ARBORIST REPORT

TREE PROTECTION PLAN

REVISED JULY 26, 2024

PREPARED FOR: ALLIANT STRATEGIC DEVELOPMENT

SITE ADDRESS:
320 SHERIDAN DR. • MENLO PARK, CA 94025

BUSARA FIRESTONE #WE-8525B

KAITLYN MEYER #WE-14992A

ON STAFF

BO FIRESTONE TREES & GARDENS

2150 LACEY DR., MILPITAS, CA 95035

E: BUSARA@BOFIRESTONE.COM C: (408) 497-7158

WWW.BOFIRESTONE.COM

ASCA RCA #758
Registered Consulting Arborist®

Contents

Introduction

ARBORIST ASSIGNMENT

On April 5th, 2023, at the request of Kevin Kohan, I visited 320 Sheridan Dr. in the role of Project Arborist. The purpose was to perform the assessments and data collections as necessary to create an industry-standard Tree Protection Report for their project permit. It was my understanding that the existing parcel would be developed to create an affordable multi-family housing complex. Most parts of the existing parcel would be paved. The assessments in this report were based on review of the following:

- Site Plan by KPFF (received 02/26/2024)
- Boundary and Topographic Survey by Morrow Surveying (dated 07/31/2023)
- Landscape Plan L-1.1 – L-3 by Alliant Strategic Development (dated 02/26/2024)
    - Including Landscape Plan, Wall and Fence Plan, and Wall and Fence Details
- Civil Engineering Plan C-1 – C-10 by KPFF (revised 07/26/2024)
    - Including Utility Plan, Grading and Drainage Plan, Bioretention Details, and Site Tree Plan

My inventory included a total of 36 trees over six inches (6" DBH). There were 28 trees of Heritage size, consisting of a mix of coast live oak (*Quercus agrifolia)*, redwood (*Sequoia sempervirens*), Monterey pine (*Pinus radiata*), and valley oak (*Quercus lobata*). Five (5) trees on the property were requested for removal. 27 neighboring trees would require protection measures. All other neighboring trees were sufficiently distant from the work (>10x DBH).

USES OF THIS REPORT

According to City Ordinance, *any person who conducts grading, excavation, demolition, or construction activity on a property is to do so in a manner that does not threaten the health or viability or cause the removal of any Heritage Tree. Any heritage tree to be retained protected by the City's Municipal Code will require replacement according to its appraised value if it is damaged beyond repair as a result of construction.* ***Any work performed within an area 10***

times the diameter of the tree (i.e., the tree protection zone) requires the submittal of a tree protection plan for approval by the City before issuance of any permit for grading or construction.

This report was written by Busara Firestone, Project Arborist, to serve as a resource for the property owner, designer, and builder. As needed, I have provided instructions for retaining, protecting, and working around trees during construction, as well as information on City requirements. *The owner, contractor and architect are responsible for knowing the information included in this arborist report and adhering to the conditions provided.*

Limitations

Trees assessed were limited to the scope of work identified in the assignment. I have estimated the trunk diameters of trees with barriers to access or visibility (such as those on neighboring parcels or behind debris). Although general structure and health were assessed, formal Tree Risk Assessments were not conducted unless specified. Disease diagnostic work was not conducted unless specified. All assessments were the result of ground-based, visual inspections. No excavation or aerial inspections were performed. Recommendations beyond those related to the proposed construction were not within the scope of work.

My tree impact and preservation assessments were based on information provided in the plans I have reviewed to date, and conversations with the involved parties. I assumed that the guidelines and setbacks recommended in this report would be followed. Assessments, conclusions, and opinions shared in this report are not a guarantee of any specific outcome. If additional information (such as engineering or landscape plans) is provided for my review, these assessments would be subject to change.

City Tree Protection Requirements

Heritage Tree Definition

A "Heritage Tree" is a tree that has protected status by the City of Menlo Park. The City can classify trees with Heritage status for their remarkable size, age, or unique value. However, in general, native oaks of 10 inches or more, and any tree having a trunk with a diameter of 15 inches or more has Heritage status (measured at 54 inches above natural grade, or at the branching point for multi-trunk trees).

Construction-Related Tree Removals

According to the City of Menlo Park, *applicants are required to submit a site plan with the Heritage Tree Removal Application Permit even if they have submitted a site plan to the City for a planning or building permit. The site plan facilitates the review by the City Arborist.*

For removals of two or more trees, applicants shall be required to submit a planting plan indicating the species, size, and location of the proposed replacement trees on a site plan. Heritage Tree Permits related to Construction will also be charged for City-retained arborist expenses.

Violation Penalties

Any person who violates the tree protection ordinance, including property owners, occupants, tree companies and gardeners, could be held liable for violation of the ordinance. The ordinance prohibits removal or pruning of over one-fourth of the tree, vandalizing, mutilating, destruction and unbalancing of a heritage tree without a permit.

If a violation occurs during construction, the City may issue a stop-work order suspending and prohibiting further activity on the property until a mitigation plan has been approved, including protection measures for remaining trees on the property. ***Damage to Heritage trees must be reported to the Project Arborist or City Arborist within six (6) hours of damage.***

After receiving notice or observing damage during a requested inspection, the Project Arborist will issue a report to the client. This applies to all trees identified for preservation including neighboring trees. Documentation will include a description of the issue (extent of wounding, canopy loss or root loss), reassessment of impacts to the tree, and recommended remediation.

Civil penalties may be assessed against any person who commits, allows or maintains a violation of any provision of the ordinance. The fine will be an amount not to exceed $5,000 per violation, or an amount equivalent to the replacement value of the tree, whichever is higher.

Impacts to Heritage Trees

PROJECT DESCRIPTION

The property at 320 Sheridan Dr. was a large rectangular lot with no buildings. Pavement from what appeared to be an old school remained on the site. Nine (9) mature trees stood on the lot. Several mature trees hung over the lot on various sides.

After review of proposed site plan and conversations with the developer, it was my understanding that the existing lot would be developed for an affordable multi-family housing complex. New landscaping and parking spaces were also planned, and new utilities were to be run. The design team engaged me in several design meetings. These resulted in the following major revisions to the original site plan to preserve as many trees as possible, including Trees #2H - #4H and #14H:

- Trees #3H and #4H had been originally within the footprint of the building. The configuration of the buildings and parking lot were redesigned to accommodate these trees. The tree island for Tree #3H was expanded, and structural soils were to be used within a 20-foot minimum radius of these trees.
- Utilities and walkways were moved at a greater setback from trees.
- The bioretention area was shifted further from neighboring Tree #12H.

It is my opinion that this project retains the greatest number of existing trees while delivering the City-required components and state-mandated number of parking spaces. The project is currently designed with close to the minimum number of parking spaces.

TREE INVENTORY

This tree preservation plan includes an attached inventory of all trees on the property regardless of species, that were at least 12 feet tall and 6-inch DSH.

This inventory also includes as necessary, any neighboring Heritage Trees with work proposed within 10 times their diameter (DBH). Any street trees within the public right-of-way were also included, regardless of size, as required by the City.

The Inventory includes each tree's number (as shown on the TPZ map), measurements, condition, level of impact (due to proximity to work), tolerance to construction, and overall suitability for retainment. The inventory also includes the appraised value of each tree using the Trunk Formula Technique (10th Edition).

HOW CONSTRUCTION CAN DAMAGE TREES

Damage to Roots

Where are the Roots?

