Procedure 3.04.1  Local Development Code 2 – tree management

Department Planning and Environment Group

Responsible Officer Manager | Environmental Services

Introduction
Local Development Code #2 - Tree Management document follows

Definitions/Abbreviations

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset protection zone (APZ):</td>
<td>The fire protection zone that aims to protect human life, property and highly valued public assets and values. It is an area surrounding a development managed to reduce the bushfire hazard to an acceptable level.</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>The practice of cultivating and managing trees as individuals and small groups for amenity purposes.</td>
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<tr>
<td>Branch bark ridge</td>
<td>The raised or furrowed bark in the branch crotch that marks where the branch wood and trunk wood meet. Formed by compaction or expansion as the girth of the branch and trunk increase.</td>
</tr>
<tr>
<td>Branch collar</td>
<td>The trunk tissue that forms around the base of a branch between the main stem and the branch. As the branch decreases in vigour or begins to die, the branch collar becomes more pronounced.</td>
</tr>
<tr>
<td>Bushfire hazard reduction works</td>
<td>The establishment or maintenance of fire breaks on land, and The controlled application of appropriate fire regimes or other means for the reduction or modification of available fuels within a predetermined area to mitigate against the spread of bushfire. Bushfire hazard reduction works does not include the construction of a track, trail or road,</td>
</tr>
<tr>
<td>Co-dominant stem</td>
<td>Stems or trunks of about the same size originating from the same position from the main stem. When the stem bark ridge turns upward the union is strong, when the ridge turns inward the union is weak.</td>
</tr>
<tr>
<td>Council</td>
<td>Indicates the Bega Valley Shire Council or any officer authorised to act on behalf of the Council</td>
</tr>
<tr>
<td>Crown maintenance pruning</td>
<td>is as defined in the Australian Standard 4373 – 2007 Pruning of Amenity Trees and is considered to involve a reduction in tree foliage and branches by up to 10% in any one year with no height reduction in the height of the main trunk</td>
</tr>
<tr>
<td>Destroy</td>
<td>Means any activity leading to the death, disfigurement or mutilation of a tree</td>
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<tr>
<td>Diameter at breast height (DBH):</td>
<td>refers to the diameter of a tree’s trunk at breast height, generally regarded as 1.3m above ground level</td>
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<tr>
<td>Epicormic shoots</td>
<td>refers to shoots produced by dormant buds within the bark or stems of a tree as a result of stress, loping or increased light. Epicormic shoots generally have a weaker</td>
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<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>form of branch attachment</td>
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<tr>
<td>extruded bark</td>
<td>is the outwardly formed bark at the junction of branches or co-dominant stems</td>
</tr>
<tr>
<td>Groundcover</td>
<td>is any type of herbaceous vegetation</td>
</tr>
<tr>
<td>habitat tree</td>
<td>is defined as a tree which has developed hollows in the trunk or branches suitable for the habitation of nesting birds, arboreal marsupials or mammals, or is supporting the growth of locally indigenous epiphytic plants such as orchids</td>
</tr>
<tr>
<td>Landholder</td>
<td>means a person who owns land or who, whether by reason of ownership or otherwise, is in lawful occupation or possession, or has lawful management or control, of land</td>
</tr>
<tr>
<td>Lopping</td>
<td>is the practice of random cutting between branch unions or at internodes on young trees</td>
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<tr>
<td>native vegetation</td>
<td>means any of the following types of native indigenous vegetation in the production of multiple shoots</td>
</tr>
<tr>
<td>owner</td>
<td>has the same meaning ascribed to it in the Local Government Act 1993 No. 30</td>
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<tr>
<td>pollarding</td>
<td>is the practice of pruning a tree’s canopy to the same point every 1 to 3 years resulting in the production of multiple shoots</td>
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<tr>
<td>public land</td>
<td>is any land that is vested in or is under the care, control or management of Bega Valley Shire Council</td>
</tr>
<tr>
<td>remnant tree or vegetation</td>
<td>means any tree or patch of native vegetation which remains in the landscape after removal of most or all of the native vegetation in the immediate vicinity</td>
</tr>
<tr>
<td>stem bark ridge</td>
<td>is the ridge of bark that forms in the union between two co-dominant stems</td>
</tr>
<tr>
<td>Topping</td>
<td>means cutting away part or all of the tree canopy leaving a trunk and stubbed main branches</td>
</tr>
<tr>
<td>Tree</td>
<td>means a single perennial plant with at least one self-supporting woody or fibrous stem, being of any species whether indigenous, exotic or introduced which:</td>
</tr>
<tr>
<td></td>
<td>a. is five (5) metres or more in height; or</td>
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<tr>
<td></td>
<td>b. has a trunk diameter of 100mm or more at a height of 1.3 metres above natural ground surface; or</td>
</tr>
<tr>
<td></td>
<td>c. has a branch span diameter of three (3) metres or more.</td>
</tr>
<tr>
<td>undesirable species</td>
<td>means plants that have characteristics which may lead to poisoning, weed infestation, brittle and dangerous wood, excessive spread of roots or bushland invasion</td>
</tr>
<tr>
<td>Vegetation</td>
<td>means any native plant communities other than trees as defined in this policy</td>
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<tr>
<td>Waterbody</td>
<td>has the same meaning as in Schedule 3 of the EP&amp;A Regulations 2000 and means:</td>
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<tr>
<td></td>
<td>a. a natural water body, including:</td>
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<tr>
<td></td>
<td>i. a lake or lagoon either naturally formed or artificially modified;</td>
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<tr>
<td></td>
<td>ii. a river or stream, whether perennial or intermittent, flowing in a natural channel with an established bed or in a natural channel</td>
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</table>
artificially modifying the course of the stream; or
iii. tidal waters including any bay, estuary or inlet; or
b. an artificial waterbody, including any constructed waterway, canal, inlet, bay, channel, dam, pond or lake, but does not include a dry detention basin or other stormwater management construction that is only intended to hold water intermittently.

Purpose and Intent of the Local Development Code for Tree Management

The aim of the Local Development Code for tree management is to protect and enhance the environmental and amenity values, special landscape characteristics, unique and threatened vegetation communities and ecological values of the Bega Valley Shire through:

- Guiding the processing of applications under Council’s Tree Preservation Order
- Adopting best practice management in respect of maintaining, assessing and removing trees on public and private land throughout the Shire,
- Providing a regulatory framework for the maintenance and preservation of trees in urban areas, on private and public land,
- Broadening the emphasis from tree preservation to a holistic strategy of tree management within the Bega Valley Shire,
- Ensuring that planning, development and construction is carried out in a manner sensitive to the immediate area and the surrounding vegetation,
- Establishing a consistent, coordinated approach to the provision and management of trees,
- Facilitating the removal of undesirable exotic species, noxious weeds, dangerous trees and inappropriate plantings and replacing these with suitable species which will positively contribute to the visual, amenity and ecological qualities of the Shire and to biodiversity and ecological sustainability,
- Conserving species and vegetation communities that are listed as threatened or as endangered ecological communities, respectively, under the Threatened Species Conservation Act 1997 (TSC Act) or the Federal Environment Protection and Biodiversity Conservation Act 1995 (EPBC Act).

Objectives of Best Practice Tree Management

It is the objective of the Local Development Code for Tree Management to:

- Outline Council’s approach to tree management.
- Ensure that tree management, conservation and preservation regulated by Council’s tree management approval or permit measures are consistent and of world’s best practice on both public and private land.
- Document and develop risk management procedures and to minimise BVSC’s exposure to public liability.
- Give respectful consideration to tree management in the planning, design and construction phases of Developments and Sub-divisions across the Shire.
- Develop a document to serve as an educational tool pertinent to all Council employees, residents, community groups, non-government organisations (NGO’s) and State and Federal government agencies.
- Minimise the unnecessary destruction of, or damage to, trees within the Shire.
• Develop a uniform approach to tree assessment that reflects industry ‘best practice’.

