



Hampton Urban Forest Precinct Plan 2024





Cover Page: Bridge Street

Inside Cover Page: Bolton Avenue



Acknowledgement of Traditional Owners

Bayside City Council acknowledges the Bunurong people of the Kulin Nation as the traditional custodians of the lands and waterways in the area now known as Bayside, and pays respect to their elders past, present, and emerging, as well as to all First Nations' communities who significantly contribute to the life of the are

Contents Page – Hampton

Introduction to the Precinct Plan.....	5
Key Issues.....	7
What will the Precinct Plans achieve?.....	9
Suburb Profile – Hampton	11
Hampton Neighbourhood Character.....	20
The Urban Forest of Hampton.....	22
Council-managed Tree Population.....	26
Urban Heat Island Effect.....	33
Biodiversity Assessment.....	35
Park Improvement and Habitat Linkage Plan.....	38
Trees on Private Land.....	42
Hampton in Images.....	45
Key Constraints – Infrastructure.....	46
Key Opportunities.....	48
Prioritising Trees and Vegetation in Streets.....	49
Implementation Plan.....	53
Appendix 1: Guiding Principles and Considerations.....	57
Appendix 2: Case Studies.....	61
Appendix 3: Species Palette.....	66
Glossary.....	76

Introduction to the Precinct Plans

In December 2019, Bayside City Council declared a climate emergency and has since prepared a *Climate Emergency Action Plan 2020 – 2025*. Climate change is real and without respecting our environment or changing the way we behave as a society, there will be even greater impacts than those already experienced. Expanding Bayside’s urban forest is one way that we can help cool the urban environment in which our residents live.

As an action listed in the *Climate Emergency Action Plan*, the development of the *Bayside Urban Forest Strategy* was undertaken and ultimately adopted at its February 2022 Council Meeting. In addition, Bayside City Council has endorsed *Living Melbourne: Our Metropolitan Urban Forest* in 2019, which sets out regional targets for tree and vegetation canopy cover to be reached by 2030, 2040 and 2050.

The vision of the *Bayside Urban Forest Strategy* is:

“Bayside’s urban forest will protect and restore ecological systems with special concern for biological diversity and natural processes which will create a cooler and greener Bayside with enhanced amenity and character where people are connected to nature.”

The overarching goal of the *Bayside Urban Forest Strategy* is to increase the urban tree canopy cover from the current 16.01% to 30% by 2040, and to continue this increase into the future.

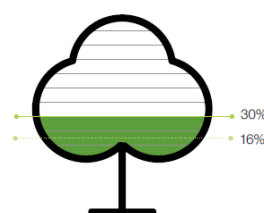
The *Bayside Urban Forest Strategy* identifies a range of actions to be undertaken over the next four years. A key focus is the preparation of Precinct Plans for each suburb in Bayside to guide tree planting and greening at a local level. Precinct Plans are subsidiary documents to the *Bayside Urban Forest Strategy* and form a key component of the strategy’s implementation. Bayside is made up of 9 suburbs and the Urban Forest Precinct Plans will be prepared for each. They will provide tailored direction for increasing canopy cover and urban forest outcomes into the future.

Tree and vegetation (understorey) cover data referenced in these Precinct Plans has been derived from the Victorian Government’s aerial imagery and has been analysed by Council’s GIS (Geographical Information System) to determine an approximate level of tree and vegetation cover per suburb.

What is an urban forest?

The urban forest encompasses all the trees, shrubs, grasslands, and other vegetation – and the soil and water that support them – within Bayside, on both public and private land. The urban forest incorporates vegetation in streets, parks, gardens, plazas, campuses, river and creek embankments, wetlands, railway corridors, community gardens, home gardens, green walls, balconies, and roofs.¹ Fauna is an important component too, with complex interrelations between animals and plants helping to maintain the urban forest.

Bayside’s Urban Forest is made up of native, indigenous, and exotic trees, shrubs, grasslands and other vegetation, growing on public and private land, and the soil and groundwater that support them. This includes vegetation in parks, reserves, private gardens, along railways, waterways, main roads, and local streets, and on other green infrastructure such as green walls and roofs. The urban forest provides habitat to a wide range of fauna.



The overarching goal of the Urban Forest Strategy in Bayside is to increase the urban tree canopy cover from the current 16.01% to 30% by 2040, and to continue this increase into the future.

¹ Resilient Melbourne, *Living Melbourne Strategy*, 2018, available at: https://resilientmelbourne.com.au/wp-content/uploads/2019/09/LivingMelbourne_Strategy_online3.pdf

The Urban Forest Strategy

Principles:

Strategies:

1. Increase

- 1.1 Consider the individual needs of Bayside's suburbs and ensure that the approach to increasing canopy cover and urban forest outcomes is tailored to the conditions of each area.
- 1.2 Reframe Council's approach to major capital and infrastructure renewal projects as opportunities to increase urban forest outcomes.
- 1.3 Through the Bayside Planning Scheme, require development to provide increases to the number of canopy trees provided.

2. Healthier ecosystems

- 2.1 Increase the tree and vegetation canopy cover that is of a diverse range of species across Bayside.
- 2.2 Ensure humans and wildlife can simultaneously and safely access densely vegetated areas, streets and reserves.

3. Monitor

- 3.1 Improve, implement and facilitate Council processes and procedures to assist the monitoring of the urban forest

4. Maintain

- 4.1 Ensure the tree removal process is transparent and equitable
- 4.2 Reframe our planning and policy framework to give greater priority to existing trees and vegetation when siting new development and ensuring the longevity of any new trees or vegetation by ensuring it is appropriately sited nearby surrounding hard surfaces or infrastructure.
- 4.3 Enhance Council's ability to retain existing trees on private property through increased regulation of tree removal.
- 4.4 Support the maintenance and retention of trees on public land.

5. Learn and Celebrate

- 5.1 Increase Council's capacity to provide advice and build community sentiment to tree planting in Bayside.
- 5.2 Continue to build upon Council's green image and utilise this platform to advocate and partner with key stakeholders to provide greener outcomes across Bayside, metropolitan Melbourne and Victoria.
- 5.3 Leverage from the strengths of our network of volunteers, community groups, State Government departments, neighbouring local governments, academics and professionals to support the delivery of community education, information sharing and creating partnerships.

Key Issues

Environmental challenges

Impact of climate change

All trees, including trees on private property, are being affected by climate change. It is important that Council continues to encourage residents to plant climate-resilient trees and vegetation on their property and nature strips. To support this, the provision of readily accessible information and useful tips on how to best plant these types of trees and vegetation will be of great value. Council will also ensure its species palette for streets and parks include the use of more climate-resilient trees and vegetation.

Tree health, age, Useful Life Expectancy, and species diversity

The Bayside Urban Forest Strategy defines key issues across Bayside's urban forest, including climate change, insufficient growth space and natural characteristics (disease, insects, etc.) being significant contributing factors to the health and sustainability of tree coverage across Bayside. This Precinct Plan identifies locations of trees that are in poor health, are reaching senescence and has low useful life expectancy so that appropriate action can be taken in due time.

Tree survival rate

A high proportion of street and park trees that have been planted have struggled to survive either during or after their initial period of maintenance (first 2 years). Expanding the urban forest and increasing tree canopy coverage will be challenging, especially if high tree attrition continues to occur.

Developmental challenges

Trees on private property

Trees on private property make up a significant proportion of Bayside's urban forest. The removal of trees on private property is a significant and challenging issue to address as the management of private trees, to some extent, falls into the hands of individual property owners. Partnering with the private owners and undertaking a precinct-based approach to the protection, retention and enhancement of the urban forest will allow Council to consider the local opportunities for vegetation and tree plantings, process improvements and other locally specific issues.

Planning permits involving vegetation removal

There are several mechanisms currently in place within the Bayside Planning Scheme that require a planning permit to be granted for tree removal. These mechanisms include but are not limited to the Vegetation Protection Overlay (VPO), Significant Landscape Overlay (SLO), Heritage Overlay (HO) and Erosion Management Overlay (EMO). These mechanisms assist the protection of vegetation in Hampton. VPO3 seeks to protect native and indigenous vegetation and requires planning approval for the removal of a tree that is more than 2 metres high or has a single trunk circumference of more than 0.5 metre at a height of 1 metre above ground.

Surrounding infrastructure

Street trees are located alongside public and private assets that include footpaths, roads, fences, overhead powerlines, and underground services. This pressure is similarly felt on private property for medium and high-density developments where there are competing uses and infrastructure to be sited. While there are management and design techniques that can mitigate most of these issues, it is not always easy, particularly with established trees. Established trees have larger roots that can impact footpaths and roads, creating potential hazards that need to be fixed.

Social challenges

Older people, children, and people with disabilities

More vulnerable members of the community include older people, young children and people with disabilities and their carers. While trees bring many benefits, they can also create challenges for these population groups. Maintenance of trees can be challenging for older people or people living with disabilities. Particularly large trees that overhang private property or within the property that can become hazardous through debris that create trip and slip risks. Aging and/or disability can prevent some residents from being able to manage the debris from trees, requiring the use of private

gardening services. The greening of activity centres can contribute to a healthier and more comfortable place.

Bayside Council's *Disability Action Plan 2021-2025* states that over 14,000 people living in Bayside have a disability and over 4,000 people need assistance in their day-to-day lives. This assistance is required because of disability, long-term health conditions or old age.

Safety

There are a number of elements that contribute to people feeling unsafe, including low visibility and lack of passive surveillance from nearby residents and/or other groups. Within streets, Council plants and maintains trees to ensure there is no foliage to block sight lines. Trees can contribute to this problem if not managed correctly as they have the potential to block visibility from the street.

What will the Precinct Plans achieve?

A key action from the Bayside *Urban Forest Strategy* is the preparation of Precinct Plans. Each Precinct Plan will be informed by community consultation and will provide set targets to respond to the individual needs, challenges, and aspirations of the locality.

The Precinct Plans will help guide the implementation of the Bayside *Urban Forest Strategy* in Bayside and direct Council's focus to areas with low vegetation, to protect and enhance neighbourhood character and help achieve the objectives of the Bayside *Urban Forest Strategy*.

The prime objective of the Precinct Plan is to prioritise areas of greatest need, including areas with the lowest existing percentage canopy tree cover, as well as areas that are strategically located to mitigate urban heat island effects (including within major activity centres that are experiencing increased density and construction activity), areas of declining canopy or aging trees, highly trafficked pedestrian routes and gaps or vacancies in public planting.

Within this document, specific direction is provided on the selection of appropriate trees for the precinct. The Precinct Plans are performance-based in that they establish the desired outcomes for streets but do not prescribe specific species for each location. Park and significant boulevard trees will be planted using existing master plans and site-specific plans to respond to the individual needs, challenges, and aspirations of the locality. This document focuses on the suburb of Hampton.

Map 1. Hampton's location within Bayside



 <p>Bayside CITY COUNCIL</p>	<p>Legend</p> <ul style="list-style-type: none"> Suburbs Bayside LGA Boundary 	<div style="text-align: center;">  <p>N</p>  <p>0 0.5 1 1.5 km</p> <p>GDA 2020 MGA Zone 55</p> </div>	<p><small>Disclaimer: Copyright 2022, VidMap Data - DELWP. This material may be of assistance to you but the state of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from your relying on any information contained in this material. Created by Bayside City Council 02 November 2022</small></p>
--	---	--	---

Suburb Profile – Hampton

Information in this Suburb Profile was accessed from Profile.id which utilises 2021 census data from the Australian Bureau of Statistics and population, household and age structure forecasts.

Population

Hampton is a changing suburb, both physically and demographically. Hampton is currently experiencing stable population growth, having increased by 294 people, from 13,224 in 2016 to 13,518 in 2021. Growth is expected to increase at a moderate level, forecasted to grow to 16,475 (increasing by 19%) by 2041.

Age structure

By 2041, it is anticipated that 39.7% of Hampton residents will be above 60 years of age, in comparison to the current 25.1% (2021). It is expected that older populations will have greater difficulty maintaining gardens. Future housing will need to accommodate for an ageing population by providing a diverse housing typology, with a particular focus on ensuring lone person households are accessible and adaptable for all ages. The provision of higher density housing provides residents living alone or with limited abilities the opportunity to live in smaller properties that require minimal garden maintenance.

Residential developments

Residential development forecasts assume the number of dwellings in Hampton will increase by an average of 89.5 dwellings per annum to 7,440 by 2041. It is anticipated these new dwellings may come in the form of low-rise apartment buildings and subdivision of existing lots into units, whilst the Hampton Street Major Activity Centre will attract larger multi-storey apartment buildings. An increase in units and apartments across Hampton will increase the area's housing diversity, providing ageing residents with the opportunity to downsize to a smaller home, while staying in their local community. Smaller homes for senior residents provide a number of benefits, including a minimal need for garden maintenance.

However, increases in residential development will reduce the available permeable surfaces to plant trees, which in turn may impact their ability to grow to maturity and provide large canopies if not planted appropriately. In addition, the facilitation of new residential development will likely see the loss of existing trees and vegetation – a problem that will continue to occur if appropriate processes and planning tools are not put in place.

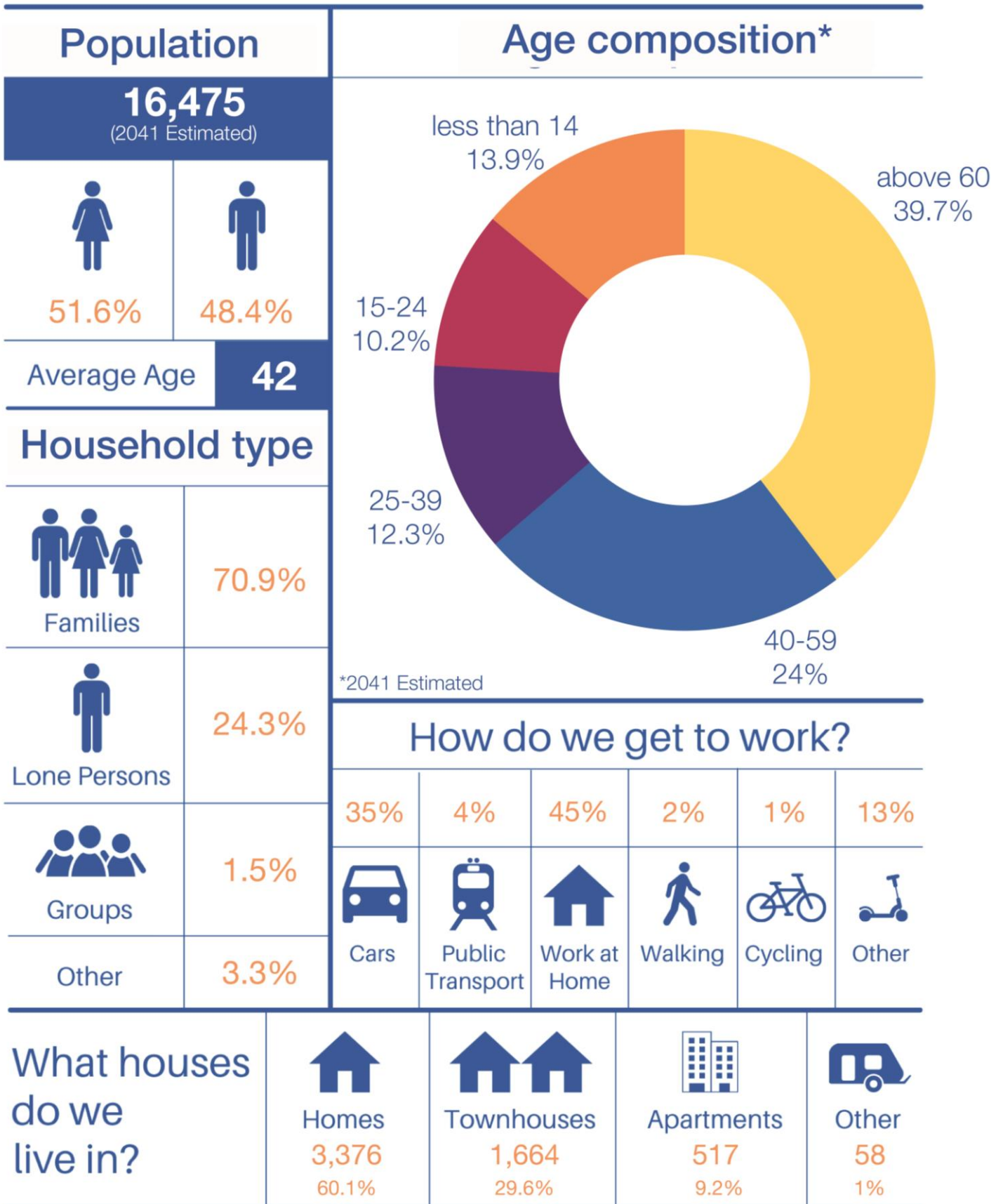
Climate change

The effects of climate change are anticipated to significantly impact tree canopy and vegetation. Due to climate change, there will be an increase in severe weather events including more intense rainfall over summer, leading to more frequent and severe flooding events. Trees can play an important role in mitigating the impacts of a flooding event. The soil under trees and vegetation absorbs water as opposed to urban impervious surfaces where the water just runs (such as pavement and roofs). The leafy canopy of trees also spreads out the rainfall and slows it down. This gives more time for the soil underneath to absorb the rainfall, resulting in less and slower runoff. As a result, the risk of flooding is reduced. When flooding does still occur, the volume and speed of the flood will be reduced. This will also reduce the need for larger stormwater gutters and pipes.

Mode of transport

In 2021, 34.7% of Hampton residents travelled to work by car compared to 49.7% in Greater Melbourne. Multiple modes of public transport are available, with trains accessible at Hampton Station in Hampton Street as well as bus routes servicing the suburb.

Hampton Forecast for 2041





Note: Hampton suburb population and age data is a 2023 estimation for 2041, which was retrieved from the Australian Bureau of Statistics.

All other data shown was retrieved from profile.id (2021).

Aerial of Hampton



Legend

-  Bayside LGA Boundary
-  Suburb

Disclaimer: Copyright 2022 VicMap Data - DELWP.
This map (B) may be of assistance to you but the State of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from you relying on any information contained in this map (B).

Created by Bayside City Council
14 December 2022

The Vision for Hampton's Urban Forest

Hampton's urban forest will be rich, healthy and sustainable, enhancing connectivity to the foreshore, and creating vibrancy amongst residential and commercial areas.

Planning controls applying to Hampton

Vegetation Protection Overlay

As seen in Map 2, Hampton's foreshore is protected by the Vegetation Protection Overlay Schedule 1 (VPO1) which aims to protect areas of significant vegetation. Along the Hampton foreshore, remnant vegetation forms an integral component of vegetation character and overall ecosystem biodiversity. Biodiversity conservation of remnant vegetation is an essential component of responsible environment and natural resource management and is fundamental to the protection of ecosystems and environmental health. VPO1 is in place to retain, protect and enhance this remnant vegetation from threats of environmental challenges, development, vandalism, and illegal tree removals.

Residential and Commercial zones

The majority of Hampton's residential land is zoned as Neighbourhood Residential Zone (NRZ), which is applied to areas where minimal residential growth will occur. The NRZ has a maximum building height of two storeys. Much of the residential development in these areas takes the form of dual occupancy, the redevelopment of detached dwellings or small multi-dwelling developments.

Residential land within the Hampton Street Major Activity Centre is within the General Residential Zone (GRZ) and the Residential Growth Zone (RGZ). The GRZ has a maximum building height limit of three storeys and is able to accommodate moderate residential growth. This allows for moderate density development including dual occupancy, unit developments and low-rise apartment buildings. Parts of the Willis Street Precinct located within the core of the Hampton Street Major Activity Centre is within the RGZ which allows higher density development such as apartment buildings.

Multi-storey development within the Major Activity Centre has been increasing steadily over recent years, predominantly surrounding Hampton Street station.

Heritage and Built Form Overlays

There are several Heritage Overlays (HO) and Design & Development Overlays (DDO) upon land within the suburb that shape the way new development is delivered. Heritage Overlays in particular provide for the protection of heritage significant buildings and places.

Neighbourhood Amenity Local Law 2021

Local Laws are laws utilised by Council to respond to issues and community needs within a local context. Within Bayside's Local Laws are guidelines around trees on private land. The law determines that any tree on private land is protected if the *"single or combined tree trunk circumference is 155 centimetres or more at one metre above ground level."* If a tree is protected it means that a permit must be acquired from council in order to remove or prune it. The same permit requirements apply to any tree on Council's Significant Tree Register.

Landscape Guidelines

A review of Bayside's Landscape Guidelines was adopted in December 2023. The changes have been made in response to the adopted Urban Forest Strategy action which outlines that Council must provide further guidance on species selection, sizes, and trees suitable for private property.

The new landscape guidelines focus on improving the quality of tree plantings through soil type and volume, site characteristics, and correct species selection. This way, it can be ensured that canopy tree plantings that are selected are the largest and most ideal species for its location. This will provide the trees with a better chance of growing to maturity. By focusing on canopy spread, species selection can be refined for better canopy coverage and consideration of a tree's location.

The changes to Bayside's Landscape Guidelines require new development to provide increases to the number of canopy trees and high-quality landscape outcomes. Furthermore, the Species Palette listed in the Appendix 3 to this Precinct Plan has also been utilised as the list of species to encourage selection from when preparing a Landscape Plan.

Local Law Review

A key action of the Urban Forest Strategy includes reviewing the Management of Tree Protection on Private Property Policy. An update to the Local Laws Guidelines will protect more trees and strengthen alignment between planning and local law permit applications for tree removal.

The updated Local Law Guidelines will protect more trees by removing some permit assessment considerations, such as consideration for the number of other protected trees on the site, or neighbours support for removal. Trees will also now be assessed for its habitat value to native wildlife.

For tree removal permit applications, special circumstances including medical conditions, disability, access safety or financial hardship will be referred to Council's Community Care unit. The Community Care unit will establish what support may be available to vulnerable resident and whether there is any reasonably practicable way to manage issues directly related to the tree other than removal.

Map 2: Planning Zone Controls in Hampton



Legend

Planning Zones

- NRZ - Neighbourhood Residential Zone
- C1Z - Commercial 1 Zone
- GRZ - General Residential Zone
- PPRZ - Public Park and Recreation Zone
- PUZ - Public Use Zone
- RGZ - Residential Growth Zone
- TRZ1 - Transport Zone 1 - State Transport Infrastructure
- TRZ2 - Transport Zone 2 - Principal Road Network
- TRZ3 - Transport Zone 3 - Significant Municipal Road

Planning Overlays

- Vegetation Protection Overlay 1
- Bayside LGA Boundary

Suburb

- Railway Station
- Railway
- Roads

Disclaimer: Copyright 2022 VicMap Data - DEWIP. This material may be of assistance to you but the State of Victoria and Bayside City Council do not guarantee that the publication is without fault or any, kind or to which appropriate to your particular purposes and be aware that the State of Victoria and Bayside City Council do not accept any liability for any errors, loss or consequences which may arise from your relying on any information contained in this material.

Created by Bayside City Council
30 December 2022

Community Engagement Findings

Community engagement was undertaken for a total of seven weeks from 28 August - 15 October 2023. The community engagement period consisted of pop-up sessions, online survey, presentations to community groups, opportunity to provide written submissions and 1:1 meetings with Council.

Overall, there were a total of 368 contributors from the pop-up events and 111 online survey participants. Of the 111 survey participants, 18 (16.22% of the total respondents) were from Hampton.

Survey participants that live in Hampton were asked how they feel about the plan overall. Hampton participants provided the following responses:

- 5.71% loved the plan
- 11.43% liked the plan
- 11.43% thought the plans were ok
- 34.29% had some concerns
- 20% had many concerns
- 11.43% did not like the plan
- 5.71% were unsure how they felt

Table 1: Comments made by survey participants regarding Hampton

Comments	Number of participants who raised concern
Comment concerned about the removal of the Badminton Club	14
Need for an increase in tree plantings	3
Plant nature strips to facilitate habitat for wildlife	4
Plant more exotic trees	3
Comment to plant trees to maintain neighbourhood character	3
Prioritise urban heat island areas to combat climate change	2
Protect trees on development sites	3
Encourage development to incorporate green roofs	1
General support for the Precinct Plan	1

The eight face-to-face engagement sessions were an opportunity for community members to provide feedback on priority planting locations and preferred species. The pop-up events were held at various locations, these included:

- Bayside Community Nursery

- Middle Brighton Baths
- Black Rock Gardens
- Youth FriYay Session
- Bayside Farmer's Market
- Thomas Street Playground
- Bay Road Heathland Reserve
- Bayside Community Nursery -Gala Day

For each pop-up session participants were asked which plants they would love to see more of in their neighbourhood. The sticker boards were separated into three categories these were:

- *Indigenous* – species that were native to Bayside
- *Native* – species that were native to Australia
- *Exotic* – species that have been introduced to Australia

The following images show the indigenous, native and exotic species that Hampton residents would like to see more of in their neighbourhood.

Top Indigenous Plantings – Hampton



Acacia mearnsii (Black Wattle)



Banksia integrifolia (Large Coastal Banksia)



Indigofera australis (Austral Indigo)

Top Native Plantings – Hampton



Eucalyptus spp. (Gum trees)



Grevillea spp (Grevillea)



Grevillea spp (Grevillea Cultivar)

Top Exotic Plantings – Hampton



Magnolia spp
(Magnolia)



Osteospermum spp.
(African Daisy)



Salvia verticillata
(Lilac Sage)

Hampton Neighbourhood Character

Hampton attracts residents and visitors alike with its appealing character that features an array of architectural styles, see Map 3. Notable character includes an extensive foreshore, a large 'village' style shopping centre and an array of architectural styles. As the suburb continues to grow and change, it is important that new development respects, supports and enhances the cherished characteristics of their surrounding neighbourhood. Clause 15.01-5L 'Bayside preferred neighbourhood character' in the Bayside Planning Scheme provides general objectives and policy guidelines for neighbourhood character precincts that have been set across the municipality.

There are varying architectural styles throughout the suburb of Hampton. Particularly along and within proximity to the foreshore (in E2 & F1 precincts) there is a prominent display of federation and interwar dwellings. Development along Beach Road is an eclectic mix of contemporary dwellings and mansions of varying architectural styles. Buildings have a consistency of setbacks within the streetscapes, with particularly large front setbacks in the north of the suburb. These large gardens in the north are densely planted and wrap around the dwellings separating them from each other. The gardens in the south are established with some areas having frequent large native trees, which creates a more coastal setting, enhanced by native street trees.

The central area of Hampton (E3 precinct) is distinctive for its concentration of California Bungalow style dwellings, although examples of other interwar and more recent development can be found. The typically single-storey, weatherboard dwellings are well articulated and set within established gardens of predominantly exotic species. Front and side setbacks are very consistent within streetscapes and provide for vegetation around dwellings and views through to backyard planting.

The eastern precinct of Hampton (G1) contains post war dwellings reflecting across a variety of architectural styles. There are some pockets of more recent two-storeys development, some of it is reproduction style. Gardens in this area are predominantly low lying, with exotic shrubs and lawns, with occasional large trees providing a backdrop of vegetation. Street tree planting is often mixed and sporadic in some areas but large and dense in others.



Map 3: Hampton Neighbourhood Character Precincts



The Urban Forest of Hampton

In Hampton, there is approximately 15.3% tree canopy cover and 16.5% understorey cover (2019), which is an average amount in comparison to other suburbs within Bayside. The Hampton urban forest mostly consists of native species, with some exotics. Street trees are typically large scale, forming street tree avenues. Private gardens contain a mix of both native and exotic species. Together with distinctive parks, reserves, and an extensive foreshore environment, Hampton has a unique urban forest character.

History

Before European Settlement, Hampton was inhabited by the Bunurong people of the Kulin Nation. In the 1840s, Hampton was mainly used as market gardens, supplying fruit and vegetables to Melbournians. In the 1850s interest grew in the foreshore, appealing to Melbournians for holidays and daytrips and this continued with the extension of the railway line to Brighton Beach (just north of Hampton) in the 1860s. Further extension to Sandringham occurred 1887, which included a station servicing Picnic Point. By the 1910's, Hampton grew with the construction of war commission homes being built for soldiers returning from World War I. Rapid development then followed in the 1930's when the market gardens were subdivided.