The most common types of injury to trees that occur during property improvements are related to root cutting or damage. **Tree roots extend farther out than people realize, and the majority are located within the upper 24 inches of soil.** The thickest roots are found close to the trunk, and taper and branch into ropey roots. These ropey roots taper and branch into an intricate system of fine fibrous roots, which are connected to an even finer system of fungal filaments. This vast below-ground network is tasked with absorbing water and nutrients, as well as anchoring the tree in the ground, storage, and communication.

Damage from Excavation

Any type of excavation will impact adjacent trees by severing roots and thus cutting off the attached network. Severing large roots, or trenching across the root plate, destroys large networks. Even work that appears to be far from a tree can impact the fibrous root system. Placing impervious surfaces over the ground, or installing below ground structures, such as a pool, or basement wall, will remove rooting area permanently from a site.

Damage from Fill

Adding fill can smother roots, making it difficult for them to access air and water. The roots and other soil life need time to colonize the new upper layers of soil.

Changes to Drainage and Available Water

Changes to the hydrology of the site, caused for instance by new septic fields, changes to grade, and drainage systems, can also cause big changes in available water for trees. Trees can die from lack of water or disease if their water supply dries up or gets much wetter than they are used to.

Soil Compaction and Contamination

In addition, compaction of soil, or contamination of soil with wash-water, paint, fuel, or other chemicals used in the building process, can cause damage to the rooting environment that can last many years. Tree protection fencing creates a barrier to protect as many roots as possible from this damage, which can be caused by travelling vehicles, equipment storage, and other construction activities that may occur even outside the construction envelope.

Mechanical Injury

Injury from the impact of vehicles or equipment can occur to the root crown, trunk, and lower branches of a tree. The bark protects a tree – creating a skin-like barrier from disease-causing organisms. The stem tissues support the weight of the plant. They also conduct the flow of water, sugars, and other important compounds throughout the tree. When the bark and wood is injured, the structure and health of the tree is compromised.

TREE IMPACT ASSESSMENT

SUMMARY

27 Heritage Trees would be impacted by the project, consisting of coast live oaks, redwoods, Monterey pines, and valley oaks. Five (5) trees, including two (2) Heritage trees, on the property were requested for removal. Please see removal justifications in the following section.

My evaluation of the impacts of the proposed construction work for all affected trees was summarized in the Tree Inventory. These included impacts of grading, excavation for utility installation, retaining walls, drainage or any other aspect of the project that could impact the service life of the tree. Anticipated impacts to trees were summarized using a rating system of "severe," "high," "moderate," "low," or "very low."

General species tolerance to construction, and condition of the trees (health and structural integrity), was also noted on the Inventory. These major factors, as well as tree age, soil characteristics, and species desirability, all factored into an individual tree's suitability rating, as summarized on the Inventory. Suitability of trees to be retained was rated as "high," "moderate," "low." Trees with low suitability would be appropriate candidates for removal. **Please see Glossary for definitions of ratings.**

TREE REMOVALS

Removal Justification for trees is as follows:

- **Trees #6, #15, and #16 were not Heritage Trees**:
    - I recommended Tree #6 (Hollywood juniper, *Juniperus chinensis*) for removal because it was within the footprint of the proposed parking area.
    - I recommended Tree #15 (plum, *Prunus cerasifera*) for removal because it was in "poor" condition with 30% live canopy and low vigor.
    - I recommend Tree #16 (oleander, *Nerium oleander*) for removal because it was within the footprint of the proposed storm drain and bioretention area.

- **Tree #5H (40" redwood) and Tree #13H (31" coast live oak) had trunks within the footprint of the proposed building and pavement respectively. Removal would be necessary to build as planned. The client should be prepared to provide justification for tree removal for the economic development of the parcel as per Menlo Park Administrative Guidelines section 13.24.050 Clause a.5 (see below).**

Menlo Park Administrative Guidelines for Criterion 5:

The following documentation may be required to support tree removal for economic development:

- Schematic diagrams that demonstrate the feasibility/livability of alternative design(s) that preserve the tree, including utilizing zoning ordinance variances that would preserve the tree.

- Documentation on the additional incremental construction cost attributable to an alternative that preserves the tree (i.e. construction cost of alternative design minus cost of original design) in relation to the appraised value of tree(s) and based on the most recent addition to the Guide for Plant Appraisal.

The following guidance will be used to determine feasibility:

- If the incremental cost of the tree preservation alternative is more than 140% of the appraised value of the tree, the cost will be presumed to be financially infeasible.

- If the incremental cost of the tree preservation alternative is less than 110% of the appraised value of the tree, the cost will be presumed to be financially feasible.
- If the incremental cost of the tree preservation alternative is between 110% and 140% of the appraised value of the tree, public works director or their designee will consider a range of factors, including the value of the improvements, the value of the tree, the location of the tree, the viability of replacement mitigation and other site conditions.

- In calculating the incremental cost of the tree preservation alternative, only construction costs will be evaluated. No design fees or other soft costs will be considered.

IMPACTS TO RETAINED TREES

Impacts to protected trees were as follows:

- **Tree #1H (neighboring 26" coast live oak):** This County Park tree was approximately 13 feet from one of the proposed buildings. It was growing into the existing fence and would be approximately two feet (2') from the proposed fence. It would be expected to sustain "moderate" impacts (10% - 25% root loss) from the proposed excavation. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #2H (20" coast live oak):** This tree was approximately 16 feet from the proposed building and less than five feet (5') from the proposed pavement. It was growing into the existing fence and would be approximately two feet (2') from the proposed fence. It would be expected to sustain "moderate" (acceptable) impacts of 10% - 25% root loss. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #3H (42" coast live oak) and Tree #4H (30" coast live oak):** These trees were approximately six feet (6') and four feet (4') respectively from the proposed parking lot at their closest. It was my understanding that structural soils would be used within a 20-foot radius of these trees. They would be expected to sustain "moderate" impacts (10% - 25% root loss) from the proposed work. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of these trees.**

- **Tree #7H (neighboring 36" coast live oak):** This neighboring tree along the fence line was approximately 13 feet from the proposed building. It was growing into the existing fence and would be approximately two feet (2') from the proposed fence. It would be expected to sustain "moderate" impacts from the proposed construction. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #8H (neighboring 18" coast live oak):** This neighboring tree along the fence line was approximately 14 feet from the proposed building. It was growing into the existing

fence and would be approximately two feet (2') from the proposed fence. It would be expected to sustain "low" impacts from the proposed construction. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #9H (neighboring 29" coast live oak):** This neighboring tree along the fence line was approximately 10 feet from the proposed building at its closest. It was growing into the existing fence and would be approximately two feet (2') from the proposed fence. A transformer pad was proposed approximately 15 feet away at the closest point. It would be expected to sustain "moderate" impacts from the proposed construction. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #12H (neighboring 23" coast live oak):** This neighboring tree along the fence line was approximately 11 feet from the proposed paved area. It was approximately one foot (1') from the existing and proposed fence. The bioretention area was planned approximately 11 feet away. It would be expected to sustain "moderate" impacts from the proposed construction (10% - 25% root loss). **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #14H (27" live oak):** This tree was located along the fence line of the existing parcel, approximately four feet (4') from the existing pavement and a proposed walkway. It was approximately 10 feet from the proposed parking lot and 13 feet from the proposed building. A new sewer line was proposed approximately seven feet (7') away and storm drain approximately 20 feet away. A new fence was to be built approximately 13 feet away. Tree #14H would be expected to sustain "moderate" impacts (10% - 25%) from the proposed construction. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #17H (neighboring 23" oak):** This tree, located on San Mateo County Park property, was approximately 10 feet from the proposed building. It was growing into the existing fence and would be approximately two feet (2') from the proposed fence. It would be expected to be "moderately" impacted. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #18H (neighboring 33" live oak):** This County Park tree was located approximately 13 feet from the proposed building. The sewer line was also proposed approximately 12 feet away. The existing fence bisected the trunk, and it would be approximately two feet (2') from the proposed fence. It would be expected to be "moderately" impacted by the work. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Trees #2429H (16" valley oak), #2436H (neighboring 15.5" redwood), #2443H (neighboring 24" oak), and #2448H (neighboring 15" oak):** These County Park trees were located approximately 15 feet from the proposed buildings and eight feet (8') from the existing and proposed fence. They would be anticipated to sustain "low" impacts (less than 10% root loss) from the work. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of these trees.**

