November 10, 2020

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On October 14, 2020, I inspected several trees on the Nepenthe property during the monthly tree walk. The focus of the walk was to address resident/management concerns regarding mature trees on the property. The purpose of this report is to develop mitigation plans for the following trees and my recommendations are below. My recommendations are based on a Basic Visual Inspection. All decisions made based on the recommendations of this report are at the discretion of the Nepenthe Association.

- Redwood (*Sequoia sempervirens)* (Figure 1). I wanted to highlight Nepenthes redwood tree population in regards to health, growth and pruning practice. Nepenthe has a healthy redwood tree population and the average age of these trees currently is between 40-80 years old, these are relatively young trees by redwood standards. Redwood trees are a tree typically found along the coast in the fog belt and are a California native. These trees typically grow in groups and can share root systems. The trees in Nepenthe have been getting supplemental watering every summer to help with the moisture loss during the hot months this helps to prevent stress to these trees that are a ways away from their native environment. Redwood trees can have an upward growth rate from 2'-4' per season were we can see about 4"-8" of growth on the side or branch tips per season as well. The pruning we recommend for redwoods is minimal, limited to general clearance pruning to prevent the trees from growing into the structures and the removal of deadwood. We have reduced several co dominate tops on select few of the trees as well as this is a common failure point for these trees. Due to the size of the tree people are often concerned with the whole tree failing, it is very rare for a redwood to fail at the base or up root. The most common failure of a redwood tree is limb failure or failure of a co dominate top. Redwood trees do not require thinning in the canopy that pruning can actually cause further risk to the trees associated with limb failure and heat stress. The canopy of a redwood is designed to help shade the tree and cool the tree as well as buffer the wind around the tall trees helping with stability. If the canopy is over thinned the wind can pass through the trees causing more branch movement and can actually create a higher risk of limb failure. We typically see limb failure on redwood trees after high wind events. The redwood branch attachments are not strongly attached to the tree. It requires little upward pressure to detach a relatively large limb; this also helps to reduce the wind sail effect on the tree if there is too much wind force on the tree the tree may shed a limb to reduce the sail. Over all these trees provide a great benefit to the community for their beauty and for the habitat they create for the native wildlife as well as contributing to reduce pollutants and helping to reduce temperatures in the community.

- (Zone 5) Trees #No Tag Japanese Maple (*Acer palmatum*), 1426 Commons (Figure 2-3) Two trees in planter area require structural pruning to help with direction of growth and healthy canopy development

- (Zone 5) Trees #No Tag & #1320, Japanese Maple (*Acer palmatum*), 1245 Vanderbilt (Figure 4 & 7) One Tree near patio walk way and one tree next to front entrance requires structural pruning to help with direction of growth and healthy canopy development

- (Zone 5) Tree #No Tag Willow Oak (*Quercus phellos*) in front 1269 Vanderbilt. Tree requires structural pruning to help with direction of growth and healthy canopy development (Figure 5).

- (Zone 5) Tree #No Tag, White Birch (*Betula pendula*) next to 1269 Vanderbilt. (Figure 6) This tree has become stunted in growth due to over planting and is being crowded out by a more aggressive tree. I recommend the removal of this tree to allow for more development room of the healthier tree.

- (Zone 5) Tree No Tag Dogwood (*Cornus nuttallii)*, 1245 Vanderbilt (Figure 7) Tree next to front entrance is overcrowded due to several other trees planted to closely. The tree has not developed a natural structure and the entire canopy is on the roof causing an ongoing clearance issue. I recommend removal of this tree due to the proximity to the home and to allow that other trees in the area more room to grow properly.

- (Zone 5) Tree No Tag Dogwood (*Cornus nuttallii*), 1207 Vanderbilt. (Figure 8) This tree requires structural pruning to help with direction of growth and healthy canopy development

- (Zone 5) Tree #1325, Sweetgum (*Liquidambar styraciflua)*, in front of 1235 Vanderbilt. (Figure 9). Tree has a full and heavy I recommend weight reduction pruning.

- (Zone 5) Tree #1326, Chinese pistashe (*Pistacia chinensis*), (Figure 10) in front of 1235 Vanderbilt. Tree requires structural pruning to help with direction of growth and healthy canopy development

- (Zone 5) Trees #1586, Chinese pistashe (*Pistacia chinensis*), (Figure 11) in front of 1211 Vanderbilt. Tree is in decline due to root related damage. The tree was likely planted root bound causing girdling roots to encircle the root ball causing portions of the root system to decline. I recommend removal and replacement of this tree.

