

## SC6.12 City Plan policy – Landscape work

### 1 Purpose

The purpose of this City Plan policy is to provide information, and to outline guidelines for all landscape works on public and private land that:

- (a) satisfies the aims and objectives of the City Plan, especially those relating to city image and character;
- (b) ensures landscape design considerations are addressed early in the planning and design of proposed development works;
- (c) provides a means of minimising any negative visual impact of development on its surroundings and to promote environmentally sensitive design practices; and
- (d) minimises maintenance and risk hazards of both public and private development.

### 2 Application

This City Plan policy assists with satisfying the assessment benchmarks in City Plan that relate to landscape works on public and private land as outlined in **Table 1: Landscape work**.

**Table 1: Application - Landscape work**

Section or table in the code	Assessment benchmark reference	Section in policy
<b>Other development codes</b>		
<b>General development provisions code</b>		
Table 9.4.4-2: General development provisions code – for assessable development	Landscaping AO4.1	Section 6
	Landscaping AO4.2	Section 8.1
<b>Landscape work code</b>		
Table 9.4.6-1 Landscape work code – for assessable development	Landscape design PO1	Section 7
	Selection of plant species AO2	Section 12.1
	Selection of plant species AO3	Section 19
	Retaining vegetation AO4	Section 10.1
	Safety AO5	All
	Mounding AO6	Section 11.1
	Batters AO7	Section 11.1
	Irrigation AO8	Section 13.1
	Hard surfacing AO9	Section 14.2
	Public open space areas AO10	Section 15
Public open space areas	Section 8.2	

Section or table in the code	Assessment benchmark reference	Section in policy
	AO11	
	Road reserves AO13	Section 16.1
	Car parking AO14	Section 17.1
	Landscape buffer AO15	Section 18.1

### 3 Landscape plan documentation

#### 3.1 When and what is required?

The submission of a landscape plans may be required:

- at material change of use, reconfiguring a lot or operational works application stages;
- as a condition of an approval granted under the City Plan; and/or
- as a provision of the City Plan.

The types of plans that may be required include:

- ~~(a)~~ Landscape site analysis
- ~~(b)~~ Statement of landscape intent and open space management statement
- ~~(c)~~ Detailed landscape plans
- ~~(d)~~ Open space management plan

#### 3.2 Submission of landscape plans

Refer to **Figure 1 - Landscape works application approval process** for guidance on the process for submission of landscape plans.

##### 3.2.1 Material change of use and/or reconfiguring a lot application stage

The submission of a landscape plan may be required to accompany a material change of use or a reconfiguring a lot application with the associated plan of development or layout plan.

With the above kinds of applications, the City may require a landscape site analysis and a statement of landscape intent to be submitted with the application, in order to identify the broad landscape rationale of the proposed development. Submission of these plans will ensure important landscape issues associated with these kinds of applications are dealt with prior to the submission of detailed landscape plans at the operational works application stage.

The statement of landscape intent may in some cases be approved (if acceptable), as a preliminary approval for operational works – landscape.

The statement of landscape intent identifies the design philosophy that is to be incorporated in the detailed landscape design works through the submission of a detailed landscape plan at operational works approval stage.

#### Lodgement

Plans can be lodged at customer service counters located within the Council of the City of Gold Coast administration centres.

##### 3.2.2 Operational works application stage

Where the City Plan or a condition of development approval requires that detailed landscape works be undertaken in association with other development works, a development permit must be issued prior to development works commencing.

Submission of detailed landscape plans is most often required at the operational works application stage as:

- a condition of a material change of use/reconfiguring a lot approval; or
- a provision of the City Plan.

In cases where a statement of landscape intent (particularly associated with a large development project or subdivision) has not been submitted previously to the City, it is recommended that an applicant submit a statement of landscape intent for discussion with City officers prior to submission of any detailed landscape plans. This will ensure that there will be minimal delays in approval of detailed landscape plans.

### Submission of detailed landscape plans

As part of an application for operational works – landscape, three (3) copies of the detailed landscape plans and any accompanying landscape site analysis and statement of landscape intent (if not already submitted) are to be submitted to the City.

The following information is to accompany the submission:

- a letter of submission/application form;
- relevant file information; and
- a submission checklist (refer to section 9).

An application fee will be charged on lodgement, which will include two (2) final inspections of the landscape works.

An application fee will also be charged for inspection of any associated irrigation and site certification of backflow prevention devices.

### Categories of approval for detailed landscape plans

#### Approved plans

Detailed landscape plans that comply with all requirements will be approved, and a stamped copy will be forwarded to the applicant.

Well resolved and documented plans are more easily assessed and therefore approved.

#### Non-approved plans

In some cases, when a detailed landscape plan fails to meet the City's requirements, amendment may be requested and/or preparation of new plans may be required and plans are to be resubmitted.

Resubmitted plans must include:

- a cover sheet with the relevant file information;
- a submission checklist; and
- a copy of the City's correspondence regarding amendments required.

An additional fee may be required on amended detailed landscape plans.

**Landscape works must not commence prior to the approval of the detailed landscape plans.**

#### Lodgement

Plans can be lodged at customer service counters located within the Council of the City of Gold Coast administration centres.

### 3.3 On-site supervision

During the construction phase of the landscape works and the nominated maintenance period, it is critical to ensure the design intent is satisfactorily transferred into the site works.

To ensure that the completed landscape works are satisfactory and comply with the approved plans, it is recommended that a suitably qualified person such as a landscape architect/designer be engaged in a site supervisory role during the landscape works construction and maintenance period.

The requirements are outlined within the [SC6.11](#) City Plan policy – Land development guidelines.

### 3.4 Inspections

Upon the completion of the landscape works, a City officer will undertake a formal landscape inspection of the development and a final landscape approval may be granted.

The inspection can be booked and arranged by telephoning the City's Landscape Planning team. A copy of the stamped detailed landscape plan and decision notice (supplied by the applicant) is required on site and will be used to assess the constructed landscape.

The proposed use must not commence prior to final inspection and final landscape approval being granted.

Inspections will only be undertaken on totally completed landscape works, this includes irrigation, hardscape, structures and lighting etc.

**A final landscape approval will be issued upon satisfactory completion of all works to the satisfaction of the City's requirements.**

#### Appointments

Appointments can be made by phone with the Council of the City of Gold Coast, Landscape Planning team.

### 3.5 Professional assistance

Landscape plans must be prepared by a qualified landscape architect, or professional with proven experience and knowledge of landscape design and construction, with recognised Quality Assured Codes of Practice and/or procedures in place.

Professionally prepared plans will ensure a minimum delay with approvals.

#### Contacts:

- Australian Institute of Landscape Architects – Qld. Group (A.I.L.A.);
- [Australian Institute of Landscape Designers and Managers – QLD. Group \(A.I.L.D.M.\);](#)
- Landscape Queensland;
- Australian Institute of Horticulture, Qld. Branch, Sub Branch Gold Coast (A.I.H.); and
- Nursery and Garden Industry Queensland (NGIQ).

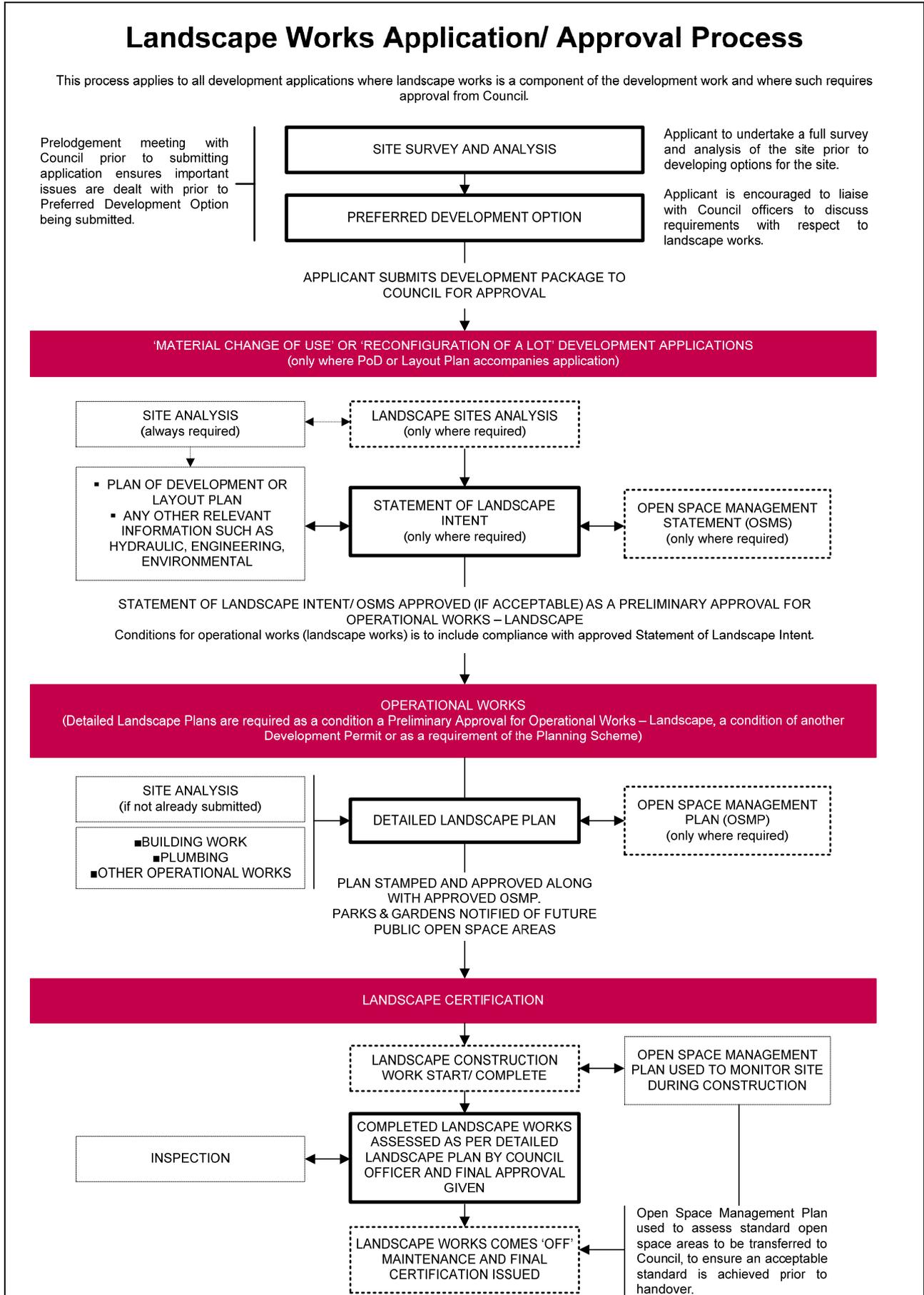


Figure 1 :Landscape works application / approval process

**4 General documentation standard**

The following information is provided to assist in the submission and approval process of all landscape plans for proposed developments associated with a material change of use, reconfiguring a lot and operational works development applications. The following requirements address a number of stages in the landscape design process, but are not intended to cover all aspects of the landscape design process.

Submission of a landscape plan is required where indicated by the City Plan or where required as a condition of a development ~~permit~~[approval](#).

The City promotes a standard process for submission of landscape plans in association with development applications. This process applies to all development applications that have a landscape works component. It is acknowledged that the amount of information to be included in the submitted landscape plans may vary, according to the particular circumstance of the proposed development, but, should a plan not include information considered applicable to the development, it will be returned to the applicant for amendment/additions prior to resubmission. (Refer to **Figure 1** for guidance on the application/approval process for landscape plans.)

There are three types of landscape plans that may be required as part of a development application.

These are:

- **A landscape site analysis.**
- **A statement of landscape intent** (The City may also require an open space management statement to be submitted with the statement of landscape intent). ~~Refer to section 8.1 of this policy.~~
- **A detailed landscape plan** (The City may also require an open space management plan to be submitted with the detailed landscape plan). ~~refer to section 8.2 of this policy.~~

The resolution of landscape issues is critical both at the broad conceptual planning stage of a particular development and at the detailed design stage of a development. Each type of landscape plan is described in more detail in sections 5, 6, and 7 of this policy.

**Note: Observance must be made to the City’s local laws.**

**4.1 Quality**

- (a) Drawing line work is to be legible and able to be photocopied in black and white.
- (b) Text is to be easily read when hand written, typed or stencilled. Minimum [text](#) size is 10mm in height/A1 sheet.
- (c) Shading or colouring with markers is avoided because it does not reproduce successfully.

**4.2 Sheet sizes**

<b>A0, B series</b>	<ul style="list-style-type: none"> <li>• acceptable depending on type and size of development.</li> </ul>
<b>A1</b>	<ul style="list-style-type: none"> <li>• preferred size for statement of landscape intent; and</li> <li>• detailed landscape plans.</li> </ul>
<b>A3</b>	<ul style="list-style-type: none"> <li>• is acceptable for site analysis and the statement of landscape intent depending on size and type of development; and</li> <li>• acceptable for minor works and construction details.</li> </ul>
<b>A4</b>	<ul style="list-style-type: none"> <li>• acceptable for specifications and construction details.</li> </ul>

**4.3 Scale**

<b>1:1000</b>	landscape site analysis/-statement of landscape intent
<b>1:100 /-1:200</b>	General detailed landscape plans
<b>1:500</b>	Streetscape plans
<b>1:50, 1:20</b>	Construction details

**Note: Plans that are submitted electronically must include the actual scale.**

#### 4.4 Dimensioning

- (a) Linear dimensions are to be indicated in metres or millimetres.
- (b) Levels to given measurements in relation to AHD (Australian Height Datum).
- (c) Slopes to be indicated in ratio or percentage format.

### 5 Landscape site analysis

#### 5.1 Why is it required?

A site analysis is required as part of any submission for a development application involving building works, operational works or reconfiguring a lot. It may also be required to accompany an application for a material change of use or reconfiguring a lot. (Refer to [SC6.13](#) <x> **City Plan policy – Site analysis**)

Site analysis is integral to the design of landscape works, and in most cases, the basic site analysis submitted with a standard development application may be sufficient to allow the landscape works to be assessed. In those cases where particular local matters pose a challenge to the effective design of landscape works, a detailed landscape site analysis may be necessary. In such cases, the City may require a 'landscape site analysis' to be submitted with the development application.

#### 5.2 When is it required?

If required by the City Plan, the City or its delegate, the submission of a landscape site analysis is to accompany the statement of landscape intent associated with the development application.

#### 5.3 What is required?

A landscape site analysis identifies (but is not limited to) the following:

- (a) Threatened flora as defined by the *Nature Conservation Act 1992*, or as identified by the City Plan as:
  - i. being of environmental significance as identified in the **Environmental significance overlay code**; and/or
  - ii. containing assessable vegetation as identified in the **Vegetation management code**.

Assessment undertaken as part of <x> [SC6.7](#) **City Plan policy – Ecological site assessments** may be sufficient to achieve this requirement.

- (b) Identification and description of the location and extent of views, and a description of existing local character and visual quality.
- (c) Description and location of existing pedestrian and vehicular access routes into and around the site.
- (d) Description of constraints (soil type, rock, location of existing roads and infrastructure such as water, sewer and stormwater drainage) that may impact on any landscape works associated with future development.
- (e) Description of topographical features including slope analysis and location of any outstanding landscape features (including landmarks and built form).
- (f) Description and direction of prevailing winds and any other climatic conditions that may impact on the landscape works associated with development of the site.

