

SHIRE OF
MERREDIN
INNOVATING THE WHEATBELT

STREET TREE MASTER PLAN

May 2019



WHAT IS A STREET TREE MASTER PLAN?

The Street Tree Master Plan (STMP) is a tool designed to provide the framework and guidelines to ensure that all existing and future street trees in Merredin are managed in accordance with industry best practice, thereby maximising their benefits to the Merredin community.

The preparation of the STMP provides an opportunity to highlight areas where improvement may be made in public amenity, aesthetics, safety and/or economics, with the ultimate goal being to develop an ideal streetscape environment for Merredin.

This plan identifies a wide selection of trees to plant on residential verges within Merredin which fulfils the Shire's objectives to:

- Select and maintain street trees that enhance both existing and future streetscapes;
- Create a setting in consideration with the function and appearance of adjacent land in addition to providing a safe and comfortable pedestrian environment and catering for vehicular traffic; and
- Promote the use of indigenous flora to extend the habitat of indigenous fauna in urban areas.

WHAT ARE THE BENEFITS OF STREET TREES?

The physical presence of trees modifies the immediate environment in which they are located and provides the following benefits:

- Atmospheric purification;
- Habitat and corridors for urban wildlife;
- Shade to protect residents, walkers and cyclists from UV rays;
- Modulation of temperatures by both shading and increased humidity;
- Reduction in the effects of seasonal change i.e. shedding leaves in winter allowing more sunlight through;
- Deflection of wind and reduction of wind tunnel effects;
- Entrapment of dust and other airborne particles;
- Protection from rain and hail;
- Reduction of erosion through the binding action of roots; and
- Reduction of pollution in urban runoff through filtration of waterborne particles and nutrients.

HOW DO WE DECIDE WHAT SPECIES TO USE?

Many trees might survive in an urban setting but they must do more than that: they must thrive. There are many examples where a streetscape of non-performing, stunted specimens don't necessarily die but nor do they provide any significant amenity or aesthetic value.

To consider planting a tree the starting point must always be to ask “will the tree under consideration thrive in the specific location?” This question alone will rule out many species which may well be good choices in a different setting (e.g. parkland or natural areas) but will not be appropriate in the relatively tough environment of a typical urban street.

When selecting trees for the urban environment it is critical to identify species that can grow into healthy, long lived trees while minimizing conflicts between trees and the surrounding urban infrastructure, residents and road users.

The key principles considered when selecting species for this STMP included:

- Provision of safe and attractive street trees that enhance the amenity for residents, pedestrians and buildings in addition to being sensitive to the landscape, infrastructure and environmental conditions;
- Provision of shade for street users in summer months and streetscape appeal;
- Contribute to a recognisable identity or ‘sense of place’ for streets and the town by implementing and maintaining street tree themes;
- Expansion and contribution to the overall urban forest and canopy coverage for the Merredin; and
- Contribution to the long-term sustainability and efficient environmental management for the Merredin.

The range of criteria used to evaluate the tree species master list is outlined in the following:

DECIDUOUS OR EVERGREEN

Deciduous trees are often preferred in urban situations as they allow plenty of sunlight into the street in winter. However, evergreen trees (unlike deciduous trees) look attractive and provide shade year-round. Given Merredin’s dry climate and relatively open urban design, evergreen trees are generally better suited to the area.

PROVEN TRACK RECORD

Important locations like town streets are not the place to experiment with untested species. However, it may be appropriate to trial untested species in small pockets of the town where, if they do not succeed, they can be replaced at little social, environmental and economic cost.

SPEED OF GROWTH & LIFE SPAN

Extremely slow growing species will generally not be acceptable. However, very fast-growing species are also usually short lived. A compromise usually needs to be made. Species that will be relatively short lived (typically less than 25 years) will not usually be acceptable due to associated costs of re-planting and general public feeling amongst other reasons.

DAMAGE TO INFRASTRUCTURE & URBAN CONSTRAINTS

The roots of any reasonably large tree in a town environment will almost inevitably cause some damage to infrastructure. It is a question of minimising the damage where possible. This can be done to some extent by installing root control systems and planting the root stock below the road surface and not in the kerbside backfill, as well as matching the appropriate species of street tree to the situation.

In an urban environment there is usually considerable competition for space beneath the ground with many services installed such as communications, water, sewer, electricity and other infrastructure. In this plan careful consideration has been given to matching tree species to the size of verge within a street, as well as avoiding species which are known to have problematic root systems.

DROUGHT TOLERANCE

Urban streets are typically characterised by a lot of paved surfaces which are virtually impervious to water and oxygen. The proposed tree's root system needs to be able to thrive in this artificial environment if the tree is to sustain itself over the long term. Some species meet this requirement but also cause unacceptable infrastructure damage (e.g. Ficus) and are therefore not suitable. As a result, drought tolerance is a key criteria used for tree selection in this plan.

PEST & DISEASE TOLERANCE

Only trees with few pest and disease problems are suitable for use as street trees in the consideration of this plan.

DIVERSITY

Diversity of tree species is important from a number of reasons. Street trees play an important role in the overall biodiversity of the town and a wide range of tree species provides habitats for a diverse range of fauna. Furthermore diverse landscapes are more resilient to pest and disease outbreaks and present a sensible risk mitigation strategy in the event of changing climatic conditions.

STRUCTURAL INTEGRITY & SHEDDING

Trees with excessive limb shedding characteristics or very brittle wood are not usually suitable for urban street tree applications and have not been considered when compiling this plan.

All trees shed leaves and fruits as part of their normal growth cycle. However, this can be more problematic with some species more than others. For example, the fruit of some species can cause a severe pedestrian hazard. Some species may also cause significant staining of pavements (e.g. some Eucalyptus species).

PRUNING TOLERANCE

In some locations it may be desirable to significantly manipulate the street trees so as to produce a specific canopy shape. This means the species chosen will need to be tolerant of regular pruning without causing significant reduction in the tree's life span or structural integrity

FORM

The growth habits of the tree need to be considered. Generally single-trunked trees with relatively upright form and medium density canopies are ideal in urban streets. Other features of the tree such as flower colour, trunk appearance and leaf colour should also be taken into consideration but will not always necessarily be a major factor for urban street trees where the emphasis is more on the tree's ability to withstand the relatively tough conditions.

SCALE

Matching the size of tree to the scale of the street and planting area is important. A tree which is too large is likely to cause damage to road and pavement surfaces as the tree grows and cause conflict with adjacent residents. Likewise, trees which are too small for a verge area may look out of place and may not provide the desired canopy and shading characteristics to the streetscape.

CLIMATE CHANGE TOLERANCE

Although there is still uncertainty regarding the potential magnitude and timing of climate change impacts it would seem prudent to select trees that will be tolerant of a generally drying trend given recent research.

