

POL-LP-1.18 Tree Protection and Management

1. Purpose

The purpose of POL-LP-1.18 Tree Protection and Management (**Policy**) is to facilitate tree retention within the district of the City of Swan's (**City**) urban environments by providing guidance and administration of tree protection during all stages of planning and development process.

The Policy recognises that development can result in large-scale removal of established trees leading to a reduction in urban canopy and environmental value. The purpose of this Policy is to minimise the removal of trees of a particular size and encourage an increase in urban canopy cover by identifying mechanisms for tree planting during early stages of planning and development.

2. Scope

- a) This Policy applies to all land except **Rural Zoned land** as defined in the City's *Local Planning Scheme No. 17* that is not contemplated for urban development under the current planning framework, relating to:
- Structure Plan and Local Development Plan proposals;
 - Subdivision applications (10 or more lots); or
 - Development applications, excluding single dwellings (including residential outbuildings and incidental domestic structures) that meet the deemed-to-comply provisions of the Residential Design Codes (Volume 1) and are not within a Heritage Area or on the City's Heritage List under the City's Local Planning Scheme.

Exemptions to the application of this Policy are detailed under Clause 5.2.

3. Terms and definitions

In this Policy the terms below have the following meanings:

Term	Definition
AS4970	Australian Standard 4970-2009 – Protection of trees and development sites (as amended from time to time).
AS4373	Australian Standard 4373-2007 – Pruning of amenity trees (as amended from time to time).
Arborist	A person suitably experienced and competent in arboriculture with a minimum Diploma of Horticulture (Arboriculture) (Australian Qualifications Framework (AQF) Level 5) and/or equivalent experience, knowledge and skills to perform the tasks required in AS4970.
Arborist Report	A report prepared by an Arborist. The report must identify all trees on site and possible impacts on trees being retained. It will include design modifications, construction method recommendations and after care requirements which specify the measures necessary to protect trees throughout the demolition, design, construction and consolidation stages.
Canopy cover	Canopy cover is the land area covered by tree crowns (branches, leaves, and reproductive structures extending from the trunk or main stems) from trees located within the subject site, excluding any area that falls within

Term	Definition
	an adjoining privately owned lot. It is calculated using the canopy width of a tree species at full maturity. Where overlapping occurs between the tree canopies, the site's total canopy cover is the total land area covered by tree crowns, not the sum of the canopy cover of each individual tree.
Commonwealth, State or Local Government weed register	Includes weeds of national significance, any weed declared under the Biosecurity and Agriculture Management Act 2007 , or a weed listed on the City's Weeds Database.
Deep soil area	has the same meaning as in the <i>Residential Design Codes</i> .
Protected tree	A tree that: (a) is not included on a Commonwealth, State or Local Government weed register; and (b) has a: (i) height of at least 4m; or (ii) trunk diameter of at least 160mm, measured 1m from ground level; or (iii) canopy width of at least 4m, measured by the longest spread from edge to edge across the crown.
Revised Burnley Method	A method of calculating a monetary value for amenity trees using the following formula: $\text{VALUE}(\$) = (\text{TREE VOLUME}) \times (\text{BASE VALUE}) \times (\text{E}) \times (\text{FV}) \times (\text{L})$ Where, $\text{TREE VOLUME} = \pi \times r^2 \times h \text{ (cylinder volume)}$ $\text{BASE VALUE} = \text{price/m}^3 \text{ (calculated from the average value for at least three specimens from different nurseries in the City of Swan)}$ E = Useful life expectancy FV = Form and Vigour L = Location See https://croydonconservation.org.au/wp-content/uploads/Burnley-method-Tree-value-pdf..pdf for more information.
Rural Zoned Land	Means any zone included under the generic heading of Rural in the Zoning Table of the City's <i>Local Planning Scheme No. 17</i> .
Significant pruning	The pruning of significant branches or roots that would affect the health and/or stability of a tree in accordance with AS4373 and AS4970 .
Street tree	A tree that is located within a street verge or a road reserve. Street tree plantings should be a minimum 90L or greater pot size.
Tree protection plan	A plan which forms part of an Arborist Report and indicates tree and site-specific Tree Protection Zones and protection requirements and specifications for all trees being retained, in accordance with AS4970 .