- (Zone 5) Tree # 1471 Dogwood (*Cornus nuttallii*), near 1225 Vanderbilt. (Figure 12) This tree has sustained a major injury and will not likely recover to reach full potential; I recommend removal and replacement of this tree.

- (Zone 5) Tree #1573 Locust (*Robinia pseudoacacia)*, 1215 Vanderbilt (Figure 13). This tree has full and over weighted canopy. I recommend full prune of trees Canopy.

- (Zone 5) Tree #1582 Tulip tree (*Liriodendron tulipifera*), next to 1209 Vanderbilt. (Figure 14). This tree has full and over weighted canopy. I recommend full prune of trees canopy and weight reduction pruning on limb over the roof.

- (Zone 5) Tree #1564, Chinese pistashe (*Pistacia chinensis*), (Figure 15) in green belt area between 1213 and 1155 Vanderbilt. Tree requires weight reduction pruning to help take pressure off of cable system and to prevent failure from inclusion.

- (Zone 5) Trees #1575 #1576, White Birch (*Betula pendula*) (Figure 16-17) between 1213 & 1215 Vanderbilt. Trees have signs of decline in canopy as well as signs of boring insect infestation. I recommend removal and replacement of both trees.

- (Zone 5) Tree #No Tag Maple (*Acer rubrum)* next to 1227 Vanderbilt. (Figure 18) Young tree need structural pruning to encourage proper development.

- (Zone 5) Tree #1463, Sweetgum (*Liquidambar styraciflua),* next to 607 Elmhurst. (Figure 19). The tree canopy is full and heavy I recommend weight reduction pruning.

- (Zone 5) Tree #No Tag, Redbud (*Cercis occidentalis*), 705 Commons Dr. Tree requires structural pruning to help with direction of growth and healthy canopy development (Figure 20)

- (Zone 5) Tree #148 Aleppo Pine (*Pinus halepensis*) 503 Elmhurst Circle. (Figure 21) This tree is one we monitor closely due to the way this tree has developed. I recommend selective limb reduction to help manage canopy weight.

- (Zone 5) Trees #1452 #1450, White Birch (*Betula pendula*) (Figure 22) in front of 201 Elmhurst Circle. Trees have signs of decline in canopy as well as major cavities in the trunk. I recommend removal of these trees, no replacement needed as there are several magnolias already planted in area.

- (Zone 5) Tree #1518, Chinese pistashe (*Pistacia chinensis*), next to 1119 Vanderbilt. Tree requires structural pruning to help with direction of growth and healthy canopy development (Figure 23)

- (Zone 4) Trees #No Tag, Podocarpus (*Podocarpus neriifolius*), (Figures 24-26) trees are in front of the following addresses 1143, 1095, 1173 Vanderbilt. The Podocarpus trees planted around these homes have out grown the planting area and have become a clearance issue for the roof a gutters creating pathways for rodents into homes. I recommend removal of these trees as well as a review of the podocarpus trees planted in Nepenthe to help to mitigate further clearance issues and ongoing maintenance of these plants.

- (Zone 6) Tree # 1932 Dogwood (*Cornus nuttallii*), next to 300 Elmhurst. (Figure 27) This tree has been damaged by sun scalding and will not likely recover to reach full potential; I recommend removal and replacement of this tree.

- (Zone 4) Tree #1290 Crabapple (*Malus x floribunda*) (Figures 28-29) next to 808 Dunbarton Circle. Tree has wood decay fungus present at base of the tree. This is likely cause of the decline in the foliage and cannot be treated. I recommend removal and replacement of this tree.

- (Zone 1) Tree #73, Scarlet oak (*Quercus coccinea*) (Figure 30) next to 1111 Commons Dr. This tree has been on our monitor list for some time now watching the trees response to a bacterial infection causing a canker at the branch attachments. This canker has now become more aggressive in the trees upper canopy causing several limb failures. This is not treatable an at this point I would recommend this trees removal

- (Zone 1) Tree #332 Camphor (*Cinnamomum camphora)* (Figure 31) in front of 11 Colby Ct. This tree is showing signs of decline in canopy with about 50% of the total canopy dead as well as major cavities in the trunk. Due to the extent of the decline I suspect verticilium wilt as a cause of this trees decline and recommend removal of this tree and replacement.