By 1999, street trees and avenue planting became a prominent element in the Hampton streetscape. Private gardens and vegetation in front of houses was generally a mix of both native and exotic plantings.²

Contemporary issues impacting Hampton's urban forest

There are a number of contemporary issues impacting the urban forest of Hampton and providing cause to the decrease in canopy cover. Issues associated with climate change, and its flow on effects, such as the urban heat island effect and erratic weather events, are impacting and damaging the health and viability of tree and ground cover vegetation. Increasing tree and vegetation cover will help alleviate rising temperatures and dramatic changes in climatic conditions by providing shade and cooling effects.

For new developments on private and public land, Council considers all possible design solutions and ensures the application has met all relevant criteria. However, even with these measures in place, the removal of tree and understorey vegetation is an issue facing Highett and is likely consequential to the increase in medium density residential development and the limitations on permeable surfaces appropriate for planting.

The removal of established gardens, large trees and understorey plantings is contributing to a loss of the distinct vegetation character and impacting the biodiversity. Other issues impacting the urban forest include:

- Trees nearing the end of their useful lifespan can also create safety issues particularly for more vulnerable residents. As a tree becomes older it loses its vitality as is more prone to falling or losing limbs. Council monitors the health of its trees to ensure any hazardous trees are removed.
- Vandalism of public and private trees is another issue contributing to tree canopy loss across Bayside. Illegal removal, lopping or poisoning of trees occurs throughout Bayside by members of the public for personal gain. A hotspot of this activity is along Beach Road where canopy trees are vandalised to gain better views of Port Phillip Bay. . Another common example is the vandalism of trees to limit fruit, berry or leaf drop on footpaths and private property. Unpermitted removal, destruction, pruning and interference with trees and vegetation is illegal in Bayside. In an effort to deter vandals, Council has adopted a strong

² Bayside City Council, 'Vegetation Character Assessment – City of Bayside' by John Patrick Landscape Architects Pty Ltd, 1999.

stance on vandalism and has installed signs and advertised on social media platforms an offering of rewards for information when an act of vandalism has occurred.



Image 1: Trees surrounding Castlefield Reserve Oval **Image 2:** Hampton Foreshore vegetation



23 **Image 3:** Trees at Thomas Street Reserve Playground

Tree canopy cover across Hampton and various land uses

As previously indicated in this document, Hampton has moderate tree and vegetation canopy cover in comparison to all other suburbs within Bayside. Of the 15.3% tree canopy cover within Hampton:

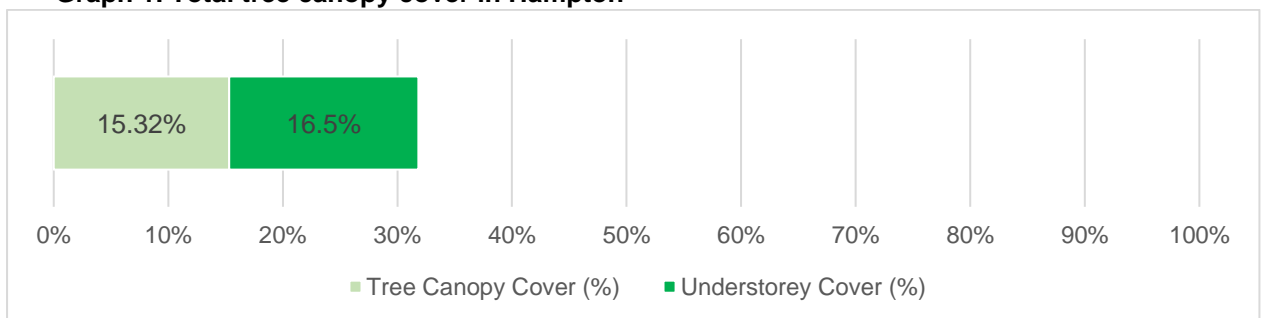
- 65.48% is located on residential/mixed use land;
- 24.83% is located on streets;
- 6.52% on open spaces/reserves;
- 1.4% is located on public use areas; and
- 1.77% is located on 'other.'

In 2022, there were 7,463 trees managed and maintained by Council throughout Hampton, with 5,994 street trees, 1,451 park trees and 18 other location specific trees. Monitoring the health and growth patterns of these trees is important to ensuring that Council understands how local conditions, affect tree and understorey plant populations, and to effectively plan for future planting programs and strategies across Hampton.

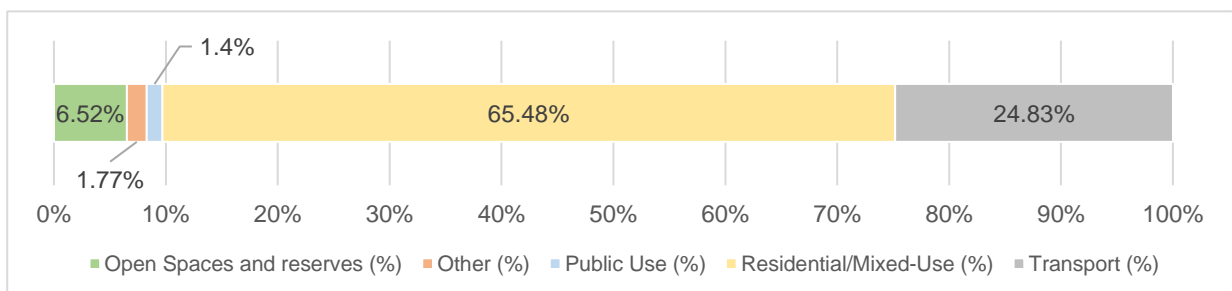
Map 4 identifies locations of tree canopy cover across Hampton.

In Hampton, there is approximately 15.3% tree canopy cover and 16.5% understorey cover. The suburb of Hampton will be a major contributor towards achieving Council's goal of 30% tree canopy cover by 2040 and the enhancement of understorey cover within the public and private realm.

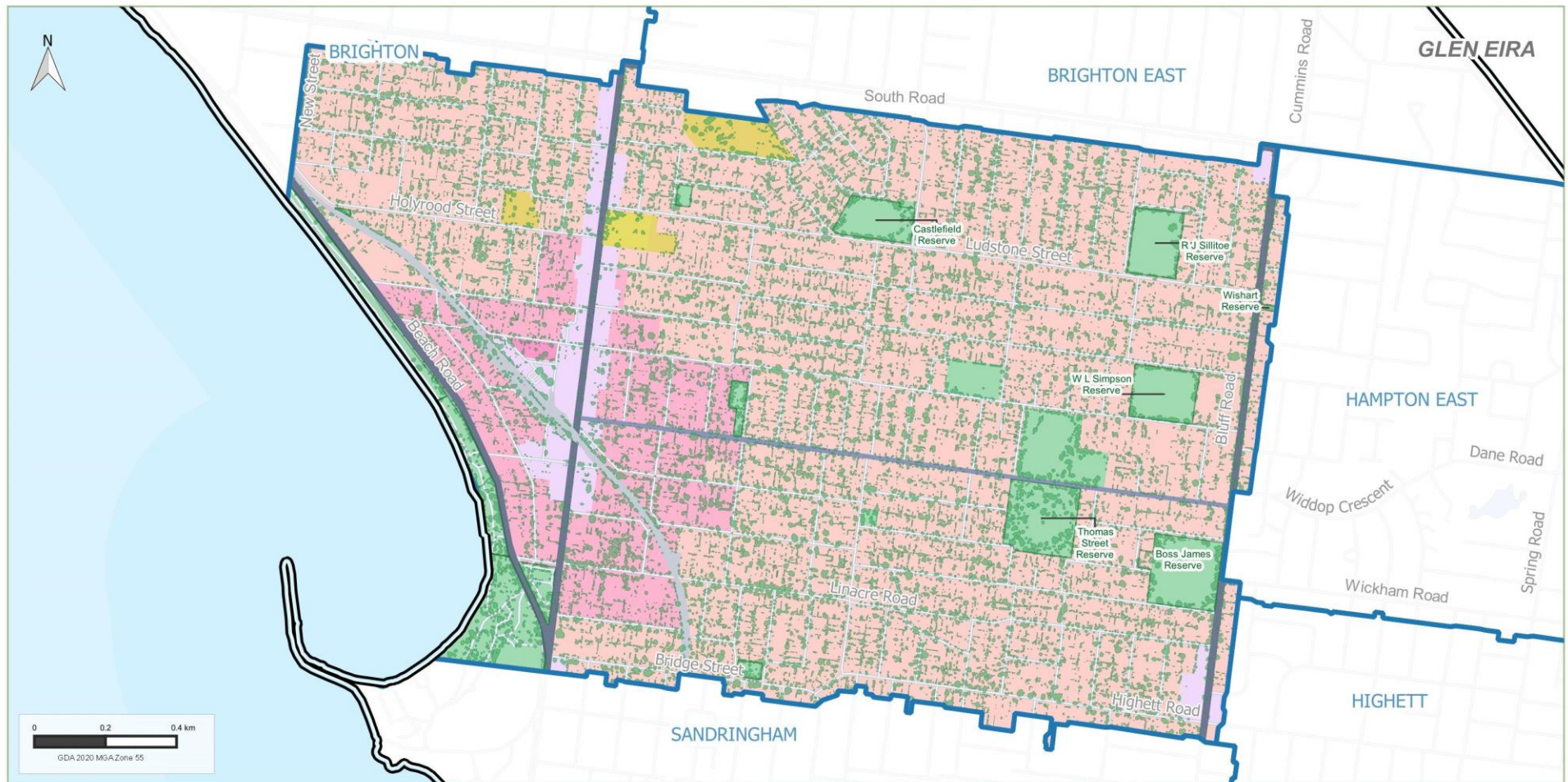
Graph 1. Total tree canopy cover in Hampton

















Graph 2. Tree canopy cover over various land uses in Hampton



Map 4: Tree Canopy Cover across Hampton



Legend

-  Bayside LGA Boundary
-  Suburb
-  Tree Canopy - October 2019
-  Education (Government or Independent)
-  Roads
- Planning Zones**
 -  C1Z - Commercial 1 Zone
 -  GRZ - General Residential Zone
 -  NRZ - Neighbourhood Residential Zone
 -  PPRZ - Public Park and Recreation Zone
 -  PUZ - Public Use Zone
 -  RGZ - Residential Growth Zone
-  TRZ1 - Transport Zone 1 - State Transport Infrastructure
-  TRZ2 - Transport Zone 2 - Principal Road Network
-  TRZ3 - Transport Zone 3 - Significant Municipal Road

Disclaimer: Copyright 2022 VicMap Data - DELWP. This material may be of assistance to you, but the state of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from your relying on any information contained in this material.

Created by Bayside City Council
12 January 2023

Council-managed Tree Population

Useful life expectancy (ULE)

Estimating the useful life expectancy of the council-managed tree population is regularly undertaken and can inform the future management options for trees that have limited useful life left. The assessment of a tree's useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community.³ It is not a measure of the biological life of the tree within the natural range of the species, but more a measure of the health status and the tree's positive contribution to the urban landscape.³

There are approximately 7.2% of council-managed trees that may not survive in Hampton after the next 10 years. By 2040, 86.6% council-managed trees are likely to have reached the end of their useful life expectancy and may need to be replaced.

Where trees reaching the end of their useful life expectancy have been assessed and are no longer providing a benefit to the surrounding habitat, removal may be required. Where it has been found that trees reaching the end of their useful life still provide benefit and habitat, it should be retained as habitat tree as per the Tree Risk Assessment Tool (TRAQ).

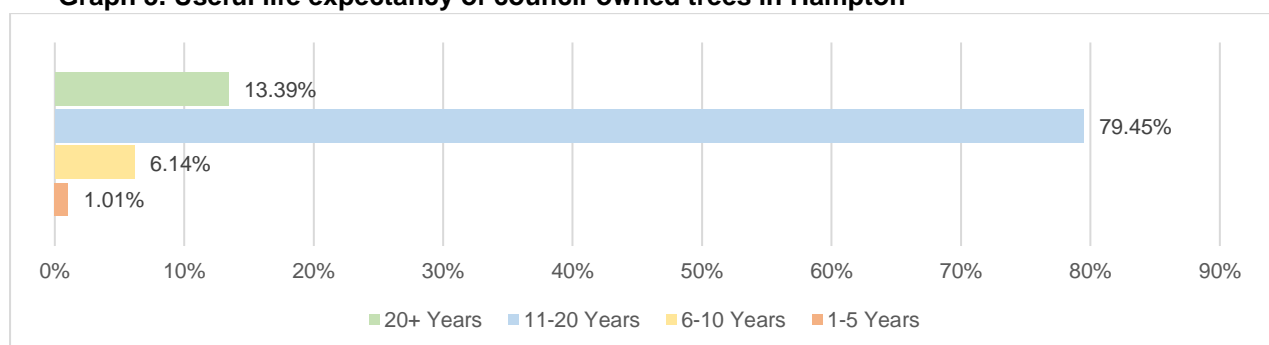
Where replacement of trees is required, new trees should be selected based on the existing surrounding vegetation, landscape character and ability to enhance habitat. Where there is a large concentration of trees required for replacement, this should be undertaken intermittently to enable varying ages and maturity.

The locations where there is a high concentration of trees which may require replacement within the next 10 years include Boss James Reserve, Castlefield Reserve, Holyrood Park and the train line between Crisp Street & Deakin Street are all locations where there is a high concentration of trees that will need to be replaced in the next 10 years. Map 5 portrays all the noted trees within Hampton with low ULE.

In Hampton, approximately 7.2% of council-managed trees will not survive after the next 10 years. Map 5 shows the location of trees with low ULE and the locations where the concentration of these trees is high.

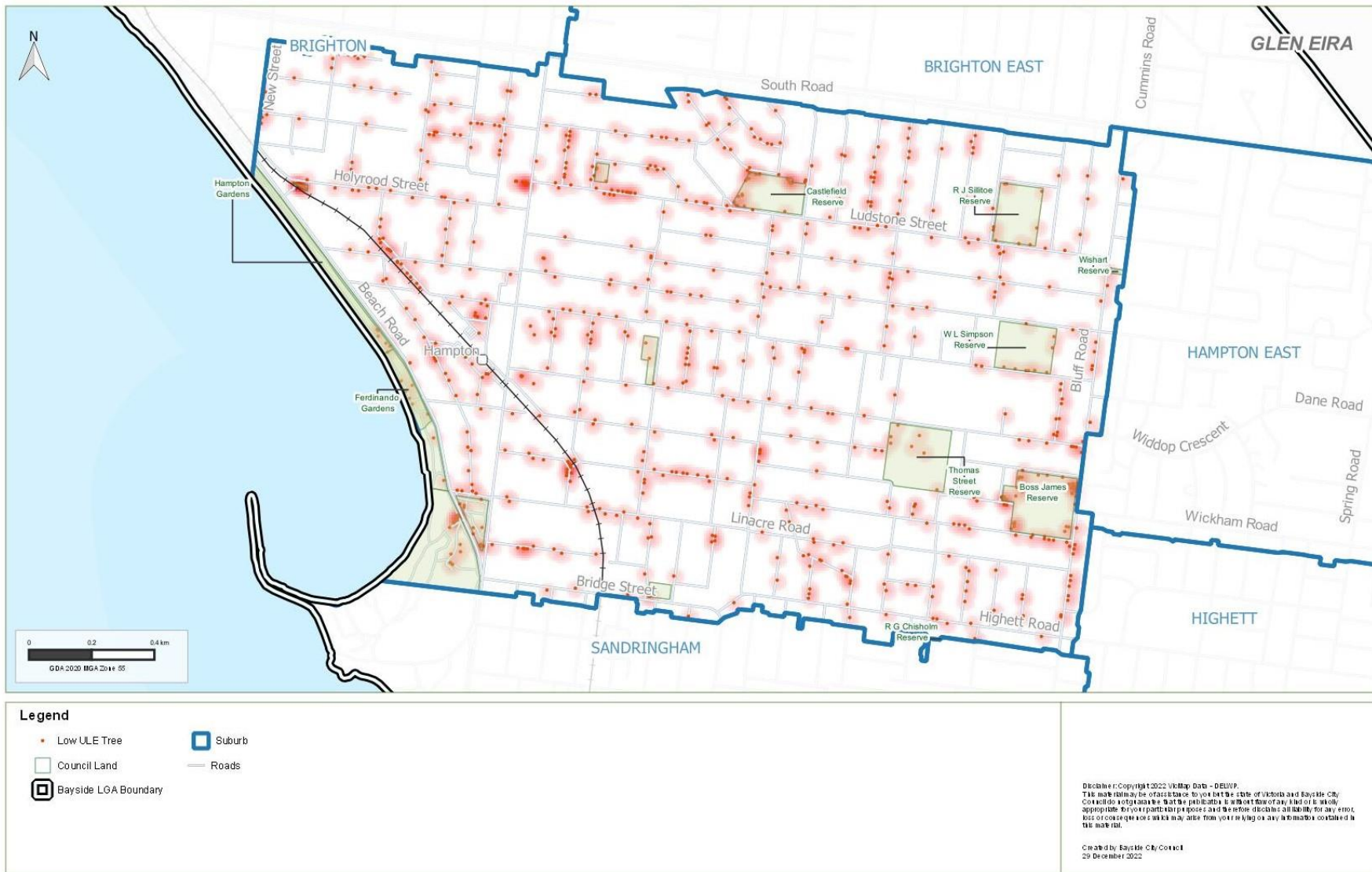
Where it has been found that trees reaching the end of their useful life still provide benefit and habitat, it should be retained as habitat tree as per the Tree Risk Assessment Tool (TRAQ).

Graph 3. Useful life expectancy of council-owned trees in Hampton



³ Department of Health and Human Services, 'Arboricultural Assessment Holland Court, Flemington– 3.7 Useful Life Expectancy(ULE)', 2017, Available at https://www.planning.vic.gov.au/_data/assets/pdf_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt_Holland-Court,-Flemington.pdf

Map 5: Location of trees with low ULE



Tree health and age

Approximately 84.5% of council-managed street and park trees in Hampton were classified as being in good health, while 3.1% were classified as excellent. Trees that are classified as poor, dangerous or dead make up for 1.91% of street and park trees (Graph 4). Tree health can be viewed on Map 6.

There is a reasonable level of diversity in the age of Hampton’s trees. As seen in Graph 5, the highest proportions are new and semi-mature, making up 41% and 29.2% respectively.

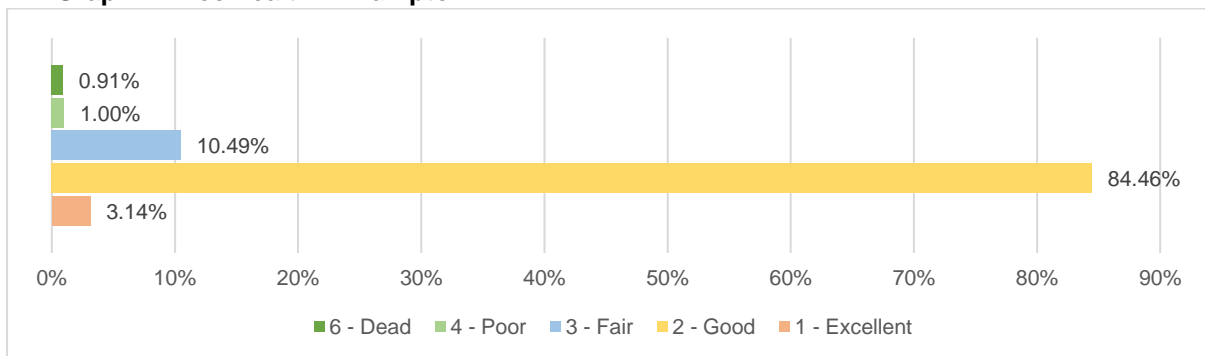
Map 6 provides the location of those trees that are in poor health, dangerous or dead. Trees in poor health or dead are located across the suburb, with some concentration along the foreshore and Thomas street Reserve, Castlefield Reserve and Ludstone Street.

Through the continued use of the Tree Risk Assessment Tool, Council will retain those trees and vegetation that provide a service to the ecosystem. Trees that have been identified as dangerous or dead are concentrated mostly along the foreshore and vastly spread throughout the suburb’s residential streets. Street trees that are dead should be removed but dead or dying trees with natural hollows on the foreshore and in parks can provide habitat for fauna.

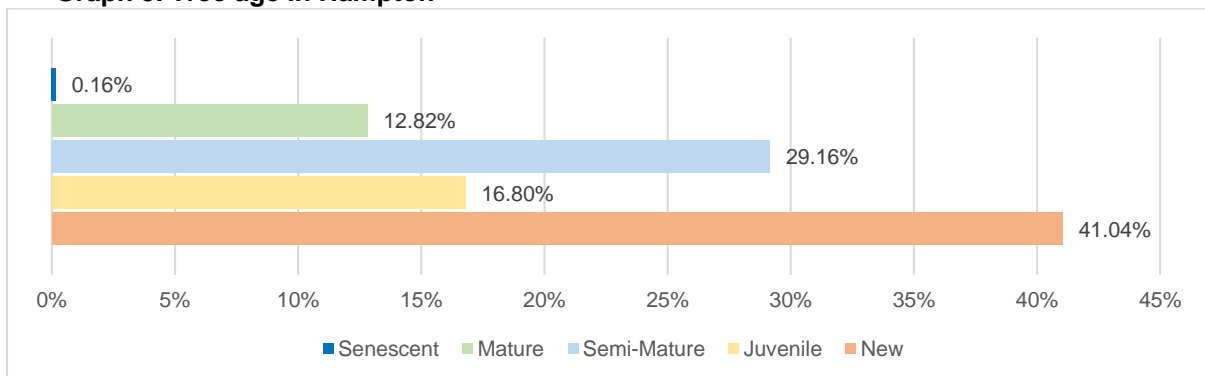
In 2022, 84.5% of the council-owned street and park trees in Hampton, were classified as being in ‘good health’. Trees that are classified as poor, dangerous or dead make up for 1.9%.

Through the continued use of the Tree Risk Assessment Tool, Council will retain the trees and vegetation that provide a service to the ecosystem.

Graph 4. Tree health in Hampton



Graph 5. Tree age in Hampton



Map 6: Tree health in Hampton



Legend

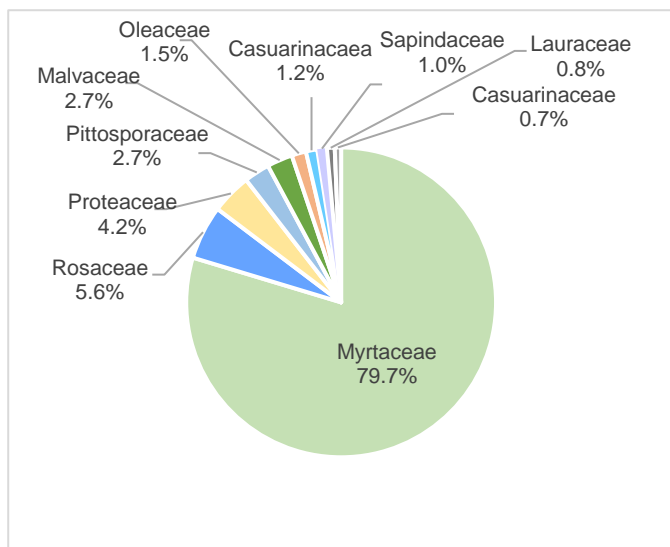
- Tree health
- Poor
- Dead
- ▭ Bayside LGA Boundary
- ▭ Suburb
- ▭ Property Boundary
- ▭ Council Land

Disclaimer: Copyright © 2022 VicMap Data - DELWP. The material may be of assistance to you but the State of Victoria and Bayside City Council do not guarantee that the publication is without error or is wholly appropriate for your particular purposes and we therefore disclaim all liability for any error, loss or consequence which may arise from your reliance on any information contained in this material.

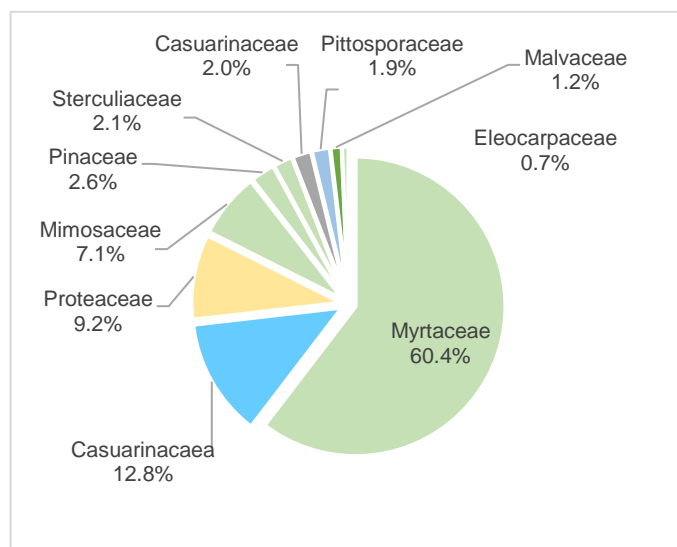
Created by Bayside City Council
29 December 2022

Species diversity

A resilient urban forest has a diverse range of species from different families. As seen in graph 6 and 7, Council managed street and park trees are largely predominantly within the *Myrtaceae* family, making up 79.7% of all street trees and 60.4% of all park trees. This is then followed by the *Rosaceae* family (5.6% of all street trees) and the *Casuarinaceae* family (12.8% of all park trees). Other families make up about 14.7% of street trees and 26.8% of park trees.



Graph 6. Diversity of street tree species in Hampton



Graph 7. Diversity of park tree Species in Hampton

The reliance of a small number of species, and a lack of spatial diversity in species distribution leaves the urban forest vulnerable to threats from pests and disease. Diversification of the family composition of the urban forest was a key challenge that was previously identified in the *Bayside Street and Park Tree Guide* and reiterated within the *Bayside Urban Forest Strategy*.

The following families currently form part of the overall tree population in Hampton's streets and parks at a significantly lower percentage than the *Myrtaceae* family. The inclusion and increase of these families should be targeted through the actions and implementation of this Precinct Plan, ensuring that different types of trees align with the neighbourhood character of the surrounding locality:

- Rosaceae
- Proteaceae
- Pittosporaceae
- Malvaceae
- Oleaceae
- Casuarinaceae
- Sapindaceae
- Lauraceae
- Casuarinaceae
- Mimosaceae
- Pinaceae
- Sterculiaceae
- Eleocarpaceae

Through the Park Improvement and Habitat Linkage Plan, Council will undertake tree and vegetation planting to support specific habitat locations, encourage the rebuilding of ecological foundations and improve species diversity in Bayside. Currently, the Hampton street and park tree population is largely dominated by the *Myrtaceae* family (*eucalyptus* etc.), making up 60.4% of park trees and 79.7% of all street trees.

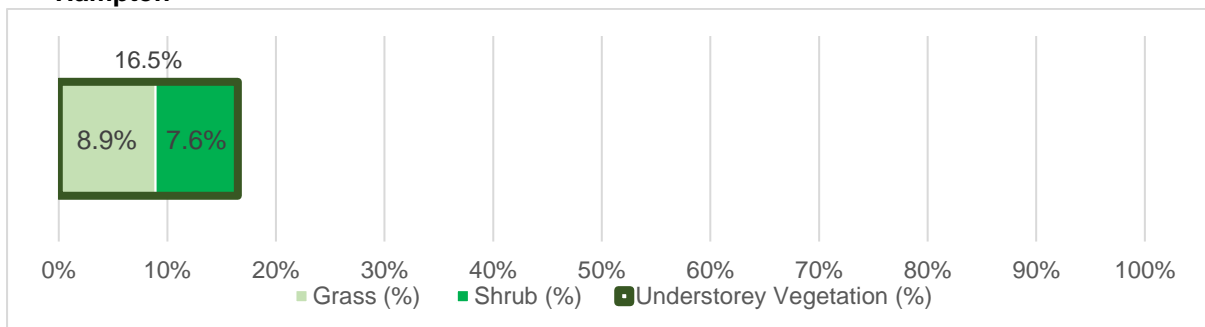
Understorey planting in Hampton

This section investigates the potential habitat and biodiversity corridors in Hampton across public and private land to understand where further opportunities are to increase habitat connectivity and improve biodiversity.

