Tree Management Experts

Consulting Arborists

3109 Sacramento Street
San Francisco, CA 94115

Member, American Society of Consulting Arborists
Certified Arborists, Tree Risk Assessment Qualified

City of Pacifica
Department of Public Works
Attn: Gino Assereto
151 Milagra Dr.
Pacifica, CA 94044

RE: Cypress Trees on Minerva Ave.

Date: 4/26/23

ARBORIST REPORT

Assignment

- Provide inspections and tree risk assessments for 16 mature Monterey cypress (*Hesperocyparis macrocarpa*) street trees located on Minerva Avenue.
- Conduct inspections using ground level analysis, city-provided aerial lift system and a drone.
- Provide an Arborist Report of findings and recommendations.

Background

Following several waves of storms that hit Pacifica this winter, city staff and residents were concerned about the condition of the Monterey cypress (*Hesperocyparis macrocarpa*) trees along Minerva Avenue.

Several of the trees partially failed or lost large branches in the course of the storms. While on site crews were cleaning up dead, broken, and hanging branches.

Observations

We inspected the trees on March 31 and April 4, 2023.

On March 31 we used a city provided lift to inspect defects in the tree aloft. The same day we captured imagery using a small drone to inspect areas inaccessible from the lift.

We returned on April 4 to complete the inspections and our risk assessments.

A separate ISA Basic Tree Risk Assessment Form was completed for each tree and is attached to this report.

All trees were found to be either High or Extreme Risk.

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Discussion

These trees are large and overmature specimens that have reached the end of their useful life, they have numerous defects and have been severely compromised by recent storms.

Some of the trees could likely be mitigated through pruning. The removal of the more severely compromised trees will be necessary, and consideration of any remaining trees newly exposed to new wind stresses will require additional pruning. These trees have grown as a grove and because of their close association, are not adapted to the new wind forces that will be present.

Conclusions & Recommendations

Based on the attached tree risk assessments, it is recommended that the trees be removed.

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Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Title and ownership of all property considered are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes or other governmental regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
4. Various diagrams, sketches and photographs in this report are intended as visual aids and are not to scale, unless specifically stated as such on the drawing. These communication tools in no way substitute for nor should be construed as surveys, architectural or engineering drawings.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior written or verbal consent of the consultant.
7. This report is confidential and to be distributed only to the individual or entity to whom it is addressed. Any or all of the contents of this report may be conveyed to another party only with the express prior written or verbal consent of the consultant. Such limitations apply to the original report, a copy, facsimile, scanned image or digital version thereof.
8. This report represents the opinion of the consultant. In no way is the consultant's fee contingent upon a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
9. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule, an agreement or a contract.
10. Information contained in this report reflects observations made only to those items described and only reflects the condition of those items at the time of the site visit. Furthermore, the inspection is limited to visual examination of items and elements at the site, unless expressly stated otherwise. There is no expressed or implied warranty or guarantee that problems or deficiencies of the plants or property inspected may not arise in the future.

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Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near 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 the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. 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. An arborist 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 the trees.

Tree risk assessment is not tree risk management. The arborist typically has the distinct and separate role of being the tree risk assessor. The tree risk manager is typically the property owner or the agent thereof. Tree risk management should consider tree risk management and may consider other factors related to property management decision making.

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Certification of Performance

I, Roy C. Leggitt, III, Certify:

- That we have inspected the trees and/or property evaluated in this report. We have stated findings accurately, insofar as the limitations of the Assignment and within the extent and context identified by this report;
- That we have no current or prospective interest in the vegetation or any real estate that is the subject of this report, and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated herein are original and are based on current scientific procedures and facts and according to commonly accepted arboricultural practices;
- That no significant professional assistance was provided, except as indicated by the inclusion of another professional report within this report;
- That compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I am a member in good standing of the American Society of Consulting Arborists and a member and Certified Arborist with the International Society of Arboriculture.

I have attained professional training in all areas of knowledge asserted through this report by completion of a Bachelor of Science degree in Plant Science, by routinely attending pertinent professional conferences and by reading current research from professional journals, books and other media.

I have rendered professional services in a full-time capacity in the field of horticulture and arboriculture for more than 34 years.

Signed: Roy C. Leggitt, III

Certified Arborist WE-0564A

Date: *4/26/2023*

roy@treemanagementexperts.con
Cell (415) 606-3610

Tree Management Experts

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Certification of Performance

I, Aaron Wang, Certify:

- That we have inspected the trees and/or property evaluated in this report. We have stated findings accurately, insofar as the limitations of the Assignment and within the extent and context identified by this report;
- That we have no current or prospective interest in the vegetation or any real estate that is the subject of this report, and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated herein are original and are based on current scientific procedures and facts and according to commonly accepted arboricultural practices;
- That no significant professional assistance was provided, except as indicated by the inclusion of another professional report within this report;
- That compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.

I am a member and Certified Arborist with the International Society of Arboriculture.

I have attained professional training in all areas of knowledge asserted through this report by completion of a Bachelor of Science degree in Forestry and Natural Resources, by routinely attending pertinent professional conferences and by reading current research from professional journals, books and other media.

I have rendered professional services in a full-time capacity in the field of horticulture and arboriculture for more than 10 years.

Signed: _____
Certified Arborist MW-5597A

Date: *4/26/2023*

aaron@treemanagementexperts.com
Cell (847) 630-3599

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 583 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 59.0" Height 80ft Crown spread dia. 80ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2 – occasional, 3 – frequent, 4 – constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ ____% **Aspect** ____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 70 % Describe ____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic ____% Necrotic ____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** ____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ ____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ ____

Recent or expected change in load factors ____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 50 %

Dead twigs/branches☒ 5 % overall Max. dia. 2"

Broken/Hangers Number 1 Max. dia. 6"

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other ____

Cracks☐ ____ Lightning damage☐

Codominant☒ ____ Included bark☒

Weak attachments☒ ____ Cavity/Nest hole 50 % circ.

Previous branch failures☒ ____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☒ ____

Response growth Good

Condition(s) of concern Scaffold Tearout

Part Size 18" Fall Distance 50ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern ____

Part Size ____ Fall Distance ____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☒

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 5 % circ. Depth 8" Poor taper☒

Lean 8 ° Corrected? No

Response growth Poor

Condition(s) of concern None

Part Size ____ Fall Distance ____

Load on defect N/A☒ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☒ Possible☐ Probable☐ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ ____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 12"

Root plate lifting☒ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 59" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

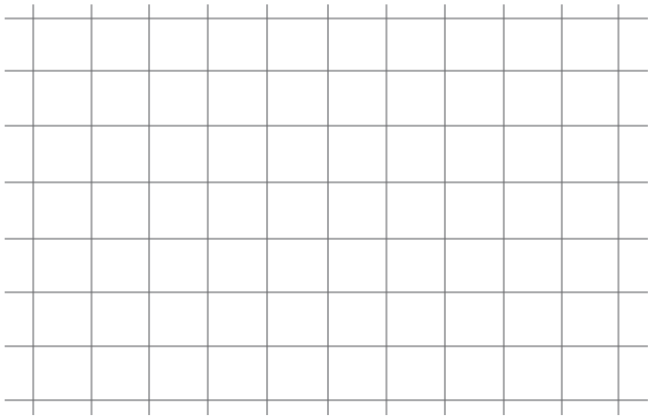
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	None	X							X	X							X	Low
Vehicles			X							X	X							X	Low
Pedestrians			X						X		X							X	Low
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

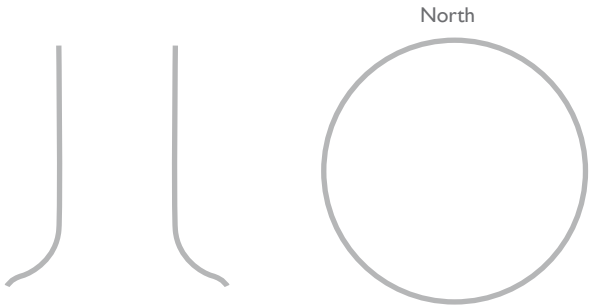
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	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





Notes, explanations, descriptions

Multiple recent failures, tree is falling apart, extensive decay on top of 2 lower scaffolds

Mitigation options

1. Remove Tree (recommended) — **Residual risk** None
2. End-Weight Reduction, drastic pruning — **Residual risk** High
3. _____ — **Residual risk** _____
4. _____ — **Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☒ Extreme ☐

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 584 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 30.8" Height 80ft Crown spread dia. 40ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 60 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 15 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☐ Cankers/Galls/Burls☐ Sapwood damage/decay☐

Conks☐ Heartwood decay☐ _____

Response growth Good

Condition(s) of concern Scaffold Tearout

Part Size 6" Fall Distance 70ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☐ Abnormal bark texture/color☒

Codominant stems☐ Included bark☐ Cracks☐

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper☒

Lean 8 ° Corrected? No

Response growth Poor

Condition(s) of concern Mid-stem Failure

Part Size 24" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☐ Decay☐ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 12"

Root plate lifting☒ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 30.8" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Risk Categorization

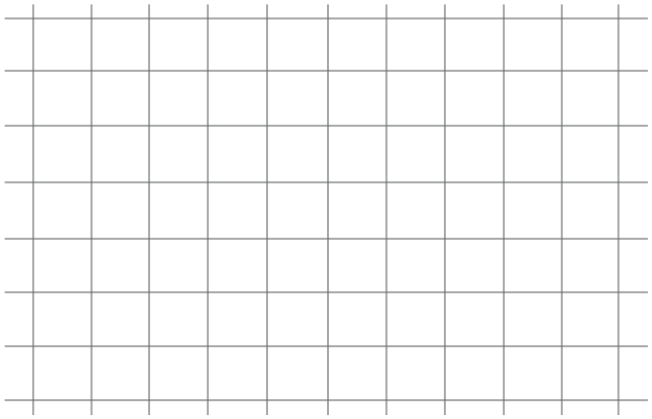
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Mid-stem Failure		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low
Structures	Roots	Uprooting			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate

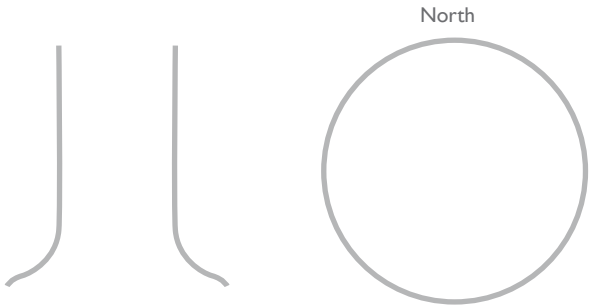
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

Tree is partially uprooted, sapsucker damage indicates internal decay, low LCR no taper

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☒ Extreme ☐

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 585 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 35.2" Height 100ft Crown spread dia. 50ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 50 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 15 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☐ Cankers/Galls/Burls☐ Sapwood damage/decay☐

Conks☐ Heartwood decay☐ _____

Response growth Good

Condition(s) of concern Scaffold Tearout

Part Size 6" Fall Distance 70ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☐ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper☒

Lean 8 ° Corrected? No

Response growth Poor

Condition(s) of concern Mid-Stem Failure

Part Size 24" Fall Distance 100ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☒

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 6"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 35.2" Fall Distance 100ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Risk Categorization

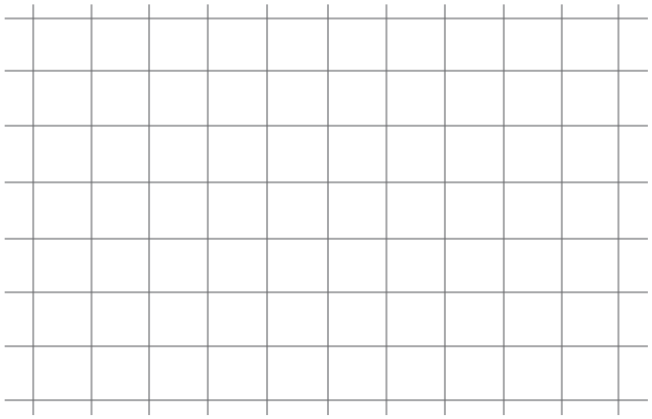
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Mid-Stem Failure				X				X				X				X	Extreme
Vehicles						X				X				X				X	Extreme
Pedestrians						X			X				X					X	High
Structures	Roots	Uprooting			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate

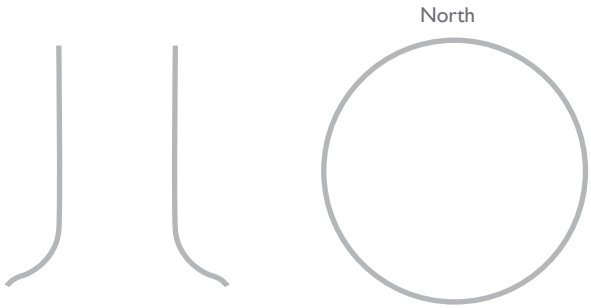
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

low LCR, no taper, no buttresses

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 586 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 34.0" Height 80ft Crown spread dia. 40ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 50 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 30 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☐ Cankers/Galls/Burls☐ Sapwood damage/decay☐

Conks☐ Heartwood decay☐ _____

Response growth Good

Condition(s) of concern Scaffold Tearout

Part Size 6" Fall Distance 70ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☐ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper☒

Lean 12 ° Corrected? No

Response growth Poor

Condition(s) of concern Mid-Stem Failure

Part Size 24" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 8"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 34.0" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Risk Categorization

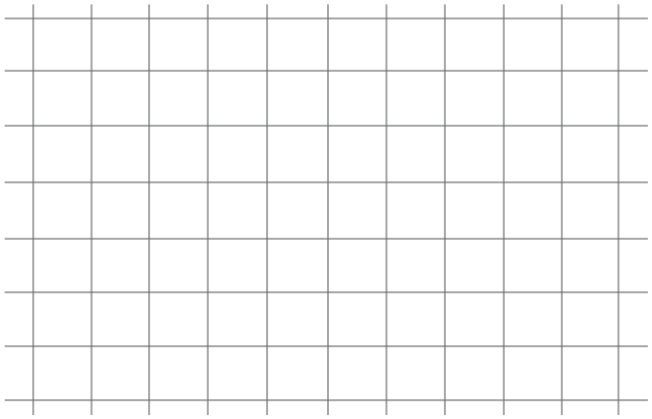
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Mid-Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate

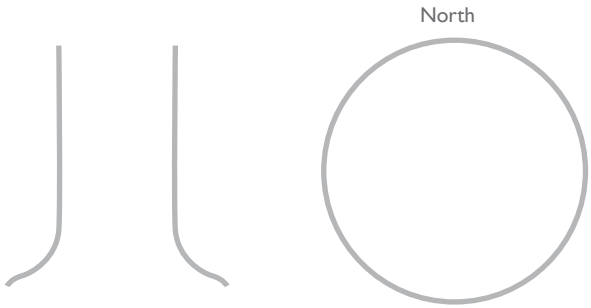
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

low LCR, one-sided

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☒ Extreme ☐

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

ISA Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 587 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 58.5" Height 110ft Crown spread dia. 80ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 50 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☐ LCR 30 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☒ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☐ Cankers/Galls/Burls☐ Sapwood damage/decay☐

Conks☐ Heartwood decay☐ _____

Response growth Good

_____ Condition(s) of concern _____

Scaffold Tearout

Part Size 12" Fall Distance 50ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☒ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 50 % circ. Depth 24" Poor taper☒

Lean 5 ° Corrected? No

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 30" Fall Distance 100ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☒

