Shoalhaven City Council

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Tree Management Policy – Public Land

Adoption Date:	06/03/2015
Amendment Date:	17/04/2018, 31/10/2022
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Directorate:	City Services
Record Number:	POL21/51

CONTENTS

1. Purpose

Shoalhaven City Council (SCC) receives many requests for the removal / pruning of trees on public land. Reasons include, but are not limited to:

- perceived risk that a tree could fall on homes/buildings causing life and property damage
- obstructions to vehicle sightlines
- solar access
- bushfire risk
- dropping of tree debris (branches, leaves, etc) into private property
- root invasion.

SCC recognises the value of trees for the provision of visual amenity, shade, fauna habitat, soil stability, erosion protection *etc.* and places a high importance on the protection and retention of trees. SCC also recognises the need to remove or prune trees where circumstances warrant such actions *e.g.* protection of life and property.

SCC acknowledges that tree removal is subject to the NSW *Environmental Planning and Assessment Act 1979* approval provisions and must make an assessment of potential environmental impacts prior to proceeding with tree removal works (refer to Section 7).

The purposes of the Policy therefore are to:

- provide a consistent framework to respond to requests for tree removal / management by members of the public
- provide an environmental approvals framework
- provide a stream-lined environmental approvals procedure in specified circumstances (*i.e.* unlikely to have an environmental impact).

2. Statement

This Policy applies to all land SCC owns and/or manages including:

- road reserves of which SCC is the Roads Authority
- crown reserves of which SCC is the manager

This Policy does not apply to lands and circumstances which Chapter G4 *Removal and Amenity of Trees* of the Shoalhaven DCP applies and does not apply on NSW State or Commonwealth managed lands or to crown lands to which SCC is not the manager.

The policy applies only to employees of SCC or those engaged to act on behalf of SCC.

The application of this policy is not restricted to the strict horticultural definition of ‘tree’. For the purpose of this policy it applies to all plant types.

3. Provisions

3.1. Circumstances where this policy does not apply

This Policy does not apply in the following circumstances:

- The removal of trees for which development consent and/or approval has been granted under Part 4 or Part 5 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act 1979) if the development / activity is carried out in accordance the consent / approval.
- Emergency tree removal works carried out by SCC, State Emergency Services, or Rural Fire Service in the response to an emergency within the meaning of the NSW *State Emergency and Rescue Management Act 1989* and the *Rural Fires Act 1997.* This includes any work to prune of remove a tree posing an immediate risk to persons or property during or immediately following an emergency event.
- The removal of trees and other vegetation determined by the roads authority as a traffic hazard requiring removal under Section 88 of the NSW *Roads Act 1993.*

In these circumstances, trees can be removed without consideration of this Policy.

Note: Although the removal of trees under the Roads Act 1993,can be undertaken despite any law to the contrary, SCC will undertake, wherever possible, an environmental appraisal commensurate with this Policy to take into consideration matters affecting or likely to affect the environment and to identify ways to mitigate potential impacts.

3.2. How the Policy relates to other legislation

This Policy related to the Shoalhaven Development Control Plan (DCP) *Chapter G4 – Tree and Vegetation Management* where it states:

> *"Note: Council Owned and Managed Lands – Private landowners must obtain approval for the removal or pruning of trees and other vegetation on land owned or managed by Council including road reserves to which Council is the roads authority and crown reserves to which Council is the Trust Manager.*
>
> *The only exception is where Council (or its agent) carries out the work after it has been assessed in accordance with the Tree Management Policy – Council Managed Lands.*
>
> *Works to trees on public land generally need to go through a review of environmental factors (under Part 5 of the EP&A Act) before any works are undertaken. There is a cost associated with this process"*

A separate permit granted by Council under this DCP is not required due to the Exemptions specified in Clause 5.3.5 of the DCP. The following Acts and Environmental Planning Instruments (EPI) need, however, to be considered in the Environmental Assessment and determining whether the tree removal is permissible.

Act / EPI	Considerations

Act / EPI	Considerations
National Parks and Wildlife Act 1974	The tree must be checked to ensure it does not have a scar derived from Aboriginal modifications.
NSW Biodiversity Conservation Act 2016 and And Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*	The tree must not be a threatened species. Refer to both Acts for listings.
SEPP 14 Coastal Wetlands	Check GIS Enquiry. If tree is within SEPP 14 Coastal Wetland mapped area, the tree removal proposal may require concurrence with the Director of Planning (clause 7).

3.3. Tree ownership

Where a tree is growing on a boundary, ownership 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 (at ground level).

4. Implementation

The Assets & Works Group have principal responsibility for the overall implementation of sound tree management principles through procedures, Australian Standards and other reference documents.