AVAILABILITY

It is important to ensure that the species chosen are readily available in commercial numbers at appropriate sizes so that replacement trees can be readily sourced.

WHAT OTHER CONSIDERATIONS ARE THERE?

STREET TREE ALIGNMENT & PLACEMENT OF NEW TREES

The table below includes recommended clearances to inform the best positioning of the tree within the verge. The recommendations are not used to determine which tree is planted within the verge. Following these clearances should reduce the risk of tree-infrastructure conflicts for new trees and should take into consideration other site constraints.

INFRASTRUCTURE	CLEARANCE (M)
Private property boundary	2.7
Street intersection	10
Crossovers	3
Power pole	2
Under power lines	2
Alongside power lines	2.5
Underground service pits	2
Storm water inlet	2
Signs	2

POWER LINES

It is the Shire of Merredin's responsibility to maintain trees beneath power lines in public open spaces. Through the annual power line pruning program, street trees under power lines are pruned so that they are at least 2 metres below the wire and 2.5 metres to the side of the wire.

For service wires (from the street into the property), the minimum clearance accepted by Western Power is 300 millimetres. Densely foliated species with high epicormics can be pruned to form a broad hedged-like canopy which then prevents branches coming into conflict with power lines yet provides significant canopy cover. Therefore, there are specific trees in the recommended street tree list which have been selected to be planted under power lines.

SELECTION CRITERIA FOR CHOOSING A STREET TREE FOR THE VERGE

Verges that are less than 2 metres in width are generally unsuitable for planting. However, the Shire may still undertake an assessment of the verge to see if it is able to accommodate a tree (i.e. consider infrastructure, adjacent properties, etc.). Street tree spacing should also be implemented to reduce the risk of competition within the verge and to provide uniform spacing between trees. The placement of the street tree within the verge should be directly in the middle. This will lessen the impact of the street tree on adjacent kerbs, roads, and footpaths. Additionally, this will alleviate stress on the structural root zone of the street tree. (A tree's structural root zone (SRZ) radius can be approximated by multiplying the trunk diameter by 5, e.g. a tree with a trunk diameter of 40cm will have a SRZ radius of 2m.)

The following criteria should be considered when making an assessment:

- **Very Narrow Verge (less than 2 metres wide)** – unsuitable for planting street trees. Please refer to Policy 7.13 *Verge Treatments, Plantings and Beautification* for suitable alternatives
- **Narrow Verge (2-3 metres wide)** – small trees to 6 metres in height, spaced approximately 5–7 metres apart
- **Medium Verge (4-6 metres wide)** – medium trees up to 6–10 metres in height, spaced approximately 7–10 metres apart
- **Wide Verge (7-10 metres wide)** – tall trees to 10–16 metres in height, spaced approximately 10-13 metres apart
- **Very Wide Verge (over 10 metres wide)** – very tall trees to over 22 metres in height, spaced approximately 13-17 metres apart

REMOVAL AND/OR PRUNING OF STREET TREES

It is the Shire's desire that only street trees that are dead, diseased or dying will be removed. It is not the Shire's intention to remove trees without justification. The form the justification may take if they are removed may be (for example) if they are considered "wrongly placed", "annoying" or, in the absence of a professional assessment, are considered "a risk".

Whilst the majority of complaints and requests for street tree removals are due to nuisance factors (leaf litter and nut drop), it is the Shire's responsibility to remove and/or maintain street trees via the *Local Government Act 1995*. It is also unlawful for a person to remove or interfere with a street tree and therefore they may be infringed or prosecuted.

The Executive Manager Engineering Services will make the final decision on whether a street tree is to be removed. Notwithstanding this, some trees that are in-situ may be reviewed and if appropriate, be replaced with trees that will achieve greater outcomes in regards to streetscape amenity and environmental benefits.

The Shire may not remove and/or prune a street tree if:

- It is "a nuisance" (looks bad, disliked, drops too many leaves/nuts/bark/flowers);
- It attracts insects, birds or other fauna;
- Someone wishes to develop their land without approval;
- Someone wishes to install a permitted verge treatment;
- It shades pools, lawns, gardens or solar panels (PV or hot water);
- It results in unsubstantiated allergy or health complications;
- An unsupported request is received by a tenant and not the property owner; or
- It is protected under legislation.

The Shire may remove and/or prune a street tree if:

- It is dead, diseased or dying;
- It is structurally unsound (dangerous) and cannot be remediated;

- An approval has been given as part of an approved application and the tree will be replaced or compensated;
- It has been affected by infrastructure works and cannot be retained;
- If the root structure or any other part of the tree is damaging infrastructure;
- The Shire deems it appropriate to improve streetscape safety and canopy performance;
- There is a contributing substantiated link causing a serious or severe medical condition; or
- To maintain the height and overall aspect at a manageable level.

REMOVAL AND/OR PRUNING OF INDIGENOUS STREET TREES

Special consideration needs to be given to indigenous street trees that may require a clearing permit for their removal. As per the *Environmental Protection Act 1986* (WA), native vegetation is defined as “indigenous aquatic or terrestrial vegetation, including dead vegetation unless that dead vegetation is of a class declared by regulation to be excluded from this definition, but not including vegetation in a plantation”.

As per the *Environmental Protection Act 1986* clearing is defined as:

- a) The killing or destruction of; or
- b) The removal of; or
- c) The severing or ringbarking of trunks or stems of; or
- d) The doing of any other substantial damage to some or all of the native vegetation in an area, and includes the draining or flooding of land, the burning of vegetation, the grazing of stock, or any other activity that causes the above.

There are exemptions for vegetation that is intentionally sown, planted or propagated and as such it is recommended that indigenous street trees are assessed in consideration with the EP Act, particularly identifying whether they have been intentionally planted as a street tree or represent endemic existing trees.



Barrack St is Merredin’s main street and features Peppercorn and Palm Trees amongst others

HOW WILL THE MASTER PLAN BE IMPLEMENTED?

EXISTING TREES

It is envisaged that the STMP will mostly be implemented over time through natural attrition - i.e. as the existing trees die off, new species will be planted. It is not envisaged that there would be mass removals except as part of a streetscape upgrade project, asset protection program or as part of the development of a property.

NEW PLANTINGS

The Street Tree Master plan utilises zone maps for the Shire and the Shire's recommended Street Tree List to support the selection of new trees.

FAQ

How will the STMP be implemented?

The STMP will be used to guide the town's standard tree replacement and planting program. Proposed changes to streetscape themes will occur gradually as trees die naturally over time. There is no intention to remove healthy, structurally sound trees.

Does the STMP consider existing street tree themes?

Yes, in most cases the existing street tree theme will be maintained. New themes are generally proposed where there are; few established trees, no cohesive theme or existing trees are not thriving.

