia 'Umbraculifera'	Mop Head Robinia	4.5-6 X 4.5-6	D	AC
Sophora japonica 'Princeton Upright'	Upright Pagoda Tree	12-16 x 8-10	D	R HZ
Tristaniopsis laurina	Water Gum	5-10 x 4-8	E	RIHZ
Tristaniopsis laurina 'Luscious'	Luscious Kanooka	8 x 4	E	RIHZ
Ulmus parvifolia 'Todd'	Todd Chinese Elm	10-12 x 6-8	SD	R HZ
Zelkova serrata 'Green Vase'	Japanese Zelkova	18-24 x 15-18	D	R HZ

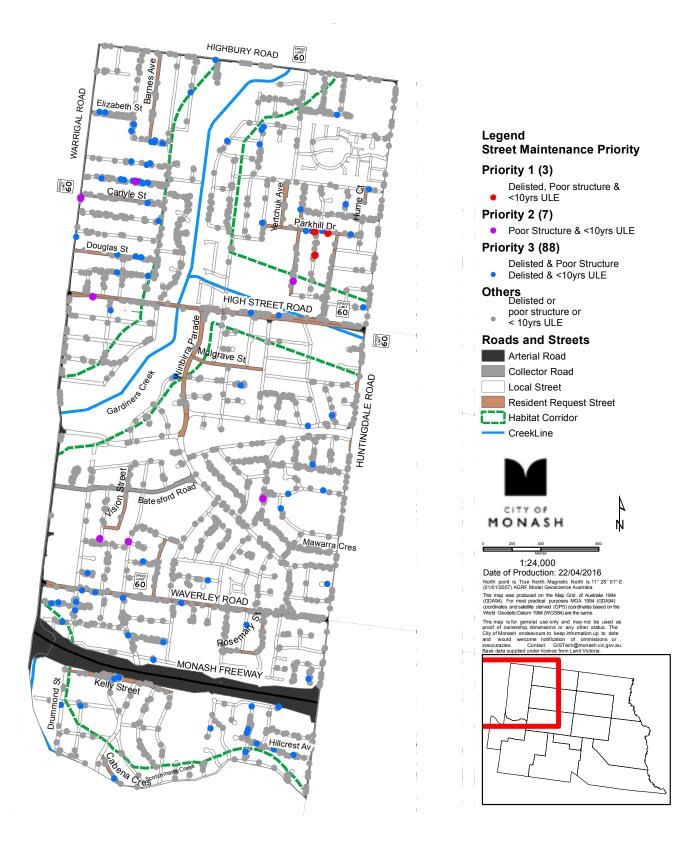


STREET TREE SELECTION TEMPI	ATE KEY
GROWTH RATE	<ol> <li>Slow growth rate, typically less than 500mm per annum</li> <li>Moderate growth rate, typically between 500-800mm per annum</li> <li>Fast growth rate, typically 800mm plus per annum</li> </ol>
SUSCEPTIBILITY TO PEST AND DISEASE	<ol> <li>Frequently subject to insect attack or disease that cause obvious damage</li> <li>Intermediate susceptibility to insect attack or disease that cause obvious damage</li> <li>Generally not prone to insect attack or disease that cause obvious damage</li> </ol>
COMPACTION/ SOIL TYPE	<ul> <li>1 Poorly suited for compacted soil (best for DS &amp; DSC soil types)</li> <li>2 Has some tolerance of soil compaction but not recommended (best in DSC or LC sloping sites)</li> <li>3 Should cope with seriously compacted soils (can grow in all soil types)</li> </ul>
FOLIAGE	<ul><li>E Evergreen</li><li>D Deciduous</li><li>SD SD Semi-deciduous</li></ul>
LAND USE & URBAN CHARACTER	AC Activity Centres R Residential I Industrial areas HC Habitat Corridor HZ Heritage Zones in Precinct Southwest Plains 1
SPECIAL USE	<ol> <li>Replacement planting only</li> <li>Tolerates restricted soil volume i.e. cut outs, kerb outstands or roundabouts</li> <li>Space permitting</li> <li>Use where nut drop is not an issue</li> <li>Use min. 4m from sewer</li> </ol>
SIZE	<b>S</b> 5-8m tall <b>M</b> 8-12m tall <b>L</b> 12+m tall
DROUGHT	<ol> <li>Not strongly drought tolerant and may require supplementary irrigation (best for AS soil type)</li> <li>Would be generally suited for use in Monash but may not suit dry sites (best for LC DSC soil types)</li> <li>Grows well in Monash without irrigation (best for use in DS soil type)</li> </ol>
ТҮРЕ	VN Victorian Native AN Australian Native ED Exotic deciduous EE Exotic evergreen EC Exotic conifer

