

Guidelines for Tree Protection on Development Sites



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Why Preserve Trees?

The most common cause of damage to trees on development sites is tree root damage.

Chemical contamination, laying of pavements, and deliberate root removal are just some of the many dangers which impact these delicate systems. Most tree root systems extend outward to cover an area 4-7 times the width of the canopy. Fragile nutrient-absorbing roots are located at a shallow depth just 150 – 200 millimetres beneath the soil. This leaves them vulnerable to injuries caused by compaction of the topsoil by vehicles or even foot traffic.

Guidelines

These Guidelines are designed to assist the developer to achieve “Best Practice” around retention of trees and planting of new trees during land development. Trees are a vital part of our natural environment and play a fundamental role in the visual appeal of our towns and wider communities. Central Coast Council is working towards the goal of increasing urban canopy cover from 19% to 30% by 2030. Successful retention of established trees in urban areas will require the consistent protection of such trees during developments and works.

Under the Tasmanian Planning Scheme, it is prohibited to remove a *Significant Tree* as listed and identified in the *Significant Trees List* in the relevant Local Provisions Schedule. The following actions *must* be undertaken by developers undergoing works when *Significant Trees* are located within the development area (refer to code C6.0 Local Historic Heritage Code).

However, it is considered Best Practice to maintain existing trees and include new trees when undertaking development works. To assist developers in achieving high standards of excellence by using Best Practice methodology while undertaking site construction where any trees are present, we have prepared the following guidelines.

Note: These Guidelines are a summary only. For further details refer to: *AS 4970–2009: Protection of Trees on Development Sites*, and *AS 4373–2007: Pruning of Amenity Trees*.

Priority Vegetation Areas

The Central Coast has several areas of private land that are identified as being Priority Vegetation areas. Priority Vegetation areas are primarily in the Rural Living Zone and Rural Zone. Trees in these areas are to be protected. Where development is proposed in these areas, a Natural Assets Report, by a suitably qualified person, must be submitted with a development application.

A Natural Assets Report, which generally recommends trees that are to be protected or the revegetation of areas, is also required for watercourse riparian protection areas.

Best Practice for Designing Your Development

The following phases discuss the steps when implementing best practices for tree protection on development sites.

Design Phase

1) Detail Surveys

All existing trees are accurately plotted on a survey plan.

2) Preliminary Tree Assessment

For each tree, evaluate its suitability for retention and mark this on the survey plan, as well as an indication of the Tree Protection Zone (TPZ). Provide a Preliminary Arboriculture Report to the Director of Infrastructure Services for feedback.

3) Preliminary Development Design

Select which trees will be retained. Review the development design(s) and modify as necessary to minimise the impact on retained trees.

4) Design Submission

Provide an Arboriculture Impact Assessment, including tree protection plan (drawing) and specification to the Director of Infrastructure Services for feedback.

5) Design Approval

Review any applicable consent conditions relating to trees.

Pre-Construction Phase

6) Initial Site Preparation

- Comply with all relevant consent conditions relating to trees.
- Undertake approved tree pruning, retention, removal, and replanting.
- Certification of tree removal and pruning by the project arborist.
- Establish and delineate the Tree Protection Zone and install tree protective measures.
- Certification of tree protection measures by the project arborist.

Construction Phase

7) Site Establishment

Locate temporary infrastructure to minimise impact on retained trees. Maintain protective measures. Certification of tree protection measures by the project arborist.

8) Construction Work

Maintain or amend protective measures. Undertake supervision and monitoring.

9) Implement Hard and Soft Landscape Works

Remove selected protective measures. Undergo remedial tree works, supervision, and monitoring.

10) Practical Completion

Remove all remaining tree protection measures. Certification of tree protection by the project arborist.

Tree Protection Zones

Structural Protection Zone (SPZ)

The Structural Protection Zone refers to a circular area around the base of a tree containing the thicker woody roots which keep a tree stable and upright. Protecting the roots and soil within this area are critical to ensuring that the tree will retain structural integrity. Any encroachment into this area is deemed a Major Encroachment.

Tree Protection Zone (TPZ)

The Tree Protection Zone, refers to an area above and below ground, set aside for protection of a tree's roots and crown, so that the tree can remain healthy and viable.

Delineating the Tree Protection Zone (TPZ)

During works, the Tree Protection Zone is a restricted area on site and is usually delineated by temporary protective fencing (see Figure 1). This temporary fencing should be installed after the completion of approved pruning and tree removal but before bringing any machines or materials on site and before any works are commenced. Once installed, any alteration or removal of the protective fencing is subject to approval by the project arborist. The Tree Protection Zone should be secured to restrict access.