Does the STMP include trees that support indigenous fauna?

Yes a range of indigenous and local species have been selected that aims to promote indigenous flora and fauna.



Street trees along Barrack St and the Great Eastern Highway

STREET TREE PLANNING

The Shire of Merredin maintains an annual street tree planting program to increase the number of trees and to increase canopy cover. This includes the planting of resident requested street trees (in line with Policy 7.13 - Verge Treatments, Plantings and Beautification) and the identification of vacant verges via verge audits. Once a street tree is requested or a vacant verge identified, the Shire's Street Tree Master Plan recommendation list and zone maps should be consulted to confirm a suitable tree for the selected location.

Fruit trees will be considered on a case-by-case basis.

SPECIES USED IN STREET TREE MASTER PLAN

The following table details the recommended list of tree species specified in the following pages of the STMP and summarises certain details in relation to each species.

COMMON NAME	SPECIES	WA NATIVE OR FOREIGN	SUITABLE FOR UNDER POWERLINES
Bottlebrush	<i>Callistemon sp.</i>	Native	✓
Coral Gum	<i>Eucalyptus torquata</i>	Native	✗
Queensland Box Tree	<i>Lophostemon confertus</i>	Foreign	✓
Olive Leaf Grevillea	<i>Grevillea olivacea</i>	Native	✓
Narrow-leaf Gimlet	<i>Eucalyptus spathulata</i>	Native	✗
Lemon-flowered Gum	<i>Eucalyptus woodwardii</i>	Native	✗
Olive Tree	<i>Olea europaea</i>	Foreign	✓
Golden Showers	<i>Cassia fistula</i>	Foreign	✗
Kurrajong	<i>Brachychiton populneus</i>	Foreign	✗
Swamp Sheoak	<i>Casuarina obesa</i>	Native	✗
Native Apricot	<i>Pittosporum angustifolium</i>	Native	✓
Red-flowered Mallee	<i>Eucalyptus erythronema</i>	Native	✓
Red Cottonwood	<i>Hibiscus tiliaceus rubra</i>	Native*	✓
Rottneist island pine	<i>Callitris preissii</i>	Native	✗
York Gum	<i>Eucalyptus loxophleba</i>	Native	✗
Gimlet	<i>Eucalyptus Salubris</i>	Native	✗
Italian Cypress	<i>Cupressus sempervirens</i>	Foreign	✗
Cape Lilac	<i>Melia azedarach</i>	Native	✗
Gungurru	<i>Eucalyptus caesia</i>	Native	✗
Jujube	<i>Ziziphus jujuba)</i>	Foreign	✗

BOTTLEBRUSH

(Callistemon sp.)

ORIGIN

Australia and occurs naturally in the Shire of Merredin area

HEIGHT

4-6m

BARK

Stringy grey

FOLIAGE

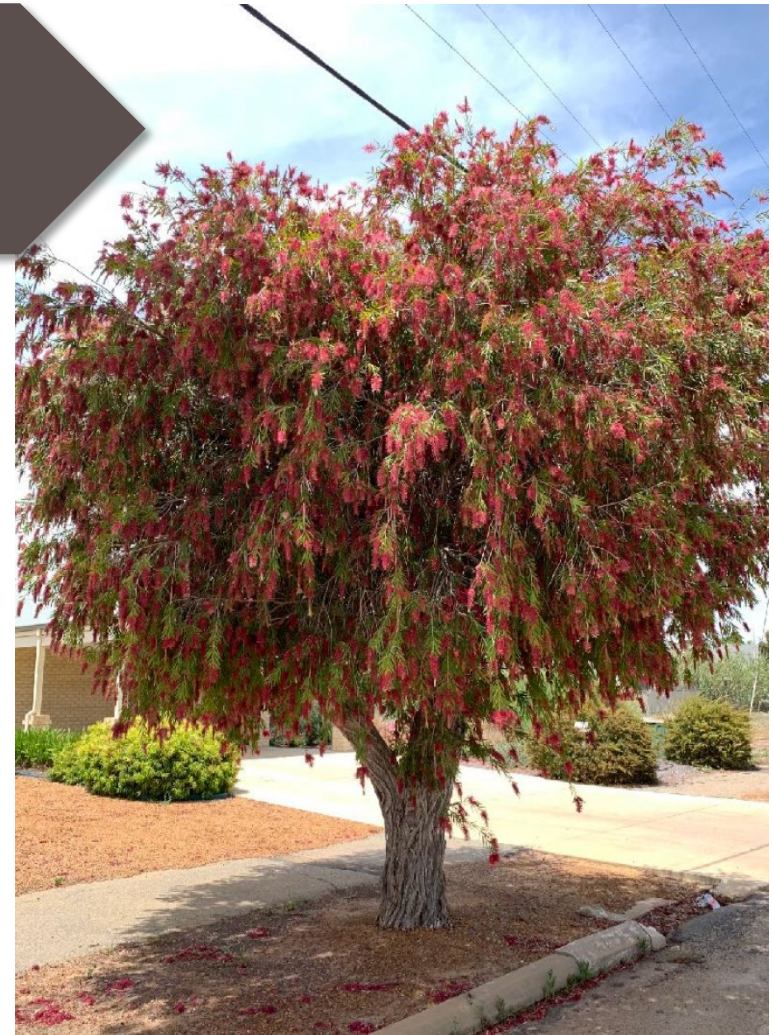
Evergreen tree with slender dark green leaves

FLOWERS/FRUIT/SEEDS

Spectacular deep-red 'bottlebrush' shaped flower spikes in spring and early summer. No fruit. Does deposit small seeds

RECOMMENDATIONS

Although there are many hybrids available any of the *Callistemon* species should be fine for planting in Merredin. Suggested minimum distance from any sewer pipe of 4m. Suitable for planting under power lines



CORAL GUM

(Eucalyptus torquata)

ORIGIN

Western Australia, specifically the Kalgoorlie area

HEIGHT

4-11m

BARK

Rough grey to black bark

FOLIAGE

Evergreen tree with lanceolate shaped leaves of a greyish green in colour

FLOWERS/FRUIT/SEEDS

Large, coral pink flowers. No fruit. Does deposit small seeds

RECOMMENDATIONS

Commonly used as a garden tree. Suggested minimum distance from any sewer pipe of 4m. Not suitable for under power lines



QUEENSLAND BOX TREE

(Lophostemon confertus)

ORIGIN

North-east NSW and Coastal Queensland, Australia

HEIGHT

15m in urban setting (up to 40m in rainforest setting)

BARK

Rough brown bark on lower trunk and smooth pinkish brown bark on upper trunk and limbs

FOLIAGE

Evergreen tree with large leathery dark green leaves

FLOWERS/FRUIT/SEEDS

White fluffy flowers in spring and summer. No fruit

RECOMMENDATIONS

A useful street tree. Suggested minimum distance from any sewer pipe of 6m. Given its relatively slow growth rate in Merredin it may be suitable for planting under power lines



OLIVE LEAF GREVILLEA

(Grevillea olivacea)

ORIGIN

Western Australia

HEIGHT

4m (shrub)

BARK

Smooth woody brown limbs

FOLIAGE

Evergreen tree with dense, deep green foliage and lanceolate shaped leaves

FLOWERS/FRUIT/SEEDS

Large blossoms in different shades of yellow, orange, red and pink depending upon specific variety. Flowers from winter to late spring. No fruit or seeds

RECOMMENDATIONS

Popular due to Waterwise properties. Suggested minimum distance from any sewer pipe unknown so based on similar sized plants recommend 6m. Suitable for planting under power lines

Image (right) courtesy of Benara Nurseries, Carabooda.