- **Tree #2432H (neighboring 11" oak):** This County Park tree was approximately 10 feet from the closest paved area and approximately 13 feet from the proposed building. It was approximately two feet (2') from the existing and proposed fence. It would be expected to sustain "low" impacts. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

- **Tree #2434H (neighboring 20" oak) and Tree #2435H (neighboring 21.5" oak):** These County Park trees were located approximate two feet (2') from the existing pavement at the property entrance. They were approximately 10 feet from the proposed building. They were growing into the existing fence and would be approximately two feet (2') from the proposed fence. They would be anticipated to sustain "moderate" impacts (10% - 25% root loss) from the proposed construction. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of these trees.**

- **Tree #2437H (neighboring 30" redwood):** This County Park tree was approximately 20 feet from the proposed building and six feet (6') from the fence. It would be expected to sustain "low" impacts from the proposed construction (less than 10% root loss). **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of these trees.**

- **Tree #2441H (neighboring 26" oak), Tree #2446H (neighboring 18" oak), and Tree #2447H (neighboring 29" oak):** These County Parks trees, approximately 10 feet from the proposed building, would be expected to be "moderately" impacted. Trees #2446H and #2447H were growing into the existing fence to be removed. These trees were approximately two feet (2') from the proposed fence. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of Trees #2441H and #2447H.**

- **Trees #2442H (neighboring 33" Monterey pine), #2444H (18.5" neighboring Monterey pine), and #2445H (neighboring 44" Monterey pine):** These County Parks trees were approximately 13 feet from the proposed building and three feet (3') from the existing and proposed fence. They would be expected to be "moderately" impacted. **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of Trees #2442H and #2445H.**

- **Tree #2450H (neighboring 18" oak):** This County Park tree was located approximately 14 feet from the proposed building. It was growing into the existing fence and was two feet (2') from the proposed fence. It would be expected to sustain "low" impacts (less than 10% root loss). **Please see "Special Tree Protection Measures" section of this report for guidelines on working within 6x DBH of this tree.**

Tree Protection Recommendations

PRE-CONSTRUCTION

Establish Tree Protection Zones (TPZ)

The Tree Protection Zone (TPZ) shall be a fenced-off area where work and material storage is not allowed. They are established and inspected prior to the start of work. This barrier protects the critical root zone and trunk from compaction, mechanical damage, and chemical

spills. **The City requires that tree protection fencing be installed before any equipment comes on-site and inspected by the Project Arborist, who shall submit a verification letter to the City before issuance of permits.**

Tree protection fencing is required to remain in place throughout construction and may only be moved or removed with written authorization from the City Arborist. The Project Arborist may authorize modification to the fencing when a copy of the written authorization is submitted to the City.

The following activities are prohibited inside the Tree Protection Zone. DO NOT:

- Place heavy machinery for excavation
- Allow runoff or spillage of damaging materials
- Store or stockpile materials, tools, or soil
- Park or drive vehicles
- Trench, dig, or otherwise excavate without first obtaining authorization from the City Arborist or Project Arborist
- Change soil grade
- Trench with a machine
- Allow fires under and adjacent to trees
- Discharge exhaust into foliage
- Direct runoff towards trees
- Cut, break, skin, or bruise roots, branches, or trunks without authorization from the City Arborist
- Secure cable, chain, or rope to trees
- Apply soil sterilant under pavement near existing trees

Specific recommended protection for trees is as follows:

- **Trees 1H, #2H, #7H – 9H, #2437H – 2438, #2441H - #2448H, and #2450H (mix of neighboring trees):** These neighboring trees may be fenced as a group within the same perimeter. Establish standard TPZ fencing radius to 15 feet, or to the greatest extent possible as limited by the proposed work and property lines. Where limitations existed, I recommended TPZ Wrap in addition to the standard fencing for **Tree #2H** to better protect this relatively valuable tree adjacent to the work. Securely bind wooden slats at least 1-inch-thick around the trunk (preferably on a closed-cell foam pad). Secure and wrap at least one layer of orange plastic construction fencing around the outside of the

wooden slats for visibility. DO NOT drive fasteners into the tree. **Please see attached "TPZ Trunk Wrap" specification for best-practice method using dimensional lumber.**

- **Tree #3H (42" coast live oak):** Establish standard TPZ fencing radius to 25 feet, or to the greatest extent possible as limited by the proposed work.

- **Tree #4H (30" oak):** Establish standard TPZ fencing radius to 20 feet, or to the greatest extent possible as limited by the proposed work.

- **Tree #12H (23" neighboring oak):** Establish standard TPZ fencing radius to 15 feet, or to the greatest extent possible as limited by the proposed work.

- **Tree #14H (27" oak):** Establish standard TPZ fencing radius to 20 feet, or to the greatest extent possible as limited by the proposed work. Where limitations existed, I recommended TPZ Wrap in addition to the standard fencing to better protect this relatively valuable tree adjacent to the work. **Please see attached "TPZ Trunk Wrap" specification for best-practice method using dimensional lumber**. A coiled straw wattle wrap from the ground to 6' height, secured with two layers of plastic construction fencing is also acceptable.

- **Trees #17H, #18H, #2429H - #2432H, and #2434H – #2436H (neighboring oaks)**: These neighboring trees may be fenced as a group within the same perimeter. Establish standard TPZ fencing radius to 15 feet, or to the greatest extent possible as limited by the proposed work and property lines. **See attached "TPZ Map" for recommended fencing locations. Please see special instructions on pg. 13 for removing embedded chain link fence.**

TPZ FENCING SPECIFICATIONS:

1) Establish tree protection fencing radius by installing six (6)-foot tall chain link fencing mounted on eight (8)-foot tall, 1.5-inch diameter galvanized posts, driven 24 inches into the ground and spaced no more than 10 feet apart.

2) Post signs on the fencing (in English and Spanish) printed on 11”x17” yellow-colored paper (signage attached at end of report) with Project Arborist’s contact information. Signage should be on each protection fence in a prominent location.

3) Movable barriers of chain link fencing secured to cement blocks may be substituted for fixed fencing if the Project Arborist and City Arborist agree that the fencing will have to be moved to accommodate certain phases of construction. The builder may not move the fence without authorization from the Project Arborist or City Arborist.