Term	Definition
<i>Tree Protection Zone (TPZ)</i>	A specified area above and below ground and at a given distance from the tree's trunk as defined by AS4970 for the protection of a tree's roots and crown where it is at risk of damage by development.
<i>Tree removal</i>	The complete removal or any action that would lead to the death of a tree or group of trees including ringbarking, cutting down, topping, large-scale clearing, injuring or wilful destruction of woody vegetation.

4. Policy statement

The City encourages and facilitates the retention and growth of mature trees to maintain and enhance **canopy cover** on land subject to strategic planning, subdivision and development by:

- i. Encouraging holistic design and development that facilitates the protection and growth of trees.
- ii. Balancing the retention of trees and desired built form and land use outcomes at the earliest possible stage in the planning process.
- iii. Maintaining and increasing **canopy cover** to assist with mitigation of the urban heat island effect, reducing air pollution and facilitating carbon sequestration, improving groundwater quality and contributing to habitat for wildlife (including ecological corridors) and native biodiversity.
- iv. Maintaining and enhancing neighbourhood amenity, character, and community health and wellbeing through the retention and provision of tree **canopy cover**.
- v. Applying a “mitigation hierarchy” to decision making:
 - Avoid - avoid clearing of established **protected trees**.
 - Minimise - minimise harm to retained **protected trees**.
 - Rehabilitate - plant trees on site to replace any permitted loss of **canopy cover**.
 - Offset - where the above actions cannot be achieved, funding contributions for planting within the locality will be considered.

5. Policy criteria

5.1 Statutory authority / legal status

- a) This Policy is prepared in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015, Schedule 2* and does not remove the exemptions for development approval under Clause 61 subject to sufficient information being provided at the development approval and building permit stage.
- b) Removal of a **protected tree** constitutes works under the ***Planning and Development Act 2005*** and due regard should be given to the provisions of this Policy when considering strategic planning, subdivision and development proposals.
- c) The following Commonwealth and State Government Legislation, Regulations, policies and guidelines are also relevant considerations and should be read, where relevant, in conjunction with this Policy:
 - i. ***Environment Protection and Biodiversity Conservation Act 1999 (Cth)***
 - ii. ***Environmental Protection Act 1986***
 - iii. *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*
 - iv. ***Biodiversity Conservation Act 2016***
 - v. State Planning Policy 3.7 - Planning in Bushfire Prone Areas
 - vi. State Planning Policy 7.3 - Residential Design Codes Volume 1 & 2 (R-Codes)
- d) In relation to trees contributing to heritage, this Policy should be read in conjunction with the following local planning policies:
 - i. POL-LP-1.16 Guildford-Mandoon Heritage Area
 - ii. POL-LP-1.17 Heritage Planning
 - iii. POL-C-111 Woodbridge Conservation Precincts
- e) In relation to **street trees**, this Policy should be read in conjunction with the City's Landscape Guidelines.

5.2 Exemptions

- a) Removal of one or more trees is exempt from assessment under this Policy if the City is satisfied that:
 - i. It does not meet the criteria for definition as a **protected tree**.
 - ii. It constitutes an immediate threat to life or property, the proof of which threat lies upon the person who removes the tree.
 - iii. The tree/s:
 - Required to be removed complies with a City approved Bushfire Management Plan or the City's firebreak notice issued under Section 33 of the ***Bush Fire Act 1954***;
 - Is required to be removed to carry out a development for which planning approval and/or a building license has been issued prior to this policy becoming operational;
 - Is required to be removed to carry out a development which is exempt from development approval under Clause 61 of the *Planning and Development (Local Planning Schemes) Regulations 2015, Schedule 2*;

- Is a palm tree or tree grown for commercial purposes;
- Is required to be removed in accordance with other legislation such as the ***Environmental Protection Act 1986*** and ***Environment Protection and Biodiversity Conservation Act 1999***);
- Is being removed or disturbed as part of a native vegetation replanting program carried out with the City's prior approval;
- Is required to be pruned to provide clearance from a power line or other power infrastructure as specified in Western Power's guidelines or requirements or any other applicable guidelines or requirements.

b) Any pruning or maintenance work on trees that meet the definition of a **protected tree** is exempt if undertaken in accordance with the **AS4373**.