The Best Practice Guidelines for Tree Management will provide the minimum acceptable standards for tree management within the Bega Valley Shire. Council staff will support this document and will offer the necessary information to ensure that trees are managed in accordance with industry best practice, including:

• The Australian Standard 4373,(2007) Pruning of Amenity Trees,
• NSW Workcover Code of Practice for the Amenity Tree Industry,
• NSW Statewide Best Practice Manual for Trees and Tree Root Management,
• Barrell TreeAZ Safe Useful Life Expectancy (SULE),

**Whole of Life Tree Management**

The “Whole of Life” philosophy to tree management has been adopted by BVSC as an effective tool in managing trees and to ensure that trees are removed or replaced at a point in time prior to the tree posing a management risk.

In maintaining the amenity and ecological value of the Shire, BVSC believes it imperative that wherever trees have been removed or there is an identifiable planting opportunity, new or replacement trees of similar type will be planted. This Whole of Life philosophy will be applied to both public and private land within the Bega Valley LGA. BVSC will endeavour to allocate sufficient funding to ensure fulfilment of the Whole of Life philosophy on public land.

Whole of Life Tree Management will be particularly pertinent to developments requiring sub-division and rezoning. Although there is no Australian Standard in dealing with tree management on construction and sub-division sites, the British Standard (BS) 5837 – 1991 Guide for trees in relation to construction is the foremost guide to preserving and maintaining trees on development and construction sites.

**Tree Management**

Under the Australian Standard for Pruning of Amenity Trees, trees are defined as “long lived woody perennial plants greater than (or potentially greater than) 3 metres in height with one or relatively few stems” (AS 4373, Pruning of Amenity Trees).

For the purposes of the TPO: “Tree” – includes a tree, sapling or shrub which meets each of the following standards:

• is five (5) metres or more in height; or
• has a trunk diameter of 100mm or more at a height of 1.3 metres above natural ground surface; or
• has a branch span diameter of three (3) metres or more.
Consent is required for tree removal and pruning (tree works) on all land zoned “residential” (not “rural residential”), “village”, “township”, “industrial”, “business” or “public recreation”, and some environmental zones within the Bega Valley Shire.

A tree management approval or permit consent is not required where work is carried out by or with the consent of the tree owner for the following:

a. The proposed tree removal or pruning involves dead trees, except where trees provide habitat for endangered or vulnerable species listed in Schedule 1 and 2 of the *Threatened Species Conservation Act 1995*.

b. Trees that are within four (4) metres measured from the closest point of the trunk at 1.3 metres above natural ground surface to the eave and guttering of an existing residential building or proposed residential building in respect to which Council has issued a Consent under the *Environmental Planning and Assessment Act 1979*.

c. Crown maintenance works to a maximum of 20% of the canopy in any two year period that is carried out by a suitably qualified arborist (see section 5.2) in accordance with the Australian Standard AS 4373 – 2007 *Pruning of Amenity Trees*.

d. Tree works that are carried out in accordance with a Development Consent issued under BV LEP 2013;

How to apply for tree management works

When is consent required for tree removal or pruning?

Consent is required for tree removal and pruning (tree works) on all land zoned “residential” (not “rural residential”), “village”, “township”, “industrial”, “business” or “public recreation”, and some environmental zones within the Bega Valley Shire.
e. Tree works that are carried out in accordance with an approved Hazard Reduction Certificate from the NSW Rural Fire Service;
f. Work is carried out in accordance with Section 48 of the *Electricity Supply Act 1995*
g. Work is carried out in accordance with the *Noxious Weeds Act 1993*
h. Trees are listed as Exempt Species under Schedule 1 of this Code.

Requirements for making an application for tree removal or Pruning

All applications for tree management works need to be made on a Tree Action Request Form.

The following general information is required to be submitted with an application. The amount and level of detail required may vary depending on the circumstances when applying for consent.

a. The written consent of the owner of the land;
b. Detail as to the reason for the removal of the tree;
c. A description of existing trees and vegetation including the following:
   i. A plan of the site showing the location of tree(s) to be removed, drainage and sewer mains, all buildings, paved areas and overhead power lines;
   ii. Species type (Botanical and/or common names);
   iii. Approximate height, canopy spread of individual trees and diameter of trunk (DBH) at a height of 1.3 metres above the ground.
d. A description (as above) of existing trees and native vegetation on adjoining land:
   i. Within three metres of the site boundaries (including street trees);
e. Where the canopy of a tree overhangs the site boundaries.
f. Proposed site management works including:
   i. Trees and vegetation to be retained and protected;
   ii. Methods of retention and/or protection during the works;
   iii. Proposed new plantings (species, mature height and spread);
   iv. Altered ground levels, including cut and fill details, if any;
   v. Site drainage including siltation and erosion controls to be implemented where necessary;
   vi. Proposed horticultural details including growing medium, mulching and irrigation.
g. Where the proposal will cause injury to a tree with aesthetic, cultural, heritage or ecological significance, the application will need to include a report prepared by an arborist with a minimum qualification of certificate of arboriculture, or equivalent. A report will provide detail on the tree including but not limited to its condition, a review of options for managing the tree in accordance with AS 4373 – 2007 *Pruning of Amenity Trees*, any reasons why the tree cannot be managed in accordance with the Australian Standard, and a recommendation of the most appropriate management of the tree.
h. Applicable fees to be paid to Council (Refer to Council Schedule of Fees and Charges).

Tree removal considerations

In assessing whether or not to approve an application for removal or pruning of a tree, Council must consider the following:

a. Whether the tree has significant amenity or aesthetic value or is ecologically significant in the local or regional context, with emphasis on retaining species listed on Council’s significant species schedule;
b. The condition, maturity and safe useful life expectancy (SULE) of the tree or native vegetation with respect to the practicality of remedial actions. (In the case of trees considered dangerous, Council will consider a report on the condition of a tree prepared by a suitably qualified arboriculturist);
c. A report provided by a suitably qualified arboriculturist as specified in Section 5.2 where the tree is culturally or ecologically significant;
d. Whether the tree or remnant vegetation is affected by the provisions of any other Act, Regulation or State Environment Planning Policy (SEPP) applicable to the subject land;

e. The potential hazards to persons or property in the context of:
   i. The structural soundness of the particular tree; and/or
   ii. The characteristics and history of the particular species; and/or
   iii. Siting issues such as ground conditions, building proximity and so on, which may give rise to a hazardous situation; and/or
   iv. Ill health, such as allergies, where specific evidence is provided by an expert in the relevant medical field and a link between the ailment and the species is reasonably established; and/or
   v. Existing (or potential for) traffic hazard in proximity to a roadway, intersection or driveway, where pruning would be an insufficient remedy.

f. The demonstrated need for reasonable solar access to windows, openings of a building, solar appliances, clothes drying and outdoor living areas;

g. Whether a tree should be replaced by a more suitable species given its location or proximity to services such as overhead power lines, sewer or drainage pipes, or similar;

h. Whether an amenity tree no longer fulfils its original purpose in the landscape;

i. Whether the species’ natural propagation method is likely to create a nuisance in the landscape (e.g. willows, white poplar);

j. Whether appropriate additional or replacement planting has been, or should be, carried out;

k. The need for, and suitability of, erosion and siltation controls;

l. Whether permanent and/or temporary barrier fencing is required prior to works commencing;

m. Whether a monetary bond is required to ensure the protection of trees on-site and adjoining lands;

n. Whether the tree provides habitat or is a significant component of the habitat of a species listed in Schedule 1 and 2 of the Threatened Species Conservation Act 1995;

o. Whether prior to felling of a tree, special measures are set in place to reduce the potential for injury or death of animals likely to inhabit the tree. Such measures may include:
   i. Inspections of hollows and other potential signs of habitat on the tree;
   ii. Sectional dismantling of the tree;
   iii. Supervision of the proposed works by an arboriculturist and/or a licenced wildlife or handler).

p. Whether a Vegetation Management Plan should accompany the application for tree/vegetation works.