Figure 1

Figure 2


1426
BEWARE
of DOG
Structural pruning for training & development

Figure 3

Figure 4

Figure 5

Figure 6

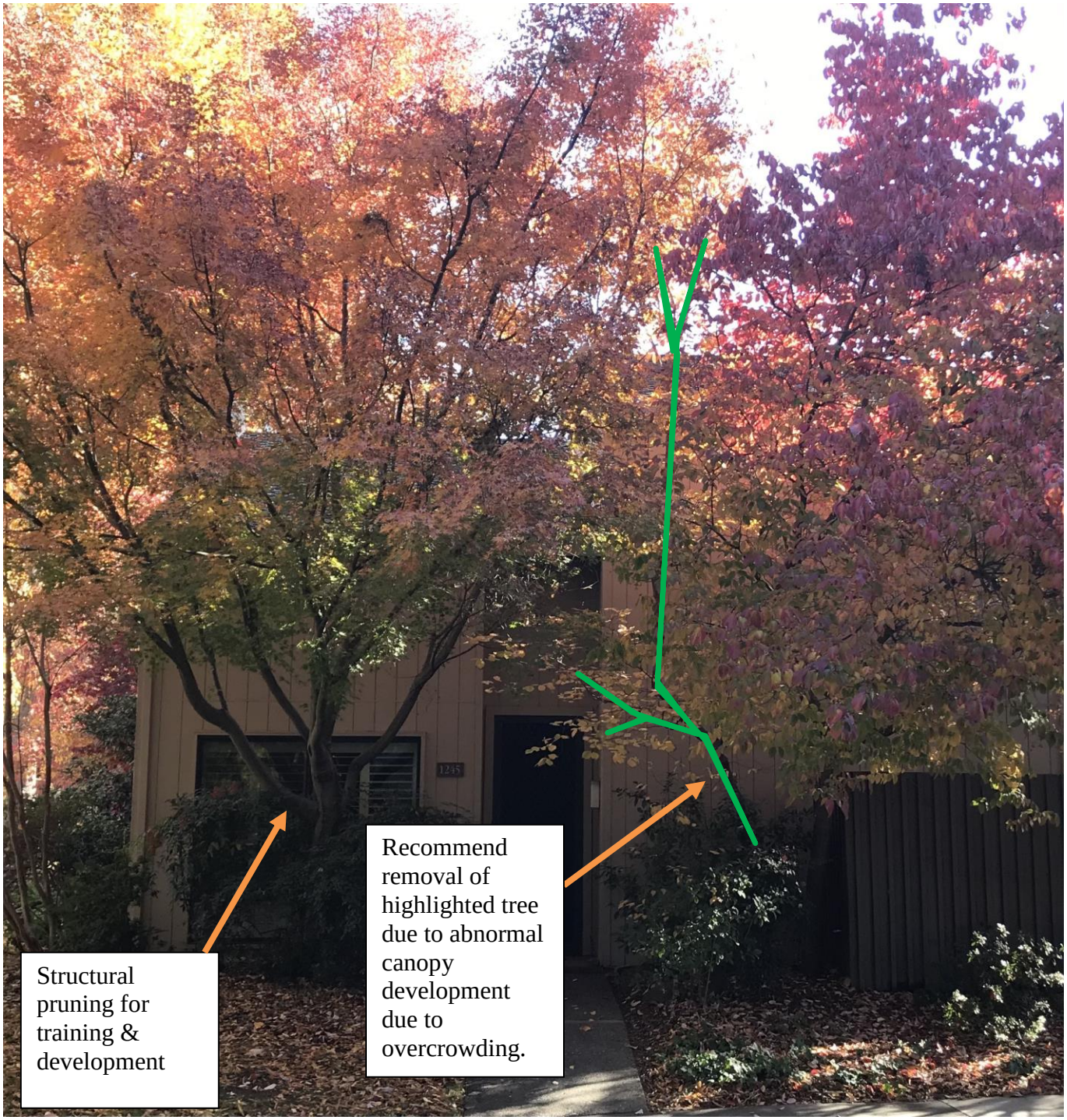
Structural pruning for training & development
Recommend removal of highlighted tree due to abnormal canopy development due to overcrowding.
Figure 7

Figure 8

Figure 9

Figure 10


Trees canopy in severe decline due to insufficient rooting area recommend removal of tree
1209