**Note:** A pre-lodgement meeting is recommended with City officers to determine the extent of information required.

### 6 Statement of landscape intent

#### 6.1 Why is it required?

A statement of landscape intent indicates the broad scale resolution of landscape design issues and assists in designing and assessing future detailed landscape works associated with a development. It is required where a proposed development may impact on the character, function, environment and amenity of a site and/or its surrounds. Submitting a statement of landscape intent is particularly relevant to large development projects and subdivisions.

The purpose of submitting a statement of landscape intent, prior to submission of detailed landscape plans, is to prevent unnecessary amendments. Amendments can often induce delays and additional costs in relation to approvals at operational works stage.

## 6.2 When is it required?

If required by the City Plan, the City or its delegate, the statement of landscape intent is required to accompany the plan of development or layout plan associated with a material change of use or reconfiguring a lot application. In some cases, the statement of landscape intent may be approved (if acceptable) as a preliminary approval for operational works – landscape. The statement of landscape intent identifies the design philosophy that is to be incorporated into the detailed landscape plans submitted for operational works approval. A statement of landscape intent, when required, is to be submitted and approved prior to the submission and approval of any detailed landscape plans.

## 6.3 What is required?

A typical statement of landscape intent should explain how the design responds to the site analysis/landscape site analysis, and identifies the rationale and intent for the external spaces and landscape areas of the proposed development.

The statement of landscape intent should focus broadly on issues of character, function and amenity and identify key species for open space areas and road reserves.

~~For example, a smaller development such as a factory or small unit development, the statement of landscape intent may be a simple freehand sketch with notes identifying the intent of the landscape areas associated with the development. For a larger development such as subdivision, the statement of landscape intent may be a more detailed written statement supported by graphical explanations or a graphical layout supported by explanatory notes (similar to a landscape concept plan).~~

A typical statement of landscape intent identifies, but is not limited to, the following:

- (a) Address and name and job/file no. of project;
- (b) Client's name and address;
- (c) Designer's name and address;
- (d) North point;
- (e) RP description;
- (f) Scale;
- (g) Legend;
- (h) Existing features on the site to be retained or removed e.g. vegetation, built form;
- (i) Notations of design intent for any landscape works, including desired character themes and proposed function;
- (j) Proposed location and function of public and private open space areas;
- (k) Approx. location of softscape areas including buffers, screens, rehabilitation areas, any large garden bed areas and delineation of principle hardscape areas;
- (l) Notation of species types for all areas to be replanted (e.g. native, exotic, feature planting, form and colour);
- (m) Approximate location of any building, structure/site furniture and an indication of their form and character (including entry statements);
- (n) Any overland drainage paths; and
- (o) Open space design concepts, visual and pedestrian links.

Other issues that need to be addressed before commencement of any detailed landscape plans include:

- Open space management statement for any proposed public open space (if required—~~refer to section 8.1 of this policy~~);
- Plant procurement; and
- Irrigation strategy.

The type of graphical communication will depend on the size and type of development.

**A pre-lodgement meeting with City officers is recommended to determine the extent of information required.**

## 7 Detailed landscape plans

### 7.1 Why is it required?

A detailed landscape plan provides the detailed design drawings for all landscape works associated with a development application. These plans also provide the information for pricing the works by the landscape contractor.

Detailed landscape plans must contain sufficient information for construction works, associated maintenance activities and for checking by City officers. These plans are to be technically drafted.

### 7.2 When is it required?

A detailed landscape plan is to be submitted and approved for operational works prior to the issue of an approval for building work, or where building works approval is not required, prior to the commencement of the development- (This requirement only applies to landscape works where a development approval is necessary, under the provisions of the City Plan and/or as a condition of approval of a development permit.)

All landscape works must be completed in accordance with the approved detailed landscape plan prior to the proposed use commencing. All landscape works must be maintained and managed in accordance with the detailed landscape plan at all times, to the satisfaction of the City or its delegate.

### 7.3 What is required?

General information required for a detailed landscape plan is identified in ~~section~~ Section 9 of this policy.

#### 7.3.1 Specific planting plan requirements

- (a) All planting plans are to have a plant schedule. A plant schedule is to be divided up into trees, palms, shrubs, ground covers, climbers, ferns etc.
- (b) Botanical names are to be in alphabetical order and used in conjunction with common names on the plant schedule.
- (c) Soil specification minimum requirement for garden beds and planting holes are to be accordance with *AS4419-2003 – Soils for landscaping and garden use*.
- (d) Quantity and pot size of each individual species used in the planting design must be included on the pPlant schedule.
- (e) Approximate calliper size at planting for trees only in pot size greater than 300mm to be included on the plant schedule.
- (f) Height and spread at planting for trees only in pot size greater than 300mm is to be included on the pPlant schedule. Indication of height and spread of other species is optional.
- (g) Spacing of all species and staking (if necessary) is to be included on the plant schedule.
- (h) Plant coding.

All species used are to be notated on the drawing by either its full botanical name or by code, which will be referred to on the plant schedule e.g.:

<b>BUCKINGHAMIA</b> (Genus)	<b>eelsissima</b> (Species)	
<b>Code:</b>		
<b>BUG</b>	<b>cel</b>	
<b>MELALEUCA</b> (Genus)	<b>leucadendron</b> (Species)	<b>FINE LEAFED FORM</b> (Descriptor)
<b>Code:</b>		
<b>MEL</b>	<b>leu</b>	<b>FL</b>
<b>CALLISTEMON</b> (Genus)	<b>viminalis</b> (Species)	<b>CAPTAIN-COOK</b> (Cultivar)

<b>Code:</b>				
CAL	v	GG		
CALLISTEMON (Genus)	EUREKA (Cultivar)			
<b>Code:</b>				
CAL	EUR			
<b>Code</b>	<b>Botanical Name</b>	<b>Common Name</b>	<b>Pot Size</b>	<b>Quantity</b>
<u>BUC cel</u>	<u>BUCKINGHAMIA celsissima</u> (Genus) (Species)	<u>Ivory curl</u>	<u>100 L</u>	<u>5</u>
<u>SYZ aus EL</u>	<u>SYZYGIUM australe 'Elite'</u> (Genus) (Species) (Cultivar)	<u>Lily pilly</u>	<u>300mm</u>	<u>12</u>
<u>TRA jas</u>	<u>TRACHELOSPERMUM jasminoides</u> (Genus) (Species)	<u>Star jasmine</u>	<u>140mm</u>	<u>20</u>

### Standard maintenance periods

Major development works (including, but not limited to, residential subdivisions, resorts, large commercial or industrial, and major roadworks).

Maintenance period for landscape works associated with major building and engineering works are outlined within the provisions of the [SC6.11](#) ~~City Plan policy – Land development guidelines~~.

**All landscape works are to be completed and a final landscape approval granted at the time of practical completion of the development works.**

#### Minor development works

Maintenance period for landscape works associated with minor development works is outlined within the [SC6.11](#) ~~City Plan policy – Land development guidelines~~.

#### Major rehabilitation works

Maintenance period for landscape works associated with major rehabilitation works is 12 months, or as deemed appropriate by the City. This longer establishment period is necessary due to the common occurrence of plant losses related to native species, and to replacement plantings and weed removal which generally occurs after the 12 week standard maintenance period expires.

#### Off maintenance (handover maintenance responsibility to applicant/-City)

Off maintenance commences on acceptance of final inspection, at the end of the specified/-approved maintenance period.

## 8 Management of public open space

See **Figure 1** for guidance on the application/approval process for open space management plans.

Public open space areas are areas of land that will be transferred to the City as part of an open space contribution associated with a development. Management of public open space areas is critical during the construction phase of the development and for their future ongoing sustainability. The following deals with management of public open space areas only.

### 8.1 Open space management statement

#### 8.1.1 Why is it required?

When planning and designing public open space areas as part of the design intent of the whole ~~of the~~ site, it may become apparent there are particular matters of environmental significance associated with open space development. An open space management ~~s~~Statement may be required to accompany a statement of landscape intent. An open space management statement is a broad outline of the proposed methods and strategies for managing matters of environmental significance of open space during the construction phase.

### 8.1.2 When is it required?

If required by the City Plan, the City or its delegate, an open space management statement is to be submitted in conjunction with the statement of landscape intent, ~~and if~~ in some cases, if deemed acceptable, the open space management statement may be approved as a preliminary approval with the statement of landscape intent. An open space management statement always precedes a submission of an open space management plan at operational works approval stage.

### 8.1.3 What is required?

A typical open space management statement is a written and/or graphically presents the broad outline for managing proposed open space areas during the construction phase of the development. The following elements should be included:

- (a) proposed area to be dedicated open space, contours and other topographical information pertaining to the site;
- (b) matters of environmental significance, assessable vegetation and habitat features;
- (c) water quality management, including lake management;
- (d) erosion and sediment control management;
- (e) bushfire hazard management;
- (f) proposed level and length of maintenance periods; and
- (g) other issues, such as access and linkages that may have been identified during the design stage or in the site analysis.

## 8.2 Open space management plan

### 8.2.1 Why is it required?

The detailed design of any public open space area may initiate a requirement for an open space management plan to be prepared and submitted to the City for approval.

An open space management plan is the detailed identification of the management issues related to the public open space areas during the construction phase, the quality of the open space area at 'on' and 'off' maintenance and the future ongoing maintenance and management requirements of the open space.

### 8.2.2 When is it required?

An open space management plan is required by the City Plan, as a condition of approval of a material change of use, reconfiguring a lot development permit or a preliminary operational work – landscape approval or where the City, or its delegate, considers the nature of the open space requires detailed management.

### 8.2.3 What is required?

A typical open space management plan is to include, but not limited to:

- (a) Management of open space areas during the construction phase:
  - delineation of proposed public open space areas;
  - protection measures for vegetation to be retained or relocated;
  - location and details of all proposed on site sediment and erosion control methods;
  - methods and details of disposal of vegetation approved for removal;
  - details for protection or translocation of any fauna on site (where appropriate);
  - temporary fire hazard mitigation measures e.g. fire trails, water storage facilities (only where appropriate – information can be drawn from any Bushfire management plan undertaken for the whole site);
  - details of methods for maintaining appropriate water quality (if appropriate);
  - location and details of storage of materials and storage compound for machinery on site;
  - location and details of temporary access for vehicles and site construction personnel;
  - access/protection to any infrastructure services by others;
  - location and details of any enclosures including boundaries;

- methods of control of declared plants and recognised environmental weeds;
- maintenance periods; and
- other issues as previously identified in the site analysis and design process.

(b) Quality of open space areas at 'on' and 'off' maintenance:

The City requires that all open space areas at 'on' and 'off' maintenance, are of a standard that can be easily maintained and will not require additional work to be undertaken to bring these areas up to an acceptable standard by the City at 'off' maintenance. Elements that need to be addressed are the:

- standard and quality of grassed areas;
- cleaning of any silt deposition;
- standard of any planting areas including retained vegetation areas, rehabilitation areas and garden areas;
- condition of any permanent infrastructure such as irrigation, onsite sediment and erosion control devices and hard surfacing;
- condition of any park facilities or play equipment;
- rubbish and site debris removal;
- standard to be achieved with regard to declared plants and recognised environmental weeds; and
- standard of fire hazard mitigation measures (fire trails and water storage facilities).

(c) Ongoing management/-maintenance regimes for open space areas:

In some cases, it is necessary to provide the City with ongoing maintenance and management regimes to give a clear indication of possible future management issues, in order to provide appropriate resources to maintain the areas to the required standard. This part of the open space management plan should be developed as a standalone document, or summary of undertakings, to assist the City in determining maintenance programs and costs. This is required to cover the following matters:

- identification of the purpose of the open space area including objectives for future use;
- details of actions for each proposed open space area;
- future management and maintenance regimes for protection of matters of environmental significance;
- future management of bush fire hazard (only where appropriate);
- management of domestic farm/feral animals (if appropriate);
- tree management procedures;
- future management and maintenance regimes for sediment and erosion control devices, and irrigation;
- proposed future need for infrastructure including public facilities;
- maintenance of built form and hard surfacing;
- management and control of declared plants and recognised environmental weeds; and
- management of rubbish.

## 9 Submission checklist for detailed landscape plans

The following checklist should be used to aid in the production of detailed landscape plans for submission at operational works stage and for a final design check prior to submission to the City.

It is the responsibility of the applicant to ensure that the submitted detailed landscape plans are not deficient in information. Reference should be made to any information relevant to landscape works that has been undertaken by another consultant. The checklist is to be attached to detailed landscape plans when submitted. Where an item is not applicable to works, the item is to be marked N/A. Information may be graphical, including plan views, sections, elevations and/or written notation (including specifications).

Plans are to be submitted on A1 or B1 size sheets. Any specifications accompanying detailed landscape plans shall to be submitted in A4 format.

General information		
Yes	N/A	
<input type="checkbox"/>		Date, north point, scale.
<input type="checkbox"/>		Project description and location, RP description.
<input type="checkbox"/>		Applicants' project job/ file no./-relevant City file numbers.
<input type="checkbox"/>		Client's name, address and phone number
<input type="checkbox"/>		Address of landscape architect/ designer.
<input type="checkbox"/>		Locality plan.
<input type="checkbox"/>	<input type="checkbox"/>	Specification attached.

External works details (Landscape works construction plans)			
Work Undertaken by Others	Yes	N/A	
<input type="checkbox"/>	<input type="checkbox"/>		Construction set out and dimensions.
<input type="checkbox"/>	<input type="checkbox"/>		Relative levels (including existing and finished surface levels) contours (AHD).
<input type="checkbox"/>	<input type="checkbox"/>		Gradients, direction.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location and identification of existing vegetation to be retained and details of procedures intended for protection and preservation.
<input type="checkbox"/>	<input type="checkbox"/>		Surface, subsurface drainage details associated with landscape works.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Subgrade compaction density.
<input type="checkbox"/>	<input type="checkbox"/>		Location of above ground and below ground infrastructure, particularly in road reserves and existing or proposed public land.
<input type="checkbox"/>	<input type="checkbox"/>		Surface treatment plan including planting areas, turf, hard scape.
<input type="checkbox"/>	<input type="checkbox"/>		Edge treatments.
<input type="checkbox"/>	<input type="checkbox"/>		Paving type including subgrade treatment and construction of paved areas.
<input type="checkbox"/>	<input type="checkbox"/>		Stockpile areas for materials and site construction area identified.
<input type="checkbox"/>	<input type="checkbox"/>		Mounding.
<input type="checkbox"/>	<input type="checkbox"/>		On site sediment and erosion controls associated with landscape works including those on banks steeper than 1:3.
<input type="checkbox"/>	<input type="checkbox"/>		Building footprints.
<input type="checkbox"/>	<input type="checkbox"/>		Location and details of fencing, footpaths, retaining walls, architectural screens/walls/gates.
<input type="checkbox"/>	<input type="checkbox"/>		Entry statements.
<input type="checkbox"/>	<input type="checkbox"/>		Location and details of external elements e.g. seats, bollards, bins, lights, water features, pools, signage.
<input type="checkbox"/>	<input type="checkbox"/>		Irrigation systems to be specified (if applicable). Water take off points to be shown including location of the testable backflow prevention device and isolation valve (if applicable).
<input type="checkbox"/>	<input type="checkbox"/>		Reference any relevant engineering or architectural drawings or details.