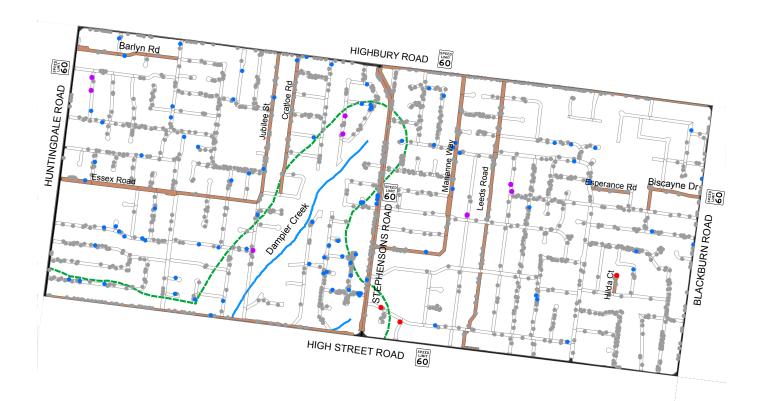
## 10.L Neighbourhood Priority Plans (5/10/15)

### **Monash Street Tree Strategy**

## **Neighbourhood Priority Plan: Ashwood**



## **Neighbourhood Priority Plan: Mount Waverley North**



#### Legend **Street Maintenance Priority**

#### Priority 1 (3)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (8)

• Poor Structure & <10yrs ULE

#### Priority 3 (99)

Delisted & Poor Structure

Delisted & <10yrs ULE

Others De-listed or

poor structure or < 10yrs ULE

Resident Request Street

#### **Roads and Streets**

Arterial Road

Collector Road

Local Street

Habitat Corridor

CreekLine





#### 1:15,000

Date of Production: 24/05/2016
North point is True North. Magnetic North is 11° 21
(01/01/2007) AGRF Model Geoscience Australia.



## **Monash Street Tree Strategy Neighbourhood Priority Plan: Mount Waverley Central**



### Legend

#### Priority 1 (2)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (1)

Poor Structure & <10yrs ULE</li>

### **Priority 3 (103)**

Delisted & Poor Structure Delisted & <10yrs ULE

Others De-listed or poor structure or

< 10yrs ULE

#### **Roads and Streets**

Arterial Road Collector Road

Local Street

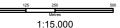
Resident Request Street

Habitat Corridor CreekLine

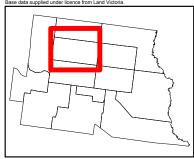
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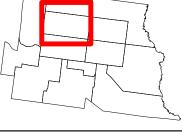






Date of Production: 24/05/2016 Date OI = "TOQUICTION: 24/U07/2/U16
North point is True North, Magnetic North is 11': 28': 51" E
(01/01/2007) AGRF Model Geoscience Australia.
This map was produced on the Map Gdd of Australia 1994
(GDA94). For most practical purposes MGA 1994 (GDA94) coordinates and satellite devived (GPS) coordinates based on the
World Geodelic Datum 1994 (WGS44) are the same.





