



Kawana Waters

Street tree strategy

Description of area and land use

The Kawana Waters plan area contains a range of residential communities, many of which are focused on nearby water bodies offering beachside lakeside or canal front living. With Kawana Way and Nicklin Way the plan area's major thoroughfares, the locality is best known for its shopping and industrial precincts as well as the ever-growing hospital precinct of Birtinya.

The coastal communities of Buddina, Warana, Wurtulla and Bokarina are older established areas with a relaxed beachside feel while the lakeside estates of Kawana Waters, Brightwater and Birtinya offer contemporary living at higher densities. Minyama is the plan area's formal river-front estate while Kawana Forest is a woodland enclave tucked away in the west of the plan area.

Trees and landscape character

The rapidly expanding locality is relatively fragmented with the areas east of Nicklin Way characterised by surf, sand and sheoaks and the areas west of Nicklin Way distinguished by a more open landscape with large expanses of water, ongoing development and a young, yet to establish tree canopy.

Much of the low lying land was dominated by paperbark swamp prior to subdivision. The Birtinya wetlands and thick stand of paperbarks (of high conservation significance) provide a stunning backdrop to the hospital precinct and provide welcome contrast to the flat and exposed environment of Kawana Way.

Fields of wild flowers were once a feature of the drive along Nicklin Way and protected sections of the dune still exhibit littoral rainforest. Coastal heath-dune vegetation naturally occurs in the plan area's foreshores with Norfolk Island pine, horse tail sheoak, coast banksia, beach birds eye, cotton tree and beach alectryon dominating the foreshore today. The blue satinash, tuckeroo, lemon myrtle and ivory curl form the base residential street tree palette with a greater mix of species in street tree palettes further inland.

Canopy cover

Across the plan area a good mix of old and new trees is evident however some areas show a lack of streetscape rejuvenation. Total vegetation volume in the plan area is extremely low with 27% of all lands and 19% of road reserve areas containing tree cover. The *Foliage and Shade Cover* plan for the locality demonstrates how commercial and industrial land use, major roads, new residential estates (with young, still establishing trees) and open greenfield sites awaiting future development influence these statistics.

A very low proportion of available sites for new street trees is demonstrated in Brightwater and Birtinya (Brightwater for example has a very high degree of embellishment), however trees are presently too young to provide significant shade or other measurable ecosystem services at this stage.

Major opportunities and constraints

The potential to extend and enhance avenues of street trees along Nicklin Way provides the best opportunity for beautification of the plan area. Numerous intersection and feature nodes suitable for the establishment of large canopy trees also exist along the major collector.

Pedestrian routes to and from the Buddina State School and links to the Kawana Shopping World present the best short-term opportunities for street tree planting to create shade in the locality.

Opportunity to undertake recruitment and succession planting in coastal foreshores where no views currently exist should be investigated further.

The best opportunities for *Adopt A Street Tree Programs* are in the locality of Wurtulla where planting themes are more ad-hoc and street tree occupancy lower than other areas.

Coastal winds and heavy exposure, existing water views, and low nutrient and/or disturbed soils are major constraints to street tree establishment in the plan area. East-west running residential streets located beachside of the Nicklin Way experience very heavy exposure limiting species that can be used to a very narrow palette in these areas. Similarly, the Birtinya locality contains areas of severe wind exposure. The palette of tree species suitable for planting in these areas therefore is also limited.

The electrical network, visibility of commercial signs and reduced permeable spaces significantly limit opportunities for strengthening tree cover. Future transport corridors and existing road upgrades occurring in the Birtinya area also presently limit the street tree planting potential of Kawana Way however opportunities for street tree integration as capital upgrades occur exist. As a part of the *Sunshine Coast Enterprise Corridor* the emerging medium density developments changing the built form of the landscape will also impact street tree establishment potential. Exponential increases in the existing constraints of impermeable spaces and competition from above and below infrastructure should also be planned for in the reservation and creation of spaces for 'living' infrastructure.

Opportunity to establish extensive networks of street trees now, that will soften the changing form of the built landscape and shade and cool associated pedestrian networks, should be taken wherever possible.

Street tree planting strategies

Street tree plantings enhance commercial centres and beautify the Nicklin Way, infilling and extending existing avenues along the major collector. The establishment of large canopy trees in feature locations aims to increase visual amenity and build tree cover in the plan area.

Pedestrian travel paths with low tree cover are prioritised for shading with street trees. Incorporation of street trees into future footpath programs occurs wherever possible. Compact street trees exhibit close planting centres and larger trees are used where possible to provide maximum shade and 'green relief' in a changing landscape.

Existing planting themes and species palettes are reinforced with a formal street tree layout for Nicklin Way (with species changes where natural breaks occur), casual coastal planting style east (beachside) of Nicklin Way and a contemporary planting theme (predominately mixed native) west of the major thoroughfare. New street tree plantings are respectful of the preservation of existing water views.

Establishing residential estates (for example Brightwater and Birtinya) are assessed for new street tree requirements when streetscapes are fully established or when this strategy is reviewed (in approximately five years).