Provided that no significant hazard to persons or property applies, then the following shall not generally be considered as valid reasons to remove a tree:

• Leaf drop into gutters, downpipes, pools and so on;
• To increase natural light to a building or garden area;
• To improve street lighting of private property;
• To enhance views;
• To minimise fruit, resin or bird droppings on cars or buildings;
• Minor lifting of driveways or garden paths by tree roots;
• To erect a fence;
• Bushfire hazard control that has not been verified by Council;
• Potential damage to sewer mains unless supported by written expert advice and only where reasonable alternatives are not feasible (e.g. relocation or encasement of main pipe).
Works on public land

Council manages the care and protection of trees and vegetation on public land according to the Australian Standard 4373: Pruning of Amenity Trees (2007), and in accordance with requirements of this Local Development Code.

Council will assess applications from the general public for the pruning or removal of trees on public land that may pose a risk to human health and safety and the safety of property.

Applications will be assessed, given a rating of priority according to the risk and entered into Council’s maintenance schedule.

Applications for Tree Management Works of an amenity or nuisance nature will be considered in accordance with Appendix 3 Guidelines on Nuisance Issues. The application may be granted conditional upon the applicant undertaking the proposed works at their own expense, and performed by a suitably qualified arboriculturist in accordance with AS 4373. It is a condition of this application that Council staff supervises the removal or pruning of vegetation and that they are given adequate notice (at least 7 days) prior to the work taking place.
Assessment of Tree Works on Public and Private Land

Council places public safety (including safety to property and assets) as the main determinant in assessing tree works. In the instance where a tree cannot be managed so as to eliminate the risk of the tree utilising the standards outlined in AS 4373, then Council will grant approval to remove the tree. Approval to remove a tree does not give the applicant the right to lop or top the tree in a manner contrary to AS 4373. The tree should be removed and replaced with a suitable species in an approximate location.

When assessing an application, Council will consider a number of issues relating to public safety, environmental concerns and amenity considerations.

In assessing whether a tree is a risk or a nuisance, Council will, wherever possible, promote the use of remedial actions rather than tree removal to eliminate the nuisance. It is inherent of trees and vegetation to shed leaves, bark, sticks, flowers, exudates and fruits in its physiological functioning. These normal plant functions do not constitute the basis to remove a tree and general guidelines associated with nuisance issues of trees and vegetation are outlined in Appendix 3 of this document.

Vegetation management protection measures

BVSC reserves the right to implement or impose any vegetation protection measures that are necessary to ensure the ongoing ecology, amenity and safety of vegetation within the Bega Valley Shire. The following measures have been adopted to protect vegetation from adverse impacts and to ensure that the safety of residents and Council staff is not compromised.

Tree protection zones

Tree protection zones are vital to ensure that trees and vegetation are not impacted during construction, subdivision and associated development works. Defining zones around trees from which all works must be excluded is necessary to ensure the adequate protection of roots from compaction or contaminants and to prevent machinery from damaging the trunks and branches of vegetation that is to be retained.

Given current knowledge on tree roots (Section 8.4), the protection measures adopted in Photo 8.1 are inadequate to ensure the long term protection of these remnant Eucalypts. Guidelines for calculating tree protection zones are based on the British Standard 5837 – 1991 Guide for Trees in relation to Construction and this information is provided in Appendix 1 of this document. Currently, there is no equivalent Australian Standard that offers guidance in the area of vegetation management within construction sites.
Vegetation management in subdivisions/development sites

BVSC recognises the cumulative impacts of development and construction works on the health and safety of trees and vegetation and will ensure that trees are protected from the actual and potential impacts associated with subdivision and development sites.

In assessing subdivision applications, BVSC will take into account the future impacts of development on individual lots. Whilst retained trees and vegetation may survive the installation of infrastructure such as roads, sewerage and drainage, Council will consider the long term impacts that residential development may have on the health and vigour of vegetation to be retained. Trees and vegetation at risk from cumulative, long term impacts would be better removed at the subdivision stage.

If retaining trees and vegetation, species to be retained must be practically and carefully selected. It is best to retain younger trees and vegetation, and those growing in clusters, rather than individual specimens. Where the long term survival and safety of retained trees cannot be assured, BVSC will recommend the planting, establishment and maintenance of appropriate replacement trees during the initial stages of development. This may prove more cost effective than implementing protection measures for trees and vegetation with a safe useful life expectancy (SULE) less than 10 years.

Where trees and vegetation are to be retained, there is to be no excavation, traffic or the storage of material within the dripline of the tree’s canopy. The area within the dripline must be protected by temporary fencing, such as the safety netting seen in Photograph 8.1. Refer to Appendix 1 for further guidance on tree protection zones on construction sites.

Photo 1:
Tree protection measures utilised at a development site in the Bega Valley Shire that was once agricultural land. The remnant Eucalypts have been afforded some degree of root zone and trunk protection. The dotted yellow line would have been a more appropriate tree protection zone as specified under these best practice guidelines for vegetation management.
Crown pruning

BVSC recognises the Australian Standard for pruning of amenity trees (AS 4373 – 2007) as the industry accepted Best Practice criteria for tree maintenance and pruning (Refer to Appendix 2). The Australian Standard applies to all vegetation management works on public and private land within the Bega Valley LGA.

Pruning places stress on the tree or vegetation through direct injury and in reducing the photosynthetic potential and overall vigour of the tree or vegetation. As a result, pruning should only be undertaken where the reason is valid or the tree’s branches pose a risk to human health and property.

The lopping of branches (the indiscriminate cutting of branches or stems between branch unions or at internodes on young trees) is unacceptable and BVSC will not permit this practice to continue based on the following:

- Lopping increases the rate of shoot production and elongation.
- The resulting regrowth is weakly attached and becomes prone to failure or collapse (particularly so for epicormic shoots following lopping of Eucalypt species).
- Stubs may decay (due to lack of a definite branch bark ridge).
- Natural habit of the tree is destroyed.
- Lopping may reduce the lifespan of the tree.

Photo 2:

Works for a residential subdivision in the Bega Valley Shire.

Note:

the two individual trees selected for retention have not been safeguarded against machinery, stockpiling and excavation.
Pollarding, as shown in Photo 4 is the practice of cutting trees back to just above the same point every 1 to 3 years resulting in the production of multiple shoots. It is acceptable practice under AS 4373. When removing shoots, pollard heads should not be injured and cuts should be made as close to the swollen collars as possible without injuring the collars. BVSC only supports this pruning technique on deciduous species and on species that have been pollarded from an early age and does not permit this practice to be implemented on Australian native vegetation.

BVSC may approve crown modification in accordance with the Australian Standard for the Pruning of Amenity Trees AS 4373 – 2007.

Crown thinning may be used to reduce windsail area, increase sunlight through the canopy, improve views through the crown and to provide clearance around structures and services.
Root management and pruning

BVSC understands that root protection is one of the most critical elements in the efficient functioning of a tree’s physiology. The majority of a tree’s root system is generally within the top 600mm of the soil surface, extending radially for distances well beyond the canopy’s dripline.

A tree’s structural roots develop in response to the need for the tree to have physical stability. BVSC will exercise due caution when considering retention of individual trees that were once sheltered by surrounding trees or structures and therefore may not have well developed roots essential for physical stability.