TRUNK WRAP SPECIFICATIONS:

- *Securely bind wooden slats at least 1-inch-thick around the trunk (preferably on a closed-cell foam pad). Secure and wrap at least one layer of orange plastic construction fencing around the outside of the wooden slats for visibility;*
- *DO NOT drive fasteners into the tree;*
- *Install trunk protection immediately prior to work within the TPZ and remove protection from the tree(s) as soon as work moves outside the TPZ;*
- *Protect major scaffold limbs as determined by the City Arborist or Project Arborist; and*
- *If necessary, install wooden barriers at an angle so that the trunk flare and buttress roots are also protected.*

Preventing Root Damage

Bare ground within the TPZ should have material applied over the ground to reduce soil compaction and retain soil moisture. This may be done by applying a six to 12-inch layer of wood chip mulch to the area. With this method, mulch in excess of four inches would have to be removed after work is completed. As an alternative method that would not require mulch removal, the contractor could place plywood (>3/4-inch-thick) or road mats over a four-inch layer of mulch. Mulch should be spread manually so as not cause compaction or damage.

Pruning Branches

I recommend that trees be pruned only as necessary to provide minimum clearance for proposed structures and the passage of workers, vehicles, and machines, while maintaining a

natural appearance. Any large dead branches should be pruned out for the safety of people working on the site.

Pruning should be specified in writing adhering to ANSI A300 Pruning Standards and performed according to Best Management Practices endorsed by the International Society of Arboriculture. Any pruning (trimming) of branches should be supervised by an ISA-certified arborist.

Any property owner wanting to prune heritage tree more than one-fourth of the canopy and/or roots, must have permission from the City.

Arborist Inspection

The City requires that tree protection fencing be installed before any equipment comes on-site and inspected by the Project Arborist, who shall submit a verification letter to the City before issuance of permits. Tree protection fencing to be inspected by City Arborist before demo and/or building permit issuance.

DURING CONSTRUCTION

Special Tree Protection Measures

1) **Demolition of existing hardscape (Trees #3H, #4H, #14H, #2434H, #2435H):** should be performed in a manner that avoids tearing roots: Using the smallest effective machinery, break up pieces of the concrete and lift pieces up and away from trees. Cut roots embedded in paving rather than tearing them (see instructions on "Root Pruning"). Work must be done outside the tree protection zone (established by fencing). Dragging concrete or machinery across soil in the TPZ as this would disturb soil and roots.

2) **Excavation guidelines for installation of new foundation:** *Use hand tools only* when excavating within the setbacks listed below within the top 36 inches of soil depth. If roots of one-inch diameter or larger must be cut, they should be cut cleanly with a sharp, clean sawblade perpendicular to the direction of growth (a "square cut"). The cut should be made where the bark of the root is undamaged and intact. **Root pruning**

should be supervised by the Project Arborist. Setbacks from the outer trunk are as follows:

- Tree #1H: 13 feet
- Tree #2H: 10 feet
- Tree #7H: 18 feet
- Tree #9H: 18 feet
- Tree #14H: 14 feet
- Tree #17H: 12 feet
- Tree #18H: 17 feet
- Tree #2434H: 10 feet
- Tree #2435H: 11 feet
- Tree #2441H: 13 feet
- Tree #2447H: 15 feet
- Tree #2442H: 17 feet
- Tree #2445H: 22 feet

3) **Hardscaping (parking lot and walkways):** Use hand tools when excavating within:
   a. **10 feet of Trees #2H, #2434H and #2435H**
   b. **15 feet of Trees #12H, #14H, #2437H, #2442H, and #2447H**
   c. **20 feet of Tree #2445H**

Leave roots encountered undisturbed if possible. Excavation depth for installation of new landscape materials within the above distances of trees should be no more than four inches (4") into existing soil grade. Do not compact native soil under paving materials. If roots must be cut, please see section titled "Root Pruning." No paving materials or any excavation or grading within three feet (3') of trunks.

4) Exploratory Trench – Construction of the parking lot (<3X DBH) – Trees #3H and #4H

To protect Tree #3H and #4H (oaks) from damage in the construction of the parking lot, I recommend the following measures:

   a. **I recommend an exploratory trench to be dug by hand, before excavation begins, to expose roots along the tree-side of the parking lot and tree island. The exploratory trench should be dug within 11 feet of Tree #3H and eight feet (8') of Tree #4H.** This way, roots may be exposed by gentle excavation methods

and then cut selectively. Root pruning should be supervised by the Project Arborist.

b. Builders may notice torn roots after digging or trenching. If this happens, or if roots must be cut for any reason, please see section titled "Root Pruning."

5) **Excavation guidelines for installation of underground utility – Trees #14H and #18H:** Do not trench within 14 feet of Tree #14H and 17 feet of Tree #18H if possible. Consider using boring (tunneling) machines set up outside the dripline of the tree. If trenching is necessary, use hand tools or vacuum soil extraction in the top 36 inches of soil. **Leave woody roots of one inch or larger undamaged with bark intact**. The pipes can then be pushed through the trench or tunnel, beneath the roots. Most roots are found within the top 24 inches of soil.

6) **Removing chain link fence embedded in Trees #1H – 3H, #7H – 9H, #17H, #18H, #2434H, #2435H, #2443H, #2446H, and #2447H**: Do not remove portions of fencing that are embedded in tree. Carefully cut embedded fence sections removing as much of the existing fence as possible without damaging the tree. Hand-tools such as a wire cutter and hack saw are preferred to power tools.

7) **Excavation guidelines for installation of fence footings – Trees #1H, #2H, #7H – 9H, #12H, #14H, #17H, #18H, #2429H, #2432H, #2434H - #2437H, #2441H - #2448H, and #2450H :** When excavating or boring underneath the canopy, or within 20 feet of the trunks of these trees, use hand tools within the top 36" of the soil leaving woody roots undamaged. Under the supervision of the Project Arborist or City Arborist, roots encountered should be cut cleanly with a sharp, clean sawblade perpendicular to the direction of growth (a "square cut"). The cut should be made where the bark of the root is undamaged and intact. If roots of over two inches (2") are found, the Project Arborist may recommend moving the location of the footing.

Root Pruning

As required by the City of Menlo Park:

- *To avoid injury to tree roots, only excavate carefully by hand, compressed air, or high-pressure water within the dripline of trees.*
- *When the Contractor encounters roots smaller than 2-inches, hand-trim the wall of the trench adjacent to the trees to make even, clean cuts through the roots. Cleanly cut all damaged and torn roots to reduce the incidence of decay.*
- *Fill trenches within 24 hours. When it is infeasible to fill trenches within 24 hours, shade the side of the trench adjacent to the trees with four layers of dampened, untreated burlap. Wet burlap as frequently as necessary to maintain moisture.*
- ***When the Contractor encounters roots 2 inches or larger, report immediately to the Project Arborist.*** *The Project Arborist will decide whether the Contractor may cut roots 2 inches or larger. If a root is retained, excavate by hand or with compressed air under the root. Protect preserved roots with dampened burlap.*

Irrigation

Water moderately and highly impacted trees during the construction phase. As a rule of thumb, provide one to two inches per month. Water slowly so that it penetrates 18 inches into the soil, to the depth of tree roots. Do not water native oaks during the warm dry season (June – September) as this activates oak root fungus. Instead, make sure that the soil is sufficiently insulated with mulch (where possible). Remember that unsevered tree roots typically extend three to five times the distance of the canopy.

Project Arborist Supervision

I recommend the Project Arborist meet with the builder on-site:

- Soon after excavation
- During any root pruning
- Monthly tree protection monitoring inspections: As requested by the property owner or builder to document tree condition and verify on-going compliance with tree protection plan. Recommendations for any necessary maintenance and impact

mitigation should also be included in monthly reports for City Arborist Review (*required every 4 weeks by the City*).

