

Preliminary Arborist Report

Sutter Health Joint Venture Cancer Center Oakland, CA

> PREPARED FOR: Sutter Health 3017, 3021, and 3043 Summit St Oakland, CA 94609

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> > April 2022 Revised March 2023



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Sutter Health Joint Venture Cancer Center Oakland, CA

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Sutter Health Joint Venture Cancer Center Oakland, CA

Introduction and Overview

Sutter Health is redeveloping the subject property in Oakland, CA. The site is currently medical buildings with surface parking and associated landscape. In April, 2022, HortScience | Bartlett Consulting (Divisions of The F. A. Bartlett Tree Expert Co.) prepared a **Preliminary Arborist Report** for the project site for submission to the City of Oakland. In February of 2023, H|BC was asked to amend the original **Report** to add four trees along Summit Street.

This report provides the following information:

- 1. An assessment of tree health, structure, and suitability for preservation.
- 2. An estimate of the value of each tree.
- 3. A preliminary assessment of the impacts of constructing the proposed project and recommendations for action.
- 4. Preliminary tree preservation guidelines.

Assessment Methods

Trees were assessed on March 25, 2022 and February 8, 2023. As required by the City of Oakland, trees 4 inches and greater in diameter were included in the assessment. The assessment procedure consisted of the following steps:

- 1. Identifying the tree species;
- 2. Tagging each tree with an identifying number and recording its location on a map;
- 3. Measuring the trunk diameter at a point 54 inches above grade;
- 4. Evaluating the health and structural condition using a scale of 1 5:
 - **5** A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
 - 4 Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3 Tree with moderate vigor, moderate twig, and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2 Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
- 5. Rating the suitability for preservation as "high", "moderate" or "low". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.
 - *High*: Trees with good health and structural stability that have the potential for longevity at the site.
 - *Moderate*: Trees with somewhat declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'good' category.
 - *Low*: Trees in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Twenty-two (22) trees were assessed, representing 11 species (Table 1). No species was represented by more than six trees. Descriptions of each tree are found in the *Tree Assessment Form* and approximate locations are shown on the *Tree Assessment Map* (see Exhibits). Overall, five trees were in poor condition and 17 were in fair condition (Table 1).

Table 1: Condition ratings and frequency of occurrence of trees	
Sutter Health Joint Venture Cancer Center, Oakland CA.	

Common Name	Scientific Name	С	Total		
		Poor (1-2)	Fair (3)	Good (4-5)	
Red maple	Acer rubrum	-	1	-	1
Lilly pilly tree	Acmena smithii	-	2	-	2
Crape myrtle	Lagerstroemia indica	1	-	-	1
Sweetgum	Liquidambar styraciflua	2	4	-	6
Saucer magnolia	Magnolia x soulangiana	-	1	-	1
Olive	Olea europaea	-	1	-	1
Victorian box	Pittosporus undulatum	1	-	-	1
London plane	Platanus x hispanica	1	3	-	4
Callery pear	Pyrus calleryana	-	3	-	3
Coast redwood	Sequoia sempervirens	-	1	-	1
Eastern arborvitae	Thuja occidentalis	-	1	-	1
Total		5	17	-	22

Six sweetgums grew in two planting beds, each containing three trees, located at the S. end of the site (Photo 1). Trees were similarly sized to one another with diameters between 7 to 10 inches. Trees #99 and #101 - 103 were in fair condition while #98 and 100 were in poor condition. All sweetgums had either multiple or codominant branching arising between 6 - 8 feet.

Photo 1: Sweetgums #98 – 100 grew in a planting bed on the E. side of the lower-level parking area.



Photo 2: London planes #179 and 180 (left – right) were in fair condition. Multiple branches arose from between 9 – 10 feet, creating a low crown beneath overhead electrical utilities.

Four London planes (Platanus x hispanica) were in tree wells along Summit Street. Trunk diameters measured either 13 inches (tree #180) or 14 inches (#179, 181, 182), indicating semi-mature development (Photo 2). Trees #179, 180, and 182 were in fair condition with multiple branches arising between 9 - 10 feet above grade. Overhead high-voltage electrical distribution lineclearance pruning resulted in low, densely budding crown profiles. Tree #181 was in poor condition. A previous branch failure left an approximately 5-footlong tear-out wound on the south side.