Note: The exemptions listed under Clause 5.2(a) of this Policy do not apply to newly planted trees that have been planted as a requirement of a subdivision or development approval, or as a requirement under other legislation such as the ***Environmental Protection Act 1986*** or the ***Environment Protection and Biodiversity Conservation Act 1999***.

5.3 Information required by the City for assessment

This section sets out the City's expectations on the minimum information required for investigations and management of trees during the Structure Planning, Subdivision and Development Application stages.

5.3.1 General requirements

- a) Unless its removal is approved as part of a subdivision or development approval, or is exempt under the provisions of this Policy, a **protected tree** should be retained in perpetuity and protected.
- b) Retention and protection of **protected trees** should be prioritised and development works, structure plan and subdivision design should preferably avoid or as a minimum, minimise harm to **protected trees**.
- c) Where **removal** of a **protected tree** is proposed, the following will be given due regard in the assessment process:
 - i. Health, maturity, species, and location of the tree;
 - ii. Ecological, biodiversity and environmental values of the tree;
 - iii. Contribution of the tree to the streetscape;
 - iv. The preservation of any other **protected tree** on the subject site;
 - v. The location of the tree within the development site and capacity for a modified building design or subdivision to maximise tree retention;
 - vi. Any existing development on the site;
 - vii. Design and location of proposed crossovers;
 - viii. Topography and the potential impact from excavation/fill;
 - ix. Possible safety risks due to tree limb failure and infrastructure and/or structural damage associated with the retaining the tree;
 - x. **Tree Protection Zone(s)** (as per **AS4970**);
 - xi. Tree replacement and/or planting proposed;
 - xii. Recommendations of an **Arborist Report**; and
 - xiii. The objectives of this Policy.

5.3.2 Structure plans and local development plans

The following information is required to be prepared and submitted to the City for approval at Structure Planning stage to assist in satisfying SPP 7.2 Precinct Design Manner and Form requirements as well as addressing the following Guidelines Design Element Considerations:

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| C1.3.1 | Identify opportunities to retain existing trees and enhance the tree canopy through new planting. |
| C2.1.1 | Design the urban structure in response to the existing or intended future precinct character. |
| C3.2.1 | Public realm design should incorporate local natural topography, habitats, and vegetation to enhance sense of place. |
| C3.3.1 | Integrate environmental features of the precinct within the public realm. |
- a) A Local Tree Management Strategy is to be submitted to the City as part of the Structure Plan in accordance with Schedule 2, Clause 16(1)(c)(i) of the *Planning and Development Regulations 2015* and include the following:
 - i. A description and site feature survey prepared by an **Arborist** showing the location, species, size, structural condition, and health of all trees on site.
 - ii. A plan showing which tree(s) are proposed to be retained and which trees are proposed to be removed.
 - iii. A description and plan showing the location, species, size at maturity of trees proposed to be planted at the future stages of the project, both on private and future public land.
 - iv. A description and plan showing a ten per cent net increase in the site's tree canopy achieved in the period between the project completion and planted trees reaching maturity (including **street trees**).
 - v. A description of methods to be implemented to avoid impacts on trees that are to be retained throughout the development process in accordance with **AS4970**, including **street trees**.
 - vi. A description of ongoing management and maintenance (refer to Clause 5.3.3.1 for available options).

5.3.3 Subdivision applications

For the City to provide advice to the Western Australian Planning Commission (**WAPC**) on the assessment of subdivision applications where 10 or more lots are proposed or where an existing Local Tree Management Strategy exists, the City will require the following.

5.3.3.1 Tree retention plan

- a) A Tree Retention and Management Plan is to be prepared (at the landowner's/applicant's expense) by an **Arborist** in consultation with the City prior to the submission of a Subdivision Application to the WAPC with the intention of resolving any inconsistencies between:
 - i. The tree retention/provisions and the location of services, driveways, garages and retaining walls; and
 - ii. Preliminary engineering designs/water management plans and tree provision as well as protection in accordance with **AS4970**.

