Tree Species Selection Criteria

For the "Torquay North" Development Plan area

Where are street trees required?
For the purposes of this document the "Torquay North" Development Plan area is all of the land covered by the *Development Plan Overlay – Schedule 8* in the Surf Coast Planning Scheme. The areas is generally bounded by South Beach Road to the North, "The Sands" to the east, "The Quay" to the south and the Surfcoast Highway to the west.

The species identified in the Torquay North street tree planting list below are to be planted in:

- connector streets and all local residential streets;
- the neighbourhood activity centre;
- open space reserves (local parks and areas of active open space).

The nature reserves proposed within the Torquay North development area are to be planted with approved indigenous species of local provenance with certification of local provenance provided to Council.

Why are street trees required?
In this document and associated plans it has been a key objective to ensure all streets and carparks in Torquay North are designed to ensure there is adequate space provided for the planting of appropriate tree species for the region which are fit for their purpose including large canopy trees. Street trees are a pivotal part of the design for Torquay North due to the important but often unrecognised role that they play in. Below is a list of some of those roles:

- reducing the heat island effect;
- reducing greenhouse gases;
- traffic calming - by enclosing the street and encouraging positive driver behaviour;
- prolonging the life of the bitumen;
- improving the micro climate of the neighbourhood;
- improving the energy performance of adjoining buildings;
- capturing and re-using stormwater;
- creating pedestrian focused streets;
- reaffirming streets as public places;
- beautifying the neighbourhood;
- increasing the monetary value of the neighbourhood;
- providing habitat for wildlife;
- connecting the community back to the local environment;
- providing a sense of place and
- defining neighbourhood character.

The Selection Criteria

The species that have been selected for inclusion on the following list have been individually assessed against both the *key selection criteria* and *secondary selection criteria*, outlined below, which then guides *where* the selected tree should be planted (eg. The width of the street has a significant influence over the tree selected, as the wider the street the bigger the size of the tree that is able to be planted without undue conflict between trees and services / infrastructure).

The following "*Key selection criteria"* has provided the basis for the attached list and the *secondary criteria,* although considered as part of the process, has provided more minimal input into its development.

Key selection criteria

Preferred species are those that:

- are drought tolerant and will adapt to possible pressures resulting from the effects of climate change;
- will grow well in the local climatic conditions and topography in particular having adequate salt tolerance and suitability for coastal conditions;
- will require minimal maintenance once established;
- can tolerate pollutants generated from vehicular traffic;
- can tolerate limited root space and are least likely to cause damage to surrounding infrastructure such as footpaths, pavements and services;
- are not listed as a noxious or environmental weed in Victoria or an environmental weed in the Surf Coast Shire;
- have good form (have a clear stem, upright growth and uniform canopy);
- Can be trimmed as required to facilitate the movement of larger vehicles (buses and garbage trucks);
- Attract and provide habitat for native wildlife (this will be a particular focus in reserves and parks);
- will protect and or/enhance the character of the area. Due consideration to the following should be given in the achievement of this criterion:
    - indigenous species, preferably of local provenance are to be used wherever possible to reinforce the local natural and coastal character;
    - only indigenous species of local provenance are permitted in areas that have been identified as directly connecting to or being of high ecological value;
    - natives are to be used where indigenous species are unable to meet the key selection criteria, however they must meet all of the **key selection** criteria to be considered;
    - exotics can only be used in limited circumstances in the following areas :
        - the area immediately around the neighbourhood activity centre and
        - within the east west linear reserve as 'specimen' trees at key focal points and junctions

- will reinforce the local character. This can be reinforced by using low shrubs, ground covers and tufting plants (eg. Poa's ,Lomandra's, Dianella's) in conjunction with the planting of feature trees in and around areas such as the neighbourhood activity centre;
- do not obstruct vehicle sight lines (are clear stemmed to a minimum height of 2.4m above finished surface level);
- do not reduce the safety of people using the street. Pedestrians and cyclists should be visible to passing traffic and from housing. To facilitate this understorey should not exceed 700mm in height and shade trees should be clear stemmed to a minimum height of 2.4m above finished surface level;
- have a large canopy spread that will:
  - frame the street, creating a sense of enclosure;
  - provide a canopy across the entire street;
  - encourage traffic calming by giving the visually enclosing and narrowing the streetscape, potentially slowing vehicle speeds and encouraging positive driver behaviour;
- do not regularly drop;
  - limbs;
  - fruit , nuts or large large seeds/pods which are potential physical and maintenance hazards;
  - bark;