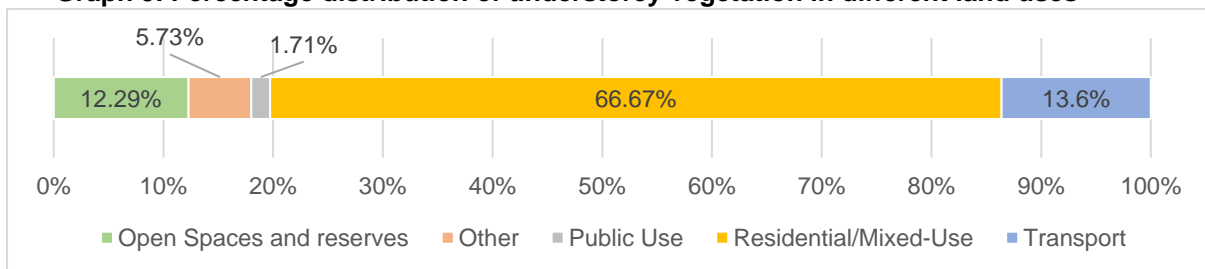
Understorey vegetation includes small trees, shrubs, herbs, grasses, mosses and lichens that occupy the vegetation layers below the canopy of taller trees.⁴ Bayside's *Urban Forest Strategy* has three major goals to ensure the increase and improvement of the urban forest and the functions it serves. Two of these goals recognise the importance of understorey plantings. In addition, one of the strategic objectives of the *Bayside Urban Forest Strategy* is to support and enhance our local biodiversity and protect locally endangered and native species. This will be achieved by improving habitat connectivity and the protection and planting of Ecological Vegetation Classes (EVCs) through the implementation of the *Park Improvement and Habitat Linkage Plan 2022* which involves identifying the suitable locations to prioritise understorey planting.

There is currently 16.5% understorey vegetation coverage in Hampton, with 66.67% being located within residential / mixed use areas within the suburb. Streets then make up for 13.6% and open spaces and reserves providing 12.29%. There is little understorey canopy on 'other' land uses (5.73%) and public use (1.71%). Opportunities exist to increase understorey planting upon all land uses, with particular priority on those areas that have very low percentage of understorey (0-10%) within and surrounding the Hampton Street Major Activity Centre.

Graph 8. Percentage distribution of understorey vegetation as grass and shrubs in Hampton

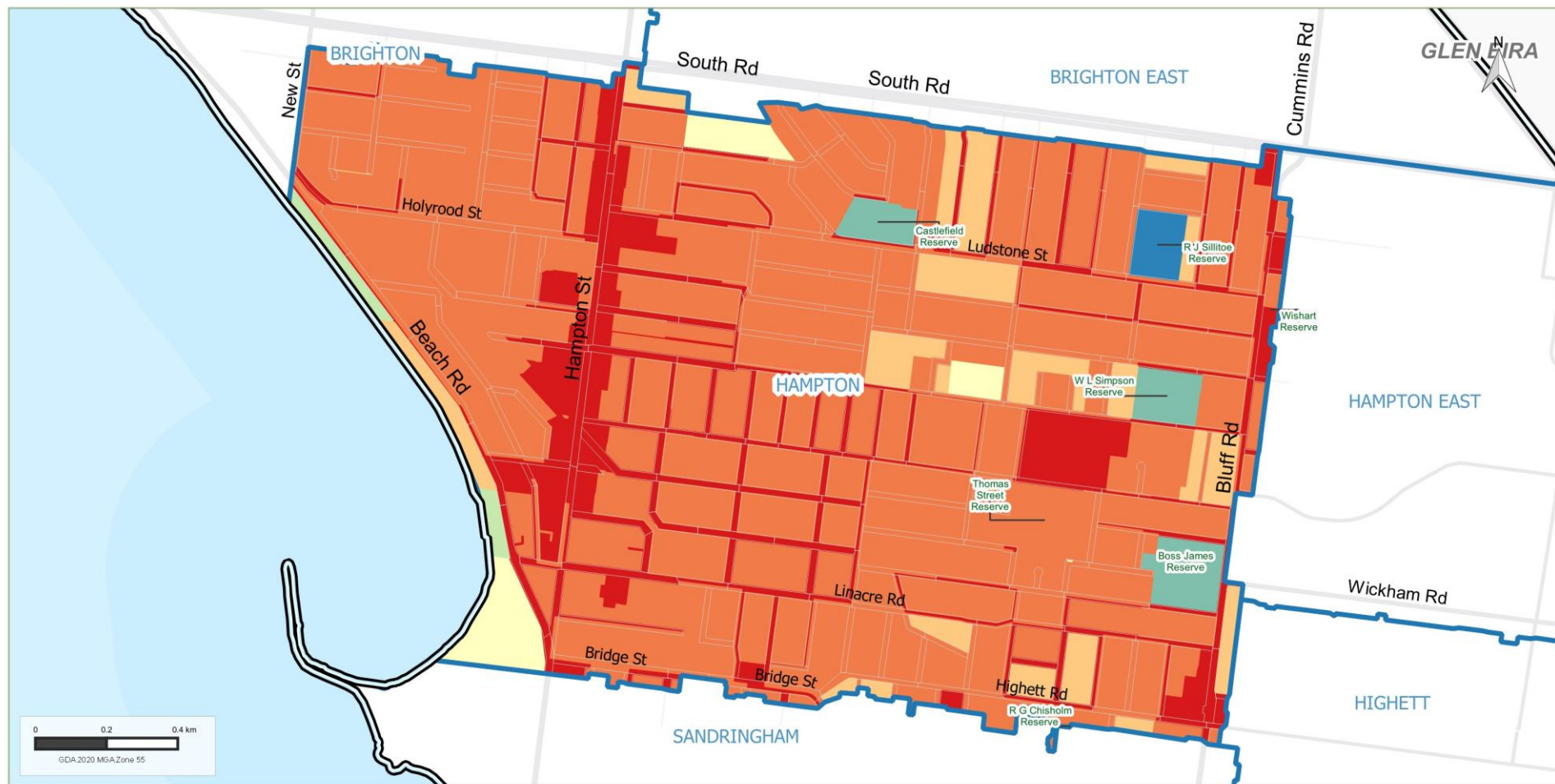


Graph 9. Percentage distribution of understorey vegetation in different land uses



⁴ Land for Wildlife Queensland, 'The Value of Understorey Vegetation' Note V6, available at: <https://www.lfwseq.org.au/wp-content/uploads/2016/11/The-Value-of-Understorey-Vegetation.pdf>

Map 7: Understorey planting in Hampton



Legend

- | | | |
|---------------------------------|------------------------|----------------|
| Understorey Planting Percentage | | □ Council Land |
| ■ 0 to 10% | ■ 40 to 50% | □ Roads |
| ■ 10 to 20% | ■ 50 to 60% | — Arterial |
| ■ 20 to 30% | ■ 60 and above | — Sub-Arterial |
| ■ 30 to 40% | □ Bayside LGA Boundary | — Collector |
| | □ Suburb | □ Local Road |

Disclaimer: Copyright 2022 VicMap Data - DELWP
 This material may be of assistance to you but the state of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from your relying on any information contained in this material.
 Created by Bayside City Council
 04 November 2022

Urban Heat Island

Urban heat island effect in Hampton

Urban heat island effect is the phenomenon of dense urban areas having significantly warmer air and land surface temperatures than surrounding areas.⁵ It is primarily a result of impervious hard surfaces that generate heat and low vegetation cover that fails to provide adequate shade and natural cooling.

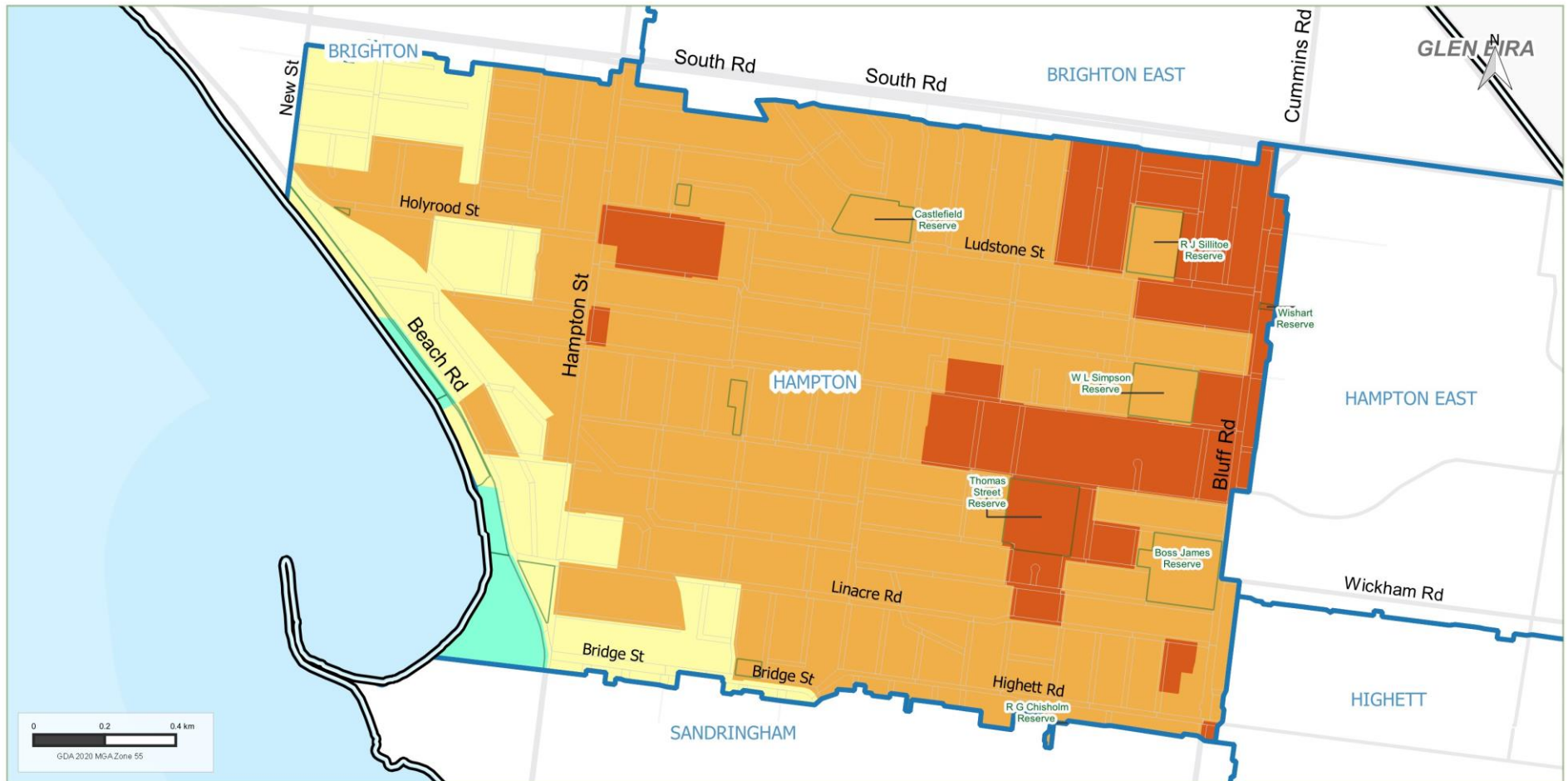
Urban heat data was captured in 2018 and provided in Map 8 below. The urban heat map illustrates that there are multiple areas of Hampton, particularly in the east and north-east, which will reach threshold temperatures for heat-related illness in vulnerable populations more often and for longer than surrounding areas of the suburb.

Council will prioritise planting on Council land that is most impacted by urban heat island effects, particularly within the north-eastern parts of the suburb, as identified in Map 8. Innovative techniques such as green roofs and walls should also be explored and encouraged in places where more traditional approaches to increasing vegetation may be difficult to achieve.

Due to larger areas that have impervious hard surfaces, that generate heat, and low percentage of understorey planting, there may be moderate impacts from urban heat island effects in the north-eastern areas of Hampton.

⁵ Resilient Melbourne and The Nature Conservancy, 'Living Melbourne – Our metropolitan Urban Forest', 2019, Available at https://livingmelbourne.org.au/wp-content/uploads/2022/10/Strategy_online.pdf

Map 8 - Urban Heat in Hampton



Legend

Urban Heat (°C)

2.5 - 4.5

4.5 - 6.5

6.5 - 8.5

8.5 and above

Council Land

Roads

Arterial

Sub-Arterial

Collector

Local Road

Bayside LGA Boundary

Suburb

Disclaimer - Copyright 2022 VicMap Data - DELWP
 This material may be of assistance to you but the state of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from your relying on any information contained in this material.

Created by Bayside City Council
 04 November 2022

Biodiversity Assessment

To help inform the Bayside *Urban Forest Strategy*, Council undertook a desktop biodiversity assessment across the entire municipality. The purpose of the desktop biodiversity assessment was to assess and identify the existing ecological values present within the municipality and identify key areas where biodiversity could be improved. This section of the Precinct Plan will focus on the findings of this assessment within the suburb of Hampton.

Strategic Biodiversity Value Score

The Strategic Biodiversity Value (SBV) is a ranking system developed by the Department of Transport & Planning (DTP) that ranks the biodiversity contribution that a location has to Victoria's overall biodiversity. The SBV is presented as a score ranging between 0 - 1 and is mapped across all areas of Victoria.⁶

56 areas with SBV scores were identified within Bayside. A review of the SBV scores mapped within the Council region was undertaken, with the results shown on Map 9. While the majority of Hampton did not present a high SBV score, there was one area where the score is higher, between 0.8 and 1, indicating that it has a higher conservation value. This area is on the foreshore at the southern boundary of Hampton, at Picnic Point. The majority of this reserve is located in Sandringham, however the northern section is in Hampton. The remainder of the foreshore reserve generally has an SBV score between 0.2 and 0.4, where native vegetation persists between the road and water's edge.

Future planting within these areas should focus on ensuring the SBV scores modelled within these areas do not decrease, by promoting native restoration and plantings in these areas when required.

Ecological Vegetation Classes (EVCs)

As a part of this study a review of Ecological Vegetation Classes (EVCs) model was undertaken. A total of 8 EVCs were modelled within the Bayside area. The modelled distribution of the 2005 DELWP mapping extent, highlights that the majority of the study area have been cleared and no longer represents the EVCs. This is largely due to the extensive residential development that has occurred, and the associated road, rail and commercial development.

Of the 8 EVCs modelled within Bayside, one was present within Hampton along the foreshore. This EVC has informed the species palette in Appendix 3 to this Precinct Plan. The species palette provides guidance on species of trees and vegetation that should be planted in order to enhance the character of the urban forest.

⁶ Desktop Biodiversity Assessment for the Urban Forest Strategy, Bayside City Council (2022)






Map 9. Biodiversity Value Score



Map 10 – Historic Ecological Vegetation Classes



Legend

-  Bayside LGA Boundary
-  Suburb
-  Council Land
-  Property Boundaries
-  Modelled 2005 Ecological Vegetation Classes
 -  Coastal Headland Scrub / Coast Banksia Woodland Mosaic (EVC 919)
-  Planning Zones
 -  PPRZ - Public Park and Recreation Zone
-  PUZ2 - Public Use Zone - Education

Disclaimer: Copyright 2022 VicMap Data - DELWP. This material may be of assistance to you but the state of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from your relying on any information contained in this material.

Created by Bayside City Council
27 April 2023

Park Improvement and Habitat Linkage Plan 2022

The *Park Improvement and Habitat Linkage Plan 2022* was undertaken by Council as a way to improve species diversity within Bayside and understand what species (trees and vegetation) would best support specific locations in Bayside and encourage the rebuilding of ecological foundations. The objective of the plan is to assist in increasing the diversity of indigenous and native plantings in council-owned open spaces outside the conservation reserve system and strengthen the connections between natural areas.

Two major actions identified in the *Park Improvement and Habitat Linkage Plan* that correspond to the Hampton Precinct Plan are:

1. Streetscapes – Wherever possible, increase the extent of indigenous understorey vegetation in verges, nature strips, roundabouts, traffic islands and edges of carparks or other less frequented or unused areas.
2. Parklands – Expand on areas of existing native vegetation (both patches and individual trees) with dense understorey plantings, or identify locations for additional native plantings, to create structurally diverse ‘habitat planting zones’.

Conservation reserves in Hampton

- Picnic Point
- Hampton Foreshore

Core Habitat Patches

As per Map 11, eight core habitat patches have been identified within Hampton as areas where planting should occur to implement new or improve existing links to areas of open space and provide habitat corridors:

1. Hampton Foreshore
2. Picnic Point
3. Castlefield Reserve
4. R J Sillitoe Reserve
5. W L Simpson Reserve & 441 Bluff Road, Hampton
6. Sandringham Athletics Centre/Sandringham Netball Courts & YC Netball Courts
7. Thomas Street Reserve
8. Boss James Reserve

Map 11 – Core Habitat Patches in Hampton



Legend

- Bayside LGA Boundary
- Suburb
- Roads
- Roundabouts
- Core Habitat Patches
- Council Land
- Education (Government or Independent)
- Planning Zones
- C1Z - Commercial 1 Zone
- PPRZ - Public Park and Recreation Zone

Disclaimer: Copyright 2022 VicMap Data - DELWP. This material may be of assistance to you but the state of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from your relying on any information contained in this material.

Created by Bayside City Council
12 January 2023

Priority Habitat Improvement Areas

Priority habitat locations are primarily associated with parks or reserves that currently support high-quality habitat values (such as bushland or foreshore reserves) or have the potential to provide core habitat with further investment through on-ground plantings and complimentary habitat structures.⁷

As per Map 12, Priority Habitat Improvement Areas identified in Hampton are:

- Picnic Point Foreshore
- R J Sillitoe Reserve
- W L Reserve
- Thomas Street Reserve
- Boss James Reserve
- Sandringham Athletics Centre/Sandringham Netball Courts & YC Netball Courts
- Hampton Bowling Club Grounds

Priority Linkage Improvement Areas

Linkage Improvement Areas are primarily associated with public road reserves with the objective being to increase the functional diversity of vegetation within these areas to improve connectivity for a broader range of species.⁷ Locations of priority linkages identified across the municipality have been restricted to public land, except for limited instances within privately owned golf courses.

- Brighton foreshore to Picnic Point via foreshore
- Thomas Street Reserve to Boss James Reserve via James Crescent
- Brighton East to Hampton East via Kingston Street, Castlefield Reserve, Ludstone Street, Earlsfield Road, Olive Street, Smith Street, Lawson Street, Chislehurst Road, Raynes Park Road, Bluff Road, Fewster Road and Summit Avenue.

⁷ Park Improvement and Habitat Linkage Plan, Bayside City Council (2022)

Map 12 – Habitat Linkages and Improvements in Hampton



Legend

- Bayside LGA Boundary
- Suburb
- Roads
- Roundabouts
- Council Land
- Education (Government or Independent)
- Habitat Improvement
- Habitat Improvement Area
- Habitat Linkage Improvement Area
- Planning Zones
- C1Z - Commercial 1 Zone
- PPRZ - Public Park and Recreation Zone

Disclaimer: Copyright 2022 VicMap Data - DELWP. This material may be of assistance to you but the state of Victoria and Bayside City Council do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or consequences which may arise from your relying on any information contained in this material.

Created by Bayside City Council
12 January 2023

Trees on Private Land

While we encourage and support the increase of tree canopy cover on private land, it is recognised that the uptake of tree planting on private land can only be enforced through better planning mechanisms, education, advocacy and commitment from the community.

The objectives of the Bayside *Urban Forest Strategy* is to prioritise and strengthen the support for retaining existing trees on public and private land and to strengthen Council's ability to retain and monitor trees on both public and private land.

Regulations involving trees on private land

Under the *Neighbourhood Amenity Local Law 2021*, a permit is required for the removal of a tree that is on the Significant Tree Register or a canopy tree that has a single or combined trunk greater than 155 centimetres measured at 1 metre above ground level. There are currently eleven trees in Hampton that are on the Significant Tree Register.

There are several mechanisms currently in place within the Bayside Planning Scheme that require a planning permit to be granted for tree removal. These mechanisms include but are not limited to the Vegetation Protection Overlay (VPO), Significant Landscape Overlay (SLO) and the Heritage Overlay (HO). The HO is however the only overlays that apply to private land in Hampton.

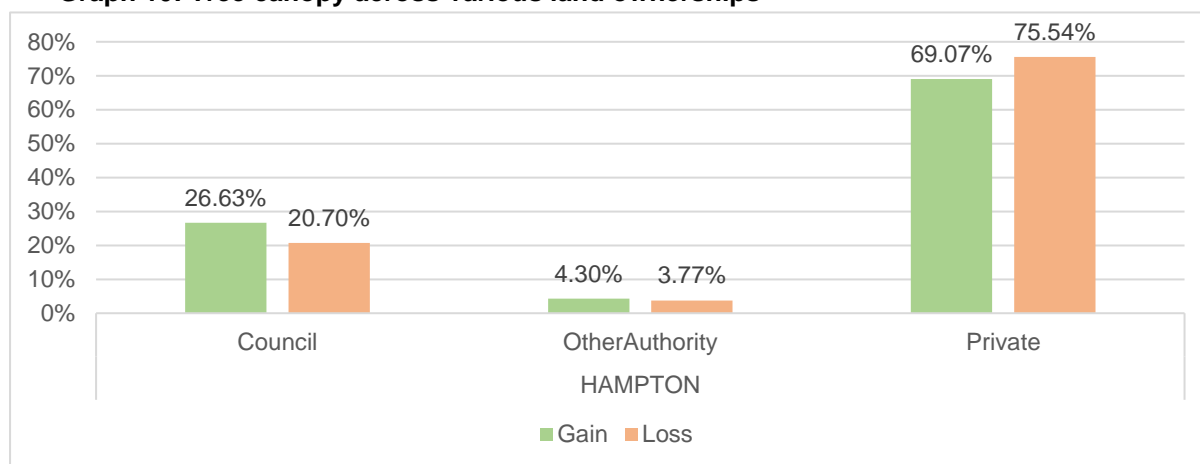
It is difficult to approximate the number of trees removed from private land each year under a planning permit as this is not separately recorded (and one application can be for multiple tree removals), let alone the extent of tree removal that is legal or illegal.

As indicated in Graph 10, while private land contributed to 69.1% of tree canopy gains in Hampton, it also contributed to 75.5% of tree canopy losses. Conversely, council-owned land contributed 26.6% to tree canopy gain versus 20.7% of tree canopy loss. Losses and gains were calculated by comparing 2015 and 2019 canopy cover data.

Tree loss and gain in Hampton on private land

Map 13 shows tree canopy lost and gained in Hampton from 2015 to 2019. The source aerial photography datasets were obtained from the State Government's Coordinated Imagery Program (CIP). The datasets from 2015 and 2019 were further compared by council's GIS team to identify changed areas of vegetation.

Graph 10: Tree canopy across various land ownerships



Encouragement of trees on private land

As mentioned in the *Urban Forest Strategy*, community engagement will be essential in growing the urban forest on private land and Council will continue to be proactive in communicating the benefits of trees and vegetation on private land.

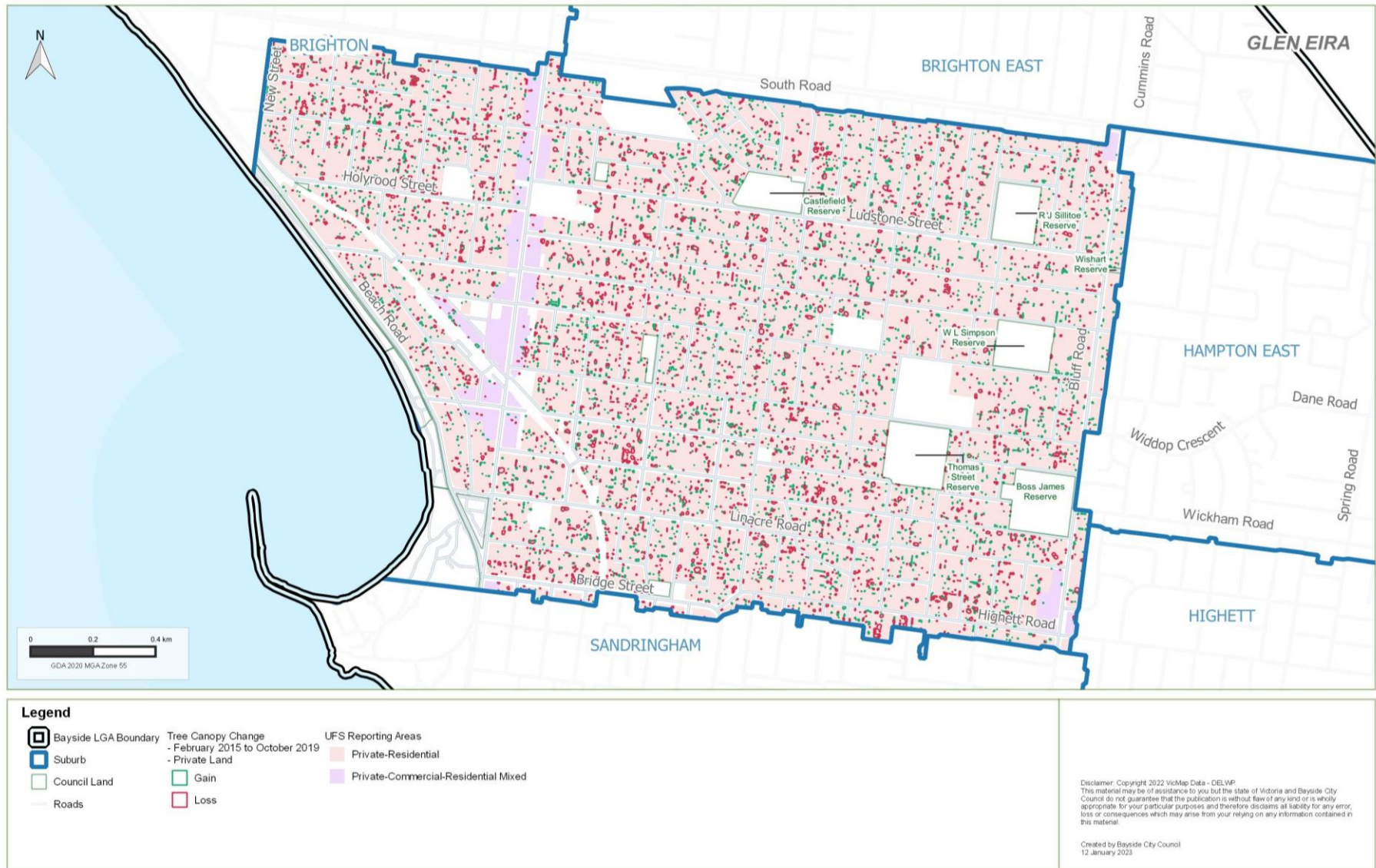
Council will also investigate opportunities to provide free tree and vegetation giveaways to residents. This will provide Council with a pathway to influence the tree and vegetation cover that exists on private land and help residents maintain the health of their trees and gardens. Bayside already has a strong network of 'Friends of' groups and community volunteers who carry out tree and vegetation plantings and would be great allies in this work.

Council will encourage landowner participation in greening, particularly for areas identified as having less canopy cover. This is being undertaken through communications and engagement actions that has a focus on education, awareness on the benefits of vegetation, and participation in increased tree planting through various education programs.

There has been a greater interest from the younger population of Bayside to participate in increasing vegetation cover. Council will continue to run educational programs within schools and work alongside the community to reach the *Urban Forest Strategy* target of 30% canopy cover.

As part of the *Urban Forest Strategy* implementation plan, Council is exploring opportunities to include further policies within the Bayside Planning Scheme. This will aim to increase and maintain tree canopy and vegetation on private land.

Map 13. Vegetation loss and gain on private land in Hampton



Hampton in images

The following images show examples of low, medium, and high tree canopy coverage in Hampton. Map 13 below identifies the locations and direction these images were taken.



Image 6. Fewster Road, an example of a road with low tree canopy coverage.



Image 7. Exon Street, an example of a road with medium tree canopy coverage.

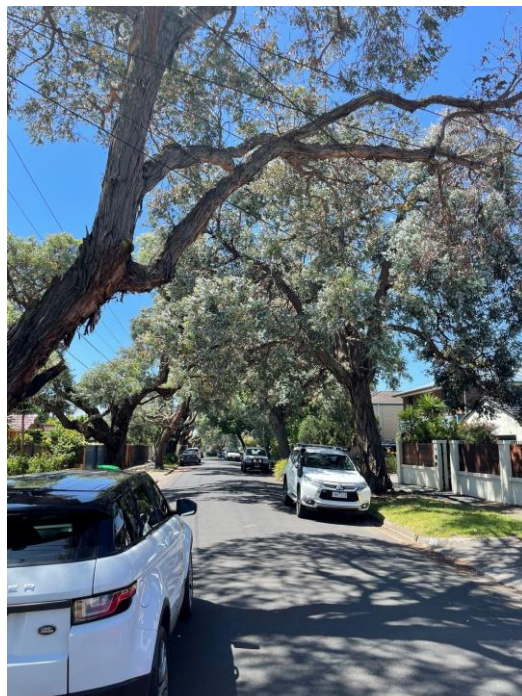


Image 8. Ivy Street, an example of a road with high tree canopy coverage.