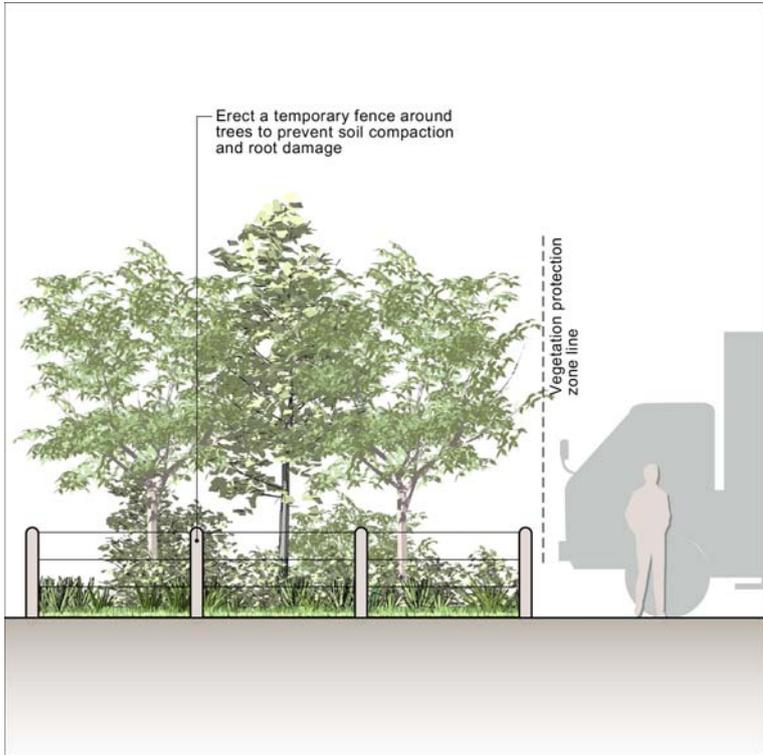
Planting plans		
Yes	N/A	
<input type="checkbox"/>		Building footprints showing window, door locations, roof lines and awning lines.
<input type="checkbox"/>		Location of proposed species to be shown graphically indicating centre and estimated mature spread.
<input type="checkbox"/>		Location of above ground and below ground infrastructure such as sewer, electricity, water and telecommunications including that which is in road reserves and existing or proposed public land.
<input type="checkbox"/>		Plant notation and quantity e.g. 3 x MEL qui.
<input type="checkbox"/>		Plant schedule must include: code, botanical name, common name, pot size, height and spread (at planting for trees >300mm), approx calliper size (at planting for trees >300mm), spacing, staking, quantity.
<input type="checkbox"/>		Planting bed preparation details, including topsoil depths, mulch type and depth and subgrade preparation.
<input type="checkbox"/>	<input type="checkbox"/>	Details of planter boxes and podiums including drainage.
<input type="checkbox"/>		Maintenance period for landscape works.
<input type="checkbox"/>	<input type="checkbox"/>	Maintenance program for Landscape works.
<input type="checkbox"/>	<input type="checkbox"/>	Typical details including root barrier, staking etc.
<input type="checkbox"/>	<input type="checkbox"/>	Fertiliser type and application at time of planting.
<input type="checkbox"/>	<input type="checkbox"/>	Details of planting specifications and cross sections including, minimum required soil, profile ripping, amendments and planting bed preparation (refer to <a href="#">SC6.11 -City Plan policy – Land development guidelines, standard drawing 05-0101: <u>Trees and Shrub Planting Detail</u></a> ).

## 10 General clearing and earthworks associated with landscape works

The following guidelines apply to any landscape works that involves removal, retention, relocation and protection of existing vegetation and clearing or storage of materials associated with landscape works on site. This information may either be noted on the detailed landscape plans or on the open space management plan (where required by the City).

### 10.1 Guidelines for retaining and protection of existing vegetation

Retaining vegetation	
1	Best management practices must be carried out in accordance with <i>AS4970-2009 – Protection of trees on development sites.</i>
2	<p>Conserving significant trees and vegetation areas benefits the environment and proposed development. When site planning and designing a proposed development, significant vegetation may be used to provide:</p> <ul style="list-style-type: none"> <li>• open space and parkland;</li> <li>• landmarks and landscape features;</li> <li>• assist in managing micro climate;</li> <li>• wildlife habitat, corridors and enhance biodiversity;</li> <li>• visual amenity to property owners; and</li> <li>• savings in rehabilitation costs.</li> </ul> <p>These design issues should be addressed early in the planning process in consultation with relevant design professionals, to encourage alternative approaches to design with regard to retention and protection of assessable vegetation, habitat features and matters of environmental significance.</p>
3	Site sheds, buildings, or parking areas should not to be located within the appropriate protection zone of vegetation to be retained and be protected in accordance with the provisions of <i>AS4970-2009 – Protection of trees on development sites</i> . This area should be fencing in accordance with <i>AS4687-2002 – Temporary fencing and hoardings</i> .
4	Storage or mixing of materials, machinery repairs, refuelling, filling, discharging pesticides and herbicides is not

	to occur within the appropriate protection zone of vegetation to be retained.
5	<p>Protective fencing should be erected around appropriate protection zones in accordance with the provisions of AS4970-2009 - <i>Protection of trees on development sites</i> and AS4687-2002 – <i>Temporary fencing and hoardings</i>. (Refer <b>Figure 2</b>).</p>  <p style="text-align: center;"><i>Figure 2: Erect protective fencing around trees to be retained</i></p>
6	Trees identified for retention are only to be selectively pruned where necessary to avoid limb damage caused during construction activity. Pruning is to be in accordance with AS-4373 - 2007 <i>Pruning of Amenity Trees</i> .
7	Location of stockpiles of other landscape materials is to be determined on site prior to commencement of works as part of best practice site management procedures.
8	Stockpiles should not to exceed 1m in height.
9	Topsoil is to be free of all deleterious materials and guaranteed weed free prior to spreading. Stockpiles that are not reused within four (4) weeks are to be treated appropriately to prevent wind and water borne erosion and weed infestation.

## 11 Landform

The following guidelines apply to any landscape works that involves reconfiguration of the surface of the land after engineering bulk earthworks have been completed.

### 11.1 Landscape guidelines for mounding and batters

<b>Mounding</b>	
1	Mounding must be sensitively designed as an integral part of the site works by being appropriate to their function, enhancing aesthetic appeal, and having regard for maintenance issues including future costs.
2	<p>Mounding and contouring may be used to create a varied and informal setting by providing:</p> <ul style="list-style-type: none"> <li>• visual amenity by reinforcing landscape structure;</li> <li>• screening for privacy or landscape transition;</li> <li>• direction for movement of people and wildlife;</li> <li>• assistance in noise abatement in conjunction with appropriate fencing; and/or</li> <li>• assistance with stormwater runoff control (Refer to <b>Figure 3</b>)</li> </ul>

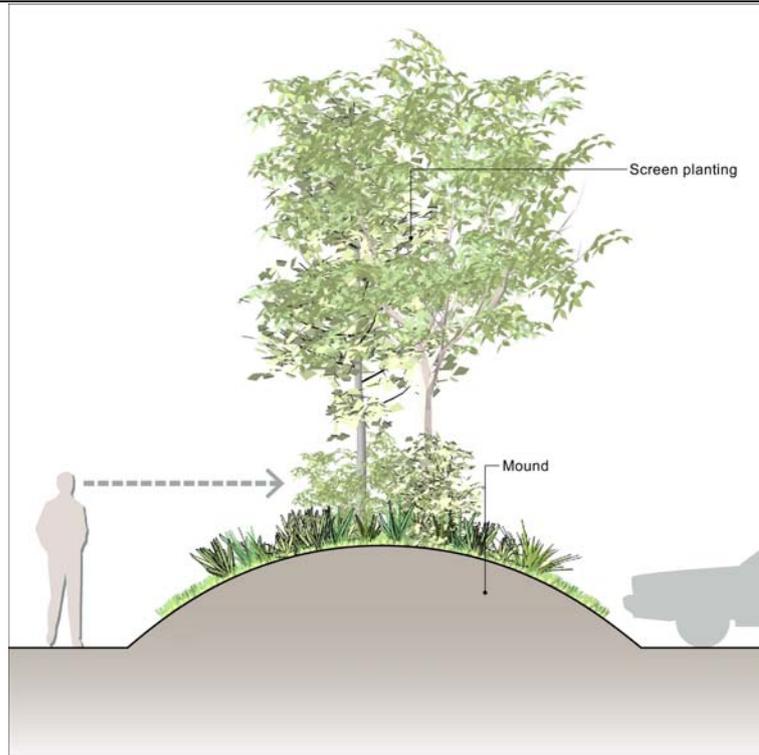


Figure 3: Mounding to create varied and informal setting

3 Mounding should not impede drainage over the site or adversely impact on downstream properties [\(Refer to Figure 4\)](#).



Figure 4: Mounding is not to impede drainage and is to vary in slope and width

4 Mounding is to vary in slope and width to provide a natural appearance. Maximum slope for mounding is as follows:

- turfed areas in general – 1:4;
- City park areas generally – 1:6; and
- garden areas – 1:3.

<b>Batters</b>		
1	Batters must be sensitively designed as an integral part of the site works, being appropriate to their function, whilst maintaining bank stabilisation, minimising soil erosion and enhancing visual amenity.	
2	Slopes steeper than 1:3 are to be stabilised. Stabilisation may be achieved through the use of hydro mulching (specification must be to the City approved), stabilisation netting/erosion protection or engineering approved retention e.g. benching, the use of retaining walls and terracing with planting.	
3	The toe of any batters and associated drainage are to be contained within the permitted site's boundaries and not to extend onto neighbouring lands or into adjoining vegetation protection zones.	
4	Batters that are planted or grassed are to be deep ripped on horizontal grades to a depth of a 100mm—200mm and dressed with high organic mix topsoil and planted, turfed, or seeded.	
5	Grassed batters or embankments in publicly owned land, that fall below the level of a formed road are to be profiled to enable access to the bottom of the bank for ride on mowing equipment. The access strip at the toe of the mown bank is to be a minimum width of 2m. <a href="#">• For planting, turfing, and seeding refer to section 12 of this policy.</a>	
6	For preferred batter treatments relevant to slope and treatment see <b>Figures 5 &amp; 6</b> and the below table:	
	<b>Batter slope</b>	<b>Treatment</b>
	1 in 4	Turf
	1 in 3	Planting
	1 in 2≤	Planting with retention

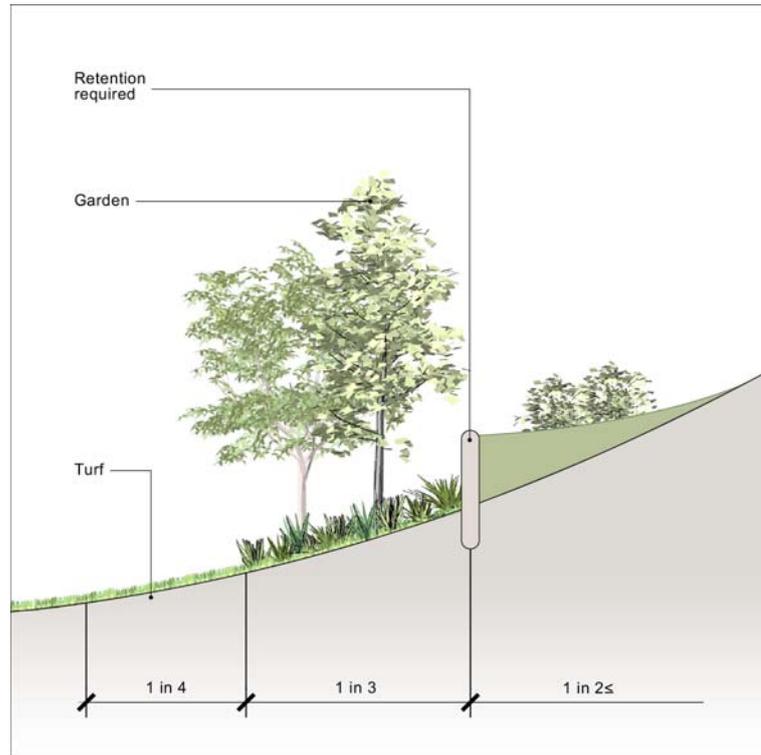


Figure 5: Preferred batter treatments

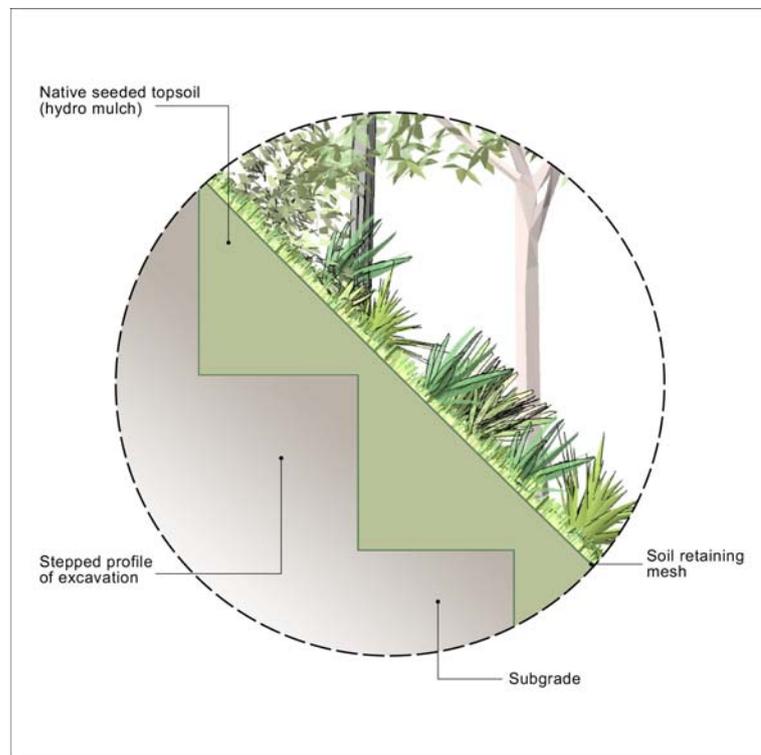


Figure 6: Batters are to be appropriately retained

## 12 General plant selection and planting

The following guidelines apply to any landscape works that involves new planting and/or preparation of growing media or planting beds.

### 12.1 Guidelines for plant selection and planting

Plant selection	
1	Species selection should respect the landscape character of the site and surrounds, the city image and be best suited to the use, function, environment and climatic conditions.
2	<p>When selecting species for a particular site there are some important aspects of landscape design that need to be considered, such as:</p> <ul style="list-style-type: none"> <li>• provision of shade;</li> <li>• framing and filtering views;</li> <li>• the need for a windbreak;</li> <li>• providing screening;</li> <li>• unifying the built and rural form;</li> <li>• softening scale and size of built form;</li> <li>• providing wildlife habitat;</li> <li>• low levels of maintenance;</li> <li>• be waterwise/-drought resistance; and</li> <li>• preference is to be given to local native species in areas such as dunal areas, coastal estuaries and watercourses, open space areas, open space links, open space corridors, hilltops and ridgelines (<a href="#">Refer to Figures 7 &amp; 8</a>).</li> </ul>
3	<p>Species selection and location is to respect the landscape character of the local area and its surrounds particularly the uses, types and forms of adjacent development and associated landscapes, and existing natural features. Species selection is to have regard to the following:</p> <ul style="list-style-type: none"> <li>• level of impact the proposed planting will have on visual amenity, uses and activities;</li> <li>• future maintenance requirements of the planting;</li> <li>• irrigation requirements (mesic plants require permanent irrigation. Xeric plants only require irrigation for successful establishment – <a href="#">See-Refer Section 20: Glossary-in-section-20-of-this-policy</a>);</li> <li>• whether the species is a known environmental weed, nuisance plant, and/or has disease problems or invasive roots;</li> <li>• climatic and growth habit of the plant match the sites' requirements (includes provision for shade etc);</li> <li>• location of any underground or above ground infrastructure;</li> <li>• species morphology matches the sites spatial restrictions;</li> <li>• no hedge plants within public open space; and</li> <li>• soil/sub-soil type and conditions.</li> </ul>
4	Species used are to be well established, disease free and container or field grown which have been propagated for the specific site conditions, i.e. sun hardened, shade tolerant and salt tolerant.

