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April 10, 2017

\*Redacted\*

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I am writing to summarize the results of my site visit to \*Redacted\*. After viewing 17 trees along the western side of the subject property, I can conclude that *Tree 15 poses a moderate risk* within a one year time frame, and *the other assessed trees have a low risk rating*.

# Background

I met with you on the subject property at noon on Tuesday, February 14. You asked me to perform a risk assessment for the trees growing on a hillside on the western edge of the subject property. You told me that your company owned the subject property and your tenants had requested the removal of all the trees due to a concern regarding their safety.

While I was on site, you and I had a brief phone conversation with your tenant. He told me that his primary concern was safety. He was concerned that a tree would fall and impact a person or the house.

I performed a Level 2 Basic Tree Risk Assessment. My observations were visual-only; I did not use any tools. The survey that you provided me did not show the western edge of the property, and you did not know whether the fence represented the property line. Since you were not able to tell me whether the fence represented the property line or not, I remained on the side of the fence closest to the primary structure on the property to avoid possible trespass.

I only examined targets that you disclosed to me or were readily observable or were readily observable. Target that were not explicitly listed to me and targets that were not on the subject property were not considered for this report.

The basic premise to tree risk assessment to help tree risk managers make an educated decision on how to reduce their risk to tolerable levels. All trees provide benefits, and all trees pose some risk. *Usually the benefits provided by trees outweigh the risks they pose*. The only way to eliminate all tree risk is to eliminate all trees.

#### **Tree Risk Assessment Methodology**

There are three components to a tree risk assessment: likelihood of failure, likelihood of impact, and consequences of failure and impact. For each combination of tree part and target, I rated each of these components. Then I combined them according to International Society of Arboriculture (ISA) Best Management Practice for tree risk assessment using the tables in Figures 1 and 2 to produce a risk rating for each tree part and target combination. Lastly, I assigned an overall risk rating for each tree equal to the risk rating of the tree part and target combination with the highest risk rating. I followed this process for my risk assessment of each of the 17 subject trees.

#### Targets

I assessed three targets in the backyard: the primary residence structure, people, and a porch swing. The porch swing and the residence structure are fixed targets. They are present 24/7, and it is not practical to move them to mitigate risk.

People are mobile targets with an occasional occupancy rate in the backyard. They are infrequently or irregularly in the backyard patio and grassy area. For a large portion of the day, month, week, or year, they are either inside the structure or offsite. People are rarely present on the hillside as indicated by the groundcover of vegetation that is not conducive for walking. There is a lock on the gate on the southwest corner of the property, indicating that the occupancy rate of people on the western side of the fence is rare.

The target zone is defined as the area in which the tree or tree part is most likely to fall if it were to fail. For trees in which the direction of fall was not clear, I assessed the likelihood of impact by assessing all possible directions the tree could fall as weighted equally. For whole tree failure, I defined the target zone as 1 x tree height. For branch failure, I defined the target zone as the dripline of the canopy. For this assignment, I determined target zones by visual approximation only.

# Tree Parts

I assessed three different tree parts that could fail on the subject trees: whole tree failure, branch failure, and co-dominant stem failure.

Whole tree failure may result from root plate failure or trunk failure. In most cases, I did not see any defects that indicated an elevated likelihood of failure. Branch failure is most likely to occur when a tree has compartmentalized off its deadwood, but Eucalyptus trees are known for their species failure profile to have a possible likelihood of branch failure even in the absence of defects.

Co-dominant stems are known for having a possible likelihood of failure. Sometimes trees can deposit adequate response growth to retain co-dominant stem defects for many years, but the defect does represent an elevated likelihood of failure rating. I rated Tree 15's co-dominant stems as having a possible likelihood of failure over the next one year time frame.

# Subject Trees

Tree 1 Tree 2	Tree 1 <i>Eucalyptus globulus</i> – Blue Gum Eucalyptus This tree was recently topped severely. Most of its scaffold branches were pruned to stumps. The direction of fall for this tree is not known; it may fail to the north or to the south. If it were to fail to the north, it could potentially impact the building or a person. Since people have an occasional occupancy rate on site, the likelihood of impacting a person is low if the tree were to fail. Since the tree may fall to the north or the south, the likelihood of impacting the building is medium if it were to fail.
Tree 1 Tree 2	Tree 2 <i>Eucalyptus globulus</i> – Blue Gum Eucalyptus This tree was recently topped severely. Most of its scaffold branches were pruned back to stumps. This tree has a prevailing lean to the south, and the likelihood of it impacting a target on the subject property is low.