Species selection considers specific local performance of existing specimens in the locality. Due to the many examples of aggressive root growth demonstrated by Hill's fig (*Ficus microcarpa* 'Hillii') specimens, and establishment difficulties evident in brush box plantings, these species should not be used in future planting programs for the area.

Street tree planting is respectful of master planned development communities in the plan area including *Development Control Plan 1 – Kawana Waters and Birtinya Oceanside Master Plan* (no date).

Street tree palettes

Signature trees

Avenue trees

Alectryon coriaceous (beach alectryon)
Araucaria heterophylla (Norfolk island pine)
Cupaniopsis anacardioides (tuckeroo)
Elaeocarpus obovatus (hard quandong)
Hibiscus tiliaceus (cotton tree) (where existing)
Melaleuca quinquenervia (broad-leaved paperbark)
Syzygium luehmannii (small leaved lilly pilly)
Xanthostemon chrysanthus (golden penda)
 See also *Trees for local streets* palette

Feature nodes

Araucaria cookii (Cook's pine) (where existing)
Araucaria cunninghamii (hoop pine)
Araucaria heterophylla (Norfolk island pine) (where existing)
Banksia integrifolia (coast banksia)
Callitris columellaris (Bribie island pine)
Elaeocarpus grandis (blue quandong)
Eucalyptus tereticornis (blue gum / forest red gum)
Ficus coronata (sand paper fig)
Ficus fraseri (Fraser Island fig)
Ficus macrophylla (Moreton bay fig)
Lophostemon suaveolens (swamp box)
 See also *Locally native species for natural character features* palettes

Signature trees (cont.)

Foreshore trees

Acronychia imperforata (Fraser island apple)
Alectryon coriaceous (beach alectryon)
Araucaria heterophylla (Norfolk Island pine)
Banksia integrifolia (coast banksia)
Casuarina glauca (swamp sheoak)
Casuarina equisetifolia (horse tail sheoak)
Corymbia tessellaris (Moreton Bay ash)
Cupaniopsis anacardioides (tuckeroo)
Hibiscus tiliaceus (cotton tree)
Melaleuca quinquenervia (broad-leaved paperbark) (where existing)
Pandanus tectorius (screw palm)
*Calophyllum inophyllum** (beauty leaf) (trial locations)
*Cocos nucifera** (dwarf coconut) (trial locations - large garden beds - only)

Trees for accent and highlights

Brachychiton acerifolius (Illawarra flame tree)
Livistona australis (fan palm)
Hibiscus tiliaceus 'Rubra' (red cotton tree)
Morus nigra (mulberry)
Pandanus tectorius (screw palm)
Tabebuia pallida (trumpet tree)

Trees for local streets

*Acronychia wilcoxiana** (silver aspen) (trial locations)
*Alphitonia petriei** (white ash) (trial locations)
Banksia integrifolia (coast banksia)
Buckinghamia celcissima (ivory curl)
*Cryptocarya glaucescens** (jackwood) (trial locations)
Cupaniopsis anacardioides (tuckeroo)
*Diospyros germinata** (Queensland ebony) (trial locations)
Elaeocarpus obovatus (hard quandong)
Eucalyptus bancroftii (tumbledown gum)
Grevillea baileyana (white oak) (where existing only)
Melaleuca (syn. *Callistemon*) *viminalis* 'Wild fire' (weeping crimson bottle brush)
Melaleuca (syn. *Callistemon*) *viridiflora* (broad-leaved bottlebrush)
Melaleuca quinquenervia (broad-leaved paperbark) (where existing)
Syzygium (syn. *Acmena*) *hemilampra* (blue satinash) (crinkle leaf and broad leaf forms)
Tristaniopsis laurina 'Luscious' (water gum)
Xanthostemon chrysanthus (golden penda)

Locally native species for natural character features

Woodland / open forest

Casuarina glauca (swamp sheoak)
Corymbia citriodora subsp. *citriodora* (lemon-scented gum)
Corymbia gummifera (red bloodwood)
Corymbia intermedia (pink bloodwood)
Corymbia trachyphloia (brown bloodwood)
Eucalyptus bancroftii (tumbledown gum)
Eucalyptus creba (narrow-leaved ironbark)
Eucalyptus seeana (narrow-leaved red gum)
Eucalyptus siderophloia (grey ironbark)
Eucalyptus tereticornis (blue gum / forest red gum)
Eucalyptus tindaliae (Tindale's stringybark)
Lophostemon confertus (brush box)
Lophostemon suaveolens (swamp box)
Melaleuca quinquenervia (broad-leaved paperbark)
Syncarpia glomulifera (turpentine)

Rainforest

Aphananthe philippinensis (rough-leaved elm)
Castanospermum australe (Moreton Bay chestnut)
Cryptocarya hypospodia (purple laurel)
Cryptocarya obovata (pepperberry)
Cryptocarya triplinervis (three-veined laurel)
Endiandra sieberi (corkwood)
Elaeocarpus grandis (blue quandong)
Ficus coronata (sand paper fig)
Ficus fraseri (Fraser Island fig)
Ficus macrophylla (Moreton Bay fig)