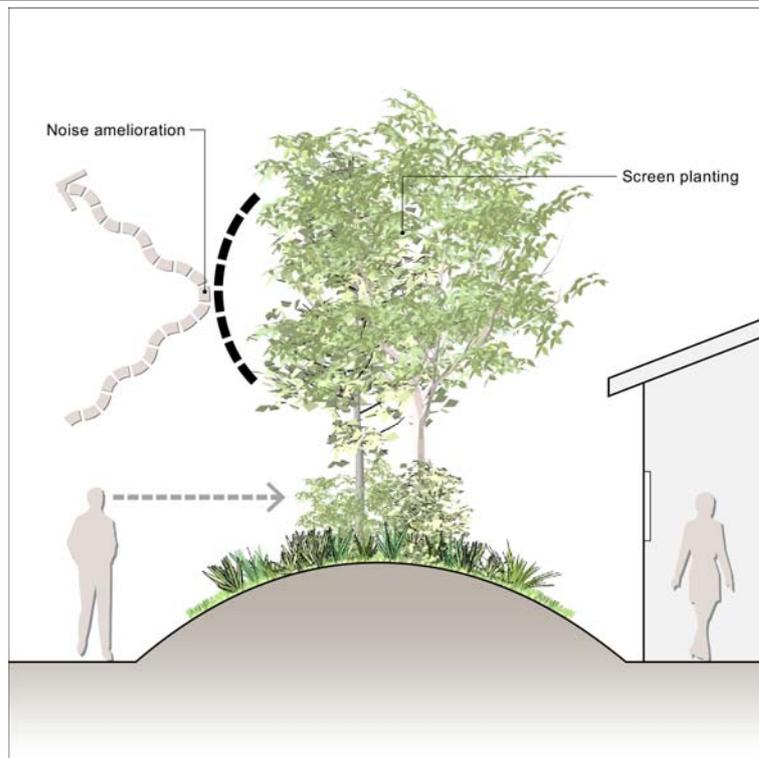


Figure 7: Planting can assist in screening for privacy

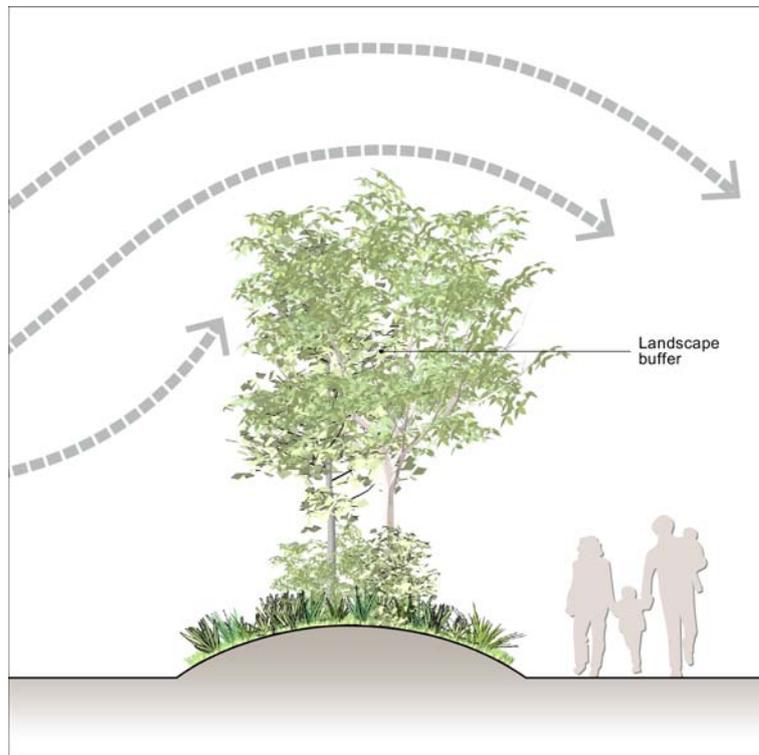


Figure 8: Planting can assist in reducing the effects of wind

Pot sizes	
1	At the time of planting, minimum pot sizes are to be selected according to the function and location for which the planting is proposed.
2	In areas of high impact through use and activity, larger and more advanced stock is to be provided, whereas if an area is of low impact through use and activity, smaller stock may well be more appropriate (for instance, if buffer

Pot sizes				
	planting is not required to achieve an instant screening function).			
3	<p>It is recommended that the applicant discuss species sizes with City officers prior to any submittal of detailed landscape plans. Minimum pot sizes for planting are as follows:</p> <p>(a) Garden planting – residential, tourist, industrial, commercial, streetscape uses:</p> <ul style="list-style-type: none"> <li>• Ground covers – 140mm;</li> <li>• Shrubs – 200mm;</li> <li>• Trees – 100L <del>litre</del>; <a href="#">and</a></li> <li>• Palms – single trunked species are to have a minimum 3m trunk height. Size of other species of palms will be assessed on a site specific basis depending on their function and location.</li> </ul> <p>(b) Street trees 45L to 100L depending on species (<a href="#">Refer to section 16 – Road reserves for further information on planting in road reserves.</a>)</p> <p>(c) Buffer planting Where buffer planting is required to provide an instant screening function, plant sizes are to be determined as per the functional requirements of the buffer). (<a href="#">Refer to section 18 – Landscaped buffer strips for further information on landscaped buffer strips.</a>)</p>			
4	Container sizes are to be expressed in a diameter for rigid polypropylene pots and as a litre capacity for stock in polypropylene bags.			
	<b>Nursery industry nominate D sizes</b>	<b>Height</b>	<b>Diameter</b>	<b>Volume potting media (dry)</b>
	140mm	140mm	140mm	1.5L
	200mm	195mm	200mm	4.0L
	300mm	290mm	300mm	13.0L
	25L	300mm	300mm	18.0L
	45L	400mm	400mm	46.0L
	75L	450mm	400mm	76.0L
	100L	500mm	500mm	104.0L

Planting in general	
1	All planting bed areas must be constructed and prepared using recognised best management practices enabling an adequate growing environment for plant establishment and longevity.
2	<p>All planting bed areas are to be cultivated, including sub soil cultivation and decompaction measures.</p> <p>In larger areas where machinery can be used, planting bed areas are to be cultivated to a minimum depth of 300mm. In smaller areas where the need for large machinery is not required, planting bed areas are to be cultivated to a minimum depth of 150mm.</p> <p>A minimum 200mm finished depth of topsoil (from on-site or parent topsoil stockpile or approved equivalent imported soil) is to be provided.</p> <p>Garden bed areas are to be mounded to achieve adequate drainage, facilitate root growth and restrict access where necessary.</p> <p>All imported topsoil will achieve the requirements of <i>AS4419-2003 Soils for Landscaping and Garden Use</i>.</p>
3	Generally planting holes for trees (except for ex-ground stock) are to be a minimum 1.5 times the diameter of the rootball and twice the depth of the rootball to encourage deep rooting of trees, to enhance tree stability and to minimise watering demands.
4	All planting is to have associated fertiliser regimes incorporated as an integral part of the growing and planting works programs.
5	<p>All planting bed areas are to have 75mm—100mm organic mulch. All mulch is to be free of deleterious materials such as rock soil, weeds and sticks. The type of mulch that can be used will be determined by the particular situation. Acceptable types of mulches include:</p> <ul style="list-style-type: none"> <li>• Forest litter;</li> </ul>

Planting in general	
	<ul style="list-style-type: none"> <li>• Pine bark mulch;</li> <li>• Hoop pine bark mulch; and</li> <li>• Organic matting.</li> </ul> <p>Bagasse and hardwood mulches are not suitable. Flammable materials are not suitable unless an appropriate depth of inflammable top dressing is applied, e.g. 50mm of acceptable material.</p>
6	All turfed/grassed areas are to be cultivated (including subgrade formed or existing) to a depth of 150mm prior to placement of minimum 75–100mm depth of approved topsoil lightly compacted and to finished ground level. All turfed/grassed areas are to be finished to appropriate falls and finish flush with adjacent surface treatments.
7	Grass seeding is to be carried out using local native grasses where possible or Green Couch where appropriate. Additives of local native tree, shrub and ground cover species are to be used in seed mixes on steep gradients to assist in preventing erosion. <a href="#">(Refer to section 11.1 – Landscape guidelines for mounding and batters).</a>

Staking									
1	All tree planting must aim for successful establishment without the need for staking. In high wind prone areas, areas of high pedestrian/vehicle use and in exposed areas trees are to be secured and protected where necessary.								
2	If staking is considered appropriate the following is recommended:								
	<table border="1"> <thead> <tr> <th>Pot Size</th> <th>Staking</th> </tr> </thead> <tbody> <tr> <td>140–300mm</td> <td>Two 12mm hardwood stakes secured 600mm above ground. Secure the stem of the tree firmly with two hessian ties fitted to the stem separately in opposite directions – only if required.</td> </tr> <tr> <td>300mm–100L</td> <td>Three 25x25x1800mm hardwood stakes driven 600mm into the ground. Secure the stem of the tree firmly with two hessian ties fitted to the stem separately in opposite directions.</td> </tr> <tr> <td>&lt;100L–ex-ground</td> <td>Special securing methods may be required to ensure successful anchorage. Some of these methods include guying with: <ul style="list-style-type: none"> <li>• wire with protective coating;</li> <li>• stainless steel;</li> <li>• galvanised fittings as required; and</li> <li>• special anchorage supports for podium planting.</li> </ul> </td> </tr> </tbody> </table>	Pot Size	Staking	140–300mm	Two 12mm hardwood stakes secured 600mm above ground. Secure the stem of the tree firmly with two hessian ties fitted to the stem separately in opposite directions – only if required.	300mm–100L	Three 25x25x1800mm hardwood stakes driven 600mm into the ground. Secure the stem of the tree firmly with two hessian ties fitted to the stem separately in opposite directions.	<100L–ex-ground	Special securing methods may be required to ensure successful anchorage. Some of these methods include guying with: <ul style="list-style-type: none"> <li>• wire with protective coating;</li> <li>• stainless steel;</li> <li>• galvanised fittings as required; and</li> <li>• special anchorage supports for podium planting.</li> </ul>
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## 13 Irrigation

The following guidelines apply to any landscape works, where irrigation is to be installed.

### 13.1 Guidelines for irrigation

Irrigation	
1	All planting must aim to be maintained without the use of potable water from the City's water supply system for irrigation purposes.
2	The selection of species, particularly those proposed in publicly owned land are to be those which do not rely on irrigation for ongoing survival and longevity. <a href="#">(Refer Section 20: Glossary See Glossary</a> for explanation of Xeric and Mesic species).
3	Water sensitive design practices are to be incorporated into the design of the particular site wherever possible, such as retention basins, rainwater tanks and wetlands, to allow for water harvesting for irrigation purposes.
4	Where irrigation is to be incorporated as part of landscape works within private and/or Crown Land, it must be installed using best management practices and techniques.
5	The type of irrigation system used may vary depending upon the design of the site and individual requirements of the proposed planting. It is recommended that the landscape architect/designer seek advice from a professional irrigation specialist to ensure the City's objectives are met.
6	All irrigation systems using potable water from the City's water reticulation system will be connected to a metered water supply. (Application is to be made to Gold Coast Water and Waste prior to the commencement of any

<b>Irrigation</b>	
	landscape works).
7	All irrigation systems using potable water from the City’s water supply system will require the installation of a testable backflow prevention device and compliance with <i>AS 3500 Part 1 Section 4</i> , unless directed otherwise, in writing, by the City. All backflow prevention devices are to be installed by a licensed plumbing contractor. The City requires completion of a starter card and payment of inspection fees before commencement of work. An application is to be made to the City.
8	Irrigation plans and specifications are to be submitted to the City as part of the detailed landscape plan documentation. Irrigation plans will include the location of water meter, backflow prevention device and isolation valve (where appropriate).

<b>Crown Land managed by the City</b>	
1	Irrigation systems proposed as part of landscape works in publicly owned land must consider future maintenance costs to the City and public safety.
2	<p>Where a private resident and /or developer desires to install an irrigation system for landscape works (including an entry statement proposal) in the road reserve or any other Crown Land managed/or to be managed by the City , the system is to comply with the previous section ‘Irrigation generally’ and the following:</p> <p>(a) On the irrigation main from the backflow prevention device, provide an isolation valve at the property boundary, where part of that irrigation system services the road reserve area or other Crown Land.</p> <p>(b) All irrigation systems proposed in Crown Land are to be approved by the City prior to installation.</p> <p>(c) Maintenance and operation of irrigation systems and cost of the water supply will be the responsibility of the private developer until the issuing of the ‘off maintenance’ certificate (where such is related to a development adjacent).</p> <p>(d) Where irrigation is approved in public road reserve areas, the following will apply:</p> <ul style="list-style-type: none"> <li>• hours of operation are limited to the hours between 11.00 pm and 5.00 am; and</li> <li>• the spraying patterns for sprinklers are to be designed and installed to leave public paved footpath areas dry.</li> </ul> <p>(e) The City may opt to disconnect any water supply or privately constructed irrigation systems located in Crown Land at the issuing of the off maintenance’ certificate.</p> <p>Site specific assessment shall have regard to:</p> <ul style="list-style-type: none"> <li>• purpose and function of the area being serviced by irrigation;</li> <li>• maintenance requirements of planting;</li> <li>• cost of continued maintenance and operation of the irrigation system and associated infrastructure; and</li> <li>• continued costs of potable water supply.</li> </ul>
3	<p>If a private resident/private developer wishes to continue responsibility for maintenance of landscape works and associated irrigation systems after the ‘off ’ maintenance period, a written agreement from the City will be required which details:</p> <ul style="list-style-type: none"> <li>• responsibilities for water costs;</li> <li>• responsibilities for management of planting and associated irrigation, hard surfacing and other built elements;</li> <li>• extent of time of the agreement;</li> <li>• spraying times and spraying patterns for irrigation; and</li> <li>• a public risk insurance policy is to be entered into by the private resident/managing body/developer of the development or residence adjacent to cover the landscaped area and irrigation system within the road reserve area for the specified period of time.</li> </ul>

## 14 Hard surfacing

The following guidelines apply to any landscape works that includes the use of hard surfacing. For the purpose of these guidelines, hard surfacing relates to all pavement treatments that are used in landscape works such as unit paving, bitumen, gravel and decomposed granite, concrete, slate and tiles ~~in general.~~