A Company	Tree 3 <i>Cupaniopsis anacardioides</i> – Carrotwood This juvenile Carrotwood provides desirable shade for the adjacent porch swing. From my observation of the tree,
	there are no significant defects in the trunk, so I rated the likelihood of whole tree failure as improbable. I rated branches as a possible likelihood of failure given the species failure profile of Carrotwood trees.
	If the whole tree were to fail, some of the upper branches could potentially impact the roof of the primary residence structure. However, because the direction of fall is not known, the tree may fail in a direction that does not impact the structure. Therefore, the likelihood of the whole tree impacting the structure is medium.
	The consequence of impacting the adjacent structure would be minor. Branches may strike the roof tiles, requiring a minor repair job. The repair cost would likely total no more than \$1,000.
	People have an occasional occupancy rate in the backyard, so the likelihood of impacting a person is low.
State of the second	Tree 4 Schinus molle – California Pepper
	This tree is growing on the southern side of the fence, but according to the survey I was provided, it is growing on the subject property. It has a prevailing lean to the south. The likelihood of this tree's failure is improbable.
Carlos and the	I made all of my observations of the subject tree from the northern side of the existing fence.
	If it were to fail, the likelihood of this tree impacting a target on the subject property is very low because it has a prevailing lean to the south and the occupancy rate of its target zone is rare.

Tree 5 Schinus molle – California Pepper This tree is smaller than its neighbor Tree 4. If it were to fail, the likelihood of this tree impacting a target on the subject property is very low because it has a prevailing lean to the south and the occupancy rate of its target zone is rare.
<ul> <li>Tree 6 Schinus molle – California Pepper</li> <li>The likelihood of this tree failing is improbable. I did not observe any trunk or root defects from my perspective on the eastern side of the fence.</li> <li>The direction of fall is not known. If this tree were to fail, it could fail to the east or to the west. If it were to fail, the likelihood of impacting the porch swing is medium. People have an occasional occupancy rate in the backyard, so the likelihood of impacting a person is low.</li> <li>The consequence of impact the porch swing is minor. If a branch were to impact the porch swing, it may cause some damage, but it would cost less than \$1,000 to repair.</li> </ul>

<ul> <li>Tree 7 Schinus terebinthifolius – California Pepper</li> <li>This juvenile tree is healthy and vigorous. It has several co- dominant branch defects, and the likelihood of one of them tearing out is possible. The likelihood of the whole tree failing is improbable.</li> <li>The likelihood of a branch impacting the porch swing is medium because the porch swing only occupies a portion of the target zone. The likelihood of a branch impacting a person is low because of the low occupancy rate of people in the backyard. The direction of fall of this tree is not known, so if it were to fail, it could potentially fall in any direction.</li> <li>The consequence of a branch failing and impacting the porch swing would be minor. The consequence of a branch failing and impacting a person would be severe. The consequence of the whole tree failing and impacting a person would be severe.</li> </ul>
Tree 8 Jacaranda mimosifolia – Mimosa Tree This tree has an improbable likelihood of failure. It is a young tree that has good structure and good vigor. If it were to fail, the likelihood of this tree impacting a target on the subject property is very low because the occupancy rate of its target zone is rare. The consequence of the tree failing and impacting a person would be significant.

<ul> <li>Tree 9 <i>Eucalyptus globulus</i> – Blue Gum Eucalyptus</li> <li>This tree has been topped in the past, but it does not appear to have been pruned for some time. It has a prevailing lean to the east. The grassy area of the yard is within the target zone of this tree, but the primary residence structure is not.</li> <li>The likelihood of failure of this tree is improbable. I did not observe any defects that would indicate an elevated likelihood of failure. I only observed this tree from the eastern side of the fence.</li> <li>The likelihood of impacting a person is low because of the occasional occupancy rate of the backyard. The consequence of impacting a person would be severe.</li> </ul>
Tree 10 <i>Eucalyptus globulus</i> – Blue Gum Eucalyptus There was some gumming of the trunk of this tree that was partially obscured by some bushes between the tree and my point of observation at the fence. Using the information I had available, I assessed the likelihood of this tree's failure as possible because the gumming could potentially indicate a structural inadequacy. More data would be necessary to make a better determination of likelihood of failure. The likelihood of impacting a person is low because of the occasional occupancy rate of the backyard. The consequence of impacting a person would be severe.
<ul> <li>Tree 11 Schinus molle – California Pepper</li> <li>The likelihood of this tree's failure is improbable. I only observed this tree from the eastern side of the fence.</li> <li>If it were to fail, the likelihood of this tree impacting a target on the subject property is very low because the occupancy rate of its target zone is rare.</li> </ul>