Any time development-related work is recommended to be supervised by a Project Arborist, a follow-up letter shall be provided, documenting the mitigation has been completed to specification.

POST-CONSTRUCTION

Ensure any mitigation measures to ensure long-term survival including but not limited to:

Continued Tree Care

Provide adequate and appropriate irrigation. As a rule of thumb, provide 1- 2 inches of water per month. Water slowly so that it penetrates 18 inches into the soil, to the depth of the tree roots. Native oaks usually should not be provided supplemental water during the warm, dry season (June – September) as this activates oak root fungus. Therefore, native oaks should only be watered October – May when rain has been scarce.

Mulch insulates the soil, reduces weeds, reduces compaction, and promotes myriad benefits to soil life and tree health. Apply four inches of wood chips (or other mulch) to the surface of the soil around trees, extending at least to the dripline when possible. Do not pile mulch against the trunk.

Do not fertilize unless a specific nutrient deficiency has been identified and a specific plan prescribed by the project arborist (or a consulting arborist).

Post-Construction Monitoring

Monitor trees for changes in condition. Check trees at least once per month for the first year post-construction. Expert monitoring should be done at least every 6 months or if trees show signs of stress. Signs of stress include unseasonably sparse canopy, leaf drop, early fall color, browning of needles, and shoot die-back. Stressed trees are also more vulnerable to certain disease and pest infestations. Call the Project Arborist, or a consulting arborist if these, or other concerning changes occur in tree health.

City Arborist Inspection

A final inspection by the City Arborist is required at the end of the project. This is to be done before Tree Protection Fencing is taken down. Replacement trees should be planted by this time as well.

Conclusion

The proposed building project planned at 320 Sheridan Dr. appeared to be a valuable upgrade to the property. If any of the property owners, project team, or City reviewers have questions on this report, or require Project Arborist supervision or technical support, please do not hesitate to contact me at (408) 497-7158 or busara@bofirestone.com.

Signed,

Busara (Bo) Firestone | ISA Board Certified Master Arborist #WE-8525B | ASCA Registered Consulting Arborist RCA #758 | ISA Qualified Tree Risk Assessor | ASCA Tree and Plant Appraisal Qualification | Member – American Society of Consulting Arborists | Wildlife-Trained Arborist

Supporting Information

GLOSSARY

Terms appear in the order they appear from left to right on the inventory column headings.

DBH / DSH: Diameter at 4.5' above grade. Trees which split into multiple stems at 4.5’ are measured at the narrowest point below 4.5’.

Mathematic DBH / DSH: diameter of multitrunked tree, mathematically derived from the combined area of all trunks.

SPREAD: Diameter of canopy between farthest branch tips

TREE STATUS: A “Heritage Tree” is a tree that has protected status by the City of Menlo Park. The City can classify trees with Heritage status for their remarkable size, age, or unique value. However, in general, native oaks of 10 inches or more, and any tree having a trunk with a diameter of 15 inches or more has Heritage status (measured at 54 inches above natural grade, or at the branching point for multi-trunk trees).

CONDITION-Ground based visual assessment of structural and physiological well-being:

"Excellent" = 81 - 100%; Good health and structure with significant size, location or quality.

"Good" = 61-80%; Normal vigor, full canopy, no observable significant structural defects, many years of service life remaining.

"Fair" = 41-60%; Reduced vigor, significant structural defect(s), and/or other significant signs of stress

"Poor" = 21- 40%; In potentially irreversible decline, structure and aesthetics severely compromised

"Very Poor" = 6-20%; Nearly dead, or high risk of failure, negative contribution to the landscape

"Dead/Unstable" = 0 - 5%; No live canopy/buds or failure imminent

IDEAL TPZ RADIUS: Recommended tree protection radius to ensure healthy, sound trees. Based on species tolerance, age, and size (total combined stem area) as per industry best practice standards. Compromising the radius in a specific area may be acceptable as per arborist approval.

Municipalities in our region simplify this nuanced process by using the distance to the dripline, 10X DBH, or 6X DBH as acceptable setbacks from construction.

AGE: Relative to tree lifespan; “Young” <1/3; “Mature" 1/3 - 2/3; "Overmature" >2/3

IMPACT: Anticipated impact to an individual tree including……

> **SEVERE** - In direct conflict, removal necessary if plans proceed (distance to root cuts/fill within 3X DBH or root loss of > 30% anticipated).
>
> **HIGH** – Work planned within 6X DBH and/or anticipated root loss of 20% – 30%. Redesign to reduce impact should be explored and may be required by municipal reviewer. Retainment may be possible with monitoring or alternative building methods. Health and structure may worsen **even if** conditions for retainment are met.
>
> **MODERATE** - Ideal TPZ encroached upon in limited areas. No work or very limited work within 6X TPZ. Anticipated root loss of 10% - 25%. Special building guidelines may be provided by Project Arborist. Although some symptoms of stress are possible, tree is not likely to decline due to construction related activities.
>
> **LOW** - Anticipated root loss of less than 10%. Minor or no encroachment on ideal TPZ. Longevity uncompromised with standard protection.
>
> **VERY LOW** - Ideal TPZ well exceeded. Potential impact only by ingress/egress. Anticipated root loss of 0% - 5%. Longevity uncompromised.
>
> **NONE** - No anticipated impact to roots, soil environment, or above-ground parts.

TOLERANCE: General species tolerance to construction (HIGH, MODERATE, or LOW) as given in Managing Trees During Construction, Second Edition, by International Society of Arboriculture

SUITABILITY ASSESSMENT: An individual tree's suitability for preservation considering impacts, condition, maturity, species tolerance, site characteristics, and species desirability. (HIGH, MODERATE, or LOW)

APPRAISAL RESULT: The reproduction cost of tree replacement as calculated by the Trunk Formula Technique.

BIBLIOGRAPHY

Fite, Kelby, and E. Thomas Smiley. *Managing trees during construction,* second edition. Champaign, IL: International Society of Arboriculture, 2016. Print.

ISA. *Guide for Plant Appraisal,* 10th edition, second printing. Atlanta, GA: International Society of Arboriculture, 2019. Print.

ISA. Species Classification and Group Assignment, 2004 Western Chapter Regional Supplement. Western Chapter ISA.

Smiley, E. Thomas, Nelda Matheny, and Sharon Lilly. *Best Management Practices: Tree Risk Assessmen*t: International Society of Arboriculture, 2011. Print.

CERTIFICATE OF APPRAISAL

I, Busara Rea Firestone, CERTIFY to the best of my knowledge and belief:

1. That the statements of fact contained in this plant appraisal are true and correct.
2. That the appraisal analysis, opinions, and conclusion are limited only by the reported assumption and limiting conditions, and that they are my personal, unbiased professional analysis, opinions, and conclusions.
3. That I have no present or prospective interest in the plants that are the subject of this appraisal, and that I have no personal interest or bias with respect to the parties involved.
4. That my compensation is not contingent upon a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.
5. That my analysis, opinions, and conclusions are developed, and this appraisal has been prepared, in conformity with the *Guide for Plant Appraisal (10th edition, 2000)* authored by the Council of Tree and Landscape Appraisers.
6. That the methods found in this appraisal are based on a request to determine the value of the plants considering reasonable factors of plant appraisal.
7. That my appraisal is based on the information known to me at this time. If more information is disclosed, I may have further opinions.