### 14.1 Guidelines for hard surfacing and edging

Hard surfacing															
1	All hard surfacing in open space areas and areas external to building envelopes must be designed to provide for safety, be functionally appropriate, enhance visual amenity, and have regard for ongoing maintenance requirements.														
2	All hard surfacing is to comply with Australian Standards for surface treatments, <a href="#">SC6.11</a> ↔ <b>City Plan policy – Land development guidelines</b> and building regulations.														
3	The following criteria are to be considered in selection and design of new hard surfacing: <ul style="list-style-type: none"> <li>• <b>Loading</b> – the hard surfacing is to be able to bear the volume of weight of traffic anticipated;</li> <li>• <b>Durability</b> – consider the type of detailing, rate of wear and susceptibility to discolouration;</li> <li>• <b>Maintenance costs</b> – low costs should not be the only consideration. Aesthetic appeal, function, safety aspects, laying cost, availability for replacement and long term maintenance need to be addressed;</li> <li>• <b>Ease of movement</b> – pedestrians require a surface that is comfortable to walk on. In areas where traffic is to be discouraged, hard surfacing materials can be uncomfortable or noisy to traverse; and</li> <li>• <b>Vegetation protection</b> – when it is necessary to put hard surfacing around mature trees, use bricks or pavers. In busy pedestrian areas, tree guards may be required.</li> </ul>														
4	The following identifies preferred gradient/slope ranges of typical areas that require hard surfacing: <table border="1"> <tbody> <tr> <td><b>Pathways/bikeways</b></td> <td>1% <del>–</del> 8%</td> </tr> <tr> <td><b>Entrance walks</b></td> <td>1% <del>–</del> 4%</td> </tr> <tr> <td><b>Pedestrian ramps</b></td> <td>up to 8%</td> </tr> <tr> <td><b>Stairs</b></td> <td>33% <del>to</del> 50%</td> </tr> <tr> <td><b>Ball play areas</b></td> <td>1% <del>–</del> 3%</td> </tr> <tr> <td><b>Adventure playground pad</b></td> <td>1% <del>–</del> 3%</td> </tr> <tr> <td><b>Terrace and sitting areas</b></td> <td>1% <del>–</del> 2%</td> </tr> </tbody> </table>	<b>Pathways/bikeways</b>	1% <del>–</del> 8%	<b>Entrance walks</b>	1% <del>–</del> 4%	<b>Pedestrian ramps</b>	up to 8%	<b>Stairs</b>	33% <del>to</del> 50%	<b>Ball play areas</b>	1% <del>–</del> 3%	<b>Adventure playground pad</b>	1% <del>–</del> 3%	<b>Terrace and sitting areas</b>	1% <del>–</del> 2%
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5	Hard surfaced areas which are subject to wetting are to comply with Australian Standard <a href="#">AS1141.2:2015 Methods for sampling and testing aggregates –Method 2: Basic testing equipment</a> .														
6	In hard surface areas, a minimum cross fall of 1:50 is to be provided away from built structures to a suitable collection point														
7	In areas with adequate sub-surface percolation and moderate run off conditions, the use of porous hard surfacing is preferred.														
8	All unit paving areas are to be restrained by a hard edge, preferably concrete and laid on an appropriate base.														
9	Street and park furniture including bike racks are to be installed on paved, concrete or other hard surfaced pads.														
10	Gravel surfacing is to be constructed in accordance with <a href="#">SC6.11</a> ↔ <b>City Plan policy – Land development guidelines</b> .														

Edging	
1	For landscape works on privately owned land, all garden/mass planting areas, signposts, bollards and the like associated with development, are to be contained with a fixed durable edge.
2	For landscape works on publicly owned land, all garden/mass planting areas, signposts, bollards and the like associated with development, are to be contained within a spade cut or sprayed edge.
3	All edging especially that associated with landscape works in publicly owned land is to be designed with smooth navigable lines and be able to sustain the movement of tractor mowers and maintenance vehicles where necessary.
4	At garden and turf interfaces the edging is to finish flush so that mowing obstacles and trip hazards are not created <a href="#">(Refer to Figure 9)</a> .
5	Some desirable edging that may be used includes but is not limited to: <ul style="list-style-type: none"> <li>• <b>Brick</b> – laid in either header or stretcher course, ideal for curved situations;</li> <li>• <b>Concrete edge</b> – machine installed, small flowing curves and straight runs difficult to achieve; or</li> <li>• <b>Timber edge</b> – Class 1 Hardwood and CCA treated softwood, 50-mm x 100-mm at 1500-mm intervals fixed to the ground using timber or aluminium pegs- (<del>T</del>Timber edging is not acceptable for the City managed land) <a href="#">(Refer to Figure 10)</a>.</li> </ul>

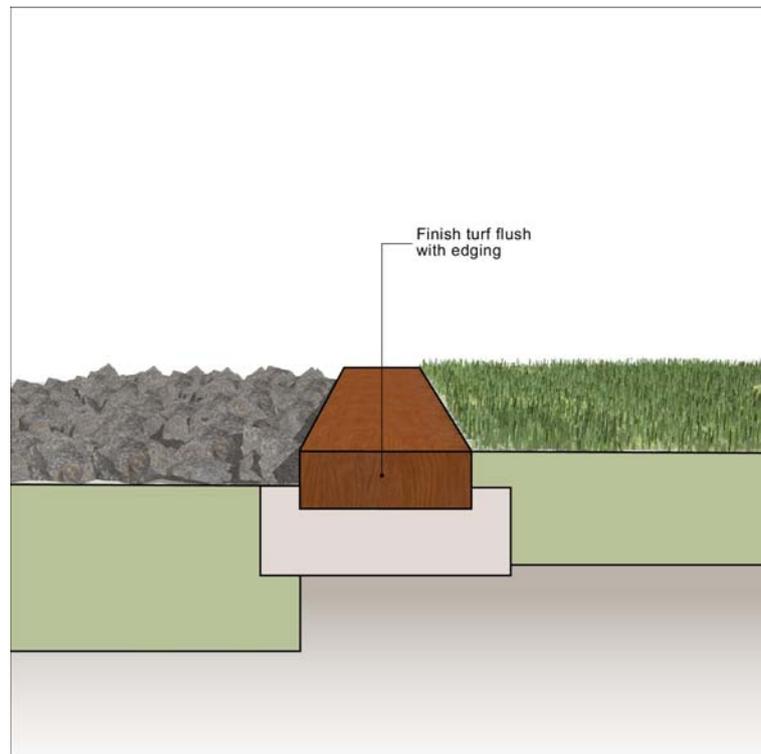


Figure 9: All garden edging is to finish flush with turfed areas

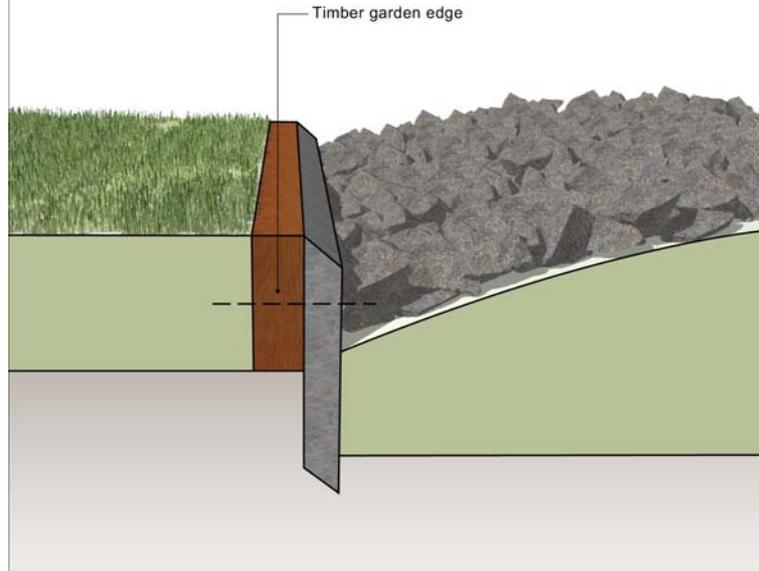


Figure 10: Timber garden edge

## 15 Open space areas

The following guidelines apply to open space areas where design and construction of landscape works is to be undertaken.

For the purpose of these guidelines, open space can be described as a general term referring to dedicated parkland, local links, greenways, drainage reserves/swales and associated bikeways, parks facilities and structures.

The following are the minimum conditions and acceptable minimum quality to be met for design, construction and 'on' and 'off maintenance'. The requirements for open space may include some or all of these requirements depending on the intended use and proposed maintenance methods.

### 15.1 Guidelines for open space areas

**Note:** Before the commencement of planning or design of any open space areas, developers of such areas are to coordinate with the City to determine possible future use and maintenance of these areas. This will prevent significant delays and inconvenience with processing of approvals of proposed development.

#### Design of open space areas in general

1	<p>Landscape works in open space areas are to be designed appropriate to their function by:</p> <ul style="list-style-type: none"> <li>• utilising useable land for its intended purpose;</li> <li>• incorporating where possible existing vegetation and ecological systems;</li> <li>• enhancing visual amenity of the local area;</li> <li>• providing a sustainable community resource; and</li> <li>• being consistent with hydraulic or drainage regimes on the site and within the adjacent surrounding areas.</li> </ul>
2	<p>Dedication, design and construction of open space areas <a href="#">are</a> to comply with the City's requirements for parkland dedication and design.</p> <p>Design of open space areas are to incorporate the use of water sensitive design solutions incorporating the principles related to multiple use drainage systems and reducing requirements for use of potable water for irrigation.</p>
3	<p>Species selection is to have regard to <del>section</del> <b>Section 12 – General plant selection and planting</b>. Generally in public open space areas grass type is to be local native grasses or Green Couch in areas where appropriate. Grass type in drainage reserves and drainage swales is to be predominantly local native species.</p>

Design of open space areas in general	
4	When designing landscape works in drainage reserves, reinforce and enhance any existing riparian vegetation with additional planting areas, and where possible, increase the width of the riparian zone. Landscape works undertaken in drainage flow paths are to be undertaken in conjunction with appropriate hydraulic/stormwater drainage management practices and plans- <a href="#">(Refer to Figure 11 &amp; 12).</a>
5	For areas that have a relatively consistent base flow of water, natural stream design principles are to be applied. Grassed drainage swales are not appropriate in these situations without low flow pipes or subsurface ground water drainage.
6	All design and construction associated with landscape works is to account for ongoing maintenance regimes.
7	Single tree planting proposed in grassed/turfed areas within public open space is to be spaced so that self-propelled mowing equipment can manoeuvre freely around trees (minimum 4m between). Newly established groups of trees in grassed/turfed areas are to be placed in a mulched planting bed.
8	Where open space areas are proposed as public park areas in urban areas, the road reserve area between the kerb and the park boundary is to be turfed.

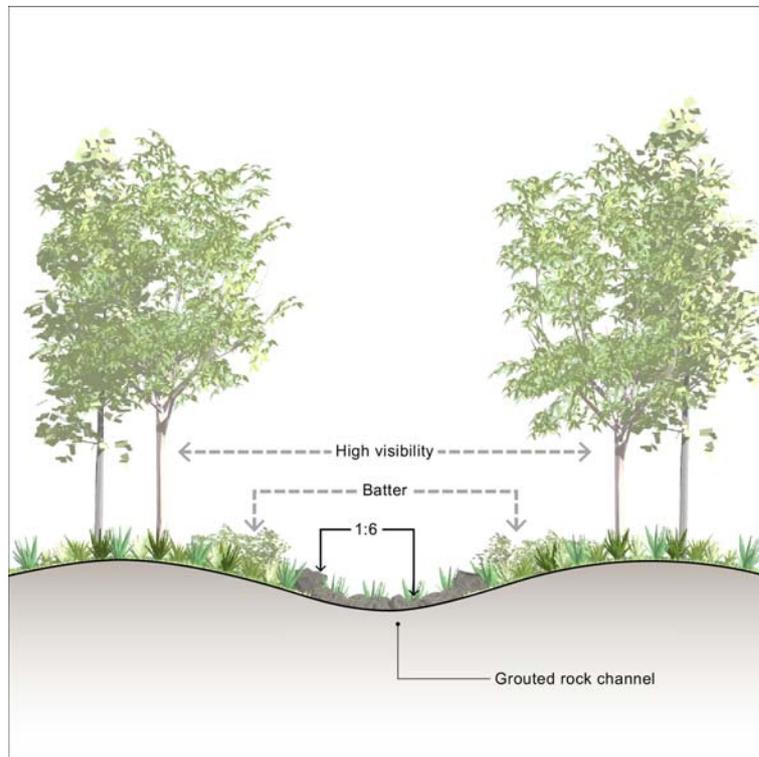


Figure 11: Low flow drainage channels can utilise cobble or river stone materials to provide a more natural appearance

**Design of open space areas in general**

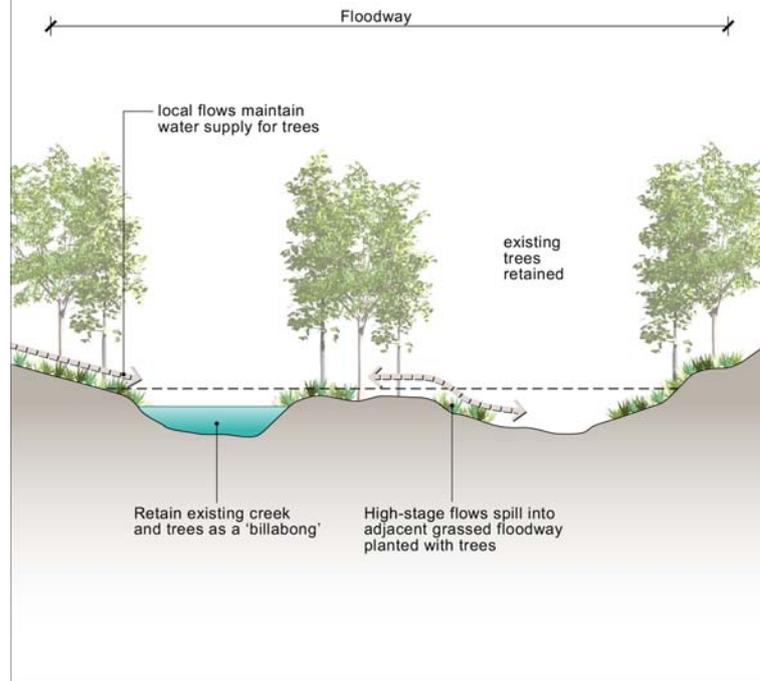


Figure 12: Incorporate existing vegetation and water sensitive design practices in designing landscape works in drainage flow paths

**During construction of open space areas**

1	Best management practices are to be used during the construction phase associated with any landscape works in open space areas including those associated with vegetation protection and removal, protection of existing water quality, fire hazard management and storage of material and machinery.
2	Vegetation protection measures are to be undertaken as identified in section 10 of this policy.
3	Significant restoration planting of local native species is required if existing trees are damaged or removed without prior written approval from the City. <b>Note:</b> Species with a trunk girth in excess of 40cm (measured 1.4m above ground level) or a height greater than 4m may be classified as protected under as identified in the <a href="#">City Plan code 9.4.14</a> Vegetation management code. <b>Removal or relocation is to comply with these requirements.</b>
4	Spoil or overburden is not to be deposited into treed areas or under the appropriate vegetation protection zone of vegetation to be retained.
5	Erosion and sediment control devices are to be installed in areas where construction activity will adversely affect the water quality of adjacent waterways.
6	Where open space areas have been identified as having a bushfire hazard rating, temporary mitigation measures are to be undertaken during construction such as fire trails and water storage facilities.
7	Areas are to be allocated on site during the construction phase for storage of materials and machinery. Temporary site access is to be identified and measures undertaken to ensure that access into and out of the site has minimal impact on areas of any vegetation to be retained, drainage systems through the site and the environment directly surrounding the development site.
8	Best management practices must be used prior to and during construction and prior to the 'on' maintenance period and the issuing of the 'off' maintenance certificate for removal of all state declared plants and if appropriate, recognised environmental weeds.
9	Section 19 of this policy, identifies species that are prohibited or restricted as new plantings in landscape works requiring approval from the City. This list identifies species the City considers to be potential environmental weeds and plants that are unsafe in certain situations. <b>Note:</b> Recognised environmental weeds with a trunk girth in excess of 40cm (measured 1.4m above ground level) or a height greater than 4m may be classified as protected under <a href="#">City Plan code 9.4.12</a> as identified in the

Vegetation management code. ~~Removal or relocation is to comply with these requirements.~~

### Condition of open space areas (to be transferred to the City) at 'on' and 'off' maintenance

1	At the 'on' maintenance and at the issuing of the 'off maintenance' certificate, public open space areas must be of a quality which can be easily maintained without the need for the City to undertake additional works to establish these areas to an acceptable standard.
2	All large open and grassed open space areas are to have established grass cover of 90% and be left in a mowable condition, with the exception being where such vegetation performs an environmental or visual function.
3	Open space areas utilised for park uses is to attain a constant grade and be left in a mowable condition with slopes not exceeding 10%.
4	All surface rock over 25mm is to be removed from open space areas where mowing is intended.
5	All construction debris and rubbish/litter is to be removed including that deposited in any sediment and erosion control devices.
6	All sediment and erosion control devices, irrigation, hard surfacing and fire-fighting infrastructure are to be left in good repair to the satisfaction of the City.
7	Areas with silt deposition are to be cleaned and levelled.