Figure 11

Figure 12

Figure 13

Figure 14


Cable system helping to support inclusion
Major inclusion
Figure 15


Due to canopy decline and beetle infestation Recommending removal of both trees

Figure 16

Figure 17

Figure 18

Figure 19

Figure 20

Figure 21


Due to canopy decline and decay in main trunk recommend removal of tree

Figure 22

Figure 23


1143
Recommend removal of tree due to proximity to structure for clearance issues as well as rodent pathway into home.

Figure 24

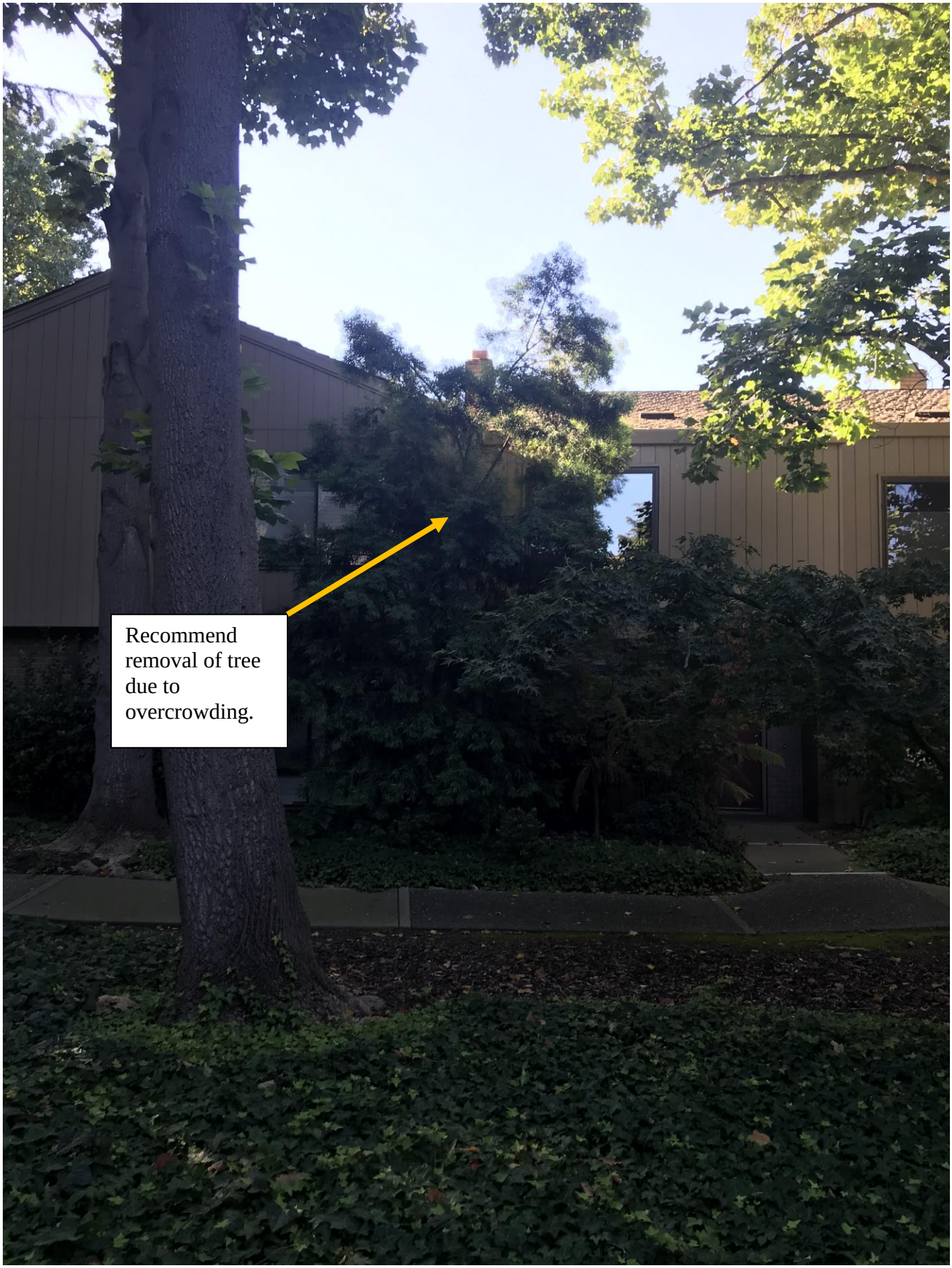

Figure 25


Recommend removal of tree due to proximity to structure for clearance issues as well as rodent pathway into home.