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☒

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☒ Cut/Damaged roots☒ Distance from trunk 24"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 58.5" Fall Distance 110ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

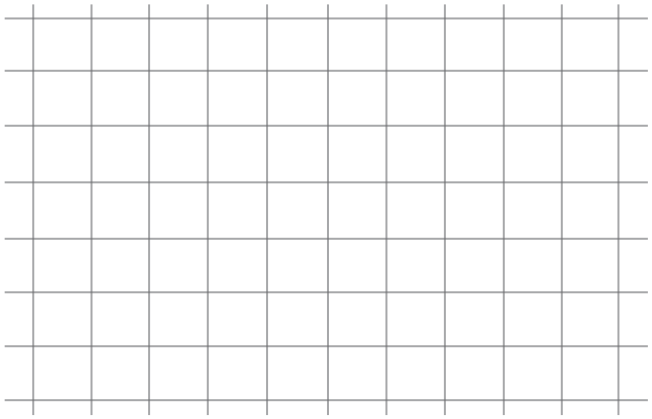
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure				X				X				X				X	Extreme
Vehicles						X				X				X				X	Extreme
Pedestrians						X			X				X					X	High
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

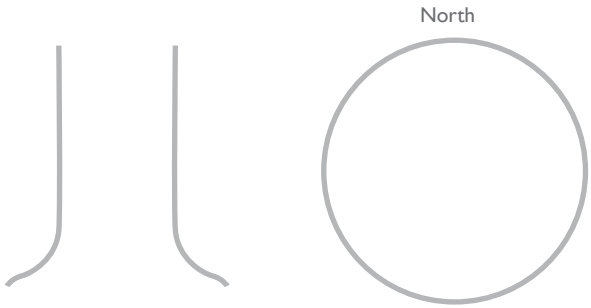
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

co-dominant stems with 30' long seam, upper 10' with split, stems separating
deacyed, dead bark, raccoon in residence

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 588 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 55.0" Height 80ft Crown spread dia. 60ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ ____% **Aspect** ____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 70 % Describe ____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic ____% Necrotic ____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** ____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ ____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ ____

Recent or expected change in load factors ____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 30 %

Dead twigs/branches☐ ____% overall Max. dia. ____

Broken/Hangers Number 6 Max. dia. 6"

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other ____

Cracks☒ ____ Lightning damage☐

Codominant☐ ____ Included bark☒

Weak attachments☒ ____ Cavity/Nest hole ____% circ.

Previous branch failures☒ ____ Similar branches present☒

Dead/Missing bark☐ Cankers/Galls/Burls☐ Sapwood damage/decay☐

Conks☐ Heartwood decay☐ ____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 8" Fall Distance 50ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern ____

Part Size ____ Fall Distance ____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☒ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 10 % circ. Depth 12" Poor taper☒

Lean 5 ° Corrected? No

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 38" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☒

Dead☐ Decay☐ Conks/Mushrooms☐

Ooze☐ Cavity☒ 5 % circ.

Cracks☒ Cut/Damaged roots☒ Distance from trunk 6"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 55.0" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

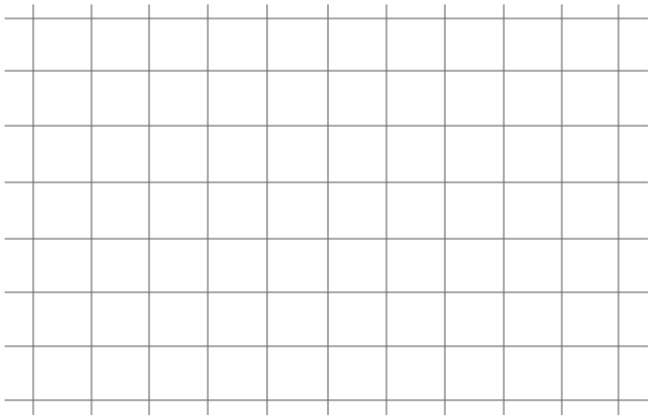
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

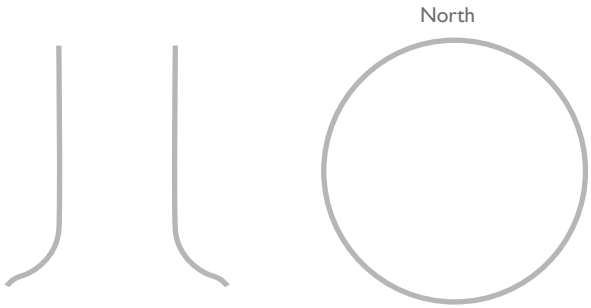
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

most of top broke out in recent storms

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☒ Extreme ☐

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 589 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 55.9" Height 80ft Crown spread dia. 60ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 50 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 25 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☒ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☒ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 8" Fall Distance 60ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☒ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 10 % circ. Depth 30" Poor taper☒

Lean _____° Corrected? _____

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 30" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☒

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 55.9" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

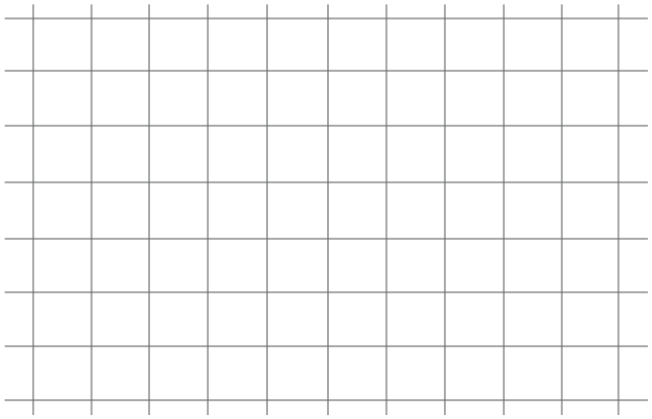
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

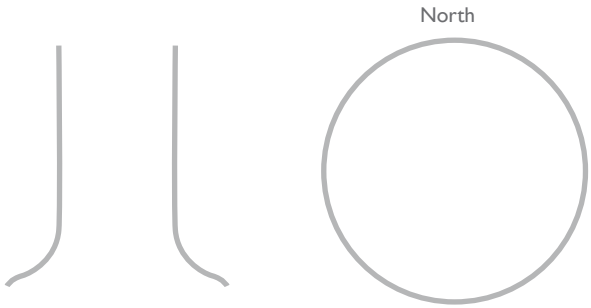
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

vertical cavity between codominant stems, 30" deep using tile probe

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☒ Extreme ☐

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

ISA Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 590 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 49.6" Height 100ft Crown spread dia. 60ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 70 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 15 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☒ _____ Lightning damage☐

Codominant☒ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☒ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 14" Fall Distance 50ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☒ Included bark☐ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper☒

Lean 15 ° Corrected? No

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 24" Fall Distance 100ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☐ Depth_____ Stem girdling☐

Dead☒ Decay☐ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 49.6" Fall Distance 100ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☒

Risk Categorization

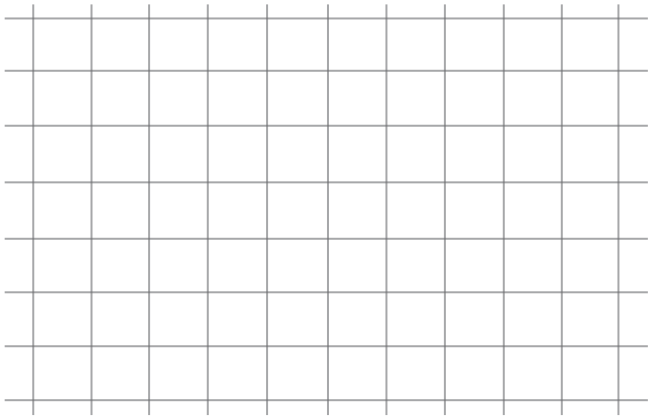
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low
Structures	Roots	Uprooting				X				X				X				X	Extreme
Vehicles						X				X				X				X	Extreme
Pedestrians						X			X				X					X	High

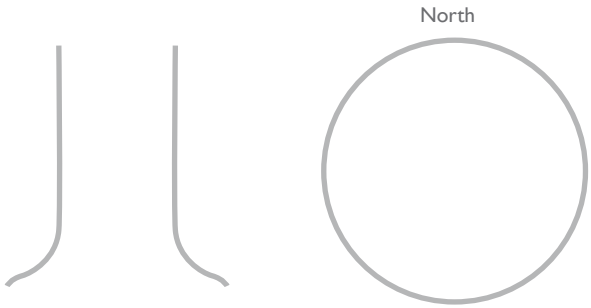
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

one-sided, decayed scaffold top

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 591 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 100.9" Height 120ft Crown spread dia. 80ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 80 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 30 %

Dead twigs/branches☐ 5 % overall Max. dia. 2"

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☒ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole ____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☒ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 12" Fall Distance 70ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☒ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 10 % circ. Depth 12" Poor taper☐

Lean 8 ° Corrected? No

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 36" Fall Distance 120ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☒ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☒ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 100.9" Fall Distance 120ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☒

Risk Categorization

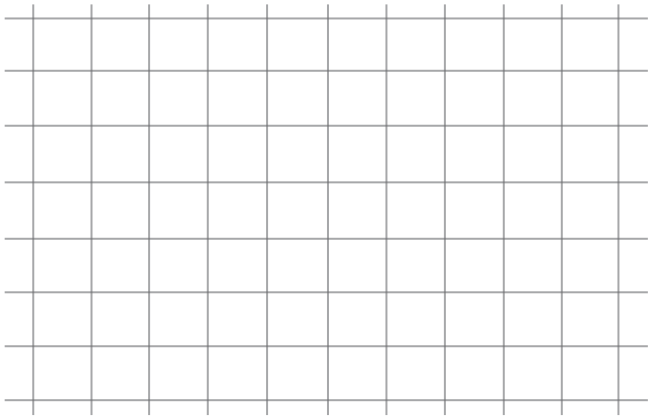
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting				X				X				X				X	Extreme
Vehicles						X				X				X				X	Extreme
Pedestrians						X			X				X					X	High

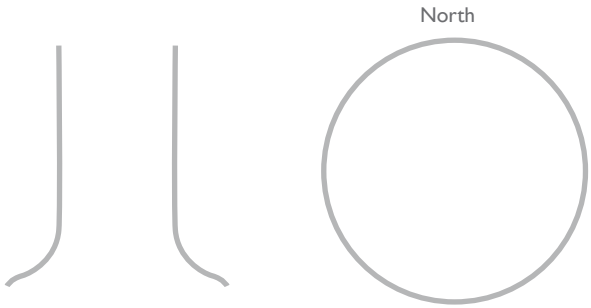
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

many codominant stems with cavities and bark inclusions

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 592 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 55.0" Height 80ft Crown spread dia. 80ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 70 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 40 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☒ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☒ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 18" Fall Distance 60ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 25 % circ. Depth 12" Poor taper☒

Lean 5 ° Corrected? No

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 24" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 55.0" Fall Distance 80ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

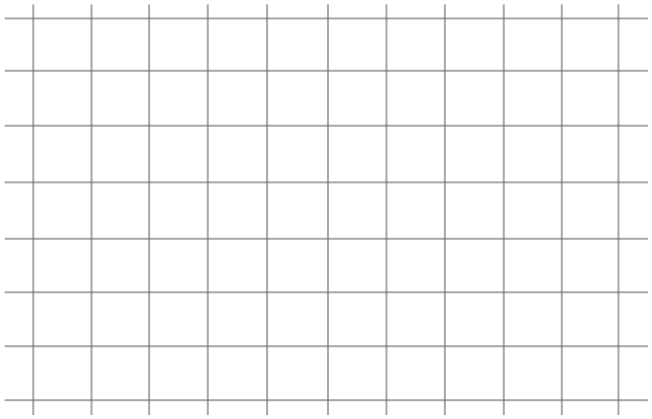
Target *(Target number or description)*	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact *(from Matrix 1)*: Unlikely	Likelihood: Failure & Impact *(from Matrix 1)*: Somewhat	Likelihood: Failure & Impact *(from Matrix 1)*: Likely	Likelihood: Failure & Impact *(from Matrix 1)*: Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating *(from Matrix 2)*
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

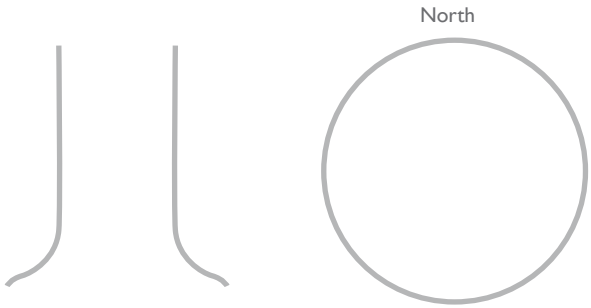
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

Extensive cubical brown rot, cavities on North side @ 15'-25'
large helical fracture @ 30'-40', decayed branch over property

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☒ Extreme ☐

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 593 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 53.1" Height 90ft Crown spread dia. 70ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 30 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 40 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☐ Cankers/Galls/Burls☐ Sapwood damage/decay☐

Conks☐ Heartwood decay☐ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 12" Fall Distance 50ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☒ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper☐

Lean 5 ° Corrected? No

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 24" Fall Distance 90ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☒

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☒

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 53.1" Fall Distance 90ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

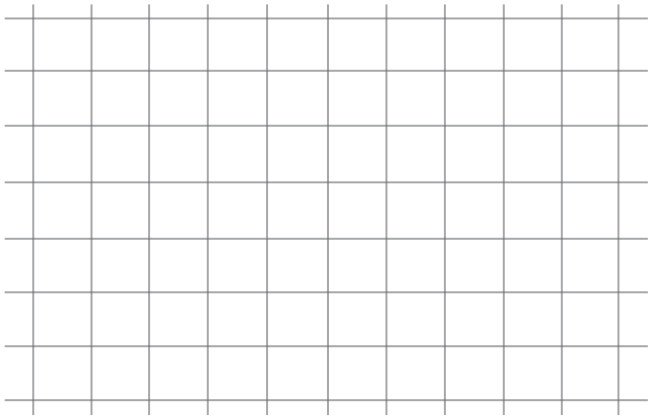
Target *(Target number or description)*	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact *(from Matrix 1)*: Unlikely	Likelihood: Failure & Impact *(from Matrix 1)*: Somewhat	Likelihood: Failure & Impact *(from Matrix 1)*: Likely	Likelihood: Failure & Impact *(from Matrix 1)*: Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating *(from Matrix 2)*
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure				X				X				X				X	Extreme
Vehicles						X				X				X				X	Extreme
Pedestrians						X			X				X					X	High
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

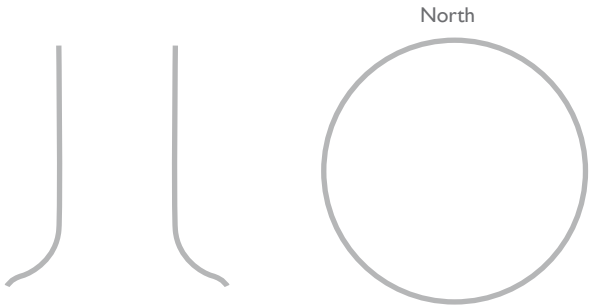
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

crack between codominant stems, active separation with 2" gap

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 594 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 63.5" Height 90ft Crown spread dia. 70ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 60 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☐ Normal☒ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 60 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☐ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 12" Fall Distance 60ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☒ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 50 % circ. Depth 6" Poor taper☒

Lean 10 ° Corrected? No

Response growth Poor

Condition(s) of concern Codominant Stem Failure

Part Size 24" Fall Distance 90ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☒