Signed,

Busara (Bo) Firestone

ISA Board-Certified Master Arborist #WE-8525B

07/26/2024

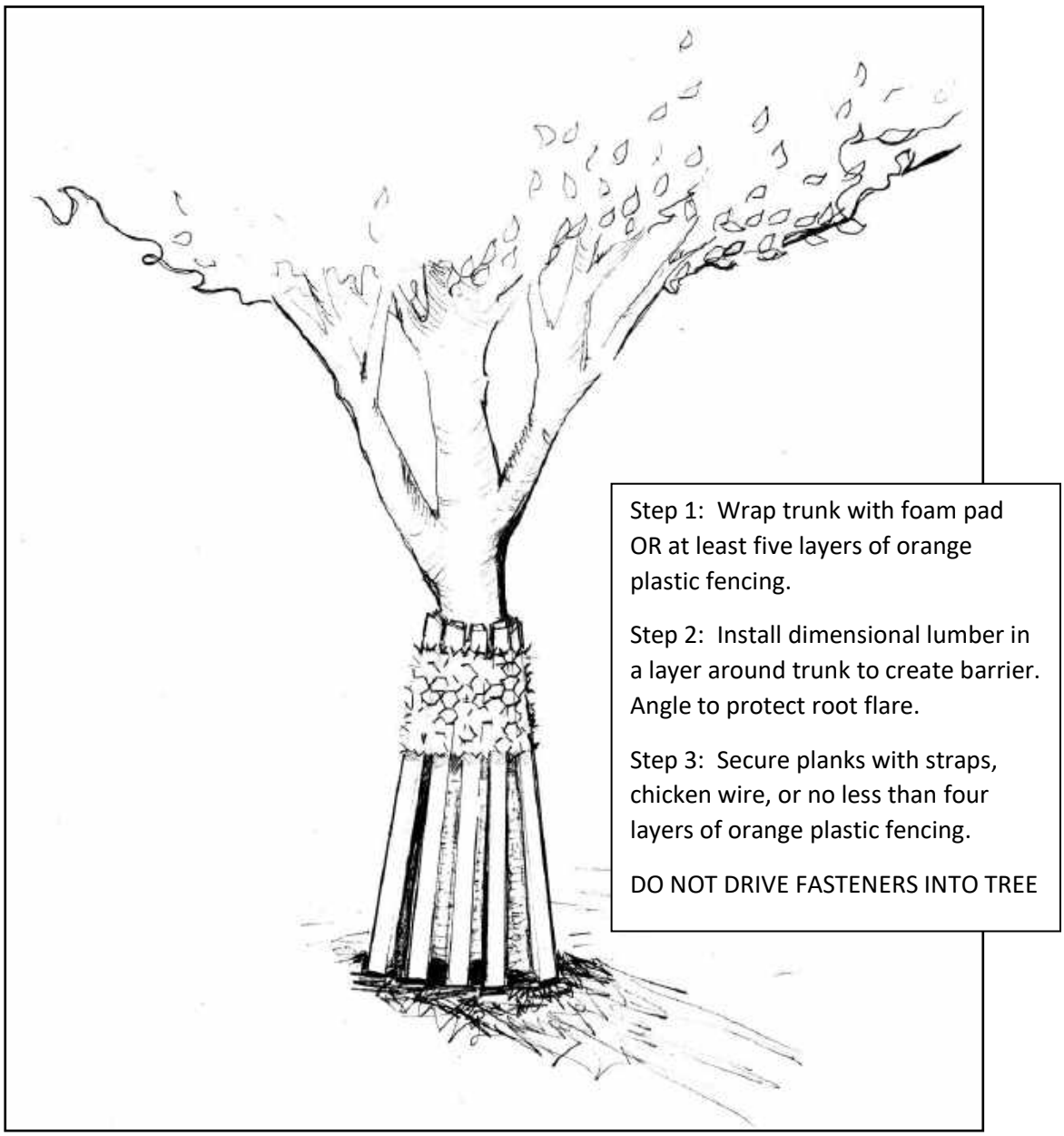
BUSARA FIRESTONE #WE-8525B
KAITLYN MEYER #WE-14992A
ON STAFF

BO FIRESTONE TREES & GARDENS
2150 LACEY DR., MILPITAS, CA 95035
E: BUSARA@BOFIRESTONE.COM C: (408) 497-7158
WWW.BOFIRESTONE.COM

ASCA RCA #758
Registered Consulting Arborist®

TPZ III – Alternative Method of Tree Protection

May be used to protect trunk from damage during construction activities when standard TPZ fencing is not practical. Install prior to construction activities. Adjust to allow for diameter growth as needed.



Step 1: Wrap trunk with foam pad OR at least five layers of orange plastic fencing.

Step 2: Install dimensional lumber in a layer around trunk to create barrier. Angle to protect root flare.

Step 3: Secure planks with straps, chicken wire, or no less than four layers of orange plastic fencing.

DO NOT DRIVE FASTENERS INTO TREE

CITY OF MENLO PARK

WARNING TREE PROTECTION AREA

ONLY AUTHORIZED PERSONNEL MAY ENTER THIS AREA

No excavation, trenching, material storage, cleaning, equipment access, or dumping is allowed behind this fence.

Do not remove or relocate this fence without approval from the project arborist. This fencing must remain in its approved location throughout demolition and construction.

Project Arborist contact information:

Name: Bo Firestone
Business: Bo Firestone Trees & Gardens
Phone number: 408-497-7158

ADVERTENCIA: ÁREA DE PROTECCIÓN DE ÁRBOLES

SÓLO EL PERSONAL AUTORIZADO PUEDE INGRESAR A ESTA ÁREA

No se permite la excavación, zanjas, almacenamiento de materiales, limpieza, acceso de equipos, o vertido de residuos detrás de esta cerca.

No retire ni reubique esta cerca sin la aprobación del arborista del proyecto. Esta cerca debe permanecer en su ubicación aprobada durante todo el proceso de demolición y construcción.

Información de contacto del arborista de este proyecto:

Nombre: Bo Firestone
Empresa: Bo Firestone Trees & Gardens
Número de teléfono: 408-497-7158