NARROW-LEAF GIMLET

(Eucalyptus spathulata)

ORIGIN

Western Australia

HEIGHT

8m

BARK

Smooth grey with new bark being a pinkish brown

FOLIAGE

Evergreen tree with slender dark green leaves

FLOWERS/FRUIT/SEEDS

White to yellow blossoms between December and March. Does deposit small seed like capsules

RECOMMENDATIONS

There was no data on suggested minimum distance from any sewer pipe so based on similar sized trees 8m is a conservative figure. Not suitable for planting under power lines



YELLOW-FLOWERED GUM

(Eucalyptus woodwardii)

ORIGIN

Kalgoorlie area, Western Australia

HEIGHT

15m

BARK

Smooth light brown with some darker hard brown patches

FOLIAGE

Evergreen tree with lanceolate shaped leaves in a dark grey green

FLOWERS/FRUIT/SEEDS

Large yellow blossoms from August through to November. Does deposit small seed like capsules

RECOMMENDATIONS

It is a bit tall but it is hardy and drought tolerant. Suggested minimum distance from any sewer pipe of 6m. Not suitable for under power lines



OLIVE TREE

(Olea europaea)

ORIGIN

Mediterranean area, Asia and Africa

HEIGHT

7m

BARK

Gnarled brown bark

FOLIAGE

Evergreen tree with slender silvery green leaves

FLOWERS/FRUIT/SEEDS

Small white feathery flowers. Small round fruit approximately 2cm in length

RECOMMENDATIONS

Hardy and popular. The fruit can stain footpaths and has the potential to cause slips for pedestrians so it is best located away from hard surfaces. Suggested minimum distance from any sewer pipe of 6m. Suitable for under power lines



GOLDEN SHOWER

(Cassia fistula)

ORIGIN

Southeast Asia

HEIGHT

20m

BARK

Light brown and flaky. Grows rougher as tree matures

FOLIAGE

Deciduous tree with leaves being a vibrant green and usually 15–60 cm long and pinnate with three to eight pairs of leaflets

FLOWERS/FRUIT/SEEDS

Large yellow cascades of flowers from August to November. No fruit. Produces large seed pods after flowering

RECOMMENDATIONS

Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



KURRAJONG

(Brachychiton populneus)

ORIGIN

Eastern Australia

HEIGHT

7m

BARK

Rough grey bark

FOLIAGE

Evergreen tree with dark green leaves in a variety of shapes dependent upon variety of Kurrajong

FLOWERS/FRUIT/SEEDS

Bell shaped flowers ranging from pale white/yellow to pink. No fruit. Drops large deposits of seed pods

RECOMMENDATIONS

Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



SWAMP SHEOAK

(Casuarina obesa)

ORIGIN

South Western Australia and small pockets of NSW and Victoria

HEIGHT

10m

BARK

Textured brown-grey

FOLIAGE

Evergreen tree with slender dark green leaves

FLOWERS/FRUIT/SEEDS

Small flowers in shades from white to red at any time of year. Both female and male trees bear the flowers with the females developing and shedding round spiky nuts. No fruit

RECOMMENDATIONS

Not particularly attractive but hardy. Tolerant of water logging and mildly salt tolerant. Vigorous root plate so should be planted away from hard surfaces such as footpaths, crossovers and roads Suggested minimum distance from any sewer pipe of 10m. Not suitable for planting under power lines



NATIVE APRICOT

(Pittosporum angustifolium)

ORIGIN

Inland Australia and occurs naturally in the Shire of Merredin area

HEIGHT

6m (relatively slow growing)

BARK

Stringy grey

FOLIAGE

Evergreen tree with slender green leaves that give a 'weeping willow' appearance

FLOWERS/FRUIT/SEEDS

Small yellow tubular flowers from late winter to mid spring. The fruit resembles apricots but it is not particularly palatable

RECOMMENDATIONS

Suggested minimum distance from any sewer pipe of 6m. Suitable for planting under power lines



RED FLOWERED MALLEE

(Eucalyptus erythronema)

ORIGIN

Western Australia and occurs naturally in the Shire of Merredin area

HEIGHT

7m

BARK

White bark covered with a talc-like powder which is often pinkish at the top with new bark that is pale green. The bark can vary in colour from white, purplish or pale pink to salmon

FOLIAGE

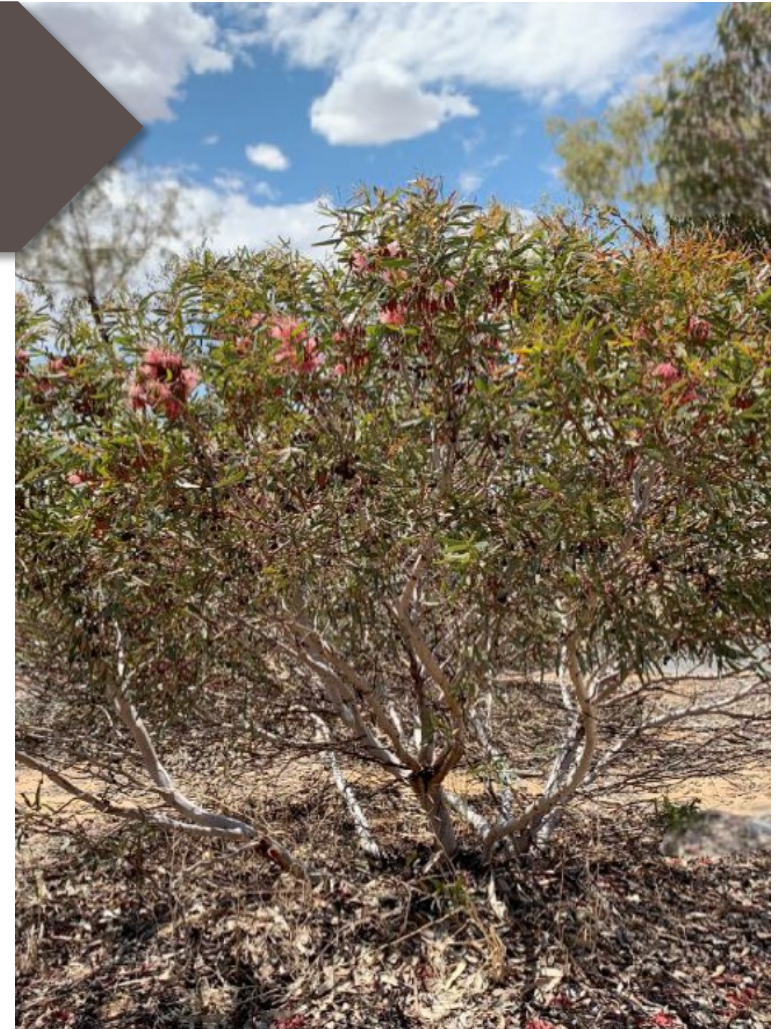
Evergreen tree with tapered lanceolate shaped glossy green leaves