When identifying trees for retention, Council will consider the following factors:

a. Exposure to prevailing winds;

b. Past root disturbance history;

c. Amenity value; and

d. Safe useful life expectancy (SULE) of the tree.

BVSC will ensure that adequate root zone protection measures are implemented on all trees and vegetation identified for retention.

Where BVSC or a consultant arboriculturist recommend that root pruning is essential to the long term survival of the tree or vegetation, or to aid in its relocation, the following conditions should be adhered to:

a. Never prune more than one side of a tree in any one season;

b. Root pruning should not be carried out any closer to the trunk than three times the trunk diameter (A tree with a trunk diameter (DBH) of 500mm, root pruning should be no closer than 1.5m from the base of the trunk);

c. Trees and vegetation should be well watered prior to root pruning;

d. At the discretion of a suitably qualified arboriculturist, a tree may require compensatory pruning of its branches to reduce transpiration rate following root pruning.

Where pipes and utility services (electricity, gas or water) must be laid through the root zone of a tree, Council will require the use of tunnel boring (underboring) techniques directly beneath the trunk of the tree. A larger number of roots are damaged by trenching beside the trunk of a tree rather than beneath the trunk.

It is common horticultural knowledge that tree roots spread laterally 2 to 3 times the height of the tree, or 3 to 7 times the diameter of the canopy being well beyond the periphery of the canopy’s drip line. The bulk of a tree’s root growth is predominantly lateral in soils, parallel with the soil surface, dispelling the myth of the “tap-root”. Root growth occurs at the apical end of the root tip (as in aerial parts of the plant) and can only occur when sufficient water (H2O) and oxygen (O2) is available (Statewide, 2003).
Impacts from Neighbouring Trees

Common Law permits a land-owner to prune a neighbour’s tree where the tree overhangs a common boundary and is causing a nuisance and poses risk to the safety of the land-owner and their property. Pruning is only permitted on the part of the tree that overhangs the property boundary and entering the neighbour’s property to carry out further work is not permitted unless prior consent has been granted by the owner of that property.

Where a tree or vegetation is protected by the TPO, and a permit is sought for pruning, Council may issue consent for work beyond the common boundary in order to comply with AS 4373, conditional on the owner of the tree giving consent to the works. If consent is not granted by the owner, then work must not occur beyond the boundary and it must comply with AS 4373 – 2007 Pruning of Amenity Trees.

Where a tree is growing on a boundary, ownership of the tree is determined by which side of the boundary the centre of the trunk originated or on which side of the boundary the majority of the trunk’s diameter exists.

Council recommends that neighbours negotiate the pruning requirements of a tree prior to any work taking place. This includes permission to enter the property to undertake necessary tree works and the removal and disposal of branches. In the event that parties cannot resolve disputes, the parties will be directed to appropriate mediation services such as The Dispute Resolution Network, The Community Justice Centre or a Chamber Magistrate. BVSC does not possess the authority to require a property owner to prune or remove a tree, unless that tree is overhanging public (Council) land.

Replacement Planting

BVSC is committed to the philosophy of Whole of Life Tree Management and to continue the ongoing amenity and ecology of the Shire’s vegetation by making it conditional, where appropriate, upon consent of tree removal that new or replacement trees are planted. This is applicable on both public and private land.

Council will encourage the use of a site analysis checklist to ensure that new trees are of an appropriate species and that they will be positioned in appropriate locations.

New, replacement trees and vegetation should be selected based on the following:

- a. Existing character of the area and the characteristics of the species selected;
- b. That the trees or vegetation will not pose a threat to human health and safety and associated infrastructure;
- c. The trees will not pose a threat to surrounding natural area, especially areas that are identified as significant (endangered ecological communities);
- d. Future maintenance considerations (root suckering, fruit/flower/seed drop, root vigour);
- e. Life expectancy and vigour of the species;
- f. Genetic integrity when planting near to natural areas (this has credence with cross pollination of Eucalypts, Wattles, etc.)

The replacement species will require minimal maintenance and, where practical, provide necessary habitat for native fauna. The use of indigenous species where appropriate will be encouraged and promoted by BVSC staff.

Tree establishment

Following planting, trees require regular maintenance in order to ensure effective establishment of the tree. Regular watering, mulching, staking, pruning and monitoring for pests and diseases and physical damage is essential in successfully establishing the tree.

BVSC may request the following in replacement plantings:

- a. Root barriers or root deflectors – which can reduce impacts on utility services (pipes and cabling) and pathways and other stable surfaces;
b. Soils that are a combination of large angular aggregate and quality soils in order to encourage deeper root growth;
c. Incorporation of water storing granules or other water storing devices (e.g. grow bags that store water).

Council requires all trees planted as a condition of a tree management approval or permit consent to be maintained for a minimum of 12 months from the time of planting. Trees that die within this 12 month period must be replaced at the applicant’s expense.

Evaluation of Vegetation Management within the Bega Valley Shire

To ensure that the Local Development Code – Tree Management and the tree protection measures in the BVLEP 2013 and BV DCP 2013 are relevant and synchronistic, in line with industry best practice and effective in their implementation, BVSC will review this document on a 4 year basis with consideration given to:

- The number of Tree Management Applications considered over the review period.
- Average time taken to assess and process applications and implications on staffing and financial resources.
- The number of breaches of the tree protection measures in the BVLEP 2013 and BV DCP 2013.
- The number of new trees planted per year versus number of trees removed.
- Establishment rates per new or replacement planting.
- Community feedback and response to the tree management and protection measures in the BVLEP 2013 and BV DCP 2013.

To ensure ongoing relevance to the community and to industry best practice standards, a comprehensive review of tree management and protection measures in the BVLEP 2013 and BV DCP 2013 will be undertaken every five years.

Acknowledgment

The technical content of this document was researched and compiled by NGH environmental.
SCHEDULE 1 - Exemptions

A tree management permit or approval is not required where work is carried out by or with the consent of the tree owner for the following:

a. The proposed tree removal or pruning involves dead trees, except where trees provide habitat for endangered or vulnerable species listed in Schedule 1 and 2 of the Threatened Species Conservation Act 1995;

b. Trees that are within four (4) metres measured from the closest point of the trunk at 1.3 metres above natural ground surface to the eave and guttering of an existing residential building or proposed residential building in respect to which Council has issued a consent under the Environmental Planning and Assessment Act 1979;

c. Crown maintenance works to a maximum of 20% of the canopy in any two year period that is carried out by a suitably qualified arborist (see section 5.2) in accordance with the Australian Standard AS 4373 – 2007 Pruning of Amenity Trees;

d. Tree works that are carried out in accordance with a Development Consent issued under BV LEP 2013;

e. Tree works that are carried out in accordance with an approved Hazard Reduction Certificate from the NSW Rural Fire Service;

f. Work is carried out in accordance with Section 48 of the Electricity Supply Act 1995

g. Work is carried out in accordance with the Noxious Weeds Act 1993

h. Trees are listed as Exempt Species under Schedule 1 of this Code.

Trees that are exempt from requiring approval to remove from private land are listed in Table 1.