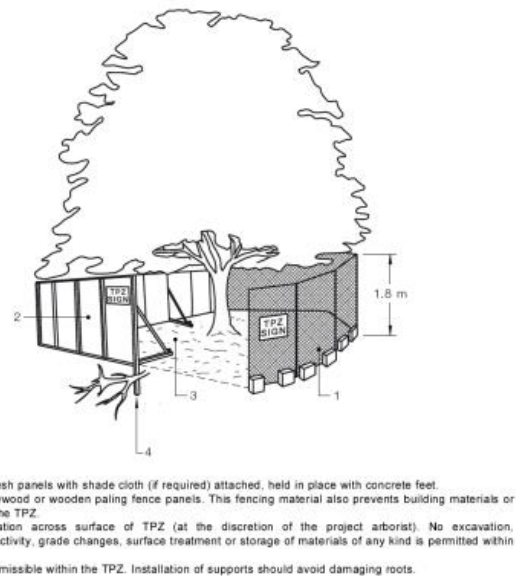


Figure 1: Fencing requirements to prevent encroachment into TPZ.

Encroachment into Tree Protection Zones

The Tree Protection Zone (TPZ) is calculated using the Diameter at Breast Height (DBH) which is taken at a point 1.4 meters above the ground. The protection area is calculated by multiplying the tree's Diameter at Breast Height by 12. The minimum radius of the Tree Protection Zone is 2 meters, and the maximum is 15 meters, and may be adjusted to fit within these limits.

The diversity of trunk shapes and growing environments means that Diameter at Breast Height can be difficult to calculate.

Figure 2 shows examples of methods that can be used to calculate Diameter at Breast Height.