- b) The Tree Retention and Management Plan should be consistent with the Local Tree Management Strategy and/or approved Structure Plan or Local Development Plan and should include (where applicable):
 - i. An **Arborist Report** that includes a site feature survey showing the location, species, size, structural health and **TPZs** of trees to be retained;
 - ii. A site feature survey of trees that are proposed to be retained and their TPZ's in accordance with **AS4970**;
 - iii. Changes to soil levels and/or any excavations proposed within the TPZ's of trees which are to be retained;
 - iv. A description of methods to avoid the impact of trees that are to be retained in accordance with **AS4970**, including design modifications, construction method recommendations and after care requirements which specify the measures necessary to protect retained trees throughout the demolition, construction and consolidation stages of the project;
 - v. Specifications for the ongoing management and maintenance of retained trees, including **street trees** and trees within future public open space(s);
 - vi. A plan showing the location, species, canopy size at maturity of the proposed trees, including **street trees** and trees within public open space(s).
 - vii. Specifications for the ongoing management and maintenance of the proposed **street trees** for a two-year period post-installation. The proposed **street trees** are to be planted prior to clearance being issued for the subdivision.
- c) When subdivision applications are assessed under this Policy, the City may recommend conditions to the WAPC requiring trees to be retained in accordance with a Tree Retention and Management Plan that has been approved by the City.
- d) Where described as a condition of subdivision that the common property access way is required to be paved, drained and sealed (Model Subdivision Condition T16), an advice note is to be provided stating that tree planting may be required within common property.

5.3.3.2 Civil design and clearance

- a) Following the subdivision approval by the WAPC, where a Tree Retention and Management Plan is in place following previous phases of the approval framework, at the Civil Design and Clearance stage the following information is required:
 - i. Civil drawings submitted to the City (including for retaining walls, soil type, drainage and public open space, roads, services and footpaths) shall be consistent with the Tree Retention and Management Plan adopted by the City.
 - ii. Plans of the location, approximate height, diameter, species, condition and **TPZs** of **protected trees** and the **Arborist Report** in relation to the civil drawings shall be provided to the City;
 - iii. Plans of the location, approximate height, diameter, species and **TPZs** of proposed **street trees** to be planted prior to the Clearance stage.

5.3.3.3 Prior to earthworks/engineering approval

- a) Following the subdivision approval by the WAPC, where a Tree Retention and Management Plan is in place following previous phases of the approval framework, the following is required prior to the issue of earthworks/engineering approval by the City:

- i. Construction drawings to be provided in the appropriate format showing the location, species, approximate height, diameter at breast height, canopy and **TPZs** of all retained and planted **street trees**;
- ii. Service installation in the proximity of retained trees shall be undertaken using methods which comply with **AS4970**;
- iii. Where services are deemed by the City to conflict with a retained tree, the City may require service alignments to be altered to prevent or minimise impact on the tree.

5.3.3.4 Requirement at practical completion of subdivision (clearance stage)

- a) Following the completion of civil and landscape works, the following applies:
 - i. Any **protected tree** that has been damaged may require review by an independent **Arborist** (at the landowner/applicant's expense) to determine if the tree is viable and can be expected to continue over the long-term to provide amenity, environmental, ecological, social and cultural values as expected prior to development.
 - ii. Evidence of the **street trees** being planted in the form of photographs or other visual means.
 - iii. If there are trees that are deemed as not viable for long-term retention, the Section 5.4.3 provisions of this Policy apply.

5.3.4 Development applications

5.3.4.1 Information required for development applications:

- a) When the City receives Development Applications (**DA**), the plans will accurately and fully indicate the location and species of all trees on the property and all trees within adjacent road reserves, including identification of trunk diameter at 1m above ground level, canopy spread, and ground levels at the base of each tree.
- b) Based on the initial review of the DA, the City may determine that further investigation into the health and future impacts of a **protected tree** is required and may request an **Arborist Report** to be undertaken by an independent **Arborist**.
- c) In addition to the General Requirements outlined in 5.3.1, opportunities for tree retention through design modification and specialist **Arborist** intervention will be considered in deciding if the tree(s) are recommended to be retained.
- d) If the condition or impacts of a tree(s) are deemed unacceptable by the City, it may be recommended to not retain the tree(s) and recommend alternative solutions outlined in Clause 5.4.3.

5.3.4.2 Tree retention on development sites

- a) In considering an application for development approval, the City may require the retention of any **protected tree** on site, pursuant to Clause 67(2)(p) of Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015*.
- b) In determining a development proposal which is likely to result in the removal or **significant pruning** of a **protected tree**, the City will assess the retention value of the tree, based on the following information:
 - i. The number of trees on the site and the ability to achieve the minimum tree provision requirements identified in any related State or Local Planning Policy including, but not limited to, SPP 7.3 Residential Design Codes Volume 1 & 2 where applicable.