4.1. Procedures – tree works on Council owned or managed lands

The Tree Management Decision Flowchart is the decision-making flowchart to be used whenever a request is received from members of the public for SCC to undertake tree works on land to which this policy applies.

4.2. Applications from members of the public

SCC will consider applications from members of the public for pruning or removal of trees on Council owned or managed land.

Under this policy, an application will be required for any work to be performed on any tree to which this policy applies. The application will take the form of a Customer Relationship Management (CRM) request.

The request will be forwarded onto SCC's Tree Management Officer, Parks & Facilities Unit and Tree Management Staff who will inspect and assess the application within ten working days of the request.

4.3. Application Assessment

In determining the request for the removal of trees to which this policy applies, SCC will first make an assessment of the tree and its circumstances.

In assessing whether or not to approve the pruning or removal of a tree, SCC shall take into consideration a broad range of issues including human safety, protection of property and infrastructure, and environmental and amenity considerations (Table 1 below). In all instances human safety will be the highest priority.

SCC will only consider tree works where there are reasonable grounds to do so and on a risk management basis (Table 1 below).

SCC acknowledges that it is the nature of trees to shed leaves, bark, sticks, flowers, fruit and exudates as part of their normal life cycle. They may add to debris in private property and compete with lawns and gardens for nutrients and water. These issues will not normally constitute justification for tree removal.

Table 1 Reasonable grounds for tree works

Issue	Reasonable grounds for tree works	Considerations and alternatives
Human safety and residential property protection	The tree presents a clear and significant danger to humans and residential property. Refer to Section 4.4 for further details.	Pruning of the tree will be the first response considered. If human safety risks cannot be removed by pruning or if the tree cannot be managed in accordance with the Australian Standard for Pruning of Amenity Trees (AS4373), then it should be completely removed.
Root-related issues	1. Growing on the surface of lawns in high pedestrian traffic areas and creating an obvious trip hazard. 2. Lifting and cracking water pipes or newly laid sewer pipes (less than 30 years old). 3. Lifting by more than 20 mm of footpaths or driveways in high pedestrian traffic areas. 4. Cracking of retaining walls or	1. Top dressing around root to bring soil level up, selective root pruning, redirecting pedestrian traffic. 2. Relocating pipe away from tree, selective root pruning, root barrier. 3. Using mortar or other fill to smooth over lifted slab, selective root pruning, root barrier, relaying pavement in more flexible material such as wet pour rubber, loose gravel etc.

Issue	Reasonable grounds for tree works	Considerations and alternatives
	fences to such a degree that failure of wall or fence is imminent and poses a hazard to persons.	4. Replacing wall or fence with more appropriated structure, using pier and beam footings.
Bushfire	Property is 'bushfire prone land' as mapped in GIS Enquiry system, and • Tree canopy is overhanging within five metres of a dwelling. • Tree is in the way of designated emergency access *e.g.* fire trail.	Pruning of limbs so it does not overhang the dwelling should be considered in the first instance. Request for additional vegetation clearing works (*e.g.* under the Rural Fire Service's 10/50 vegetation clearing rules) for bushfire protection will be directed to Council's Bushfire Mitigation Officer for risk assessment. Generally, SCC will only undertake works where the risk warrants such activity.
Traffic hazards	• Tree results in a reduction of sight distance that is not in accordance with Austroads and RMS Guidelines. • Tree is obstructing traffic signs, traffic lights or other signs essential to road safety. • The tree has been assessed by SCC traffic officers as a safety hazard.	Pruning of the tree will be the first option. If the traffic hazard cannot be removed by pruning or if the tree cannot be managed in accordance with the Australian Standard for Pruning of Amenity Trees (AS4373), then it should be completely removed.
Infrastructure	The tree presents a clear and obvious danger to infrastructure, damage to which will result in an unacceptable disruption to communications, power, and water supplies.	Pruning of the tree will be the first option. If the hazard cannot be removed by pruning or if the tree cannot be managed in accordance with the Australian Standard for Pruning of Amenity Trees (AS4373), then it should be completely removed.
Health	Allergy causing species that is affecting the health of an individual (specifically documented by dermatologist or other allergy specialist).	The tree(s) should be replaced with a species that does not create allergic reaction.
Shading of solar arrays / panels	Where trees have grown to shade pre-existing photo-voltaic cells (solar cells).	If the solar panels were installed before the establishment of the tree/s, SCC may consider remedial options like pruning.