Table 1 - Exempt tree species on private land

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trees</strong></td>
<td></td>
</tr>
<tr>
<td>Acacia baileyana</td>
<td>Cootamundra Wattle</td>
</tr>
<tr>
<td>Acacia mearnsii</td>
<td>Black Wattle</td>
</tr>
<tr>
<td>Acacia podalyrifolia</td>
<td>Queensland Silver Wattle</td>
</tr>
<tr>
<td>Albizia lophantha</td>
<td>Cape Leeuwin Wattle</td>
</tr>
<tr>
<td>Alnus spp.</td>
<td>Alders</td>
</tr>
<tr>
<td>Chamaecytisus spp.</td>
<td>Tree Lucerne</td>
</tr>
<tr>
<td>Erythrina x sykesii</td>
<td>Indian Coral Tree</td>
</tr>
<tr>
<td>Ligustrum spp.</td>
<td>Privet</td>
</tr>
<tr>
<td>Olea europea ssp. africanus</td>
<td>African Olive</td>
</tr>
<tr>
<td>Ficus elastica</td>
<td>Rubber Tree</td>
</tr>
<tr>
<td>Cinnamomum camphora</td>
<td>Camphor Laurel</td>
</tr>
<tr>
<td>Pinus radiata</td>
<td>Radiata Pine</td>
</tr>
<tr>
<td>Populus spp.</td>
<td>Poplars</td>
</tr>
<tr>
<td>Salix spp.</td>
<td>Willows</td>
</tr>
<tr>
<td>Crataegus monogyna</td>
<td>Hawthorn</td>
</tr>
<tr>
<td>Robinia pseudoacacia</td>
<td>Black Locust</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Prunus laurocerasus</td>
<td><em>Prunus laurocerasus</em></td>
</tr>
<tr>
<td>Cherry Laurel</td>
<td></td>
</tr>
<tr>
<td>Toxicodendron succudaneum</td>
<td><em>Toxicodendron succudaneum</em></td>
</tr>
<tr>
<td>Rhus</td>
<td></td>
</tr>
<tr>
<td>Solanum mauritianum</td>
<td><em>Solanum mauritianum</em></td>
</tr>
<tr>
<td>Wild tobacco bush</td>
<td></td>
</tr>
<tr>
<td>Acer negundo</td>
<td><em>Acer negundo</em></td>
</tr>
<tr>
<td>Box Elder</td>
<td></td>
</tr>
<tr>
<td>Gleditsia triacanthos</td>
<td><em>Gleditsia triacanthos</em></td>
</tr>
<tr>
<td>Honey Locust</td>
<td></td>
</tr>
<tr>
<td>Paulownia tomentosa</td>
<td><em>Paulownia tomentosa</em></td>
</tr>
<tr>
<td>Paulownia</td>
<td></td>
</tr>
<tr>
<td>Ailanthus altissima</td>
<td><em>Ailanthus altissima</em></td>
</tr>
<tr>
<td>Tree of Heaven</td>
<td></td>
</tr>
<tr>
<td>Cotoneaster spp.</td>
<td><em>Cotoneaster spp.</em></td>
</tr>
<tr>
<td>Cotoneaster</td>
<td></td>
</tr>
<tr>
<td>Pyracantha angustifolia</td>
<td><em>Pyracantha angustifolia</em></td>
</tr>
<tr>
<td>Orange Firethorn</td>
<td></td>
</tr>
<tr>
<td>Sambucus nigra</td>
<td><em>Sambucus nigra</em></td>
</tr>
<tr>
<td>Common Elder (Elderberry)</td>
<td></td>
</tr>
<tr>
<td>Trees grown primarily for the purpose of harvesting edible fruit</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 1

Tree Protection Zones

The table below has been adopted from the British Standard BS 5837 - 1991: Guide for Trees in Relation to Construction.

<table>
<thead>
<tr>
<th>Species Tolerance</th>
<th>Tree Age Category</th>
<th>Distance from trunk per 25mm DBH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Young</td>
<td>150mm</td>
</tr>
<tr>
<td></td>
<td>Mature</td>
<td>200mm</td>
</tr>
<tr>
<td></td>
<td>Over mature</td>
<td>300mm</td>
</tr>
<tr>
<td>Moderate</td>
<td>Young</td>
<td>200mm</td>
</tr>
<tr>
<td></td>
<td>Mature</td>
<td>300mm</td>
</tr>
<tr>
<td></td>
<td>Overmature</td>
<td>375mm</td>
</tr>
<tr>
<td>Poor</td>
<td>Young</td>
<td>300mm</td>
</tr>
<tr>
<td></td>
<td>Mature</td>
<td>375mm</td>
</tr>
<tr>
<td></td>
<td>Overmature</td>
<td>450mm</td>
</tr>
</tbody>
</table>

Column 1 is an evaluation of the tolerance of the species:

- **Good** - tolerant species e.g. Melaleuca spp., Casuarina spp.;
- **Moderate** - moderately tolerant species e.g. Eucalyptus spp., Callistemon spp., Syzigium spp.;
- **Poor** - species with poor tolerance (i.e. sensitive root systems) e.g. Banksia spp, Grevillea spp., Protea spp.;

**Note:**
Due to the lack of an Australian Standard for the management of trees in relation to construction sites, the British Standard is regarded as the foremost reference on this topic. Information on species tolerance can be sourced from the Local Government Tree Resources Association (LGTRA) or an appropriately qualified Arboriculturist.

**Example:**
An overmature tree with moderate species tolerance and a DBH of 300mm will need to have a minimum protective distance of 4.5 metres (4500mm) to ensure that the tree is not adversely impacted.
Appendix 2


The following is an excerpt from AS 4373:2007, Pruning of Amenity Trees and is included here to assist Council staff and the general public to comprehend the basic principles associated with best practice standards as they apply to pruning of amenity trees within Australian conditions.

Scope

This standard describes methods for pruning of trees and encourages correct and uniform practices. It is intended for use on amenity trees and includes formative pruning, hazard reduction, selective pruning and thinning. It does not include practices related to timber, foliage, fruit and flower production, root pruning, chemical pruning nor to sculptural forms of pruning such as topiary hedging and pleaching. The Standard also excludes information on wildlife habitat and safety of the tree worker.

Considerations before Pruning

Prior to pruning being prescribed or carried out on a tree, a thorough inspection of the tree should be undertaken. This should include an assessment of the tree’s health, growth habit, structure, stability and subsequent pruning requirements.

The inspection should consider hazards, habitats, species, age, condition, location and the timing of the tree’s biological processes.

Figure 1 (a): Final Cut Location – up to but not including the branch collar. Note: one should never cut through a collar.
Figure 1(b): Final Cut Location – in the absence of a collar using the branch bark ridge.

Figure 2(a): Codominant stems – with an extruded stem bark ridge
Figure 2(b): Codominant stems – with included bark.
### Appendix 3

#### Guidelines on Nuisance Issues

(Adopted from Table 3 of Statewide Best Practice Manual, 2003, *Trees and Tree Root Management*)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Nuisance</th>
<th>Valid Concern &amp; Solution</th>
</tr>
</thead>
</table>
| (1) Tree Roots | Competing with lawn and gardens for water and nutrients. | Roots are growing on the surface of lawns in high pedestrian access areas and creating a trip hazard.  
Solution:  
- toplift over roots to lift soil level;  
- selective root pruning; or  
- redirecting pedestrian traffic around nuisance. |
|       | Roots growing into sewer pipes and underground services                | Lifting and cracking pipes and underground services.  
Solution:  
- relocate pipes away from tree roots;  
- selective root pruning;  
- install root barrier;  
- replace tree with more appropriate species away from pipes. |
|       | Lifting or cracking non-structural elements of a house or garden (e.g. pathways, driveways, etc.) | Lifting of footpaths, retaining walls and other non-structural elements by more than 20mm.  
Solution:  
- use mortar or other fill to level out surface;  
- selective root pruning;  
- install root barrier;  
- changing ideas about paving materials and design. |
| (2) Tree Branches | Overhanging branches shading lawns and gardens | Solution:  
selective pruning of branches to increase sunlight;  
choose shade tolerant species to plant beneath tree. |
|       | Branches overhanging roofs in fire prone areas | Solutions:  
- Selective pruning;  
- Remove and replace with a fire retardant species. |
|       | Obstructing views | The subject tree is physically obstructing vehicular or pedestrian access or visibility and is deemed a safety hazard  
Solutions:  
- selective pruning. |