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☒

Dead☒ Decay☒ Conks/Mushrooms☐

Ooze☐ Cavity☒ 5 % circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 63.5" Fall Distance 90ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

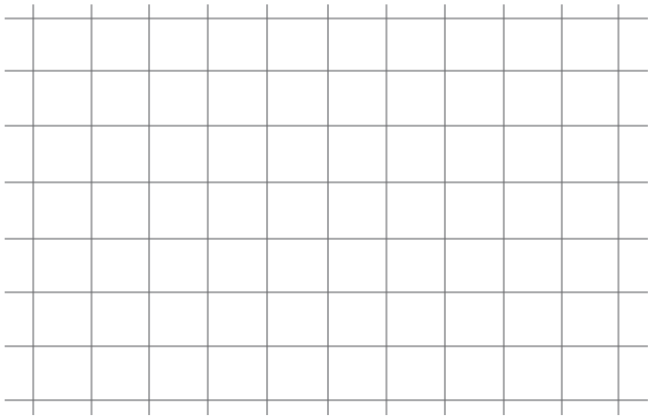
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure				X				X				X				X	Extreme
Vehicles						X				X				X				X	Extreme
Pedestrians						X			X				X					X	High
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

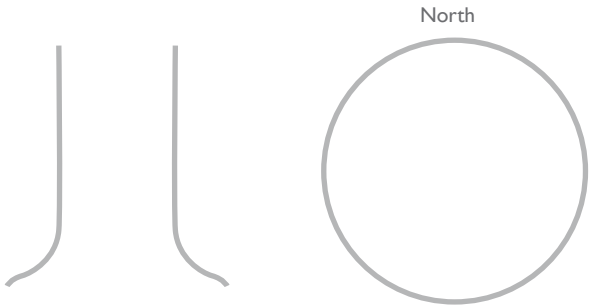
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

crack, decay on south side, one-sided, codominant attachments

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 595 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 35.0" Height 90ft Crown spread dia. 50ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2 – occasional, 3 – frequent, 4 – constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 80 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☒ Normal☐ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 35 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☐ _____

Response growth Poor

Condition(s) of concern Scaffold Tearout

Part Size 8" Fall Distance 50ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 50 % circ. Depth 6" Poor taper☒

Lean 8 ° Corrected? No

Response growth Poor

Condition(s) of concern Mid-Stem Failure

Part Size 14" Fall Distance 90ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☐ Decay☐ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 6"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 35.0" Fall Distance 90ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

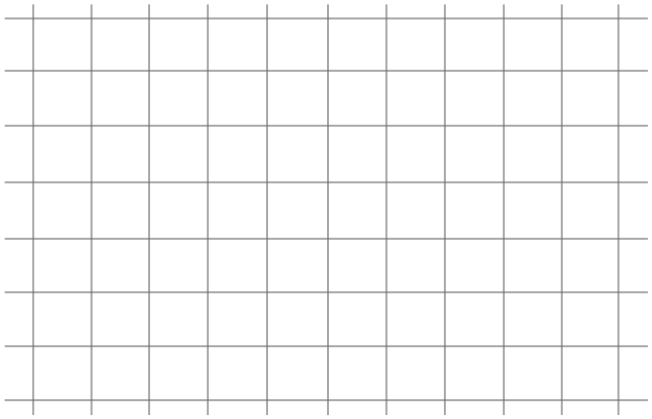
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

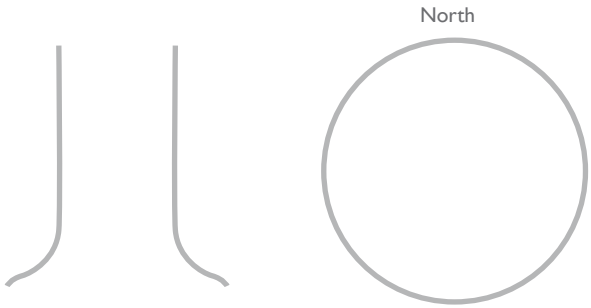
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

no taper, no buttress or root flare

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. _____ **Residual risk** _____
3. _____ **Residual risk** _____
4. _____ **Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 596 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 27.0" Height 100ft Crown spread dia. 20ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2 – occasional, 3 – frequent, 4 – constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 80 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☒ Normal☐ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 30 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☐ Cankers/Galls/Burls☐ Sapwood damage/decay☐

Conks☐ Heartwood decay☐ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 6" Fall Distance 50ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 50 % circ. Depth 6" Poor taper☒

Lean 8 ° Corrected? No

Response growth Poor

Condition(s) of concern Mid-Stem Failure

Part Size 12" Fall Distance 100ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☐ Decay☐ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 27.0" Fall Distance 100ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

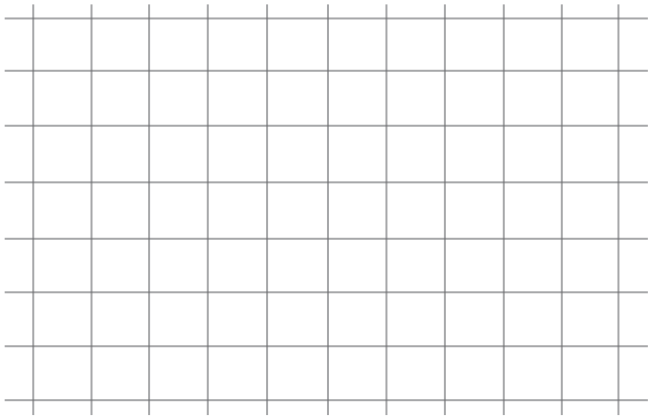
Target (Target number or description)	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Somewhat	Likely	Very likely	Consequences: Negligible	Minor	Significant	Severe	Risk rating (from Matrix 2)
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

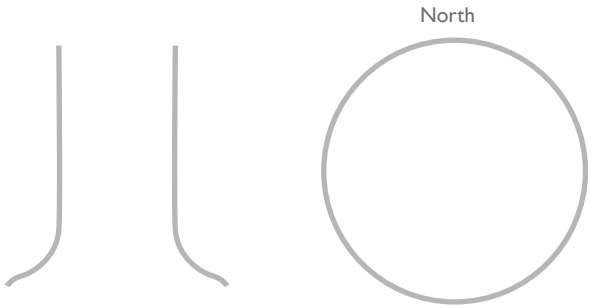
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact: 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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: 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





Notes, explanations, descriptions

codominant stems aloft with bark inclusion, no taper, no root flare

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. **Residual risk**
3. **Residual risk**
4. **Residual risk**

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe

ISA Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 597 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 37.0" Height 110ft Crown spread dia. 30ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1 x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare 2–occasional 3–frequent 4–constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 80 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☒ Normal☐ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 100 % Chlorotic _____% Necrotic _____%

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 60 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☐ _____

Response growth Good

Condition(s) of concern Scaffold Tearout

Part Size 6" Fall Distance 40ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☒ Cracks☐

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole _____% circ. Depth _____ Poor taper☒

Lean 15 ° Corrected? No

Response growth Poor

Condition(s) of concern Mid-Stem Failure

Part Size 18" Fall Distance 110ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☐ Decay☐ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 41.4" Fall Distance 110ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

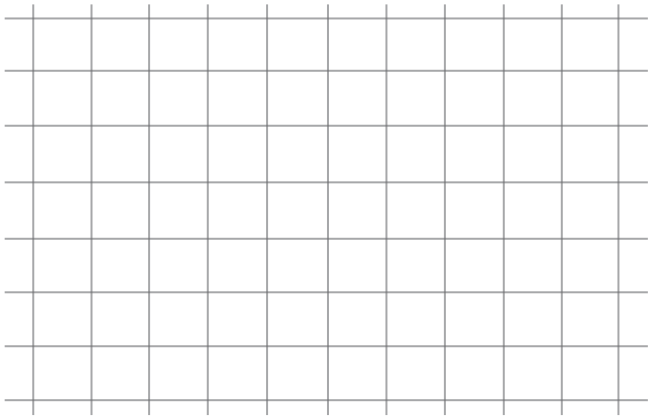
Target *(Target number or description)*	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact *(from Matrix 1)*: Unlikely	Likelihood: Failure & Impact *(from Matrix 1)*: Somewhat	Likelihood: Failure & Impact *(from Matrix 1)*: Likely	Likelihood: Failure & Impact *(from Matrix 1)*: Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating *(from Matrix 2)*
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

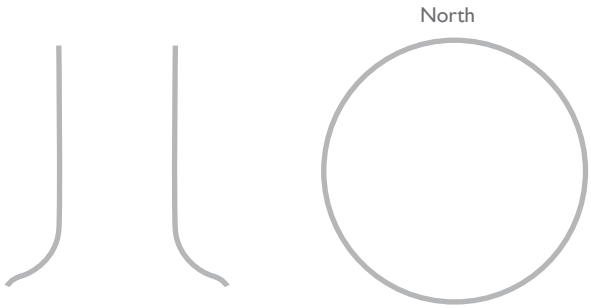
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	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





Notes, explanations, descriptions

_____

_____

_____

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_____

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. _____ **Residual risk** _____
3. _____ **Residual risk** _____
4. _____ **Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

ISA Basic Tree Risk Assessment Form

Client City of Pacifica Date 3/31/2023 Time Daylight

Address/Tree location Minerva Avenue, Pacifica Tree no. 598 Sheet 1 of 1

Tree species Monterey Cypress (*Hesperocyparis macrocarpa*) dbh 41.4" Height 110ft Crown spread dia. 40ft

Assessor(s) Roy Leggitt, Aaron Wang Tools used d-tape, aerial lift, drone, probes **Time frame** one year

Target Assessment

Target number	Target description	Target protection	Target zone: Target within drip line	Target zone: Target within 1x Ht.	Target zone: Target within 1.5 x Ht.	Occupancy rate (1–rare, 2 – occasional, 3 – frequent, 4 – constant)	Practical to move target?	Restriction practical?
1	Structures	none	X			4	No	No
2	Vehicles	none	X			4	No	No
3	Pedestrians	none	X			3	No	No
4								

Site Factors

History of failures Tearouts, limb drop **Topography** Flat☒ Slope☐ _____% **Aspect** _____

Site changes None☐ Grade change☒ Site clearing☒ Changed soil hydrology☒ Root cuts☒ Describe Paving and construction

Soil conditions Limited volume☐ Saturated☐ Shallow☐ Compacted☐ Pavement over roots☒ 80 % Describe _____

Prevailing wind direction West **Common weather** Strong winds☒ Ice☐ Snow☐ Heavy rain☒ Describe Heavy seasonal storms with extreme winds

Tree Health and Species Profile

Vigor Low☒ Normal☐ High☐ **Foliage** None (seasonal)☐ None (dead)☐ Normal 80 % Chlorotic _____% Necrotic 20 %

Pests/Biotic Cypress Canker, Brown Cubical Rot **Abiotic** _____

Species failure profile Branches☒ Trunk☒ Roots☒ Describe brittle wood failures in overextended branches, uprooting/stem failures in heavy storms

Load Factors

Wind exposure Protected☐ Partial☒ Full☐ Wind funneling☐ _____ **Relative crown size** Small☐ Medium☒ Large☐

Crown density Sparse☐ Normal☒ Dense☐ **Interior branches** Few☒ Normal☐ Dense☐ **Vines/Mistletoe/Moss** ☐ _____

Recent or expected change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown☒ LCR 60 %

Dead twigs/branches☐ _____% overall Max. dia. _____

Broken/Hangers Number _____ Max. dia. _____

Over-extended branches☒

Pruning history

Crown cleaned☒ Thinned☐ Raised☒

Reduced☐ Topped☐ Lion-tailed☐

Flush cuts☐ Other _____

Cracks☐ _____ Lightning damage☐

Codominant☐ _____ Included bark☒

Weak attachments☒ _____ Cavity/Nest hole____% circ.

Previous branch failures☒ _____ Similar branches present☒

Dead/Missing bark☒ Cankers/Galls/Burls☐ Sapwood damage/decay☒

Conks☐ Heartwood decay☐ _____

Response growth Fair

Condition(s) of concern Scaffold Tearout

Part Size 6" Fall Distance 30ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

Condition(s) of concern _____

Part Size _____ Fall Distance _____

Load on defect N/A☐ Minor☐ Moderate☐ Significant☐

Likelihood of failure Improbable☐ Possible☐ Probable☐ Imminent☐

— Trunk —

Dead/Missing bark☒ Abnormal bark texture/color☒

Codominant stems☐ Included bark☒ Cracks☒

Sapwood damage/decay☒ Cankers/Galls/Burls☐ Sap ooze☐

Lightning damage☐ Heartwood decay☒ Conks/Mushrooms☐

Cavity/Nest hole 50 % circ. Depth 6" Poor taper☒

Lean ____° Corrected? _____

Response growth Poor

Condition(s) of concern Mid-Stem Failure

Part Size 18" Fall Distance 110ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☐ Probable☒ Imminent☐

— Roots and Root Collar —

Collar buried/Not visible☒ Depth 4" Stem girdling☐

Dead☐ Decay☐ Conks/Mushrooms☐

Ooze☐ Cavity☐ _____% circ.

Cracks☐ Cut/Damaged roots☒ Distance from trunk 0"

Root plate lifting☐ Soil weakness☐

Response growth Poor

Condition(s) of concern Uprooting

Part Size 41.4" Fall Distance 110ft

Load on defect N/A☐ Minor☐ Moderate☐ Significant☒

Likelihood of failure Improbable☐ Possible☒ Probable☐ Imminent☐

Risk Categorization

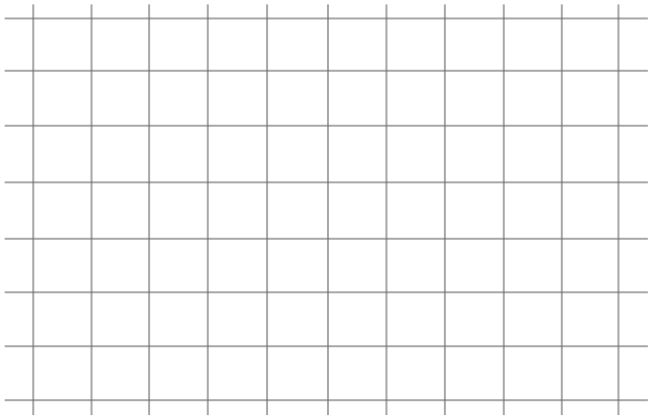
Target *(Target number or description)*	Tree part	Condition(s) of concern	Likelihood: Failure: Improbable	Likelihood: Failure: Possible	Likelihood: Failure: Probable	Likelihood: Failure: Imminent	Likelihood: Impact: Very low	Likelihood: Impact: Low	Likelihood: Impact: Medium	Likelihood: Impact: High	Likelihood: Failure & Impact *(from Matrix 1)*: Unlikely	Likelihood: Failure & Impact *(from Matrix 1)*: Somewhat	Likelihood: Failure & Impact *(from Matrix 1)*: Likely	Likelihood: Failure & Impact *(from Matrix 1)*: Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating *(from Matrix 2)*
Structures	Branch	Scaffold Tearout			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Trunk	Codominant Stem Failure			X					X			X					X	High
Vehicles					X					X			X					X	High
Pedestrians					X				X			X						X	Moderate
Structures	Roots	Uprooting		X						X		X						X	Moderate
Vehicles				X						X		X						X	Moderate
Pedestrians				X					X		X							X	Low