Issue	Reasonable grounds for tree works	Considerations and alternatives
	If the subject tree/s were existing prior to the installation of the solar panels, no action with regard to future shade concerns will be taken by SCC as solar issues should be considered prior to the solar panel installation. *Note: the onus shall be on the applicant to demonstrate that the solar panels/arrays where present before the subject tree.*	If the shading cannot be removed by pruning or if the tree cannot be managed in accordance with the Australian Standard for Pruning of Amenity Trees (AS4373), SCC may consider removal.

4.4. Risk assessment

When assessing a tree subject to a request for removal/management the assessing officer shall undertake a comprehensive tree hazard and risk assessment (Appendix B) that has consideration of:

- the structural soundness, health and vigour of the tree
- characteristics of the tree including the propensity for, or history of, branch failure presence of pests and/or diseases, and the presence of defects
- the condition, maturity and useful life expectancy of the tree
- site-specific conditions that may influence risk factors *e.g.* exposure to wind, ground disturbance, and soil conditions.
- the object at risk and the consequences of tree or branch failure.

In all instances public safety will be the highest priority. In circumstances where the risk level is assessed as “high”, “extreme” or “severe”, SCC will undertake works to reduce the risk level to “low” or “moderate”. These works may include removal of limbs or the complete removal of the tree depending on the specific circumstances.

4.5. Review of decisions

In the event of a difference of opinion between the SCC assessing officer and the applicant requesting the tree works, the matter will be referred to the Manager – Parks Operations and Facilities to review the initial assessment.

If the matter cannot be resolved, it will then be referred to a review panel for consideration. The review panel will consist of the General Manager, Director Assets and Works, Director Planning and Development and the Council Tree Management Officer (TMO) or Tree Inspector.

At this stage, the review panel can:

- agree with Council’s initial assessment, or

- disagree and overturn the initial assessment and agree to the requested tree works, or
- engage an independent consulting arborist for advice, or
- engage the broader community through consultation with affected stakeholders (*e.g.* neighbouring residents).

At any stage during a review, a consulting arborist (with minimum qualification of Diploma of Arboriculture or equivalent) can be engaged by either party at their own expense to provide supporting information to the removal or retention of the tree.

4.6. Repeated requests for reassessment

After the Review Panel's decision, any further requests for reassessment will be subject to the following fee/charges as stated in Shoalhaven City Council's current fees, charges & rentals:

- Application for the reinspection, following denial of previous request, for the removal of trees on Council managed and owned land for *up to* 2 trees
- Application for the reinspection, following denial of previous request, for the removal of trees on Council managed and owned land for *more than* 2 trees

The applicant will be fully reimbursed if conditions have changed since the previous assessment and the reassessment indicates that there are reasonable grounds for tree removal or management.

The decision to reimburse an applicant for a reassessment will be determined by the Parks Operation and Facilities Manager in consultation with Tree Management Officer.

4.7. 45 degree rule

In situations where the applicant does not agree with the conclusions of Council's assessment (*i.e.* for retention) and the tree is located on a Council road reserve within 45 degrees of a habitable dwelling owned by the applicant, the applicant will be given the option of preparing an environmental assessment (refer to Section 4.8) and accompanying supporting documentation (*e.g.* arborist report, applicant's medical certificate) at their own expense. If the environmental assessment allows for the tree works, the applicant can apply to SCC to have the tree works undertaken at the applicant's expense.

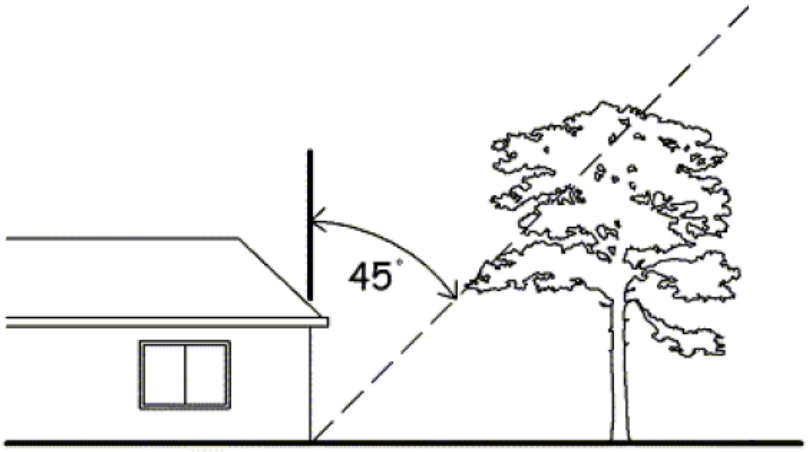
SCC shall review the environmental assessment and, if acceptable, SCC will give written notice to adjoining land landowners/occupants and any other stakeholders affected by the proposed removal of the intention of the applicant to carry out the proposed tree works. SCC will then take into consideration any responses that are received within 21 days after the notice is given.