**Note:** the unauthorised removal of trees to improve scenic views is prohibited. Such actions will be pursued under breaches to the EP&A Act 1979.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Nuisance</th>
<th>Valid Concern &amp; Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shedding of leaves, fruits, bark and limbs.</td>
<td>Shedding of limbs should be evident in the tree crown with the presence of old stubs. Dangerous with some Eucalypts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solutions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• selective pruning;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• crown thinning;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• improve cultivation practices associated with the tree or vegetation;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• remove tree and replace with a species less prone to limb fall.</td>
</tr>
<tr>
<td>Obstructing signage</td>
<td>Obstruction of traffic signs, traffic lights and other safety related signage.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solutions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• selective pruning;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• relocation of signage.</td>
</tr>
<tr>
<td>Shading of windows and outdoor living spaces</td>
<td>Shading of solar appliances (solar hot water system, solar panels and clothes-line).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solutions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Selective pruning;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• relocate solar appliances or clothes-line.</td>
</tr>
<tr>
<td>(3) Tree/Vegetation</td>
<td>Tree is regarded as ugly and unfashionable.</td>
<td>No valid concern or issue, other than species causing allergies or potentially poisonous.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solutions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• replace with more appropriate species.</td>
</tr>
<tr>
<td></td>
<td>Tree is disrupting property boundary, and/or access</td>
<td>Tree is disrupting routine access to a site e.g. bushfire fighting purposes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Solutions:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• provide alternative access;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• remove tree.</td>
</tr>
</tbody>
</table>
Appendix 4

Safe Useful Life Expectancy (SULE)

(source: Barrell Treecare. Website: http://www.barrelltreecare.co.uk/treeaz/treeaz_frameseet.htm)

Introduction

What is TreeAZ

The A/Z method of assessing trees (TreeAZ for short and pronounced treeez) is a system for categorising the relative importance of trees on development/construction sites. It is an evolution of the safe useful life expectancy (SULE) and BS 5837 methods of assessing trees, reflecting the modern development scenario. TreeAZ revolves around the principles of tree management to reduce risk and to sustain amenity.

Purpose of this Guidance Note: This TreeAZ Guidance Note 7 is intended to provide more detailed information about the principles behind the method and how it should be used in practice. It is Note 7 in a suite of documents that are all intended to make it easier for arboriculturists to familiarise themselves with the method, begin to regularly use it in practice and participate in the feedback necessary to enhance its development.

Copyright and restrictions of use: There are no copyright restrictions and TreeAZ can be used without further reference to Barrell Treecare. However, if you do use it, you should acknowledge its origin.

Intended users

TreeAZ is designed for use by arboriculturists who have been trained in assessing trees and have experience of dealing with trees in a planning context. The assessment of trees is inherently difficult because of the biological and structural complexities that require subjective interpretation. A high level of experience and expertise will always be essential elements of an effective method of tree assessment. Only an arboriculturist experienced and knowledgeable in the management of trees can carry out a competent TreeAZ assessment. TreeAZ as a method of assessing trees is not intended for use by tree enthusiasts from other professions such as Landscape Architects, Architects, Surveyors and Planners because they will not have the expertise to make the subjective judgements that the method requires. However, the information TreeAZ delivers on tree suitability is intended for use by these professionals. The key point is that they cannot have it without using an arboriculturist.

Status of these guidance notes: TreeAZ is still under development and will be subject to further changes based on feedback from field use. The method described in these notes is the latest draft that is still being actively developed. Barrell Treecare has been developing it over the last three years and is confident the basic structure is now fixed and will not undergo any further significant changes. However, the detail may be updated from time to time as feedback occurs from the more widespread field-testing.

General background

Why assess trees and what are the important assessment criteria? Rarely in the UK is there sufficient space on a development site to achieve the desired design whilst retaining all the trees. Choices have to be made about which trees to keep and that requires reliable information on the quality of individuals. Effective planning is about making changes now that will improve benefits and reduce problems for the duration of the new design. The benefits that trees offer are wide and varied but often difficult to quantify; reduction of pollution, increased sense of well-being and improvement of the landscape being obvious examples. In a planning context, potential contribution to visual amenity is one of their most important benefits and is a fundamental assessment criterion. The length of time that trees can contribute to visual amenity is also important; the longer they contribute, the more important they are. Trees with the potential to provide amenity for a long time are more important than large trees that will soon be gone although this may not be obvious from first impressions.

Historical development of tree assessment methodologies: The first nationally recognised guidance on assessing trees on development sites was published in 1980 in the form of BS 5837 Code of Practice for trees in relation to...
construction. This document was updated in 1991 but the tree survey section remained virtually unchanged from the previous version. In 1993, Barrell (Barrell, 1993) published a more detailed methodology based on SULE. This was updated in 1995 (Barrell, 1995) and again in 2001 (Barrell, 2001) to form the most comprehensive alternative to the BS 5837 system. These papers can be downloaded from the Published Papers section accessed through the Site Map button on the Barrell Treecare website at www.barrelltreecare.co.uk. SULE has a number of advantages over the BS 5837 method in that it logically categorises trees in a way that reduces the opportunities for ambiguities and has comprehensive explanations on how it should be used. However, the status of BS publications created pressures to ensure that SULE could be cross-referenced to BS 5837, which significantly influenced its development and final form. Both of these methods are overly complicated in terms of satisfying modern-day planning requirements, creating a hindrance rather than an enhancement to effective decision-making.

Some difficulties with using visual amenity as a main assessment criterion: Superficially, visual amenity seems like a good criterion for assessing tree quality and deciding which are the best and worst trees. It seems logical that the largest trees, which contribute most to visual amenity, are the most important when managing the landscape. However, in practice difficulties emerge that effectively remove amenity as a primary criterion for categorising trees. The reality is that safety is the absolute priority and will downgrade even the largest tree if it is a high hazard. Additionally, in the context that sustainable planning is primarily about future organisation as well as meeting present needs, then a very large tree retainable for only a very short time becomes a lesser asset than a smaller tree that can be retained for much longer. These practicalities make visual amenity only suitable as a secondary assessment criterion behind the principal issues of safety and life expectancy.

**Essential elements of tree assessment evolution**

Focus on the specific requirements for development sites: The SULE and BS 5837 methodologies have evolved without a modern focus on what information is useful in planning for new development. The assessment of trees is inherently complicated and there will never be simple ways to do it; the experience and expertise of the assessor will always be essential elements of an effective procedure. However, that complexity does not need to be expressed in the final presentation of the information, especially as it often has to be interpreted by other professions with no expertise in tree matters. All the end-users need to know to make effective decisions is a simple ‘yes’ or ‘no’ categorisation about the suitability of trees for retention. There is no need to reflect the complexities of the background considerations that went into the final assessment; indeed, doing so with four or more categories can be counter-productive if it is complicated or confusing.

Establishing the retention/remove threshold: How to decide at what point a tree becomes suitable for retention and when it ceases to be sufficiently important to be a material constraint is a difficult judgement to make. There is no definitive answer but some indicators can be found from considering situations outside the development scenario but still related to the planning system. The UK tree preservation order (TPO) system uses visual amenity as a primary indicator of the importance of trees in the environment (Tree Preservation Orders: A Guide to the Law and Good Practice – Section 3.2). In 1983, Wilson suggested in a paper titled Tree Protection (Wilson D, Journal of Planning & Environmental Law pp 83–96, February 1983) that for a tree to be suitable for inclusion in a TPO it should have a safe life expectancy of at least 10 years. This has generally been accepted as a reasonable benchmark, more because it has a common sense appeal than for any technical merit. Most people can relate to a time interval of 10 years because it is within their experience memory and it can be realistically imagined. On this basis, it seems reasonable to set the arbitrary threshold at 10 years; if a tree has a SULE of less than 10 years it is not worthy of retention; if it has a SULE of more than 10 years it should be a material constraint in any planning proposal. This does not have to be rigidly applied and there may well be situations where the threshold can be moved. However, for most planning scenarios it is probably a realistic and justifiable cut off point.
Is SULE still relevant?