## **Neighbourhood Priority Plan: Mount Waverley South**



#### Legend **Street Maintenance Priority**

#### Priority 1 (5)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (12)

• Poor Structure & <10yrs ULE

#### **Priority 3 (145)**

Delisted & Poor Structure Delisted & <10yrs ULE

Others De-listed or

poor structure or < 10yrs ULE

Resident Request Street

#### **Roads and Streets**

Arterial Road

Collector Road

Local Street

Habitat Corridor

CreekLine

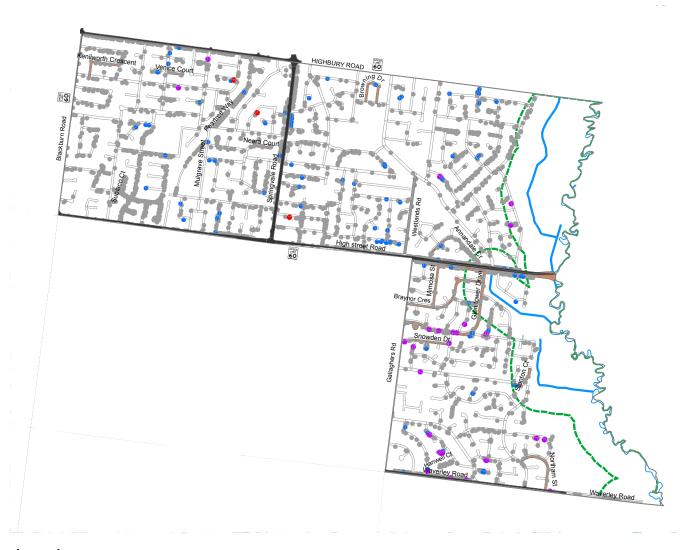


MONASH

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(UTOT/2007) AGNET MODEL GEOSCIENCE AUSTRAIN This map was produced on the Map Grid of Australia 1994 (GDA94). For most practical purposes MGA 1994 (GDA94) coordinates and satellite derived (GPS) coordinates based on the World Geodetic Datum 1994 (WGS94) are the same.

## **Neighbourhood Priority Plan: Glen Waverley North**



#### Legend **Street Maintenance Priority**

#### **Roads and Streets**

Arterial Road Collector Road Local Street

### Priority 1 (3)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (27)

Poor Structure & <10yrs ULE

#### Priority 3 (93)

Delisted & Poor Structure Delisted & <10yrs ULE

Others
Delisted or poor structure or < 10yrs ULE

Resident Request Street

Habitat Corridor CreekLine



Date of Production: 24/05/2016 North point is True North. Magnetic North is 11\*28 (01/01/2007) AGRF Model Geoscience Australia. This map was produced on the Map Grid of Australia (GDA94). For most practical purposes MGA 1994 (GDA



## **Neighbourhood Priority Plan: Glen Waverley Central**



#### Legend **Street Maintenance Priority**

#### Priority 1 (0)

Delisted, Poor structure & <10yrs ULE

### Priority 2 (1)

Poor Structure & <10yrs ULE

#### Priority 3 (33)

Delisted & Poor Structure Delisted & <10yrs ULE

Others
De-listed or poor structure or < 10yrs ULE

Resident Request Street

#### **Roads and Streets**

Arterial Road

Collector Road

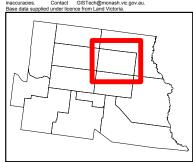
Local Street

Habitat Corridor

CreekLine



Date of Production: 24/05/2016
North point is True North. Magnetic North is 11" 28 "51" E (01/01/2007) AGRF Model Geoscience Australia.
This map was produced on the Map Grid of Australia 1994 (GDA94). For most practical purposes MGA 1994 (GDA94)



## **Neighbourhood Priority Plan: Glen Waverley South**



#### Legend **Street Maintenance Priority**

#### Priority 1 (5)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (37)

Poor Structure & <10yrs ULE

#### **Priority 3 (102)**

Delisted & Poor Structure Delisted & <10yrs ULE

Others Delisted or

poor structure or

< 10yrs ULE

Arterial Road

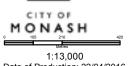
Collector Road

Local Street

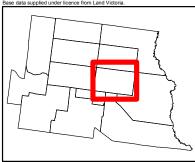
Resident Request Street

CreekLine

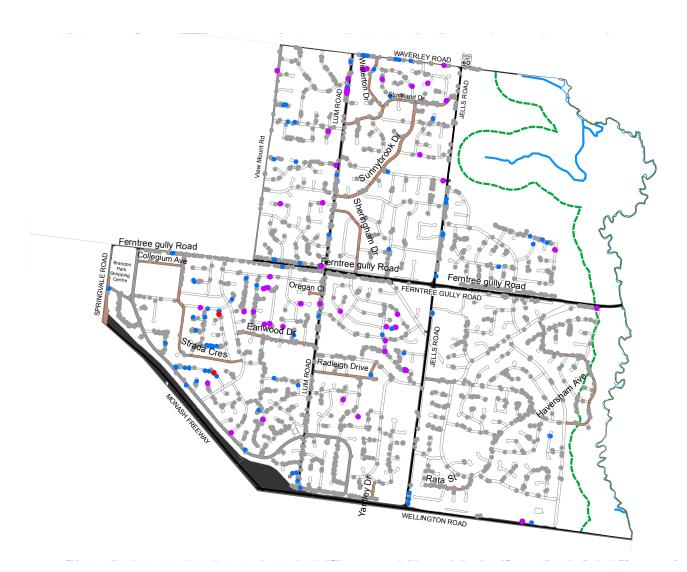




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## **Neighbourhood Priority Plan: Wheelers Hill**



