

SBCA TREE CONSULTING

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Date: September 20, 2008

TO: Todd Williams, Public Works Supervisor
City of Alameda Public Works Dept.

Locations: 1728 Chapin

Subject: Safety condition of liquidambar tree

Assignment: I was asked to inspect the tree after a recent stem failure causing damage to an adjacent residential structure.

Summary

The tree does not currently appear to be unsafe. This tree can be maintained in a structurally safe condition through regular structural pruning. This will reduce the potential for lateral stem failure. The decay areas that have resulted from prior "heading cuts"¹ will require regular monitoring and pruning to reduce branch weight as deemed appropriate.

Older trees of large stature species also cause more frequent displacement to surrounding hardscape. This is most serious when the planting sites are limited in size and the species is large.

There are many additional liquidambar trees in the City that pose similar safety and root displacement problems. Past pruning has allowed decay to enter many of the scaffold limbs. There appears to be no easy answer. Best advice is to remove and replace ten or so of the most problematic of the liquidambar trees on a yearly basis.

Tree Description and Investigation

The tree has a DBH of 34 ½ inches and is approximately 65 feet tall with a 55 foot spread. The limb that failed has been headed back of the break location and no evidence of the break was available.

Analysis

Having reviewed other arborist documents and spoken with Aaron, it appears that there are a number of possible reasons for the failure. In all cases, stem failure potential could have been significantly reduced through timely pruning to reduce branch "end weight"².

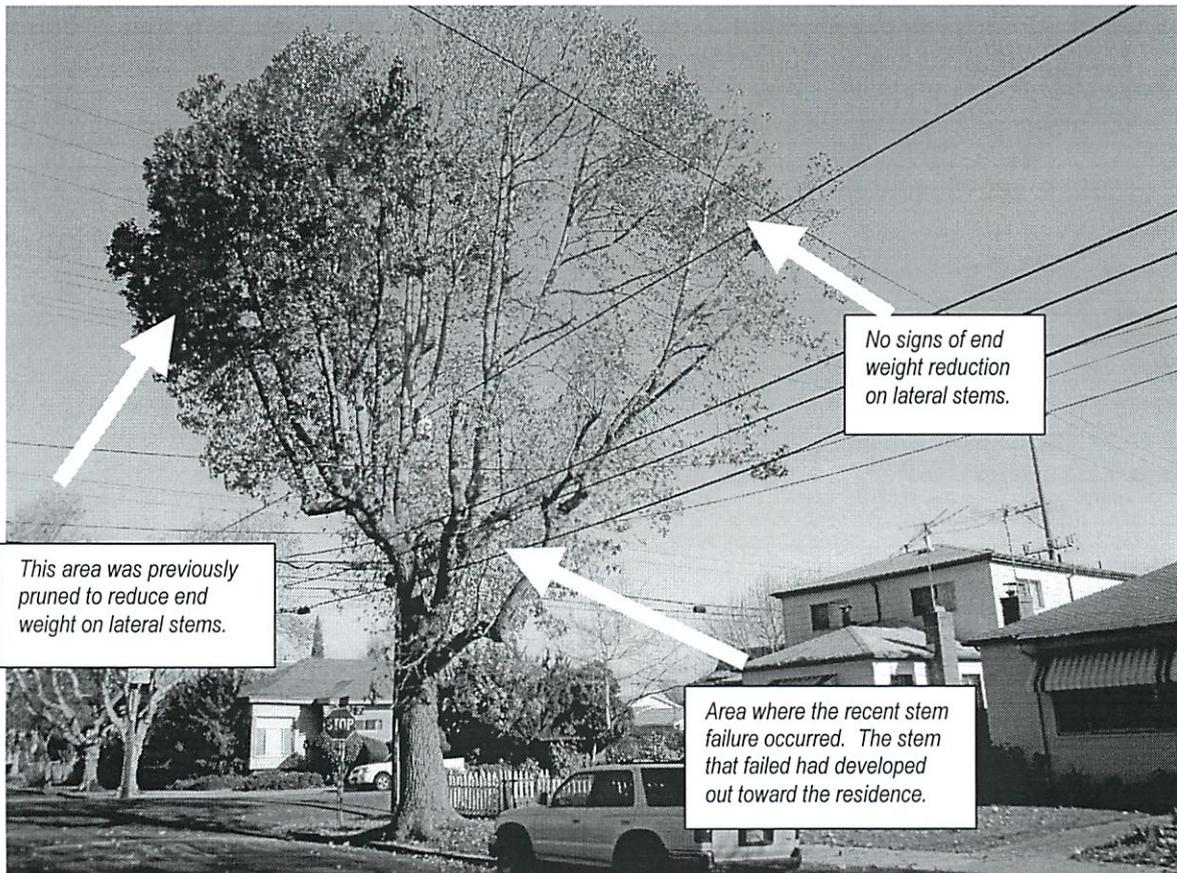
¹ Heading cut is a stem cut that leaves a stub or a branch that is less than ½ the size of the pruning wound.

² Branch end weight refers to stems that grow more laterally. The "end weight" is the outer 1/3 of the stem.

Recommendation

1. Set up an annual monitoring of a large liquidambar trees.
2. Assign a failure potential to all trees.
3. Adopt a five-year pruning cycle for all problematic liquidambar trees. Pruning crew must also monitor the level of decay in the stems.
4. Prune to reduce lateral stem weight and length. Do not to reduce height on an upright stem unless necessitated by attachment angle or level of decay. The liquidambar tree grows to only about 70 feet so it is not necessary to head back the more upright stems in the center of the crown. Stems that have developed more laterally on the perimeter of the crown end weight reduction. Such a procedure reduces the overall length of the stem and reduces overall foliage in the outer 1/3 of the stem through pruning that utilizes only "thinning cuts"³.

Photo below shows the tree. Arrow points to the location where the stem failure occurred. The left side of the tree has received pruning to reduce lateral stem weight. The right side where the stem failure occurred has fewer indications of pruning to reduce lateral stem weight.



END

³ Thinning cut is a pruning cut that removes foliage with a cut at the approximate branch collar and leaves a stem that is at least one-half the diameter as the diameter of the pruning wound. This does not preclude additional pruning to the stem to remain.