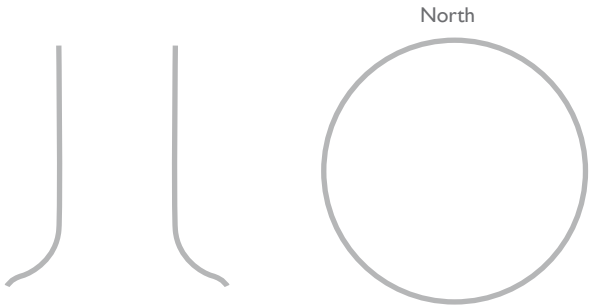
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	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

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	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





Notes, explanations, descriptions

_____

_____

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_____

Mitigation options

1. Remove Tree (recommended) **Residual risk** None
2. _____ **Residual risk** _____
3. _____ **Residual risk** _____
4. _____ **Residual risk** _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☒

Overall residual risk None ☒ Low ☐ Moderate ☐ High ☐ Extreme ☐ **Recommended inspection interval** N/A

Data ☒ Final ☐ Preliminary **Advanced assessment needed** ☒ No ☐ Yes-Type/Reason Already Conducted

Inspection limitations ☒ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____


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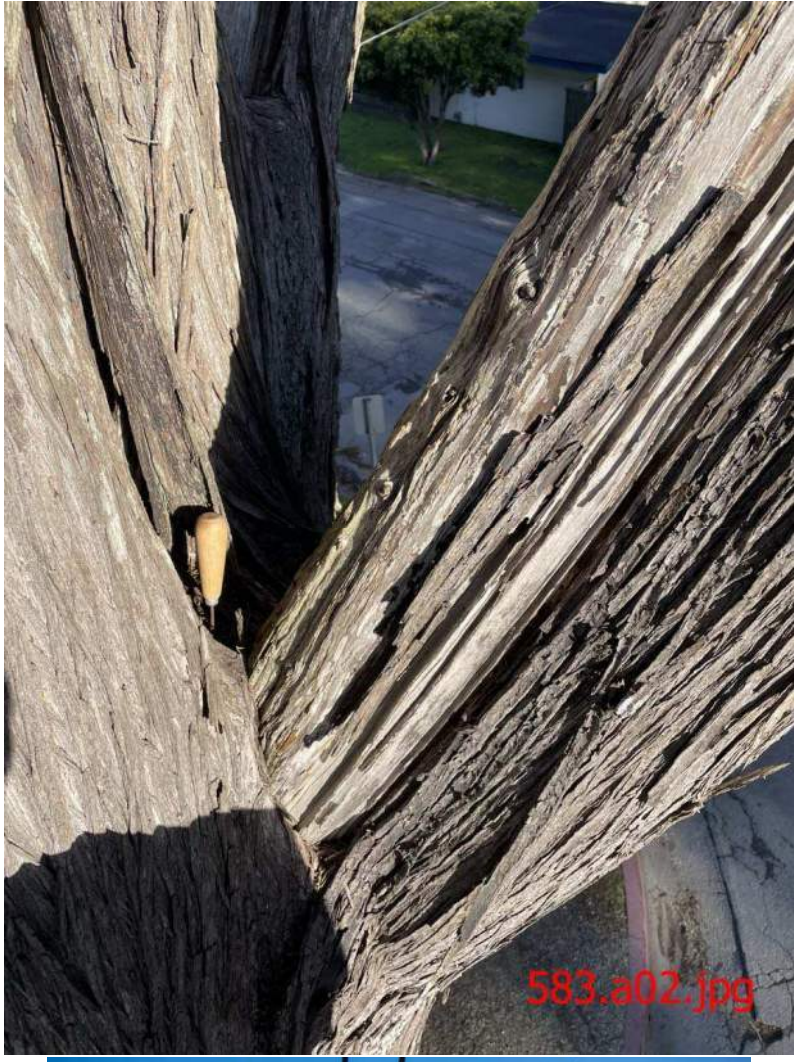
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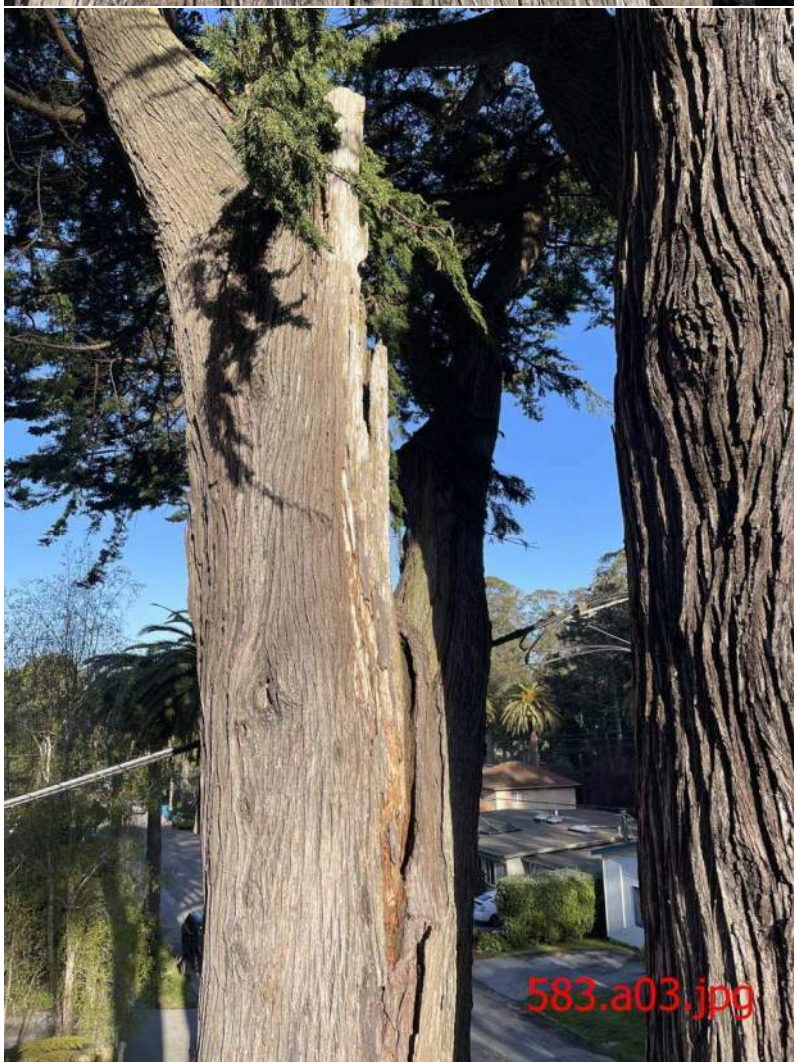
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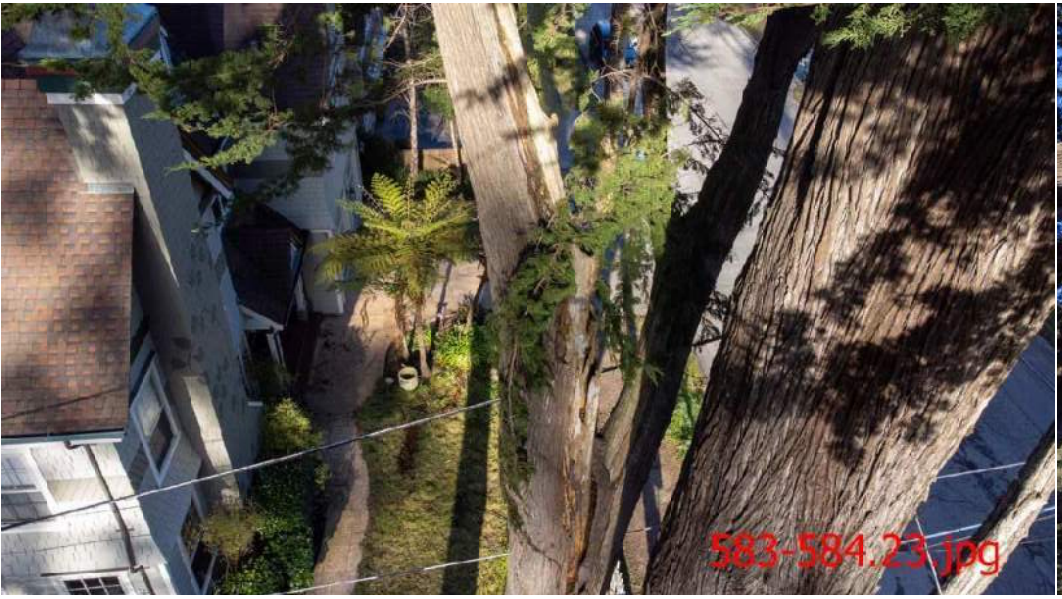
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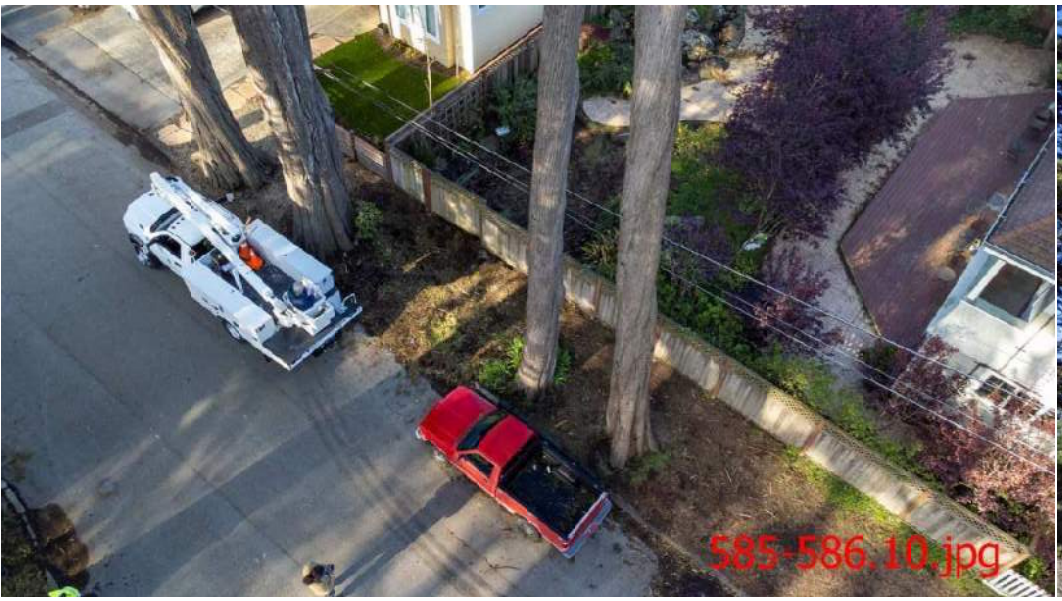
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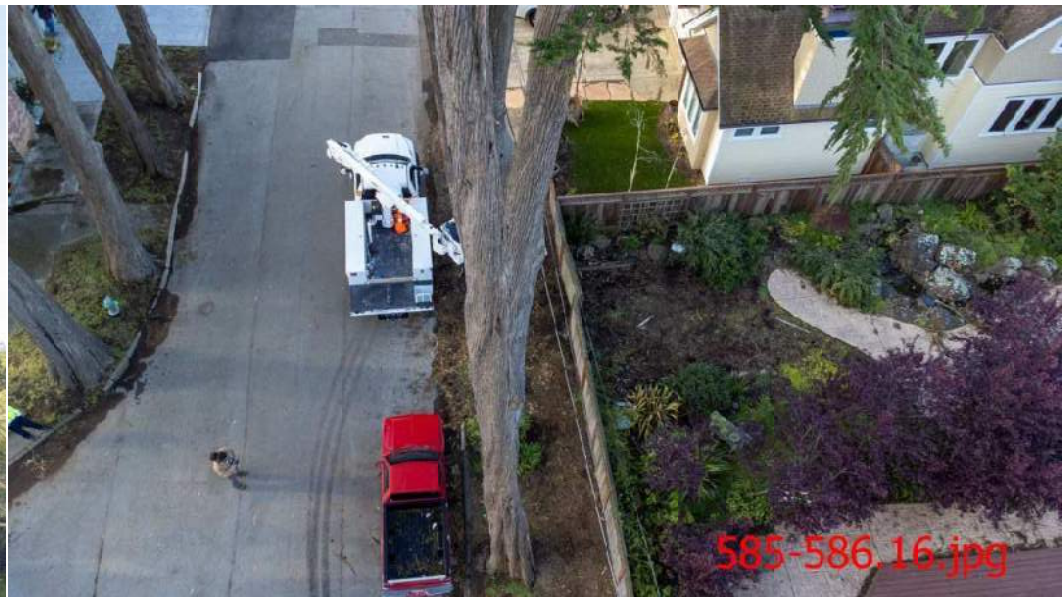
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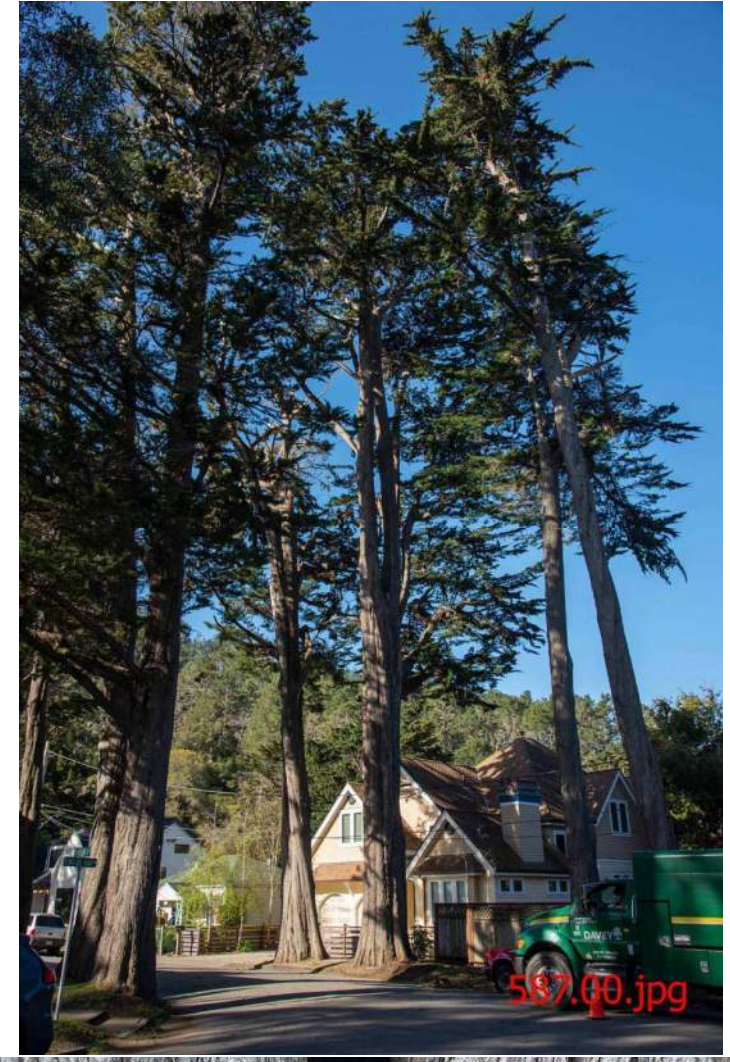
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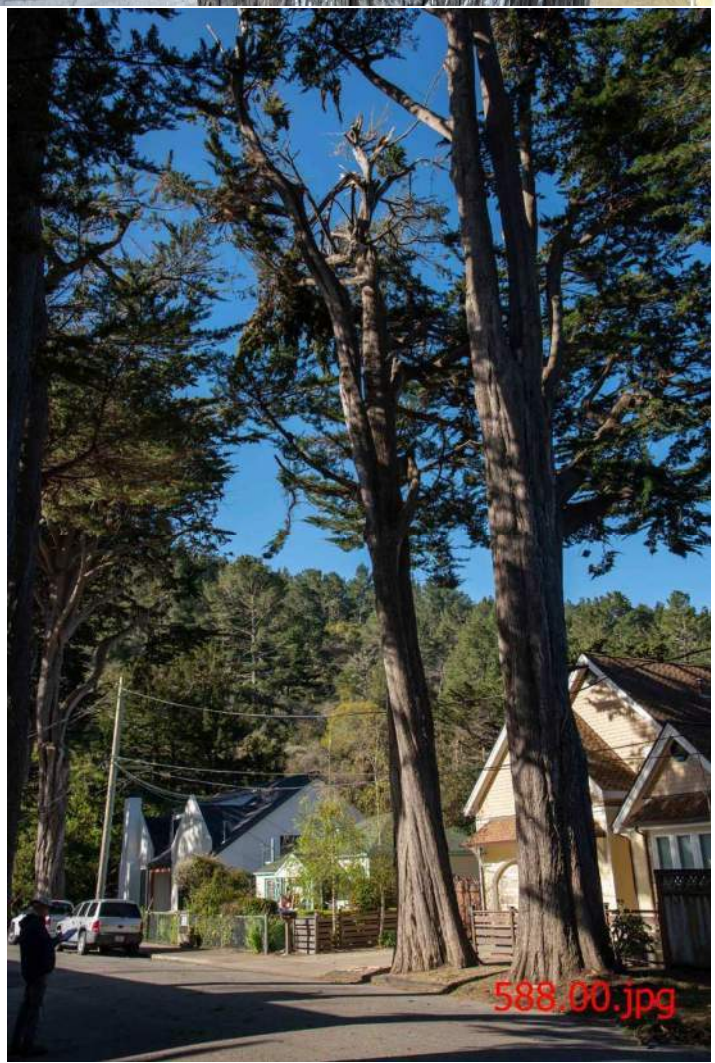
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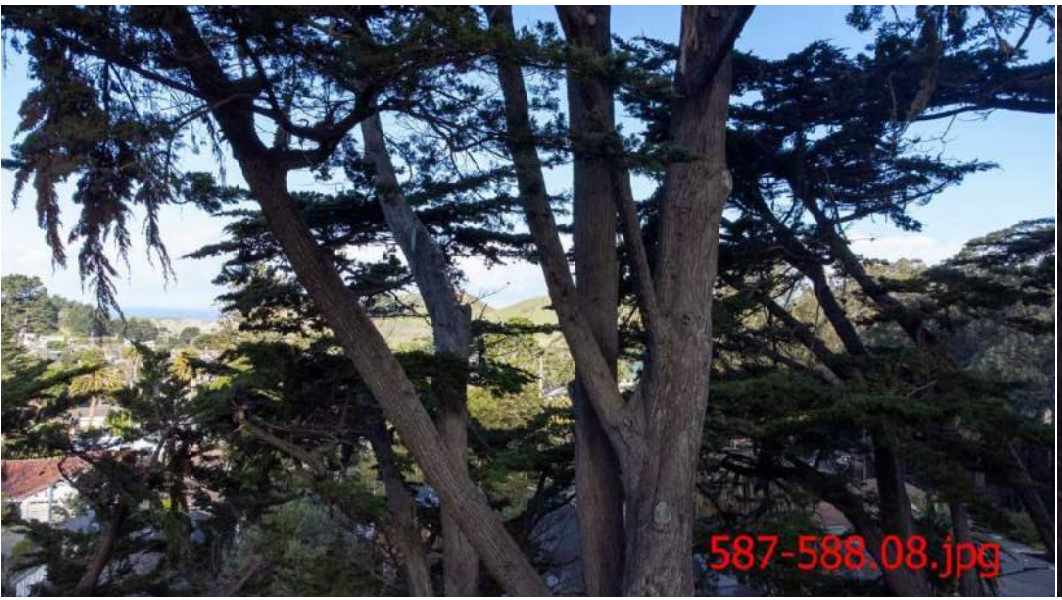