Figure 26


Recommend removal of tree due to decline caused by sun scalding

Figure 27

Figure 28

Figure 29

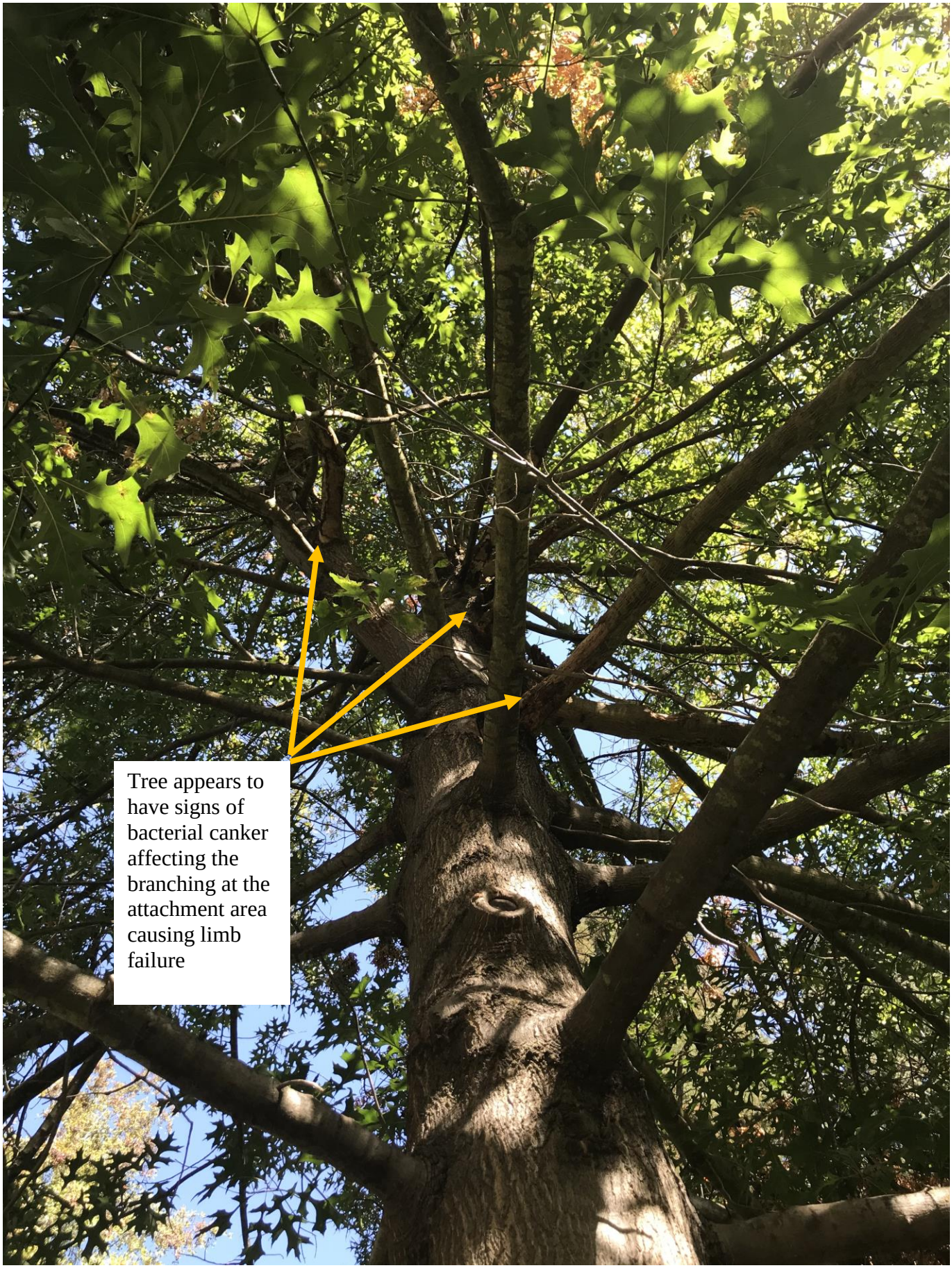
Tree appears to have signs of bacterial canker affecting the branching at the attachment area causing limb failure

Figure 30


Tree appears to have signs of verticilium wilt and is in decline I recommend removal

Figure 31

*This report is based on a basic visual inspection of the trees listed above. It is recommended that a more detailed evaluation of the trees be on a case by case basis at the request of Nepenthe association.

Sincerely,

Paul Dubois
The Grove Total Tree Care
ISA Board Certified Master Arborist WE-9034BUM
Qualified Tree Risk Assessor