What is SULE? SULE is a well-documented method (Barrell 1993, 1995 & 2001) of assessing the relative importance of individual trees within an identified group (normally a development site with finite boundaries). It is based on subjective assessment and cannot be considered an absolute judgement. Realistically, the best that can be achieved is broad categorisations between good and bad. SULE helps the making of informed judgements on which trees are the most important in planning decisions. The nature of trees and opinions on trees is extremely variable; this means that there are always exceptions to the rules and common sense is an important aspect of applying the method. Only a person experienced and knowledgeable in the management of trees can carry out a competent SULE assessment. SULE is a means of presenting complex tree information in a simplified form that professionals with no tree expertise can understand and use to make judgements in the wider context. These professionals are normally layout designers who have to decide which trees to keep and lose in planning new developments.

What does ‘Safe’ really mean? An unsubstantiated criticism levelled at SULE has been that the word “Safe” is misleading and could be taken in its literal sense. In SULE, it is set in the context of its normal everyday use, where safe means an acceptable level of risk. It is not generally understood to mean there is no risk because it is common knowledge that nothing can be absolutely safe. A normal person would consider walking the dog or taking the train to work as safe. Of course, these actions are not safe in the absolute sense of the word; but there is a very low level of risk and that is the way the word is used in everyday language by normal people. The same applies to SULE; it is a shortcut because it is easier to say “Safe useful life expectancy” than “useful life expectancy with an acceptable level of risk”. The methodology advises that a full explanation should accompany all SULE assessments in the explanatory notes; in over a decade of use, this has not resulted in any reported instances of this hypothetical problem occurring in practice.

Why is SULE relevant to a tree assessment method? In all situations where trees are close to people and property, there is a common thread of relevant management issues. Tree safety is always the priority; the multiple benefits of trees becomes insignificant in comparison to our low tolerance of injury and damage. The economics of management usually runs a close second because budgets matter and as soon as costs become excessive, alternative management options become viable and desirable. Nuisance and inconvenience reduce the comfort levels associated with trees and create a momentum to manage these issues out of our everyday lives. Sustaining future amenity by providing space for new trees is a less obvious but still important objective in managing tree populations. Any comprehensive and effective tree management regime has to consider all these issues. SULE provides the structure to review them in a systematic way that results in effective delivery of management information. No other established method does this.

Continuous Cover Arboriculture (Sustained Amenity): Continuous Cover Forestry is a forest management phrase that embodies the principle of growing trees of all ages in the same area for the multiple benefits that delivers. One of those benefits is that the visual amenity of forests managed in this way does not fluctuate wildly. As visual amenity is one of the main reasons for having trees in towns, this principle with all its other associated benefits can be transferred to the urban situation and called Continuous Cover Arboriculture. As in many forestry situations, a common feature of urban tree planting is large tracts of trees of a similar size or age. The implications of this are that many trees will reach maturity and need removing at about the same time, resulting in rapid changes to the local landscape. It is inevitable that as trees mature they will need removing and replacing; good management should seek to spread these operations over the whole rotation, reducing the number and impact of removals at any one time. Sustained amenity is achieved by establishing a range of age classes within a local population; from new planting right through to mature trees. An effective way of achieving this is to remove and replace trees that are not performing because they are not suited to the site or they are interfering with better trees. The forestry background to this is very well described in Continuous Cover Silviculture; An Alternative to Clear Felling by Mark York (1988). A copy can be obtained by contacting him on 01654 712075.
Small trees: With present day abilities to easily move small trees or replace them with virtually identical semi-matures, it seems inappropriate and unreasonable that such trees should dictate the long term layout of a new development. In a planning context, the exact location of trees is often not that critical; it is their potential for contribution to local amenity that is the main consideration. If they can be reliably moved or replaced in a location that maintains or enhances this contribution, then the precise location is not a significant issue. For this reason, in most situations, small and young trees should not be a material consideration on development sites.

Wildlife issues: European Protected Species and their habitat are protected by legislation and will be a material constraint on the type and timing of changes can occur on a site. Trees can be habitat for these species and should be recognised in a full constraints assessment. This assessment should be carried out by an ecologist with expertise in this field. If an ecological assessment has not been carried out by the time of the arboricultural survey, the arboriculturist should identify trees that are potential ecological constraints that require further, specialist assessment.

The implications of colour blindness: Both SULE and BS 5837 advocate colour coding plans to help identify tree categories, with the best being green and the worst being red. However, for colour-blind people, both these colours are hard to separate and this is not helpful. Red/green colour blindness is the most common type; it is estimated that 5–8% of men and 0.5% of women suffer from it.

TreeAZ AND ITS USE

Summary of TreeAZ: TreeAZ is a method of assessing the relative suitability for retention of trees on development sites. It revolves around two categories; category ‘A’ trees that are worthy of retention for more than 10 years and category ‘Z’ trees that are not. These categories and supporting documents are colour coded green and blue, two colours that contrast for the colour blind, unlike current methods. In the past, layout designers have been confronted with up to seven tree categories, which is confusing and unnecessary. TreeAZ cuts through the confusion with an emphasis on simplicity, making it easier for non-arboricultural professionals in the planning system to understand and use tree data. Collection of this data is the first step in identifying the tree constraints on development sites.

Categories and subcategories: In the context of the above discussions, simple is best and only two categories are necessary to provide effective planning information. All the complexity of assessing the attributes of each tree can be refined down to a simple categorisation of ‘worthy’ or ‘unworthy’ based on whether they have a SULE of more or less than 10 years. These two categories are all that are needed to make effective planning decisions. However, it is often useful to have an indication of why a particular allocation was made and a sub-categorisation provides helpful background information without adding an obvious layer of complication. It can be ignored if not needed or considered if it is useful; the key point is that the user has the choice rather than being forced to interpret complicated or confusing information. This structure is listed in the categorisation table that can be downloaded with the companion notes to this note.

Identifying the best and worst trees: Much of the feedback from the field testing has focused on the usefulness of having each main category of good or poor being subdivided to enable the identification of very good and very poor individuals. This can be simply done by using the categorisation AA for the very best trees and ZZ for the very worst trees. This has the effect of creating four sub-categories within the original two category structure. This has been incorporated into the accompanying documents and is summarised as follows:-

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>Most suitable for retention</td>
</tr>
<tr>
<td>A</td>
<td>Suitable for retention</td>
</tr>
<tr>
<td>Z</td>
<td>Not particularly suitable for retention</td>
</tr>
<tr>
<td>ZZ</td>
<td>Unsuitable for retention</td>
</tr>
</tbody>
</table>
The use of colours: Colour is worth using if it is helpful in clarifying rather than confusing. In the context of the colour blindness issue, TreeAZ advocates two colours that can be easily separated by people suffering from this problem. Green is universally seen as good and denotes the best or ‘A’ category trees. Blue is used to identify the worst or ‘Z’ category trees. These colours are used throughout the method from the category definitions to listing the tree details in the tree schedule.