- ii. The location of the tree on the development site and the potential opportunities available to retain the tree on the periphery of the site, within the front setback areas, private open space or common property areas.
 - iii. The location of the tree in relation to any conservation areas or ecological corridors.
 - iv. If the site is located within a designated bushfire prone area, tree removal may be supported if required under an approved Bushfire Management Plan (BMP) or Bushfire Attack Level (BAL) Assessment.
 - v. Potential safety risks associated with tree retention.
 - vi. The amount of auxiliary works required to retain and protect the tree.
 - vii. Any previous tree surveys completed as part of the previous, higher-level planning or development stages.
 - viii. The contribution of the **protected tree** to the amenity of the locality, pursuant to Clause 67(2)(n) of the *Planning and Development (Local Planning Scheme) Regulations 2015*.
- c) The City may require preparation of a preliminary **Arborist Report** to enable the assessment of the trees' retention value in the context of development, at the applicant's expense, in accordance with Clauses 2.3.2 and 2.3.3 of **AS4970**, Following the City's assessment, the City may require amendments to development design to facilitate the retention of a tree. This may include:
- i. Development design that co-locates areas of communal open space and/or **deep soil areas** with any existing trees.
 - ii. Trees being retained and to be protected during all stages of development in accordance with **AS4970** and **AS4373** and any requirements stipulated by the City.
 - iii. The City requires the preparation of an **Arborist Report** including a **Tree Protection Plan**, at the applicant's expense, in accordance with Clause 2.3.5 of **AS4970** and may require that all development site works comply with the approved **Arborist Report** and the City approved **Tree Protection Plan**.

5.3.4.3 Development conditions

- a) If a **protected tree** is proposed to be retained as part of an approved development, the City may include the following condition on the development approval:

"1. The protected tree(s) identified on the site plan must:

- i. be retained and subsequently maintained in a healthy state;***
- ii. be protected during the construction of the development in accordance with Australian Standard AS4970; and***
- iii. only be maintenance pruned in accordance with Australian Standard AS4373.***

If, notwithstanding paragraph (i) the protected tree(s) die(s) or becomes unhealthy and require(s) replacement, the landowner must notify and make suitable arrangements with the City for a replacement tree(s). Thereafter, the replacement tree(s) must be retained and maintained in accordance with this condition.

2. The tree protection zone(s) shown on the site plan must be retained."

- b) If tree planting or tree replacement is required as part of an approved development, the City may include the following condition on the development approval:

"1. The tree(s) shown on the approved site plan / landscaping plan must:

- i. be planted before the development is occupied;*
- ii. be maintained during the life of the development; and*
- iii. only be maintenance pruned in accordance with Australian Standard AS4373.*

If, notwithstanding paragraphs (i) and (ii) a tree dies or becomes unhealthy the landowner must notify and make suitable arrangements with the City for a replacement tree(s). Thereafter, the replacement tree(s) must be retained and maintained in accordance with this condition.

2. The tree protection zone(s) shown on the approved site plan / landscaping plan must be created before the development is occupied, and thereafter retained.”

5.4 Tree protection and offset mechanisms

5.4.1 Administrative mechanisms for the protection of retained trees

- a) The City may undertake inspections when development works are approved in the vicinity of a **protected tree**, with development works to be undertaken to the standard outlined in **AS4970**.