FLOWERS/FRUIT/SEEDS

Flowers from July to February in shades of pink, red, white and yellow. No fruit. Does deposit small seed like capsules

RECOMMENDATIONS

Suggested minimum distance from any sewer pipe of 4m. Suitable for planting under power lines



RED COTTONWOOD

(Hibiscus tiliaceus rubra)

ORIGIN

Northern Western Australia

HEIGHT

8m

BARK

Flat brown

FOLIAGE

Evergreen tree with rich maroon green leaves

FLOWERS/FRUIT/SEEDS

Bright yellow or coral flowers from in spring to summer. No fruit or seeds

RECOMMENDATIONS

Tolerates high wind, salt soil and poor drainage. Suggested minimum distance from any sewer pipe of 4m. Suitable for planting under power lines



ROTTNEST ISLAND PINE

(Callitris preissii)

ORIGIN

Swan Coastal Plain, Rottnest Island, and Garden Island

HEIGHT

9m

BARK

Becoming grey-brown and longitudinally furrowed

FOLIAGE

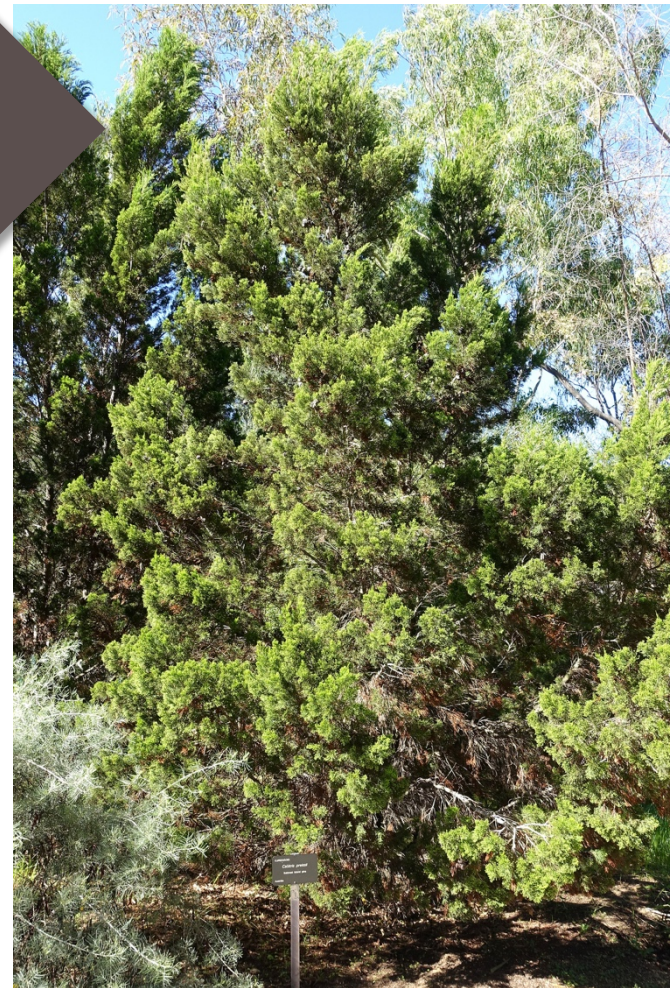
Dark green, coniferous foliage that may be pruned lightly

FLOWERS/FRUIT/SEEDS

Cones are 25-30 mm in diameter, smooth or sparsely warted

RECOMMENDATIONS

Tolerates high wind, salt soil and poor drainage. Relatively slow growing. Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



YORK GUM

(Eucalyptus loxophleba)

ORIGIN

Western Australia, native to Merredin

HEIGHT

15m

BARK

Grey-brown over copper with a darker grey rough basal stocking

FOLIAGE

Evergreen tree with

FLOWERS/FRUIT/SEEDS

Flowers white, Jul to Dec or Jan to Feb. Seed capsules form later and will persist until the following August or longer

RECOMMENDATIONS

Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



GIMLET

(Eucalyptus salubris)

ORIGIN

Western Australia, native to Merredin

HEIGHT

15m

BARK

Smooth coppery brown

FOLIAGE

Glossy green, lance-shaped leaves

FLOWERS/FRUIT/SEEDS

White or cream flowers from September to March

RECOMMENDATIONS

Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



ITALIAN CYPRESS

(Cupressus sempervirens)

ORIGIN

Eastern Mediterranean

HEIGHT

35m

BARK

On younger trees it is thin, smooth, and grey becoming grey-brown and longitudinally furrowed

FOLIAGE

Dense dark green sprays

FLOWERS/FRUIT/SEEDS

The seed cones are ovoid or oblong, 25–40 mm long, green at first, maturing brown about two years after pollination

RECOMMENDATIONS

Tolerates high wind, salt soil and poor drainage. Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



CAPE LILAC

(Melia azedarach)

ORIGIN

Northern Western Australia

HEIGHT

15m

BARK

Brown with longitudinal cracking as the tree ages

FOLIAGE

Dark green above and lighter green below

FLOWERS/FRUIT/SEEDS

White-pink-purple, from September to November

RECOMMENDATIONS

Deciduous, not suitable for planting under powerlines. Suggested minimum distance from any sewer pipe of 6m



GUNGURRU

(Eucalyptus caesia)

ORIGIN

Western Australia, native to Merredin

HEIGHT

14m

BARK

Reddish brown bark that continuously peels in small curly flakes (minni-ritchi)

FOLIAGE

Arrow lanceolate, leathery, up to 12 centimetres long

FLOWERS/FRUIT/SEEDS

Pink or red flowers from May to September

RECOMMENDATIONS

Gungurru could be damaged by frost. Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



JUJUBE

(Ziziphus jujuba)