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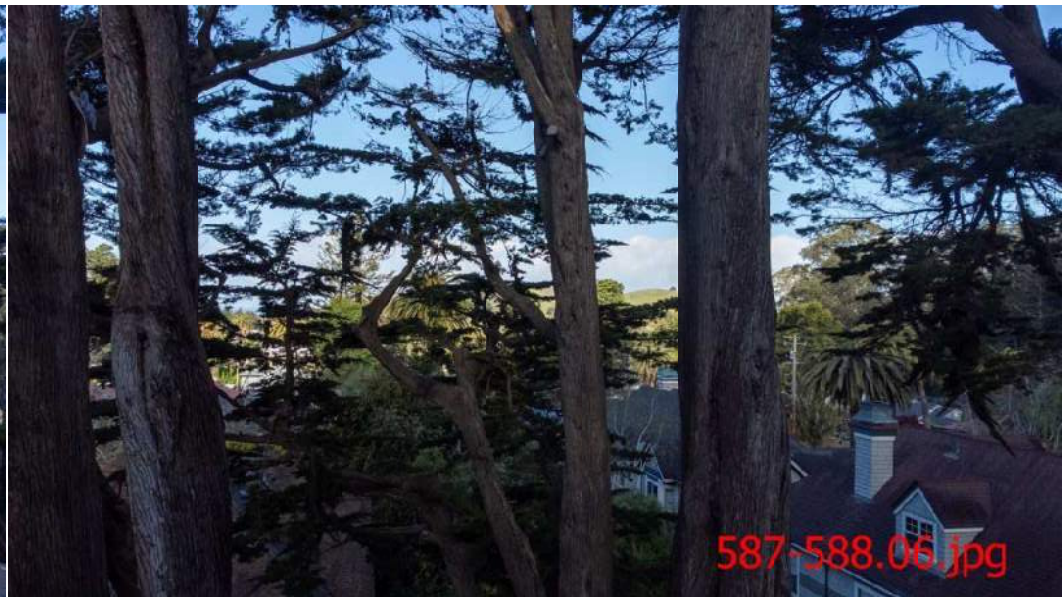
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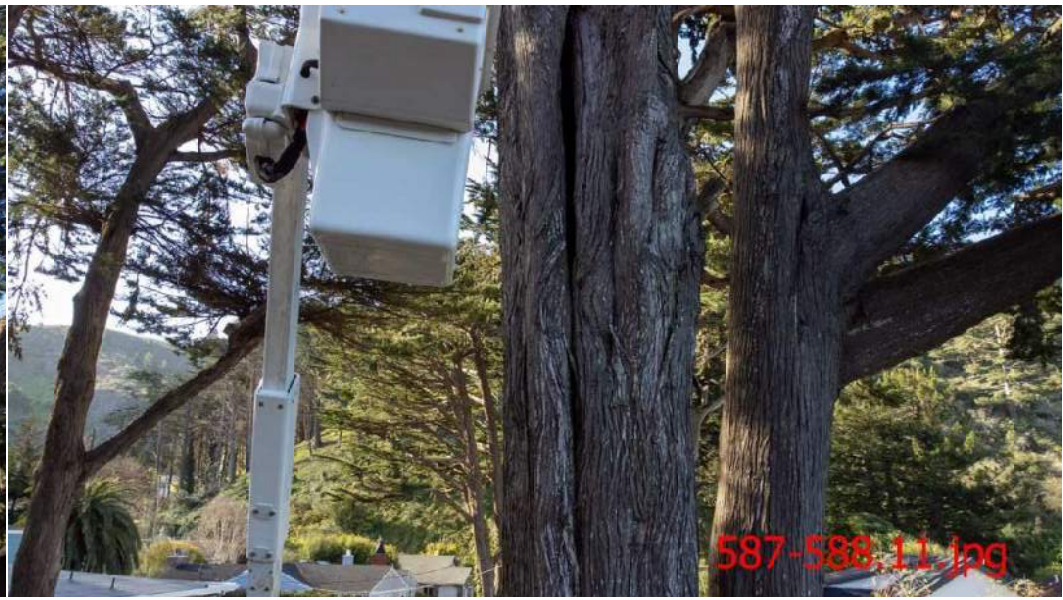
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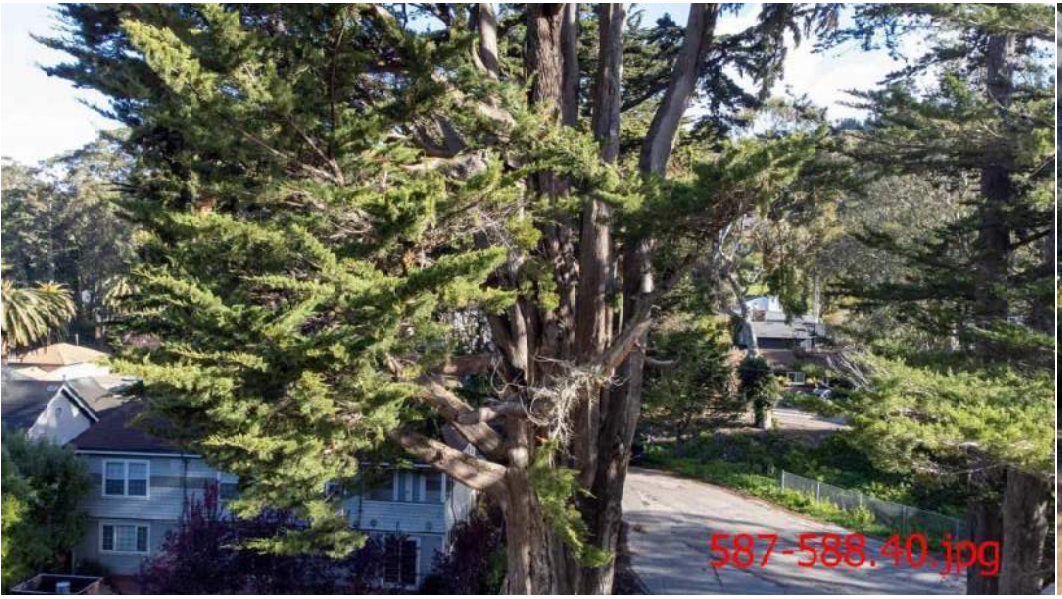
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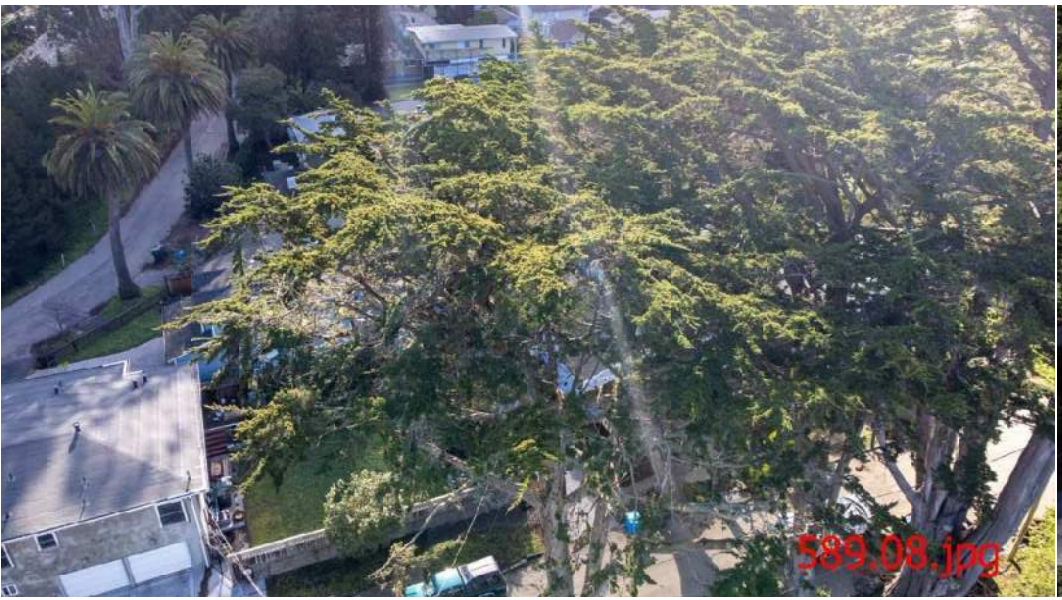
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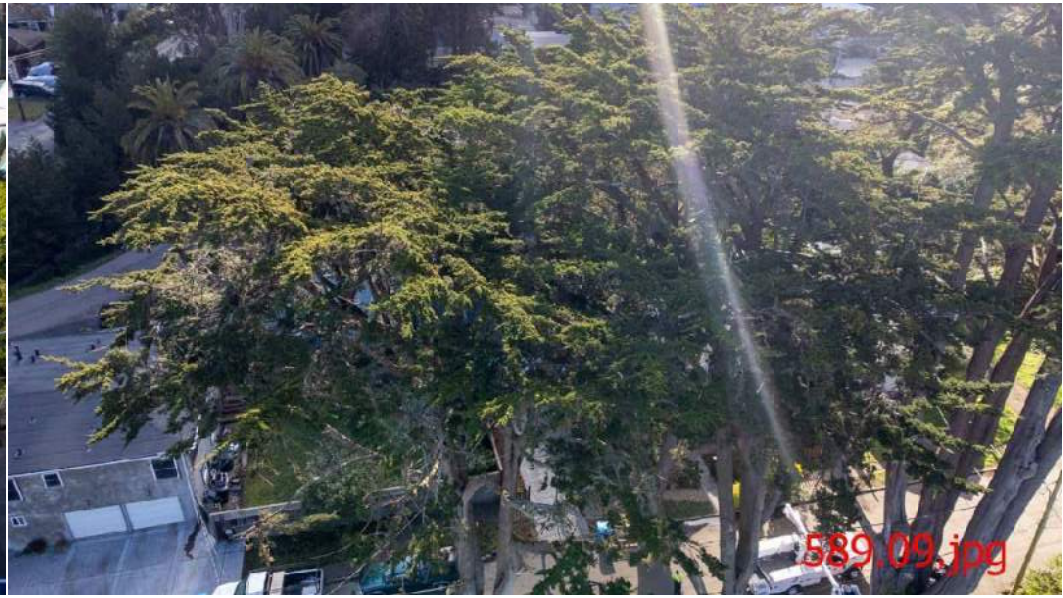
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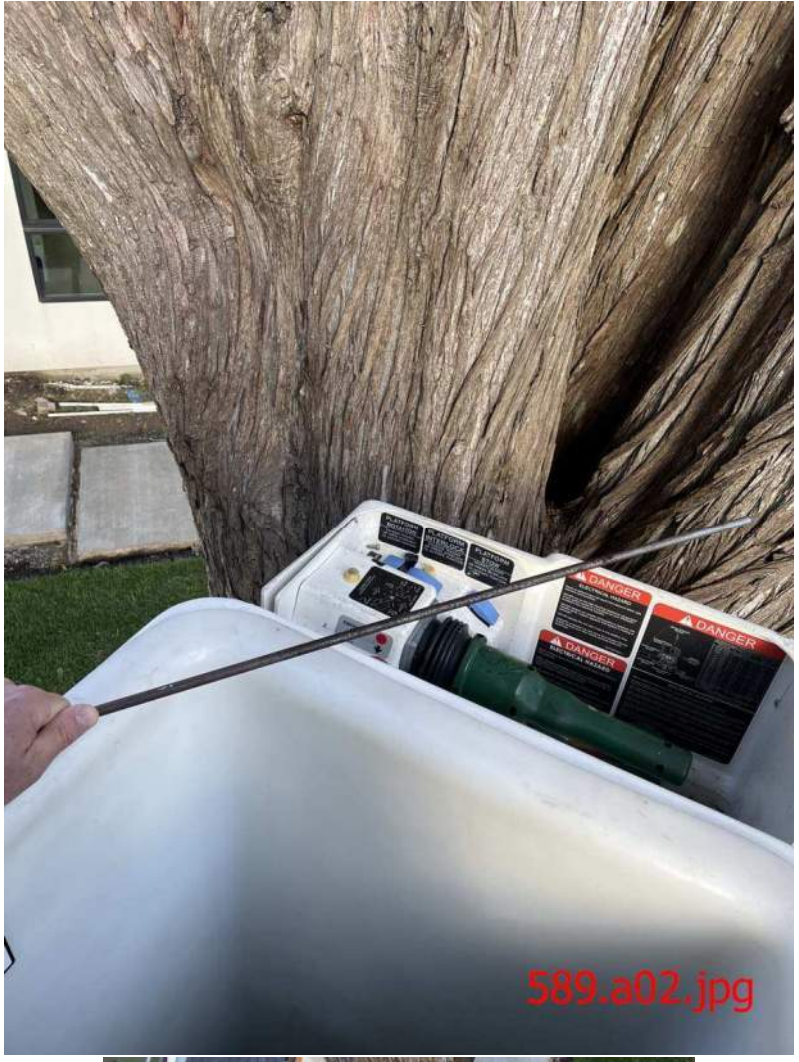
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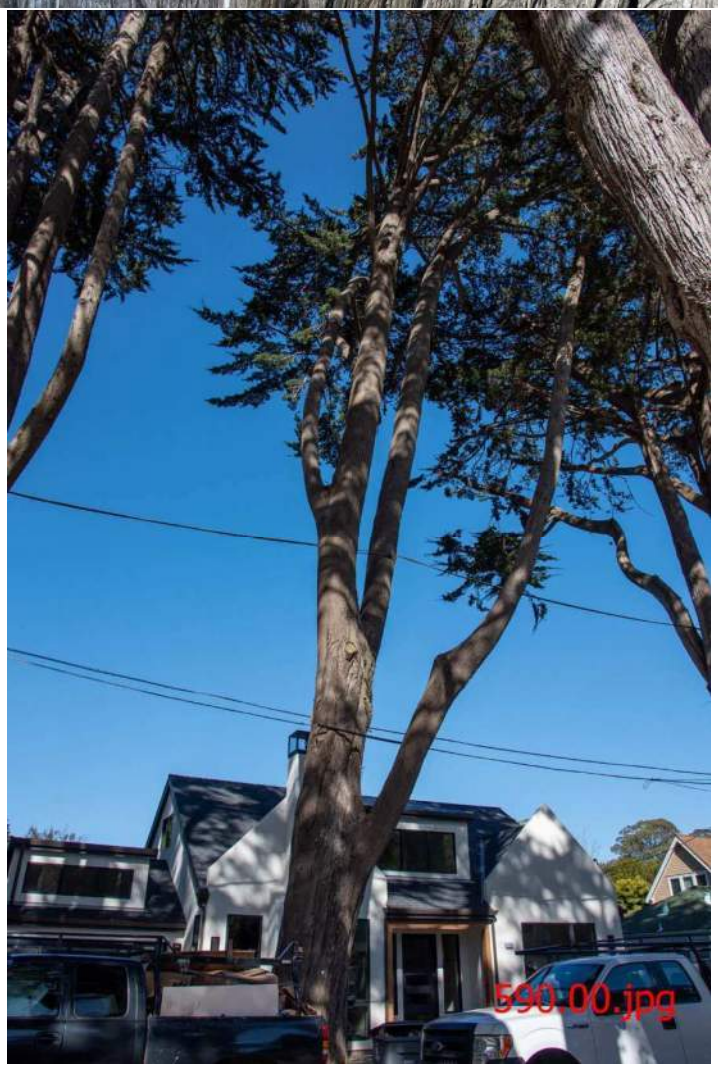
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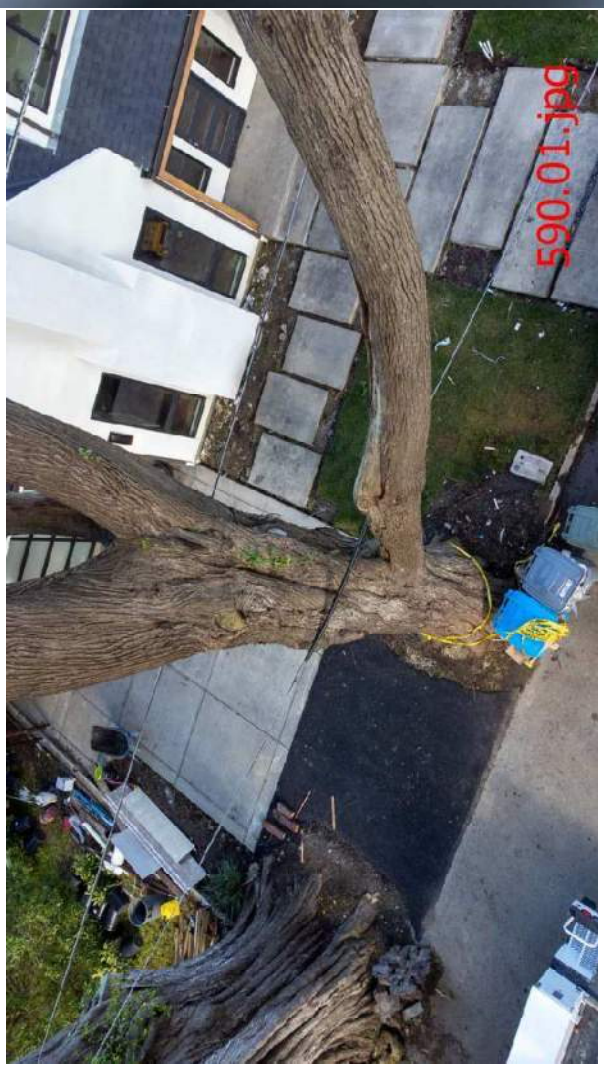
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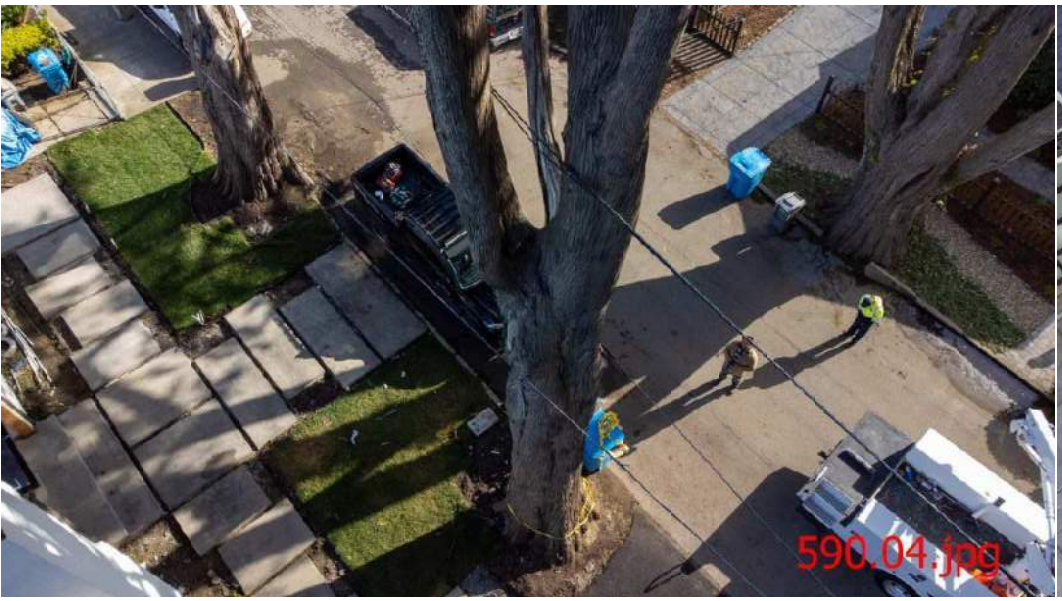