  Species that are prone to any of above may be planted in reserves and parks, away from main pedestrian links, and activity areas but only if they are species which produce food are locally indigenous.
- will provide shade and protection to the built environment by having an adequate height and spread thereby assisting in the reduction of the need for cooling and heating by fossil fuel powered appliances;
- will assist in the reduction of the heat island effect;
- will assist in an increase of the lifespan of paved surfaces primarily bitumen paving through sufficient canopy cover over the following areas:
  - on street car parking;
  - surface car parking areas;
  - pedestrian and vehicular streetscape networks.
- will encourage a healthier and more sustainable lifestyle by providing shade and sufficient canopy cover for:
  - pedestrians and cyclists;
  - street furniture;
  - outdoor seating areas, barbeque areas and playgrounds;
- will assist in the filtration of airborne pollutants
- will assist in reducing overland flow of stormwater runoff within vegetated buffer zones, swales and wetlands;

Secondary criteria

The following "*Secondary criteria""* have provided minimal input into the species selection for the "Torquay North" Development Precinct.

Species that:

- are fire retardant and will not increase the abilty of fire to more continuously through a planted corridor into areas of high activity;
- are a mixture of deciduous and evergreen tree species to enable distinction and awareness of seasonal changes. Note that this is only permitted in the area around the activity centre and through 'specimen' planting along the linear reserve;
- have the ability to produce food for educational purposes in appropriate locations throughout the linear reserve, or for harvesting as part of a larger community facility located within the proposed open space network;
- have a sufficient biomass to facilitate Co^2 sequestration.

Preferred Tree Species List

For the "Torquay North" Development Plan area
(to be read in conjunction with *Tree Species Selection Criteria* for the "Torquay North" Development Plan area)

The following list is Surf Coast Shire's preferred species list for the area. Any changes proposed are subject to approval by the Surf Coast Shire.

Street / Area Type	Botanical Name	Common Name	Min clear root space required in nature strips or open space reserves
Horshoebend Road (Connector 2)	***Central Median*** *Angophora costata*	Smooth - barked Apple	3m
	Roadside Verge *Angophora costata*	Smooth - barked Apple	3m
	Araucaria heterophylla (in the southern end only to provide transition into the pines at the Quay)	Norfolk Island Pine	3m
	Tree pits within on road parking *Corymbia citriodora*	Lemon scented gum	3m
South Beach Road (Connector 2)	*Angophora costata*	Smooth - barked Apple	3m
	Angophora floribunda	Rough - barked Apple	2m
	Eucalyptus tricarpa	Red Ironbark	2m
	Eucalyptus sideroxylon	Mugga Ironbark	2m
	Eucalyptus willisii	Shining peppermint	2m
	Corymbia citriodora	Lemon scented gum	3m
	Tree pits within on road parking *Refer local street list*		
Merrijig Drive (Connector 1)	***Central Median*** *Angophora costata*	Smooth - barked Apple	3m
	Roadside Verge *Angophora costata*	Smooth - barked Apple	3m
	Tree pits within on road parking *Corymbia citriodora*	Lemon scented gum	3m
Fischer Street (Connector 1)	*Angophora costata*	Smooth - barked Apple	3m
	Angophora floribunda	Rough - barked Apple	3m
	Corymbia citriodora	Lemon scented gum	3m
	Acacia implexa	Lightwood	2m
	Eucalyptus sideroxylon	Mugga Ironbark	3m
	Acacia melanoxylon	Blackwood	2m
	Corymbia maculata	Spotted gum	3m

	Lophostemon confertus	Brushbox	3m
	Eucalyptus willisii	Shining peppermint	3m
	Eucalyptus tricarpa	Red Ironbark	3m
	Eucalyptus ficifolia	Red flowering gum	3m
	Tree pits within on road parking *Refer local street list*		
Local streets **(Access laneways, Access Place and Access Street 1 and 2)**	*Angophora floribunda*	Rough - barked Apple	3m
	Eucalyptus willisii	Shining peppermint	3m
	Acacia melanoxylon	Blackwood	3m
	Corymbia citriodora	Lemon-scented gum	3m
	Corymbia maculata	Spotted gum	3m
	Corymbia ficifolia	Red-flowering gum	3m
	Eucalyptus melliodora	Yellow box	3m
	Eucalyptus sideroxylon	Mugga Ironbark	3m
	Acacia implexa	Lightwood	2m
	Waterhousea floribunda	Weeping lilly pilly	2m
	Eucalyptus tricarpa	Red Ironbark	3m
	Tristaniopsis laurina	Water gum	2m
	Lophostemon confertus	Brushbox	3m
Neighbourhood Activity Centre	***Dominant trees*** *Angophora costata*	Smooth - barked Apple	3m
	Corymbia ficifolia	Red-flowering gum	3m
	Eucalyptus willisii	Shining peppermint	3m
	Eucalyptus tricarpa	Ironbark	3m
	Corymbia citriodora	Lemon-scented gum	3m
	Acacia melanoxylon	Blackwood	3m
	Acacia implexa	Lightwood	2m
	Waterhousea floribunda	Weeping lilly pilly	3m
	Lophostemon confertus	Brushbox	2m
	Tristaniopsis laurina	Water gum	2m
	Feature trees *Feature trees are only to be used as 'specimen' trees at key locations associated with activity nodes within local parks, within and around the activity centre and at key focal points. It is the intention that these will provide colour, shade, interest, seasonal variation and vitality to the precinct, whilst showcasing the natural assets and beauty of the species used. The*		