ORIGIN

Southern Asia

HEIGHT

12m

BARK

Brown

FOLIAGE

Shiny green leaves

FLOWERS/FRUIT/SEEDS

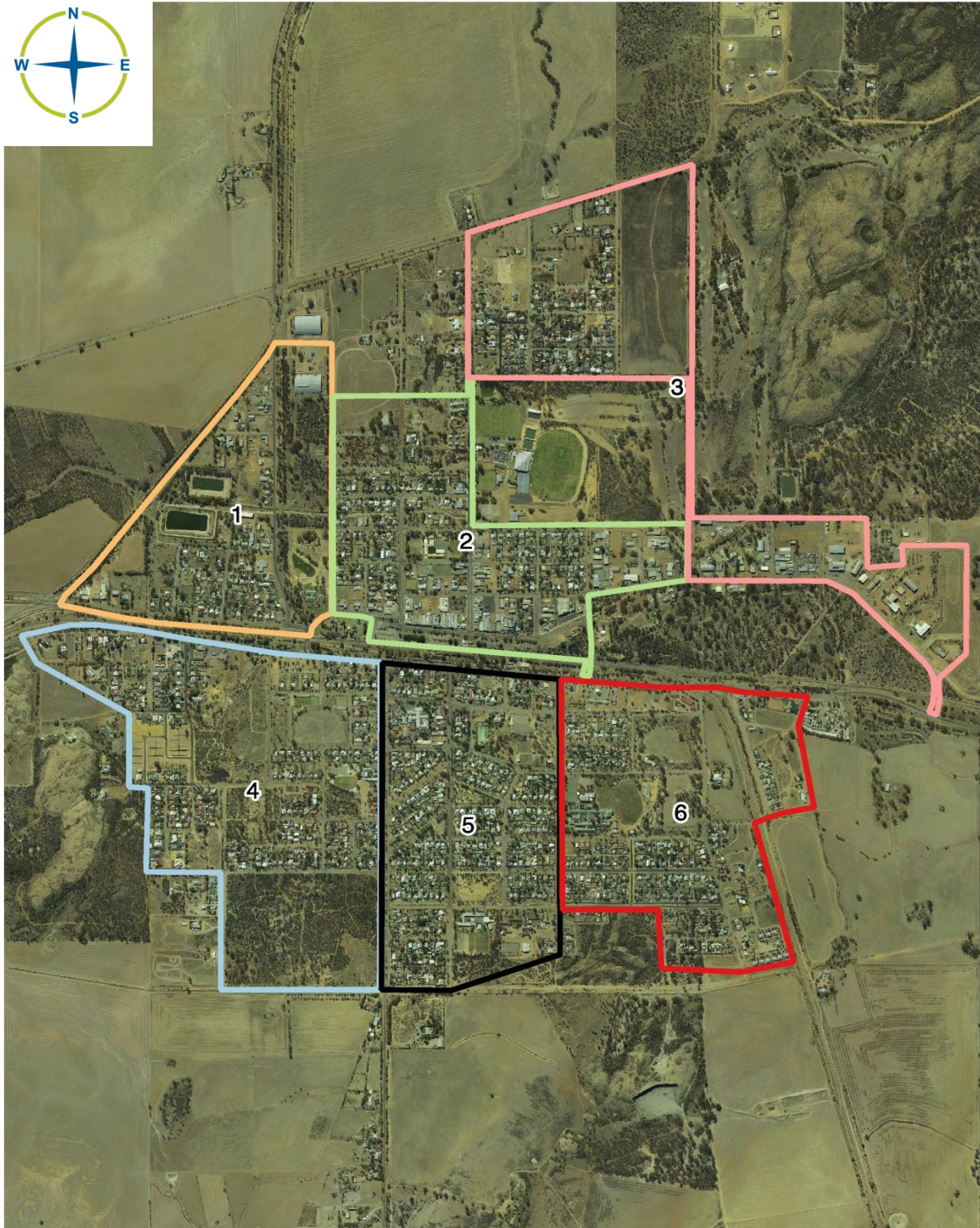
Small yellowish-green petals. Edible fruit

RECOMMENDATIONS

Only thornless varieties will be appropriate. Suggested minimum distance from any sewer pipe of 6m. Not suitable for planting under power lines



STREET TREE ZONE OVERVIEW



15 February, 2019

ZONE 1 STREET TREES



Legend

Street Trees Zone1

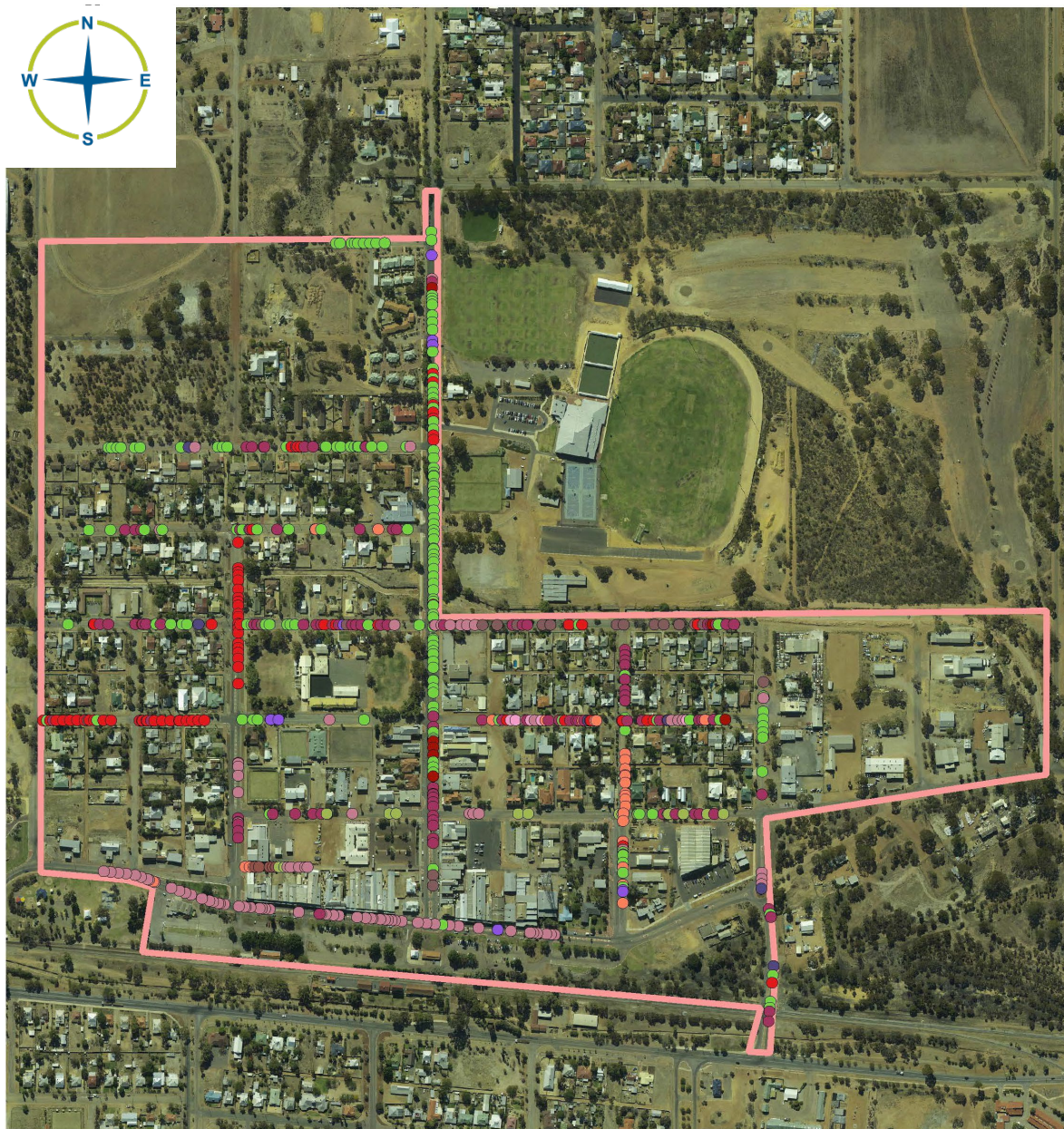
- | | | | |
|--------------------------|-------------------------|-------------------------|--------------|
| ● Acacia sp. | ● Eucalyptus sp. | ● Hakea sp. | ● Misc. |
| ● Allocasuarina sp. | ● Eucalyptus torquata | ● Jacaranda mimosifolia | ● Olive Tree |
| ● Brachychiton populneus | ● Eucalyptus woodwardii | ● Leptospermum sp. | ● Quandong |
| ● Callistemon sp. | ● Fruit Tree | ● Lophostemon confertus | |
| | ● Grevillea sp. | ● Melaleuca sp. | |