#### Legend **Street Maintenance Priority**

#### Priority 1 (2)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (54)

Poor Structure & <10yrs ULE</li>

#### Priority 3 (92)

Delisted & Poor Structure Delisted & <10yrs ULE

Others
De-listed or

poor structure or < 10yrs ULE

#### **Roads and Streets**

Arterial Road

Collector Road Local Street

Resident Request Street

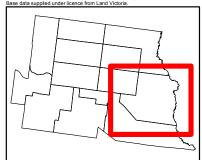
Habitat Corridor

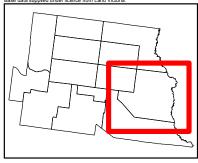
CreekLine



MONASH







## **Neighbourhood Priority Plan: Mulgrave**



#### Legend **Street Maintenance Priority**

#### Priority 1 (8)

Delisted, Poor structure & <10yrs ULE

### Priority 2 (19)

Poor Structure & <10yrs ULE</li>

### Priority 3 (67)

Delisted & Poor Structure

Delisted & <10yrs ULE

Others Delisted or

poor structure or < 10yrs ULE

Resident Request Street

#### **Roads and Streets**

Arterial Road

Collector Road

Local Street

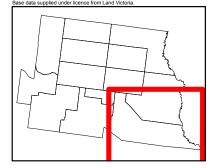
Habitat Corridor

CreekLine

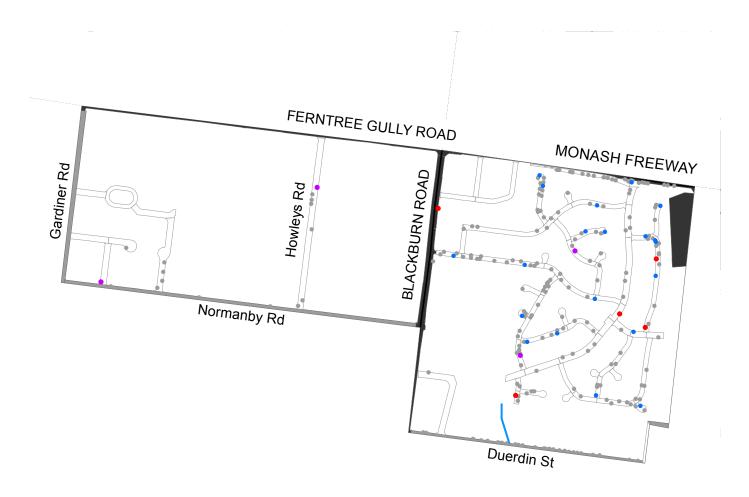


MONASH

1:28,000
Date of Production: 26/04/2016
Note point is troe Moth Magnetic North is 11:28 '51"E
(01/01/2007) AGRF Model Geoscience Australia:
This range was produced on the Map Girl of Australia 1994
(GDA94). For most practical purposes MGA 1994 (GDA94)
condriates and seatlettle derived (GPS) coordinates based on the
World Geodetic Datum 1994 (WGS84) are the same.



## **Monash Street Tree Strategy Neighbourhood Priority Plan: Notting Hill**



#### Legend **Street Maintenance Priority**

#### Priority 1 (5)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (4)

Poor Structure & <10yrs ULE

#### Priority 3 (20)

Delisted & Poor Structure Delisted & <10yrs ULE

Others Delisted or

poor structure or

< 10yrs ULE

#### **Roads and Streets**



Habitat Corridor

CreekLine



MONASH





## **Neighbourhood Priority Plan: Clayton**



#### Legend **Street Maintenance Priority**

#### Priority 1 (3)

Delisted, Poor structure &

<10yrs ULE

#### Priority 2 (13)

Poor Structure & <10yrs ULE</li>

#### Priority 3 (64)

Delisted & Poor Structure

Delisted & <10yrs ULE

Others De-listed or

poor structure or < 10yrs ULE

Resident Request Street

#### **Roads and Streets**

Arterial Road

Collector Road

Local Street

Habitat Corridor

CreekLine



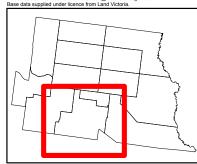






#### Date of Production: Jul 2015

Date of F10duction1. Jul 2015
North point is True North. Magnetic North is 111 '28 '51' E
(01/01/2007) AGRF Model Geoscience Australia.
This map was produced on the Map Gild of Australia 1904
(CDA94). For most practical purposes MGA 1994 (CDA94) coordinates and seatline derived (CPS) coordinates based on the
World Geodetic Datum 1984 (WGS84) are the same.