The level of community notification would be on a case-by-case basis. As a minimum, the owners and occupants of adjoining properties and owners/occupants directly opposite the tree shall be notified. In some cases, *e.g.* significant amenity trees, the relevant Community Consultative Body may be notified and consulted.

To ensure workplace health and safety and insurance requirements are met, the tree removal contractor must be approved and engaged by SCC.

Any ’45 degree rule’ involvement by SCC will be undertaken on a cost-recovery basis.

- Tree works where any part of a tree is above a line 45° from the vertical extension of the wall of any building measured from its base



4.8. Environmental assessment

Any tree that has been determined as having a clear and obvious danger and significant risk to human life is not required to have an environmental assessment prior to required tree works to make the situation safe. If the tree contains hollows, the procedures outlined in Section 4.91 shall be followed.

Any other tree removal, applicable to this policy, would be subject to the provisions of Part 5 of the NSW *Environmental Planning and Assessment Act 1979* which requires SCC to examine and take into account, to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity.

In most cases a simple check-type assessment can be undertaken to fulfil this requirement (Appendix A). When this has been completed the assessment will be retained along with the original CRM Merit.

4.9. Tree replacement

SCC is committed to the ongoing amenity of the Shoalhaven and will implement or condition the installation of new trees wherever trees are removed from land that SCC manages.

New trees shall be an appropriate species and planted in suitable locations in consultation with the Council Group responsible for the management of the public land from which the tree has been removed.

4.10. Hollow-bearing trees

In situations where trees with hollows are to be removed or hollow-bearing branches are to be pruned the following procedures will apply:

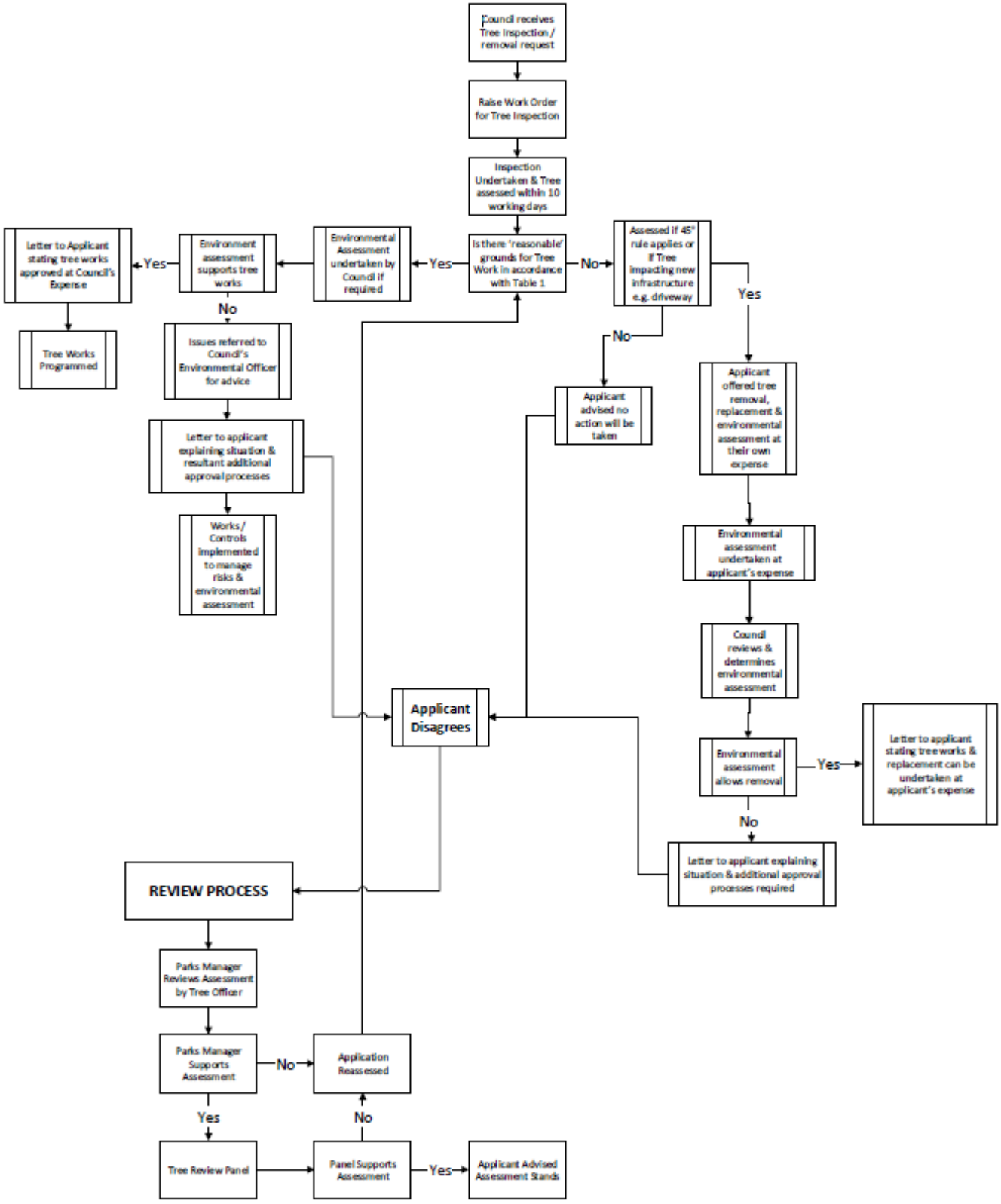
- Suitably qualified and NSW *National Parks and Wildlife Service Act 1974 Biodiversity Conservation Act 2016* licenced wildlife handlers (Wildlife Rescue South Coast ph: 0418 427 214) will be on site during the removal of the tree to rescue any fauna.
- Prior to removal, the tree will be searched by the tree removal contractor in collaboration with licenced wildlife handler/s for residing fauna. Each hollow will be