Three Callery pears (#95 - 97) were in a narrow planting bed along the W. side of the lower parking lot (Photo 2). These pears were relatively uniform in size, with diameters ranging from 4 to 6 inches. All three trees were in fair condition with poor form and structure, often with codominant and crossing branching (Photo 2). Multiple attachments arose between 4 and 8 feet.

Photo 2: Callery pear #97 exhibited poor form and structure with multiple attachments arising from 6 - 7 feet, codominant branching, and crossing branches throughout the crown.

Two lilly pilly trees were also assessed. Trees #88 and 89 were growing at the W. edge of the upper-level parking lot with limited soil volume. Both were in fair condition, with trunk bases engulfed in ivy and narrow codominant branch unions.

Seven species were represented by a single tree:

- Coast redwood #86 was in fair condition with a narrow crown and a strong central leader. It had been topped in the past. The trunk was engulfed in ivy (Photo 3).
- Victorian box #87 was in poor condition with pervasive twig and branch dieback throughout the crown.
- Saucer magnolia #90 was in fair condition with poor form and structure due to codominant branch unions, crossing branches, and fusing branches throughout the crown.
- Eastern arborvitae #91 was in fair condition with codominant stems arising from the base and at 2 feet. It was shade suppressed by buildings to the N. and S.
- Red maple #92 in fair condition with branch dieback in the lower crown and good structure.
- Crape myrtle #93 was dead.
- Olive #94 was in fair condition with its base engulfed in reeds. Branch dieback was present in the lower crown.



Photo 3: Coast redwood #86 had a narrow crown and had been previously topped. Ivy engulfed the base of the tree.

Protected Trees in Oakland

For developed lots that are the "subject of a contemplated or pending application for redevelopment, the City of Oakland Code of Ordinances Chapter 12.36 defines all trees with a trunk diameter of 10 inches. or greater, excluding eucalyptus and Monterey pine, as *Protected*. Eleven trees qualified as *Protected*. *Protected* trees are identified in the *Tree Assessment Form* (see Exhibits).

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health present a low risk of damage or injury if they fail.

We must be concerned, however, about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure, and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

Tree health

Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than non-vigorous trees are. For example, Victorian box #87 was in poor condition with severe twig and branch dieback. This tree would not tolerate construction impacts.

• Structural integrity

Trees with significant amounts of wood decay and other structural defects that cannot be corrected are more likely to fail. Such trees should not be preserved in areas where damage to people or property is likely. For example, sweetgums #100 - 102 all had either codominant branch unions or multiple branch attachments arising from a single point on the stem.

Species response

There is a wide variation in the response of individual species to construction impacts and changes in the environment. For example, coast redwood is tolerant of root loss and general construction impacts, while Victorian box is moderately tolerant of root loss and general construction impacts.

Tree age and longevity

Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change. Sweetgums #101 and 102 were semi-mature and able to respond well to change. Victorian box #87 was mature, and likely less tolerant to change.

Invasiveness

Species which spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database (<u>https://www.cal-ipc.org/paf/</u>) lists species identified as being invasive. Oakland is part of the Central West Floristic Province. Callery pear and Victorian box are on the invasive watch list. Olive is listed as having limited invasive potential.

Each tree was rated for suitability for preservation based upon its age, health, structural condition, and ability to safely coexist within a development environment (Table 2).

Table 2: Tree suitability for preservation.Sutter Health Joint Venture Cancer Center, Oakland

High	Trees in good health and with structural stability that have the potential for longevity at the site. Coast redwood #86 and London planes #179, 180, and 182 had a high suitability for preservation.
Moderate	Trees in fair health and/or with structural defects that may be abated with treatment. Trees in this category require more intense management and monitoring, and may have shorter life-spans than those in the "high" category. Ten trees had moderate suitability for preservation: lilly pilly tree #88 and 89, saucer magnolia #90, eastern arborvitae #91, red maple #92, olive #94, and sweetgums #98 and 101 - 103.
Low	Trees in poor health or with significant defects in structure that cannot be abated with treatment. These trees can be expected to decline regardless of management. The species or individual tree may possess either characteristics that are undesirable in landscape settings or be unsuited for use areas. Seven trees were of low suitability for preservation: Victorian box #87, crape myrtle #93, Callery pears #95 – 97, London plane #181, and sweetgums #99 and 100.