## **Neighbourhood Priority Plan: Huntingdale**



#### Legend **Street Maintenance Priority**

#### Priority 1 (6)

Delisted, Poor structure & <10yrs ULE

#### Priority 2 (6)

Poor Structure & <10yrs ULE</li>

### **Priority 3 (143)**

Delisted & Poor Structure

Delisted & <10yrs ULE

Others Delisted or

poor structure or < 10yrs ULE

#### **Roads and Streets**

Arterial Road

Collector Road Local Street

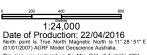
Resident Request Street

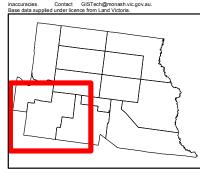
Habitat Corridor

CreekLine



MONASH





## **Neighbourhood Priority Plan: Oakleigh**



#### Legend **Street Maintenance Priority**

#### Priority 1 (1)

Delisted, Poor structure &

<10yrs ULE

#### Priority 2 (0)

Poor Structure & <10yrs ULE</li>

#### Priority 3 (87)

Delisted & Poor Structure

Delisted & <10yrs ULE

Others Delisted or

poor structure or < 10yrs ULE

**Habitat Corridor** CreekLine

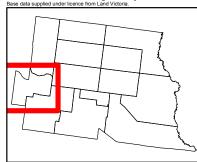
Roads and Streets Arterial Road Collector Road Local Street Resident Request Street



MONASH



Notes 1:16,000
Date of Production: 22/04/2016
Noth point is True North. Magnetic North is 11'28' 51" E
(0101/2007) AGRF Model Geoscience Australia.
This map was produced on the Map Grid of Australia 1994
(GDA94). For most practical purposes MGA 1994 (GDA94).
Condriates and seatile derived (GPS) coordinates based on the
World Geodetic Datum 1994 (WGS94) are the same.



## 10.M Planting Program: 2016/17 - 2030/31

The Planting Program has been prepared for forward planning purposes in accordance with Strategy Principles and Service Standards. Refer Implementing the Vision Section 6.

The program reflects identified, current replanting priorities in relation to street tree type, condition and life expectancy and having regard to registered, resident requests to date.

Annual planting priorities will be reviewed each year in response to updated street tree data and new resident requests.

Approved, annual planting plans will be subject to Council's Annual Budget process.

Land Use/ Street type	Street Name	Removals	Replacemen	it	Priority/	Resourcing
Street type			Evergreen	Deciduous	Year	
Ashwood						
Local/Residential	Barnes Avenue				10	S
	Elizabeth Street				3	S
	Haig Street				1	S
	Douglas Street				6	S
	Carlyle Street				7	S
Local/Habitat	Barrington Drive				8	S
Local/Residential	Parkhill Drive				4	S
Local/Residential & Commercial	Yertchuk Ave				5	S
Local/Residential	Cassinia Avenue				12	S
	Lavidge Road				11	S
	Raymond Street				13	S
	Aloomba Street				2	S
	Thurloo Street				9	S
	Vision Street				9	S
	Mulgrave Street				14	S
Local/Residential	Kelly Street				4	S
	Cabena Crescent				15	S
	Rosemary Street				15	S
Various	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F