### Bikeways

1	Bikeways are to be designed to provide connectivity, permeability, amenity and personal safety to cyclists.
2	The design and construction of any proposed bikeways within public open space areas are to be co-ordinated with the <del>City's Transport Strategy</del> <a href="#">Gold Coast City Transport Strategy 2031 for the City</a> . Bikeway specifications and requirements are to comply with <a href="#">SC6.11 City Plan policy – Land development guidelines</a> .
3	Where a bikeway exits parkland onto busy streets, an approved physical barrier is to be constructed to restrict accidental movements onto the road pavement.
4	Where applicable, a stable and safe pedestrian/ bikeway access through drainage reserves to any adjacent recreation areas is to be provided.

### Species selection (applies to public open space, including street trees within road reserves)

1	<p>The selection of vegetation species for public open space, including street trees within road reserves considers the following:</p> <ul style="list-style-type: none"> <li>• preference for local endemic species (<del>Refer Section 20: Glossarysee Glossary</del>) selected from the site's vegetation types or which are part of nearby natural landscapes;</li> <li>• species morphology match the site's spatial restrictions, with consideration and provision for both under and above ground requirements of the particular trees;</li> <li>• climatic and growth habit of the plant match the site's features or needs (provision of shade, habitat etc.);</li> <li>• soil/subsoil type, soil conditions and proposed soil amendments;</li> <li>• health and safety requirements of the public open space (e.g. allergenic or toxic properties);</li> <li>• not to be a known environmental weed, be a species that performs poorly in the location in question, have disease or pest problems or invasive roots; and</li> <li>• maintenance and water requirements of the species relative to the site.</li> </ul>
2	<p>Where species meet the requirements listed in (1), priority must be given to species selection in the following order:</p> <ul style="list-style-type: none"> <li>• endemic species in the first instance.</li> <li>• native species from the South-East Queensland bioregion.</li> <li>• productive and useful species (e.g. fruit trees).</li> <li>• exotic species (<del>Refer Section 20: Glossarysee Glossary</del>).</li> </ul>

**Species selection (applies to public open space, including street trees within road reserves)**

3	Do not utilise species identified as undesirable in <b>Section 19 – Guidelines for undesirable plants.</b>
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**Tree installation**

1	<p>Trees are:</p> <ul style="list-style-type: none"> <li>• located in accordance with <b>Section 12 – General plant selection and planting;</b></li> <li>• installed without hard edging;</li> <li>• planted in accordance with industry best practice;</li> <li>• positioned to provide shade;</li> <li>• planted in accordance with standard drawings in <a href="#">SC6.11</a> ↔ <b>City Plan policy – Land development guidelines;</b></li> <li>• mulch where clustered;</li> <li>• a minimum of 4m apart to allow easy access for mowing machinery where located singularly in public open space;</li> <li>• located at a distance from structures reflective of their mature size and growth characteristics and in order to prevent damage to building foundations; and</li> <li>• of more advanced stock in high use activity areas to create an immediate visual impact, as well as amenity, habitat and shade.</li> </ul>
2	The standard minimum tree spacing distances in recreation parks, sports parks (except playing fields) and utility reserves is 4m centre to centre plus normal trunk girth for specific species at 20 years maturity.

**Turf**

1	Turf is weed free.
2	Provide the perimeter of turf areas with spade cut or sprayed edges. Hard edging such as continuous concrete edging or timber edging is not appropriate.
3	Do not use hydro-seeding of turf, or a similar method, to provide lawn grass cover.
4	Lay and establish turf within the road reserve for the full width of the reserve, that is, from back of kerb to the property boundary, in a continuous swathe. This requirement also applies to all road frontages adjacent to public open space.

**16 Road reserves**

The following guidelines apply to any landscape works associated with development and or capital works programs undertaken in road reserve areas. This includes provision for planting, hardsurfacing, irrigation, and signage.

**Note:** Any private landscape works/other works undertaken in road reserve areas requires approval by the City including:

- A private resident undertaking landscaping in road reserve areas in front of their residence is to obtain approval from the City's roads asset manager.
- Developers desiring to landscape road reserve areas as part of a new development must obtain approval in conjunction with their development application through the City's development approval process.

**16.1 Guidelines for landscaping in road reserves****Road reserves generally**

1	<p>Landscape works undertaken in road reserve areas must be designed to provide:</p> <ul style="list-style-type: none"> <li>• for safe movement of vehicular traffic and pedestrians including visibility and lighting;</li> <li>• appropriate species selection and sizes;</li> </ul>
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	<ul style="list-style-type: none"> <li>adequate growing medium for planting, irrigation and subsoil drainage;</li> <li>aesthetically pleasing streetscapes including amenity lighting, hardsurfacing and signage;</li> <li>shade where appropriate in areas such as car parks; and</li> <li>for functional operation of underground and above ground service infrastructure.</li> </ul>
2	Traffic visibility, safety, street lighting, and service infrastructure allocations are to comply with the requirements in- <a href="#">SC6.11</a> <b>City Plan policy – Land development guidelines</b> .
3	Landscape works are to be in accordance with the requirements of sections 10—14 in this policy.
4	Provide appropriate clear zones in areas that have potential runoff road accident zones or areas with an established accident history. The following applies to the above areas: <ul style="list-style-type: none"> <li>clear zones: minimum 1m, 3m desirable for low speed environments of less than 70km/h; and</li> <li>clear zone widths for substandard curves.</li> </ul>
5	<p>The only built structures that are to be located in road reserves are those associated with public transport, traffic engineering requirements and community benefit.</p> <p>Any other built structures require prior approval from the appropriate authority with which jurisdiction lies e.g. State controlled roads – Department of Transport and Main Roads and the City for <del>all</del> the City's managed road reserve areas. This includes:</p> <ul style="list-style-type: none"> <li>private feature walls, gatehouses, garden walls/raised garden beds and private signage; and</li> <li>permanent umbrella structures and extensions to buildings requiring structural support from the ground, that are located in the road reserve.</li> </ul>
6	<p>Species selection and location is to respect the landscape character of the local area and its surrounds particularly the uses, types and form of adjacent development and associated landscapes, and existing natural features; and have regard to the following:</p> <ul style="list-style-type: none"> <li>impact of the use and activity in the location to which species is proposed;</li> <li>underground and above ground service infrastructure;</li> <li>ongoing maintenance requirements of the plant;</li> <li>irrigation requirements (mesic plants require permanent irrigation. Xeric plants only require irrigation for successful establishment – <a href="#">Refer Section 20: Glossary</a> <del>See Glossary</del>);</li> <li>whether the species is a known environmental weed, nuisance plant, has disease problems or invasive roots;</li> <li>climatic and growth habit of the plant match the site's requirements;</li> <li>species morphology matches the site's spatial restrictions;</li> <li>the natural tendency for the species to develop a single trunk (multiple stemmed species are to be avoided);</li> <li>the type and classification of the road;</li> <li>safety requirements for pedestrians and vehicles including issues of visibility, hazards, lighting and surveillance;</li> <li>stereoscope devices and traffic controls within the roads;</li> <li>species with minimal potential to create slippery pathway surfaces;</li> <li>species that do not reduce the effectiveness of the cone of light from street lighting;</li> <li>scale of the streetscape; and</li> <li>soil and sub soil conditions.</li> </ul>
7	<p>Street planting in road reserve areas is to comply with the following:</p> <p>(a) Trees are not to be located:</p> <ul style="list-style-type: none"> <li>under any insulated power lines except where such has a mature height of 5m and is appropriate to the character of the local area; or</li> <li>over any significant underground electricity infrastructure.</li> </ul> <p>(b) Trees are not to be located within 3m of a residential vehicular access or 4.5m of all other vehicular access crossings, and not within 3m of a fire hydrant.</p> <p>(c) Pedestrian crossings:</p> <p>Trees are not to be located within 15m of the approach side and 6m of the departure side of a pedestrian crossing or bus stop. These distances apply where there is no street build out adjacent.</p> <p>If a build out occurs adjacent to a pedestrian crossing, planting within that build out island is to be shrubs/ground covers only, with a maximum mature height of 600mm above the road pavement. In these cases a street tree may be located in the 1m setback zone <a href="#">as identified in section 17.1 (16)</a> from</p>

	<p>the original kerb edge.</p> <p>In cases where a build out island occurs adjacent to a pedestrian crossing in a low speed zone of 50km/h or less, a single street tree may be located in the build out island on the departure side of the pedestrian crossing. The tree is to be setback 1m from the face of the new kerb edge of the through lane.</p> <p>(d) Un-signalised intersections</p> <p>Trees are not to be located in the triangular zone defined by the following distances: 20m and 6m from the intersection of the inner edge of the traffic lanes (parking lane is not classed as a traffic lane) on the approach side and the intersection road respectively.</p> <p>(e) Signalised intersections</p> <p>Signalised intersections have specific traffic management requirements. All planting is to be considered at a site-specific level in consultation with the City and be undertaken in accordance with traffic engineering visibility and safety requirements.</p>
8	<p>Where trees are planted singularly, the planting pit is to:</p> <ul style="list-style-type: none"> <li>• have roughened sides and a decompacted base; and</li> <li>• be at least twice the width and depth of the root ball.</li> </ul>
9	Combine erosion control treatments with plantings (where necessary) to stabilise road verges.
10	Appropriate root barriers are to be installed where necessary in areas where structures are highly likely to be root damaged by trees planted nearby. It is important to note that ongoing maintenance is necessary to monitor the effectiveness of the root barrier. This is to be included in any maintenance program.
11	In cases where drainage provisions are required for planting areas (e.g. to prevent sumping), drainage is to be appropriately connected to an approved stormwater system.
12	All existing road remnants or associated compacted sub-grades are to be broken up and ground decompacted to a minimum depth of 500mm and removed where necessary.
13	Where the road is under the jurisdiction of the Queensland Department of Main Roads, approval to undertake landscape works is to be obtained from that Department in consultation with the City.
14	Street trees are to have a minimum clear trunk height of 900mm for a 2m high tree on planting and be able to attain a clear trunk height of 1.8m on maturity. (The exception being where tree planting is for buffer or screening purposes, where the form and size will be determined in consultation with the City.
15	<p>Minimum sizes for street tree planting is to be as follows:</p> <ul style="list-style-type: none"> <li>• Single street tree plantings - minimum semi mature species (<a href="#">Refer Section 20: Glossarysee Glossary</a>).</li> <li>• Grouped plantings (three or more) - minimum advanced plants (<a href="#">Refer Section 20: Glossarysee Glossary</a>).</li> </ul>
16	<p>Road verges vary in width, but are typically 3.5m, 4.5m and 6m wide. The City standard engineering road reserve cross sections provide for an allocation of verge space for street planting. Tree planting is to be setback a minimum 1m from nominal kerblines.</p> <p>If a greater planting area is required to the back of kerb, location and arrangement of any footpath areas is to be determined in consultation with the City prior to submitting Detailed Landscape Plans.</p> <ul style="list-style-type: none"> <li>• All planting (including shrubs and ground covers) is to comply with minimum traffic engineering design provisions for 'line of sight' restrictions and traffic safety requirements.</li> <li>• Single tree planting is to have regard to the spatial requirements of the species and the impact on effectiveness of street lighting and flexibility for driveways and accesses, especially in residential areas.</li> </ul>
<b>Planting roundabouts and median strips</b>	
1	Trees are to be a minimum semi mature nursery stock ( <a href="#">Refer Section 20: Glossarysee Glossary</a> ).

