

Client: Emily Neumaier
Project Location: 28 Laurel Avenue, San Anselmo
Inspection Date: July 31, 2019
Arborist: Ben Anderson



Assignment

Emily Neumaier contacted Urban Forestry Associates to request an inspection and arborist report regarding the mature Southern Magnolia (*Magnolia grandiflora*). The tree was reportedly causing damage to the adjacent home. This report is to be used as part of an application for a Tree Removal Permit from the Town of San Anselmo.

Background

The home was reportedly built in the 1930s and is on a perimeter stem wall foundation. The exact remodel history of the home was unknown, but the paint appeared new, as did at least the topcoat of the stucco.

Observations

Species	Southern magnolia
Diameter	Approximately four feet. The property fence prevented actual measurement.
Location	See map in Figure 1. The base of the tree is within one foot of the foundation near the south corner of the home (Figure 4). It sits on the apparent property line between the subject property and the adjacent property to the south (2 Hillcrest Avenue).
Health	Good. Full, healthy canopy (Figure 3). See explanation of condition ratings in Table 1.
Structure ¹	Good.
Form ²	Good.
Damage	There is reportedly some movement of the doors, windows, and floors in the home, though no cracks in the drywall were observed. Several doors are out of plum and will swing open/shut on their own. It is possible the drywall was replaced in recent years. I opened the access hatch to the crawlspace below the home, located on the north corner of the home. Below the home is clean and open. There are several vents that allowed enough light for me to see a large crack in the stem wall adjacent to the tree. It was too dark to obtain a quality photograph and the crack is covered by stucco on the exterior of the home.

Discussion

In my professional experience, the roots of Southern magnolia can be quite aggressive and destructive of hardscape and aging concrete. This tree is particularly healthy and quite large. Given its condition and its proximity to the home, there is a high likelihood of foundation damage from the roots. Though I did not crawl beneath the home, I believe there is very likely a large root from the subject tree associated with the crack in the foundation.

Roots can sometimes be cut and a root barrier installed to mitigate and repair damage. The roots affecting the foundation are the structural roots of the tree, responsible for maintaining stability. The industry standard for root management states:

¹ **Structure** – Overall stability of the tree or its branches. This can be negatively affected by things such as acute angle crotches, decay cavities, strong leans, stem girdling roots, ambrosia beetles, history of failures, etc.

² **Form** – The plant's overall appearance as it relates to its shape or silhouette. Can be negatively affected by crown asymmetries.

“Cutting roots at a distance greater than six times the trunk diameter (dbh) minimizes the likelihood of affecting both health and stability. At this distance, approximately 25% of the root system would be lost. Cutting roots any closer to the tree is more likely to compromise stability.

Linear cuts on one side of a tree can reduce stability when the cut is made at a distance from the trunk that is less than three times the trunk diameter. Severe loss of stability is common when cuts are made at a distance that is less than 1 to 1.5 times the trunk diameter.”

Without a more definite history of the repairs of the home, it is unknown the true level of impact of the tree roots as many cracks may have been cosmetically repaired (i.e. covered with a new topcoat of stucco or drywall mud/texture).

Conclusions

This tree has outgrown its available space and is at a high likelihood of doing further damage to the home's foundation. It is too close to the home for root pruning and root barriers to be a reasonable option. The only way to effectively mitigate the root damage is through immediate whole-tree removal.

SCOPE OF WORK AND LIMITATIONS

Urban Forestry Associates has no personal or monetary interest in the outcome of this investigation. All observations regarding trees in this report were made by UFA, independently, based on our education and experience. All determinations of health condition, structural condition, or hazard potential of a tree or trees at issue are based on our best professional judgment. The health and hazard assessments in this report are limited by the visual nature of the assessment. Defects may be obscured by soil, brush, vines, aerial foliage, branches, multiple trunks, other trees, etc. Even structurally sound, healthy trees can fail during severe storms. Consequently, even a low risk rating is not a guarantee of no risk, hazard, or sound health.

I did not enter the crawlspace beneath the home to look for roots. Nor was any excavation performed to attempt to locate the exact root causing the damage.



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Table 1. Condition ratings table. Taken from *Guide for Plant Appraisal, 10th edition*

Rating category	Condition components		
	Health	Structure	Form
Excellent	High vigor and nearly perfect health with little or no twig dieback, discoloration, or defoliation	Nearly ideal and free of defects.	Nearly ideal for the species. Generally symmetric. Consistent with the intended use.
Good	Vigor is normal for the species. No significant damage due to diseases or pests. Any twig dieback, defoliation, or discoloration is minor.	Well-developed structure. Defects are minor and can be corrected.	Minor asymmetries/deviations from species norm. Mostly consistent with the intended use. Function and aesthetics are not compromised.
Fair	Reduced vigor. Damage due to insects or diseases may be significant and associated with defoliation but is not likely to be fatal. Twig dieback, defoliation, discoloration, and/or dead branches may comprise up to 50% of the crown.	A single defect of a significant nature or multiple moderate defects. Defects are not practical to correct or would require multiple treatments over several years.	Major asymmetries/deviations from species norm and/or intended use. Function and/or aesthetics are compromised.
Poor	Unhealthy and declining in appearance. Poor vigor. Low foliage density and poor foliage color are present. Potentially fatal pest infestation. Extensive twig and/or branch dieback.	A single serious defect or multiple significant defects. Recent change in tree orientation. Observed structural problems cannot be corrected. Failure may occur at any time.	Largely asymmetric/abnormal. Detracts from intended use and/or aesthetics to a significant degree.
Very poor	Poor vigor. Appears to be dying and in the last stages of life. Little live foliage.	Single or multiple severe defects. Failure is probable or imminent.	Visually unappealing. Provides little or no function in the landscape.
Dead			