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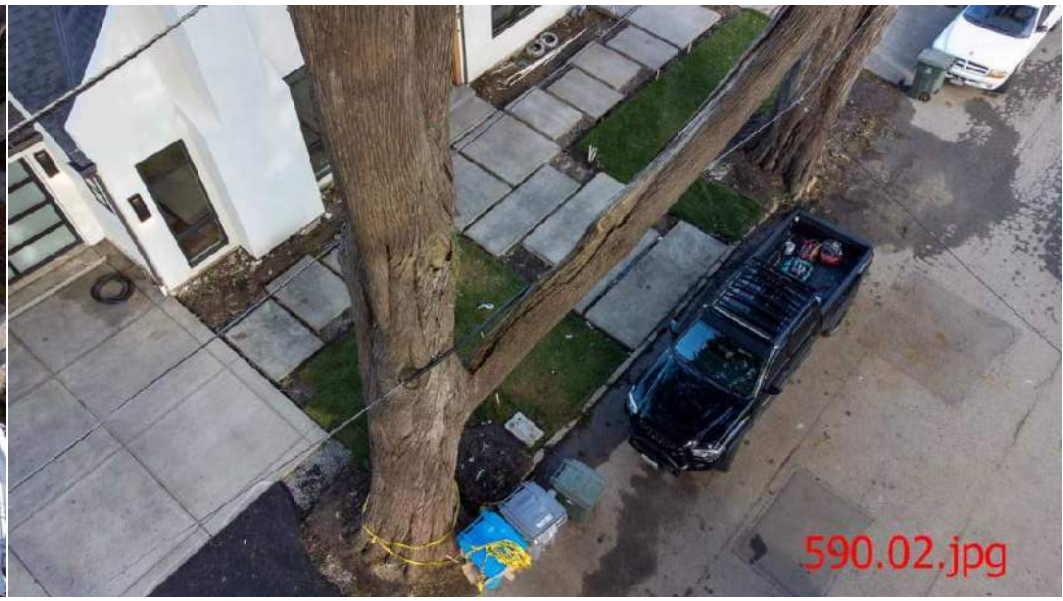
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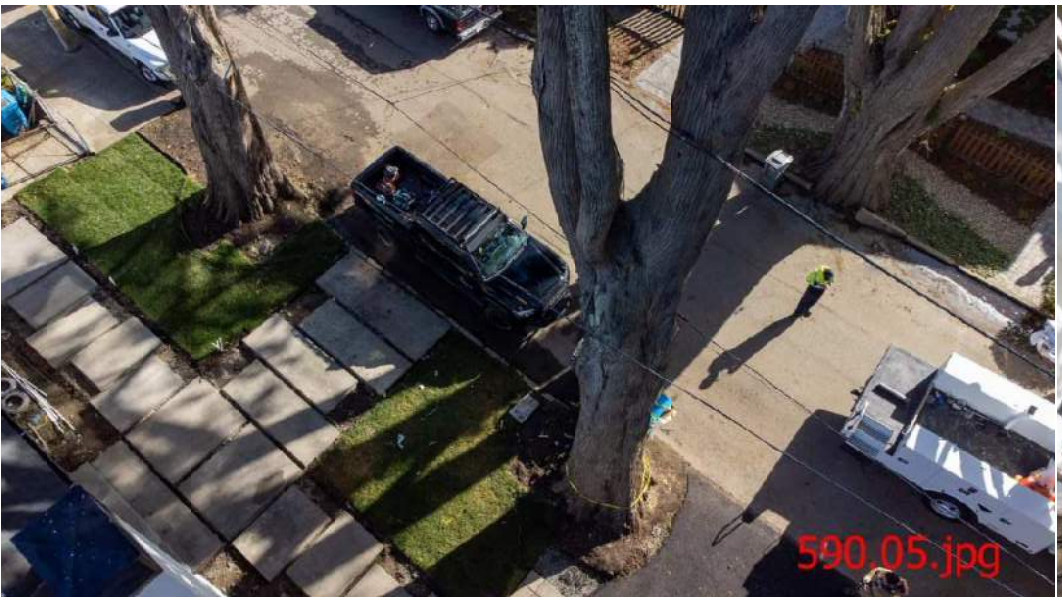
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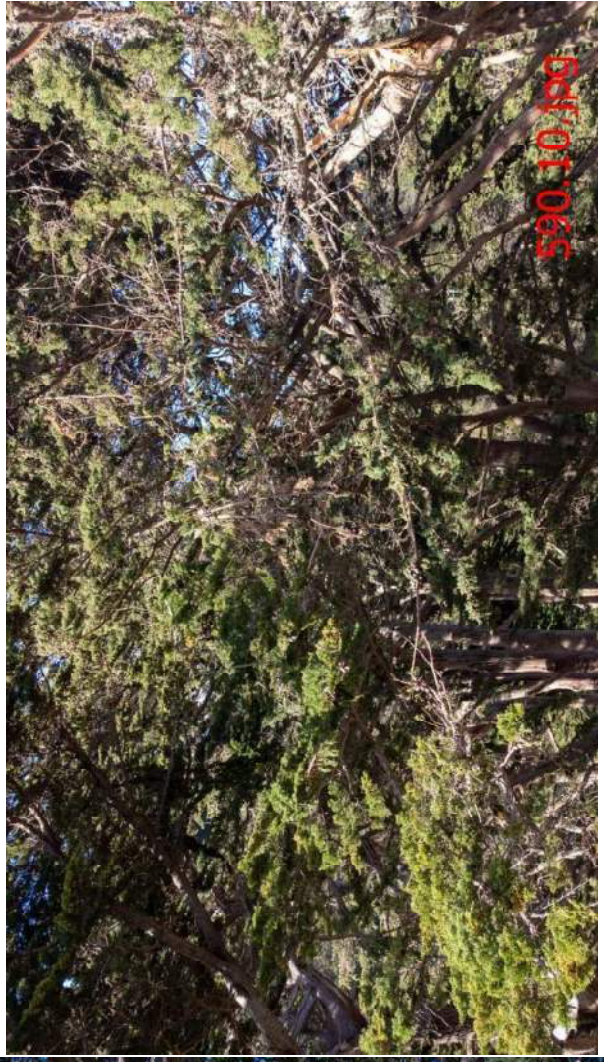
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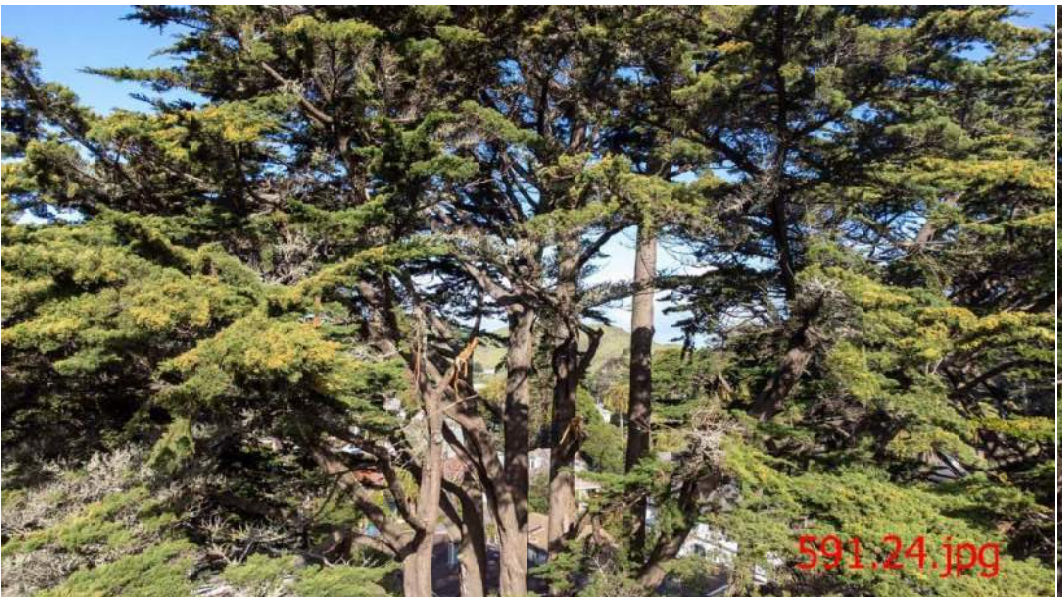
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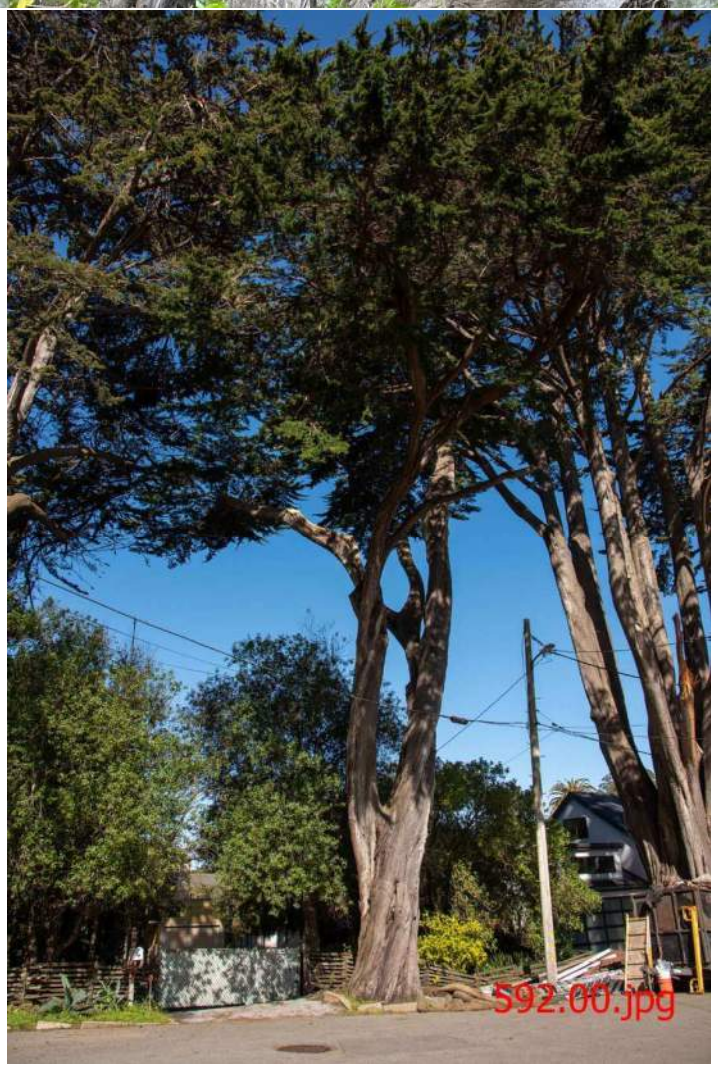
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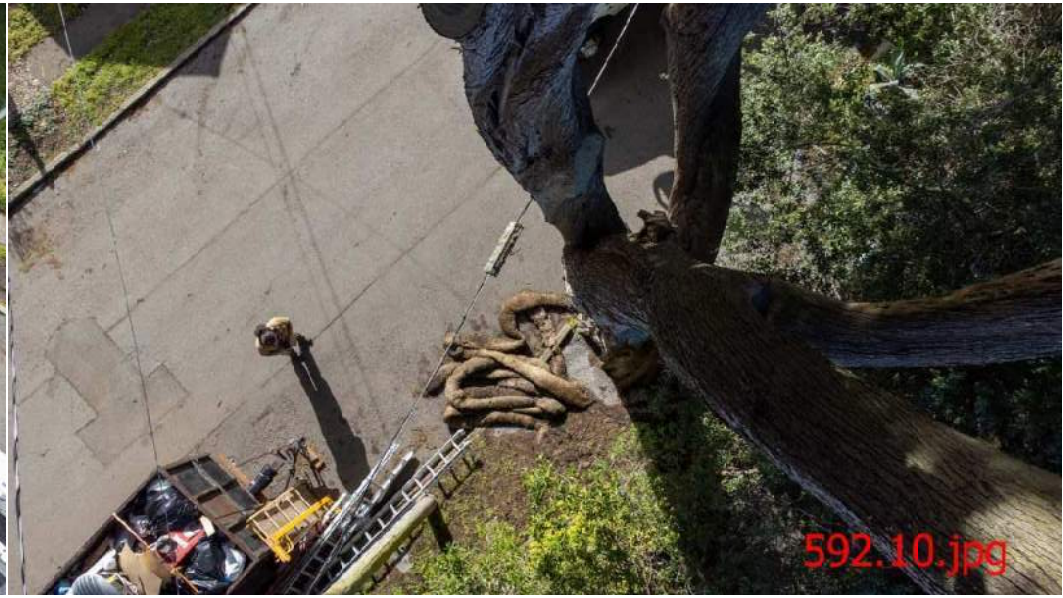
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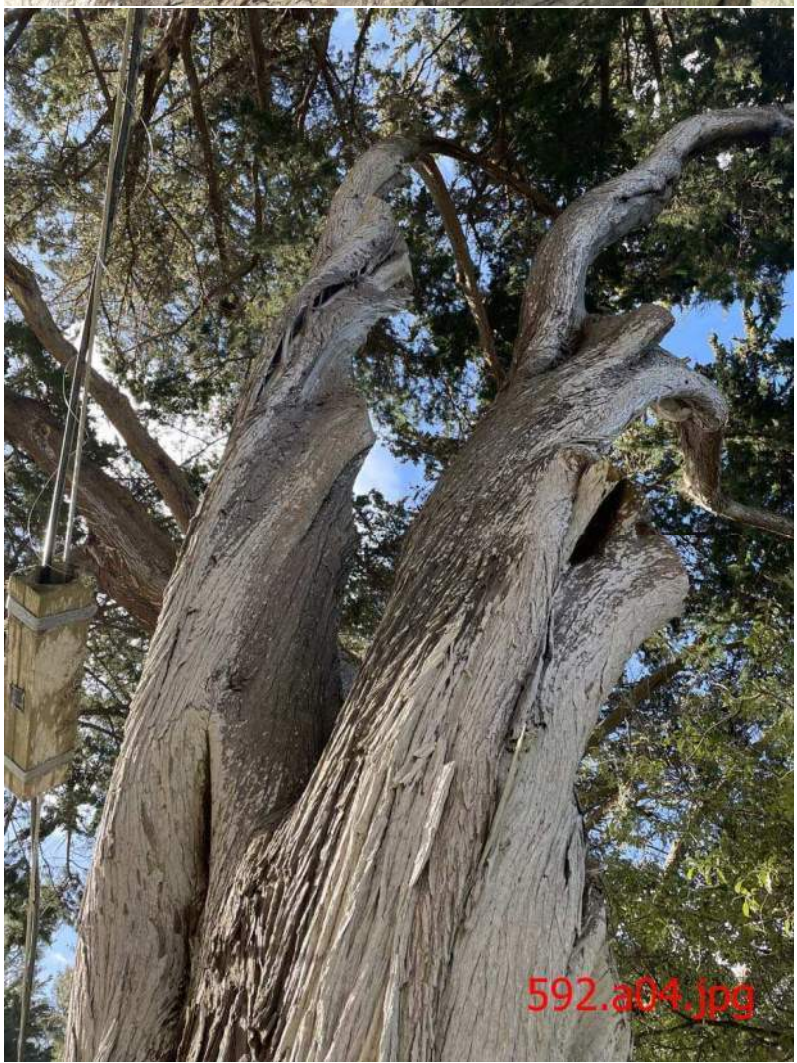
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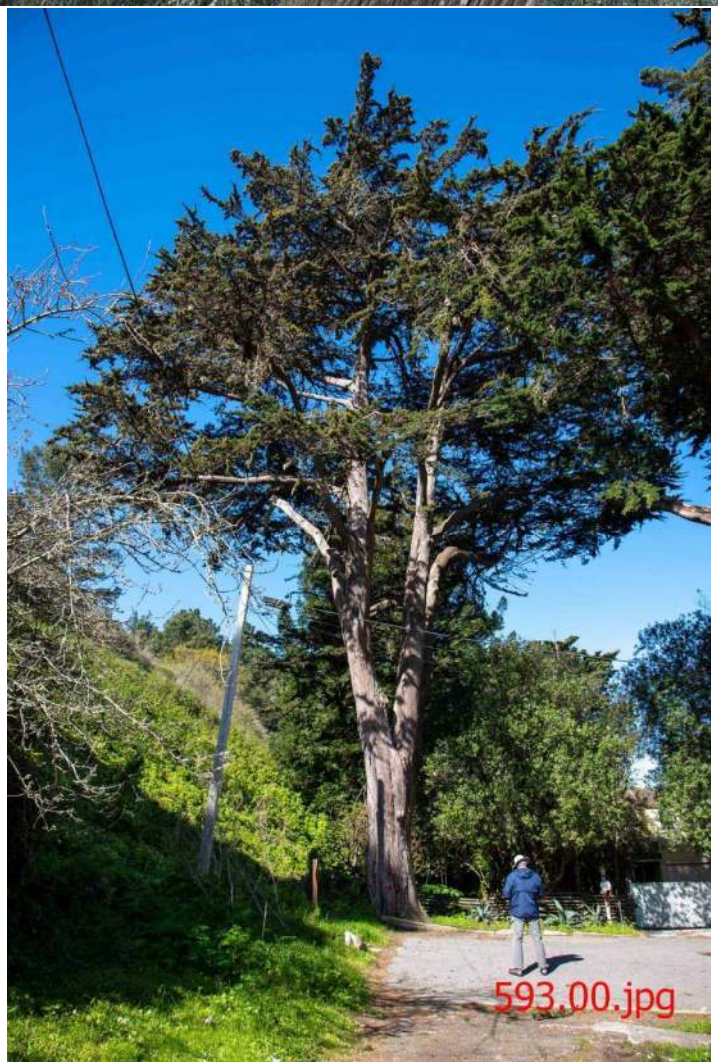
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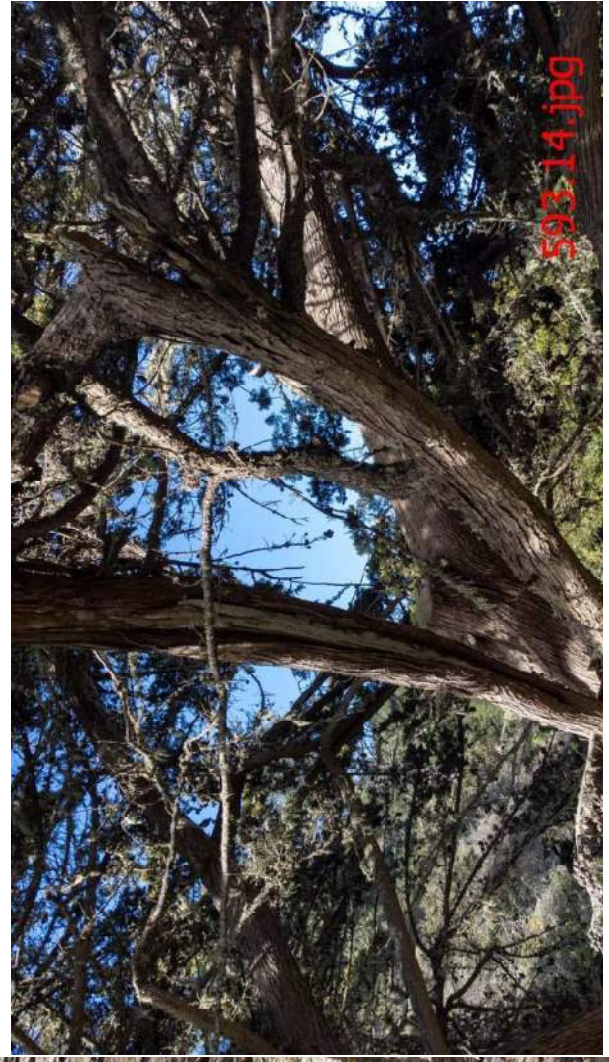