	following species are suggestions only and other species can be recommended for approval provided they meet as a minimum the "key" selection criteria outlined in this document.. *Gletisia triacanthus var. inermis*	Honey Locust	3m
	Quercus palustris	Pin oak	3m
	Ulmus glabra 'Lutescens'	Golden elm	2m
	Quercus rubra	Red oak	3m
Car parking areas or high usage areas within the **Civic precinct / Secondary school**	*Angophora costata*	Smooth - barked Apple	3m
	Acacia melanoxylon	Blackwood	2m
	Acacia implexa	Lightwood	2m
	Corymbia citriodora	Lemon scented gum	3m
	Corymbia ficifolia	Red-flowering gum	2m
	Eucalyptus tricarpa	Red Ironbark	3m
	Eucalyptus sideroxylon	Mugga Ironbark	3m
	Eucalyptus willisii	Shining peppermint	3m
	Lophostemon confertus	Brushbox	2m
	Waterhousea floribunda	Weeping lily pily	2m
Nature reserve **(Area including but not limited to the North South corridor along the Surfcoast Highway that links to Deep Creek and biolink areas along the linear reserve)**	All existing indigenous vegetation within the Surfcoast HIghway corridor is to be retained, enhanced and incorporated with additional species of local provenance into a designated nature reserve as per the indicative cross sections. Any environmental weeds are to be removed and a long term weed management program developed. Any new plantings along the east west linear reserve which are part of the biolink or nature reserve of this open	Additional species to be planted within this reserve are to be selected from the ***Indigenous planting guide Surf Coast Shire 2003***– *Torquay section.* ***They must show evidence of local provenance.*** *Any additional planting must be a combination of trees, shrubs, tufting plants or grasses and ground covers.* Note: The footpath within the reserve is to be visible from the adjoining local street on the eastern side, by being sited close to the internal road reserve. Any shrubs, grass, tufting plant or ground cover species planted in this	

	space are to use species of local provenance that will provide a landscape aesthetic suitable to an urban environment as well as important environmental linkages.	location must be no greater than 700mm in height. Any tree planted in this location must have a clear stem to a minimum of2.4m.	
Local parks (which includes area within the east west linear reserve which is not part of a biolink or nature reserve planting)	**Dominant trees** *Large shade trees are to be the dominant tree type provided throughout the linear reserve. This will be in areas predominantly outside the biolink zone and will be focused around and throughout areas of high usage (such as shared paths and open grassed areas tp provide both functional and aesthetic value.*		
	Angophora costata	Smooth - barked Apple	3m
	Angophora floribunda	Rough - barked Apple	3m
	Eucalyptus tricarpa	Red Ironbark	3m
	Eucalyptus sideroxylon	Mugga Ironbark	3m
	Eucalyptus willisii	Shining peppermint	3m
	Corymbia citriodora	Lemon scented gum	3m
	Acacia melanoxylon	Blackwood	2m
	Lophostemon confertus	Brushbox	2m
	Exotic and Native Feature trees *Feature trees are only to be used 'specimen' trees at key locations such as focal points or intersections and associated with activity nodes. They could also be provided in copses within local parks. It is the intention that these will provide colour, shade, interest, seasonal variation and vitality, whilst showcasing the natural assets and beauty of the species used. The following species are suggestions only and*		