Difficulties with categorising marginal trees: Trees are so variable that it is often difficult to decide whether a tree should be in one category or another. It is also very easy for arboriculturists to be over-enthusiastic about tree retention and forget about the wider planning system they are working in. If you do encounter difficulty in allocating a tree, it is helpful to focus on your role within that system. Planning is the key word here; it implies an inbuilt presumption that only the best trees, i.e. those with the ability to make a significant and useful contribution to the future of the site, should be favoured. In an ideal world where there is no competition for space, it is quite reasonable to advocate the retention of all trees unless they are very poor. However, the reality of the modern day scenario is that there is intense competition for the space that trees occupy and balanced judgements have to be made relating to all these issues. In this type of situation, only good trees should be favoured and it is unrealistic to give the benefit of the doubt to those that are marginal. If there is significant doubt about whether a tree will make a useful future contribution to the site, then this reasoning implies that there should be a presumption to downgrade it. Poorly formed trees with no obvious reason to be condemned but with low potential to mature into useful trees would be a situation where this could be reasonably applied.

Practical assessment of individual trees: Provided you have suitable experience, then once you have familiarised yourself with the background to the method, you will be ready to try it out. The following steps are a brief guide to give you some ideas on what issues should be considered and the order of their consideration.

1. Make sure that you are familiar with the background information.
2. Print off and laminate the field category reference sheet (Note 2). This version has an additional column with some extra guidance on what types of trees fit into each subcategory to give you some help on site.
3. Print off enough copies of the blank schedule (the table in Note 5).
4. On site, inspect each tree and number it on the site plan and in the tree schedule.
5. Collect the basic data needed to establish what the development constraints will be. This would normally be the diameter, maturity and vigour to determine the BS 5837 protective zone and other data sufficient to identify any shading/dominance constraints. Further explanation of this is beyond the scope of this Note, which deals with collecting the data rather than processing it once it is collected.
6. Use TreeAZ to assess each tree as follows:-
7. Remind yourself that a TreeAZ assessment is in the present situation and should take no account of any proposed changes or the present visual amenity the trees have. It is a means of comparing the potential for trees to contribute to amenity as they stand on the site at that moment in time. Potential to contribute to amenity is a function of how long they can be retained safely and usefully in the context of their condition and location.
8. Although it would seem logical to structure the TreeAZ category table with the A’s first and the Z’s second, the actual assessment of each tree is easier if carried out the other way round. It is easier to consider why a tree is not a material constraint first and if it passes these tests, then that is the time to clarify what A sub-category it fits into. So, consider the Z sub-categories first in the order they are listed in the table.
9. The subcategories are listed roughly in the order that they seem to arise in the field so the first ones are the most common reasons for allocation. They are grouped under three main headings as follows:-
10. The first Z group of sub-categories is small trees and hedges that can be realistically replaced or moved and should not be a material constraint. They are the most common reason for category Z allocation. There is no size or age limit to these; you have to make the assessment based on what you think is reasonable and defensible to place in this category. However, you should be aware that you may have to
justify this at a later date so you must be able to clearly establish that your decision was reasonable, i.e. trees of that size and species can be easily supplied as semi-matures.

11. The second group of Z sub-categories relate to the level of risk the tree poses. If you believe that the tree cannot be retained with an acceptable level of risk for more than 10 years, then it is category Z. You have to use your expertise to assess this, which is why the assessment must be carried out by an experienced arboriculturist.

12. The third group of Z sub-categories is trees that would be removed within 10 years for good management reasons. This includes trees that are excessively unbalanced or over grown; causing damage to structures; causing excessive levels of inconvenience; preventing new trees from establishing; and that would be excessively expensive to retain. Again, they can already be in this condition or may become so in your assessment within 10 years.

13. If your tree falls into any one of these sub-categories, then it is not worthy of being a material constraint and categorised as a Z. If it is in very poor condition or a high hazard, i.e. one of the worst trees, this can be indicated by using the ZZ categorisation.

14. If your tree is not a Z, then it is category A and you need to visit each of the A sub-categories to decide which it best fits into.

15. If it has no significant defects and requires no work, it would be category A1. If it has a higher level of risk than you consider acceptable but this could be reduced by reasonable remedial works, then it would be category A2. What is reasonable is down to your judgement; the more extensive and the more excessive the work, the less reasonable it becomes.

16. In exceptional situations, a tree may warrant extraordinary measures to allow its retention because it has some special value despite it being a high level of risk. A veteran tree would fall into this category of A3 but ‘special’ means exactly that and it should not be used unless clearly justified.

17. If it is a tree that may fall under the European Protected Species legislation, i.e. obvious cavities that may be bat roosts, then it would be A4. This is an advisory note and highlights that further expert assessment is required before it can be discounted as a material constraint.

18. If it is a very good individual, i.e. one of the best trees, this can be indicated by using the AA categorisation.

19. If you have difficulty deciding what category a tree should be in, remember that there is a presumption against trees that have suspect future potential. If there is reasonable doubt, it should be downgraded.

20. Once you have allocated the tree to the appropriate category and sub-category, your data collection for that tree is finished.

21. Back in the office, you then highlight each tree on the plan with the appropriate colour and proceed to analyse the constraints that apply to the A trees and discount the Z trees. How you present this in terms of the tree schedule, the report format and the plans you use is beyond the scope of this Note.

The spirit of TreeAZ: Please remember that this is a method in development with very limited public exposure up until its release in the UK (17/09/02). It is not going to be perfect, there will be mistakes in the supporting material and some parts of it will not be clearly explained. That is why we are relying on you providing feedback via the website Discussion Group (www.barrelltreecare.co.uk click on the TreeAZ logo on the home page). However, we are confident that the principles and framework are sufficiently robust for wider field-testing and only expect changes to detail. We will update on those changes and expect the method to become less associated with Barrell Treecare and more associated with the Arboricultural Profession as time passes. Please try it out, please be as critical as you want but also please remember that we are only human and trying very hard to do our best at something that has never been done before.
Tree AZ Categories (Version 3.08) (for inclusion in reports)

Z
Trees not worthy of being a material constraint: Not suitable for retention for more than 10 years
(Small, young or regularly pruned trees/hedges that could be replaced like for like)

| Z1 | Small or young |
| Z2 | Formal hedges and trees regularly pruned to restrict size |

(Trees that would be removed within 10 years because they are a high risk)

| Z3 | Dead, dying, diseased or declining |
| Z4 | Severe damage/structural defects that cannot be properly addressed by remedial care including cavities, decay, included bark, wounds and excessively unbalanced |
| Z5 | Present or future instability because of poor anchorage or recently increased exposure |

(Trees that need severe pruning or removal within 10 years for good management reasons)

| Z6 | Severe damage/structural defects that can be temporarily addressed by remedial care including cavities, decay, included bark, wounds and excessively unbalanced |
| Z7 | Overgrown/unmanaged hedge that is beyond recovery by remedial pruning |
| Z8 | Causing damage to existing structures |
| Z9 | Causing unreasonable inconvenience to existing properties |
| Z10 | Adversely interfering with better trees |
| Z11 | Poor trees occupying space for potentially better new trees |
| Z12 | Unacceptably expensive to retain |

A
Trees worthy of being a material constraint: Suitable for retention for more than 10 years (Note: This excludes small and young trees)

| A1 | No significant defects and could be retained without remedial care |
| A2 | Minor defects that could be addressed by limited remedial care or work to adjacent trees |
| A3 | Special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to retain for more than 10 years |
| A4 | Trees that may have legislative protection for ecological reasons (Advisory and will require specialist investigation) |

**NOTE:**
Trees that are very good examples of category A can be noted as AA and trees that are the worst examples of category Z can be noted as ZZ summarised as follows:

| AA | Most suitable for retention |
| A | Suitable for retention |
| Z | Not particularly suitable for retention |
| ZZ | Unsuitable for retention |

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