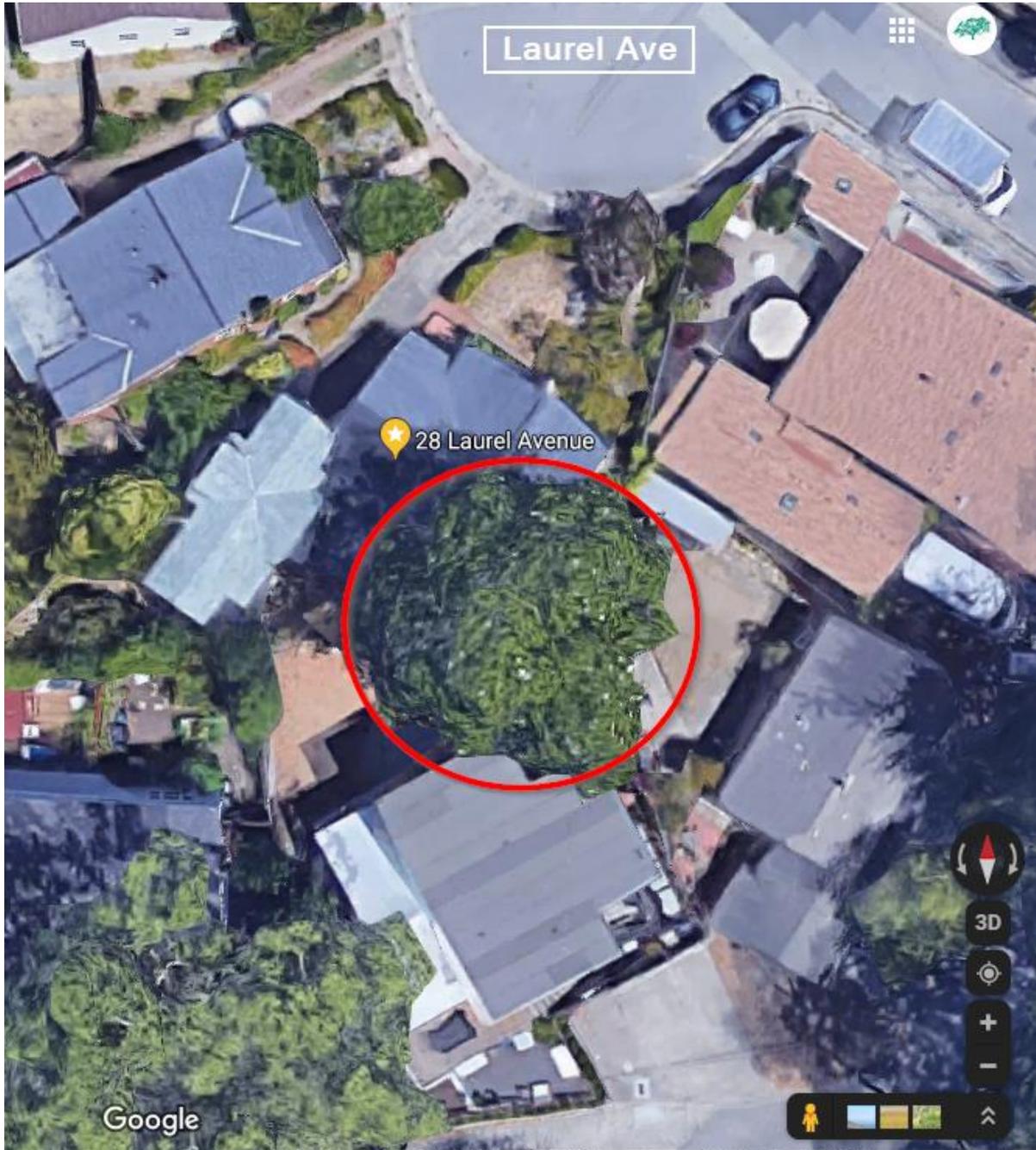


Figure 1. Map of tree location. Canopy of subject tree indicated with red circle.



Figure 2. Subject tree as viewed from the west.



Figure 3. Canopy of subject tree as viewed from the north. Home at 28 Laurel visible in lower right.



Figure 4. Close up of base. Home to left. Property fence to right.