100 0 100 200 300 400 m



15 February, 2019

ZONE 2 STREET TREES



Legend

Street Trees Zone2

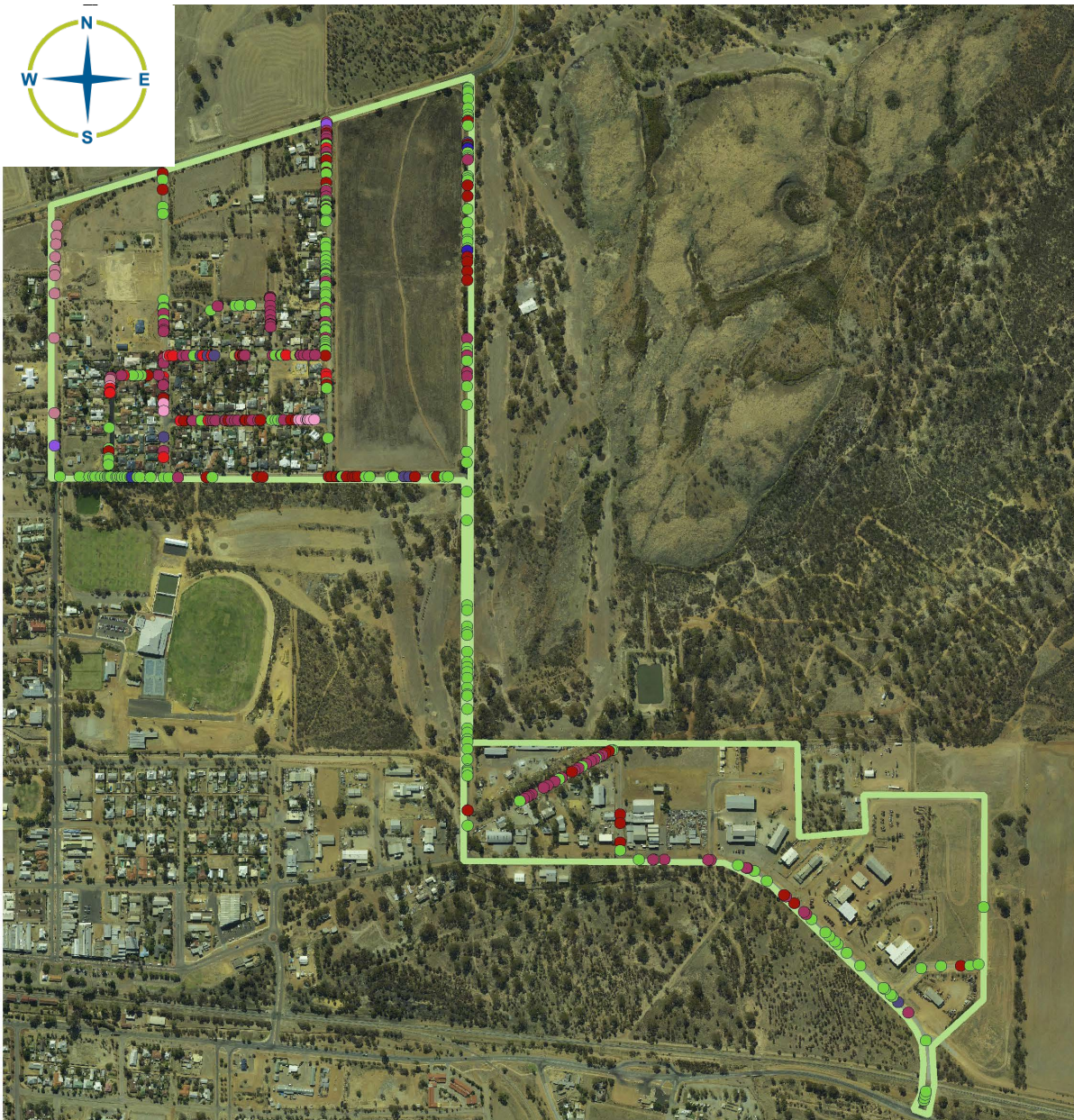
- | | | | |
|--------------------------|-------------------------|-------------------------|--------------|
| ● Acacia sp. | ● Eucalyptus sp. | ● Hakea sp. | ● Misc. |
| ● Allocasuarina sp. | ● Eucalyptus torquata | ● Jacaranda mimosifolia | ● Olive Tree |
| ● Brachychiton populneus | ● Eucalyptus woodwardii | ● Leptospermum sp. | ● Quandong |
| ● Callistemon sp. | ● Fruit Tree | ● Lophostemon confertus | |
| | ● Grevillea sp. | ● Melaleuca sp. | |