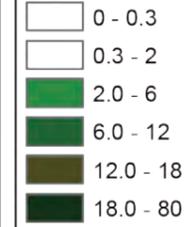
Foliage and Shade Cover

Kawana Waters Local Plan Area

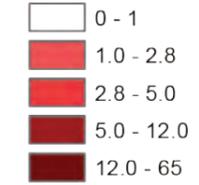


Legend

Vegetation Height (m)



Building Height (m)



Canopy Shade

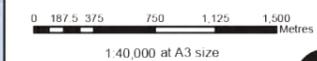
Water Bodies

Local Plan Area Boundary



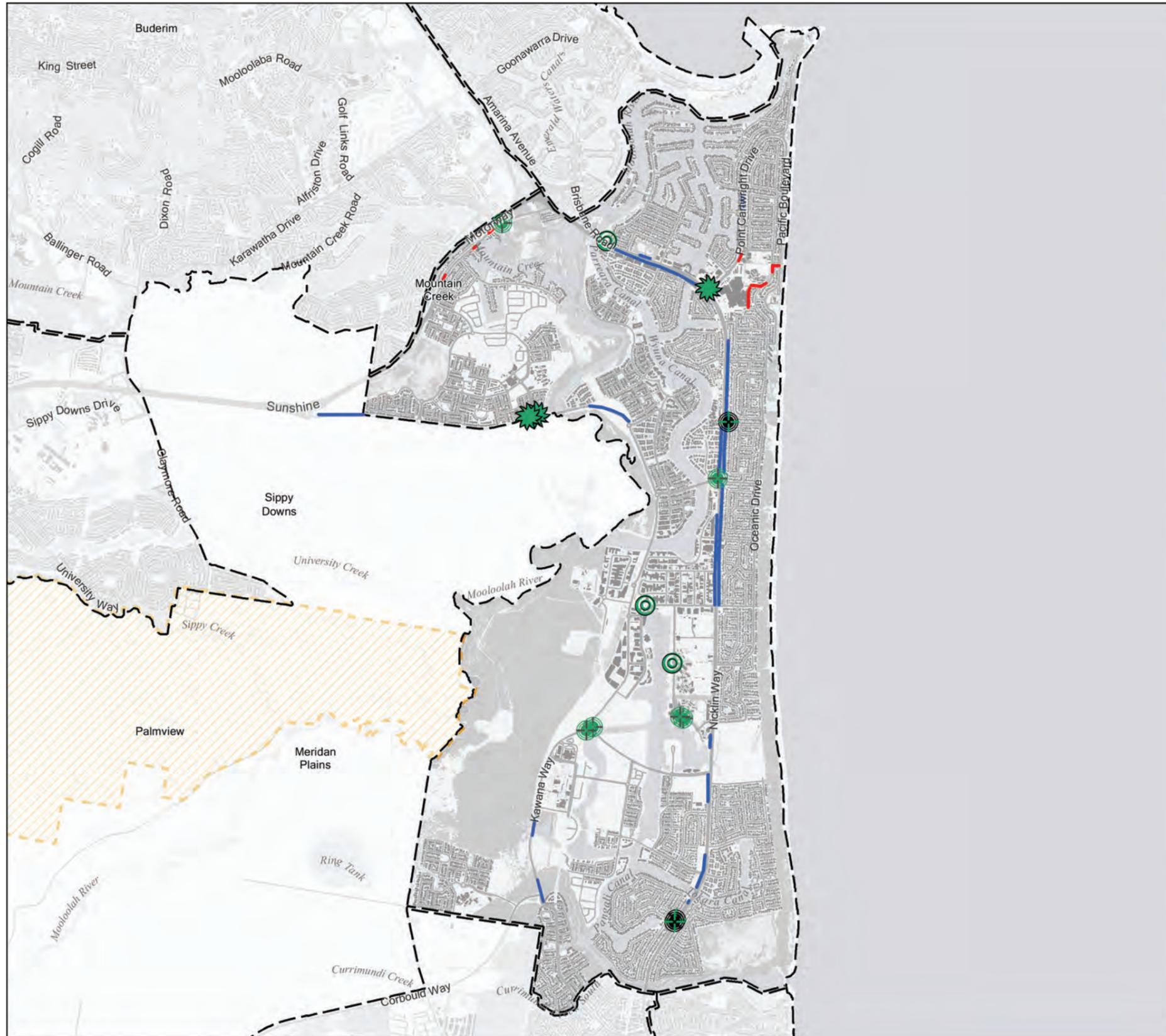
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Priority Planting Plan

Kawana Waters Local Plan Area



Legend

Priority planting locations

Nodes and Parkland perimeters

- Esplanade no view
- Park perimeter planting
- Space for group planting
- Space for single compact tree
- Space for single large canopy tree
- Vegetative screen or buffer

Priority planting locations

Major thoroughfares and Walkable routes

- Road verge - Key pedestrian route
- Road verge - Local access or residential street
- Road verge - Major thoroughfare

- Local Plan Area boundary
- Priority Development Area (Maroochydore City Centre)
- Priority Development Area (Caloundra South)
- Declared Master Planned Areas (Maroochydore & Palmview)



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1:40,000 at A3 size