We consider trees with high suitability for preservation to be the best candidates for preservation. We do not normally recommend retention of trees with low suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Preliminary Evaluations of Impacts and Recommendations

Appropriate tree retention develops a practical match between the location and intensity of construction activities with the quality and health of trees. The **Tree Assessment** was the reference point for tree condition and quality. Impacts from construction were estimated given the project information available to date. To evaluate impacts from the project, I considered a conceptual planning discussion held with the Dan Wagner (Boldt) on-site on March 25, 2022, the preliminary site plan provided by the client (*Joint Venture Cancer Center, Smith Group, not dated*). In February of 2023, the client provided a preliminary trenching plan to evaluate preliminary impacts to London planes along Summit Street (*JVCC Summit St locating sketch TRENCHING, Del Monte Electric Co., Inc., not dated*).

Plans were conceptual in nature. As such, the assessment of impacts to trees is preliminary. The development proposes to demolish the existing two buildings adjacent to the upper-level parking lot on the E. side of the lot, and to build a new facility in the footprint. Planning also included renovation of the lower parking area. Trees outside these locations may be preserved.

Utility trenches were depicted running along the sidewalk of Summit Street. The preliminary plan depicts an overall depth of between 42 – 48 inches and a width of approximately 24 inches. To restore grade after utility installation, approximately 18 inches of sand followed by approximately 24 inches of native fill will be installed. Plans picture the trenching running through the tree wells of trees #181 and 182.

Based on the proposed plan, I recommend preservation of three trees and removal of 19 (Table 3). Trees recommended for preservation include the following:

- Olive #94 was located away from proposed work in a single-tree planter. I do not expect this tree to be affected if work does not alter the current planter and associated seating.
- London planes #179 and 180 are outside the proposed trench along Summit Street. Some roots may be cut on tree #180, and I expect impacts to be mild to moderate and within the tree's tolerances. I expect mild to negligible impacts to tree #179, so long as it is not mechanically damaged during construction activities.

Trees recommended for removal include the following:

- Trees #86 91 are within the construction footprint.
- Red maple #92 and Sweetgums #98 103 were identified for removal in the conceptual plan discussion.
- London planes #181 and 182 are within the trench alignment along Summit Street.
- Crape myrtle #93 was dead.
- Callery pears #95 97 were located within the proposed project area, and each had low suitability for preservation.

The retention of all trees identified for preservation is predicated on adherence to the *Preliminary Tree Preservation Guidelines*. Some amount of crown and root pruning may be required for these trees.

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Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Proposed Action	Notes
86	Coast redwood	43	Yes	3	High	Remove	Within construction footprint
87	Victorian box	15,12,9,7	Yes	1	Low	Remove	Within construction footprint
88	Lilly pilly tree	14	Yes	3	Moderate	Remove	Within construction footprint
89	Lilly pilly tree	10	Yes	3	Moderate	Remove	Within construction footprint
90	Saucer magnolia	12	Yes	3	Moderate	Remove	Within construction footprint
91	Eastern arborvitae	7,6,1	No	3	Moderate	Remove	Within construction footprint
92	Red maple	5	No	3	Moderate	Remove	ldentified for removal in planning discussion
93	Crape myrtle	5	No	1	Low	Remove	Within construction footprint
94	Olive	6	No	3	Moderate	Preserve	Outside construction area
95	Callery pear	5	No	3	Low	Remove	Low suitability for preservation
96	Callery pear	4	No	3	Low	Remove	Low suitability for preservation
97	Callery pear	6	No	3	Low	Remove	Low suitability for preservation
98	Sweetgum	8	No	3	Moderate	Remove	Identified for removal in planning discussion
99	Sweetgum	7	No	1	Low	Remove	Identified for removal in planning discussion
100	Sweetgum	8	No	2	Low	Remove	Identified for removal in planning discussion
101	Sweetgum	7	No	3	Moderate	Remove	Identified for removal in planning discussion
102	Sweetgum	9	Yes	3	Moderate	Remove	Identified for removal in planning discussion