inspected visually with the aid of a torch and an SCA Inspection Camera (which Wildlife Rescue South Coast could supply).

- In consultation with the tree removal contractor, the wildlife handlers will prepare a plan specific to the circumstance of the tree and hollow.
- Hollow sections will be stuffed and/or bagged to prevent any fauna escaping during the felling of the hollow section.
- The limb will be felled past the hollow section, by cutting into the solid limb as to avoid injury to residing fauna.
- The tree will be removed in sections and all sections are to be lowered to the ground carefully.
- Once the hollow sections have been lowered to the ground, the licenced wildlife handler will then inspect lowered sections a final time.

A record will be kept of any animals 'rescued' from the tree (*i.e.* species and numbers) and the subsequent husbandry of the animals. Records will be submitted to SCC.

Tree Management Decision Flowchart



4.11. Termites

A tree on Council owned or managed land may not be removed simply because it has some signs of termite activity. It is, however, admissible for Council to authorise the termites to be treated at the complainant's expense.

4.12. Trees in Subdivisions/Development Sites

Shoalhaven City Council is frequently encumbered with costs associated with the removal of trees that pose a life and property risk after:

- privately owned land is handed over to Council through residential subdivisions (*e.g.* roads and dedicated reserves), and
- the development of residential properties adjacent to Council lands.

Trees that are on Council land or proposed to be retained on Council managed land in a subdivision must be considered at the development application stage. Trees that could present a clear and significant danger to humans and residential properties as the subdivision or residential property is developed or built should be removed at the applicant's expense.

For development applications, there will be an obligation to the developer to remove all potentially dangerous trees on existing or future Council land within 45 degrees of a potential building envelope. The loss of these trees should also be considered in the statement of environmental effects prepared for the development.

4.13. Trees in Canal Estates

Council will consider applications for tree removals within the Canal Estates allowing adjoining property owners to manage the vegetation on the drainage canals adjacent to their property using appropriately qualified and insured tree contractors at their expense.

5. Responsibilities (financial, approvals etc.)

SCC Council will be responsible for the following:

- An initial inspection and assessment by SCC following a merit request.
- Removal of tree where SCC determines that the tree is considered high risk or there are reasonable grounds for removal (refer to Table 1 p.4).
- Preparation of environmental assessment where SCC determines that there are reasonable grounds for removal.
- Unit Manager and Review Panel review in situations where the initial determination from Council's assessing officer determines that there are no reasonable grounds for removal and the applicant disagrees with the assessing officer's determination.
- Any arborist report SCC commissions.

The applicant requesting the tree removal will be responsible for the following:

- Any additional approvals or community engagement required for the removal of threatened species or the removal of threatened species habitats, the removal of indigenous and non-indigenous heritage trees, and the removal of trees with SEPP 14 Coastal Wetlands.
- Arborist reports, environmental assessment, approvals, neighbourhood notifications, and tree works where the Council assessment officer, Unit Manager and Review Panel determines that there are no reasonable grounds for tree removal and the applicant continues to request the removal under the '45 degree rule'.
- Tree works in circumstances where the actions of the applicant have reduced the 'safe useful life expectancy' of the tree (*e.g.* inappropriate lopping/pruning, cutting of roots).