Key Constraints – Infrastructure

Finding locations for street and park tree planting can be challenging as it is important to ensure trees do not compromise the existing above and below infrastructure, as well as the existing uses and accessibility of the space.



Certain pieces of infrastructure introduce constraints that impact the ability to plant trees. Street and park tree selection for trees growing under powerlines needs to consider a particular species' tolerance for pruning. For example, a tree that has a natural branching habit and a good wound response to mechanical damage would be considered an appropriate tree species for growing under powerlines. Infrastructure constraints are portrayed in Map 14.

In streets that have small or narrow nature strips, a smaller tree species will be considered for the powerline side of the street. In those circumstances, the trees on both sides of the street should have similar foliage and form to provide a consistent vegetation character for the street.

As a phase 1 action of this plan, Council will facilitate the negotiations between the residents and relevant authorities to support the undergrounding of powerlines (and other services) if there is sufficient interest in a street.

Council will also advocate to VicRoads and other authorities for undergrounding the powerlines and plant vegetation on the Principal Transport Network.

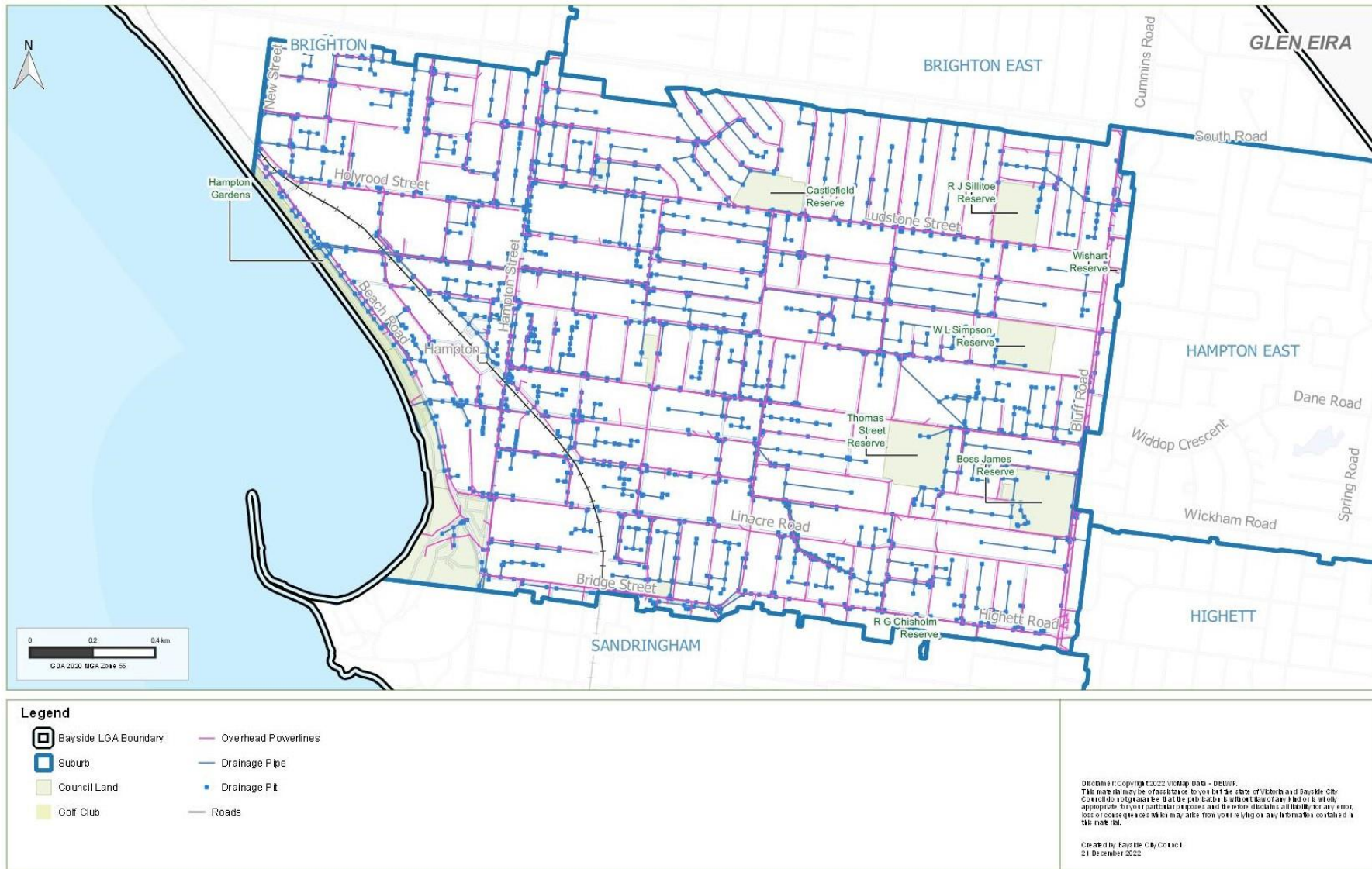
Map 14 identifies infrastructure that must be considered when undertaking tree and vegetation planting including:

- footpaths
- kerb and channel
- roadways
- playgrounds
- pathways
- private infrastructure
- public infrastructure.

When selecting tree species for planting, Council officers should consider which species will be the least destructive to underground infrastructure. Council will work with utility providers where required to ensure infrastructure can be successfully maintained. This will ensure that Council can increase vegetation cover whilst protecting existing infrastructure and reducing demand for maintenance.

It is also important to note that infrastructure can also be constrained due to weather events. The *Climate Emergency Action Plan 2020* requires that new infrastructure be designed to higher environmental standards and is located with consideration to future flood and storm surge risk. Existing infrastructure has to be retrofitted to reduce environmental impact and to improve resilience. It is critical to consider how each piece of new infrastructure can contribute to a more resilient built environment. Adapting to climate change requires taking actions to lessen its adverse consequences and increase capacity to withstand the stresses and shocks associated with natural hazards and extreme weather events. Investing in climate change adaption helps to embed economic, social, and environmental resilience to protect the most vulnerable to the consequences of climate change.

Map 14. Infrastructure Constraints in Hampton



Key Opportunities

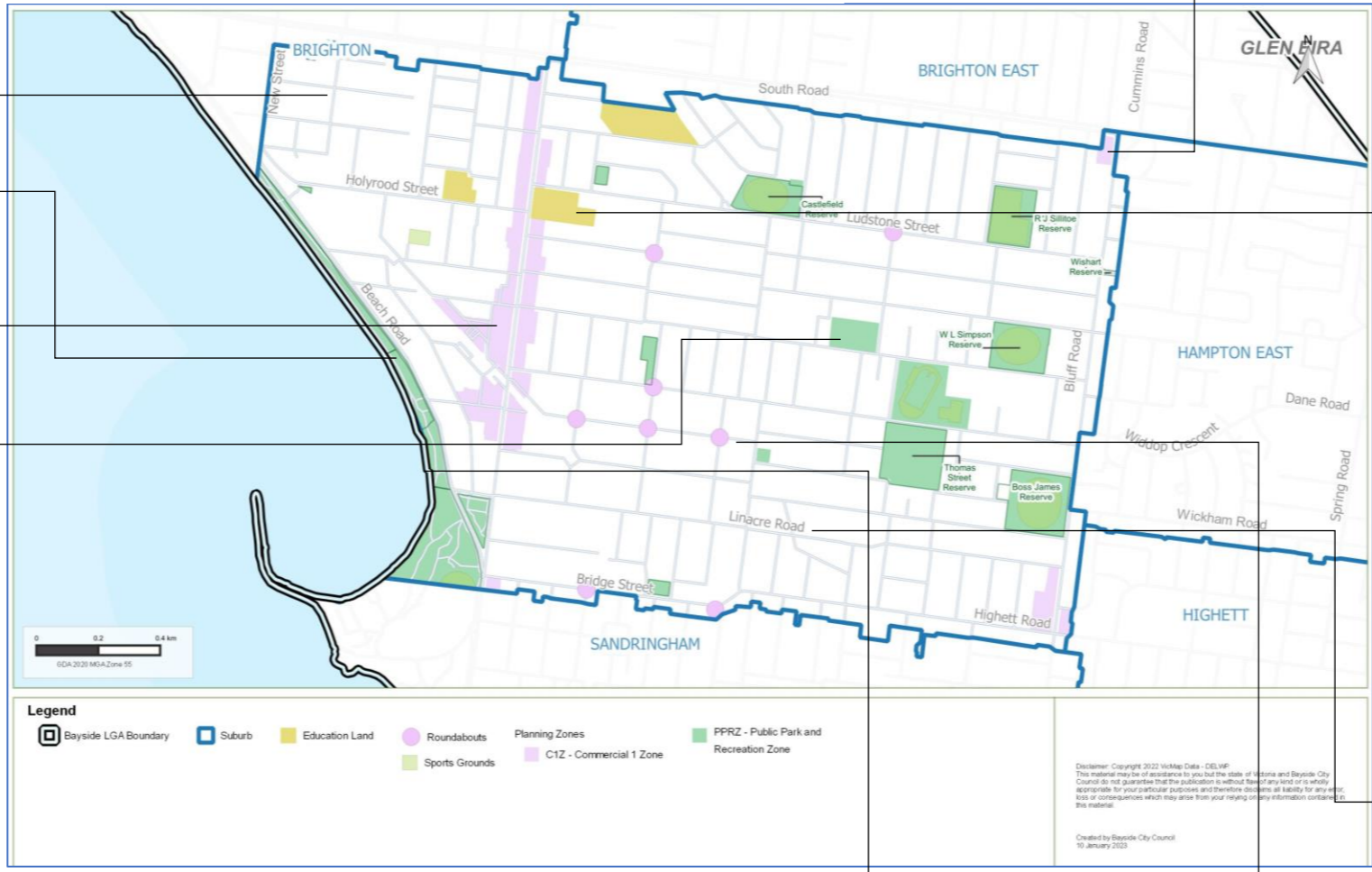
Greening Hampton
Increasing tree canopy cover to reach 30% and vegetation cover to reach 30% across Hampton by 2040.

Biodiverse suburb
Create a diverse and healthy urban forest that reinforces greater outcomes for biodiversity.

Improve monitoring and maintain
Improve the ability to monitor and track along with maintaining our existing canopy cover and avoid further decline.

Encourage residents and private owners
Learn together, educate each other, encourage and celebrate greater care and protection.

Map 15 – Key Opportunities in Hampton



Nature strips
In terms of tree planting, the **Street and Park Tree Management Policy** states that: 'Council aims to have 100% of suitable sites within Bayside planted with a tree to contribute to the municipality's leafy character. Most property frontages in Bayside can accommodate at least one tree within the nature strip.'

Council-owned open spaces
Hampton has approximately 33.5 hectares of open space that includes parks, reserves, and foreshore areas. Opportunities exist to increase the number of canopy trees planted in council-owned open spaces, with the most prominent example being along the foreshore and where core habitat patches, habitat linkages and improvement areas exist.

Council-owned projects
There is a significant opportunity to increase vegetation cover in Hampton through council-owned projects like the renewal or development of community buildings and sporting club facilities. Each Council project has site-specific issues and opportunities that need to be considered as a part of the project scope. Examples of this include having a buffer around Council buildings and sporting ovals to ensure new plantings do not hinder future projects e.g. expansion of a community building. When planting near sporting ovals maintenance of future trees must be considered to ensure sporting events can still run. These projects provide great opportunities to increase and diversify tree and understorey cover.

Hampton Street Activity Centre
The Hampton Street Activity Centre provides a vast array of commercial and retail uses and employment, and is within proximity to the foreshore. Through increased planting and landscaping, opportunity exists to bring these two areas together.

When planting trees in commercial areas conflicting priorities such as the demand for car parking, footpath activation, shop awnings, street lighting and road signage must be considered. Innovative techniques such as green roofs and walls and replacing trees in poor health should be explored and encouraged to increase vegetation.

Small Neighbourhood Activity Centres
There are four small neighbourhood activity centres across Hampton:

- Bluff Road & Highett Street (Small Neighbourhood Activity Centre)
- South Road Plaza (Small Neighbourhood Activity Centre)
- Ludstone Street (Small Neighbourhood Activity Centre)
- Beach Road & Georgina Street (Small Neighbourhood Activity Centre) (part)

The character of these commercial centres can be improved by increasing the amount of vegetation. This will create more appealing, leafy neighbourhood setting. When planting trees in commercial areas conflicting priorities such as the demand for car parking, footpath activation, shop awnings, street lighting and road signage must be considered. Innovative techniques such as green roofs and walls and replacing trees in poor health should be explored and encouraged to increase vegetation.

Educational land
Council will work with other State Government departments and with private owners to increase vegetation cover on educational land. Schools within Hampton include Hampton Primary School, St Mary's Primary School and Haileybury College.

Understorey planting
Where possible, planting and maintaining understorey vegetation is encouraged to assist fauna to forage over a longer period of time.

Roundabouts
Roundabouts will be considered as opportunities to plant canopy trees and understorey planting when appropriate. New plantings must not affect sight lines, safety or accessibility for larger vehicles. To ensure future planting is appropriate a Road Safety Audit will be completed before and after installation.

Priority Linkage Improvement Areas

- Brighton foreshore to Picnic Point via foreshore
- Thomas Street Reserve to Boss James Reserve via James Crescent
- Brighton East to Hampton East via Kingston Street, Castlefield Reserve, Ludstone Street, Earlsfield Road, Olive Street, Smith Street, Lawson Street, Chislehurst Road, Raynes Park Road, Bluff Road, Fewster Road and Summit Avenue.

Prioritising Tree and Vegetation Planting

Prioritising Tree and Vegetation Planting will commence by focussing on habitat linkages and core habitat patches identified in the Park Improvement and Habitat Linkage plan (Action 1 of the Implementation Plan). Focus will also be given to streets that have low canopy cover.

Encouraging planting on private property will prove to be more challenging. The species palette listed in this Precinct Plan is also provided within the revised Bayside Landscaping Guidelines and selection from this list will be encouraged as part of the Planning and Local Law tree removal application and approval process for Landscape Plans. Council will also work with private property owners to seek enhanced landscaping outcomes on nature strips.

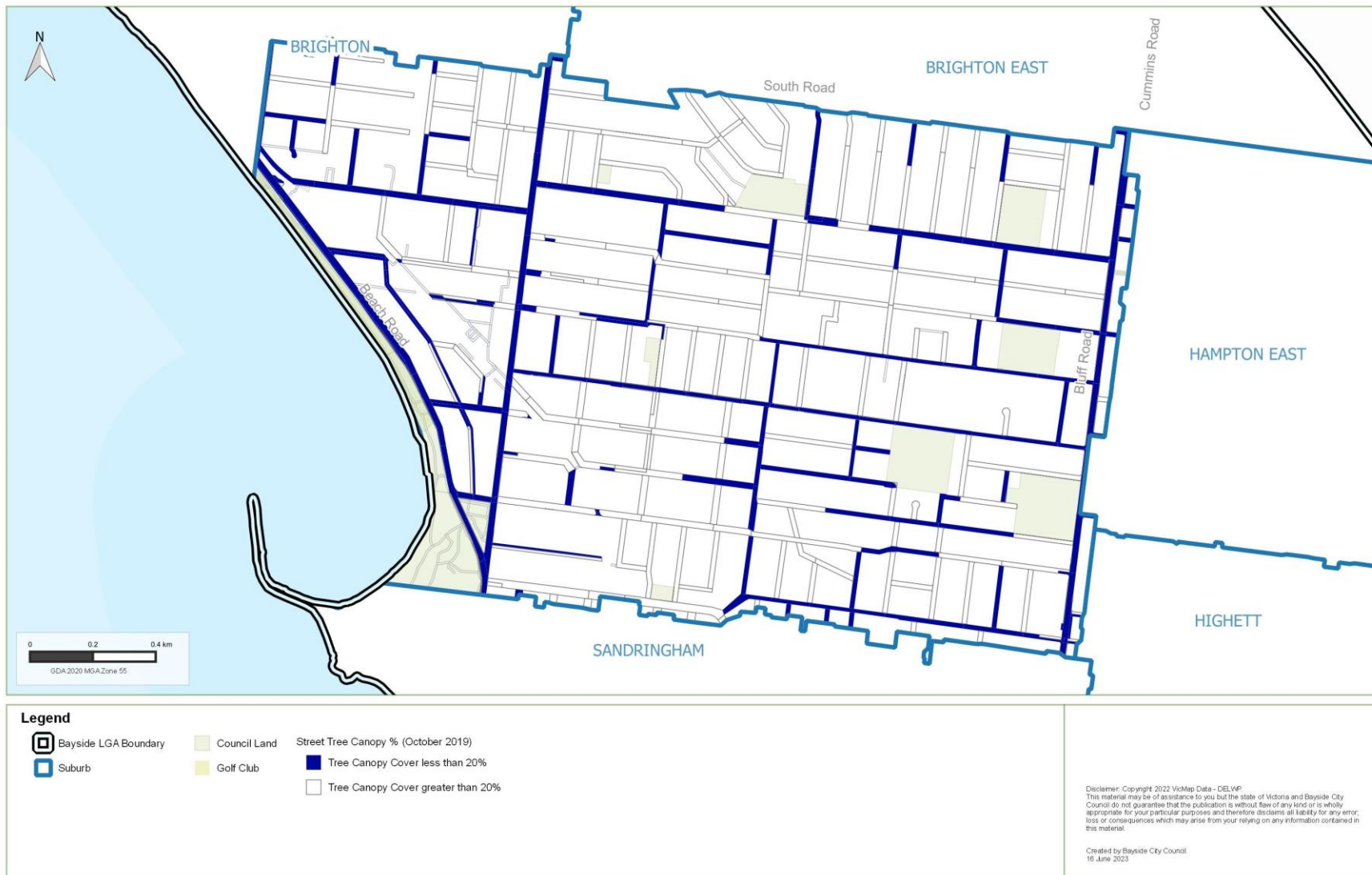
As a response to the Bayside *Urban Forest Strategy*, Council is committed to increasing tree planting every year. Maps 17 to 20 identify priority locations to be targeted in Council's Annual Tree Planting program.

The Annual Tree Planting Program provides a great opportunity to increase species diversity, habitat and local character. A general rule of thumb that should be applied is the 10:20:30 rule, where the urban tree population includes no more than 10% of any one species, 20% of any one genus, or 30% of any family.

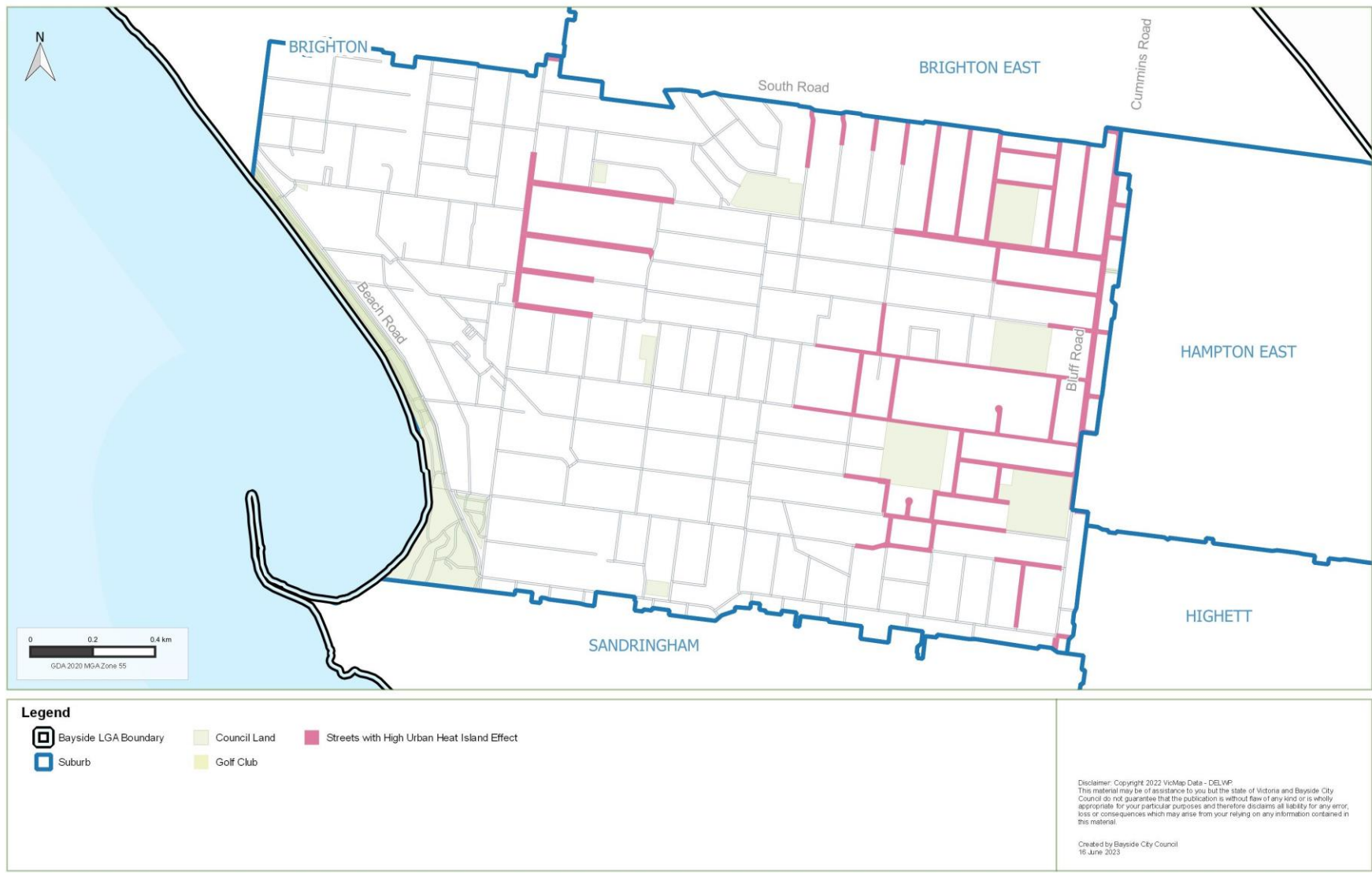
Map 16 – Number of Tree Replacements required in next 10 years in Hampton



Map 17 – Streets with less than 20% Tree Canopy Cover in Hampton



Map 18 – Streets with High Urban Heat Island Effect in Hampton



Implementation Plan

The following set of actions specifically identifies outcomes for trees and vegetation planting. They provide the framework for change within Hampton with outcomes informed by all the other factors outlined in previous sections.

Phase	Objective	Action	Responsibility	Timeframe	Resources required	Measure
Create a diverse and healthy urban forest that reinforces greater outcomes for biodiversity.						
Action 1 Phase 1	Prioritise and increase planting on identified habitat and biodiversity corridors across public land to enhance habitat linkages.	<p>Investigate opportunities to provide increased understorey planting in areas identified as part of Council's <i>Park Improvement and Habitat Linkage Plan</i> (Map 10 - 11), including:</p> <p>Priority Habitat Improvement Areas:</p> <ul style="list-style-type: none"> • Picnic Point Foreshore • R J Sillitoe Reserve • W L Reserve • Thomas Street Reserve • Boss James Reserve • Sandringham Athletics Centre/Sandringham Netball Courts & YC Netball Courts • Hampton Bowling Club Grounds <p>Priority Linkage Improvement Areas:</p> <ul style="list-style-type: none"> • Brighton foreshore to Picnic Point via foreshore • Thomas Street Reserve to Boss James Reserve via James Crescent • Brighton East to Hampton East via Kingston Street, Castlefield Reserve, Ludstone Street, Earlsfield Road, Olive Street, Smith Street, Lawson Street, Chislehurst Road, Raynes Park Road, Bluff Road, Fewster Road and Summit Avenue. <p>Core habitat patches:</p> <ul style="list-style-type: none"> • Hampton Foreshore • Picnic Point • Castlefield Reserve • R J Sillitoe Reserve • W L Simpson Reserve & 441 Bluff Road, Hampton • Sandringham Athletics Centre/Sandringham Netball Courts & YC Netball Courts • Thomas Street Reserve • Boss James Reserve 	Open Space	Year 1 & 2	Budget allocated for 2022/23 and 2023/24 financial years.	<i>Park Improvement Habitat Linkage Plan</i> and the Urban Forest Strategy Annual Reporting Program.
Action 2 Phase 1	Enhance biodiversity outcomes on private land.	<p>Encourage private landowners to plant vegetation on private property and nature strips and provide support and tools to assist.</p> <p>To ensure new plants enhance habitat and biodiversity, Council officers should recommend appropriate plants listed in Appendix 3 Species Palette of this document.</p>	Urban Strategy, Communication and Engagement	Ongoing	Budget will be required.	<p>Utilise engagement evaluation matrix to measure success.</p> <p>Number of community members involved in activities.</p> <p>Demand from residents for vegetation outside their house.</p>
Action 3 Phase 1 & 2	Create new open space, pocket parks, micro-forests in the suburb seeking new biodiversity or habitat corridors.	Investigate opportunities to create new public open space, pocket parks, micro forests, and habitat corridors, ensuring that the design of these spaces are contributing to Bayside's urban forest outcomes and the existing Ecological Vegetation Community.	Open Space	Ongoing	This can be considered as part of the Open Space Strategy review and can be considered with the resourcing of that project.	Council to prepare list of potential open space sites as part of the adoption of the Open Space Strategy review.
Action 4 Phase 1	Ensure humans and wildlife can simultaneously and safely access densely vegetated areas, streets and reserves	<p>Support the undergrounding of powerlines where it is at the request of the community and at their full cost.</p> <p>Facilitate the negotiations between the residents and relevant authorities to support the undergrounding of powerlines (and other services) if there is sufficient interest in a street.</p>	Asset Protection	Ongoing	No budget required	Number of streets where undergrounding of powerlines has been implemented
Action 5 Phase 1	Ensure open space opportunities along the Sandringham	Council will work with the Port Phillip Emergency Climate Action Network (PECAN) to seek the increase of vegetation cover along the Sandringham rail line from North Brighton Station to Sandringham Station as a Stage 2 of the Green Line Project.	Open Space, Urban Strategy, Climate, Sustainability,	Ongoing	No budget required.	Confirmation that planting along the Sandringham line will commence.

Phase	Objective	Action	Responsibility	Timeframe	Resources required	Measure
	trainline are considered.		Waste and Transport			
Enhance landscape outcomes and increase tree and vegetation cover to reach 30% by prioritising areas in greatest need						
Action 6 Phase 1	Increase tree and understorey cover at areas with greatest need to enhance landscape outcomes, provide for heating and cooling benefits and combat climate change.	<p>Investigate opportunities to increase canopy tree and understorey planting at the following streets which have been identified as having low canopy cover (less than 20%):</p> <ul style="list-style-type: none"> • Thomas Street, • New Street, • Holyrood Street, • Ludstone Street, • Linacre Road, • Bridge Street, • Highett Road • Margarita Street <p>In addition, investigate opportunities to increase tree and understorey cover at the following streets which have been identified as hot spots due to potential impacts from Urban Heat Island effects:</p> <ul style="list-style-type: none"> • Hampton Street, Ludstone Street, Littlewood Street • Mills Street, Willis Street, South Road • Kingston Street, Prince Street, Bateman Street • Earlsfield Road, Ivy Street, Barnett Street • Olive Street, Smith Street, Kendall Street • Bluff Road, Faulkner Street, Lawson Street • Kinross Street, Roydon Street, Apex Avenue • Summit Avenue, Widdop Crescent, Teddington Road • Chislehurst Road, Raynes Park Road, Earfield Road • Fewster Road, Edinburgh Street, Glamis Avenue • Bronte Court, Poole Avenue, Thorburn Street • Porter Street, James Crescent, Myrtle Road • Nicol Street, Hillcroft Avenue, David Street • Wales Street, Little Field Street, Linacre Road • Swyer Street, Highett Road 	Open Space	Year 1 to 5	Budget and resources will be required to increase the number of trees and understorey plants to be planted.	In line with the review of the Precinct Plans, a comparison should be undertaken for all streets that currently have less than 20% canopy cover.
Action 7 Phase 1	Planting canopy trees and understorey vegetation on roundabouts that currently do not have vegetation to enhance landscape outcomes.	<p>Investigate opportunities to provide canopy cover and/or understorey planting at the following roundabouts (as per Map 15):</p> <ul style="list-style-type: none"> • Alexander Street / Gillies Street – Thomas Street, • Service Street – Deakin Street, • Earlsfield Road – Ludstone Street, • Bridge Street – Bamfield Street, • Linacre Street – Sargood Street <p>New plantings must not affect sight lines, safety or accessibility for larger vehicles.</p>	<p>Open Space, Integrated Transport team, Urban Forest.</p> <p>Integrated transport team to undertake road safety Assessments before and after planting.</p>	Year 1 to 5	Budget and resources will be required to increase the number of trees and understorey plants to be planted.	<p>Number of plants planted</p> <p>In line with the review of the Precinct Plans, a comparison should be undertaken for all roundabouts that currently do not have vegetation.</p>
Action 8 Phase 2	Increase utilisation of green walls and green roofs in Activity Centre area.	Investigate opportunities to introduce mechanisms to increase green roofs and walls within Activity Centres	Development Services, Strategic Planning	Year 5 to 10	Resources will be required to initiate a Planning Scheme Amendment.	<p>Number of green walls implemented.</p> <p>Urban Forest Strategy Annual Reporting Program</p>
Action 9 Phase 1 and 2	Reframe Council's approach to major council-owned projects, capital infrastructure renewal projects as opportunity to increase urban forestry outcomes.	Explore opportunities within road reconstruction projects to provide new tree plots as boulevard planting or in between car parking bays to enhance tree and vegetation cover upon local streets.	Project Services, City Assets	Ongoing	Budget will be considered as part of the project scope.	Number of plants planted.
Action 10 Phase 1	Increase tree canopy cover by prioritising vacant tree sites.	As part of the Annual Tree Planting Program, prioritise planting at vacant sites.	Open Space, Urban Strategy	Ongoing	Budget and resources will be required to increase the number of trees	Number of trees planted.