Table 3: Preliminary dispositionSutter Health Joint Venture Cancer Center

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Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Proposed Action	Notes
103	Sweetgum	10	Yes	3	Moderate	Remove	Identified for removal in planning discussion
179	London plane	14	Yes	3	High	Preserve	~Half block from trenching
180	London plane	13	Yes	3	High	Preserve	Outside trench, limited root impact possible
181	London plane	14	Yes	2	Low	Remove	Within trench alignment
182	London plane	14	Yes	3	High	Remove	Within trench alignment

Preliminary Tree Preservation Guidelines

The following recommendations will help reduce impacts to trees from development as well as maintain and improve their health and vitality through the clearing, grading and construction phases. The key elements of a tree preservation plan for the Sutter Health Joint Venture Cancer Center site would include:

- Establishing Tree Protection Zones for each tree to be preserved. Tree Protection Zones are identified by the Consulting Arborist based on species tolerances, tree condition, trunk diameters and the nature and proximity of the proposed disturbance.
- Providing supplemental irrigation prior to and during the demolition and construction phases.

Design recommendations

- 1. All plans affecting trees shall be reviewed by the Consulting Arborist regarding tree impacts. These include, but are not limited to, demolition plans, grading and utility plans, landscape, and irrigation plans.
- 2. For trees identified for preservation, designate a **Tree Protection Zone** in which no construction, grading and underground services including utilities, sub-drains, water or sewer will be located (Figure 1). For design purposes, the **Tree Protection Zone** should be either the dripline or edge of the planting bed where the tree is located. Depending in the tree to be preserved, additional space beyond the dripline may be required.
- 3. No grading, excavation, construction, or storage of materials shall occur within that zone.
- 4. No underground services including utilities, sub-drains, water, or sewer shall be placed in the **Tree Protection Zone**.
- 5. Irrigation systems must be designed so that no trenching will occur within the **Tree Protection Zone**.
- 6. As trees withdraw water from the soil, expansive soils may shrink within the root area. Therefore, foundations, footings and pavements on expansive soils near trees should be designed to withstand differential displacement.

Pre-construction treatments and recommendations

- 1. The demolition contractor shall meet with the Consulting Arborist before beginning work to discuss work procedures and tree protection.
- 2. Where possible, cap and abandon all existing underground utilities within the **TPZ** in place. Removal of utility boxes by hand is acceptable but no trenching should be performed within the **TPZ** in an effort to remove utilities, irrigation lines, etc.
- 3. Fence all trees to be retained to completely enclose the **Tree Protection Zone** prior to demolition, grubbing or grading. Fences shall be 6 ft. chain link or equivalent as approved by the Consulting Arborist. Fences are to remain until all grading and construction is completed.

- 4. Trees to be preserved may require pruning. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49). All pruning shall be done by Certified Arborist or Certified Tree Worker in accordance with the latest edition of the Best Management Practices for Pruning (International Society of Arboriculture) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300). The Consulting Arborist will provide pruning specifications prior to site demolition. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage.
- 5. All tree work shall comply with the Migratory Bird Treaty Act as well as California Fish and Wildlife code 3503-3513 to not disturb nesting birds. Tree pruning and removal should be scheduled outside of the breeding season to avoid scheduling delays. Breeding bird surveys should be conducted prior to tree work. Qualified biologists should be involved in establishing work buffers for active nests.
- 6. Trees to be removed shall be felled so as to fall away from **Tree Protection Zone** and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the consultant may require first severing the major woody root mass before extracting the trees, or grinding the stump below ground.
- 7. Apply and maintain 4-6 inches of wood chip mulch within the Tree Protection Zone.