6. Review

This policy shall be reviewed within one year of the election of every new Council

APPENDIX A: SIMPLE ENVIRONMENTAL ASSESSMENT

Merit CRM reference:	
Location of Tree:	
Number of Trees:	
Reason for removal:	
Name of Assessing Officer	

Question	**(tick applicable)**	
	Yes	**No**
1. Is the Tree(s) in SEPP 14 Coastal Wetland? (refer to Council GIS)		
2. Does the tree appear to have a scar derived from Aboriginal modification?		
3. Has the tree heritage significance? (check Council GIS)		
4. Is the tree a threatened species e.g. Magenta Lilly Pilly, *Melaleuca biconvexa*, Albatross Mallee?		
5. Does the tree have a hollow which could provide fauna habitat?		
6. Is the tree within an endangered ecological community? (refer to Council GIS)		
7. Does the tree appear to be a feed tree for threatened species *i.e.* chewed casuarina cones (Glossy Black-cockatoo) v-shaped sap incisions (Yellow-bellied Gliders)		
8. Would the removal of the tree likely to result in controversy within the community *e.g.* aesthetically appealing tree in a public area, planted by community groups, or village entrance tree?		
9. Would the removal of the tree contribute to soil erosion or soil erosion potential?		

If answers are 'no' to all of the above, the works can proceed without further assessment and be signed off by
Unit Manager (refer overleaf).
If answer is 'yes' to any of the above a more detailed Environmental Assessment is required.

(Attach photo of tree(s))

Determination
Shoalhaven City Council has considered the potential environmental effects of the proposal and the effectiveness and feasibility of measures for reducing or preventing detrimental effects. It is determined that:
It is unlikely that there will be any significant environmental impact as a result of the proposed work.
An Environmental Impact Statement is therefore not required for the proposed works.
The proposed activity is not likely to significantly affect threatened species, populations or ecological communities, or their habitats and a Species Impact Statement is not required.

Manager – Parks Operations and Facilities
Shoalhaven City Council

Date: ……..……

APPENDIX B: TREE HAZARD EVALUATION FORM

Tree Hazard Evaluation Form

Site/Address: _____

Map/Location: _____

Owner: public _____ private _____ unknown _____ other _____

Date: _____ Inspector: _____

Date of last inspection: _____

TREE CHARACTERISTICS _____

Tree #: _____ **Species:** _____

DBH: _____ **# of trunks** _____ **Height** _____ **Spread** _____

Form: ☐generally symmetric ☐minor asymmetry ☐major asymmetry ☐stump sprout ☐stag-headed

Crown class: ☐dominant ☐co-dominant ☐intermediate ☐suppressed

Live crown ratio: _____ % **Age class:** ☐young ☐semi-mature ☐mature ☐over-mature/senescent

Pruning history: ☐crown cleaned ☐excessively thinned ☐topped ☐crown raised ☐pollarded ☐crown reduced

☐flush cuts ☐cabled/braced ☐none ☐multiple pruning events Dates:

Special Value: ☐specimen ☐heritage/historic ☐wildlife ☐unusual ☐street tree ☐screen ☐shade ☐native ☐protected by government agency

TREE HEALTH _____

Foliage colour: ☐normal ☐chlorotic ☐necrotic **Epicormics?** Y / N

Growth obstructions: ☐stakes ☐wire/ties ☐signs ☐cables ☐Curb/pavement ☐other

Foliage Density: ☐normal ☐sparse **Leaf size:** ☐normal ☐small

Annual growth: ☐excellent ☐average ☐ poor **Twig Dieback?** Y / N

Woundwood development: ☐excellent ☐average ☐poor ☐none

Vigour class: ☐excellent ☐average ☐fair ☐poor

Major pests/diseases: _____

SITE CONDITIONS _____

Site Character: ☐verge ☐reserve ☐pathway ☐private ☐open space ☐natural ☐sloping ☐riparian

Landscape type: ☐street tree ☐reserve ☐container ☐mound ☐lawn ☐shrub border ☐wind break

Irrigation: ☐none ☐adequate ☐inadequate ☐excessive

Recent site disturbance? Y / N ☐construction ☐soil disturbance ☐grade change ☐line clearing ☐site clearing

% dripline paved:	0%	10-25%	24-50%	50-75%	75-100%	**Pavement lifted?** Y / N
% dripline w/fill soil:	0%	10-25%	24-50%	50-75%	75-100%	
% dripline grade lowered:	0%	10-25%	24-50%	50-75%	75-100%	

Soil problems: ☐drainage ☐shallow ☐compacted ☐droughty ☐saline ☐alkaline ☐acidic ☐small volume ☐disease centre ☐history of fail ☐ clay ☐expansive ☐slope _____° aspect: _____