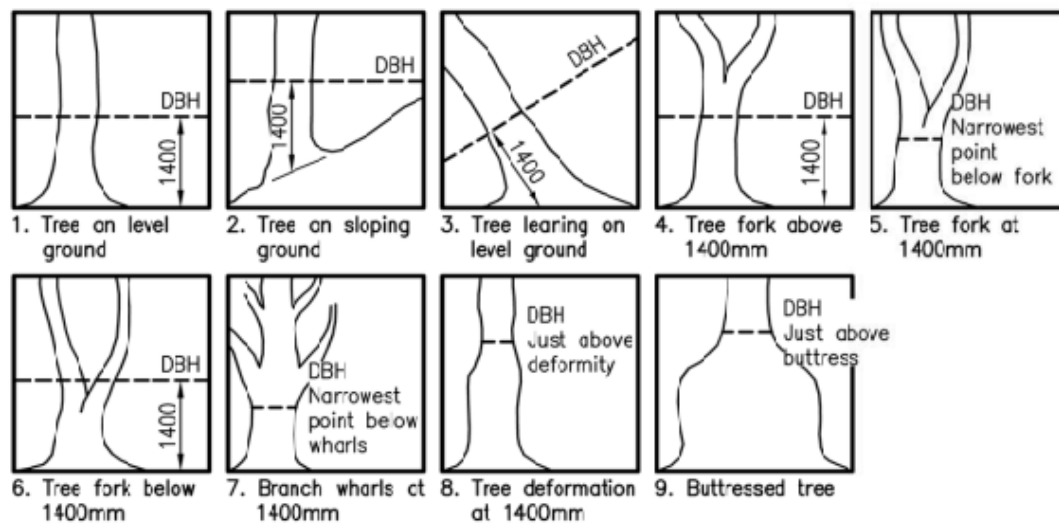


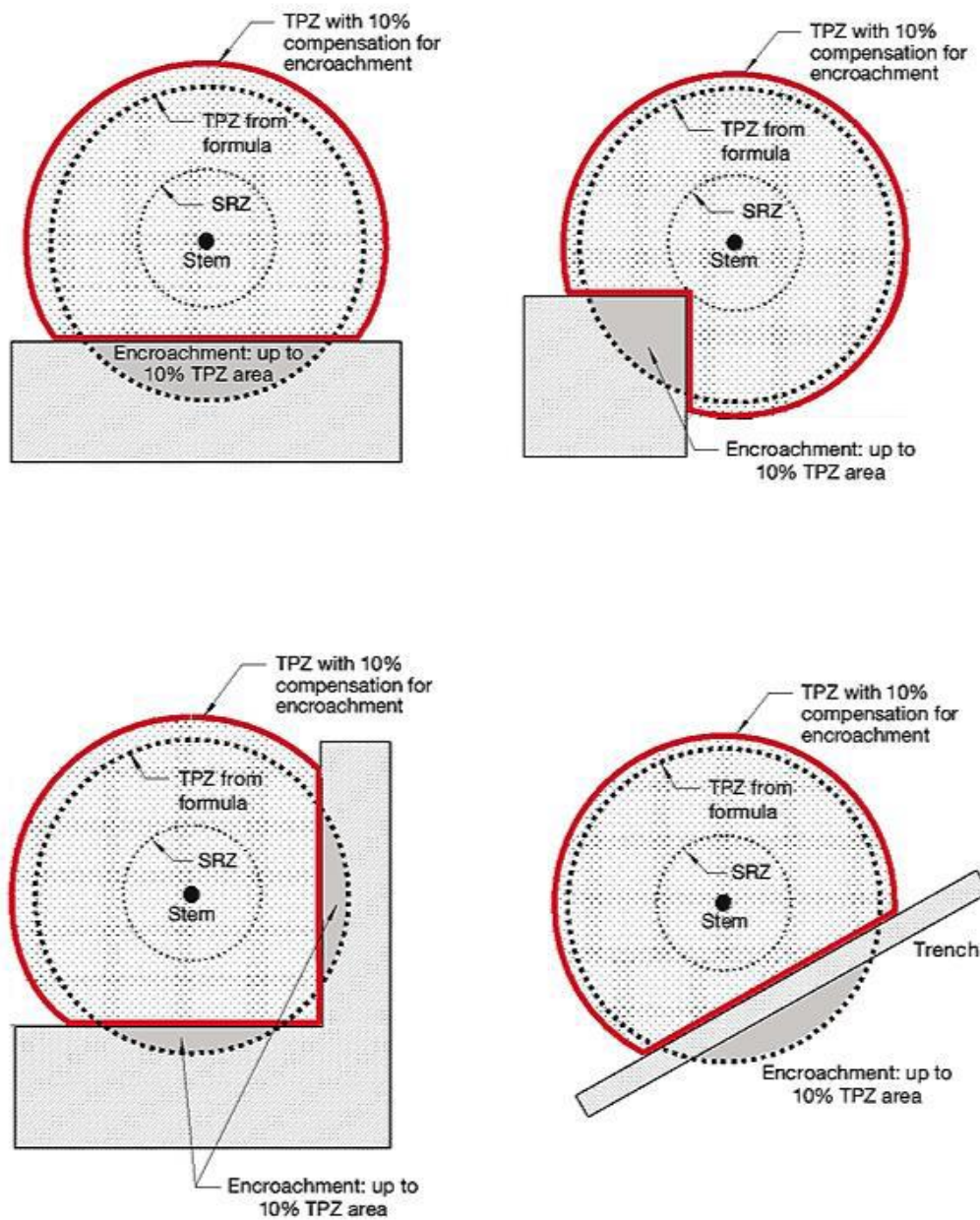
Figure 2: Methods for determining height above ground for Diameter at Breast Height (DBH).

Minor Encroachment

An encroachment into **10% or less** of the Tree Protection Zone is classified as a minor encroachment and does not require a detailed arborist assessment of tree viability. Where a minor encroachment into the Tree Protection Zone occurs, the shape of the Tree Protection Zone shall be adjusted so that the lost area is compensated for elsewhere, resulting in one continuous non-circular Tree Protection Zone with at least the same total area. Figure 3 shows examples of encroachment by area, and how to compensate for loss within the Tree Protection Zone to assist in reducing the impact on tree health.

Major Encroachment

When a proposed encroachment will affect **more than 10%** of the Tree Protection Zone or enter the Structural Protection Zone this is classified as a major encroachment. If a tree to be retained is to undergo a major encroachment, an arborist must perform a detailed assessment to demonstrate that the tree will remain viable despite the proposed encroachment. Encroachment into the tree protection zone is sometimes unavoidable.



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

Figure 3: Examples of encroachment into Tree Protection Zone and mitigating strategies to compensate for loss of area within the zone.

Additional Requirements for Best Practice Development

To meet 'Best Practice' standards the Council considers the following conditions are minimal expectations.

- When tree removal is necessary Council encourages a minimum of two (2) trees to be planted in replacement for every one (1) tree removed.
- For new developments Council encourages at least one new tree to be planted within the new dwelling boundary where hard infrastructure is greater than 150 sq.m.
- Council expects the developer to plant one tree per 25 linear meters within the nature strip for new subdivision developments. This does not replace the Public Open Space Contribution.
- Council has developed Precinct Planting Palettes and requires these palettes to be followed for existing and new developments alike.

Contact Details

Further information can be obtained from:

The Central Coast Council's Infrastructure Services Department on
tel. (03) 6429 8970 or Email: isadmin@centralcoast.tas.gov.au