AS 4970:2025

Australian STANDARD®

STANDARDS Australia

Protection of trees on development sites

AS 4970:2025

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The following are represented on Committee EV-018:

Arboriculture Australia
Australian Institute of Horticulture
Australian Institute of Landscape Architects
Institute of Australian Consulting Arboriculturists
Local Government NSW
Local Government Tree Resources Association
The University of Melbourne
Treenet
Utility Arborist Association Australia
Western Sydney University

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Protection of trees on development sites

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How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by the Standards Australia Committee EV-018, Arboriculture, to supersede AS 4970—2009.

The objective of this document is to provide guidance on the principles and processes for retaining, protecting and integrating trees on development sites. It follows, in sequence, the stages of development from planning to implementation.

The major changes in this edition are as follows:

(a) Inclusion of clarifying terms and definitions.

(b) Correcting technical errors.

(c) Addition of a third category for encroachment into a notional root zone.

(d) Clarification of the protection zones.

The terms “normative” and “informative” are used in Standards to define the applications to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

Contents

Introduction

Landscape design is an important component of most development. Established trees of appropriate species are beneficial components of any designed landscape alongside the built environment and are a potential asset to any development site.

Trees may be retained because of their —

(a) aesthetic qualities;

(b) cultural and heritage values;

(c) ecosystem benefits, including —

  (i) stormwater management;

  (ii) shade and heat reduction qualities;

  (iii) wildlife habitat and biodiversity;

  (iv) carbon dioxide absorption;

  (v) particulate pollution capture;

  (vi) wind protection;

(d) social, health and psychological benefits; and

(e) economic and property value benefits.

Trees are dynamic organisms, and many have evolved to tolerate a narrow range of environmental conditions within which they can grow well and be healthy. Development can directly injure trees or can cause degradation to their growing environment, which can indirectly harm trees, and both need to be avoided during development and construction. It is impossible to reverse injury to a tree, and reversing stress is difficult.

Procedures for tree protection should be in place at every stage of the development process to successfully retain trees of value. These procedures should be established at the earliest planning stage of any outdoor event or design of a development project where there are trees. The procedures for the planning and protection of trees on development sites described in this document are based on plant biology and current best practices discovered in recently published literature.

Trees and their root systems can occupy a substantial part of any development site and, because of their potential size, can have a major influence on planning the use of the site.

Existing trees of appropriate species and sound structure can significantly enhance a new development by providing immediate benefits to human health and well-being, providing habitat and food sources for wildlife, reducing stormwater runoff and improving aesthetics.

Most trees will take many years to reach maturity but can be quickly injured or killed because their environmental growth requirements are misunderstood or not given appropriate regard. This is especially so with tree root systems, which cannot usually be seen. Irreparable injury frequently occurs in the early stages of site development, and attempts to remediate routinely fail.

Early identification and protection of trees appropriate for retention on a development site is essential from the outset and will minimize the problems of retaining inappropriate trees.

Successful long-term retention of trees on development sites depends on accepting and acknowledging the constraints and benefits that existing trees generate. Protecting trees using the processes outlined in this document can influence design and construction costs, and this should be considered in project budgets and contracts. The gains and benefits of retaining trees will continue if the measures detailed in this document are applied.

It is important to note that this document neither supports nor prohibits development and should not be used for either of these purposes.

Australian Standard®

Protection of trees on development sites

Section 1 Scope and general

1.1 Scope

This document provides guidance on the principles for protecting trees on land subject to development. It follows, in sequence, the stages of development from planning to implementation.

This document aims to assist those concerned with trees in relation to development. Where development is to occur, the document outlines the processes for protecting retained trees throughout the development process. It does not argue for or against development or for the removal or retention of trees, nor does it consider the monetary value of trees. This document does not apply to the planting and establishment of new trees.

This document gives guidance to horticulturists, arborists, architects, builders, engineers, land managers, landscape architects and designers, contractors, planners, relevant authorities, building surveyors, certifiers, those concerned with the care and protection of trees, and all others involved in the management of trees and development.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

NOTE Documents for informative purposes are listed in the Bibliography.

AS 4373, *Pruning of amenity trees*

AS 4687.2, *Temporary fencing and hoardings, Part 2*

1.3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

(a) IEC Electropedia: available at http://www.electropedia.org/

(b) ISO Online browsing platform: available at https://www.iso.org/obp

1.3.1
absorbing roots
small, non-woody roots with root hairs or a mycorrhizal association and no bark, responsible for the uptake of most of the water and solutes used by the tree

Note 1 to entry: Absorbing roots are less than two millimetres in diameter and frequently only absorb for a few weeks before they are replaced by new absorbing roots.

1.3.2
consent conditions
any conditions, requirements, standards, restrictions or prohibitions imposed on the development by the relevant authority

1.3.3
competent person
person who has acquired, through education, training, qualification, experience or a combination of these, the knowledge and skill enabling that person to perform the task required