Obstructions: ☐lights ☐signage ☐line-of-sight ☐view ☐overhead lines ☐underground utilities ☐traffic ☐adjacent vegetation _____ ☐

Exposure to wind: ☐single tree ☐below canopy ☐above canopy ☐recently exposed ☐windward, canopy edge ☐area prone to windthrow

Prevailing wind direction: _____

TARGET

Use Under Tree: ☐habitable building ☐ building (other) ☐parking ☐traffic ☐pedestrian ☐recreation ☐landscape ☐small features ☐utility lines

Can target be moved? Y / N **Can use be restricted?** Y / N

Occupancy: ☐occasional use ☐intermittent use ☐frequent use ☐constant use

TREE DEFECTS

ROOT DEFECTS:

Suspect root rot: Y / N **Mushroom/conk/bracket present:** Y / N ID: _____

Exposed roots: ☐severe ☐moderate ☐low **Undermined:** ☐severe ☐moderate ☐low

Root pruned: _____ distance from trunk **Root area affected:** _____ **Buttress wounded:** Y / N When: _____

Restricted root area: ☐severe ☐moderate ☐low **Potential for root failure:** ☐severe ☐moderate ☐low

Damaged roots: ☐severe ☐moderate ☐minor

LEAN: _____ degree from vertical ☐natural ☐unnatural ☐self-corrected **Soil heaving:** Y / N

Decay in plane of lean: Y / N **Roots severed** Y / N **Soil cracking:** Y / N

Compounding factors: _____ **Lean severity:** ☐severe ☐moderate ☐low

Likelihood of failure: ☐ improbable ☐ possible ☐ probable ☐ imminent

HAZARD ABATEMENT

☐**7.2.2** *Deadwooding* ☐**7.2.3** *Crown thinning (T)* ☐**7.2.4** *Selective pruning* ☐**7.2.5** *Formative pruning of young trees (F)*

CROWN MODIFICATION

☐**7.3.1** *General* ☐**7.3.2** *Reduction pruning* ☐**7.3.3** *Crown lifting* ☐**7.3.4** *Pollarding* ☐**7.3.5** *Remedial (restorative pruning) (H)*

☐**7.3.6** *Line clearance (L)*

Prune: ☐reduce end weight ☐crown clean ☐thin ☐raise canopy ☐crown reduce ☐restructure ☐shape

Inspect further: ☐root crown ☐decay ☐aerial ☐monitor ☐roots next to driveway

Remove tree: Y / N **Replace?** Y / N **Move target:** Y / N **Other:** _____

Effect on adjacent trees: ☐none ☐evaluate

Notification: ☐ property owner ☐ neighbours ☐ tenant /lessee ☐ real estate agent **Date:** _____

COMMENTS

RISK CATERGORIZATION AND MITIGATION

The second page of the form focuses on categorizing the risk the tree poses and describing how the risk should be mitigated. It also provides space for additional notes or comments regarding any section from the first page. Use a separate sheet of paper if more space is needed.

Risk Categorization

Condition Number	Tree Part	Conditions of concern	Part Size	Fall Distance	Target Number	Target Protection	Likelihood												Consequences				Risk rating of part (from matrix 2)
							Failure				Impact				Failure & Impact								
							Improbable	Possible	Probable	Imminent	Very Low	Low	Medium	High	Unlikely	Somewhat	Likely	Very Likely	Negligible	Minor	Significant	Severe	
1																							
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat Likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

This form uses the risk categorization methodologies presented in the ISA's Best Management Practices: Tree Risk Assessment 5. The chart provided on the form is a tool to tie the data collected on the front of the form to the risk categorization process. You can rate the risk for up to four different conditions that may be found in the tree being assessed. Additional ratings may be made on an additional form. If there is only one condition of concern, only one line needs to be completed.

Appendix 1 - Risk Categorisation and Mitigation Chart.

Tree part – specify the branch, trunk, or root of concern. For example, Condition Number 1 may be the broken branch over the house, and Condition Number 2 may be a branch over the driveway. The entries in the Tree Part column would both be 'branch'. Other options for the column include 'trunk' and 'roots'.

Condition of concern – identify the concern(s) with the tree part listed. An example would be 'large, dead branch over the house'.

Part size – a characterisation of the part of the tree that may fail toward the target. Usually this is the diameter of the branch that can fall or the dbh (diameter at breast height) of the tree. It may be appropriate to indicate the size of the part that could impact the target. Include units of measure.

Fall distance –if applicable, record the distance that the tree or tree part will fall before hitting a target; this may be relevant to the consequences of failure.

Target number – this number should correspond to the target(s) listed on the first page of this form.