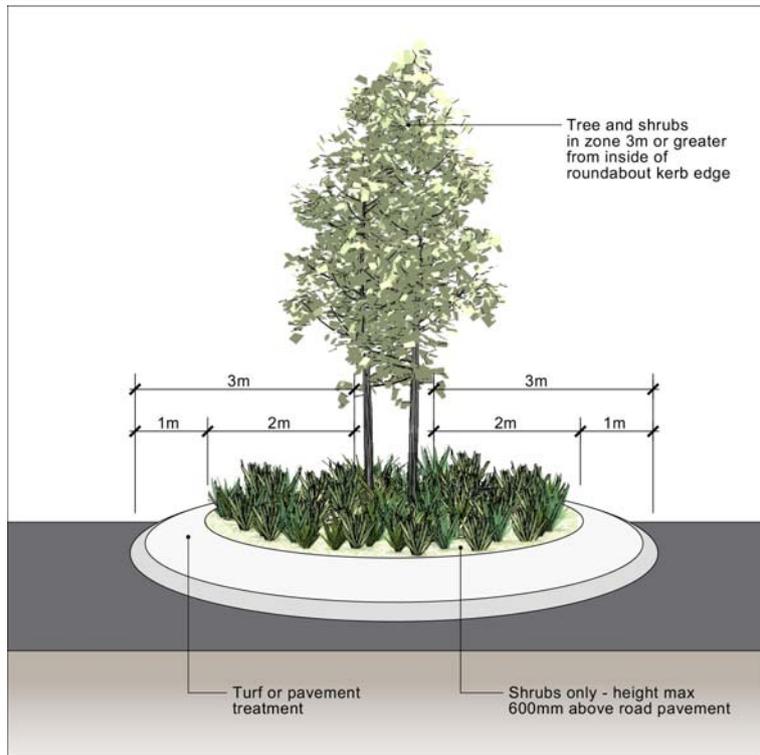


Figure 13: Roundabouts generally

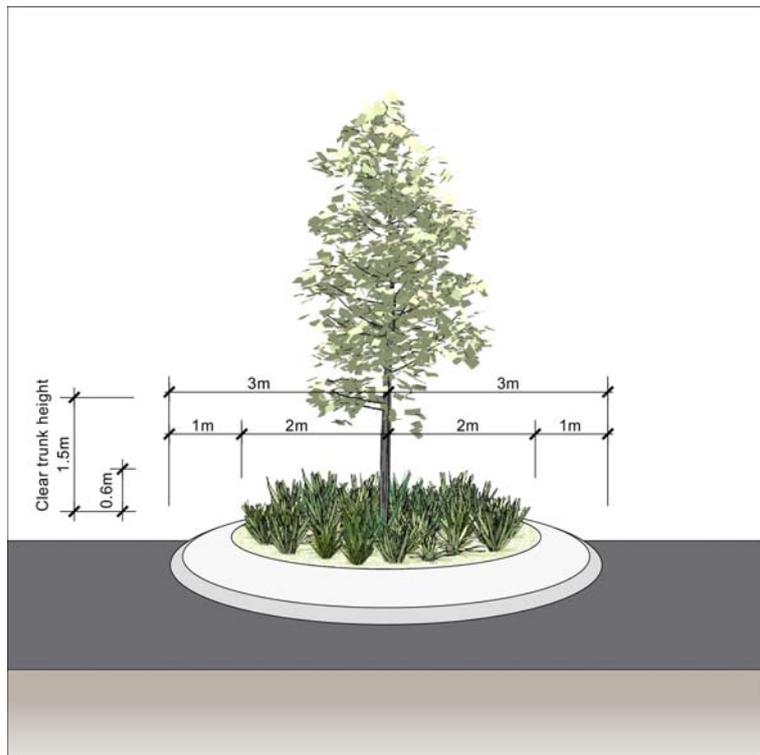


Figure 14: Roundabouts of 6-0m in diameter trees in low speed zones 50km/h or less

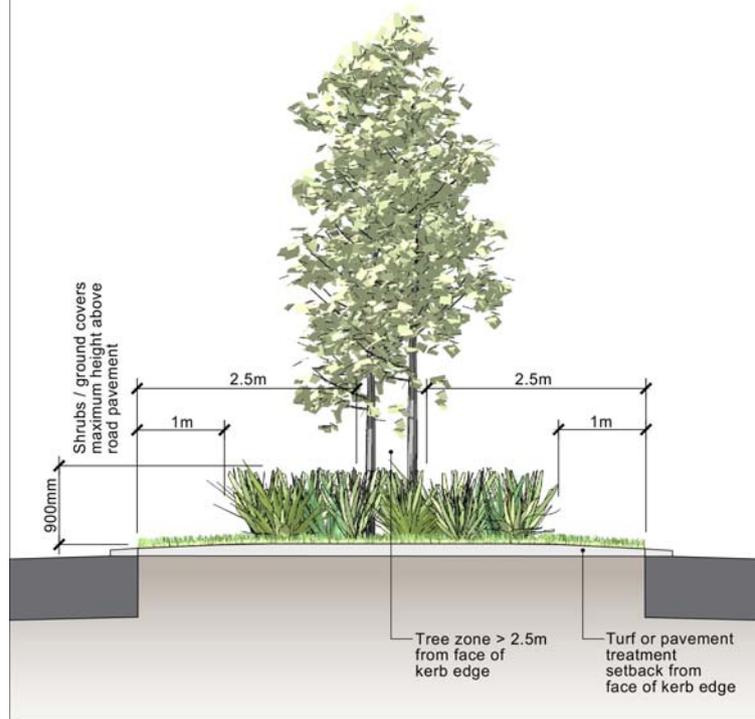


Figure 15: Median strips generally

2 All planting in roundabouts and median strips is to be undertaken in accordance with traffic engineering visibility and safety requirements [\(Refer to Figures 13 - 15\).](#)

**Roundabouts**

Planting in roundabouts is to be setback from the inside of the roundabout kerb edge and consist with the following:

- **0m—1m setback** – appropriate turf or pavement material;
- **1m—3m setback** – shrubs/groundcovers only with a maximum mature height of 600mm (without extensive pruning) above the road pavement (not top of kerb);
- **3m—>3m setback** – trees and shrubs/ground covers. Roundabouts of 6m in diameter in low speed zones of 50km/h or less, a small single trunked tree with a mature diameter of 100mm may be located in the centre of the roundabout, providing such achieves a clear trunk height at planting of 1.5m above the road pavement level.

In roundabouts, projections such as boulders and driftwood are not to exceed 400mm above the constructed road pavement and have a minimum setback of 3m from the inside of the roundabout kerb edge.

**Median strips**

Planting in median strips is to be setback from the face of the median strip kerb edge and consist of as follows:

- **0m—1m setback** – appropriate turf or pavement treatment.
- **1m—2.5m setback** – shrubs/ground covers only. Shrubs and ground covers to have a maximum maintained mature height of 900mm above the road pavement (not top of kerb).
- **2.5m—>2.5m setback** – Trees and shrubs/ground covers. Trees are to be primarily single trunked species. Tree spacing will be determined depending on the species spatial requirements and clearance from service elements and light poles.

In Median strips of 3.5m—5m width located in a low speed zone of 50km/h or less, small trees with a mature trunk diameter of 100mm may be located centrally in the median strip provided such accords with traffic engineering visibility and safety requirements.

Ends of median strips require special consideration and discussion with the City with regards to clear zones and safety requirements.

Trees planted in roundabouts and median strips are not to be planted in individual pits, but in a continuous or circular trench to allow maximum rootzone area.

The minimum width for a vertical sided trench prior to backfilling with growth media is to be 2m for trees. For single tree planting, planting pit is to be 2m diameter with a minimum 450mm depth of growing media.

In situations where exposed soil surface is less than 2m wide, the following minimum growth media depths

	are required.		
	<b>Vegetation Type</b>	<b>Mature Cultivated Height</b>	<b>Soil Height</b>
	Trees	>5m	800mm
	Shrubs	0.5—5m	600mm
	Ground Covers	Less than 0.5m	400mm

## 17 Car parks

The following guidelines apply to any landscape works undertaken in car park areas. This includes provision for planting, hardsurfacing, irrigation and other landscape features.

### 17.1 Development guidelines for landscaping in car park areas

Siting and location	
1	<p>Landscape works associated with car park areas are to:</p> <ul style="list-style-type: none"> <li>be sited appropriately;</li> <li>provide adequate space for planting above and below the ground level;</li> <li>utilise appropriate species, hardsurfacing and associated hardscape with relation to the function, use and character of the locality;</li> <li>reduce visual impact of the car park from the surrounding areas; and</li> <li>provide shade and screening where appropriate.</li> </ul> <p>Landscaped areas are to be located between parking bays and/or along the top edge of the car parking bay.</p>
2	Car parks proposed on sloping land are to incorporate terraced levels with the use of landscape works to complement the level changes.
3	<del>Landscape works are to be in accordance with sections 10 to 14 of this policy.</del> Planting is not to restrict circulation, public safety and visual access to signage and associated business
4	<p>Species selection and location is to respect the landscape character of the local area and its surrounds particularly the uses, types and form of adjacent development and associated landscapes, and existing natural features; and have regard to the following:</p> <ul style="list-style-type: none"> <li>level of impact of the proposed planting on visual amenity, uses and activity;</li> <li>maintenance requirements of the plant;</li> <li>irrigation requirements (mesic plants require permanent irrigation. Xeric plants only require irrigation for successful establishment – <a href="#">Refer Section 20: GlossarySee Glossary</a>);</li> <li>whether the species is a known environmental weed or nuisance plant, has disease problems or invasive roots;</li> <li>climatic and growth habit of the plant to match the sites' requirements; e.g. height allowances with canopies;</li> <li>species morphology matches the sites spatial restrictions;</li> <li>the natural tendency for the tree species to develop a single trunk (avoid species with multiple stems);</li> <li>soil and sub soil conditions; and</li> <li>traffic engineering requirements.</li> </ul>
5	<p>Planting bed areas are to be identified, marked out, sub soil decompacted and excavated to the required depth with adequate subsoil drainage and conduit pipework for the irrigation system (if required).</p> <p>All excavations are to remain open for inspection by a City officer, prior to backfilling with approved soil, lightly compacted to the required finished surface levels.</p>
6	All trees are to be a minimum semi mature nursery stock. ( <a href="#">Refer Section 20: GlossarySee Glossary</a> ).
7	<p>Trees within car park areas (excluding landscaped buffer strips) are to have a <del>minimum</del>-900mm clear trunk height, for a 2m high tree at planting and be able to attain a clear trunk height of 1.8m on maturity. All shrub planting is to have a maximum maintained height of 900mm from the road pavement (not top of kerb).</p> <p>All trees and shrubs are to be located so as to maintain adequate sight distance in accordance with traffic visibility and engineering safety requirements especially at planting bed ends within the car park area proper.</p>
8	Where trees are planted singularly, the planting pit is to have roughened sides and a decompacted base.
9	Planting is to be contained and maintained within planting bed areas. Planting bed areas are to be a minimum of

	4m <sup>2</sup> and planted in a natural soil profile.
10	In order to maximise the shade provided by trees planted within car park areas, a north/south isle orientation is desirable. This will increase shadow coverage over individual car parking spaces. <del>(a) An east west orientation of the parking aisles will provide shade only to the southern aisles.</del>
11	To provide a good shade volume, shade trees can be planted at a minimum, every five (5) to eight (8) car parking bays. Whole parking bays can be provided as garden beds to support these trees. Application may be made to the City in the early design stages to seek a relaxation on parking space provisions to increase the area of unsealed planting areas.
12	Where an open ground level area of car park exceeds 300m <sup>2</sup> or accommodates in excess of 12 cars, at least 5% of the car parking area including access aisles should be designed to include adequate landscaped areas so as to provide space for the deep planting of shade trees and shrubs. Any landscaped setbacks to the perimeter of the car park are not to be included in this calculation.
13	Where sufficient space is available and in a location where public safety will not be compromised, grass mounds with tree planting can form an effective and low maintenance screen. If screening is required in a car park area and space is limited, the three tiered planting approach utilising a combination of trees, shrubs and ground covers can be used.
14	A temporary pedestrian barrier is to be used to all landscaped screens/buffers within car park areas, until plants have established. Height and materials to be used for temporary pedestrian barriers are to be determined by site specific assessment and identified on the Detailed Landscape Plan.
15	In areas with adequate sub-surface percolation and moderate run off conditions, the use of porous pavement treatment is preferred. Porous surface treatments are to be designed in accordance with traffic loading standards.
16	Open area car parking for commercial, industrial, tourist, resort and retail uses is to have irrigation <del>provided to comply with section 13 of this policy.</del>
17	Trees, shrubs and other landscape features are to be chosen, located and maintained in a way that does not block surveillance, create concealment spots or reduce sightlines.
18	Visibility through vegetation is to achieve a clear line of sight to 1.5m in height. Planting of trees and shrubs in car park areas (except where such forms a buffer strip) is not to create a large mass of vegetation, with shrubbery setback from edge of kerb and footways <del>(See section 17.1(7) of this policy).</del>
19	In cases where there is potential for desire lines through car park areas, to and from areas adjacent to the site and the destination point, landscaped footways can be provided to ensure that conflict between pedestrians and vehicles is minimised and the shortest route between car park, adjacent areas and destination is achieved.

## 18 Landscaped buffer strips

The following guidelines apply to any landscape works that are associated with landscaped buffer strips.

### 18.1 Development requirements

Landscape buffers	
1	<del>Landscape works are to comply with sections 10 to 14 of this policy.</del> Design of landscape works is to maximise opportunities to effectively integrate the proposed development into the surrounding area.
2	Landscaped buffer strips are to be sensitively designed as an integral part of the site works being appropriate to their function, whilst enhancing visual amenity and having regard to future maintenance regimes <a href="#">(Refer to Figures 16 &amp; 17)</a> .
3	Specify and detail plant species, sizes and spacing that will provide the required screening function with relation to the specified objective for the required screening. <del>(Refer to section 12 of this policy)</del> . Widths of landscaped buffer strips have a direct effect on the amount of screening that can be achieved. For example: <ul style="list-style-type: none"> <li>• A 3m minimum landscaped buffer strip has an effective screening of approximately 4—5m high on flat land;</li> <li>• A 6m landscaped buffer strip has an effective screening of approximately 5—8m high on flat land.</li> </ul>
4	A landscaped buffer strip may comprise of planting only, or be a combination of sensitively designed earth mounding, planting and fencing. Planting is to consist of primarily shrubs and trees, complemented by the use of appropriate ground covers.
5	Plant material is not to create potential to cause damage, nuisance or major loss of sunlight, to adjacent properties.
6	Planting is not be used in isolation for noise abatement, but in combination with appropriate earth mounding and noise abatement fencing or screening.
7	Landscape buffers that abut road frontages and car parks should have appropriate barriers to prevent vehicle access.
8	Specify any inground irrigation systems, subsurface drainage and swale drainage systems where appropriate. <del>Irrigation is to be in accordance with section 13 of this policy.</del>
9	The landscaped buffer strip is to be maintained at all times to the satisfaction of the City, by the current owners/proprietors of the land on which the buffer strip is located.
10	If the purpose of the buffer strip is solely for the use as a shelterbelt for reducing wind effects, the maintenance and planting required are considered as a specialist design issue.

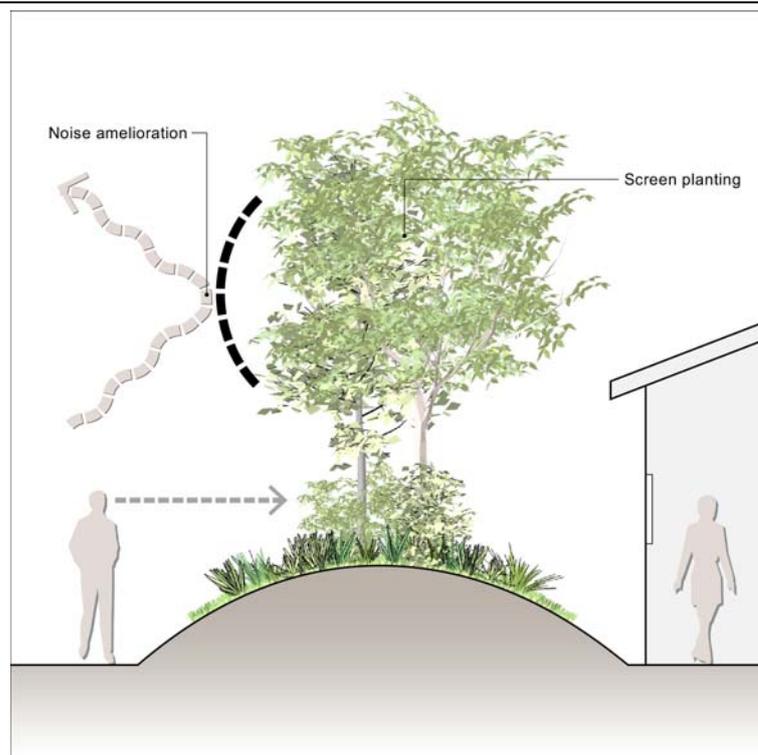


Figure 16: Landscape buffer strips create privacy and assist in ameliorating noise and pollution



Figure 17: Landscape buffer strips are to be a combination of shrubs and trees complemented by the use of appropriate ground covers.