AND ALL	Tree 12 Eucalyptus globulus – Blue Gum Eucalyptus
	The likelihood of this tree's failure is improbable. I only observed this tree from the eastern side of the fence.
	If it were to fail, the likelihood of this tree impacting a target on the subject property is low because the occupancy rate of its target zone is occasional.
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	Tree 13 Eucalyptus globulus – Blue Gum Eucalyptus
	The likelihood of this tree's failure is improbable. I only observed this tree from the eastern side of the fence.
	If it were to fail, the likelihood of this tree impacting a target on the subject property is low because the occupancy rate of its target zone is occasional.
	Tree 14 Eucalyptus globulus – Blue Gum Eucalyptus
	The likelihood of this tree's failure is improbable. I only observed this tree from the eastern side of the fence.
	If it were to fail, the likelihood of this tree impacting a target on the subject property is low because the occupancy rate of its target zone is occasional.

Tree 16 Tree 15	Tree 15 <i>Eucalyptus globulus</i> – Blue Gum Eucalyptus This tree has a co-dominant stem defect. Two parallel trunks emerge from the base of this tree with a relatively narrow angle of attachment. This defect is known to have a possible likelihood of failure. Eucalyptus trees are known for their species failure profile to drop branches in the absence of defects. I rated the likelihood of a branch failure as possible. The tree has a trunk with a prevailing lean towards the subject property. If it were to fail, this trunk may be expected to impact the primary residence structure, so the likelihood of impact is high. The likelihood of either the co- dominant trunk or a branch impacting a person is low due to
	<ul> <li>the occasional occupancy rate of the backyard.</li> <li>The consequence of a co-dominant trunk impacting the structure would be severe. The consequence of a co-dominant trunk impacting a person would be severe. The consequence of a branch impacting a person would be severe due to the distance of fall.</li> <li>The overall risk rating of this tree is moderate. The only effective way to reduce this risk to low or zero is to remove the tree.</li> </ul>
Tree 16 Tree 15	<ul> <li>Tree 16 <i>Eucalyptus globulus</i> – Blue Gum Eucalyptus</li> <li>This tree is growing on the north side of the fence along the northern property line. The likelihood of whole tree failure is possible.</li> <li>If Tree 16 were to fail to the south or southeast, Tree 15 would act as a protection factor and deflect Tree 16 to the east or east-southeast. This limits the target zone in which Tree 16 may be expected to fall if it were to fail. The likelihood of impacting the primary residence structure is medium. The likelihood of impacting a person is low due to the occasional occupancy rate of people in the backyard.</li> <li>If this tree were to fail and impact a person, the consequence would be severe. If it were to fail and impact the structure, the consequence would be severe.</li> </ul>



Tree 17 *Ficus benjamina* – Weeping Fig

It appears that this tree is growing on the neighboring property to the north. It is a healthy young tree. The likelihood of failure is improbable. The likelihood of impacting a person is low. The primary residence structure is not likely to be impacted because it is outside the target zone of this tree. The consequence of the whole tree failing and impacting a person would be severe.

#### **Risk Mitigation**

As a risk assessor, my job is to present options for risk mitigation. The property owner or manager's responsibility is to choose one or more that meets the budget and level of risk tolerance. Each mitigation option will have residual risk unless the tree is completely removed:

- 1) *Prune dead branches out of Tree 15*: This would reduce the likelihood of branch failure, but it would not change the overall risk rating of the tree. The residual risk would still be moderate.
- 2) *Top Tree 15 at a height of 25 feet*: Reducing the height of Tree 15 to 25 feet would shrink its target zone. Doing so would reduce the likelihood of impacting the structure from high to low, thereby dropping the risk rating from moderate to low. However, topping an already stressed tree would likely predispose it to death in the years following the mitigation action. Ultimately, topping this tree would require its eventual removal anyway.
- 3) *Remove Tree 15*: Removing this tree would reduce its risk from low to zero. The residual risk of all the remaining trees assessed in this report would have a low risk rating. This is the only effective mitigation strategy that would reduce the risk posed by Tree 15 below moderate.
- 4) *Remove Tree 16:* Removing this tree would reduce its risk from low to zero. The primary residence structure is in the target zone of Tree 16, so removing this tree would eliminate the possibility that Tree 16 could fail and impact the structure. Since this tree is growing on the adjacent property to the north, you will need to obtain permission from the property owner before removing it.
- 5) *Prune the co-dominant stem defects out of Tree 3*: this would reduce the likelihood of branch failure and improve the aesthetic appearance of the tree, but it would not change the overall risk rating of the tree. It is not possible to have a risk rating lower than low unless the tree is removed.
- 6) *Remove Tree 7*: Removing this tree would reduce its risk from low to zero. It would also remove the benefits provided by the tree, including aesthetic appeal and shade for the porch swing.
- 7) *Remove Tree 3*: Removing this tree would reduce its risk from low to zero. It would also remove the benefits provided by the tree, including aesthetic appeal and shade for the porch swing.

- 8) *Remove all trees named in this report*: Removing all trees named in this report would reduce their risk from low to zero. It would also remove the benefits provided by the trees, including property value increases, erosion mitigation, stormwater retention, aesthetic appeal, and shade. This mitigation strategy will require approval of the owners of the adjacent properties. Take caution if this mitigation strategy is chosen: removing trees on neighboring properties without permission may result in a financial liability to the tree owners for the loss.
- 9) *Retain and monitor*: Consider hiring a tree risk assessor to return on an annual basis and after major storms to reassess the retained trees for any changes in their risk rating. A report with this level of detail would not be necessary. A re-inspection would not change the residual risk of the trees, but it will help to mitigate any potential increases in the risk they may pose in the future.

#### **Glossary of Terms**

**Consequences of impact**: The amount of damage or harm caused by a tree or tree part failing and impacting a target. It may be personal injury, property damage, or disruption of an activity.

There are four possible ratings:

- 1) **Severe**: Hospitalization or death of a person, or property damage over \$20,000.
- 2) **Significant**: Personal injury that does not require professional medical care, or property damage costing less than \$20,000 to repair.
- 3) **Minor**: Very minor personal injury, or property damage costing less than \$1,000 to repair.
- 4) **Negligible**: Property damage that can be easily repaired. No personal injury.

**Likelihood of failure**: The chance that a tree or tree part could fall within a specified time frame. There are four possible ratings:

- 1) **Imminent**: Without regard to the assessed time frame, the tree or tree part is about to fail or has already started to fail.
- 2) **Probable**: Within the assessed time frame, the tree or tree part may fail in ordinary weather conditions.
- 3) **Possible**: Within the assessed time frame, the tree or tree part may fail in extreme weather.
- 4) **Improbable**: Within the assessed time frame, the tree or tree part may not fail, even in extreme weather.

Likelihood of impact: The chance that the subject tree would impact the target if it were to fail. This is primarily determined by the occupancy rate of the targets, the direction of the tree's fall, and any potential protection factors. There are four possible ratings:

- 1) **High**: If the tree or tree part were to fail, it may be expected to impact the target.
- 2) **Medium**: If the tree or tree part were to fail, the chance of impacting the target is approximately 50/50.
- 3) **Low**: If the tree or tree part were to fail, it would be unlikely to impact the target.
- 4) **Very Low**: If the tree or tree part were to fail, the chance of impacting the target is remote.
- **Mobile target**: A target that is constantly moving or stopping intermittently. Such targets include people, animals, bicycles, and vehicles.
- **Movable target**: A target that may be relocated as a mitigation strategy.