5.4.2 Removal of a protected tree without appropriate authorisation

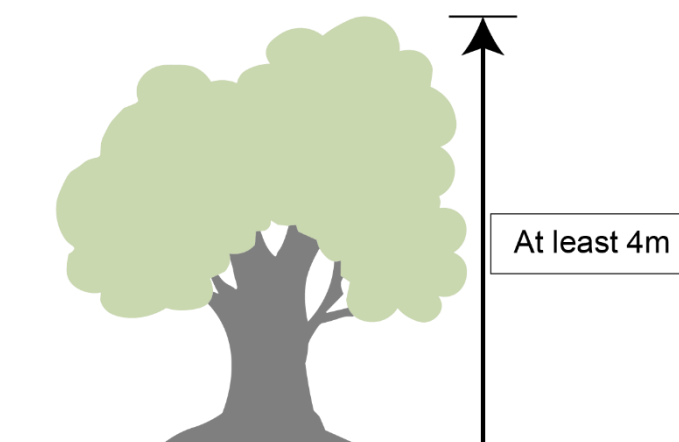
- a) Should a landowner wish to remove a tree that has been identified in a **Tree Protection Plan** or via another mechanism identified in this Policy, the expressed permission and/or formal approval of the City is required before undertaking any site works. The City will undertake its investigation in accordance with the definition of a **protected tree** and Clause 5.4.1 above.
- b) In the event that a **protected tree** has been removed without authorisation from the City, the following may result:
 - i. If the tree relates to a Structure Plan and/or Subdivision application, the City may withhold the issue of subdivision clearance until such time as a suitable replacement(s) has been agreed with the City (where a subdivision condition requesting a **Tree Protection Plan** applies); and
 - ii. If the tree relates to a Development Application, a suitable replacement may be sought to the City's satisfaction or alternatively the City may take compliance action under the **Planning and Development Act 2005**.

5.4.3 Offsetting loss of protected trees

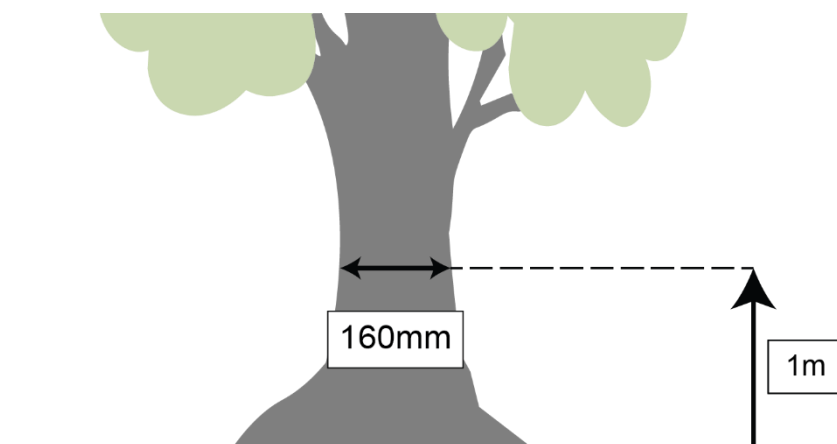
- a) There may be circumstances where a landowner and/or developer is granted permission to remove **protected trees**. In such cases, the City may accept the planting of a replacement tree(s) of a species and size approved by the City, or a payment to contribute to tree planting within the City. At the City's discretion, the **Revised Burnley Method** may be used to determine the tree cost.

Appendix A: Protected Tree Criteria

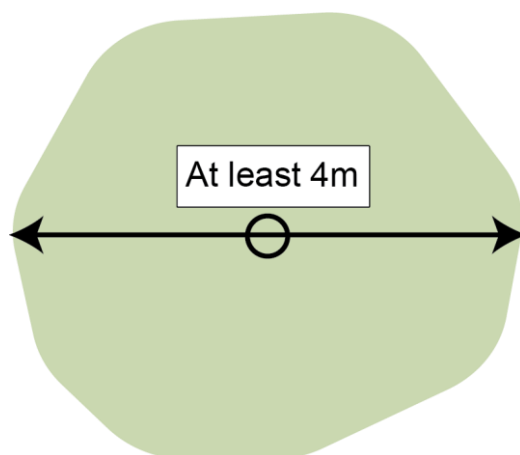
A.1 Minimum tree height



A.2 Minimum trunk width



A.3 Minimum canopy width



Document control

Document approvals:			
Version #	Council adoption		
1.			
2.			
Document responsibilities			
Custodian:	Manager Strategic Planning	Custodian Unit:	Strategic Planning
Document management:			
Risk rating:	Low	Review frequency:	2 Years
Next review:	2026	ECM Ref:	[DocSetID #]
Compliance requirements:			
Legislation:	Planning and Development (Local Planning Schemes) Regulations 2015		
Industry:	WALGA Local Government Approaches to Tree Retention Issues Paper for Legal Advice		
Organisational:	Local Planning Scheme No. 17 Urban Forest Plan		
Strategic Community Plan:	N1.3 Protect our green environment B1.1 Create community places to live, relax and work		