	other species can be recommended for approval provided they meet as a minimum the "key" selection criteria outlined in this document..	Chinese elm	2m
	Ulmus parvifolia		
	Quercus rubra	Red oak	3m
	Quercus palustris	Pin Oak	3m
	Quercus robur	English oak	3m
	Agathis Robusta	Qeensland Kauri	3m
	Indigenous Tree Species *Indigenous tree species, of local provenance - which can also include the indigenous species listed under the section 'dominant trees' - are to be planted in a continuous corridor to form a 'biolink' within the east west linear reserve. They are to be primarily focussed around the drainage swale and away from areas of high recreation activity within local parks or the east west link, which would be in conflict with the intent. The planting is to be designed to provide interest and depth and as such is not limited to the drainage swale in its entireity but is to provide pockets of planting outside this zone. These pockets are to be designed to embody the dual function as a biolink and something which has an appropriate urban landscape aesthetic. The use of indigenous species should not limit*	*Note:* Any existing indigenous vegetation is to be retained and incorporated into areas of open space. Areas that have been identified as containing significant indigenous vegetation or that provide a direct linkage to significant vegetation are to use indigenous species of local provenance.	

	the ability to provide this landscape character. *Species are to be selected from the* ***Indigenous Planting Guide, Surf Coast Shire 2003*** *– Torquay section. Suggested trees for inclusion are:*		
	Eucalyptus leucoxylon ssp bellarinensis	Bellarine Yellow Gum	3m
	Acacia melanoxylon	Blackwood	2m
	Eucalyptus ovata	Swamp Gum	3m
	Eucalyptus camaldulensis	River Red Gum	3m
	Allocasurina littoralis	Drooping Sheoak *(to be planted in copses)*	2m
	Melalueca lanceloata	Moonah	2m
	Acacia implexa	Lightwood	2m
	Banksia marginata	Silver Banksia	2m
	Banksia integrifolia	Coastal Banksia	2m
	Eucalyptus Yarrensis	Yarra Gum	3m
	Fruit and nut trees *Food produce trees can only be planted within the linear reserve, where provision for appropriate passive watering can occur. They are to be planted away from areas of high recreation activity. Ideally they should be planted in groups for ease of maintenance and higher likelihood of food production outcomes.*	*Suitable fruit trees are those that require minimal maintenance, the fruit will not become a hazard and will not require netting. The following species would be appropriate;* Citrus fruit (eg. lemon, lime, mandarin, orange, tangelo) Pear	 2m 2m

Stock selection

All tree stock that is to be planted is to be inspected on site prior to installation and approved by a suitably qualified Council Officer from the Shire's Engineering Operations Department to ensure the plant material is of a high standard exhibiting good structure and form.

Site preparation
Tree pits and verges are to be suitably prepared by a qualified contractor to the satisfaction of the Shire's Engineering Operations Department to ensure excavation, soil preparation, and protection of assets and tree material measures are undertaken including appropriate timing of planting will ensure the survival of trees. This incudes any requirements for the installation of root barriers to enable more substantial trees to be planted. Any trees that exhibit poor condition or are damaged within two years of practical completion of the streetscape and open space networks are to be replaced immediately at the developers expense.

Uniformity of species
Where multiple species are provided in the Preferred Street Tree Species list for any single street type (such as Connector Street level 1), it is The Shire's preference that a single species only is to be selected. The aim of this is to ensure that all streets can provide a uniformity of form and canopy spread.. However, it is expected that a variety of species is to be used throughout the neighbourhood activity centre, the linear reserve (outside the biolink zone) and throughout the remaining parks and nature reserves.

References
The Torquay North street tree planting list is based on:

- The Surf Coast Shire Urban tree and vegetation guidelines
- Surf Coast Shire indigenous planting guide

The selection criteria are based on the following Surf Coast Shire and State Government strategies and policies;

- The Surf Coast Shire Planning Scheme
- Torquay/Jan Juc Neighbourhood Character Study (Surf Coast Shire)
- Torquay Structure Plan (Surf Coast Shire)
- Outline Development Plan for Torquay North (Surf Coast Shire)
- Safer Design Guidelines for Victoria, (DSE)
- Activity Centre Design Guidelines, (DSE)
- Victoria's Biodiversity Strategy (NRE)
- Biodiversity Action Planning (DSE)
- Corangamite Native Vegetation Plan
- Corangamite soil health strategy
- Our Environment our future, sustainability action statement (DSE)
- Urban Stormwater: Best practice Environmental Management Guidelines (Victorian Stormwater Committee)
- The State Environment Protection Policy (SEPP) (Waters of Victoria) EPA
- Heat Wave Plan Feb 2011 (Surf Coast Shire)
- Climate Change Strategy (Surf Coast Shire)
- Surf Coast Shire Open Space Strategy (Surf Coast Shire)
- Food security report, 2011 (Surf Coast Shire)
- Pathways Strategy (Surf Coast Shire)
- Playground Strategy (Surf Coast Shire)