Phase	Objective	Action	Responsibility	Timeframe	Resources required	Measure
					and understorey plants to be planted.	Urban Forest Strategy Annual Reporting Program.
Action 11 Phase 1	Ensure our urban forest is healthy and resilient.	As part of the Annual Tree Planting Program, Council should continue to choose species that are resilient and adaptive to the effects of climate change and increasing urban development. Property owners are also encouraged to select species that are resilient and adaptive through the planning and local law application processes.	Open Space, Development Services and Urban Strategy	Ongoing	Budget allocation as part of the Annual Tree Planting Program Budget allocation required to continue programs such as the Gardens for Wildlife Program to encourage planting on private property.	Species planted. Urban Forest Strategy Annual Reporting Program.
Learn together, educate each other, encourage and celebrate greater care and protection of the Bayside Urban Forest						
Action 12 Phase 1	Increase tree canopy cover by prioritising plantation in vacant tree sites.	As a part of the planting program identify the current vacant sites and prioritize planting at these sites. These sites will be utilised as 'easy wins' to prioritise tree planting in the suburb to increase vegetation.	Open Space	Year 1 to 5	Budget and resources will be required to increase the number of trees and understorey plants to be planted.	Number of plants planted. Urban Forest Strategy Annual Reporting Program
Action 13 Phase 1	Increase planting on State owned roads that have less than 20% tree canopy cover.	Advocate to VicRoads and other authorities for increased planting on South Road, Beach Road, Hampton Street and Bluff Road.	Open Space, Urban Strategy, Communications and Engagement	Ongoing	Budget will be required for any additional planting or maintenance should Council take on those functions for land in State ownership	A commitment made to plant trees on the streets maintained by VicRoads.
Action 14 Phase 1	Increase awareness amongst the community around the importance of vegetation through various programs and communication material.	Continue to run student and community educational programs to increase awareness around vegetation planting and protection.	Urban Strategy, Communication & Engagement	Ongoing	Budget may be required to create and implement educational programs.	Number of educational programs undertaken every year.
Action 15 Phase 1 and 2	Ensure humans and wildlife can simultaneously and safely access densely vegetated areas, streets and reserves.	Advocate to VicRoads and other authorities for the undergrounding of powerlines.	Urban Strategy	Ongoing	No budget required.	Funding received and/or partnerships created.
Maintain our existing canopy cover across Hampton and avoid any further decline where possible						
Action 16 Phase 2	Ensure our urban forest is healthy and resilient.	Continue to assess trees that have limited useful life expectancy or are dead for potential retention as habitat trees using TRAQ (Tree Risk Assessment tool).	Open Space	Year 5 to 10	Budget and resources will be required to assess trees and understorey to support the habitat tree.	Number of replacement plants planted, and number of those trees retained for habitat. Urban Forest Strategy Annual Reporting Program.
Action 17 Phase 1 and 2	Increase Council's ability to protect trees from vandalism.	Explore additional opportunities to minimise vandalism, particularly along the foreshore: Consider the preparation of a communications and engagement strategy targeted to private property owners and the wider community.	Local Laws, Open Space, Communications and Engagement	Year 1 to 5	Budget and resources will be required to explore opportunities.	Utilise engagement evaluation matrix to measure success.
Action 18 Phase 2	Provide safer and cleaner streets for our residents and visitors	As vegetation cover increases with time, ensure future maintenance contracts appropriately fund the clean-up of tree leaves and debris on roads, public land and in activity centres.	City Asset, Open Space	Ongoing	Additional budget will be required for maintenance contract.	The number of requests for additional service.
Action 19 Phase 1	Strengthen requirements and advocacy to maintain and increase vegetation on private land.	Prepare Planning Scheme Amendments to strengthen the protection of vegetation on private land.	Development Services, Urban Strategy	Year 1 to 5	Planning Scheme Amendment process to be funded via operation budget. Budget may be required to prepare detailed background information.	Preparation of Planning Scheme Amendments.

Appendix 1: Guiding Principles and Considerations

Council is responsible for the management of road reserves, parks, public spaces, and foreshore reserves and has an active tree planting and maintenance program, which is guided by the *Park and Street Tree Management Policy*. As such, Council has a greater degree of control and influence over the tree population on council-managed land.

Planting in streets and parks presents a variety of challenges and there are important principles to use in responding to those challenges that will help to meet the *Urban Forest Strategy* targets. A complete and expanded set of these principles is included in the *Street and Park Tree Selection Guide 2016* and should be referred to when designing or planting any streetscape.

Hampton has a distinctive character dominated by natives and local indigenous species. Future plantings should focus on increasing the presence of indigenous species.

Planting types and locations in streets

1. Large canopy trees

A single large canopy tree provides greater benefits in terms of cooling, rainwater interception and other ecosystem services than multiple small trees totalling the same canopy extent. Prioritise the use of large canopy trees in wider nature strips or tree islands, where there will be low impact to adjacent infrastructure.

We recognise that there are restrictions where medium or small size trees would be more appropriate due to competing infrastructure. Understorey planting, or multiple tree plantings in these locations is also encouraged.

2. Constrained planting spaces

- a.) *Cut-outs*. Planting in cut-outs in the road or footpaths provides a useful alternative where there may be insufficient space on the nature strip. Suitability for planting in the road or footpath will depend on road or footpath width and other factors such as traffic volume and impact to on-street parking.
- b.) *Planting in road reserve*: Designing in-road tree pits where there is opportunity to plant trees in between on-street parking spaces, traffic islands and buffer areas like street corners.
- c.) *Narrow streets*: Narrow streets, including narrow footpaths and no nature strips, are best landscaped via tree planting within the parking lanes to either side, although this is partly limited by the need to maintain car parking spaces.

3. Roundabouts

Roundabouts will be considered as opportunities to plant canopy trees and understorey planting when appropriate. New plantings must not affect sight lines, safety or accessibility for larger vehicles. To ensure future planting is appropriate a Road Safety Audit will be completed before and after installation.

4. Boulevards

For the boulevards, consider inter-planting with large canopy trees and shrubs to enhance the existing canopy cover. Council will be working with DELWP and VicRoads to prepare a long-term boulevard strategy. Where possible the philosophy of establishing boulevards should extend to local streets.

5. Streets and powerlines

- a.) *Residential streets*. Low voltage overhead wires are present on one side of most residential streets. Where medians exist for large canopy tree planting, medium trees on the side with overhead constraints should be selected. Council will continue to investigate engineering and horticultural solutions to manage larger trees under powerlines.

- a.) *Streets with small nature strip and powerlines.* In streets that have small or very small nature strips, a smaller growing tree will be considered for the powerline side of the street. In those circumstances, the trees on both sides of the street should have similar foliage and form to provide a consistent theme for the street.
- b.) *Tree pruning.* In streets where footpath trees provide the only canopy, medium to large trees that can be effectively pruned around powerlines should be selected. Street and park tree selection for trees growing under powerlines will consider the species' tolerance for pruning. For example, a tree that has a natural branching habit and a good wound response to mechanical damage would be considered an appropriate tree for growing under powerlines.
- c.) *Underground powerlines.* Although overhead powerlines are typically more economical, they are susceptible to damage from windborne tree branches, debris, and high wind conditions from extreme weather.

The council will facilitate the negotiations between the residents and relevant authorities to support the undergrounding of powerlines (and other services) if there is sufficient interest in a street.

6. Planting patterns and species choice

Hampton's urban forest character is strongly connected to gum trees, and there will continue to be a higher population of gum trees in Hampton. In terms of opportunities to increase diversity in streets, kerb out stands, roundabouts and road ends should be considered as opportunities to plant species drawn from a wider palette that are unique to that location or intersection and provide visual interest. These areas should also be considered as opportunities to create landmark feature landscapes and to support understorey planting.

7. Important Facades

In streets with important public buildings or building that have heritage importance, deciduous trees should be given preference so that building façades are exposed over winter.

The convention of planting avenues, or consistent lines of a single species, can limit species diversity. However, avenue plantings are important to local character in many streets and open spaces. To balance these two conflicting pressures, it is important to identify ways to minimise the extent of homogeneous avenue planting while maintaining a strong design outcome.

8. Selection criteria for street trees

The following factors can be considered for selection of suitable street tree species:

- Relationship with local landscape character
 - garden character, surrounding streetscape
 - vegetation protection overlays, heritage values
 - maintain existing landscape character by selection of low fruiting cultivators, where possible
 - replacing difficult to replace existing species with species demonstrating similar characteristics, e.g. growth habit, foliage colour and size.

Ability to tolerate and thrive in a site's environmental conditions: species that have or can adapt to local conditions like climate, soil, coastal and salt tolerances, pests and diseases.

Possible future damage to infrastructure as assessed against identified current issues with footpaths, kerb and channel, roadways, private infrastructure and powerlines.

9. Permeable surfaces

Impermeable surfaces such as pavements, roofing and building coverage increase the risk of flooding in urban areas. Comparatively, permeable surfaces are made of porous materials that allow stormwater to flow through, which reduces the volume of stormwater runoff that enters the drainage

system. This helps improve water quality as it reduces the number of pollutants that enter waterways and habitats.

For new private residential development, at least 20% of the site should have surfaces that can absorb water such as lawns, garden beds or permeable paving. Council has developed the *Integrated Water Management Plan 2019–2039*, called 'Water for Bayside', to provide clear direction to deliver high priority integrated water management and water sensitive urban design (WSUD) activities. A key technique to improve water management is to increase permeability and incorporate WSUD into new developments and council projects.





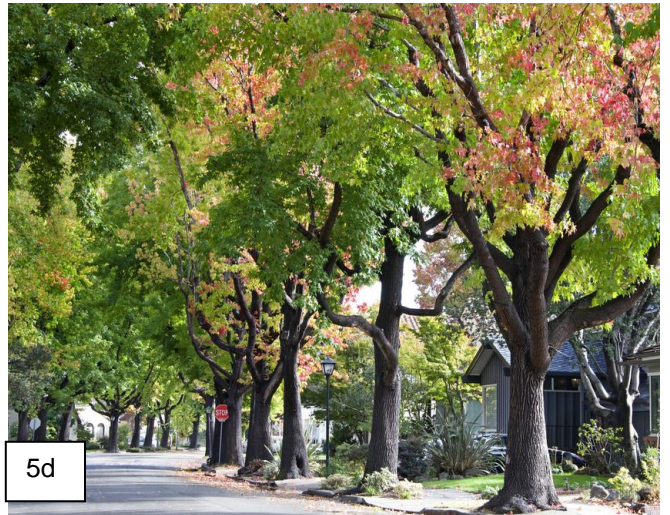
5a



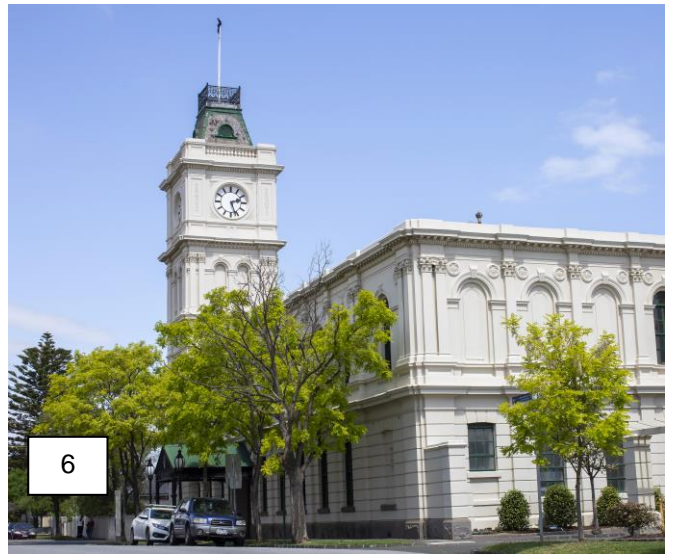
5c



5b



5d



6

Appendix 2: Case Studies

The following case studies showcase high-quality. A precinct's landscape helps define its character in much the same way as architecture or urban design because trees and other vegetation physically define a place. Landscapes are the setting for many everyday recreational and leisure activities and help forge a sense of connection to place.

1. Bolton Avenue

The following case study showcases an example of understory nature strip planting that combines a number of bright and sizeable plantings. This is an excellent case study in combining varying exotic plantings to facilitate habitats and contribute to evolving street character.



1 Bolton Avenue, Hampton

2. Bolton Avenue 2

This example would be more biodiverse with some Indigenous plantings such as Lomandra, native grasses and other medium sized bushes along the bare ground. Ideally, the box should not be based around the tree, it can impact the longterm health of the tree.



2 Bolton Avenue, Hampton

3. Bolton Avenue 3

This example uses grasses which can facilitate habitat and contribute to developing neighbourhood character. The *Lomandra* plantings are low maintenance and Indigenous to Bayside.



3 Bolton Avenue, Hampton

4. Bridge Street

The below examples from Bridge Street include Indigenous species such as *Correa alba*, a mix of native grasses, *Carpobrotus rossii* ground cover and *Acacia* species. These are excellent examples of diverse styles and types of Indigenous flora present in Bayside.



4 Bridge Street, Hampton

5. Village Zero – Sandringham

'Village Zero' is a community-driven initiative with the goal of regenerating the Sandringham Village Major Activity Centre through sustainable solutions.

The action group has identified seven areas of focus, these are:

1. Renewable Energy
2. Waste
3. Green Spaces
4. Transport
5. Water
6. Art
7. Culture

The relevant action to the Precinct Plans is Green Spaces.

This focus area aims to:

- Connect green and open spaces to surrounding pollinator corridors, to promote biodiversity and support local ecosystems. This could include planting native flowers and shrubs, and creating habitats for bees, butterflies, and birds. This includes investigating the viability of green infrastructure, such as creating green roofs, and vertical gardens for apartment buildings;
- Increase access to green and open spaces, maximising flexibility of spaces for multiple uses and users, in accordance with Bayside Council's "Open Spaces" policies. Prioritise accessibility for people living with disabilities, youth and the elderly in the design and development of green and open spaces. This could include incorporating features such as raised garden beds, wheelchair-accessible pathways, and age-appropriate playground equipment. Improved accessibility will interface with other infrastructure initiatives such as crossing improvements at Abbott Street, across Station Street, and Beach Road;
- Coordinate with the community to increase the uptake of Bayside Council's tree-planting commitment for nature strips;
- Increase community enjoyment of streets, open and green spaces through community building events and activities;
- Align with and enabling other partners in supporting and nurturing green spaces;
- Engage the community in the planning, design, and maintenance of green and open spaces. This could include activities such as community clean-ups, volunteer gardening days, and educational workshops;
- Create and connect community gardens and orchards, which allow for community members to grow their own produce and educate the community on sustainable food production and consumption.

Council will continue to assist the 'Village Zero' project and will support any future initiatives that focus on increasing vegetation cover in activity centres.

6. Green Line Project – Sandringham Train Line

The Green Line project is a community-driven proposal for a linear park that will follow along the Sandringham rail line from South Yarra Station to Gardenvale Station. The Port Phillip Emergency Climate Action Network (PECAN) developed the Green Line project in response to City of Port Phillip's Draft Public Open Space Strategy.

The Green Line project will connect existing open space and rehabilitate underutilised spaces to create a biodiverse urban green space that will improve pedestrian and cycling accessibility. Gardenvale Station is located along the border of the Bayside municipality and the project presents an opportunity to increase planting and tree canopy cover.

Bayside City Council supports this project and will advocate for the project to be extended along the remaining Sandringham rail corridor. Council will also advocate for increased open space connectivity along the Frankston railway line.

Appendix 3: Hampton Species Palette

Species Palette

The following species provided are of guidance only.

Eucalyptus, Pine and other species are key genera across Hampton, forming an important part of the character of the suburb's urban forest. Species from many other genera will also be planted to increase the diversity of tree species, with the aim to reduce the vulnerability of Hampton's urban forest. Of the 6 EVC Mosaics modelled within Bayside, one has been identified within Hampton, the Coastal Headland Scrub / Coast Banksia Woodland (919). If available, these species can be planted where soil conditions are suitable, in representation of the EVCs that were historically present within the suburb.

A high diversity of plant species improves the chance of local ecosystems to survive destructive events or processes such as weed and pest animal invasion and climate change. Planting of specific species will depend on the geographic and environmental conditions, as well as the surrounding neighborhood character.

When selecting tree and vegetation species for planting on Council-managed streets, parks and reserves, Council will consider existing infrastructure to minimise potential impact.

Bayside City Council utilises the Street and Park Tree Management Policy and the Street and Park Tree Selection Guide when planting in streets, parks, and reserves or as part of capital infrastructure projects.

The following list of Indigenous, native and exotic plants is provided as guidance only. The list is split into 8 categories:

- Large canopy trees
- Medium canopy trees
- Small canopy trees
- Medium to large shrubs
- Small shrubs
- Grasses & tussocks
- Groundcovers & wildflowers
- Climbers

Each list is accompanied by a key which categorises each plant based on its characteristics (Height and spread at maturity, Uses/traits, habitat, tolerances, sunlight, flowering period, flowering colours and EVC number if applicable).

Indigenous Plants

Council promotes the use of indigenous plants as they occur naturally within Bayside and have adapted to the conditions within the local environment (soil and climate) whilst also providing habitat and food for local birds, insects, and other native animals. There are a number of indigenous trees listed within the Street and Park Tree Selection Guide which are planted as part of Council's Annual Tree Planting Program.

Indigenous plants are the original flora, or plants that occur naturally, in a given location. Indigenous plants have adapted to the soils, topography and climate of the local area because they have evolved to the conditions within the local environment. Indigenous species also help to maintain the ecological balance of the local ecosystem, as plants and animals depend upon one another for their survival.

Native and Exotic Plants

Native species are plant species that did not historically originate within the bayside region but were extant in other regions within the Australian continent. Exotic species are those plants that have been introduced and are not native to Australia and therefore did not historically occur within Bayside.

Bayside's urban forest is a mix of native, indigenous, and exotic species. While priority is placed on increasing the use of indigenous species, the historic planting of exotic, native and indigenous species is a core element of the character in certain areas of Bayside.

The use of native and exotic plants in this list is encouraged in areas where it is considered to have a positive impact on the surrounding environment and neighbourhood. This is of relevance where the existing plant(s) enhances the neighbourhood character. In these areas replanting like for like is encouraged.

Council utilises native and exotic species as part of its annual planting program. To ensure long term resilience and increase survival rates, native and exotic species adapted to Bayside's forecast climate will be considered for planting. Council utilises the Street and Park Tree Selection Guide to inform the annual tree planting program.

Species Palette 1 – Large Trees

INDIGENOUS TO PROVIDENCE (Grown at nursery/within Bayside)		Uses/Traits key		Habitat Key		Tolerances										Flowering Months		Flower colours		E/D		Habitat		Uses/Traits							
INDIGENOUS (Grown Outside Bayside)		R - Robust and Hardy		H - Heath/Woodland		complete range										Jul-Oct.		Pale yellow/White		E		ADW		LM, S, R, Bird attracting, Hedging, Screening, Toxic or allergenic							
NATIVE TREES (From Australia)		LM - Low Maintenance		M - Moist/Closed forest		acid to neutral										Dec.		White		E		HA		LM, S, R, Windbreak, Erosion control, Robust, Structural, Attractive Bark, Bird-attracting, Aromatic							
EXOTIC (From outside Australia)		S - Shade		C - Coast - dune scrub & woodland		acid Low = suffers serious damage to death if exposed										Mar/Sep-Dec.		White		E		HA		LM, S, R, Fragrant flowers, Aromatic leaves, Bird-attracting							
Additional Species		Shade = FSH		D - Prefers dry, well drained soils & tolerates dryness once established.		Alkaline to neutral										Mar-Jun.		White		E		HW		LM, S, R, Attractive bark, Bird attracting, Aromatic leaves							
*PLEASE NOTE THE BELOW INFORMATION IS A GUIDE ONLY		Sh - Prefers or tolerates full shade		W - Prefers or tolerates moist soils, wetness, periodic inundation		E-Evegreen										Jan/Oct-Dec		White		E		HD		LM, S, R, Bird attracting, Aromatic leaves							
Use of any of the below species is preferred but not limited to these species		Sh - Prefers or tolerates full shade		A - Adaptable, growing well in most soil types		D-Deciduous										Mar-May		White		E		HCD		LM, S, R, Attractive bark, Bird attracting, Aromatic leaves							
Species capable of reaching 9m+ and canopy spreads greater than 8m+		EVC Ecological Vegetation Class										Tolerances										Flowering Months		Flower colours		E/D		Habitat		Uses/Traits	
BOTANICAL NAME	COMMON NAME	Mat. HEIGHT	Mat. CANOPY	Growth Rate	EVC	Sunlight	Wind	Salinity	Sea Spray	Drought	Waterlogging	Compaction	PH	Flowering Months	Flower colours	E/D	Habitat	Uses/Traits													
<i>Acacia melanoxylon</i>	Blackwood	12	8	Moderate	719, 3	SS-FS	Fair	Moderate	Moderate	Fair	High	Moderate	Acid	Jul-Oct.	Pale yellow/White	E	ADW	LM, S, R, Bird attracting, Hedging, Screening, Toxic or allergenic													
<i>Eucalyptus camaldulensis</i>	River Red Gum	20	15	Moderate	n/a	FS	High	High	Moderate	High	High	Fair	Complete Range	Dec.	White	E	HA	LM, S, R, Windbreak, Erosion control, Robust, Structural, Attractive Bark, Bird-attracting, Aromatic													
<i>Eucalyptus melliodora</i>	Yellow Box	16	12	Moderate	n/a	FS	High	Moderate	Moderate	High	Low	Low	Complete Range	Mar/Sep-Dec.	White	E	HA	LM, S, R, Fragrant flowers, Aromatic leaves, Bird-attracting													
<i>Eucalyptus ovata</i>	Swamp Gum	10	8	Moderate	707	FS	Moderate	Low	Moderate	Moderate	High	High	Acid	Mar-Jun.	White	E	HW	LM, S, R, Attractive bark, Bird attracting, Aromatic leaves													
<i>Eucalyptus radiata</i>	Narrow-leaved Peppermint	15	10	Moderate	892	FS	Moderate	Low	Moderate	High	Moderate	Moderate	Complete Range	Jan/Oct-Dec	White	E	HD	LM, S, R, Bird attracting, Aromatic leaves													
<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Manna Gum	15	12	Fast	919, 719, 892, 3	FS	Moderate	Low	Moderate	Moderate	Moderate	Fair	Acid to Neutral	Mar-May	White	E	HCD	LM, S, R, Attractive bark, Bird attracting, Aromatic leaves													
<i>Eucalyptus cephalocarpa</i>	Silver-leaved Stringybark	13	11	Moderate-slow	n/a	FS	Fair	Moderate	Moderate	High	Fair	Fair	Acid to Neutral	May-Jul.	Creamy-White/yellow	E	MW	R, LM, bird-attracting, aromatic leaves, shading, screening, cut flower, bush garden													
<i>Eucalyptus saxifolia</i> subsp. <i>connata</i>	Weeping Willow Myrtle	12	10	Moderate-slow	n/a	FS	Moderate	Moderate	Moderate	High	Moderate	High	Complete Range	May-Sep.	Creamy-White/yellow	E	MW	R, LM, attractive bark, bird attracting, aromatic leaves													
<i>Agonis flexuosa</i>	Smooth-barked Apple	12	12	Moderate-slow	n/a	PS-FS	Moderate	Fair	Fair	High	Low	Low	Acid to Neutral	Sep-Dec.	White	E	CA	Aromatic leaves, colourful foliage, screening, shading, bush garden													
<i>Anagallis foeniculifera</i>	Rough Barked Apple	15	12	Moderate	n/a	FS	Fair	Moderate	High	High	Low	Fair	Acid to Neutral	Dec.	Bright Cream/White	E	CHD	LM, S, R, Attractive Bark													
<i>Anagallis foeniculifera</i>	Lemon-scented	20	12	Fast	n/a	FS	Moderate	Low	Moderate	Fair	Moderate	Moderate	Acid to Neutral	Sep-Dec.	Bright Cream/White	E	HMW	LM, S, R													
<i>Corymbia citriodora</i> (native)	Yellow Bloodwood	15	8	Moderate	n/a	FS	Fair	Moderate	Fair	High	Moderate	Moderate	Acid	Nov-Dec.	Bright White/Cream	E	HA	LM, S, R, Bird attracting													
<i>Corymbia ficifolia</i>	Red-flowering Gum	15	12	Slow-Moderate	n/a	FS	Fair	Moderate	Fair	High	Low	Low	Complete Range	Mar	Bright Red/Orange	E	DW	LM, S, R, Bird attracting, Screening													
<i>Corymbia maculata</i>	Spotted Gum	18	8	Fast	n/a	FS	Moderate	Moderate	Fair	High	High	High	Complete Range	Apr-Jun.	White	E	DA	LM, S, R, Attractive Bark, Bird attracting, Street tree													
<i>Eucalyptus baxteri</i>	Brown Stringybark	20	10	Moderate-Fast	n/a	FS	Moderate	Moderate	Moderate	Moderate	Low	Moderate	Acid to Neutral		White																
<i>Eucalyptus cinerea</i>	Mealy Stringybark	12	10	Moderate-slow	n/a	FS	Fair	Fair	Moderate	High	Fair	Fair	Acid to Neutral	May-Jul.	White	E	HD	R, LM, bird-attracting, aromatic leaves, shading, screening, cut flower, bush garden													
<i>Eucalyptus cornuta</i>	Yate	10	10	Moderate	n/a	FS	Fair	Fair	Fair	Fair	Fair	Unknown	Acid to Neutral	Sep-Nov.	Yellow	E	CD	R, LM, attractive bark, bird-attracting, aromatic leaves, screening, shading, bush garden													
<i>Eucalyptus largiflorens</i>	Black Box	14	12	Slow	n/a	FS	High	High	Fair	High	Moderate	Unknown	Complete Range	All	White	E	MW	Screening, shelter													
<i>Eucalyptus mannifera</i>	Red Spotted Gum	12	10	Moderate-fast	n/a	FS	Moderate	Moderate	Moderate	High	Moderate	Moderate	Complete Range	Apr-Jun.	White	E	HD	R, LM, attractive bark, bird-attracting, aromatic leaves, shading, accent tree, bush garden													
<i>Eucalyptus microcarpa</i>	Grey Box	15	10	Moderate	n/a	FS	High	Moderate	Moderate	High	Fair	Fair	Complete Range	Feb-Jul.	White	E	HD	LM, S, R, Bird attracting, Aromatic leaves													
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Pepper	14	12	Moderate	n/a	FS	Moderate	Moderate	Moderate	Fair	Fair	Fair	Acid	Apr-May-Sep.	Creamy-White/White	E	HD	attractive bark, foliage interest, bird-attracting, shading, bush garden, aromatic leaves													
<i>Eucalyptus polyanthemos</i> subsp. <i>vestita</i>	Red Box	10	8	Moderate	n/a	FS	High	Low	Moderate	High	Moderate	Moderate	Complete Range	Sep-Nov.	White	E	AW	S, R, Interesting Silver Foliage, Attractive bark, Bird attracting, Aromatic leaves													
<i>Eucalyptus rubida</i>	Candlebark Gum	9	9	Fast	n/a	FS	High	Low	Low	Fair	Moderate	Low	Complete Range	Nov-Feb.	White	E	DA	S, Feature for Large Gardens, Interesting Bark, Fauna Attracting													
<i>Eucalyptus saligna</i>	Sydney Blue Gum	10	15	Very Fast	n/a	FS	Fair	Low	Fair	Fair	Moderate	Low	Complete Range	Jan-Apr.	White	E	MW	LM, S, R, Attractive Bark, Bird attracting													
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	12	10	Fast	n/a	FS	Moderate	Moderate	Moderate	High	Moderate	Unknown	Acid to Neutral	Dec.	White	E	HD	attractive bark and foliage, bird-attracting, aromatic, shading, accent tree, bush garden													
<i>Eucalyptus sideroxylon</i>	Red Ironbark	15	8	Moderate	n/a	FS	High	Low	Moderate	High	Moderate	Moderate	Complete Range	May-Aug.	Red or Pink	E	DH	LM, S, R, Attractive bark, Bird attracting, Winter interest, Aromatic leaves, Screening, Accent													
<i>Eucalyptus tereticornis</i>	Forest red gum	15	12	Fast	n/a	FS	Low	High	High	High	Moderate	Low	Acid to Neutral	Mar-May/June-Nov.	White	E	CW	S, Sheltering, Ornamental, Wildlife attracting, Large flowering period													
<i>Ficus macrophylla</i>	Moreton Bay Fig	60	10	Fast	n/a	FS	High	Moderate	High	High	Moderate	High	Complete Range	Sept-April	reddish purple fruit	E	MCA	R, LM Attracts seed eating birds and bats.													
<i>Ficus rubiginosa</i>	Port Jackson Fig	10	10	Moderate	n/a	FS-PS	Moderate	Moderate	Moderate	Moderate	Low	Moderate	Complete Range	Sep-Dec.	Yellow fruit over summer	E	C,D,A	C,A, Feature tree. Fruit eaten by birds, bats and flying foxes													
<i>Grevillea robusta</i>	Silky Oak	20	15	Fast	n/a	FS	Moderate	High	Moderate	Moderate	Low	Low	Complete Range	Nov-	Orange-Red	E	D	C,D,A, Important source of food for nectar feeding birds and fruit bats and bees													
<i>Lophostemon confertus</i>	Brush Box	13	12	Moderate-fast	n/a	FS	Moderate	Moderate	Moderate	Fair	Moderate	Fair	Acid	Sep-Dec.	White	E	CA	R, LM, attractive bark, shading, street tree, bush garden													
<i>Wollemia nobilis</i>	Wollemi Pine	20	10	Fast	n/a	SS-FS	Fair	Low	Low	Low	Low	Low	Acid	N/A	Cones	E	MW	F, Architectural form, foliage interest, Accent tree, Container													
<i>Arcauria heterophylla</i>	Norfolk Island Pine	20	15	Fast	n/a	FS	High	Fair	High	Fair	Moderate	Fair	Complete Range	N/A	Cones	E	CD	LM, R, Architectural form, Accent tree, Contained													
<i>Cedrus deodara</i>	Deodar Cedar	18	15	Moderate-Fast	n/a	FS	Moderate	Moderate	Moderate	Moderate	Moderate	Low	Complete Range	N/A	Cones	E	HD	S, Architectural form, Accent tree													
<i>Fraxinus raywoodii</i>	Claret Ash	12	9	Moderate-fast	n/a	FS	Moderate	Moderate	Moderate	High	Moderate	High	Complete Range	Nov-Dec.	Green	D	HW	autumn colour, cloudfull foliage, shading, accent tree													
<i>Fraxinus pennsylvanica</i>	Green Ash	12	10	Moderate	n/a	FS	High	Moderate	High	High	High	Unknown	Complete Range	Sep-Nov.	Green	D	MW	Street tree, Good form, adaptable to site													
<i>Glaucostoma scabra</i>	Honey Locust	12	12	Fast	n/a	FS	Moderate	Fair	Moderate	Fair	Low	High	Complete Range	Oct-Nov.	Greenish-yellow	D	HD	colourful foliage, attractive bark, autumn colour, allergenic, spiny													
<i>Liquidambar styraciflua</i>	American Sweetgum	15	10	Moderate-Fast	n/a	SS-FS	Moderate	Low	Moderate	Moderate	High	Fair	Acid to Neutral	Oct.	Greenish-white	D	MW	aromatic leaves, autumn colour, shading, street tree, deciduous													
<i>Magnolia grandiflora</i>	Bull Bay	12	12	Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	Moderate	Low	Complete Range	Nov-Dec.	Creamy-white	E	MW	Interesting foliage, fragrant flowers, screening, shading													
<i>Platanus acerifolia</i>	London Plane	16	15	Moderate-Fast	n/a	FS	Moderate	Low	Moderate	Fair	Fair	High	Complete Range	Sept.	Green	D	HW	attractive bark, screening, shading, street tree, deciduous													
<i>Quercus coccinea</i>	Scarlet Oak	13	12	Moderate	n/a	PS-FS	Moderate	Moderate	Moderate	Moderate	Moderate	Unknown	Acid	Sep.	Yellow-Green	D	HD	autumn colour, screening, shading, green flowers, red leaves													
<i>Quercus palustris</i>	Pin Oak	15	12	Moderate-Fast	n/a	SS-FS	Moderate	Low	Moderate	Moderate	High	High	Complete Range	Sept.	Yellowish-Green	D	MW	S, Autumn colour, Interesting foliage, Screening													
<i>Quercus rubra</i>	Northern Red Oak	14	12	Moderate	n/a	PS-FS	Moderate	High	Moderate	Moderate	High	Moderate	Complete Range	Sep.	Reddish-Green	D	HD	autumn colour, shading, screening													
<i>Schinus molle</i>	American Pepper	12	12	Moderate-fast	n/a	FS	Fair	Low	Moderate	High	Moderate	Moderate	Complete Range	Sep-Dec.	White/yellow	E	CD	Aromatic leaves, colourful fruit, interesting foliage, attractive bark													
<i>Sequoia sempervirens</i>	Coast Redwood	20	10	Moderate	n/a	SS-FS	Moderate	Low	Moderate	Moderate	High	Low	Acid	N/A	Cones, Yellow/Brown/Green	E	MW	F, Accent tree, Architectural form													
<i>Tilia cordata</i> cultivars	Small-leaved Linden	15	10	Moderate	n/a	FS	Moderate	Moderate	Moderate	Low	Moderate	Moderate	Complete Range	Nov-Dec.	Yellowish White	D	HW	S, Fragrant flowers, autumn colour, Architectural form, Accent tree													
<i>Ulmus glabra</i> 'Lutescens'	Golden Wych Elm	12	12	Moderate	n/a	FS	Moderate	Moderate	Moderate	Fair	Fair	Unknown	Complete Range	Sep.	Brown	D	HW	colourful foliage, shading, accent tree													
<i>Ulmus parvifolia</i>	Chinese Elm or Lacebark	12	12	Moderate-fast	n/a	PS-FS	High	Moderate	Fair	Fair	Moderate	Moderate	Complete Range	Mar-May.	Green	D	HW	attractive bark, screening, shading, street tree													
<i>Ulmus procera</i>	English Elm	16	12	Moderate	n/a	FS	Moderate	Moderate	Moderate	Moderate	High	High	Complete Range	Sep.	Reddish-Purple	D	HD	S, Autumn colour, Architectural form													
<i>Zelkova serrata</i>	Japanese Zelkova	14	12	Moderate-fast	n/a	FS	Moderate	Moderate	Moderate	Moderate	Moderate	Fair	Complete Range	Sep-Nov.	Yellow-Green	D	HW	attractive bark, autumn colour, shading													

