



City of Pacific Grove

Urban Forestry Standards

Tree Risk Assessment

The City intends to meet or exceed all arboricultural industry standards including *American National Standards Institute A-300 (Part) 9 Draft 1 Version 1 Tree Risk Assessment a. Tree Structural Assessment*.

The Pacific Grove Community Defined Risk Threshold is any tree with assigned Failure Potential Ratings of 9 or greater.

The City Arborist shall administer the Tree Risk Assessment Program and achieve a Due Standard of Care through the implementation of this policy as follows:

Qualified Professionals trained in tree risk assessment shall perform systematic inspections of all trees on City lands on a determined cycle.

1 – Levels of Assessment

The level of assessment required for Tree Risk Rating shall be determined by prominence of weak structural conditions according to the following assessment criteria.

Level 1 assessment shall be a limited visual assessment of an individual tree or a population of trees near specified targets, such as along roadways or utility rights-of-way, to identify specified conditions or obvious defects. Assessment methodology shall be specified by the Qualified Professional.

Level 2 assessment shall include a 360-degree, ground-based visual inspection of the tree crown, trunk, trunk flare, above-ground roots, and site conditions around the tree in relation to targets. When sounding is specified, a mallet or equivalent tool should be used to detect large hollows and loose bark in the trunk, root collar, and above ground buttress roots Use of hand tools, trowels, binoculars, or probes, shall not be precluded from a Level 2 assessment. An assessment should include the identification of conditions indicating the presence of structural defects.

Level 3 assessment shall include, but are not limited to, one or more of the following tree assessment methods:

- Aerial assessment of branch or stem defects;
- Drilling;
- Evaluation of target risk;
- Increment boring;
- Investigation of tree or site history related to possible or defined defects;
- Lean assessment;
- Probing;
- Pull testing;

Radiation assessment (e. g. radar, x-ray, gamma ray);

Resistance drilling;

Sonic assessment;

Sounding; and,

Sub-surface root and/or soil assessment.

Risk levels shall be rated using the PNW International Society of Arboriculture (ISA) *Hazard Tree Evaluation* form following PNW ISA Tree Risk Assessment Program criteria. The *Hazard Tree Evaluation* rating system is based on three categories:

- a) **FAILURE POTENTIAL** 1 TO 5 POINTS
- b) **SIZE OF THE DEFECTIVE PART** 1 TO 3 POINTS
- c) **TARGET AREA** 1 TO 4 POINTS

Inspection results shall be documented within the City Tree Inventory. Risk levels that meet or exceed the Community Defined Risk Threshold of 6 shall be pro-actively managed using the following table:

Table-1: Overall Risk Rating and Action Thresholds

The Overall Risk Rating and Action Thresholds

<i>Risk Rating</i>	<i>Risk Category</i>	<i>Interpretation and Implications</i>
3	Low 1	Insignificant - no concern at all.
4	Low 2	Insignificant - very minor issues.
5	Low 3	Insignificant - minor issues not of concern for many years yet.
6	Moderate 1	Some issues but nothing that is likely to cause any problems for another 10 years or more.
7	Moderate 2	Well defined issues - retain and monitor. Not expected to be a problem for at least another 5 - 10 years.
8	Moderate 3	Well defined issues - retain and monitor. Not expected to be a problem for at least another 1 - 5 years.
9	High 1	The assessed issues have now become very clear. The tree can still reasonably be retained as it is not likely to fall apart right away, but it must now be monitored annually. At this stage it may be reasonable for the risk manager/owner to hold public education sessions to inform people of the issues and prepare them for the reality that part or the entire tree has to be removed.
10	High 2	The assessed issues have now become very clear. The probability of failure is now getting serious, or the target rating and/or site context have changed such that mitigation measures should now be on a schedule with a clearly defined timeline for action. There may still be time to inform the public of the work being planned, but there is not enough time to protracted discussion about whether or not there are alternative options available.
11	High 3	The tree, or a part of it has reached a stage where it could fail at any time. Action to mitigate the risk is required within weeks rather than months. By this stage there is not time to hold public meetings to discuss the issue. Risk reduction is a clearly defined issue and although the owner may wish to inform the public of the planned work, he/she should get on with it to avoid clearly foreseeable liabilities.
12	Extreme	This tree, or a part of it, is in the process of failing. Immediate action is required. All other, less significant tree work should be suspended, and roads or work areas should be closed off, until the risk issues have been mitigated. This might be as simple as removing the critical part, drastically reducing overall tree height, or taking the tree down and cordoning off the area until final clean up, or complete removal can be accomplished. The immediate action required is to ensure that the clearly identified risk of harm is eliminated. For areas hit by severe storms, where many extreme risk trees can occur, drastic pruning and/or partial tree removals, followed by barriers to contain traffic, would be an acceptable first stage of risk reduction. There is no time to inform people or worry about public concerns. Clearly defined safety issues preclude further discussion.