Occupancy rate:	<ol> <li>The amount of time that a mobile target is present in the target zone.</li> <li>There are four possible ratings:         <ol> <li>Constant: Within the assessed time frame, the target is always or nearly always present in the target zone, 20-24 hours per day.</li> <li>Frequent: Within the assessed time frame, the target is present in the target zone for a large portion of the day, month, week, or year, averaging 4-20 hours per day.</li> </ol> </li> <li>Occasional: Within the assessed time frame, the target is infrequently or intermittently present in the target zone, averaging 0.25-4 hours per day.</li> <li>Rare: Within the assessed time frame, the target is present in the target zone for a very small portion of time, averaging 0.25 hours per day or less.</li> </ol>
Risk Rating:	<ul> <li>The combination of likelihood of failure, likelihood of impact, and consequences of impact.</li> <li>There are four possible ratings: <ol> <li>Extreme: access to the target zone should be restricted immediately and mitigation should take place as soon as possible.</li> <li>High: mitigation should take place as soon as practical.</li> <li>Moderate: mitigation should take place as soon as pruning cycle allows.</li> </ol> </li> <li>Low: The risk may be mitigated as pruning cycle allows, or the tree may be retained and monitored.</li> </ul>
Static Target:	A target that does not move. It is present in 24 hours per day, seven days per week. Building and landscape fixtures are considered fixed targets.
Target:	A person that could be injured, property being damaged, or activities that could be disrupted by a failure of a tree or tree part.
Target zone:	The area in which a tree or tree part can reasonably be expected to fall if it were to fail.
Time frame:	The period of time over which the likelihood of failure is assessed. Time frame is often one year, but it may be modified to meet the needs of the client. For this assignment, I used a timeframe of one year.

#### Limitations

I relied upon historical information regarding the site and the subject tree that you provided to me. For purposes of this report, I assumed all of the information you gave me to be true. If any of the information provided to me is found to be inaccurate, the conclusions in this report may be invalidated.

My observations are based on a strictly visual inspection of the property, and some hidden or buried symptoms and signs may not have been observed. I did not conduct excavation, coring, or aerial inspection to make observations. Specialty arborists would be needed to conduct root crown inspections and extent-of-decay analysis on the tree, if these additional inspections are desired. Because the property line was not known, my observations were made from only one side of the fence shown in the report. If any tree defects were present but not observable from my perspective by the fence, they were not included in this risk assessment.

Although the condition of the trees will change throughout the year, my analysis is only based on the observations I gathered at the time of inspection. I do not guarantee the safety, health, or condition of the trees. There is no warranty or guarantee, expressed or implied, that problems or deficiencies in the trees may not arise in the future.

Arborists are tree specialists who use their knowledge, education, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to structural failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning, and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

# Conclusion

For a one-year time frame, the risk of Tree 15 is moderate, and the risk of all other subject trees is low. The only effective mitigation action that would reduce the risk rating of Tree 15 is removal. Evaluate the risk/benefit tradeoff for the trees that pose low risk before considering them for removal.

After reading this risk assessment report, your responsibility as tree risk manager is to determine your risk tolerance threshold and budget. You will use those to determine appropriate mitigation actions, if any.

If you have further questions, feel free to give me a call or email.

James Komen Board Certified Master Arborist #WE-9909B Registered Consulting Arborist #555 Class One Arboriculture Inc. 818-495-5344

# **Photos and Figures**

Likelihood of	Likelihood of Impacting the Target												
Failure	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									

**Figure 1**: Risk assessment matrix (1 of 2). This matrix synthesizes the likelihood of failure and the likelihood of impacting the target.

Likelihood of Failure & Impact Very Likely	Consequences												
Failure & Impact	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									

**Figure 2**: Risk assessment matrix (2 of 2). This matrix synthesizes the likelihood of failure & impact and the consequences of impact.

Site Map



**Figure 3**: Site map showing the subject trees and estimated target zones of one times tree height for several trees. The porch swing is shown in blue, and the fence is shown is purple. Trees are color-coded based on their overall risk rating. Trees with a low risk rating are marked green; trees with a moderate risk rating are marked yellow.