Species Palette 2 – Medium Trees

INDIGENOUS TO PROVIDENCE (Grown at nursery/within Bayside)		Uses/Traits key		Habitat Key		Tolerances										Flowering Months		Flower colours		E/D		Habitat		Uses/Traits				
INDIGENOUS (Grown Outside Bayside)		R - Robust and Hardy		H - Heath/Woodland		High = tolerates well without damage.										Sep-Nov.		Pale yellow or Cream		E		MW		R, LM, bird-attracting, screening, shading, bush garden, fragrant flowers				
NATIVE TREES (From Australia)		LM - Low Maintenance		M - Moist/Closed forest		complete range Fair= can tolerate medium levels										Apr-May.		Red		E		CA		R, LM, foliage interest, screening, shading, bush garden, bird-attracting				
EXOTIC (From outside Australia)		S - Shade		C - Coast - dune scrub & woodland		acid to neutral Moderate = tolerates somewhat with some effects in low levels										Mar-Dec.		Lemon yellow to Red		E		CD		R, bird-attracting, foliage interest, screening, shading, Street tree				
Additional Species		F - Feature		D - Prefers dry, well drained soils & tolerates dryness once established.		acid Low = suffers serious damage to death if exposed										Mar-Jun.		Creamy-White		E		MW		LM, S, R, Attractive bark, bird-attracting, aromatic				
*PLEASE NOTE THE BELOW INFORMATION IS A GUIDE ONLY		Sh - Prefers or tolerates full shade		W - Prefers or tolerates moist soils, wetness, periodic inundation		Unknown										Aug-Nov.		White or Cream		E		HD		LM, S, R, attractive bark and foliage, bird-attracting, Aromatic, Accent tree				
Use of any of the below species is preferred but not limited to these species		A - Adaptable, growing well in most soil types				E-Evegreen																Please contact your local nursery or a horticultural professional for further advice.						
						D=Deciduous																All indigenous plants provide habitat & food for local birds, insects & animals.						
Species that grow to a height greater than 5m, and canopy greater than 6m ² at maturity		EVC= Ecological Vegetation Class										Tolerances																
BOTANICAL NAME	COMMON NAME	Mat. HEIGHT	Mat. CANOPY	Growth Rate	EVC	Sunlight	Wind	Salinity	Sea Spray	Drought	Waterlogging	Compaction	PH	Flowering Months	Flower colours	E/D	Habitat	Uses/Traits										
<i>Acacia meirasmii</i>	Black Wattle	9	6	Fast	719, 3	FS	High	Low	Moderate	High	Fair	High	Acid	Sep-Nov.	Pale yellow or Cream	E	MW	R, LM, bird-attracting, screening, shading, bush garden, fragrant flowers										
<i>Allocasuarina littoralis</i>	Black She-oak	9	6	Slow	719, 3	PS-FS	High	High	High	High	Moderate	Moderate	Complete range	Apr-May.	Red	E	CA	R, LM, foliage interest, screening, shading, bush garden, bird-attracting										
<i>Allocasuarina verticillata</i>	Drooping She-oak	9	6	Moderate-slow	n/a	FS	High	High	High	High	Fair	Fair	Complete range	Mar-Dec.	Red	E	HD	architectural form, foliage interest, bird-attracting, screening, UPL, street tree, bush garden										
<i>Banksia integrifolia</i>	Coast Banksia	10	6	Moderate	919, 921	FS	High	High	High	High	Moderate	Moderate	Complete range	Mar-Sep.	Lemon yellow to Red	E	CD	R, bird-attracting, foliage interest, screening, shading, Street tree										
<i>Eucalyptus ovata</i>	Swamp Paperbark	10	6	Moderate	707	FS	Moderate	Low	Moderate	Moderate	High	High	Acid	Mar-Jun.	Creamy-White	E	MW	LM, S, R, Attractive bark, bird-attracting, aromatic										
<i>Eucalyptus pauciflora</i>	Snow Gum	10	7	Moderate-fast	n/a	FS	High	Moderate	Moderate	Moderate	Fair	Moderate	Acid	Aug-Nov.	White or Cream	E	HD	LM, S, R, attractive bark and foliage, bird-attracting, Aromatic, Accent tree										
<i>Allocasuarina torulosa</i>	Rose She-oak	10	7	Fast	n/a	FS	High	High	Fair	Fair	Moderate	High	Acid to Neutral	Mar-Aug.	Red and brown	E	HD	Wind break, unique sound, screening, windbreak, decorative fruit										
<i>Brachychiton populneus (Native)</i>	Kurrajong	15	6	Fast	n/a	FS	High	Moderate	Moderate	High	Low	Low	Complete Range	Sep-April	White, red, pink	E	C,D	R,F, LM, Attracts bees, seed eating birds, butterflies, insects.										
<i>Brachychiton rupestris (Native)</i>	Queensland bottle tree	15	6	Slow	n/a	FS	High	Moderate	Moderate	Moderate	Low	Low	Complete Range	Oct-Dec	Cream	D	C,D	R,LM,F, Bird attracting flowers.										
<i>Brachychiton acerifolius</i>	Illawarra flame tree	12	6	Fast	n/a	FS	Moderate	Low	Low	Moderate	Low	Low	Acid	Sep-Dec.	Red	D	DW	Attracts bees, nectar eating birds, butterflies, other insect										
<i>Melia azedarach (Native)</i>	White cedar	10	6	Fast	n/a	FS	Moderate	High	High	High	Moderate	Moderate	Complete range	Sep-Nov.	Lilac flowers	D	CDWA	R,LM,S,F, Bird and bats are attracted to the berries.										
<i>Syzygium paniculatum (Native)</i>	Brush cherry	15	8	Voderate to Fast	n/a	FS-PS	Low	Moderate	Moderate	High	Moderate	High	Acid to Neutral	Nov-Jan.	White	E	M,C,A	LM, S, R, Bird and bee attrafting										
<i>Syzygium australe (native)</i>	Lilly Pilly	10	6	Fast	n/a	FS	High	High	Low	Moderate	Low	Low	Complete Range	Sep-Oct	White/cream	E	WA	RL Flowers and berries attracts birds and bats.										
<i>Acer rubrum "Brandywine"</i>	Maple, Autumn Flame	9	6	Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	High	Moderate	Acid	Sep-Oct.	Bright Red	D	MW	S, Autumn Colour - Orange to purple-red, foliage interest, Ornamental										
<i>Acer rubrum "October Glory"</i>	Maple, Lipstick Tree	12	9	Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	High	Moderate	Acid	Sep-Oct.	Red or orange	D	MW	S, Foliage interest, Ornamental, Autumn colours - *superior if grown in full sun										
<i>Acer x freemanii</i>	Armstrong	12	6	Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	High	Moderate	Acid	Sep-Oct.	Red	D	MW	S, Autumn Colour, foliage interest, Ornamental										
<i>Catalpa bignonioides</i>	Indian Bean Tree	10	7	Fast	n/a	FS	Low	Low	Low	Fair	Moderate	Unknown	Complete range	Nov-Dec.	White	D	MW	interesting foliage, autumn colour, shading, accent										
<i>Celtis occidentalis</i>	Hackberry	8	8	Moderate	n/a	FS	Moderate	Moderate	Moderate	Moderate	Moderate	Unknown	Complete range	Sep-Nov.	Yellowish Green	D	HD	S, Autumn colour, Attractive bark										
<i>Fraxinus excelsior "Aurea"</i>	Golden Ash	10	7	Moderate	n/a	FS	Moderate	Low	Moderate	Moderate	High	High	Complete range	Sep-Oct.	Green	D	HW	LM, S, R, Colourful foliage, Autumn colour										
<i>Jacaranda mimosifolia</i>	Jacaranda	12	8	Slow	n/a	PS-FS	Moderate	Low	Moderate	Moderate	Low	Fair	Complete range	Oct-Nov.	bluish-purple	D	CD	interesting and aesehic foliage, blue flowers, shading, accent tree										
<i>Metrosideros excelsa</i>	Pohutukawa	10	8	Moderate-slow	n/a	FS	High	Moderate	High	High	Moderate	Moderate	Complete range	Dec.	Crimson and yellow	E	CA	R, LM, attractive bark, bird-attracting, hedging, screening, shading										
<i>Pyrus calleryana</i> and other cultivars	Flowering Pear	10	4-8	Fast	n/a	PS-FS	Moderate	Low	Moderate	Fair	High	High	Complete range	Sep-Oct.	White	D	HW	S, Screening, Street tree, Autumn colour										

Species Palette 3 – Small Tree

INDIGENOUS TO PROVIDENCE (Grown at nursery/within Bayside)		INDIGENOUS (Grown Outside Bayside)		UPL=Under Power Lines		Uses/Traits Key		Habitat Key		Tolerances		Evergreen/Deciduous		Uses/Traits				
NATIVE TREES (From Australia)		Full Sun = FS		LM - Low Maintenance		R - Robust and Hardy		H - Heath/Woodland		High = tolerates well without damage.		Flowering Months		Flower colours				
EXOTIC (From outside Australia)		Part Shade=PS		S - Shade		LM - Low Maintenance		M - Moist/Closed forest		complete range		Flowering Months		Flower colours				
Additional Species		Shade = FSH		F - Feature		C - Coast - dune scrub & woodland		D - Prefers dry, well drained soils & tolerates dryness once established.		acid to neutral		Flowering Months		Flower colours				
*PLEASE NOTE THE BELOW INFORMATION IS A GUIDE ONLY		Use of any of the below species is preferred but not limited to these species		Sh - Prefers or tolerates full shade		S - Shade		W - Prefers or tolerates moist soils & wetness, periodic inundation		acid Low = suffers serious damage to death if exposed		Flowering Months		Flower colours				
SMALL CANOPY TREES - Species that reach 6-8metres in height and a spread of 4m @ maturity		EVC= Ecological Vegetation Class		Wind		Salinity		Sea Spray		Drought		Waterlogging		Compaction				
BOTANICAL NAME	COMMON NAME	Max. HEIGHT	Mat. CANOPY	Growth Rate	EVC	Sunlight	Wind	Salinity	Sea Spray	Drought	Waterlogging	Compaction	SOIL PH	Flowering Months	Flower colours	E/D	Habitat	Uses/Traits
<i>Acacia implexa</i>	Lightwood	8	4	Moderate	n/a	PS-FS	Fair	Moderate	Moderate	High	Fair	Fair	Acid	Dec	Cream-white	E	HDA	R, LM, S, Bird-attracting, attractive bark, screening.
<i>Lepidospermum laevigatum</i>	Coast Tea-tree	6	3	Moderate	919, 921	FS	High	High	High	Moderate	Moderate	Moderate	Complete Range	Aug-Oct	White	E	CDA	R, LM, Bird-attracting, hedging, screening
<i>Bursaria spinosa</i>	Sweet Bursaria	6	3	Moderate-Fast	n/a	PS-FS	Fair	Fair	Fair	High	Fair	Fair	Acid to Neutral	Mar-Dec	Cream-white	E	FDA	R, LM, Fragrant, thorns, hedging, screening, UPL
<i>Banksia marginata</i>	Silver Banksia	5	3	Moderate	719, 892, 3	PS-FS	High	High	Fair	High	Fair	Moderate	Acid to Neutral	Mar, May-Nov.	Pale Yellow	E	HCDA	R, LM, S, Bird-attracting, Winter features, Screening, UPL
<i>Melaleuca squarrosa</i>	Scented Paperbark	3	1.5	Moderate	n/a	PS-FS	High	Moderate	Fair	Moderate	High	High	Complete range	Sep-Dec.	Cream-White	E	HMW	R, LM, S, Bird-attracting, Fragrant, screen, UPL, Ornament pond
<i>Acacia pendula</i>	Weeping Myall	6	3	Slow-Moderate	n/a	FS	High	Low	High	Moderate	Moderate	Fair	Complete range	May, Jul-Oct.	Yellow/Creamy white	E	CD	R, LM, Fragrant, thorns, hedging, screening, UPL
<i>Angophora hispida (Native)</i>	Dwarf apple gum	7	5	Moderate	n/a	FS	High	High	High	Moderate	Low	Low	Acid - neutral	Sep-Dec	Cream-White	E	CDA	R, LM, F, Attracts honey eaters and other nectar eating birds
<i>Banksia grandis</i>	Bull Banksia	8	4	Moderate	n/a	FS	High	High	High	High	Low	Low	Mild acidic to Mild alkaline		Crème, Yellow	E		
<i>Banksia serrata</i>	Saw Banksia	5	5	Slow	n/a	PS-FS	High	High	High	High	Moderate	Moderate	Mild acidic to Mild alkaline	Mar, May, Aug-Dec.	Yellow-Creamy green	E	MW	R, LM, S, Bird-attracting, Winter features, Screening, UPL
<i>Callistemon viminalis (native)</i>	Weeping Callistemon	4	4	Fast	n/a	FS-PS	Moderate	Moderate	Moderate	High	High	Moderate	Complete range	Sep-Oct.	Red	E	WA	R, F, Attractive new foliage, showy bird attractant flowers
<i>Cupaniopsis anacardioides (native)</i>	Tuckeroo	7	4	Fast	n/a	FS-PS	Moderate	High	High	Moderate	Low	Low	Complete range	Sep-Oct.	White	E	DA	R, LM, bird attractant
<i>Eucalyptus viridis</i>	Green mallee	8	4	Slow-Moderate	n/a	FS	Moderate	Moderate	Unknown	High	Moderate	Moderate	Mild acidic to Mild alkaline	Dec-Mar	White	E	CDA	R, LM, attractive small eucalypt, attracts bees and nectar eating birds.
<i>Gouiera parviflora (native)</i>	Wilga	8	6	Slow	n/a	FS	High	High	Moderate	High	Low	Low	Alkaline	June-Nov	White	E	DA	R, LM, ornamental, hardy species that attracts birds, butterflies, lady beetles.
<i>Hakea spp. (native)</i>	Hakea	6	4	Moderate to Fast	n/a	FS	Moderate	Moderate	Moderate	High	Low	Moderate	Acid	May, Jul-Oct.	various	E	CD	R, F, bird and butterfly attracting, cockatoos, iconic Australian native
<i>Hymenoparum flavum (Native)</i>	Native frangipani	8	4	Slow - Moderate	n/a	FS-PS	Moderate	Low	Moderate	High	Low	Low	Acid - neutral	March to July	Blue-black-edible fruit	E	MW	R, bird attracting, screening, decorative fruit, foliage used for flower arranging
<i>Melaleuca ericifolia</i>	Melaleuca	5	2	Moderate	n/a	FS-PS	High	Moderate	Moderate	High	High	Moderate	Acid - neutral	Aug-Nov	Cream	E		
<i>Stenocarpus sinuatus</i>	Firewheel tree	8	5	Slow	n/a	FS	Low	Moderate	Low	High	Moderate	Low	Acid	Sep	Orange, Red	E	W	L, M, F Summer flowering tree that provides nectar and shelter for birds
<i>Taxandria juniperina (native)</i>	Native cedar	7	4	Fast	n/a	PS	High	Moderate	Moderate	Moderate	Low	Moderate	Complete range	March-June	White	E	C, A	R, LM Aromatic foliage, attracts insect eating birds.
<i>Tristania lourina</i>	Kanooka, Water gum	5	5	Slow-Moderate	n/a	PS-FS	Moderate	Low	Moderate	Fair	High	High	Acid-Neutral	Dec.	Yellow	E	MW	R, LM, aesthetic, bird-attracting, under powerline, shading, screening
<i>Waterhouseia floribunda (native)</i>	Weeping lilypill	6	4	Moderate to Fast	n/a	FS-PS	Low	Moderate	Moderate	High	Moderate	High	Acid to Neutral	Nov-Jan.	White	E	M, C, A	LM, S, R, Bird and bee attracting
<i>Acer campestre</i>	Field Maple	7	6	Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	High	Moderate	Acid	Sep-Oct.	yellow-green	D	MW	S, Autumn Colour, foliage interest, Ornamental
<i>Acer negundo</i>	Flamingo	5	4	Slow-Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	High	Moderate	Acid	Sep-Oct.	yellow-green	D	MW	S, Autumn Colour, foliage interest, Ornamental
<i>Acer palmatum 'Atropurpureum'</i>	Japanese Maple	4	3	Slow-Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	High	Moderate	Acid	Sep-Oct.	Red	D	MW	S, Autumn Colour, foliage interest, Ornamental
<i>Acer rubrum 'Bowhall'</i>	Red Maple	8	4	Moderate	n/a	PS-FS	Moderate	Low	Moderate	Moderate	High	Moderate	Acid	Sep-Oct.	Pale Orange	D	MW	S, Autumn Colour, foliage interest, Ornamental
<i>Kalmata olive</i>	Olive	6	3	Slow-Moderate	n/a	FS	High	Fair	High	Fair	Fair	Moderate	Complete range	Sep-Nov.	White	E	DA	R, LM
<i>Keeluteria paniculata</i>	Golden Rain Tree	8	8	Slow	n/a	PS-FS	Moderate	Fair	Moderate	Fair	Moderate	Fair	Complete range	Nov-Jan.	Bright yellow	D	D	R, LM, F
<i>Lagerstræmia indica</i>	Crepe Myrtle	6	7	Moderate	n/a	FS	Low	Moderate	Moderate	Fair	Low	Low	Acid-Neutral	Mar-Apr.	Pink/Purple/White	D	CD	R, LM, Sh, F
<i>Olea europæa subsp. europæa</i>	Olive	8	6	Slow-Moderate	n/a	FS	High	Fair	High	Fair	Fair	Moderate	Complete range	Sep-Nov.	Creamy white	E	DA	R, LM
<i>Photinia robusta</i>	Photinia	15	4	Slow-Moderate	n/a	FS	High	Moderate	Moderate	High	Low	Low	Complete range	Oct-Nov	White	E	C, D, A	R, LM, S, F, Bird attractant
<i>Rhododendron arboreum</i>	Rhododendron	12	4	Moderate	n/a	PS	Moderate	Low	Low	Low	Low	Low	Acid	June-Nov	Various	E	WM	Grown for showy flowers, All parts of the Rhododendron are considered toxic.