## 19 City of Gold Coast – Guidelines for undesirable plants

### 19.1 Intent

- To reduce the risk to the natural environment and endemic vegetation by minimising the occurrence of invasive species or recognised environmental weeds.
- To minimise the risk to the community by discouraging the use of toxic species in certain situations.
- To minimise maintenance problems and damage to infrastructure and built structures.

### 19.2 Declared plants

The following plants are prohibited from use within the City of Gold Coast.

- All plants identified as prohibited or restricted matter under the *Queensland Biosecurity Act 2014*. For more information contact the Department of Agriculture and Fisheries.
- ~~Have regard for All the~~ plants identified as noxious weeds of N.S.W.

### 19.3 Plants not to be used in any new Landscape works requiring approval from the City

Landscape plans submitted to the City for approval are not to include new plantings of the species identified in ~~sections Sections~~ 19.3.1, 19.3.2 and 19.3.3 of this policy.

**Note:** The following species lists are based on current availability / commonly used species and are ~~therefore~~ not exhaustive. These species lists will be subject to change from time to time.

#### 19.3.1 Prohibited from use

The following species are prohibited from use in any new planting associated with any landscape works requiring approval from the Council of the City of Gold Coast for one or a combination of the following reasons:

**I = INVASIVE**

These species have proved to be highly invasive, particularly in bushland areas, by out-competing and smothering native flora. Weed invasion mechanisms include:

- **r** = regrown from stems, leaves, rhizomes, tubers or bulbs;
- **w** = seeds are dispersed and spread widely by wind and/or water;
- **b** = seeds are dispersed widely by birds and other animals;
- **s** = heavy seed drop.

#### **M = MAINTENANCE**

Species that have significant maintenance problems due to root damage to structures and drainage systems.

#### **T = TOXIC**

Species that are dangerous to humans and animals.

Species	Common Name	Reason for exclusion
<b>Trees-/palms</b>		
<i>Brugmansia</i> spp. <i>Brugmansia x candida</i>	Angel's trumpet	T – Seeds, flowers, stem, leaves, nectar are toxic
<i>Coffea arabica</i>	Coffee plant	I
<i>Corymbia torelliana</i>	Cadaghi	I, s, M – Invasive and hybridises with local gums, problems with roots and footpaths, mould on leaves, bad for asthma and allergies.
<i>Ficus elastica</i>	Rubber tree	r – damages underground and built structures
<i>Koelreuteria paniculata</i>	Golden rain tree	I, w, b – Seed is spread widely by wind, invasive.
<i>Ligustrum</i> spp.	Privet	I, r, b – Highly invasive in bushland areas
<i>Pinus elliotii</i> <i>Pinus radiata</i>	Slash pine Monterey pine	I, w, b, s – Invasive in bushland and urban bushland
<i>Schlefflera actinophylla</i>	Umbrella tree	I, b, s, M – Invasive in bushland, seed is spread widely by birds and bats
<i>Senna pendula</i> var. <i>glabra</i>	Easter cassia	I, w, r
<i>Senna septemtrionalis</i>	Easter cassia	I, w
<i>Syagrus romanzoffiana</i>	Cocos palm	I, b, M – Invasive, maintenance problem, prolific seed drop
<i>Ulmus parvifolia</i>	Chinese elm	I, w – Highly invasive in bushland
<b>Shrubs and groundcovers</b>		
<i>Coprosma repens</i>	Mirror plant	r, b

Species	Common Name	Reason for exclusion
<i>Lonicera japonica</i>	Japanese honeysuckle	l, r – Spread most commonly through garden waste, maintenance problem
<i>Ochna serrulata</i>	Mickey mouse plant	l, r, b
<i>Tecoma capensis</i>	Cape honeysuckle	r
<b>Annuals, biennials, perennials and vines</b>		
<i>Callisia fragrans</i>	Purple succulent	l, r
<i>Cortaderia selloana</i>	Pampass grass	l, w, M - Hard to eradicate as it has vigorous regrowth characteristics, spread through garden waste
<i>Cardiospermum grandiflorum</i>	Balloon vine	l, w
<i>Catharanthus roseus</i>	Pink periwinkle	l, r
<i>Ipomoea alba</i> <i>Ipomoea cairica</i> <i>Ipomoea hederacea</i> <i>Ipomoea indica</i> <i>Ipomoea purpurea</i>	Morning glory	l, r – Vine smothers native vegetation, vigorous growth habit, spread through garden waste, also a problem in dunal areas.
<i>Nephrolepis cordifolia</i>	Fishbone fern	l, r – Highly invasive, spread through garden waste.
<i>Neonotonia wightii</i>	Glycine	l, r – Highly invasive vine,
<i>Cenchrus</i> spp.	Fountain grass, Swamp foxtail	l, Fire hazard in open space areas, vigorous grower in open space areas, Invasive species..
<i>Sansevieria trifasciata</i> <i>Sansevieria cvs</i>	Mother In-law's tongue	l, r – Highly invasive, vegetative parts spread through garden waste
<i>Solanum seaforthianum</i>	Climbing nightshade	l, Invasive.
<i>Passiflora subpeltata</i>	Corky passionflower	l, r
<i>Tithonia diversifolia</i>	Japanese sunflower	l, r – Invasive.

Species	Common Name	Reason for exclusion
<i>Tradescantia fluminensis</i>	Trad	l, r – Invasive, spread through garden waste
<i>Tradescantia zebrina</i>	Striped trad	l, r – Invasive, spread through garden waste

### 19.3.2 Restricted use – toxicity and safety reasons

The following species have toxicity or safety problems and are restricted from use in any new planting or in any new landscape works requiring approval in the following areas:

- child care centres and nurseries;
- any type of children's playgrounds;
- primary schools; and
- respite and aged care centres.

Species	Common Name	Reason for Restriction
<b>Trees/-palms</b>		
<i>Jagera pseudorhus</i>	Foambark	Seed pod coat has irritant hairs
<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Irritant seeds 'Cow itch tree'
<i>Melia azedarach</i>	White Cedar	Seed poisonous (Restricted in child care centres and nurseries only)
<i>Phoenix</i> spp.	Date Palm	Spiky petiole and fronds are dangerous in the juvenile state (Restricted in child care centres and nurseries only)
<i>Pinus</i> spp.	Pine Trees	Cones and pine needles dangerous
<i>Plumeria</i> spp.	Frangipani	Sap irritant (Restricted in child care centres and nurseries only)
<i>Taxus</i> spp.	Yew	Foliage, seeds
<i>Melaleuca quinquinervia</i>	Paperbark	Flowers can cause upper respiratory problems in young children (Restricted in child care centres and nurseries only)
<i>Melaleuca leucadendra</i>	Paperbark	Flowers can cause upper respiratory problems in young children (Restricted in child care centres and nurseries only)
<b>Shrubs</b>		
<i>Allamanda cathartica</i> <i>Allamanda neriifolia</i>	Allamanda	Sap and leaves toxic
<i>Alocasia brisbanensis</i> (native) <i>Alocasia macrorrhizos</i> (exotic)	Cunjevoi	All parts are toxic
<i>Bougainvillea</i> spp.	Bougainvillea	Thorns are dangerous (Restricted in child care centres and nurseries only)
<i>Duranta erecta</i> <i>Duranta repens</i> <i>Duranta cvs</i>	Golden dew drop	Berries are toxic (Restricted in child care centres and nurseries only)

Species	Common Name	Reason for Restriction
<i>Tabernaemontana divaricata</i>	Crepe jasmine	All parts are poisonous.
<i>Euphorbia pulcherrima</i>	Poinsettia	Sap irritant/poisonous.
<i>Lomandra longifolia</i>	Matt rush	Spiky flowers heads dangerous for young children (Restricted in child care centres and nurseries only)
<i>Nerium oleander</i>	Oleander	All parts (Restricted in child care centres, nurseries and playgrounds only)
<i>Triunia youngiana</i>	Spice bush	Very poisonous native rainforest plant
<i>Zantedeschia aethiopica</i>	White arum lily	All parts are poisonous.

**Note:** Some species of *Grevillea* can cause allergies in children.

### 19.3.3 Restricted use – environmental or maintenance reasons

The following species have environmental or maintenance problems and are restricted from use in any new planting in any new landscape works in the following areas:

- City managed road reserve areas;
- waterbodies and waterways, drainage reserves, artificial and natural wetland areas;
- public parks; and
- within or adjacent to significant areas of native bushland, environmental reserves, conservation areas, dunal areas (as identified in the City Plan, Nature Conservation Strategy or any relevant City [Management Strategies](#))

Species	Common name	Reason for restriction
<b>Trees</b>		
<i>Bauhinia variegata</i> <i>Bauhinia galpinii</i>	Bauhinia	Invades fringe areas of bushland, maintenance problem in road reserves
<i>Erythrina crista galli</i> <i>Erythrina indica</i> <i>Erythrina x sykesii</i>	Coral tree	Regenerates vigorously from vegetative parts, maintenance problem in open space areas, invades bushland and floodplain.
<i>Paulownia tomentosa</i>	Royal paulownia	I, Invasive
<i>Tipuana tipu</i>	Rosewood	I, Invasive

### Shrubs and groundcovers

<i>Agave</i> spp.	Century Plant	Invasive and environmental nuisance
<i>Ardisia crenata</i> <i>Ardisia elliptica</i>	Coral berry	I, b Invasive
<i>Phyllostachys aurea</i> <i>Phyllostachys bambusoides</i> <i>Phyllostachys nigra</i> All monopodial (running) species prohibited	Running bamboo	Spread by vegetative parts, maintenance problem near structures and drains. Sympodial (Clumping) species of bamboo are generally acceptable.
<i>Bougainvillea</i> spp. (except dwarf varieties)	Bougainvillea	Vigorous growth characteristics, can be unsafe in public areas.
<i>Buddleja davidii</i> <i>Buddleja madagascariensis</i>	Buddleja, Butterfly bush	Invasive in bushland.
<i>Canna indica</i>	Canna	Vigorous grower, invasive.
<i>Cestrum</i> spp.	Jessamine	Environmental weed, poisonous.
<i>Cotoneaster</i> spp.	Cotoneaster	Seeds spread by birds.

Species	Common name	Reason for restriction
<i>Furcraea foetida</i> <i>Furcraea selloa</i>	Mauritius hemp False agave	I, M – Invasive, environmental weed.
<i>Impatiens walleriana</i>	Busy Lizzie, Impatiens	Invasive in bushland and open space areas reproduced by runners and bits of stems and leaves.
<i>Pyracantha</i> spp.	Firehorn	Invasive in reclaimed and rural areas, spread by birds.
<i>Raphiolepis indica</i> <i>Raphiolepis x delacourii</i> <i>Raphiolepis umbellata</i> <i>Raphiolepis cvs</i>	Indian hawthorn Pink Indian hawthorn Japanese hawthorn	Invasive in fringe areas, spread by birds.
<i>Euphorbia umbellata</i>	African milk bush	Invasive and environmental nuisance.
<i>Yucca</i> spp.	Yucca	Invasive and environmental nuisance

## 20 Glossary

<b>Advanced plants</b>	Plant species containerised and established in 300 mm containers but less than 45L containers.
<b>Calliper size</b>	Diameter of the trunk measured approx. 200 mm above the top of the rootball.
<b>Cultivar</b>	A variety of plant that has been produced under cultivation.
<b>Endemic species</b>	Plant species peculiar to a particular area or locality.
<b>Exotic species</b>	Plant species <del>that are</del> not native to Australia.
<b>External works</b>	All works within a development site and works directly associated with a development outside the property boundary of the development site that are external to the building construction.
<b>Genus</b>	Subdivision of a plant family name – consisting of more than one species.
<b>Growth media</b>	Topsoil or organic soil mix to enable the establishment and sustained growth of new planting.
<b>Hardscape</b>	For the purpose of landscape works requirements, hardscape includes all built elements related to the external areas around the building envelope including hardsurfacing (pedestrian and cycleways), built form such as water features, shelters, park and street furniture and public facilities, walls, fences, signage, amenity lighting, subsoil drainage and irrigation.
<b>Indigenous species</b>	Native species occurring naturally in a general area and/or region.
<b>Landscape works</b>	Planning, design and implementation of all hardscape and softscape treatment of the surface of the land in all areas external to the building envelope. This may include both public and private open space areas and road reserve areas for the purposes of amenity and function.
<b>Mature species</b>	Species that have been grown in natural ground for a minimum period of three (3) growing seasons. Size generally 200L or larger.
<b>Mesic plants</b>	Mesic plants (Mesophytes) are plants have adapted to environments that receive regular rainfall i.e. rainforest species. These species are typified by large leaves and luxuriant canopies. They will not usually achieve acceptable growth in Xeric landscapes (see Xeric Plants) without permanent irrigation to supplement natural rainfall.

<b>Native species</b>	Plant species that are peculiar to the Australian continent.
<b>Open space areas</b>	Public or private land that is external to the building envelope used for open air passive recreation, conservation/environmental purpose or private outdoor uses. Public open space areas includes areas dedicated to the Crown such as park areas, open sports grounds, environmental/conservation areas, drainage reserves/channels or other waterbodies.
<b>Root curtain</b>	A <del>semi-permanent</del> <b>semi-permanent</b> or permanent protective measure to help prevent roots drying out where excavation is temporary. It is a fence like structure consisting of steel reinforcing mesh, hessian or geotextile fabric held together with star pickets. 1:1 sand and native soil mix can be used as backfill.
<b>Rootball</b>	Root mass of individual species.
<b>Semi mature species</b>	Species that have been containerised and established in 100L containers or larger <del>which that</del> have been grown for a minimum period of one (1) growing season in the same container or media.
<b>Softscape</b>	For the purpose of landscape works requirements, softscape includes all areas where topsoil is disturbed and resurfaced with growing media such as topsoil, grass, mulching, hydromulching, seeding, all new planting and rehabilitation works including incorporation of existing vegetation.
<b>Species</b>	A group of plants that have common characteristics or qualities.
<b>Spread</b>	Mean diameter of the horizontal measurements of the natural foliage projection in any three directions.
<b>Sun grown</b>	Species continually grown in the sun from a juvenile stage.
<b>Sun hardened</b>	Species has grown in a shaded environment for more than two (2) growing seasons and has then been acclimatised in the sun for a given period of time to enable transplanting into sunlight.
<b>Topsoil</b>	Native parent soil or a soil type that is married to the parent soil type.
<b>Vegetation protection zone</b>	A radius from a tree trunk equivalent to one (1) times the natural crown height where the height exceeds the widest canopy diameter; or A radius from a tree trunk equal to one (1) times the widest canopy spread where that canopy width exceeds the crown height; or A radius from the stems or trunks of <b>p</b> Palms or vegetation other than trees equal to two (2) times the drip zone diameter or not less than five (5) metres away, whichever is the greatest distance.
<b>Xeric plants</b>	Xeric plants are plants that have adapted to landscapes characterised by low soil moisture or experience long periods of dryness between rainfall events (Soils with poor water holding capacity e.g. sands and shale, will contribute to the formation of 'Xeric Landscapes'). Xeric plants include Eucalypts, Acacia, Casuarina, and some exotic plants species. Xeric plants only require temporary irrigation to ensure successful establishment. Once established these plants require minimal watering to maintain an attractive appearance.