Recommendations for tree protection during construction

- 1. Prior to beginning work, the contractors working in the vicinity of trees to be preserved are required to meet with the Consulting Arborist at the site to review all work procedures, access routes, storage areas and tree protection measures.
- 2. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
- 3. Any grading, construction, demolition or other work that is expected to encounter tree roots should be monitored by the Consulting Arborist.
- 4. Tree protection fences are to remain until all site work has been completed. Fences may not be relocated or removed without permission of the Consulting Arborist.
- 5. Construction trailers, traffic and storage areas must remain outside fenced areas at all times.
- 6. Prior to grading, pad preparation, excavation for foundations/footings/walls, trenching, trees may require root pruning outside the **Tree Protection Zone** by cutting all roots cleanly to the depth of the excavation. Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, with a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment. The Consulting Arborist will identify where root pruning is required and monitor all root pruning activities.
- 7. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Consulting Arborist so that appropriate treatments can be applied.
- 8. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **Tree Protection Zone**.

9. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.

Maintenance of impacted trees

Preserved trees will experience a physical environment different from that pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required. In addition, provisions for monitoring both tree health and structural stability following construction must be made a priority. As trees age, the likelihood of failure of branches or entire trees increases. Therefore, annual inspection for structural condition is recommended.

HortScience | Bartlett Consulting

Ryan Suttle, Consulting Arborist & Urban Forester ISA Board Certified Master Arborist, Utility Specialist No. WE-12647BU ISA Tree Risk Assessment Qualified