Species Palette 4 – Medium to Large

INDIGENOUS TO PROVIDENCE (Grown at nursery/within Bayside)		Uses/Traits key		Habitat Key		Tolerances		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
INDIGENOUS (Grown Outside Bayside)		R - Robust and Hardy		H - Heath/Woodland		Drought		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
NATIVE TREES (From Australia)		LM - Low Maintenance		M - Moist/Closed Forest		Waterlogging		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
EXOTIC (From outside Australia)		S - Shade		C - Coast - dune scrub & woodland		Compaction		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
Additional Species		F - Feature		D - Prefers dry, well drained soils & tolerates dryness once established.		Unknown		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
PLEASE NOTE THE BELOW INFORMATION IS A GUIDE ONLY		Sh - Prefers or tolerates full shade		W - Prefers or tolerates moist soils, wetness, periodic inundation		Alkaline		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
Species that reach 2-5 metres in height		Sh - Prefers or tolerates full shade		A - Adaptable, growing well in most soil types		Unknown		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
MEDIUM TO LARGE SHRUBS		Sh - Prefers or tolerates full shade		A - Adaptable, growing well in most soil types		Unknown		pH Range		Flowering period		Flower colours		Evergreen/Deciduous		Habitat		Uses/Traits	
BOTANICAL NAME	COMMON NAME	Mat. HEIGHT	Mat. CANOPY	Growth Rate	EVC	Sunlight	Wind	Salinity	Sea spray	Drought	Waterlogging	Compaction	pH Range	Flowering period	Flower colours	E/D	Habitat	Uses/Traits	
<i>Acacia longifolia</i> subsp. <i>sophorae</i>	Coast Wattle	4	4	Very Fast	n/a	PS-FS	High	High	High	High	Moderate	Moderate	Complete	Jun-Oct	Pale Yellow	E	CW	R, LM, A, Bird-attracting, winter interest, screening, UPL	
<i>Acacia oxycedrus</i>	Spike Wattle	4	3	Moderate	n/a	PS-FS	High	Moderate	Fair	Fair	High	Moderate	Acid-Neutral	Jul-Oct	Bright Yellow	E	HWD	R, LM, A, bird-attracting, Winter features, Screening, foliage interest	
<i>Acacia paradoxa</i>	Hedge Wattle	3	2	Moderate	719	PS-FS	High	Low	Moderate	Fair	Fair	High	Acid-Neutral	Aug	Bright Yellow	E	HCD	A, bird-attracting, winter features, spiny or thorny	
<i>Acacia stricta</i>	Hop Wattle	4	2	Fast	n/a	PS-FS	High	Moderate	Fair	Fair	Moderate	Low	Acid-Neutral	May-Oct	Pale Yellow	E	HCMW	R, LM, A, Sh, architectural form, bird attracting, Screening, UPL	
<i>Alyxia buxifolia</i>	Sea Box	2	2	Slow	n/a	PS-FS	High	High	Fair	Fair	Moderate	Unknown	Complete	Mar, Oct-Dec	Orange to White cream at tip	E	HCD	Colourful fruit, allergenic, Screening, Hedging	
<i>Cassinia longifolia</i>	Long-leaf Cassinia	3	2	Fast	n/a	PS-FS	Moderate	Moderate	Moderate	Moderate	Fair	Moderate	Acid	Nov-Dec	White	E	HMDW	Sh, Aromatic leaves, Screening, Under powerlines	
<i>Exocarpos cupressiformis</i>	Cherry Ballart	4	3	Slow-Moderate	719, 3	PS-FS	Moderate	Moderate	Moderate	High	Moderate	Unknown	Acid-Neutral	n/a	n/a	E	HD	Screening, Under powerlines, interesting foliage, colourful	
<i>Cassinia aculeata</i>	Common Cassinia	2	1	Moderate	719, 3	PS	Moderate	Low	Moderate	Fair	Fair	Unknown	Complete	Nov-Dec	Creamy white/white	E	HD	A, Screening, Aromatic leaves	
<i>Indigofera australis</i>	Austral Indigo	2	1.5	Fast	n/a	PS-FS	Moderate	High	Moderate	Fair	Moderate	Unknown	Acid-Neutral	Aug, Oct-Dec	Pinkish/Soft Purples	E	HMW	A, Interesting foliage, allergenic, Pink/Purple flowers, Screening, Shrub border	
<i>Kunzea leptospermoides</i>	Yarra Burgan	3	2	Moderate	n/a	PS-FS	Moderate	Moderate	Low	High	Low	Low	Complete	Nov-Feb	White	E	HWRI	A, R, Screening, Bird/Butterfly attracting	
<i>Leptospermum continentale</i>	Prickly Tea-tree	3	2	Moderate	719, 892, 707, 3	PS-FS	High	High	High	Fair	Fair	Unknown	Acid	Oct-Dec	White, rarely pale pink	E	HCW	A, Attractive Bark, Bird-Attracting, Screening	
<i>Leucopogon parviflorus</i>	Coast Beard-heath	3	2	Slow	919, 921	PS-FS	High	High	High	High	Low	Unknown	Complete	Jul-Nov	White	E	HCDW	Edible, Hedging, Screening	
<i>Myoporum insulare</i>	Common Boobialla	5	3	Moderate	n/a	PS-FS	High	High	High	High	Fair	Fair	Complete	Jul-Oct	White, Occasionally pale pink	E	CD	R, LM, A, bird-attracting, attractive bark, allergenic, hedging, screening, UPL, Shade	
<i>Olearia axillaris</i>	Coast Daisy-bush	2	2	Moderate	n/a	PS-FS	High	High	High	High	Moderate	Unknown	Acid	Mar-Jul, Nov-Dec	Cream- Greenish or crimson tinge	E	CD	Silver foliage, shrub mass, screening, shrub or mixed border	
<i>Olearia glutinosa</i>	Sticky Daisy-bush	2	2	Moderate	n/a	PS-FS	Moderate	Moderate	High	High	Low	Low	Unknown	Nov-Feb	Cream-white	E	CD	R, A, Long flowering, background	
<i>Ozothamnus ferrugineus</i>	Tree Everlasting	3	2	Moderate	n/a	PS-FS	Unknown	High	High	Moderate	Low	Fair	Unknown	Nov-Feb	White	E	MDW	R, A	
<i>Pomaderris paniculosa</i>	Shining Coast Pomaderris	2	1.5	Moderate	n/a	PS-FS	Moderate	Moderate	High	Moderate	Moderate	Low	Unknown	Jul-Nov	Yellow	E	HMW	R, LM, F, Screening, Attracts birds and butterflies	
<i>Salonum laciniatum</i>	Large Kangaroo Apple	2	2	Moderate	n/a	PS-FS	High	High	Low	Low	Low	Low	Acid-Neutral	Sep-Mar	Purple-Blue	E	HCD	R, LM, A, Sh	
<i>Viminaria juncea</i>	Golden Spray	4	2	Fast	n/a	FS	Moderate	High	High	High	High	High	Complete	Oct-Feb	Yellow-Orange, with red markings	E	W	R, LM, A, Sh	
<i>Xanthorrhoea thomtonii</i>	Grass Tree	3	1.5	Slow	n/a	PS-FS	Moderate	High	High	Moderate	Low	Unknown	Unknown	Aug-Dec	Cream-white	E	HD	R, LM, Sh	
<i>Xanthorrhoea australis</i>	Grass Tree	3	2	Slow	n/a	PS-FS	High	Moderate	Low	High	Low	Low	Acid-Neutral	Jul-Dec	White or cream	E	HDM	R, LM, Sh	
<i>Adenanthos cunninghamii</i>	Albany wollybush	2	3	Moderate	n/a	FS	High	High	High	High	Moderate	Low	Id Acid-Mild Alkali	Mar-Oct	Red, Pink	E	CDA	R, LM, S, F, Attracts small nectar eating birds	
<i>Erimophila longifolia</i>	Long-leaved Eremophila	3	3	Moderate	n/a	FS	Moderate	Unknown	Unknown	High	Low	Low	Acid-Neutral	All year	Pink to brick red	E	HD	R, LM, Attracts bees and small birds, particularly for winter flowering	
<i>Colothamnus quadrifidus</i>	One sided bottlebrush	3	5	Fast	n/a	FS	High	Low	Low	High	Moderate	Moderate	Mild Acid-Alkaline	June-Dec	Red, White	E	CDA	R, LM, ideal hedging and screening plant, attracts birds	
<i>Chamelacium spp.</i>	Geraldton Wax	3	3	Fast	n/a	FS/PS	Moderate	Unknown	High	High	Low	Low	Acid-Neutral	Aug-May	White, Pink, Purple	E	CD	R, LM, flowers attract nectar eating birds, butterflies	
<i>Xanthorrhoea preissii</i>	Grass tree / Balga	3	1	Very Slow	n/a	FS	High	Moderate	Fair	High	Low	Low	Complete range	No Set time	Cream to White	E	HCD	bird and butterfly attracting, cockatoos, iconic Australian native	
<i>Grevillea spp. (Native)</i>	Grevillea	2	2	Fast	n/a	FS	Moderate	High	Moderate	Moderate	Low	Low	Complete range	Nov-May	Orange-Red	E	DC	R, LM, F important source of food for nectar feeding birds and fruit bats and bees	
<i>Hakea spp.</i>	Needle bush	4	3	Moderate to Fast	n/a	FS	Moderate	Moderate	Moderate	High	Low	Moderate	Acid	May, Jul-Oct	Red, Pink, Yellow	E	CD	RF, bird and butterfly attracting, cockatoos, iconic Australian native	
<i>Westingera fruticosa</i>	Coastal Rosemary	2	4	Fast	n/a	FS	High	High	High	High	Low	Moderate	Alkaline	Sep-Dec	White, Mauve	E	CD	R, LM, A, attracts birds	
<i>Escallonia lveyi</i> €	Escallonia	2	2	Fast	n/a	FS	High	High	High	High	Low	Low	Alkaline	Jan-Mar/Oct-Nov	White	E	CDA	LM, S, F bird attractant, scented flowers, long flowering period	
<i>Hibiscus sinensis</i>	Hibiscus	3	3	Moderate	n/a	FS	Moderate	Moderate	Moderate	High	Low	Low	Acid-Neutral	Sep-Dec/Mar-June	Various	E	DA	R, LM, F. Flowers attract bees and small birds	
<i>Myrtus communis</i>	Common Myrtle	5	3	Slow-Moderate	n/a	FS	Low	Moderate	Moderate	High	Low	Low	Alkaline	Sep-Dec	White	E	DA	R, LM. Bees attracted to flowers and birds attracted to the berries	
<i>Juniperus communis</i>	Common Juniper	5	4	Slow	n/a	FS	High	Moderate	High	Moderate	Low	Low	Complete	May-June	Cone - Berries	E	CDA	R, LM, attracts bees and nectar eating birds	

Species Palette 5 – Small Shrubs

INDIGENOUS TO PROVIDENCE (Grown at nursery/within Bayside)		INDIGENOUS (Grown Outside Bayside)		NATIVE TREES (From Australia)		EXOTIC (From outside Australia)		Additional Species		PLEASE NOTE THE BELOW INFORMATION IS A GUIDE ONLY		Uses/Traits key		Habitat Key		Tolerances		Evergreen/Deciduous	
BOTANICAL NAME	COMMON NAME	Mat. HEIGHT	Mat. SPREAD	Growth Rate	EVC	Sunlight	Wind	Salinity	Sea spray	Drought	Waterlogging	Compaction	pH Range	Flowering period	Flower colours	E/D	Habitat	Uses/Traits	
<i>Acacia brownii</i>	Heath Wattle	1	1	Moderate	n/a	PS	Moderate	Moderate	Moderate	High	Moderate	Unknown	Acid-Neutral	Jun-Oct	Yellow	E	HD	Ground cover and shrub, interesting foliage	
<i>Acacia suaveolens</i>	Sweet Wattle	2	2	Moderate	n/a	PS-FS	Moderate	Moderate	High	High	Low	Moderate	Acid-Neutral	Apr-Sept	Pale Yellow & White	E	HCD	R, Long flowering period, Attractive features, Fauna attracting	
<i>Acacia ulicifolia</i>	Juniper Wattle	1	1	Moderate	n/a	PS	Moderate	Moderate	Moderate	Fair	Unknown	Acid	Apr-Oct	Pale Cream	E	HCW	A, R, LM, Bird attracting, screening		
<i>Allcasuarina paradoxa</i>	Green She-oak	1.5	1.5	Slow	3	PS-FS	High	Moderate	High	Fair	High	Moderate	Acid	Mar-Oct	Red	E	HD	R, LM, Interesting foliage, Sh, Under powerlines, Bird attracting	
<i>Aotus ericoides</i>	Common Aotus	1	1	Fast	n/a	PS-FS	Moderate	Moderate	Low	Moderate	Low	Moderate	Acid-Neutral	Aug-Nov	Gold with red & orange	E	HWD	Sh, R, LM, Ornamental	
<i>Atriplex cinerea</i>	Coast or Grey Saltbush	2	2	Moderate	n/a	FSH-PS	High	High	High	High	Moderate	Moderate	Complete	Mar-Sep-Dec	Red & White	E	CD	LM, R, ground cover, hedge, soil rehabilitation, erosion and stabilisation	
<i>Bossiaea cinerea</i>	Showy Bossiaea	1	1	Fast	n/a	FS-PS	High	Moderate	Moderate	High	Low	Low	Unknown	Aug-Nov	Gold/yellow to Red/purple brown	E	HCD	Ornamental, R, Hedge, screening, attractive, cuttings	
<i>Correa alba</i>	White Correa	1	1	Moderate	n/a	FS-PS	High	High	High	High	Moderate	Moderate	Complete	Mar-Sep-Nov	Pink & White	E	C	A, R, LM, Aromatic, Power lines, hedging, cover, shrub mass	
<i>Correa reflexa</i>	Common Correa	1	1	Moderate	n/a	FS-PS	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Acid	Mar-Sep	Green & Red	E	H	R, Sh, A, Winter aesthetic, shrub mass, bird attracting	
<i>Daviesia ulicifolia</i>	Gorse bitter-pea	1	50cm	Fast	n/a	FS-PS	High	Low	Moderate	High	Low	Unknown	Complete	Aug-Dec	Red & Yellow	E	H	A, Bird attracting	
<i>Dillwynia cinerascens</i>	Grey Parrot-pea	60cm-1.5	50cm-1.5	Moderate	n/a	FS-PS	Moderate	Low	Low	High	Low	Moderate	Complete	Jul-Nov	Yellow & Orange	E	HD	Sh, Ornamental, floral display	
<i>Dillwynia glaberrima</i>	Heath or Smooth Parrot-pea	1	50cm	Moderate	719, 892, 3	FS-PS	Moderate	Low	Low	Moderate	Low	Low	Acid-Neutral	Aug-Dec	Yellow, red centre	E	HD	Sh, Attractive, cut flowers, container plant, tolerates heavy pruning	
<i>Epacris impressa</i>	Common Heath	1	50cm	Moderate	719, 892, 3	FS-PS	Moderate	Low	Low	Moderate	Low	Low	Acid	May-Nov	White, Pink & red	E	HCDW	A, F, R, Attractive, Cut flowers, container plant, revegetation works, nectar	
<i>Goodenia ovata</i>	Hop Goodenia	1	1	Fast	n/a	FS-PS	High	Fair	Fair	Fair	Fair	Moderate	Complete	Aug-Feb	Bright yellow, red centre	E	HC	A, R, LM, F, Cut flower, container plant, revegetation	
<i>Gompholobium huegelii</i>	Common Wedge-pea	30cm-1	30cm-1m	Moderate	n/a	FS-PS	Moderate	Low	Low	Moderate	Low	Low	Acid-Neutral	Sep-Apr	Cream to Yellow & Greenish	E	HCD	Sh, Attractive, A, F, R	
<i>Hibbertia fasciculata var. prostrata</i>	Stalked/Bundled Guinea-flower	50cm	30cm	Moderate	892	FS-PS	High	Moderate	Moderate	High	Low	High	Complete	Sep-Dec	Bright Yellow	E	HD	LM, A, R, F, hedge	
<i>Hibbertia riparia</i>	Erect Guinea-flower	50cm	50cm	Moderate	719, 3	FS-PS	Fair	Low	Low	Fair	Fair	Low	Complete	Sep-Dec	Yellow	E	HW	A, Attractive, R, LM, F	
<i>Hibbertia sericea</i>	Silky Guinea-flower	30cm-1	60cm	Slow	n/a	FS-PS	High	High	High	High	Low	Moderate	Complete	Aug-Nov	Bright Yellow	E	HCD	R, LM, A, F	
<i>Isopogon ceratophyllus</i>	Horny Cone-bush	20cm-60cm	50cm	Slow	n/a	FS	High	Low	Low	High	Low	Low	Complete	Sep-Nov	Yellow	E	HCD	R, LM, A, F	
<i>Lasiopetalum baueri</i>	Slender Velvet-bush	1	1	Moderate	n/a	FS-PS	High	Low	Low	High	Low	Low	Complete	Jun-Nov	Pink & White	E	CD	H, A, Ornamental, Hedge, F, Screening, Bird attracting	
<i>Leptospermum myrsinoides</i>	Heath or Silky Tea-tree	1.5	1	Moderate	719, 892, 3	FS-PS	High	Moderate	Moderate	High	Moderate	Low	Acid-Neutral	Jun-Nov	Pink & White	E	H	A, Screen, Hedge, F, Bird attracting, Soil control	
<i>Leucophyta brownii</i>	Cushion Bush	50cm	50cm	Moderate	919	FS	High	High	High	High	Low	Low	Complete	Dec-Feb	Yellow, Silver, Grey-Brown	E	HCD	A, R, LM, edge defining, insect attracting	
<i>Leucopogon virgatus</i>	Common Beard-heath	50cm	50cm	Moderate	719, 892, 3	FS-PS	High	Moderate	Moderate	High	Moderate	Low	Complete	Jul-Dec	Pink & White	E	HCD	A, R, LM, F, Bird attracting, hedge	
<i>Monotoca scoparia</i>	Prickly Broom-heath	30cm-1.2	30cm-1.2	Moderate	892	FS-PS	High	Moderate	Moderate	High	Moderate	Low	Complete	Mar-Jul	Pink & White	E	HCD	A, R, LM, Screen, barrier, hedge, Soil Control	
<i>Myoporum petiolatum</i>	Sticky Boobialla	1.5	1.5	Moderate	n/a	FS	High	High	High	High	Moderate	Low	Complete	Oct-Feb	White	E	HCD	A, R, LM, F, Soil control	
<i>Oleandra ramiolosa</i>	Twiggy Daisy-bush	1.5	1	Moderate	n/a	FS-PS	High	Moderate	Moderate	High	Moderate	Low	Complete	Sep-Nov	Blue	E	HCD	A, R, LM, Ornamental	
<i>Rhaphia candolleana subsp. Candolleana</i>	Seaberry Saltbush	1	2	Moderate	919, 921	FS	High	High	High	High	Moderate	Low	Complete	Sep-Feb	Green	E	HCD	A, R, LM, soil control, habitat refuge	
<i>Rhynchospora pinifolius</i>	Wedding Bush	1-3	1	Moderate	n/a	FS	High	Low	Low	High	Low	Low	Acid-Neutral	Sep-Feb	White	E	HD	A, R, LM, F, Nectar, Hedge, Screen	
<i>Sambucus guadalupensis</i>	White Elderberry	2	2	Moderate	919, 921	PS	Moderate	Low	Low	Moderate	High	Low	Acid-Neutral	Sep-Feb	White	D	HMW	LM, Sh, Bird attracting	
<i>Suaeda australis</i>	Austral Seablite	50cm	50cm	Moderate	n/a	FS	High	High	High	High	High	Low	Complete	Sep-Feb	Green & Red	E	HCW	A, R, LM, periodic inundation, bird attracting, can make dyes with foliage	
<i>Eremophila nivea</i>	Emu bush or Silky Ememophila	1.5	1.5	Moderate-Fast	n/a	FS	High	Moderate	High	High	Low	Low	Complete	Sep-Jan	Purple	E	CD	R, LM, Attracts birds and butterflies, tolerant of frost and responds well to pruning.	
<i>Grevillea spp.</i>	Grevillea	1.5	1.5	Fast	n/a	FS	High	High	High	High	Low	Low	Acid-Neutral	All year	red, orange or yellow	E	CDA	R, LM, attracts bees and nectar eating birds	
<i>Phlotoeca myoporoides</i>	Long-leafed Wax flower	1	1	Fast	n/a	FS	Moderate	Low	Low	Moderate	Low	Low	Acid-Neutral	Sep-Dec	White	E	D	R, LM, attracts bees, butterflies and nectar eating birds	
<i>Prostanthera ratundifolia</i>	Native mint bush	2	2	Fast	n/a	FS	Moderate	Low	Low	High	Low	Low	Acid-Neutral	Sep-Dec	Purple	E	DA	R, LM, Flowers attract bees and beneficial insects to garden	
<i>Juniperus communis subsp.</i>	Common juniper	2	4	Slow	n/a	FS	High	Moderate	High	Moderate	Low	Low	Complete	May-June	Cone - Berries	E	DC	R, LM, F, Berries can attract birds	
<i>Salvia subsp.</i>	Salvia	1	60cm	Fast	n/a	FS/PS	High	High	High	High	Low	Moderate	Acid	Sep-June	various	E	CDA	R, LM, attracts bees and nectar eating birds	
<i>Lavandula spp.</i>	Lavender	1	1	Fast	n/a	FS	High	Low	High	High	Low	Moderate	Alkaline	Sep-June	Lavender	E	CDA	R, LM, F, attracts bees	
<i>Chosya spp.</i>	Mexican orange blossom	1	1.5	Fast	n/a	FS/PS	Low	Moderate	High	Moderate	Low	Low	Complete	Aug-Nov	White	E	CDA	S, Sh, ornamental plant, can be trained to a hedge	
<i>Gardenia spp.</i>	Gardenia	1.5	1.5	Slow	n/a	FS/PS	Low	Low	Low	High	Low	Low	Acid	Nov-May	Creamy white	E	M	F, ornamental shrub with highly fragrant flowers	
<i>Rhaphiolepis spp.</i>	Indian hawthorn	2	1.5	Slow	n/a	FS	High	High	High	High	Low	Low	Complete	Sep-Jan	White-Pink	E	CDA	R, LM, F	
<i>Hebe buxifolia (Sedum spp.)</i>	Hebe / Stonecrop	1 / 0.6	1	Fast	n/a	FS-PS	High	High	High	High	Low	Low	Alkaline	June-Sep	/hite,pink,blue,deep purple, crimson	E	CD	R, LM, attracts bees and butterflies	
<i>Sedum spp.</i>	Stonecrop	0.6	1	Fast	n/a	FS-PS	High	High	High	High	Low	High	acid to neutral	Dec-March	Yellow, orange, pink or white	E	CDA	Attracts Attracts bees, butterflies	

