

## Protection of Trees on Development Sites

Trees provide an integral element of any ecosystem and therefore their health and long term viability must be managed during the planning and design phase of any development project. This occurs long before the first sod is even turned. The first element of the National Enviro development standard focuses on ecosystems with an objective of maintaining them in a healthy and resilient state.

Any development based on the Enviro Development principles must protect and enhance the ecosystem.

At the design stage the objective should be to preserve trees by undertaking a resource evaluation of the proposed site. The resource evaluation provides the design team with a range of parameters such as gradient, drainage, trenching requirements etc so as to prevent damage to the trees. Further consideration is given to the suitability of trees for preservation. A suitability assessment takes into consideration a specimen's age, health, structure and general species suitability to the site.

The issue of retention of single specimen trees or single stands of trees should be taken into account at this stage. Trees that have developed as individuals (or dominant trees) are best suited for retention. These individual specimens are valuable assets as they contribute both to the visual amenity of the landscape and are less likely to be prone to failure or decline (if suitably protected).

Retention of tree groups should be based upon the species size and age of specimen. Consideration should be given to newly formed edges around a stand and their structural stability, habitat and conservation value.

Tree Protection Zones (TPZ) should be factored into plans early. The Australian Standard *Protection of Trees on Development Sites AS 4970-2009*, provides a sound base from which plans can be drafted. The Standard should be used in conjunction with advice from Arboricultural consultants, which ensures all aspects of tree protection are taken into account.

As a guide, the follow considerations should be undertaken when planning a development:

- **Survey trees** with accurate species identification with trunk and canopy dimensions **and include tree protection notifications** on all documentation.
- **Consider the TPZ** - calculate the Zone as set out in Australian Standard *Protection of Trees on Development Sites AS 4970-2009* (see below). No soil disturbance or construction activity to occur within the Zone. Use of software such as ArborCAD allows easy calculation of the TPZ and the associated fencing requirements.
- **Use non-invasive techniques** to identify root locations (such as a ground penetrating radar and/or air spade), should the construction works be required within the TPZ.
- **Site hydrology** should be considered at all stages, as a trees survival is often related to the specimens ability to tolerate water stress coupled with its ability to generate new roots.

It is vital that any project develops a communication plan to ensure tree protection requirements occur throughout every stage of the development. Some examples are pre-construction meetings with contractors, ensuring necessary fencing and signage is erected around the site and notifications to contractors about appropriate actions when dealing with trees within the TPZ.

Arbor Operations are Enviro Development professionals and have Arborist consultants available to assist at all stages of the development process. Early involvement of and Arborist ensures that the ecosystem is both protected and enhanced.

## Tree Protection Zone (TPZ)

A TPZ is determined by setbacks calculated for each tree based on its age class, vigour class and crown spread (where necessary) and each tree fenced off to form an enclosure around the tree with the tree at its centre, or may utilise an existing structure being retained such as a wall of fence.

The TPZ should be secured by a lockable gate to restrict access and the area identified with signage. The area of the TPZ should be mulched except where turfed, and kept free of weeds. Where encroachment is required within the TPZ this should be done only with the approval of the project arborist.

### INDICATIVE TREE PROTECTION ZONE

Source: Australian Standard Protection of Trees on Development Sites AS 4970-2009