Alliant Strategic Development rev. 07/26/24

									TREE IMPACT ASSESSMENT											
#	Heritage (H)	Common Name	Botanical Name	Protected Status	DBH (inches)	math. DBH (inches)	Height (feet)	Spread (feet)	Condition	Health, Structure, Form notes	Age	Species Tolerance	6X DSH* (feet)	Est. Root Loss**	TPZ mult. Factor	Ideal TPZ Radius (ft)	Impact Level ***	Suitability Rating	Removal Status	Appraisal Result
1	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	26	26	55	35	FAIR (50%)	growing into fence, pleasing form, moderate vigor	MATURE	HIGH	**13**	20% - 30%	8	17	MODERATE	MODERATE	PRESERVE	$4,830
2	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	16, 12	20	25	30	FAIR (50%)	topped, high vigor, growing into fence	MATURE	HIGH	**10**	10% - 25%	8	13	MODERATE	MODERATE	PRESERVE	$4,000
3	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	42	42	60	80	EXCELLENT (90%)	good health and structure with significant size and quality for location	MATURE	HIGH	**21**	10% - 25%	8	28	MODERATE	MODERATE	PRESERVE	$40,800
4	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	30	30	60	40	FAIR (50%)	comdominant stems with narrow angle of attachment and included bark	MATURE	HIGH	**15**	10% - 25%	8	20	MODERATE	MODERATE	PRESERVE	$11,600
5	H	Coast Redwood	*Sequoia sempervirens*	**HERITAGE**	40	40	70	40	FAIR (50%)	drought-stressed, thin canopy	MATURE	HIGH	**20**	100%	8	27	SEVERE	LOW	REMOVE (X)	$13,400
6		Hollywood Juniper	*Juniperus chinensis*	(not heritage)	10	10	10	7	FAIR (50%)	asymmetrical form, high vigor	MATURE	MODERATE	**5**	> 30%	12	10	SEVERE	LOW	REMOVE (X)	$1,120
7	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	est. 36	36	55	50	GOOD (75%)	growing through wood fence, high vigor, pleasing form	MATURE	HIGH	**18**	10% - 25%	8	24	MODERATE	HIGH	PRESERVE	$25,000
8	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	est. 18	18	55	30	FAIR (50%)	growing through wood fence, moderate vigor	MATURE	HIGH	**9**	< 10%	8	12	LOW	MODERATE	PRESERVE	$4,160
9	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	est. 24, 16	29	50	40	GOOD (75%)	growing through wood fence, high vigor, pleasing form	MATURE	HIGH	**15**	10% - 25%	8	19	MODERATE	HIGH	PRESERVE	$16,200
10		Glossy Privet	*Ligustrum lucidum*	(not heritage)	est. 7, 4	8	20	15	POOR (25%)	low vigor, sparse canopy	MATURE	LOW	**4**	20% - 30%	15	10	HIGH	LOW	PRESERVE	$40
11		Glossy Privet	*Ligustrum lucidum*	(not heritage)	est. 10	10	30	15	POOR (25%)	low vigor, sparse canopy	MATURE	LOW	**5**	20% - 30%	15	13	HIGH	LOW	PRESERVE	$60
12	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	23	23	30	40	EXCELLENT (90%)	good health and structure with significant size and quality for location	MATURE	HIGH	**12**	10% - 25%	8	15	MODERATE	HIGH	PRESERVE	$12,200
13	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	31	31	50	45	FAIR (50%)	15% dieback, moderate vigor, major canopy conflict w/ utility	MATURE	HIGH	**16**	> 30%	8	21	SEVERE	LOW	REMOVE (X)	$12,400
14	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	27	27	55	40	FAIR (50%)	asymmetrical form from HV lines, high vigor	MATURE	HIGH	**14**	10% - 25%	8	18	MODERATE	MODERATE	PRESERVE	$5,200
15		Plum	*Prunus cerasifera*	(not heritage)	7.5	7.5	20	20	POOR (25%)	30% live canopy, low vigor	OVERMATURE	MODERATE	**4**	10% - 25%	15	9	MODERATE	LOW	REMOVE (X)	$310
16		Oleander	*Nerium oleander*	(not heritage)	est. (2) 6, (3) 3	10	25	20	GOOD (75%)	full green canopy, pleasing form	MATURE	MODERATE	**5**	100%	12	10	SEVERE	LOW	REMOVE (X)	$3,070
17***	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	23	23	30	40	POOR (25%)	growing into fence, topped, moderate vigor	MATURE	HIGH	**12**	10% - 25%	8	15	MODERATE	LOW	PRESERVE	$3,400
18	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	28, (2) 12.5	33	40	50	FAIR (50%)	sprawling codominant form, fence bisecting trunk	MATURE	HIGH	**17**	10% - 25%	8	22	MODERATE	MODERATE	PRESERVE	$14,000
2429	H	Valley Oak	*Quercus lobata*	**HERITAGE**	16	16	30	35	FAIR (50%)	moderate vigor, 10% dieback	MATURE	MODERATE	**8**	< 10%	12	16	LOW	MODERATE	PRESERVE	$5,600
2430		Coast Live Oak	*Quercus agrifolia*	(not heritage)	8	8	20	20	FAIR (50%)	high vigor, crowded, asymmetrical canopy	MATURE	HIGH	**4**	0% - 5%	8	5	VERY LOW	MODERATE	PRESERVE	$820
2431		Coast Live Oak	*Quercus agrifolia*	(not heritage)	8	8	20	10	POOR (25%)	spindly form, low-vigor understory tree	MATURE	HIGH	**4**	< 10%	8	5	LOW	LOW	PRESERVE	$410
2432	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	11	11	30	15	FAIR (50%)	asymmetrical canopy, pruned away from power lines, moderate vigor	MATURE	HIGH	**6**	< 10%	8	7	LOW	MODERATE	PRESERVE	$1,560
2434	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	20	20	35	25	FAIR (50%)	majorly growing into fence, good vigor, multiple codominant stems	MATURE	HIGH	**10**	10% - 25%	8	13	MODERATE	MODERATE	PRESERVE	$5,100

Alliant Strategic Development rev. 07/26/24

									TREE IMPACT ASSESSMENT											
#	Heritage (H)	Common Name	Botanical Name	Protected Status	DBH (inches)	math. DBH (inches)	Height (feet)	Spread (feet)	Condition	Health, Structure, Form notes	Age	Species Tolerance	6X DSH* (feet)	Est. Root Loss**	TPZ mult. Factor	Ideal TPZ Radius (ft)	Impact Level ***	Suitability Rating	Removal Status	Appraisal Result
2435	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	21.5	21.5	30	40	FAIR (50%)	growing into fence, pruned from power line, high vigor	MATURE	HIGH	**11**	10% - 25%	8	14	MODERATE	MODERATE	PRESERVE	$5,900
2436	H	Coast Redwood	*Sequoia sempervirens*	**HERITAGE**	15.5	15.5	40	20	FAIR (50%)	moderate vigor, spindly form, crowded	MATURE	HIGH	**8**	< 10%	8	10	LOW	MODERATE	PRESERVE	$2,010
2437	H	Coast Redwood	*Sequoia sempervirens*	**HERITAGE**	est. 30	30	65	25	POOR (25%)	codominant leaders, dieback on main stem	MATURE	HIGH	**15**	< 10%	8	20	LOW	LOW	PRESERVE	$3,760
2438		Coast Live Oak	*Quercus agrifolia*	(not heritage)	7	7	20	10	POOR (25%)	low vigor, spindly form	MATURE	HIGH	**4**	< 10%	8	5	LOW	LOW	PRESERVE	$310
2441	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	20, 16	26	40	35	GOOD (75%)	full green canopy, pleasing form	MATURE	HIGH	**13**	10% - 25%	8	17	MODERATE	HIGH	PRESERVE	$13,000
2442	H	Monterey Pine	*Pinus radiata*	**HERITAGE**	33	33	60	25	POOR (25%)	codominant leaders, moderate vigor	MATURE	MODERATE	**17**	10% - 25%	12	33	MODERATE	LOW	PRESERVE	$540
2443	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	(3) 8	14	25	20	FAIR (50%)	high vigor, codominant stems with narrow angles of attachment and included bark, growing into fence	MATURE	HIGH	**7**	< 10%	8	9	LOW	MODERATE	PRESERVE	$2,520
2444	H	Monterey Pine	*Pinus radiata*	**HERITAGE**	18.5	18.5	50	15	VERY POOR (10%)	top of tree dead; 30% live canopy	MATURE	MODERATE	**9**	10% - 25%	12	19	MODERATE	LOW	PRESERVE	$70
2445	H	Monterey Pine	*Pinus radiata*	**HERITAGE**	44	44	70	45	POOR (25%)	top of tree dead; 30% live canopy	MATURE	MODERATE	**22**	10% - 25%	12	44	MODERATE	LOW	PRESERVE	$970
2446	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	14, 12	18	45	25	FAIR (50%)	growing into fence, high vigor, understory tree	MATURE	HIGH	**9**	10% - 25%	8	12	MODERATE	MODERATE	PRESERVE	$4,160
2447	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	24, 17	29	55	30	GOOD (75%)	growing into fence, high vigor, full green canopy, codominant stems	MATURE	HIGH	**15**	10% - 25%	8	19	MODERATE	HIGH	PRESERVE	$16,200
2448	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	15	15	50	25	FAIR (50%)	asymmetrical canopy, poor tapor, low-vigor understory tree	MATURE	HIGH	**8**	< 10%	8	10	LOW	MODERATE	PRESERVE	$2,890
2450	H	Coast Live Oak	*Quercus agrifolia*	**HERITAGE**	18	18	30	25	FAIR (50%)	asymmetrical canopy, poor tapor, low-vigor understory tree	MATURE	HIGH	**9**	< 10%	8	12	LOW	MODERATE	PRESERVE	$4,160
KEY:																				
#		**Neighboring / City Street Tree**																		
#		**Removal Request**																		