100 0 100 200 300 400 m



15 February, 2019

ZONE 3 STREET TREES

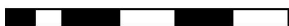


Legend

Street Trees Zone3

- | | | | |
|--------------------------|-------------------------|-------------------------|--------------|
| ● Acacia sp. | ● Eucalyptus sp. | ● Hakea sp. | ● Misc. |
| ● Allocasuarina sp. | ● Eucalyptus torquata | ● Jacaranda mimosifolia | ● Olive Tree |
| ● Brachychiton populneus | ● Eucalyptus woodwardii | ● Leptospermum sp. | ● Quandong |
| ● Callistemon sp. | ● Fruit Tree | ● Lophostemon confertus | |
| | ● Grevillea sp. | ● Melaleuca sp. | |

100 0 100 200 300 400 m



15 February, 2019

ZONE 4 STREET TREES



Legend

Street Trees Zone4

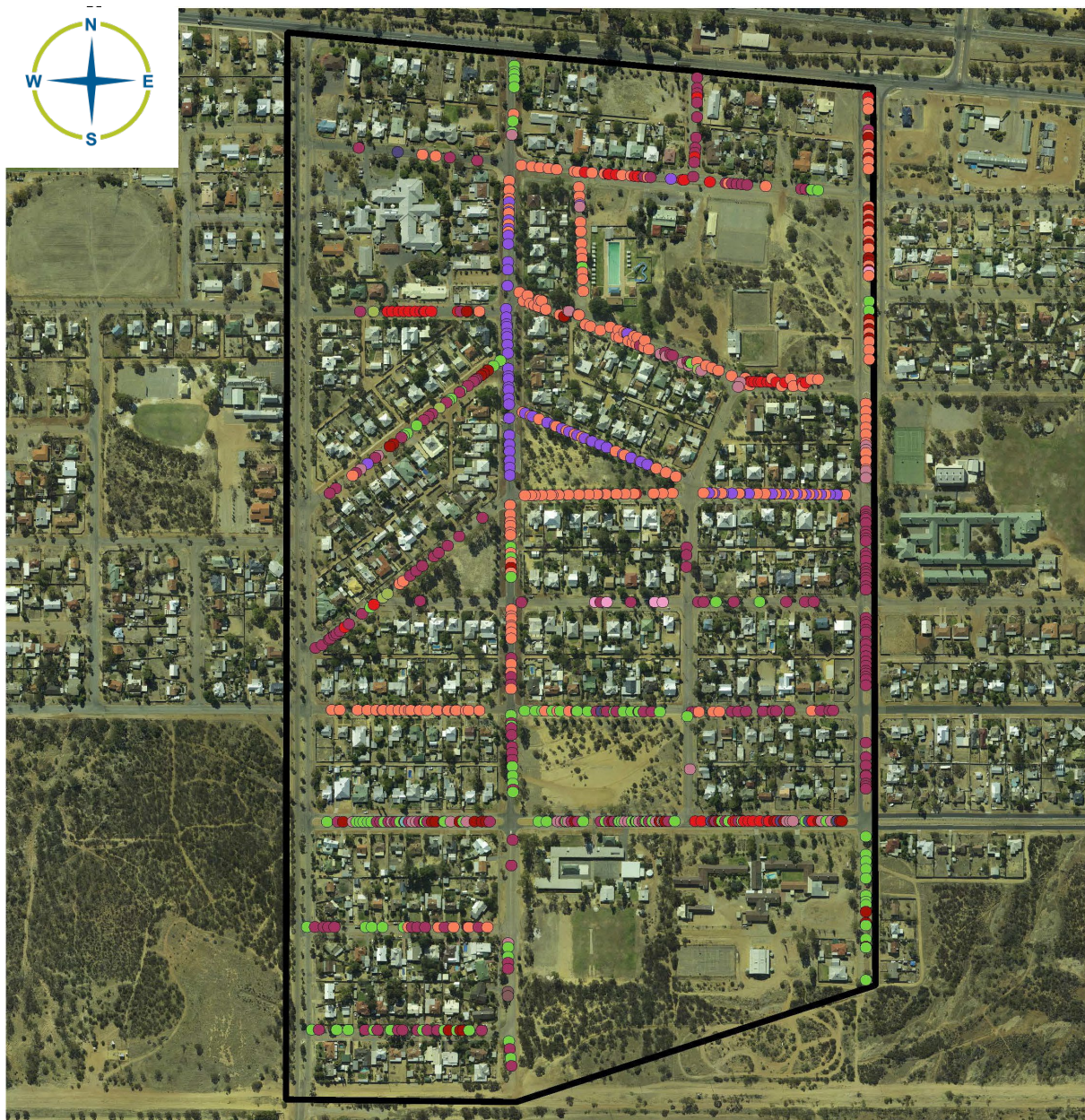
- | | | | |
|--------------------------|-------------------------|-------------------------|--------------|
| ● Acacia sp. | ● Eucalyptus sp. | ● Hakea sp. | ● Misc. |
| ● Allocasuarina sp. | ● Eucalyptus torquata | ● Jacaranda mimosifolia | ● Olive Tree |
| ● Brachychiton populneus | ● Eucalyptus woodwardii | ● Leptospermum sp. | ● Quandong |
| ● Callistemon sp. | ● Fruit Tree | ● Lophostemon confertus | |
| | ● Grevillea sp. | ● Melaleuca sp. | |

100 0 100 200 300 400 m



15 February, 2019

ZONE 5 STREET TREES



Legend

Street Trees Zone5

- | | | | |
|--------------------------|-------------------------|-------------------------|--------------|
| ● Acacia sp. | ● Eucalyptus sp. | ● Hakea sp. | ● Misc. |
| ● Allocasuarina sp. | ● Eucalyptus torquata | ● Jacaranda mimosifolia | ● Olive Tree |
| ● Brachychiton populneus | ● Eucalyptus woodwardii | ● Leptospermum sp. | ● Quandong |
| ● Callistemon sp. | ● Fruit Tree | ● Lophostemon confertus | |
| | ● Grevillea sp. | ● Melaleuca sp. | |

100 0 100 200 300 400 m



15 February, 2019

ZONE 6 STREET TREES



Legend

Street Trees Zone6

- | | | | |
|--------------------------|-------------------------|-------------------------|--------------|
| ● Acacia sp. | ● Eucalyptus sp. | ● Hakea sp. | ● Misc. |
| ● Allocasuarina sp. | ● Eucalyptus torquata | ● Jacaranda mimosifolia | ● Olive Tree |
| ● Brachychiton populneus | ● Eucalyptus woodwardii | ● Leptospermum sp. | ● Quandong |
| ● Callistemon sp. | ● Fruit Tree | ● Lophostemon confertus | |
| | ● Grevillea sp. | ● Melaleuca sp. | |

100 0 100 200 300 400 m



15 February, 2019