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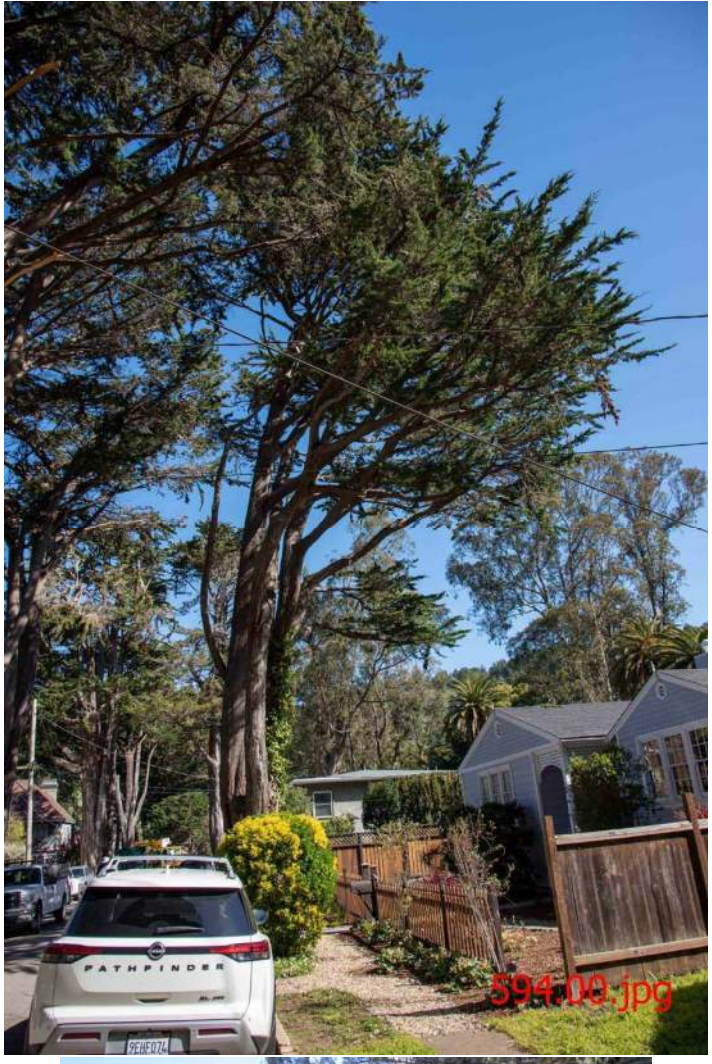
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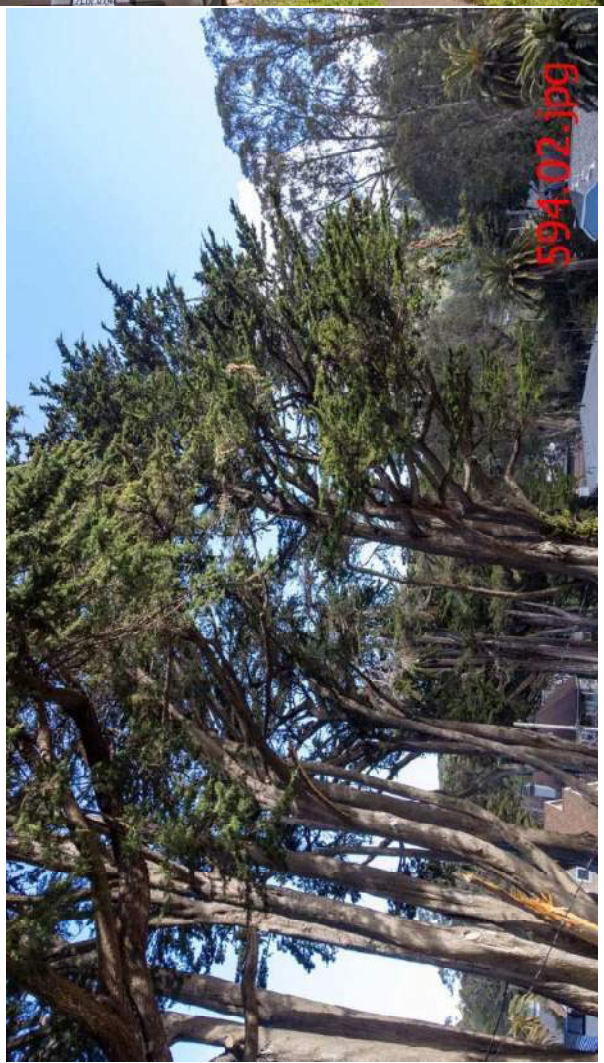
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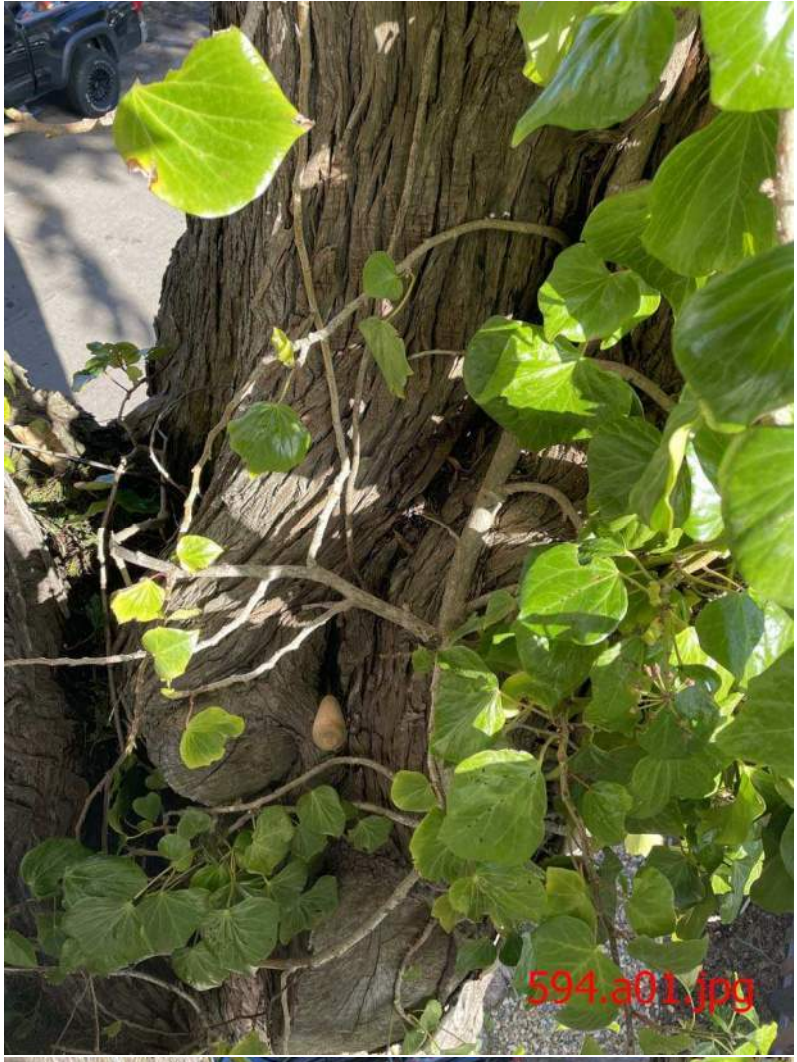
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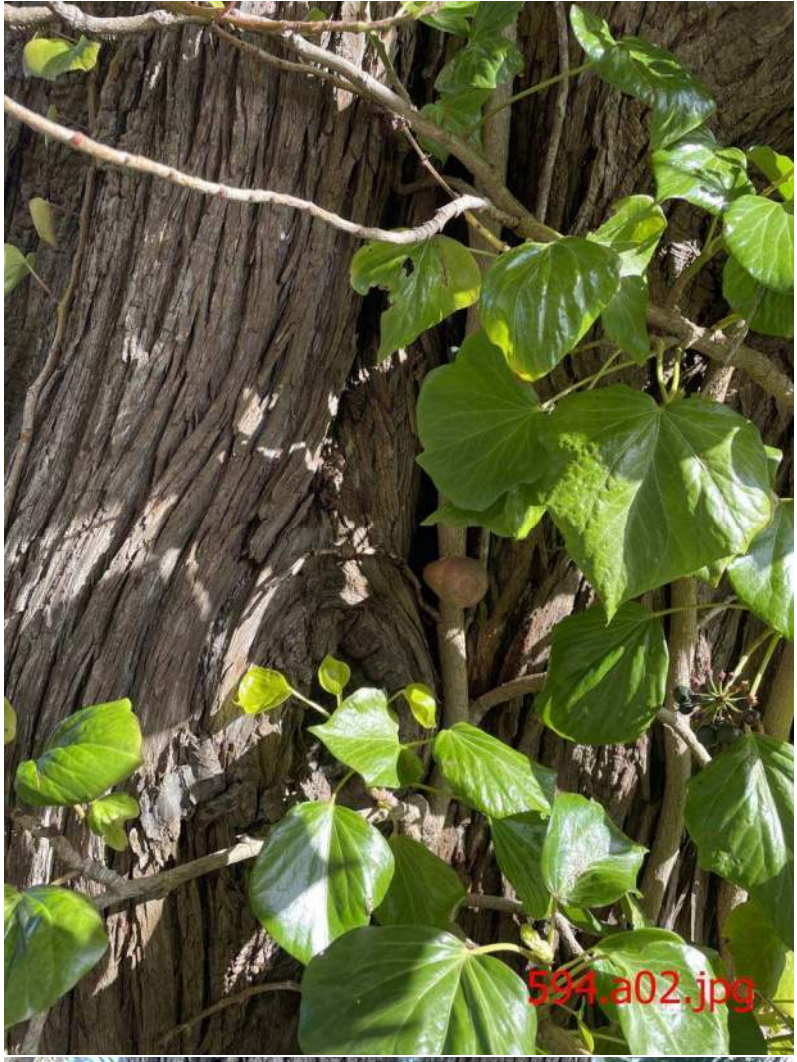
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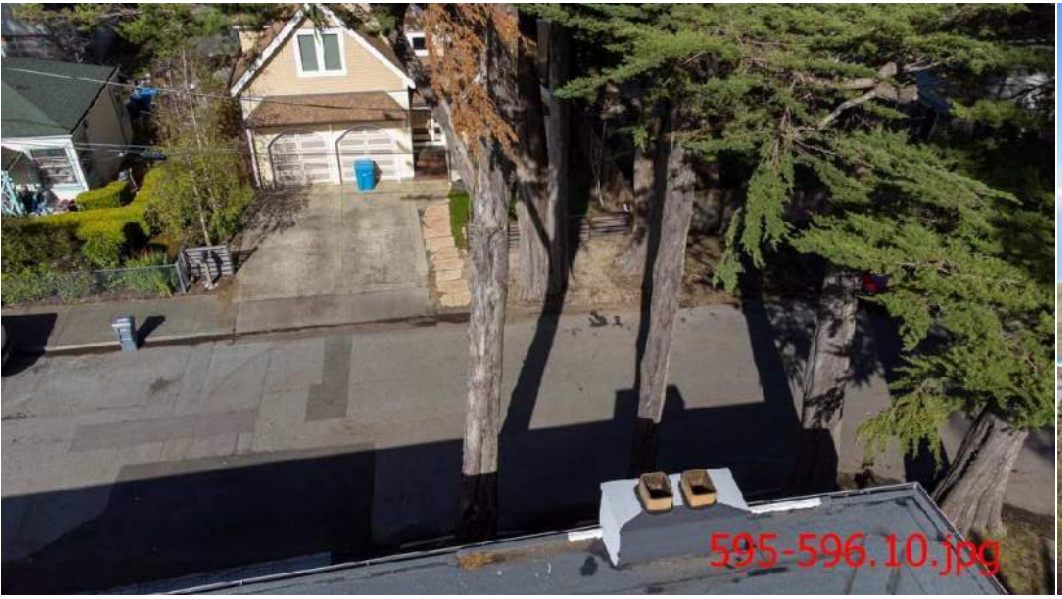
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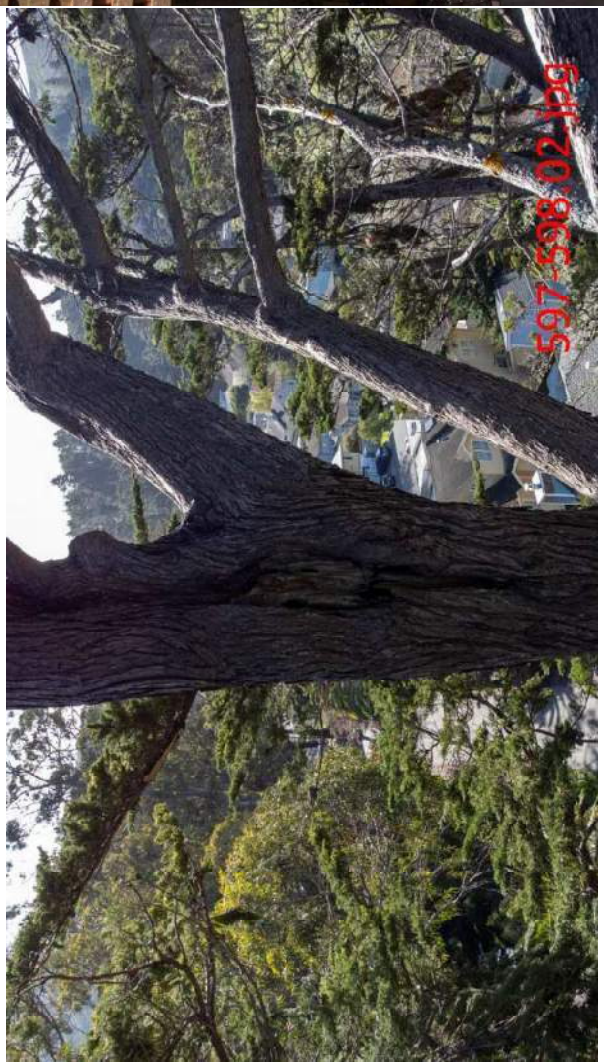
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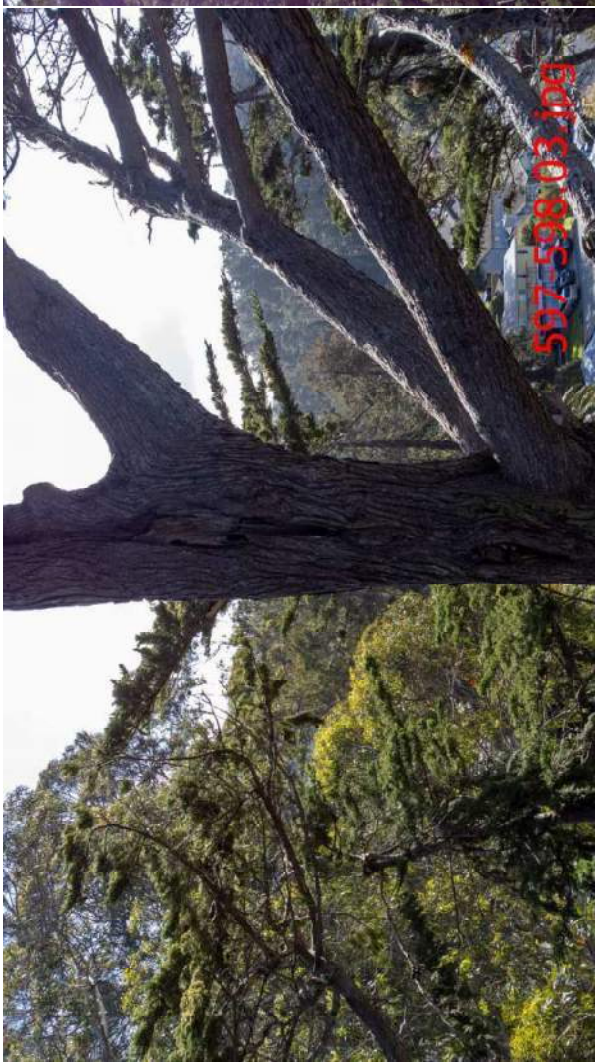
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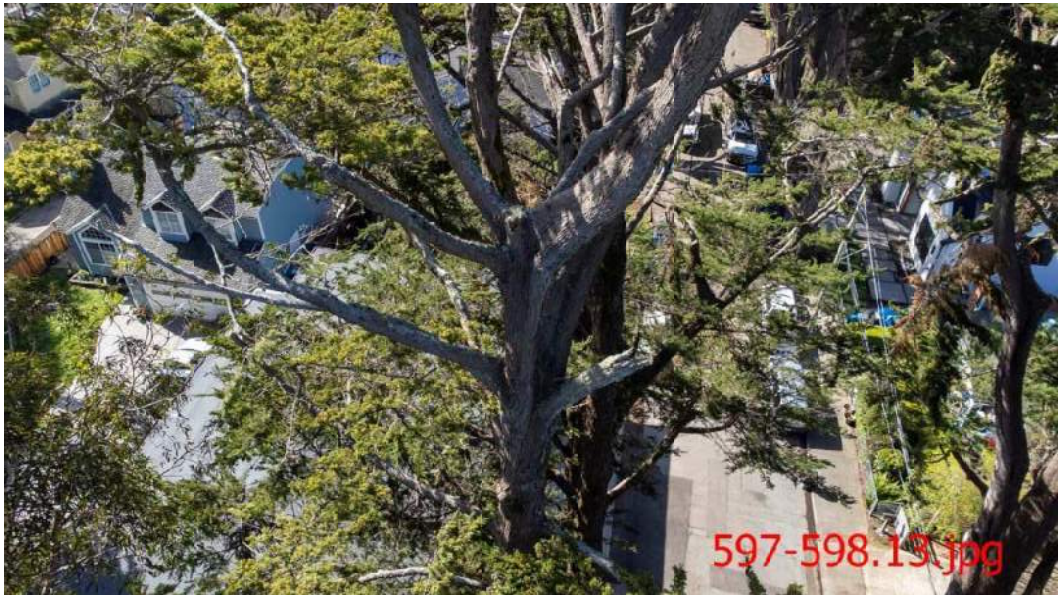
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