Appendix 2 - Roots and root collar information

Roots and Root Collar

Collar buried / Not visible – check if the root collar is not visible and, if possible, determine and note the depth below ground.

Stem girdling – restriction or destruction of the trunk or buttress roots; check box if it is a failure concern.

Dead – check box if one or more structural support roots are dead.

Decay – check box if present and identify / describe under Main concerns.

Conks / Mushrooms (brackets) – fungal fruiting structures; common, definite indicators of decay; fungal fruiting structures away from the trunk in the turf or mulch may be due to the presence of a mycorrhizal fungus and, if so, do not pose a threat to the tree. Check box if present and identify / describe under Main concern(s).

Ooze – seeping or exudation that can result from pest infestations or infections under the bark; check box if present and describe.

Cavity – definite indicators of heartwood decay; measure the size of the opening and record the percentage of the tree's circumference affected.

Cracks – separation in the wood in either a longitudinal (radial, in the plane of ray cells) or transverse (across the stem) direction; check box if present and describe.

Cut / Damaged roots – check box if present; measure and record the distance from the trunk to the cut.

Root plate lifting – soil cracking or lifting indicates the tree has been rocking, usually in high winds; check box if present, and note under Main concern(s).

Soil weakness – check box if there is a soil condition affecting the anchorage of the tree's root system; note under Main concern(s) if significant.

Response growth – reaction wood or additional wood grown to increase the structural strength of the roots or root collar; note location and extent.
Main concern(s) – conditions in the roots and root collar that may affect the likelihood of failure. Note the main concern(s); if there are no concerns, write 'none'.

Load on defect – a consideration of how much loading is expected on the tree part of concern. Record as N/A (not applicable), minor, moderate or significant, and/or note the cause of loading.

Likelihood of failure – the rating (improbable, possible, probable or imminent) for the roots or root collar. If there is a main concern, this information should be transferred to the Risk Categorisation chart.

Appendix 3 – Trunk information

Trunk

Dead/Missing bark—check box if a stem or codominant stem is dead or if areas of dead cambium are present where new wood will not be produced.

Abnormal bark texture/colour—may indicate a fungal or structural problem with the trunk; check box, if present, and add notes if it is a concern.

Codominant stems—stems of nearly equal diameter arising from a common junction and lacking a normal branch union. Note the size, location, and number, if relevant, under main concern(s) in the trunk box.

Included bark—bark that becomes embedded in a union between branch and trunk, or between codominant stems, causing a weak structure; check box if present.

Cracks—separation in the wood in either a longitudinal (radial, in the plane of ray cells) or transverse (across the stem) direction; check box if present and describe.

Sapwood damage/decay—check box if there is mechanical or fungal damage in the sapwood that may weaken the trunk. If checked, you may circle "damage" or "decay" to indicate which one is present.

Cankers/Galls/Burls—check box if relevant and circle which one(s); may or may not affect the structural strength of the tree:
Canker—localized diseased areas on the branch; often sunken or discoloured.
Gall—abnormal swellings of tissue caused by pests; may or may not be a defect.
Burl—outgrowth on the trunk, branch, or roots; not usually considered a defect.

Sap ooze—oozing of liquid that may result from infections or infestations under the bark. May or may not affect structure or stability; check box if present.

Lightning damage—often evidenced by a centrally-located line of sapwood damage and bark removal on either side in a spiral pattern on the trunk or branch; check box if present.

Heartwood decay—Check box if present and identify/describe under Main concern(s).

Conks/Mushrooms (brackets)—fungal fruiting structures; common, definite indicators of decay when on the trunk; check box if present and identify/describe under Main concern(s).

Cavity/Nest hole—openings from the outside into the heartwood area of the tree; record the percentage of the trunk circumference that has missing wood, and the depth of the cavity.

Poor taper—change in diameter over the length of the trunk, important for even distribution of mechanical stress; check box if trunk has poor taper.

Lean—angle of the trunk measured from vertical; record the degree of lean.

Corrected?—the tree may have been able to “correct” the lean with new growth in the younger portions of the tree; note conditions related to lean in the space provided.

Response growth—reaction wood or additional wood grown to increase the structural strength of the trunk; note location and extent.

Main concern(s)—conditions in the trunk that may affect likelihood of failure. Note the main concern(s); if there are no concerns, write “none”.

Load on defect—a consideration of how much loading is expected on the tree part of concern. Record as N/A (not applicable), minor, moderate, or significant, and/or note the cause of loading.

Likelihood of failure—the rating (*improbable*, *possible*, *probable*, or *imminent*) for the trunk. If there is a main concern, this information should be transferred to the Risk Categorization chart.