Exhibits

Tree Assessment Form

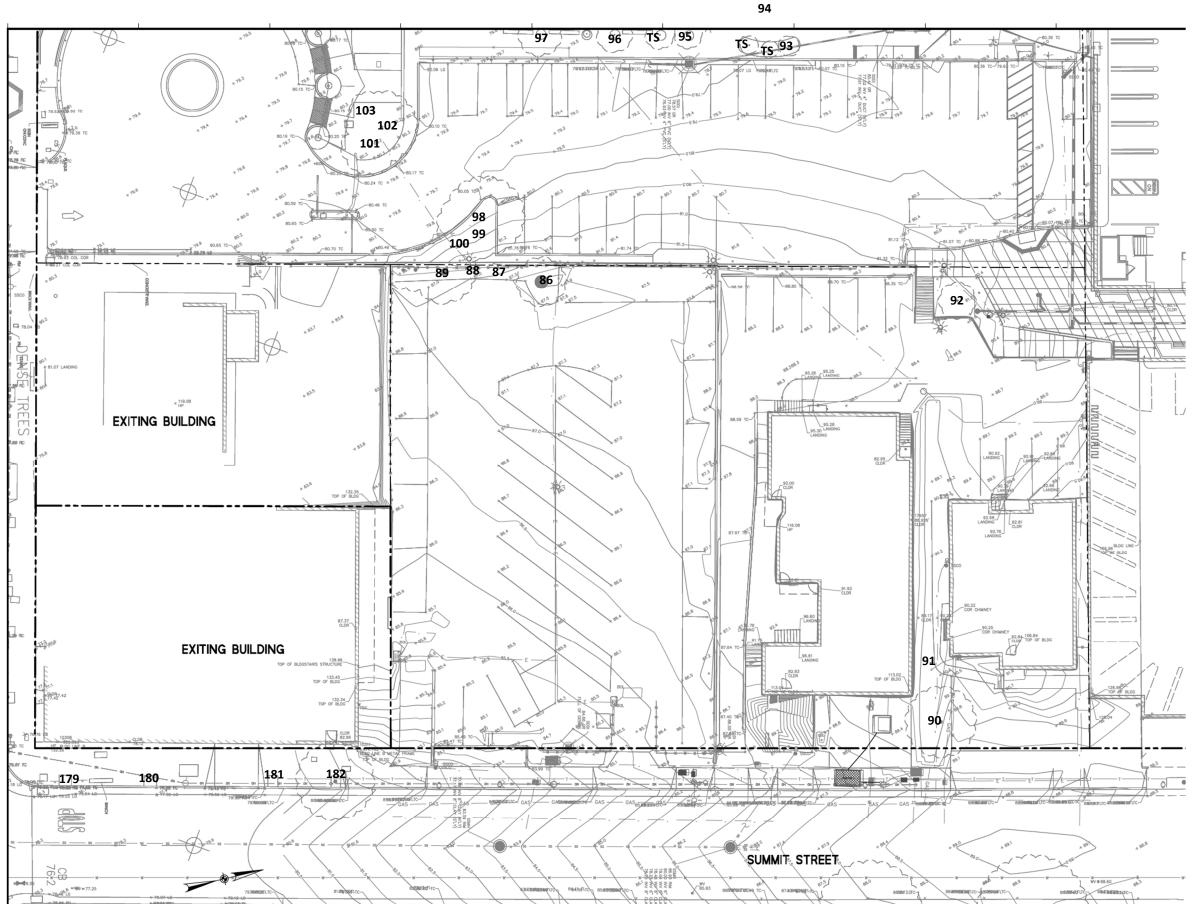
Tree Assessment Plan

Tree Assessment	Sutter Health JVCC Oakland, CA March 2023
	March 2023



Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
86	Coast redwood	43	Yes	3	High	Narrow crown; form typical of species with single central leader; lost leader at top; trunk engulfed in ivy.
87	Victorian box	15,12,9,7	Yes	1	Low	Base not visible engulfed in ivy; multiple attachments at 5ft fused trunk; severe twig and branch dieback.
88	Lilly pilly tree	14	Yes	3	Moderate	Base engulfed in ivy; narrow codominant stem at 8ft; narrow crown; suppressed N and S.
89	Lilly pilly tree	10	Yes	3	Moderate	One-sided crown S.; base engulfed in ivy; codominant stem at 13ft with no included bark.
90	Saucer magnolia	12	Yes	3	Moderate	Codominant stems at 4ft; measured below; many surface roots; poor form and structure with fused and crossing branches.
91	Eastern arborvitae	7,6,1	No	3	Moderate	Codominant stems at base and 2ft; interior dieback; suppressed by buildings on N; And S.
92	Red maple	5	No	3	Moderate	Dieback in lower crown; good structure and form.
93	Crape myrtle	5	No	1	Low	Dead tree.
96	Olive	6	No	3	Moderate	Base engulfed in reeds in planter; multiple attachments at 5ft with included bark; open grown; good vigor.
95	Callery pear	5	No	3	Low	Multiple attachments between 4 and 6ft with included bark and fused branches; slight lean N.
96	Callery pear	4	No	3	Low	Multiple attachments arise from 6-7ft; codominant stems throughout crown; crossing branches; poor form and structure;
97	Callery pear	6	No	3	Low	Multiple attachments arise from 8ft; poor form and structure; good vigor.
98	Sweetgum	8	No	3	Moderate	One-sided crown NW; heavily suppressed; good vigor.
99	Sweetgum	7	No	1	Low	All but dead; heavily suppressed.
100	Sweetgum	8	No	2	Low	Codominant stems arise from 7ft; decay present at union; one- sided crown SW.
101	Sweetgum	7	No	3	Moderate	One-side E; codominant stems at 5ft with wide union; narrow
102	Sweetgum	9	Yes	3	Moderate	Codominant stem at 7ft with wide union; one-sided crown NW.

Tree	Assessmen		Health JVC0 nd, CA 2023	c		HORT SCIENCE BARTLETT CONSULTING SCIENCE TO A MERIDICAL TO THE SECTION
Tree No.	Species	Trunk Diameter (in.)	Protected Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
103	Sweetgum	10	Yes	3	Moderate	Multiple attachments at 7ft with included bark; one-sided crown
179	London plane	14	Yes	3	High	Under utility lines; topped; in tree well; multiple attachments at 9'; prolific new bud growth
180	London plane	13	Yes	3	High	Under utility lines; topped; in tree well; multiple attachments at 9'; prolific new bud growth
181	London plane	14	Yes	2	Low	Under utility lines; topped; in tree well; multiple attachments at 9'; large branch failure S with 5' tear; healthy wound wood; prolific
182	London plane	14	Yes	3	High	new bud growth Under utility lines; topped; in tree well; multiple attachments at 10'; S branch failure; prolific new bud growth



Tree Assessment Plan

Sutter Health Joint Venture Cancer Center Oakland, CA

Prepared for: Sutter Health Oakland, CA



March 2022

No Scale

Notes: Base map provided by: Smith Group Tree locations are approximate TS= too small



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