The Table shown above outlines the interpretation and implications of the risk ratings and associated risk categories. This table is provided to inform the reader about these risk categories so that they can better understand any risk abatement recommendations made in the risk assessment report.

2 – Stumps, Snags and Slash Management

Stumps, snags (dead and topped trees with trunks remaining standing) and slash may provide food storage and nesting structures for wildlife.

Stumps, snags (dead and topped trees with trunks remaining standing) and slash should be left on public and open spaces if they do not increase fire hazard, create a risk to public safety or disturb view sheds.

Snags should be left no taller than the distance to of a target; use area, structure that would be struck in the event the snag fell.

Snags should be assessed at regular intervals to determine risk levels and managed when risk levels exceed 6, the Community defined Risk Tolerance Threshold.

3 – Flammable Fuel Management

Fuel management is the planned manipulation or reduction of living or dead vegetation to prevent the ignition of wildland fires and to reduce the spread and intensity of any wildfire.

The Rip Van Winkle Open Space area and southern and eastern boundaries of the Del Monte park district are identified as Very High Fire Hazard Severity Zone (VHFHSZ) by CalFire.

The City of Pacific Grove Urban Forestry Department and private property owners shall manage flammable fuel loads on their respective properties per the guidelines provided below and CalFire *General Guidelines for Creating Defensible Space*.

Grasses

1. Once annual grasses cure (beginning early to mid-June) they are to be maintained at or about 4 inches in length within the 100' fuel management zone.
2. Multiple grass mowing/cutting may be necessary following wet winters.
3. Technique used (mower v. weed eater) should be sensitive to slope and potential for erosion.

Trees

1. Within the 100' fuel management zone, remove from mature trees: all vines, dead branches and all live branches less than 3 inches to 8 feet above the ground.
2. Small trees and tree-form shrubs (to 15 feet) should be pruned-up 1/3 their height. The space between tree foliage and shrubs should be 3 times the height of the shrub. This can be accomplished by pruning the tree, shrub, or both.

Shrubs and Shrub Patches

1. Shrubs and shrub patches located under the canopy of trees should not exceed 18 inches in height.
2. Dead limbs should be removed from shrubs.
3. Individual shrubs and shrub patches outside of the canopy of trees should be managed to allow for adequate horizontal spacing. Individual shrubs or grouping of shrubs should be maintained in a form so their diameter does not exceed 2 times their height.

4. Whenever possible it is recommended that Scotch Broom (*Genesta sp*) Coyote bush and invasive species be removed during the fuel management process to promote the restoration of native plant communities.

Disposition of pruned vegetation

1. The preferred option should be to chip the native plant material on site and use for mulch in the landscape or distribute in the open in key erosion prone areas. Chipped material can also be spread within the landscaped areas where appropriate to reduce compaction and rebuild soil biota.
2. The alternative option should be to haul plant material off site and dispose of properly. This procedure is required for non-native, invasive and disease affected material. These materials should be hand loaded onto a truck and tightly covered with tarps for transport and disposal off-site.