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16 Eucalyptus globulus 16 Eucalyptus globulus	16 Eucalyptus globulu		15 Eucalyptus globulus	15 Eucalyptus globulus		15 Eucalyptus globulus	14 Eucalyptus globulus	13 Eucalyptus globulus	12 Eucalyptus globulus	11 Schinus molle	10 Eucalyptus globulus	9 Eucalyptus globulus	8 Jacaranda mimosifoli Mimosa Tree	7 Schinus terebinthij	7 Schinus terebinthij	7 Schinus terebinthij	6 Schinus molle	6 Schinus molle	5 Schinus molle	4 Schinus molle	3 Cupaniopsis anacardi Carrotwood		3 Cupaniopsis anacardi Carrotwood	3 Cupaniopsis anacardi Carrotwood	2 Eucalyptus globulus	2 Eucalyptus globulus	1 Eucalyptus globulus	1 Eucalyptus globulus	Tree # Species
	L	<i>is</i> Blue Gum Eucalyptus Whole Tree	is Blue Gum Eucalyptus Branch	Is Blue Gum Eucalyptus Co-dom trunk Possible		/s  Blue Gum Eucalyptus  Co-dom trunk  Possible	is Blue Gum Eucalyptus Whole Tree	IS Blue Gum Eucalyptus Whole Tree	<i>is</i> Blue Gum Eucalyptus Whole Tree		<i>is</i> Blue Gum Eucalyptus Whole Tree	is Blue Gum Eucalyptus Whole Tree	foli Mimosa Tree	Schinus terebinthifoli Brazilian Pepper	Schinus terebinthifoli Brazilian Pepper	Schinus terebinthifoli Brazilian Pepper	California Pepper	Califomia Pepper	Califomia Pepper	California Pepper	rdi Carrotwood		rdi Carrotwood	rdi Carrotwood	is Blue Gum Eucalyptus Whole Tree	is Blue Gum Eucalyptus Whole Tree	IS Blue Gum Eucalyptus Whole Tree	is Blue Gum Eucalyptus Whole Tree	Common Name
Whole Tree		Whole Tree	Branch	Co-dom trunk		Co-dom trunk	s Whole Tree	Whole Tree	Whole Tree	Whole Tree	Whole Tree	Whole Tree	Whole Tree	Branch	Branch	Whole Tree	Whole Tree	Whole Tree	Whole Tree	Whole Tree	Branch		Whole Tree	Whole Tree	Whole Tree	Whole Tree	Whole Tree	Whole Tree	Tree Part
Possible		Possible	Possible	Possible		Possible	Improbable	Improbable	Improbable	Improbable	Possible	Improbable	Improbable	Possible	Possible	Improbable	Improbable	Improbable	Improbable	Improbable	Possible		Improbable	Improbable	Improbable	Improbable	Improbable	Improbable	Likelihood of Failure Target
Building	2	Person	Person	Building		Person	Person	Person	Person	Person	Person	Person	Person	Porch Swing Medium	Person	Person	Porch Swing Medium	Person	Person	Person	Person		Person	Building	Building	Person	Building	Person	Target
IVIEUIUIII	Applicant and a second s	Low	Low	High		Low	Low	Low	Low	Very Low	Low	Low	Very Low	Medium	Low	Low	Medium	Low	Very Low	Very Low	Low		Low	Medium	Low	Low	Medium	Low	Likelihood of Impact Consequences Risk Rating Notes
Severe	)	Severe	Severe	Severe		Severe	Severe	Severe	Severe	Severe	Severe	Severe	Severe	Minor	Severe	Severe	Minor	Severe	Severe	Severe	Significant		Severe	Minor	Severe	Severe	Severe	Severe	Consequence
LOW		Low	Low	Moderate		Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low		Low	Low	Low	Low	Low	Low	s Risk Rating
may be deflected by tree 15 away from building		people have occasional occupancy rate, so likelihood of impact is low	people have occasional occupancy rate, so likelihood of impact is low	likelihood of	trunk is leaning towards building, co-dominant stem has possible	people have occasional occupancy rate, so likelihood of impact is low	people have occasional occupancy rate, so likelihood of impact is low	people have occasional occupancy rate, so likelihood of impact is low	people have occasional occupancy rate, so likelihood of impact is low	people do not walk within target zone of this tree	people have occasional occupancy rate, so likelihood of impact is low	people have occasional occupancy rate, so likelihood of impact is low	people do not walk within target zone of this tree	narrow branch attachment points may fail in extreme weather	narrow branch attachment points may fail in extreme weather	people have occasional occupancy rate, so likelihood of impact is low	direction of fall is not known, damage to swing would be < \$1000	people do not walk within target zone of this tree	people do not walk within target zone of this tree	people do not walk within target zone of this tree	people not likely to be present under tree in extreme weather	co-dominant branch attachments may fail in extreme weather,	people have occasional occupancy rate, so likelihood of impact is low	may scrape roof tiles, but not cause significant damage	tree was topped severely, leaning away from subject property	tree was topped severely, leaning away from subject property	tree was topped severely, direction of fall is not known	tree was topped severely, direction of fall is not known	gNotes

**Figure 4**: Results of the tree risk assessment for every assessed tree, tree part, and target combination. The only tree part and target combination with a moderate risk rating was Tree 15's co-dominant stem failing and impacting the building.