Land Use/ Street type	Street Name	Removals	Removals Replacement			Resourcing
			Evergreen	Deciduous	Year	
Mount Waverley N	North					
Local/Residential	Barlyn/Oakhill Roads				3	S
	Essex Road				1	S
Collector/ Residential	Outlook Road				5	S
	Jubilee/Lewis Street				2	S
Collector/Habitat	Park Road				2	S
	Cratloe Road				6	S
	Marianne Way				4	S
	Leeds Road				3	S
Collector/ Residential	Hilton Street				6	S
	Hilda Court				7	S
Local/Residential	Biscayne Drive				8	S
	Esperance Road				7	S
Local/Residential	Sunhill Road				9	S
	Nethercote Drive				10	S
	Flame Street				10	S
Various	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F
Mount Waverley (	Central					
	Windsor Avenue					S
	Waimarie Drive				42	S
	Grenfell Road				1	S
	Hillview Avenue				3	S
	Howard Avenue				8	S
	Miller Crescent				5	S
	Cheviot Road				6	S
	Wirth Street				7	S
	Oxford Street				13	S
	Lawrence Road				12	S
	Munro Avenue				14	S
	Dorgan Street				14	S
	Amber Grove				13	S
	William Street (east of Stephensons Rd)				11	S

Land Use/ Street type	Street Name	Removals	Replacement		Priority/ Year	Resourcing
			Evergreen	Deciduous		
	Bishop Court				13	S
	William Street (west of Stephensons Road)				10	S
	Woodstock Road				9	S
	Sherwood Road				12	S
	Charlton Street				15	S
	Albert Street				16	S
	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F
Mount Waverley	South					
Local/Residential	Briggs Street				1	S
	Therese Avenue				2	S
	Stanley Avenue				3	S
	Catherine Avenue				4	S
	Sunnyside Road				5	S
	Lewton Road				7	S
	Mayfield Drive				8	S
	Bales Street				9	S
	Wilga Street				6	S
	Janfourd Court				10	S
Various	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F
Glen Waverley No	rth					
Collector/ Residential	Glentower Drive				1	S
Collector/ Residential	Glentower Drive				2	S
	Snowden Drive				3	S
	Brynor Crescent				4	S
	Mimosa Street				3	S
	Medina Road				5	S
	Subiaco Court				5	S
	Kenilworth Crescent				6	S
	Browning Drive				7	S
	Annandale Crescent				7	S

Land Use/ Street type	Street Name	Removals	Replacement		Priority/ Year	Resourcing
			Evergreen	Deciduous		
	Northam Street/ Currie Terrace				8	S
	Stanton Court				8	S
	Hanwell Court				8	S
Various		Localised single- tree plantings in accordance with removal/ replacement program			On going	F
Glen Waverley Cer	ntral					
Local/Residential	O'Sullivan Road				4	S
	Dunscombe Avenue/ Huff Street/ Marbray Drive				5	S
	Fernhill Street/ Barbara Ave				6	S
Local/Residential	Mount Street/ Victoria Avenue				1	S
	Panoramic Grove				2	S
	The Outlook				3	S
	Glen Road				7	S
	Hinkler Road				8	S
	Jordan Grove				9	S
	Tobias Avenue				10	S
	Olinda Street				11	S
	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F
Glen Waverley Sou	uth					
Collector/ Residential	Brentwood Drive				1	S
	Swift Drive				2	S
	Viggers Parade				3	S
	Mannering Drive				4	S
Local/Residential	Sandgate Avenue				5	S
	Leicester Avenue				6	S
	Seladin Avenue				7	S
Local/Residential	Chivers Avenue				8	S
	Marshall Way				8	S

Land Use/ Street type	Street Name	Removals	Replacemen	t	Priority/ Year	Resourcing
			Evergreen	Deciduous		
	Booran Avenue				9	S
Local/Residential	Botanic Drive				10	S
	Ranfurlie Drive				11	S
	Diosma Drive				12	S
Various	Multiple streets				On going	F
Wheelers Hill						
	Earlewood Drive				1	
	Strada Crescent/ Collegium Avenue/ Oregon Close				2	
	Mackellar Avenue				3	
	Sunnybrook Drive				4	
	Sunnybrook Drive				5	
	Strickland Drive				6	
	Strickland Drive				7	
	Winterton Drive				7	
	Sherringham Drive				8	
	Haversham Avenue				9	
	Calderwood Avenue				10	
	Radleigh Drive				11	
	Yardley Drive				12	
	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F
Mulgrave						
Collector/ Residential	Albany Drive				2	S
Local/Residential	Baird Street				3	S
	Hansworth Street				9	S
Collector/ Residential	Wanda Street				10	S
	Florey Crescent				4	S
	Le Gallienne Crescent				5	S
	Andleigh Drive				1	S
	Haverbrack Drive				7	S
	Haverbrack Drive				8	S