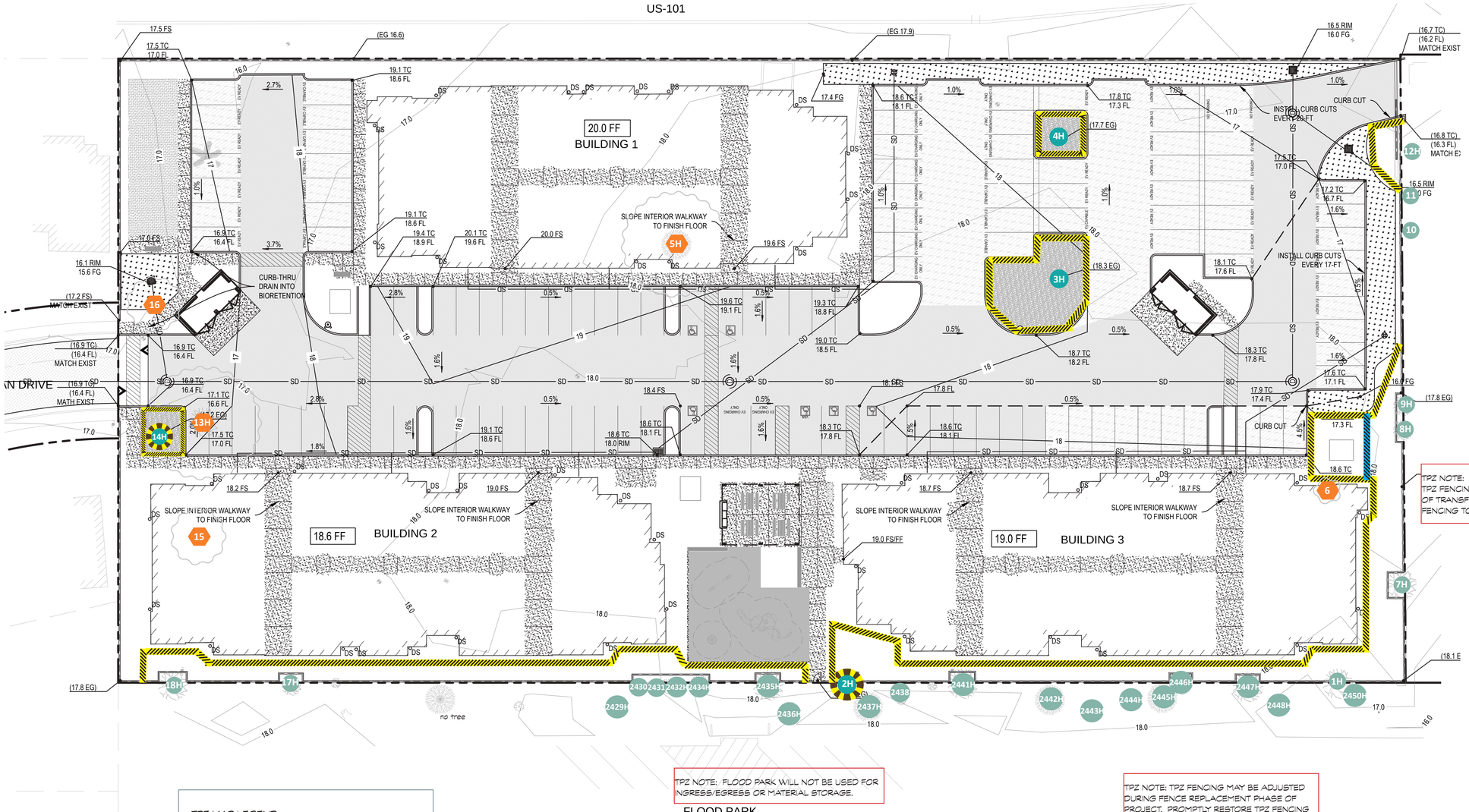
SEE GLOSSARY FOR DEFINITION OF TERMS

*** 6X DBH is recongnized by tree care industry best practices as the distance from trunkface to a cut across the root plate that would result in a loss of approximately 25% of the root mass. Cuts closer than this may result in tree decline or instability.**
****Based on approximate distance to excavation and extent of excavation (as shown on plans).**
****Impact level assumming all basic and special tree protection measures are followed.**

Appraisal calculations summary available upon request.

TREE PROTECTION ZONE MAP

320 SHERIDAN DR, MENLO PARK, CA



TPZ MAP LEGEND:

- TREE TO REMOVE
- TREE TO REMAIN
- TREE ON NEIGHBORS' PROPERTY / CITY STREET TREE
- TREE PROTECTION FENCING (SEE SPEC.)
- TEMPORARY TREE PROTECTION FENCING
- TRUNK WRAP (SEE SPEC.)

NOTE: TREES #10, #11, #12H, AND #2443H WERE PLACED BY PROJECT ARBORIST AND LOCATIONS ARE APPROXIMATE.

Tree protection fencing requirements as required by the City of Menlo Park:

1) Establish tree protection fencing radius by installing six (6)-foot tall chain link fencing mounted on eight (8)-foot tall, 1.5-inch diameter galvanized posts, driven 24 inches into the ground and spaced no more than 10 feet apart.

2) Post signs on the fencing (in English and Spanish) printed on 11"x17" yellow-colored paper (signage attached) with Project Arborist's contact information. Signage should be on each protection fence in a prominent location.

3) Movable barriers of chain link fencing secured to cement blocks may be substituted for fixed fencing if the Project Arborist and City Arborist agree that the fencing will have to be moved to accommodate certain phases of construction. The builder may not move the fence without authorization from the Project Arborist or City Arborist.

4) Place a 6-inch layer of coarse mulch or woodchips covered with ¾-inch plywood or alternative within the TPZ over bare ground prior to construction activity.

DATE:
rev. 07/26/24

TPZ ELEMENTS DRAWN:
B. FIRESTONE
ISA-CERTIFIED ARBORIST
#WE-8525A

BASE MAP: SITE PLAN C-2
by KPFF
(07/26/2024)

ARBORIST REPORT
pg. 31