**Figure 5**: Looking southwest at Tree 1 and Tree 2. Although they are on the south side of the fence, the survey I was provided indicated that these trees were growing on the subject property. They have both been severely topped in the past.



**Figure 6**: Looking west at Tree 3. This is a healthy juvenile carrotwood tree that provides shade for the adjacent porch swing. It has an improbable likelihood of failure.



**Figure 7**: Looking southwest at Tree 4. This tree is growing to the south of the fence, but according to the survey I was provided, it is growing on the subject property. If it were to fail, the likelihood of impacting a target on the subject property is very low.



**Figure 8:** Looking southwest at Tree 5. This tree is growing to the south of the fence, but according to the survey I was provided, it is growing on the subject property. If it were to fail, the likelihood of impacting a target on the subject property is very low.



**Figure 9**: Looking southwest at Tree 6. This tree is growing to the southwest of the fence, but according to the survey I was provided, it is growing on the subject property. If it were to fail, the likelihood of impacting a person on the subject property is very low. It has a medium likelihood of imapcting the porch swing (out of frame, right).

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**Figure 10**: Looking west at Tree 7. This healthy pepper tree has some co-dominant branch defects that could potentially be pruned off to reduce the likelihood of branch failure. The likelihood of whole tree failure is improbable. If a branch were to fail, it may impact the porch swing (below left).



**Figure 11**: Looking southwest at Tree 8. This tree is growing to the west of the fence, but according to the survey I was provided, it is growing on the subject property. If it were to fail, the likelihood of impacting a target on the subject property is very low.



**Figure 12**: Looking west at Tree 9. This tree is growing on the western side of the fence. This tree has been topped in the past, but it does not appear to have been pruned for some time. It has a prevailing lean to the east. The grassy area of the yard is within the target zone of this tree, but the primary residence structure is not.

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**Figure 13**: Looking west at Tree 10. There was some gumming of the trunk of this tree that was partially obscured by some bushes between the tree and my point of observation at the fence. The likelihood of impacting a person is low because of the occasional occupancy rate of the backyard.



**Figure 14**: Looking south at Tree 11. This tree is growing to the west of the fence. If it were to fail, the likelihood of impacting a target on the subject property is very low.



**Figure 15**: Looking west at Tree 12. This tree is growing on the western side of the fence. The grassy area of the yard is within the target zone of this tree, but the primary residence structure is not. The likelihood of impacting a person is low because of the occasional occupancy rate.



**Figure 16**: Looking northwest at Tree 13. This tree is growing on the western side of the fence. The grassy area of the yard is within the target zone of this tree, but the primary residence structure is not. The likelihood of impacting a person is low because of the occasional occupancy rate.



**Figure 17**: Looking northwest at Tree 14. This tree is growing on the western side of the fence. The grassy area of the yard is within the target zone of this tree, but the primary residence structure is not. The likelihood of impacting a person is low because of the occasional occupancy rate.



**Figure 18**: Looking north at Tree 15 and Tree 16. Tree 15 has a co-dominant stem defect and some deadwood present in the canopy. Tree 16 is growing to the north of the fence. If Tree 16 were to fail to the south, it may be deflected to the east or east-southeast by Tree 15.



**Figure 19**: Looking north at Tree 17. This is a healthy Weeping Fig. I rated the likelihood of failure as improbable. The building is not within its target zone. People are rarely within its target zone.



**Figure 20**: Looking northeast at the target zone for Tree 15 and Tree 16. The primary residence structure is within the target zone. The southern co-dominant trunk of Tree 15 has a high likelihood of impacting the structure if it were to fail. Tree 16 has a medium likelihood of impacting the structure because it could potentially be deflected by Tree 15 or fail away from the structure.



**Figure 21**: Looking southwest at the target zone for Tree 15 (upper right of frame). People in the grassy area of the yard have an occasional occupancy rate. The building is within the target zone of Tree 15.