Land Use/ Street type	Street Name	Removals	Replacemer	nt	Priority/ Year	Resourcing	
Street type			Evergreen	Deciduous	icu.		
Local/Residential & Habitat	Alderbrook Avenue				6	S	
Various	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F	
Notting Hill							
	Samada Street				1	S	
	Akuna Avenue				2	S	
	Risdon Drive				3	S	
	Trent Court				4	S	
Local/Industrial	Business Park Drive/ Redwood Drive				5	S	
	Howleys Road				6	S	
Various	Multiple streets				On going	F	
Clayton							
	Kanooka Grove				1	S	
Collector/ Residential	Browns Road				2	S	
	Jaguar Drive				3	S	
	Myriong Street				6	S	
	Hourigan Avenue				10	S	
	Alice Street				9	S	
	Flora Road				7	S	
	Eva Street				4	S	
	View Street				8	S	
	Scotsburn Avenue				5	S	
	Koonawarra Street				11	S	
	Glenbrook Avenue				12	S	
	Stockdale Avenue				13	S	
Local/Residential & Industrial	Renver Road				14	S	
Various	Multiple streets	Localised single- tree plantings in accordance with removal/ replacement program			On going	F	

Land Use/ Street type	Street Name	Removals	Replacemen	t	Priority/ Year	Resourcing
Street type			Evergreen	Deciduous	Teal	
Huntingdale						
Industrial	Moller Street				1	S
	Strelden Avenue				2	S
Residential	Macrina Street				3	S
	State Street				3	S
Residential	Macrina Street				4	S
	State Street				4	S
	Golf Links Road				5	S
	Eastgate Street				6	S
	Ross Street				7	S
	Bishop Street				8	S
	Picadilly Street				9	S
	Wallace Avenue				10	S
	Devoy Street				11	S
	Dermot Street				12	S
	Mimosa Avenue				13	S
	Voumard Street				14	S
Various	Multiple streets				On going	F
Oakleigh						
	Maroo Street				1	S
	Atherton Road				2	S
	Nelson Avenue				5	S
	Merbow Street				5	S
	Hotham Street				6	S
	William Street				7	S
	Norfolk Avenue				6	S
	Dallas Avenue				3	S
	Normanby Street				4	S
Various	Multiple streets				On going	F
Arterial Roads						
Arterial/ Residential	Highbury Road (Warrigal Rd to Stephensons Rd)	Eucalyptus scoparia (subject to assessment)		٧	2	S
Arterial/ Residential	High Street Road (Warrigal Rd to Stephensons Rd)	Eucalyptus scoparia (subject to assessment)		٧	3	S

Land Use/ Street type	Street Name	Removals	Replacement		Priority/ Year	Resourcing
"			Evergreen	Deciduous		
Arterial/ Residential	Huntingdale Road (Highbury Rd to High Street Rd)	Eucalyptus scoparia (subject to assessment)	٧		4	S
Arterial/ Residential	Stephensons Road (High Street Rd to Waverley Rd)	Eucalyptus scoparia (subject to assessment)	٧		4	S
Arterial/ Residential	Highbury Road (Stephensons Rd to Blackburn Rd)	Eucalyptus scoparia (subject to assessment)		٧	5	S
Arterial/ Residential	High Street Road (Blackburn Rd to Springvale Rd)	Eucalyptus scoparia (subject to assessment)		٧	5	S
Arterial/ Residential	Waverley Road (Warrigal Rd to Huntingdale Rd)	Eucalyptus scoparia (subject to assessment)		٧	6	S
Arterial/ Residential	Waverley Road (Stephensons Rd to Blackburn Rd)	Eucalyptus scoparia (subject to assessment)		٧	6	S
	Waverley Road (Blackburn to Gallaghers Rd)			٧	7	S
	Blackburn Road (Monash Freeway to Ferntree Gully Rd)		٧		8	S
	Ferntree Gully Road (Blackburn Road to Viewmount Rd)			٧	8	S
	North Road (Poath Road to Huntingdale Rd)			٧	9	S
	High Street Road (Springvale Rd to Dandenong Creek)			٧	10	S
	Waverley Road (Gallaghers Rd to Dandenong Creek)			٧	11	S

**F** = Funded within existing resources.

**S** = Subject to Council approval as part of the Annual Budget process, in the applicable year(s).



### **Monash City Council**

293 Springvale Rd Glen Waverley, 3150 Hours: 8.15am to 5pm Monday to Friday

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mail@monash.vic.gov.au www.monash.vic.gov.au

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