INDIGENOUS TO PROVIDENCE (Grown at nursery/within Bayside)		Uses/Traits Key		Habitat Key																								
INDIGENOUS (Grown Outside Bayside)		Additional Species		R - Robust and Hardy		H - Heath/Woodland		M - Moist/Closed Forest		G - Grassland		Ri - Riparian forest (interface between land and river/stream)		High = tolerates well without damage.														
NATIVE TREES (From Australia)		Full sun + FS		LM - Low Maintenance		C - Coast/dune scrub & woodland		S - Shade Tree		D - Prefers dry, well drained soils & tolerates dryness once established.		W - Prefers or tolerates moist soils, wetness, periodic inundation		Please contact your local nursery or a horticultural professional for further advice.														
EXOTIC (from outside Australia)		Part shade/FS		F - Feature Tree		Sh - Prefers or tolerates full shade		A - Adaptable, growing well in most soil types		Complete range		Fair = can tolerate medium levels		acid to neutral Moderate = tolerates somewhat with some effects in low levels														
Additional Species		Shade + Fsh								Acid		Low = suffers serious damage to death if exposed		Alkaline to neutral Unknown														
PLEASE NOTE THE BELOW INFORMATION IS A GUIDE ONLY																												
Use of any of the below species is preferred but not limited to these species																												
GROUND COVER AND WILDLIFE FRIENDLY CLIMBERS		COMMON NAME		Mat. HEIGHT	Mat. SPREAD	EVC Ecological Vegetation Class		Tolerances																				
Botanical Name		Mat. HEIGHT	Mat. SPREAD	ECVC	ECVC	Sunlight	Wind	Salinity	Sea spray	Drought	Waterlogging	Compaction	pH Range	Flowering period	Flower colour	Habitat	Uses/Traits											
<i>Acaena novae-racae</i>	Bidge-widgee	Prostrate	1m	Moderate	n/a	Fsh-FS	High	High	High	Fair	Moderate	Moderate	Complete	Sep-Dec	Brown	CSHA	R, LM, Thorns, wildflower, bush											
<i>Acrotiche serrulata</i>	Honey Potis	30cm	1m	Moderate	719, 3	PS-FS	Moderate	Moderate	Moderate	High	Low	Moderate	Complete	May-Oct	Greenish	HD	Fruiting, Habitat, Mixed bed use, Rockeries, Bird attracting, fragrant											
<i>Actites megalocarpa</i>	Dune Thistle	60cm	60cm	Moderate to Fast	n/a	FS	High	High	High	Moderate	Low	Moderate	Complete	Sep-Jun	Yellow/Pale Purple	CD	R, Coastal garden, habitat											
<i>Amperea xiphocloida</i> var. <i>xiphocloida</i>	Broom Spurge	40cm	40cm	Moderate to Fast	719, 892, 3	FS	Moderate	Low	Low	High	Low	Moderate	acid to neutral	Sep-Feb	Cream and brown	HMD	Rockeries and underplanting, mass planting, hedge feature, unique leaves											
<i>Agium prostratum</i> ssp. <i>prostratum</i>	Sea Celery	20cm	50cm	Moderate to fast	n/a	PS-FS	Fair	High	High	High	Low	Moderate	Acid	Oct-Apr	White	CW	Attractive container, ferny foliage, Cultural, habitat, native animal attracting											
<i>Arthropodium strictum</i>	Chocolate Lily	30cm	30cm	Slow to moderate	n/a	PS-FS	Moderate	Moderate	Moderate	Moderate	Fair	Moderate	Acid	Sep-Dec	Purple	HA	Wildflower, fragrant, container plant, deciduous, mass planting aesthetic											
<i>Astroloma humifusum</i>	Cranberry Heath	50cm	1.5m	Slow	719, 3	PS-FS	Moderate	Fair	Fair	High	Moderate	Moderate	Acid	Apr-Sep	Red	HD	Bird attracting, winter foliage, container plant, native bush garden											
<i>Bossiaea prostrata</i>	Creeping Bossiaea	10cm	50cm	Slow to Moderate	719	PS-FS	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Alkaline to neutral	Sep-Dec	Yellow/Red-brown	HD	Weed suppression, erosion control, ornamental, embankments, rockeries.											
<i>Brachycome parviflora</i>	Coast Daisy	20cm	20cm	Moderate to fast	n/a	PS-FS	High	High	High	High	Moderate	Unknown	Acid	Sep-Dec	Purple	CW	R, LM, Interesting foliage											
<i>Burchardia umbellata</i>	Milkmaids	30cm	10cm	Slow to moderate	n/a	PS-FS	Moderate	Unknown	Unknown	Fair	Moderate	Unknown	Acid	Sep-Nov	White	HMW	Deciduous, Wildflower and bushgarden, container planting											
<i>Carpospatula rassa</i>	Karkalla	10cm	1m	Moderate to Fast	921	PS-FS	High	High	High	High	Moderate	Unknown	Complete	Sep-Dec	Purple	CD	R, LM, interesting foliage											
<i>Centella cordifolia</i> (s)	Centella	Prostrate	2m	Moderate	707	PS-FS	Moderate	Moderate	Moderate	Low	High	Unknown	Complete	Aug-Dec	White/pink	C, R, W, M Pond, Ornamental, wetland, bushy												
<i>Chamaecela corymbosa</i>	Blue Stars	10cm	10cm	Moderate	n/a	PS-FS	Moderate	Moderate	Moderate	Fair	Fair	Unknown	Complete	Aug-Nov	Blue	HW	Wildflower/Bush Garden, container planting											
<i>Chrysanthemum apiculatum</i>	Common Everlasting	20cm	50cm	Moderate	n/a	FS	High	High	High	High	Fair	Complete	Sep-Dec	Yellow	HD	Silver Foliage, Wildflower/Bushgarden, container planting												
<i>Conium maculatum</i>	Butter Everlasting	30cm	30cm	Moderate	n/a	PS-FS	Moderate	Low	Moderate	High	Low	Complete	Sep-Dec	Pale/lemon yellow	HD	Rockeries, Attracts pollinators, Resilient planting												
<i>Dichandra repens</i>	Kidney-weed	Prostrate	indefinite	Moderate to Fast	919, 719, 921, 3	Fsh-FS	Fair	Moderate	Moderate	Low	Fair	Unknown	Complete	Sep-Dec	White/Pale yellow/Green	HCA	R, LM, interesting foliage, Bush garden, container planting											
<i>Diphysa crassifolia</i> subsp. <i>Clavellatum</i>	Rounded Non-flower	Prostrate	1m	Moderate	919	FS	High	High	High	High	Moderate	Unknown	Complete	Oct-Dec	Pink	CA	R, LM, interesting foliage, bush garden											
<i>Drosera whittakeri</i> subsp. <i>Abernans</i>	Scented Sundew	20cm	20cm	Moderate	719, 3	PS	Moderate	Moderate	Moderate	Moderate	Moderate	Unknown	Acid	Jul-Oct	White	HM	Perennial, deciduous, wildflower/bushgarden, container, fragrant, carnivorous											
<i>Drosera petiolaris</i> subsp. <i>Auriculata</i>	Tail Sundew	80cm	20cm	Slow to Moderate	719, 892, 3	PS-FS	Fair	Fair	Fair	Fair	High	Unknown	Acid	Aug-Dec	Pink and white	HMC	Bushgarden, container planting, carnivorous											
<i>Eriocaulon aureum</i>	Nodding Saltbush	20cm	30cm	Moderate to fast	n/a	PS-FS	Moderate	Low	Moderate	High	Low	Complete	Sep-Feb	White	HCD	R, LM, Colourful fruit												
<i>Erythraea tomentosa</i>	Ruby Saltbush, Barrier Saltbush	Prostrate	1m	Moderate	n/a	PS-FS	High	High	High	High	Fair	Complete	May-Sep	Red with pink fruit	CD	R, LM, Bird attracting, bush garden												
<i>Epilobium billardierianum</i>	Variable Willow-herb	1m	70cm	Moderate	707	PS-FS	Moderate	Moderate	Moderate	Low	Fair	Unknown	Complete	Sep-Feb	Purple/pink	RIW	Rockeries, watercourses, damp area planting											
<i>Frankenia pauciflora</i>	Southern Sea-heath	10cm	50cm	Moderate	n/a	FS	Fair	High	High	High	Fair	Unknown	Alkaline to neutral	Jun-Oct	Pink	CD	Interesting foliage, shrubbing, hedging, container planting, bush garden											
<i>Gambium candelabrum</i>	Austral Candelabrum	20cm	30cm	Moderate to fast	719, 3	PS	Moderate	Moderate	Moderate	Moderate	Moderate	Unknown	Acid	Aug-Dec	Pale pink/white yellow	HMW	R, LM, Rockeries, soil plant, can grow quickly and spread in always wet soil											
<i>Gonocarpus humilis</i>	Shade Raspwort	50cm	70cm	Moderate	892	PS	Moderate	Low	Moderate	High	Moderate	Unknown	Unknown	Oct-Dec	Yellow-green	CHMW	Perennial herb, prostrate and sprawling											
<i>Gonocarpus micranthus</i>	Creeping Raspwort	Prostrate	50cm	Moderate	n/a	PS-FS	Moderate	Low	Low	Moderate	High	Moderate	Unknown	Dec-Feb	Red	W	Prostrate, ascending or erect, many branched											
<i>Gonocarpus tetragynus</i>	Powery Raspwort	20cm	30cm	Moderate	3	PS-FS	Moderate	Low	Low	Moderate	Moderate	Unknown	Unknown	Dec-Feb	Reddish-pink	HA	Woody, erect perennial herb. Good understory below established trees											
<i>Goodenia humilis</i>	Swamp Goodenia	10cm	1m	Moderate	919, 707	PS-FS	Moderate	Low	Low	Moderate	High	Moderate	Unknown	Nov-Mar	Yellow	W	dainty, little herb, good for moist sunny locations, eg beside pools											
<i>Goodenia polyantha</i>	Mount Goodenia	10cm	50cm	Moderate	n/a	PS-FS	Moderate	Moderate	Moderate	Low	Moderate	Unknown	Alkaline to neutral	Nov-Mar	Yellow	W	can be planted as colourful foreground for natives, beds, weed suppressing											
<i>Goodenia radicans</i>	Shiny Swamp-mat	10cm	50cm	Moderate	n/a	PS-FS	High	High	High	High	Unknown	Complete	Mar-Dec	White	CW	Ornamental pond, bush garden												
<i>Gratiola pubescens</i>	Glandular Brooklime	20cm	20cm	Moderate	707	PS	Moderate	Low	Low	Moderate	High	Moderate	Unknown	Oct-mar	pale pink with yellow	RIW	Ornamental pond edges and rockeries, useful in waterlogged environments											
<i>Hibbertia brownii</i> (N)	Swamp Raspwort	50cm	50cm	Moderate	919, 921	PS-FS	Moderate	Low	Low	Moderate	High	Moderate	Unknown	Oct-Feb	Reddish brown	CBW	watercourse edging, damp locations											
<i>Hibbertia acicularis</i>	Prickly Guinea-flower	30cm	50cm	Moderate	n/a	PS-FS	Moderate	Low	Low	Moderate	Moderate	Unknown	Unknown	Sep-Dec	Bright yellow	HD	Attractive planting for open soils, cottage gardens, and rockeries											
<i>Hydrocotyle laniflora</i>	Shiny Pennywort	40cm	30cm	Moderate to fast	719, 3	PS-FS	Fair	Moderate	Moderate	Moderate	Fair	Unknown	Alkaline to neutral	Oct-Dec	Green	HMW	Wildflower/bush garden, ornamental pond											
<i>Isotoma fluviatilis</i>	Swamp Isotoma	Prostrate	1m	Moderate	n/a	PS-FS	Moderate	Low	Low	High	Unknown	Unknown	Acid	Oct-Nov	Blue	W	Ornamental pond, wildflower/bush garden, allergenic											
<i>Kennedia prostrata</i>	Running Postman	Prostrate	1m	Moderate	n/a	PS-FS	High	Fair	Fair	High	Moderate	Unknown	Complete	Apr-Dec	Red	HCD	Interesting foliage, bird attracting, Wildflower/Bush Garden											
<i>Lachnagrostis billardieri</i>	Coast Brown-grass	50cm	20cm	Moderate	919	FS	Moderate	Moderate	Moderate	Moderate	Moderate	Unknown	Unknown	Sep-Dec	Straw yellow	CW	Coastal garden, erosion control, visual interest, tufted, adds texture											
<i>Lagenophora stipitata</i>	Common Bottle-daisy	5cm	20cm	Moderate	n/a	Fsh-FS	Moderate	Low	Low	Moderate	Moderate	Moderate	Unknown	Sep-Feb	Blue	HCA	Great groundcover over bare earth, container planting, frost tolerant											
<i>Launmia orientalis</i>	Dwarf Wire Lily	5cm	10cm	moderate	n/a	PS-FS	Moderate	Low	Low	Moderate	Moderate	Moderate	Unknown	Sep-Dec	Red, Brown and White	HD	border for dedicated remnant reserves											
<i>Labelia anceps</i>	Angled Labelia	Prostrate	50cm	Moderate	919, 921	PS	Moderate	Moderate	Moderate	Moderate	Moderate	Unknown	acid to neutral	Mar-Dec	Blue, White	HW	Ornamental pond, wetland, bush garden, allergenic											
<i>Labelia pratensis</i>	Polson Labelia	50cm	50cm	Moderate	n/a	PS-Fsh	High	Low	Low	Low	High	Moderate	acid to neutral	Oct-May	Blue-White and white	HW	Toxic. Excellent groundcover for bog. Useful in ferneries when not too dark											
<i>Oreocaulum ovata</i>	Broad Stinkweed	10cm	20cm	Moderate	n/a	PS-Fsh	High	Low	Low	Low	High	Moderate	acid to neutral	Sep-Dec	Greenish	HWA	Toxic. Excellent groundcover for bog. Useful in ferneries when not too dark											
<i>Oreocaulum varia</i>	Variable Stinkweed	25cm	30cm	Moderate	719, 3	PS-Fsh	High	Low	Low	Low	High	Moderate	acid to neutral	Jan-Mar	Green or Purple	MWH	Toxic. Unpleasant smell when crushed											
<i>Oreofila reniformis</i> (syn <i>Villarsia reniformis</i>)	Running Marsh flower	1m	1m	Moderate to fast	707	PS-FS	Moderate	Low	Low	Low	High	Unknown	Acid	Mar-Dec	Yellow	RIW	Ornamental pond, wetland, bush garden, allergenic											
<i>Polygonum australe</i>	Austral Stork's-bill	50cm	50cm	Moderate	n/a	PS-FS	Moderate	Moderate	Moderate	Fair	Low	Unknown	acid to neutral	Mar-Dec	Pink	CA	Edging, Wildflower/bush garden, container planting											
<i>Polygonum inodorum</i>	Kopata	30cm	30cm	Moderate	n/a	PS-FS	Moderate	Low	Low	Moderate	Low	Low	acid to neutral	Dec-Feb	White/pink	HA	Open border plant, needs replacing annually, regenerates via fire											
<i>Pinelea humilis</i>	Common Rice-flower	30cm	40cm	Moderate	n/a	PS-FS	Fair	Fair	Fair	Fair	Low	Unknown	Complete	Sep-Jan	White	HA	Dainty, Wildflower/Bush Garden, container, allergenic, heavy pruning											
<i>Pinelea octophylla</i>	Woolly Rice-flower	1m	50cm	Moderate	n/a	PS-FS	Moderate	Low	Low	Moderate	Low	Low	acid to neutral	Oct-Dec	Cream-pale yellow	HD	woolly appearance, small gardens, rockeries in open soil, warm positioning											
<i>Physiculus obtusungulum</i>	Common Flat-pea	40cm	1m	Slow to Moderate	892	PS-FS	Moderate	Moderate	Moderate	High	Low	Unknown	Acid	Sep-Dec	Orange	HD	Wildflower/bush garden, container planting, foliage interest											
<i>Platysace heterophylla</i>	Slender Platysace	30cm	30cm	Slow	PS	FS-PS	Moderate	Low	Low	Moderate	Low	Low	acid to neutral	Aug-Jan	White	HDW	Shortlived, required fire to stimulate regeneration											
<i>Podochea angustifolia</i>	Sticky-Long Heads	30cm	30cm	Moderate to fast	n/a	FS	Moderate	Low	Low	Moderate	Low	Low	acid to neutral	Sep-Oct	Green and yellow	HD	Shortlived, annual herb											
<i>Paranthera microphylla</i>	Small Paranthera	10cm	30cm	Moderate	719, 3	PS	Fair	Moderate	Moderate	Fair	Moderate	Unknown	Acid	Mar, Apr, Aug, Dec	White	CH	Wildflower/Bush garden											
<i>Pterostylis longifolia</i>	Tail Greenhood	70cm	20cm	Moderate	719, 3	PS	Moderate	Low	Low	Moderate	Low	Low	acid to neutral	Apr-Sep	Green	CD	Deciduous, perennial herb, underground tubers											
<i>Pteridium aquilinum</i>	Austral bracken	1.5m	1.5m	Moderate	919, 719, 892, 921, 3	PS-FS	High	Fair	Fair	High	High	Unknown	Acid	Jan-Jun	Green	HNCDW	A, S, LM, interesting foliage, allergenic, bush garden											
<i>Sarcocolla quinqueflora</i>	Beaded Glasswort or Samphire	Prostrate	50cm	Slow to Moderate	919, 921	FS	High	High	High	Moderate	High	Unknown	Complete	Nov-Mar	Cream	CW	R, LM, Colourful foliage											
<i>Senecio minimus</i>	Shrubby Fireweed	1.5m	50cm	Fast	919, 921	PS	Moderate	Low	Low	Moderate	Low	High	acid to neutral	Dec-Apr	Pale yellow	MW	A, butterfly attracting (caterpillar food) Coloniser for disturbed soils											
<i>Stylidium graminifolium</i>	Grass Trigger-plant	30cm	30cm	Slow to Moderate	n/a	PS-FS	Fair	Fair	Fair	Moderate	Low	Unknown	Acid	Sep-Dec	Pink	HDW	Container planting, Wildflower/bush garden, architectural form											
<i>Tetragonia implexicoma</i>	Blower Spinach	Prostrate	1m	Moderate to Fast	919, 921	PS-FS	High	High	High	High	Moderate	Unknown	Complete	Aug-Dec	Yellow	CA	Bush garden, bird attracting, fragrant flowers											
<i>Tetragonia tetragonioides</i>	New Zealand Spinach	Prostrate	1m	Fast	n/a	PS-FS	Moderate	High	High	High	High	Moderate	Complete	Oct-Feb	Yellow	CA	Excellent pot herb or 'apilifer' for groundcover											
<i>Thysanota potanensis</i>	Twinning Fringe-lily	1m	1m	Slow to Moderate	n/a	PS-FS	Moderate	Moderate	Moderate	Fair	Moderate	Unknown	Acid	Aug-Nov	Purple	HDW	Wildflower/bush garden, container planting, deciduous											
<i>Thysanota tuberosa</i>	Common Fringe-lily	60cm	15-20cm	Moderate	n/a	PS	Moderate	Unknown	Unknown	Moderate	Moderate	Unknown	Acid	Oct-Dec	Purple	HD	Deciduous, Wildflower and bushgarden, container planting											
<i>Tracymena composita</i>	Wild Parsnip	80cm-1.5m	1m	Moderate	n/a	Fsh-FS	Moderate	Low	Low	Moderate	High	Moderate	Unknown	Sep-Feb	White	HD	Distinct flowershape, all light levels, unique flower.											
<i>Triglochin procum</i>	Water Ribwort	30cm	2m	Slow to fast	n/a	PS-FS	Low	Moderate	Low	High	High	Low	acid to neutral	Aug-Apr	greenish yellow	RHWMA	graminoid, dense spiked flowers, aquatic, ornamental pond, oxygenating											
<i>Vicia hederacea</i>	ivy-leaved Violet or Native violet	30cm	30cm	Moderate	919, 719, 921, 3	PS	Moderate	Moderate	Moderate	High	Low	Low	acid to neutral	Mar-Dec	Purple and white	HCNSP	Wildflower/bush garden											
<i>Myoporum parvifolium</i>	Plectranthus	0.5	1.5	Fast	n/a	FS	Moderate	Moderate	Unknown	High	Low	Low	Complete	Jan-Mar	Bluish-white	MWA	SH-A, Bird attracting											
<i>Eremophila glabra</i>	Kalbarri carpet	0.5	2	Moderate	n/a	FS	High	Moderate	High	High	Low	Low	Alkaline to neutral	June-Sep	Yellow	CD	R, LM, winter flowering, attracts nectar eating birds and insects											
<i>Myoporum parvifolium</i>	Creeping boobialla	0.3	3	Fast	n/a																							

Species Palette 8 – Climbers

INDIGENOUS TO PROVIDENCE (Grown at nursery/within)		Additional Species		Uses/Traits key		Habitat Key															
INDIGENOUS (Grown Outside Bayside)		Full Sun = FS		R - Robust and Hardy		H - Heath/Woodland/RI = Riparian forest (interface between land and river/stream)		High = tolerates well without damage.													
NATIVE TREES (From Australia)		Part Shade=PS		LM - Low Maintenance		M - Moist/Closed forest		complete range Fair= can tolerate medium levels													
EXOTIC (From outside Australia)		Shade = FSH		S - Shade Tree		C - Coast - dune scrub & woodland		acid to neutral Moderate = tolerates somewhat with some effects in low levels													
Additional Species		Shade = FSH		F - Feature Tree		D - Prefers dry, well drained soils & tolerates dryness once established.		acid Low = suffers serious damage to death if exposed													
PLEASE NOTE: THE BELOW INFORMATION IS A GUIDE ONLY		SH - Prefers or tolerates full shade		W - Prefers or tolerates moist soils, wetness, periodic inundation		A - Adaptable, growing well in most soil types		Unknown													
Please see any of the below species is preferred but not limited to these species								Please contact your local nursery or a horticultural professional for further advice. All indigenous plants provide habitat & food for local birds, insects & animals.													
CLIMBERS		EVC- Ecological Vegetation Class										Tolerances									
BOTANICAL NAME	COMMON NAME	Mat. HEIGHT	Mat. SPREAD	Growth Rate	EVC	Sunlight	Wind	Salinity	Sea spray	Drought	Waterlogging	Compaction	pH Range	Flowering period	Flower colours	Habitat	Uses/Traits				
<i>Billardiera mutabilis</i> (syn. <i>B. scandens</i>)	Common Appleberry	1	1	Moderate	719, 3	FS	Moderate	Moderate	Moderate	Fair	Moderate	Unknown	Acid	Mar-Dec.	Green, White, Yellow	HD	A, Bird attracting				
<i>Cassytha glabella</i> (W)	Slender Dodder-laurel	Climber	Indefinite	Moderate to Fast	892	FS-PS	Moderate	Moderate	Low	High	Moderate	Moderate	Unknown	Aug-Nov.	Creamy white/cream	HDMA	Parasitic, feeding off other plants, R, climber				
<i>Clematis microphylla</i> var. <i>microphylla</i>	Small-leaved Clematis	S	S	Moderate to Fast	919, 921	PS-FS	Fair	Fair	Fair	Fair	Low	Unknown	acid to neutral	Aug-Oct.	White	HCA	Winter aesthetic, interesting foliage, screening				
<i>Comepsima volubile</i>	Love Creeper	Climber	Indefinite	Slow	719, 3	SP-FS	Moderate	Moderate	Moderate	Moderate	Moderate	Unknown	Acid	Aug-Dec.	Blue & Purple	KCDW	A, Container				
<i>Gallum australe</i>	Tangled Bedstraw	Climber	Indefinite	Fast	919, 921	PS-FS	High	Moderate	High	High	Low	Moderate	Unknown	Sep-May.	White	HCD	Scrambler, trailing groundcover				
<i>Hardenburgia violacea</i>	Purple Coral Pea	Climber	Indefinite	Fast	n/a	PS-FS	High	Moderate	High	High	Moderate	Moderate	Complete	Jul-Sep.	pink or white	HDG	Scrambler, Will not negatively impact plants it climbs, pruning required after flowering				
<i>Muehlenbeckia adpressa</i>	Climbing Lignum	Climber	Indefinite	Fast	n/a	PS-FS	High	Moderate	High	High	Moderate	Moderate	Complete	Dec-Mar	Greenish white	HCDSh	plant as groundcover, house plant, potplant, can become invasive, pruning required				
<i>Aphanopetalum resinosum</i>	Gum vine	Climber	3m x 3m	Fast	n/a	FSH	Low	Low	Low	High	Moderate	Low	Id Acid-Mild Alkali	Sep	Greenish yellow	MW	LM, Sh, attractive climber for shady positions, attracts native birds and insect				
<i>Hardenbergia comptoniana</i>	Native Wisteria	Climber	Indefinite	Fast	n/a	PS-FS	High	Moderate	High	High	Moderate	Moderate	Unknown	Jul-Sep.	pink or white	HDG	Scrambler, Will not negatively impact plants it climbs, pruning required after flowering				
<i>Hibbertia scandens</i>	Golden guinea flower	Climber	Indefinite	Fast	n/a	FS	High	Low	High	High	High	Low	acid to neutral	Aug-Dec.	Yellow	CDA	RLM, attracts solitary native bees				
<i>Pandorea pandorana</i>	Wonga wonga vine	Climber	Indefinite	Fast	n/a	FS	Low	Low	Low	High	Low	Moderate	acid to neutral	Sep-May.	White, crea, Yellow, gold, purple	WA	LM, attracts bees and birds, vigorous climber with attractive scented flowers.				
<i>Trachelospermum jasminoides</i>	Chinese star jasmine	Climber	Indefinite	Fast	n/a	FS-PS	Moderate	Low	Low	Moderate	Low	Low	acid to neutral	Sep-May.	White	D, W, A	LM, Highly scented flowers, Attracts bees and butterflies.				

Glossary

Biodiversity: 'All components of the living world: the number and variety of plants, animals, and other living things (including fungi and micro-organisms) across our land, rivers, coast, and ocean. It includes the diversity of their genetic information, the habitats and ecosystems within which they live, and their connections with other life forms and the natural world'.⁸

Canopy cover is the layer formed by the branches and crowns of plants or trees. The cover can be continuous, as in primary forests, or discontinuous - with gaps as in an urban area. Canopy is defined in Living Melbourne as vegetation above three metres in height.⁹

Canopy tree: A tree which has, or at maturity is likely to have, sufficient height and canopy characteristics to make a positive contribution to local amenity, sense of place, micro climate and/or biodiversity. Minimum 8 x 4 metres.¹⁰

Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer.¹¹

Climate change adaptation is the process of adjustment to actual or expected climate and its effects.¹²

Climate change mitigation is the human intervention to reduce the sources or enhance the sinks of greenhouse gases.¹²

Climate Emergency refers to the catastrophic changes to the climate brought about by human activity that poses a dangerous threat to all life on the planet.¹²

Environmentally Sustainable Development refers to development that is designed, constructed, and managed to optimise climate resilience, energy efficiency, integrated water management, indoor environment quality, the circular economy, low carbon transport and urban ecology.¹³

General Residential Zone (GRZ) is applied to land in areas where growth and housing diversity is anticipated. It is expected that the type of housing provided will evolve over time to provide more diverse forms of housing, but not at the expense of existing open garden character.¹⁴

⁸ The State of Victoria Department of Environment, Land, Water and Planning, 'Protecting Victoria's Environment – Biodiversity 2037', 2017, Available at <https://www.environment.vic.gov.au/biodiversity/biodiversity-plan>

⁹ CID Bio-Science, 'Forest and Plant Canopy Analysis – Tools and Methods', 2019, Available at <https://cid-inc.com/blog/forest-plant-canopy-analysis-tools-methods/>

¹⁰ Bayside City Council, 'Local Law Guidelines, Neighbourhood Amenity Local Law 2021', 2021, Available at <https://www.bayside.vic.gov.au/sites/default/files/2022-05/Neighbourhood%20Amenity%20Local%20Law%202021%20Guidelines%20-%20Final.pdf>

¹¹ Definition has been sourced from 'Bayside's Climate Emergency Action Plan 2020-2025 – Glossary', 2019, Available at https://www.bayside.vic.gov.au/sites/default/files/sustainability_and_environment/climate_emergency_action_plan_v1.2_140920_for_web.pdf

¹² Department of Health and Human Services, 'Arboricultural Assessment Holland Court, Flemington– 3.7 Useful Life Expectancy(ULE)', 2017, available at https://www.planning.vic.gov.au/data/assets/pdf_file/0011/105500/SHRP-SH1-15.a.-Tree-Logic-Rpt_Holland-Court.-Flemington.pdf

¹³ Bayside Sustainable Building and Infrastructure Policy (updated 2021)

¹⁴ Victorian Planning Authority, 'Reformed Residential Zones – General Residential Zone', 2017, Available at https://www.planning.vic.gov.au/data/assets/pdf_file/0023/103865/General-Residential-Zone.pdf

Greenways are a form of landscape planning. They are linear open space corridors in the built or natural environment, which preserve biodiversity or other aspects of a sustainable environment, and generally engage the community in recreational use.¹⁵

Habitat: All the physical and biological things that collectively make up the place where a plant or animal lives.¹⁶

Habitat Corridor: A habitat corridor is a linear two-dimensional landscape element that differs from the surrounding vegetation, in both vegetation structure and form, and connects two or more patches, of otherwise isolated, habitat that have been connected in historical time, this is meant to function as a conduit for both plants and animals.¹⁷

Heat Vulnerability Index: The heat vulnerability index (HVI) is represented by a scale of 1 to 5 based on quintiles, with 1 representing low exposure, low sensitivity, or high adaptive capacity and 5 representing high exposure, high sensitivity or low adaptive capacity. We integrated indicators of heat vulnerability to calculate a Heat Vulnerability Index (HVI) at SA1 level. The index consists of three component layers: heat exposure, sensitivity to heat, and adaptive capability. Integration was accomplished by summing the scores from the three vulnerability components, dividing the SA1s into quintiles, and attributing SA1s with a Heat Vulnerability Rating scaled from 1 to 5.¹⁸

Neighbourhood Residential Zone (NRZ) is applied to land that has been identified as having specific neighbourhood, heritage, environmental or landscape character values that distinguish the land from other parts of the municipality or surrounding area.¹⁹

Permeability: The readiness with which a surface, whether man-made (such as a paved road) or natural (such as soil or rock) allows water, air or plant roots to penetrate or pass through.²⁰

Residential Growth Zone (RGZ) is considered a substantial change area where medium density housing growth and diversity of housing types is encouraged for example town houses and apartments around activity centres and close to train stations.²¹

Resilience: The capacity of individuals, institutions, businesses and systems within a city to adapt, survive and thrive no matter what kind of chronic stresses and acute shocks they experience.¹²

SEIFA: Socio-Economic Indexes for Areas (SEIFA) measures the relative level of socio-economic disadvantage and/or advantage based on a range of Census characteristics.²²

¹⁵ University of New South Wales, 'The future of greenways in Sydney,' by P. Crawshaw, 2009, available at: https://www.be.unsw.edu.au/sites/default/files/upload/pdf/schools_and_engagement/resources/_notes/5A2_41.pdf

¹⁶ Resilient Melbourne and The Nature Conservancy, 'Living Melbourne – Our metropolitan Urban Forest', 2019, Available at https://resilientmelbourne.com.au/wp-content/uploads/2019/05/LivingMelbourne_Strategy_online.pdf

¹⁷ Definition as used in 'Corridors for Habitat and Biodiversity Conservation in the Act with Links to the Region' from 'The theory of wildlife corridor capability – in Nature Conservation 2: The role of corridors', 1991 by Soulé, M. E. and M. E. Gilpin, Available at

https://www.parliament.act.gov.au/_data/assets/pdf_file/0008/381077/PE_06_Environment_attach.pdf

¹⁸ Department of Environment, Land, Water and Planning, Victorian Government 'Urban Vegetation, Urban Heat Islands and Heat Vulnerability Assessment in Melbourne, 2018', Available at

https://www.planning.vic.gov.au/_data/assets/pdf_file/0018/440181/UHI-and-HVI2018_Report_v1.pdf

¹⁹ Victorian Planning Authority, 'Using the residential zones – Planning Practice Note 91, Clause 32.09', 2019, Available at https://www.planning.vic.gov.au/_data/assets/pdf_file/0033/445389/PPN91-Using-the-residential-zones.pdf

²⁰ DELWP, 'Land for Wildlife' available at: <https://www.wildlife.vic.gov.au/protecting-wildlife/land-for-wildlife>

²¹ Victorian Planning Authority website, 'Frequently Asked Questions – What is a Residential Growth Zone (RGZ)', 2017, Available at <https://vpa.vic.gov.au/faq/berwick-residential-growth-zone-rgz/>

²² Id community, 'Demographic Resources', Available at <https://profile.id.com.au/bayside/seifa-disadvantage-small-area?WebID=10>

Senescence is the process by which cells irreversibly stop dividing and enter a state of permanent growth arrest without undergoing cell death.²³

Significant Landscape Overlay (SLO): The Significant Landscape Overlay (SLO) is a planning overlay and tool for protecting and managing significant landscapes. Its purpose is to identify significant landscapes, and conserve and enhance their character. The SLO can require a permit to construct a building or construct or carry out works, construct a fence, and remove, destroy or lop any vegetation.²⁴

Significant Tree: Some trees, through age, size, and rarity of planting or association with historical events achieve a higher level of importance on private or public land. Identifies the following the categories used to define significant trees as scientific, social, historic, and aesthetic.²⁵

Tree Canopy: The uppermost trees or branches of trees in a forest, forming an almost continuous layer of foliage. The topmost layer of bioactivity in a forest setting.⁵

Urban Forest encompasses all of the Trees, Shrubs and Grasslands – and the Soil and Water that support them. An Urban Forest incorporates vegetation in streets, parks, gardens, plazas, campuses, river and creek embankments, coastal foreshores, wetlands, railway corridors, community gardens, green walls, balconies, and roofs.⁵

Urban Heat Island Effect: The phenomenon of dense urban areas having significantly warmer air and land surface temperatures than surrounding areas.⁵

Useful Life Expectancy (ULE): Assessment of useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community. It is not a measure of the biological life of the tree within the natural range of the species. It is more a measure of the health status and the tree's positive contribution to the urban landscape.³

Vegetation Protection Overlay (VPO): The VPO focuses on the protection of significant vegetation, including native and introduced vegetation in urban environments. The overlay can be applied to individual trees, groups of trees or areas of significant vegetation. It requires a landowner to obtain a permit to remove, destroy or lop any vegetation specified in a schedule to the overlay subject to a list of exemptions. Some of those exemptions apply to particular types of vegetation and others apply to specific situations, for example, to clear vegetation from electricity lines and to ensure emergency access.²⁶

Vulnerability: Exposure to contingencies and stress, and the difficulty in coping with them. This can apply to ecosystems, trees, people, and places.²⁷

Water Sensitive Urban Design (WSUD) is a more sustainable approach to urban planning and design to make use of stormwater and reduce the harm it causes to our natural waterways.²⁸

²³ CSIRO Linked Data Registry, 'Definition of Senescence', Available at <http://registry.it.csiro.au/def/keyword/nature/subjects/senescence>

²⁴ Victorian Planning Authority, 'DPCD South West Victoria Landscape Assessment Study – Regional Overview Report', 2013, Available at https://www.planning.vic.gov.au/_data/assets/pdf_file/0023/94820/ROR-Chapter-5-Implementation-Part-2.pdf

²⁵ Bayside City Council, 'Significant Tree Management Policy 2020', 2020, Available at https://www.bayside.vic.gov.au/sites/default/files/trees_parks_and_beaches/significant_tree_management_policy_2020.pdf

²⁶ Victorian Law Reform Commission, '4. Planning law and regulation affecting trees on private land - Vegetation Protection Overlay', Available at <https://lawreform.vic.gov.au/content/introduction-34>

²⁷ GreenFacts, 'Vulnerability (in ecosystems)', available at: <https://www.greenfacts.org/glossary/tuv/vulnerability-ecosystems.htm>

²⁸ Melbourne Water, 'Introduction to WSUD', available at: <https://www.melbournewater.com.au/building-and-works/stormwater-management/introduction-wsud>



Bayside City Council
76 Royal Avenue
Sandringham VIC 3191
Tel (03) 9599 4444
Fax (03) 9598 4474
enquiries@bayside.vic.gov.au
www.bayside.vic.gov.au